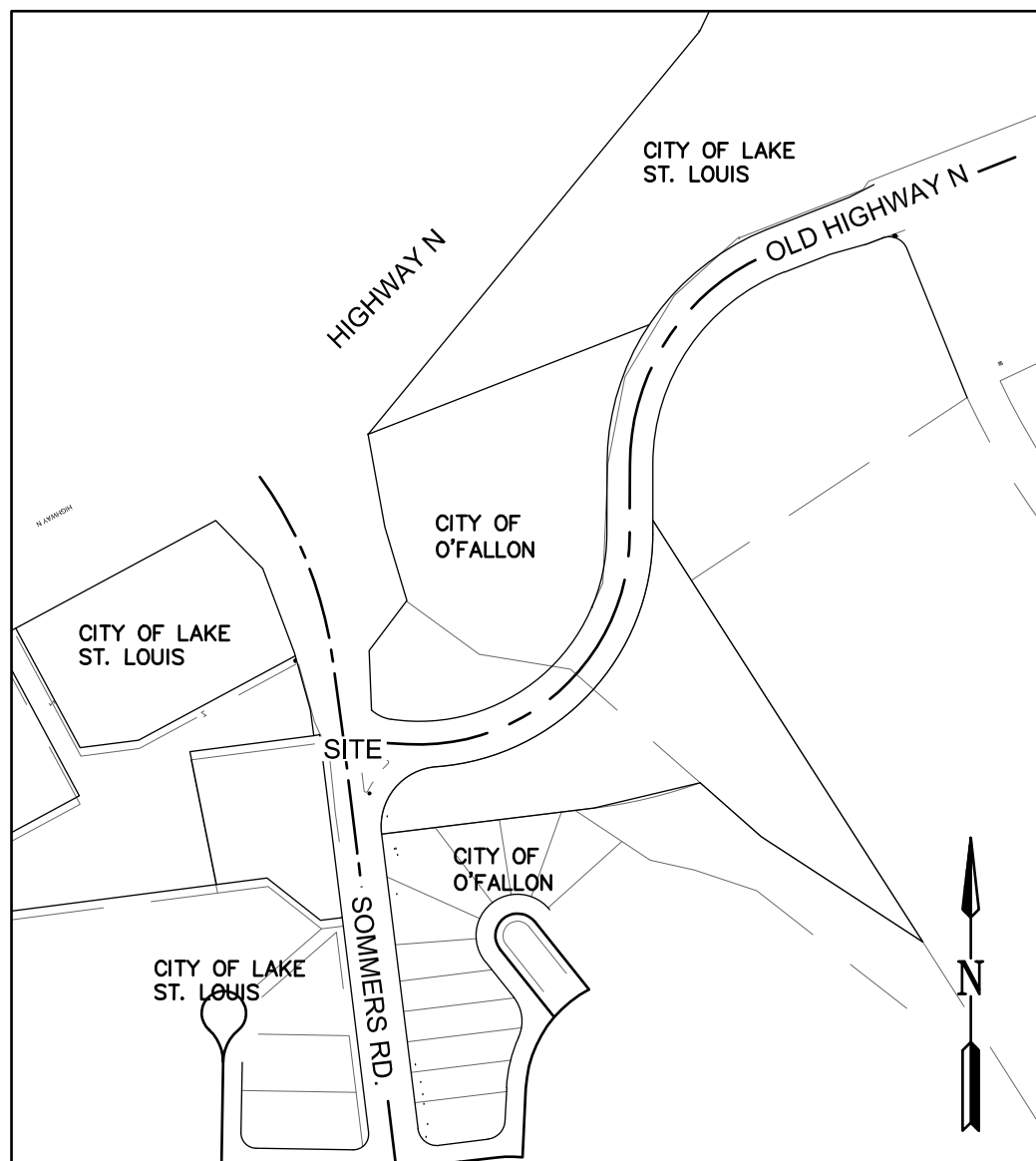


SOMMERS & OLD HIGHWAY N INTERSECTION IMPROVEMENTS

AN AREA PART OF FRACTIONAL SECTION 10, TOWNSHIP 46 NORTH, RANGE
2 EAST, ST. CHARLES COUNTY, MISSOURI

CMAQ 5418(621) CITY OF LAKE ST. LOUIS CITY OF O'FALLON PREFINAL PLANS

JULY 7, 2023



PLAN VIEW

1" = 250'

UTILITIES

Water Distribution
Public Water Supply District #2
100 Water Drive
O'Fallon, MO 63368
636-561-3737

Telephone
CenturyLink
1151 Century Tel Dr.
Wentzville, MO 63385
636-949-1331

Electric
Cuivre River Electric Cooperative
8757 Highway N
Lake Saint Louis, MO 63367
636-695-4741

Sanitary Sewer
Duckett Creek Sanitary District
3550 Highway K
O'Fallon, MO 63368
636-441-1244

Gas
Spire
1999 Trade Center Drive East
St. Peters, MO 63376
314-342-0694

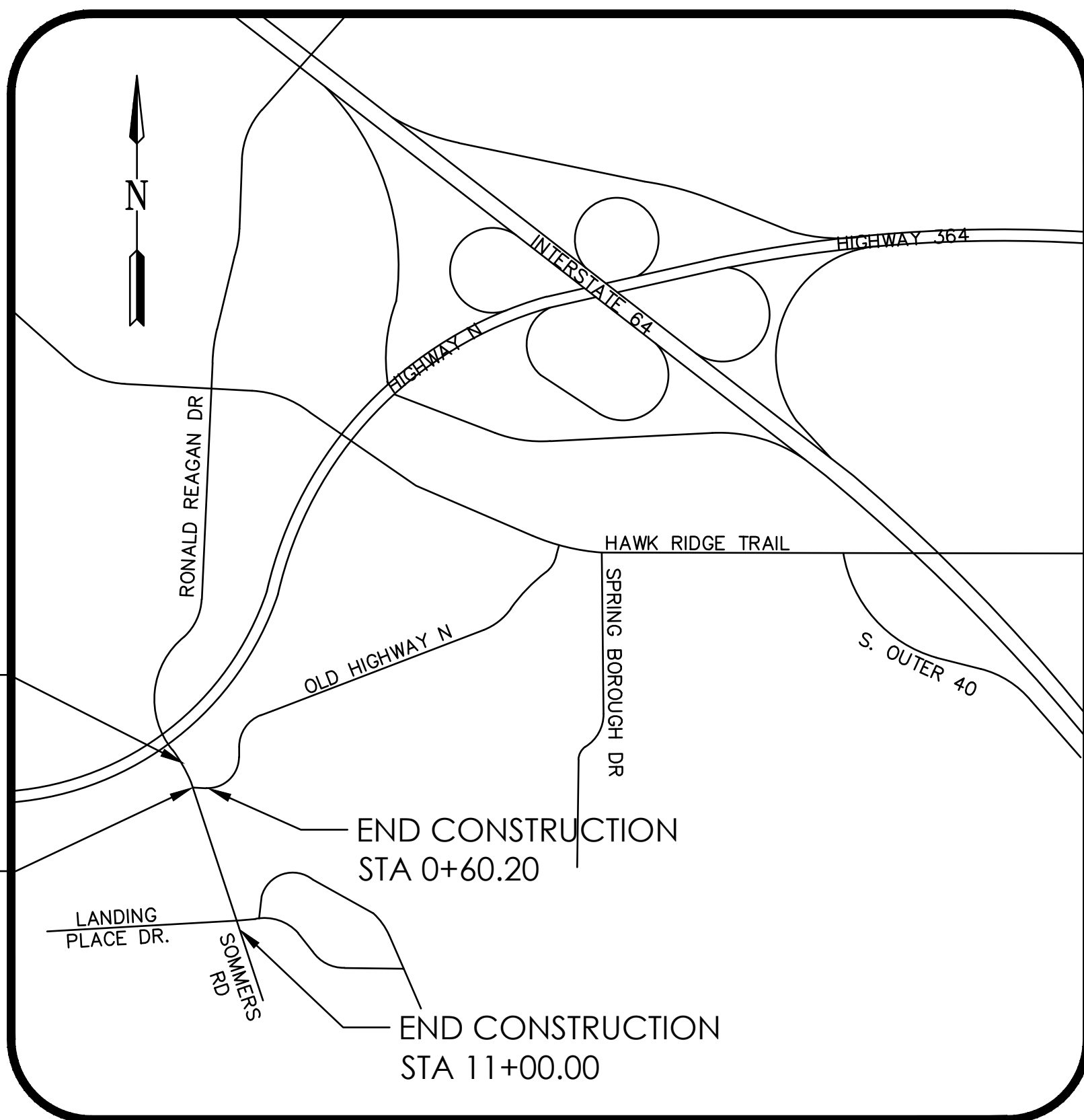
Communications
Spectrum
815 Charter Communs
Town & County, MO 63017
636-387-6633

LEGEND

| EXISTING LEGEND | | PROPOSED LEGEND | |
|-----------------|----------------------------|-----------------|---------------------------|
| | FOUND IRON PIPE | | UTILITY POLE |
| | SET IRON PIPE (2012007849) | | FIRE HYDRANT |
| | FOUND STONE MONUMENT | | VALVE |
| | FIRE HYDRANT | | WATER METER VAULT |
| | WATER VALVE | | GAS METER |
| | WATER METER VAULT | | LIGHT STANDARD |
| | IRRIGATION CONTROL VALVE | | CLEAN OUT |
| | GAS VALVE | | MONITORING WELL |
| | GAS METER | | SANITARY SEWER MANHOLE |
| | LIGHT STANDARD | | STORM SEWER MANHOLE |
| | CLEAN OUT | | GRATE INLET |
| | SANITARY SEWER MANHOLE | | DOUBLE CURB INLET |
| | STORM SEWER MANHOLE | | PIPE BOLLARD |
| | STORM SEWER GRATE INLET | | SIGN |
| | PIPE BOLLARD | | ELECTRIC METER |
| | SIGN | | UNDERGROUND ELECTRIC |
| | BUSH | | UNDERGROUND TELEPHONE |
| | TREE | | 1.5" WATER MAIN |
| | TRAFFIC SIGNAL BOX | | 6" WATER MAIN |
| | MONITORING WELL | | 8" WATER MAIN |
| | TEST HOLE | | GAS LINE |
| | TELEPHONE LINE MARKER | | STORM SEWER LINE |
| | ELECTRIC METER | | CONTOUR LINE |
| | STORM CURB INLET | | DOWN SPOUT |
| | STORM DOUBLE CURB INLET | | FLOWLINE |
| | AIR CONDITIONER | | EXISTING |
| | DOWN SPOUT | | DO NOT DISTURB |
| | B.O.C. BACK OF CURB | | ADJUST TO GRADE |
| | EX. ELECTRIC (OVHD) | | TYPICAL |
| | EX. ELECTRIC (UGRD) | | USE IN PLACE |
| | EX. GAS | | TO BE REMOVED |
| | EX. WATER | | TO BE REMOVED & RELOCATED |
| | EX. FIBER OPTIC (UGRD) | | RIGHT-OF-WAY |

BEGIN CONSTRUCTION
STA 2+31.75

BEGIN CONSTRUCTION
STA 0+00.00



LOCATION MAP

SCALE: N.T.S.

NOTE:
THE SUCCESSFUL BIDDER OF THIS PROJECT SHALL BE REQUIRED TO
COMPLY WITH THE MISSOURI DIVISION OF LABOR STANDARDS,
GENERAL WAGE ORDER RATE, AND ALL O.S.H.A. RULES AND
REGULATIONS ESTABLISHED FOR THE TYPE OF CONSTRUCTION
REQUIRED BY THESE PLANS.

Reference Benchmark

BASIS OF BEARINGS FOR THIS SURVEY WAS ADOPTED FROM THE
MISSOURI STATE PLANE COORDINATE SYSTEM, NAD 1983-EAST ZONE AND
MISSOURI DEPARTMENT OF TRANSPORTATION VRS NETWORK, NAVD 88

Benchmark

MISSOURI DNR GRS ALUMINUM DISK STAMPED "SC-37 2000" IN 12 INCH
DIAMETER CONCRETE MONUMENT LOCATED AT THE NORTHEAST ANGLE
OF THE T-INTERSECTION OF MISSOURI ROUTE DD AND DIEHR ROAD WITH
AN ELEVATION OF 631.23' (NAVD 88)

Site Benchmark

NAIL LOCATED IN EXISTING UTILITY POLE SOUTH OF EXISTING ORF ROAD
AT STA. 5+80.50 WITH AN ELEVATION OF 619.87'



CALL
BEFORE
YOU DIG!
1-800-DIG-RITE

SPECIAL NOTE TO CONTRACTOR(S):

EXISTING UNDERGROUND AND ABOVE-GRADE FACILITIES, STRUCTURES, AND UTILITIES
HAVE BEEN PLOTTED ON THESE CONTRACT DOCUMENTS BASED ON THE INFORMATION
AND SURVEYS AVAILABLE AT THE TIME OF DRAWING PREPARATION. THE LOCATIONS OF
THESE FEATURES MUST, THEREFORE, BE CONSIDERED APPROXIMATE ONLY. IN ADDITION,
THERE MAY BE OTHER FACILITIES, STRUCTURES, AND UTILITIES WHICH DID NOT EXIST (OR
THE EXISTENCE OF WHICH WAS NOT KNOWN) AT THE TIME OF DRAWING PREPARATION. IT
IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S) TO HAVE ALL EXISTING FACILITIES,
STRUCTURES, AND UTILITIES LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION OR
CONSTRUCTION ACTIVITY; AND TO PROTECT ALL SUCH FEATURES (EXCEPT THOSE
SPECIFICALLY NOTED FOR REMOVAL OR DEMOLITION) DURING CONSTRUCTION.

INDEX OF SHEETS

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DESIGN DESIGNATION

SOMMERS ROAD

DESIGN SPEED = 40 MPH
POSTED SPEED = 35 MPH
DESIGN YEAR=2040
ADT=6571
CLASSIFICATION = MAJOR COLLECTOR

OLD HIGHWAY N

DESIGN SPEED = 35 MPH
POSTED SPEED = 30 MPH
DESIGN YEAR=2020
ADT=0
DESIGN YEAR=2040
ADT (2020) = 0
ADT (2040) =5200
CLASSIFICATION = MINOR ARTERIAL

PROJECT LENGTH

SOMMERS ROAD

PROJECT LENGTH=868.25'
STA. 2+31.75 - STA. 11+00.00

COMMERCIAL ENTRANCE

PROJECT LENGTH=242.23'
STA. 0+00.00 - STA. 2+42.23

OLD HIGHWAY N

PROJECT LENGTH=60.20'
STA. 0+00.00 - STA. 0+60.20

CITY OF LAKE ST. LOUIS, MO

APPROVED:

Jerry Rigdon

DIRECTOR OF PUBLIC WORKS

02/27/2024

DATE

ENGINEERS AUTHENTICATION
The responsibility for professional engineering
liability on this project is hereby limited to the set of
plans authorized by the seal, signature, and date
hereunder attached. Responsibility is disclaimed for
all other engineering plans involved in this project
and specifically excludes revisions after this date.
Plans not to be reproduced.

STEVEND MARION P.E.
PROFESSIONAL ENGINEER
PE 200607166

DATE PREPARED
7-7-2023

| | |
|----------|----------------|
| ROUTE | STATE MO |
| DISTRICT | SHEET NO. 1 |

COUNTY
ST. CHARLES

JOB NO.
168307

CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

DESCRIPTION

DATE



SOMMERS AND OLD
HIGHWAY N INTERSECTION

TITLE SHEET

1. Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sums
2. Sidewalks, curbs, ramps and accessible parking spaces shall be constructed in accordance with the current approved "American with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the contractor prior to any construction shall notify the Project Engineer.
3. 1. The proposed curb for curb ramps located in public right of way shall meet PROWAG requirements and shall be constructed using red pre-cast, truncated domes per pavement details.
4. **Any proposed pavements or playground areas will need a separate permit from the Building Division:**
5. The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities. Contact the City of O'Fallon (636) 379-3814 for the location of City maintained cable for street lights and traffic signals, all other utilities call Missouri One Call 1-800-DIG-RITE. 1-800-344-7483
6. All proposed utilities and/or utility relocations shall be located underground.
7. All proposed fencing requires a separate permit through the Building Safety Division.
8. All construction operations and work zone traffic control within the right of way will follow MoDOT or M.U.T.C.D. standards whichever is more stringent.
9. **(INTENTIONALLY OMITTED)**
10. **All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division:**
11. Materials such as trees, organic debris, rubble, foundations, and other deleterious material shall be removed from the site and disposed of in compliance with all applicable laws and regulations. If the material listed previously are reused, a letter from a soil Engineer must clarify amount, location, depth, etc. and be approved with the construction plans. Landfill tickets for such disposal shall be maintained on file by the developer. Burning on site shall be allowed only by permit from the local fire district. If a burn pit is proposed the location and mitigation shall be shown on the grading plan and documented by the soils engineer.
12. Twenty-four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer shall make arrangements with the Construction Inspection Office to provide for inspection of the work, sufficient in the opinion of the City Engineer, to assure compliance with the plans and specifications as approved.
13. The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items or infrastructure located on the approved plans.
14. All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make minor modifications in design and/or specifications during construction, he/she shall make such changes at his/her own risk, without any assurance that the City will approve the completed installation or construction. It shall be the responsibility of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to correct the installed improvements so as to conform to the approved engineering drawings. The developer may request a letter from the Construction Inspection Division regarding any field changes approved by the City inspectors.
15. City approval of the construction site plans does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning code.

- Developer must supply City Construction Inspectors with an Engineer's soil reports prior to and during site grading. The soil report will be required to contain the following information on soil test curves (Proctor reports) for projects within the City:
 - 1.1. Maximum dry density
 - 1.2. Optimum moisture content
 - 1.3. Maximum and minimum allowable moisture content
 - 1.4. Curve must be plotted to show density from a minimum of 90% Compaction and above as determined by the "Modified AASHTO T-180 Compaction Test" (A.S.T.M.-D-1157) or from a minimum of 95% as determined by the "Standard Proctor Test AASHTO T-99, Method C" (A.S.T.M.-D-698). Proctor type must be designated on document.
 - 1.5. Curve must have at least 5 density points with moisture content and sample locations listed on document
 - 1.6. Specific gravity
 - 1.7. Natural moisture content
 - 1.8. Liquid limit
 - 1.9. Plastic limit
- Be advised that if this information is not provided to the City's Construction Inspector the City will not allow grading or construction activities to proceed on any project site.
2. All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be compacted from the bottom of the fill in up to 8" lifts and compacted to 90% maximum density as determined by Modified AASHTO T-180 compaction test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99. Ensure the moisture content of the soil in fill areas corresponds to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used for compaction. Soil compaction curves shall be submitted to the City of O'Fallon prior to the placement of fill.
3. The surface of the fill shall be finished so it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.
4. All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP.
5. When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient density to provide erosion control on site. Between permanent grass seeding periods, temporary cover shall be provided according to Missouri Department of Natural Resources Protecting Water Quality - a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas. All finished grades (areas not to be disturbed by improvements) in excess of 20% slopes (5:1) shall be mulched and tacked at a rate of 100 pounds per 1000 square feet when seeded.
6. No slopes shall exceed 3 horizontal: 1 (vertical) unless otherwise approved by the soils report and specifically located on the plans and approved by the City Engineer.
7. All low places whether on site or off shall be graded to provide drainage with temporary ditches.
8. Any existing wells and/or springs which may exist on the property must be sealed in a manner acceptable to the City of O'Fallon Construction Inspection Department and following Missouri Department of Natural Resources standards and specifications.
9. (INTENTIONALLY OMITTED)
10. All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills may be earth material (free of large clods, or stones) and compacted using either mechanical tamping or water jetting. Granular material and earth materials associated with new construction outside of pavements may be jetted, taking care to avoid damage to newly laid sewers. The jetting shall be performed with a probe route on not greater than 7.5 foot centers with the jetting probe centered over and parallel with the direction of the pipe. Trench widths greater than 10 feet will require multiple probes every 7.5 foot centers.
- 10.1. Depth. Trench back fills less than 8 feet deep shall be to a depth extending half the depth of the trench back fill, but not less than 3 feet.
- 10.2. Trench back fill greater than 8 feet in depth shall be probed to half the depth of the trench back fill but not greater than 8 feet.
- 10.3. Equipment. The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
- 10.4. Method. Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and from the bottom of the trench back fill toward the surface. The flooding of each jetting probe shall be started slowly allowing slow saturation of the soil. Water is not allowed to flow away from the trench without first saturating the trench.
- 10.5. Surface Bridging. The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to crust and arch over the trench rather than collapse and consolidate during the jetting process). The contractor shall break down the bridged areas using an appropriate method such as wheels or bucket of a backhoe. When surface crust is collapsed, the void shall be back filled with the same material used as trench back fill and re-jetted. Compaction of the materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs.
11. Site grading.
 - 11.1. Within City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed every two hundred fifty (250) feet along the centerline for each lift.
 - 11.2. Outside of City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed at two (2) foot vertical intervals and approximately every one thousand (1,000) cubic yards.
12. Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

1. The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with the clearing operations and be maintained throughout the project until acceptance of the work by City of O'Fallon and as needed by MoDOT. The Permittee's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The City of O'Fallon and as required by MoDOT may at their option direct the Permittee in his methods as deemed fit to protect property and improvements; any depositing of silt or mud on new or existing pavement shall be removed immediately. Any depositing of silts or mud in new or existing storm sewers and/or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the City of O'Fallon and as required by MoDOT."
2. All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one-quarter inch of rain or more. Any silt or debris leaving the site and affecting public right of way or storm water drainage facilities shall be cleaned up within 24 hours after the end of the storm.
3. Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with Missouri Department of Natural Resources Protecting Water Quality - a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas.
4. This development is required to provide long term post construction BMP's such as; low impact design, source control and treatment controls that protect water quality and controls run off to maximum extent practical in compliance with Phase I Illinois Storm Water Discharge Guidelines. (Ord. 5082, section 425.045)
5. Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be shown to the City Engineer that weather conditions are not favorable, vegetative growth is to be established within 6 weeks of stopping grading work on the project. The vegetative growth established shall be sufficient to prevent erosion and the standard shall be as required by EPA and DNR, (70% coverage per square foot) Ord. 6496, Section 405.095

1. All sanitary sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon Ordinances.
2. Brick shall not be used in the construction of sanitary sewer structures. Pre-cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.
3. Connections at all sanitary structures are to be made with A-LOCK joint or equal.
4. All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter pipe.
5. All sanitary mains shall be a minimum of 8" diameter pipe.
6. All sanitary sewer line with a slope greater than 20% will require concrete cradle or concrete collar at each pipe joint. Sanitary line with a slope greater than 50% will require a special approved design as shown on detail sheet.
7. All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
8. All sanitary sewer mains must have a minimum of 42" cover.
9. When sanitary mains cross over storm line the sanitary main must be ductile iron pipe for 10 feet on each side of the crossing.
10. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 10 inches above sanitary sewer. Add concrete cradle to only RG storm sewer and concrete flexible storm sewer when it is more than 10 inches above sanitary sewer. Show on profile sheet.
11. All sanitary sewer structures shall be designed through the city yards to minimize any additional utility easements required.
12. All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10GSR-8-120 (7)(E).
13. All sanitary sewer pipe shall be GDR35 or equal. All sanitary sewer laterals shall be Schedule 40.
14. All sanitary sewer manholes and pipes will be tested to the following specifications: ASTM G1244, Standard testing method for Concrete Sewer Manhole by Negative Air Pressure (Vacuum), Latest revision ASTM F1417, Standard testing method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air, Latest revision.
15. Add 4" minus rock back-fill to all sanitary sewer and all other utilities that lie within the 1-1' shear plane of the road:

1. All Storm Sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon ordinances.
2. Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.
3. A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
4. (INTENTIONALLY OMITTED)
5. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RO storm sewer and encase flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
6. The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
7. All concrete pipes will be installed with O-ring rubber type gaskets.
8. Connections at all storm structures are to be made with A-lock joint or equal.
9. Pre cast concrete inlet covers are not to be used.
10. The swale in the detention basins shall have a minimum 2% longitudinal slope and be lined with a permanent erosion control blanket that will allow infiltration storm water.
11. All structures and flared end sections must be concrete. H.D.P.E. pipe will not be allowed for detention basin outflows, final pipe run to detention basins or creek discharge or other approved means.
12. (INTENTIONALLY OMITTED)
13. Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after installation for effectiveness and field modified, if necessary to reduce erosion on and off site.
14. Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.
15. (INTENTIONALLY OMITTED)

1. Refer to Section 415 for Floodplain Development Information

1. A permit is required for all retaining walls that are 40 inches or taller in height, measured from the top of the footing to the top of the wall or for walls that support a surcharge load or that alters the channelized drainage of any lot or drainage area.
2. Retaining walls will not be allowed in public right-of-way without written approval from the City Engineer.
3. Any retaining wall more than thirty (30) inches tall which supports a vertical surface that is within two (2) feet of the wall will require a guard on the retaining wall.
4. Retaining walls that alter the channelized drainage of any lot or drainage area shall not be constructed without prior approval and permitting from the City of Fallon Engineering Department regardless of the height of the wall.
5. See section 405.275 of the City code for additional design requirements.

1. Fire hydrants shall be a maximum of 600' apart. Local fire district approval is required.
2. Coordinate with the water company on the location of water meter. For meters in the City's district, meters shall be in the right-of-way, otherwise an access easement from the right-of-way shall be provided.
3. All water main must have a minimum of 42" of cover. (City water mains)
4. Provide water valves to isolate the system.
5. All water mains shall be class 200 SDR 21 or equal with locator/tracer wires
6. If the excavations are made in the improved portion of the right-of-way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement. There will be a plastic membrane placed between the rock base and the CLSM to prevent the material from bleeding into the rock base. The remaining eight inches will be restored by placing 4" of concrete per day.
7. DISINFECTING: Disinfecting shall be accomplished by placing sufficient hypochlorite granule (HTH) in each section of pipe to achieve a chlorine residual in the pipeline, upon initial filling, of 50 mg/L (PPM). HT, tablets will not be allowed. Following completion of the pipeline, it shall be slowly filled with water and a sample will be taken immediately and the chlorine residual must be 50 mg/L or greater. The solution shall be allowed to stand for 24 hours and a sample shall then be taken. The chlorine residual after 24 hours shall be 30 mg/L or greater. If the piping shows insufficient chlorine residuals in either test, the piping shall be re-chlorinated by the injection of hypochlorite solution until satisfactory results are achieved. All disinfecting shall be done by the contractor. Only the contractor will determine the chlorine residual water used by the City.
8. PRESSURE TESTING: Immediately after disinfecting, the pipeline shall be pumped to a pressure (at the HIGHEST point in the project) of 150 psi or higher, where the working pressure is higher than 150 PSI as determined by the City. In such cases, the pressure shall be as specified by the City and two pressure tests shall be conducted. The first test shall be with the fire hydrant auxiliary valve open and be to 50 PSI. The second test shall be with the fire hydrant auxiliary valve closed and be to the higher pressure as directed by the City. All pumping equipment and pressure gauges shall be provided by the contractor. After achieving the test pressure, the piping shall be left closed for a period of two (2) hours. At the end of this time the pressure drop shall not exceed 2 psi. In addition, if the pressure appears, in judgment of the City's representative, to be continuing to drop, the test shall be continued for another two (2) hours and if the pressure continues to drop, the City's representative will require the contractor to stop the test, the contractor will be required to find and correct the source of the leakage. If this requires draining of the pipeline, when the leakage is corrected, the pipeline must be re-disinfected and the pressure tested again until satisfactory result are achieved. Any MDRN required dechlorination will be performed by the contractor.
9. All tops for valves, meters, and manholes are to be constructed within 1 inch (0.08") of finish grade. Grading around structure tops on slopes must be accounted for.
10. BACTERIOLOGICAL TESTING: After a satisfactory disinfection and pressure testing, a sample shall be taken by the contractor in the presence of a City representative and submitted to a laboratory approved by the Missouri Department of Natural Resources and the City for bacteriological analysis. After 24 hours, a second sample shall be taken in the same manner and submitted for analysis. The two samples taken on consecutive days, a minimum of 24 hours apart, must be found to be "safe" to the testing laboratory, and copies of the test results must be supplied to the City. If the samples are not found to be "safe" further flushing and/or disinfection as directed by the City shall be conducted by the contractor until "safe" samples on two consecutive test days are achieved. Following successful bacteriological testing and a determination by the City that the samples are "safe", the mains may be placed into service.

1. All paving (public and private) to be in accordance with St. Louis County Standards and Specifications except as modified by the City of O'Fallon ordinances.
2. If the intersecting road does not have a curb, then the curb on the new entrance shall begin 10' from the edge of the existing road.
3. Provide 6" of concrete over 5" of aggregate base rock or asphalt equivalent for minor residential streets per City Code 450.370.
- 3.1. Rock to meet all the requirements of MoDOT type 5 rock with a tighter restriction on the fines being that no more than ten percent (10%) fines shall pass a no. 200 sieve. (City Code 450.210.B.1.) The gradation of this rock needs to be submitted to the City for approval. Any deliveries made without the proper delivery ticket and the required signature will not be accepted. The delivery ticket must list the project name or job site location. A separate certification sheet may be provided attached to the delivery ticket with a signature of the company's quality control manager. The quality control certification must be current and dated within 4 weeks of the delivery. (City Code 450.210.A.2.k)
4. Multi-use trail shall be 4" concrete over 4" aggregate base per City requirements.
5. Type C (BP-1) Striping at requirements shall be 98% minimum density according to St. Louis Co. Standard Specifications.
6. Provide pavement striping at any point where the multi-use trail crosses existing or proposed pavement
7. All street sub-outs over 250' in length will require a temporary turnaround.
8. All sub-outs greater than 250' in length will require a City of O'Fallon Compaction requirements
9. Material Testing And Frequency. Materials for construction shall be tested and inspected per the appropriate ASTM code or at the City Engineer's discretion. The developer's engineer shall perform quality control guidelines, in accordance with St. Louis County requirements 501.3.1.
10. Approval Of Sub grade And Base (Sub base). The City Engineer or representative shall approve the sub grade before any base is placed thereon and shall approve the base before concrete or surface course is placed. The sub grade and base shall be so constructed that it will be uniform in density throughout.
11. In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test and an average of one (1) test within every two hundred fifty (250) feet.
12. No traffic will be allowed on new concrete pavement until it has cured for seven (7) days and it reaches three thousand five hundred (3,500) psi within 28 days.
- 12.1. Concrete pavements shall not be approved unless it reaches a strength of per thousand (4,000) psi. Cylinders/compressive strength. One (1) set of four (5) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1) cylinder must be tested at seven (7) days, three (3) at twenty-eight (28) days, and one (1) held in reserve.
13. Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base must be proof-rolled. If a fully loaded (ten (10) ton/pound) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no farther than three (3) miles per hour. If soft spots are detected, no pumping, rutting or heaving occurs greater than one (1) inch at the sub grade, the roadbed shall be constructed to meet the sub grade and the soil in these areas shall be remediated to the depth indicated by the contractor's testing firm and approved by a representative of the City Engineer.
14. Sub grade and base beneath pavements shall be compacted to St. Louis County Highway Department specifications. The moisture range shall be determined by the Standard or Modified Proctor Density Method AASHTO T-99 and within -2/+4 percentage points of the optimum moisture content.
15. The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer. If any settling or washing occurs, or where hauling results in rutts or other objectionable irregularities, the contractor shall improve the sub grade or base to the satisfaction of the City before the pavement is placed. Additional rolling or methods to verify compaction shall be at the discretion of the City Engineer. Tolerance allowed on all paving shall be plus or minus four (4) inches.
16. Utility Work Prior To Base Construction. No base course work may proceed on any street until all utility excavations (storm and sanitary sewers, water, gas, electric, etc.) have been properly back filled with granular material, crushed stone or gravel mechanically tamped in ten (10) inch lifts. Utilities installed after sub grade preparation shall be bored. Compaction requirements shall follow St. Louis County standards.
17. Equipment calibration. The developer's contractors and subcontractors must have their equipment calibrated by the following minimum standards.
 - 17.1. Air meter--weekly.
 - 17.2. Cylinder compression--annually by independent calibration service.
 - 17.3. Batch scales--monthly.
 - 17.4. Nuclear testing devices--every six (6) months.
 - 17.5. Proctor equipment--every six (6) months.
 - 17.6. Slump cone--monthly.
18. All permanent traffic control will be per M.U.T.C.D. or MoDOT standards. S1-1 from the M.U.T.C.D. manual will be used at all crosswalk locations accompanied with either w16-9p or w16-7p signs.
19. All traffic signs, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer Sp and Carboline 93 HB paint or equivalent as approved by City of O'Fallon and MoDOT.
20. If the excavations are made in the remaining portion of the right-of-way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement. There will be a plastic membrane placed between the rock base and the CLSM to prevent the material from bleeding into the rock base. The remaining eight inches will be restored by placing a 28 day, 4,000 psi concrete mix.

1. ALL IMPROVEMENTS CONSTRUCTED HEREIN SHALL COMPLY WITH ALL CITY ORDINANCES.
2. IF AN AREA OF GREATER THAN ONE ACRE IS DISTURBED, A LAND DISTURBANCE PERMIT IS REQUIRED PRIOR TO COMMENCING EXCAVATION OPERATION. PROVIDE A COPY OF APPROVAL FROM THE DEPARTMENT OF NATURAL RESOURCES TO THE PUBLIC WORKS DEPARTMENT.
3. EROSION AND SEDIMENTATION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MAY BE REQUIRED AS DIRECTED BY THE CITY ENGINEER. (ORDINANCE 440.040 D.)
4. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED, VEGETATION IN SUFFICIENT DENSITY TO PROVIDE EFFECTIVE EROSION CONTROL MUST BE REESTABLISHED WITHIN 30 DAYS. (ORDINANCE 440.050 D.) SEED TYPE, DENSITY REQUIREMENTS, AND FERTILIZER REQUIREMENTS CAN BE FOUND IN SECTION 60.2.2 IN THE DESIGN CRITERIA FOR THE PREPARATION OF IMPROVEMENT PLANS BY SAINT CHARLES COUNTY. MO.
5. ALL MUD, MATERIAL AND DEBRIS FROM THE CONSTRUCTION SITE TO BE KEPT OFF OF CITY MAINTAINED STREETS. (ORDINANCE 440.060).
6. ALL WATER MAIN CONSTRUCTION INCLUDING VALVES, SLEEVES, METERS, HYDRANTS, AND FITTINGS MUST CONFORM TO PUBLIC WATER SUPPLY DISTRICT #2 DESIGN STANDARDS.
7. ALL SANITARY SEWER CONSTRUCTION MUST CONFORM TO DUCKETT CREEK SANITARY DISTRICT DESIGN STANDARDS AND SPECIFICATIONS.
8. ALL STREET AND SIDEWALK CONSTRUCTION IS TO BE PER THE LATEST ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT ADDITION TO THE STANDARD SPECIFICATIONS.
9. FLOWABLE FILL BACKFILL SHALL BE USED FOR ALL BACKFILL ON SEWER TRENCHES THAT ARE UNDER CITY STREETS, FROM THE TOP OF THE BEDDING MATERIAL (6 INCHES ABOVE THE PIPE) TO THE SURFACE, OR TO WITHIN ONE FOOT OF GRADE IN LANDSCAPED AREAS.
10. EARTH BACKFILL (MEETING MSD STANDARDS) MAY BE USED OUTSIDE OF PAVED AREAS, FROM THE TOP OF THE BEDDING MATERIAL TO 6' ABOVE THE PIPE TO THE SURFACE. EARTH BACKFILL SHOULD BE PLACED IN A MAXIMUM 8-INCH LOOSE LIFTS AND SHALL BE MECHANICALLY COMPACTED TO A MINIMUM DENSITY EQUAL TO THAT OF THE ADJACENT, UNDISTURBED SOIL.
11. ALL STORM SEWER CONSTRUCTION IS TO BE PER THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009.
12. FOR NEW SUBDIVISIONS ONLY: EXCEPT UNDER STREETS, UTILITY TRENCHES MAY BE JETTED. ALL JETTING SHALL BE PERFORMED WITH A PROBE ROUTE ON NOT GREATER THAN 7.5-FOOT CENTERS WITH THE JETTING PROBE CENTERED OVER AND PARALLEL WITH THE DIRECTION OF THE PIPE. TRENCH WIDTHS GREATER THAN 10 FEET WILL REQUIRE MULTIPLE PROBES EVERY 7.5- FOOT CENTERS. TRENCH BACKFILL DEPTHS LESS THAN 8 FEET IN DEPTH SHALL BE PROBED TO A DEPTH EXTENDING TO HALF OF THE TRENCH BACKFILL, BUT NOT LESS THAN 3 FEET. TRENCH BACKFILL GREATER THAN 8 FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACKFILL BUT NOT GREATER THAN 8 FEET. JETTING SHALL BE PERFORMED FROM THE LOW SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGH POINT, AND FROM THE BOTTOM OF THE TRENCH BACKFILL TOWARDS THE SURFACE. THE FLOODING OF EACH JETTING PROBE SHALL BE STARTED SLOWLY ALLOWING SLOW SATURATION OF THE SOIL. WATER IS NOT TO BE ALLOWED TO FLOW AWAY FROM THE DITCH WITHOUT FIRST SATURATING THE TRENCH. CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF SURFACE BRIDGING (THE TENDENCY FOR THE UPPER BACKFILL CRUST TO ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS); THE CONTRACTOR SHALL BREAK DOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS THE WHEELS OR BUCKET OF A BACKHOE. WHEN THE SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE COLLIGATED WITH THE SAME MATERIAL WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.
13. ALL PIPE JOINTS AND JOINTS ON NEW STRUCTURES SHALL USE CITY APPROVED RUBBER COMPRESSION TYPE JOINTS. WATER STOPS ARE REQUIRED AT ALL POINTS OF CONNECTION NOT USING RUBBER COMPRESSION TYPE JOINTS SUCH AS CONNECTIONS TO EXISTING STRUCTURES.
14. CONCRETE COVERS ON STRUCTURES WILL NOT BE ALLOWED. ONLY CAST IRON COVERS ARE PERMITTED.
15. ALL STORM SEWER DESIGN IS TO CONFORM TO THE CITY OF LAKE SAINT LOUIS DESIGN REQUIREMENTS.
16. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER TO PROVIDE TRAFFIC CONTROL PER THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
17. FINISHED GRADES SHALL NOT EXCEED A 3:1 SLOPE (33%). GRADES IN EXCESS OF 4:1 MUST BE LABELED ON PLANS.
18. TRANSVERSE UNDERDRAINS (SHALLOW PERFORATED PIPE IN A FILTER FABRIC SLEEVE BEDDED IN CLEAN ROCK) SHALL BE PROVIDED AT AND CONNECTION TO ALL STORMSEWER STRUCTURE. UNDERDRAINS SHALL TRAVERSE THE ENTIRE PAVEMENT WIDTH AT EACH STORMSEWER STREET CROSSING.
19. ALL UTILITIES MUST BE BORED UNDER EXISTING CITY OF LAKE ST. LOUIS STREETS.
20. ALL FILL PLACED UNDER PROPOSED STORM AND SANITARY SEWER AND/OR PAVED AREA SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED COMPACTION TEST ASHTO T-180.
21. ALL FILL PLACED IN PROPOSED ROADS SHALL BE COMPACTED FROM THE BOTTOM FILL UP TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD COMPACTION TEST ASHTO T-99. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.

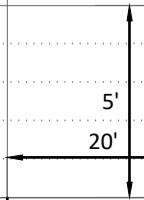
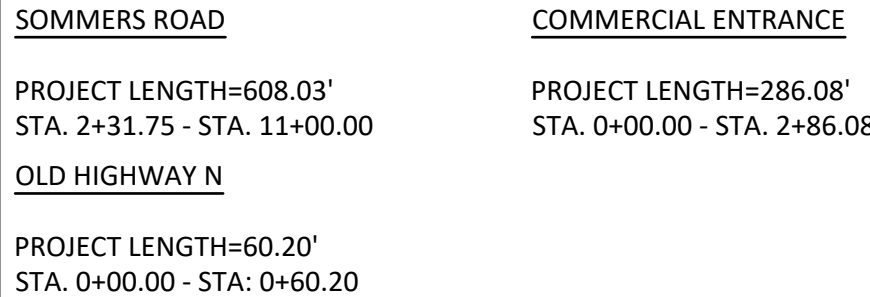
CITY NOTES



Plan view of existing pavement structure. The diagram shows a cross-section of the pavement with various layers and dimensions. Key features include:

- EXISTING CONCRETE** (left side)
- EXISTING 2" ASPHALT SURFACE PAVEMENT** (top layer)
- EXISTING 7.5" ASPHALT PAVEMENT BASE** (bottom layer)
- 2" BP-1 ASPHALT PAVEMENT MILL AND OVERLAY (SEE PLANS FOR LIMITS)** (middle layer)
- LANE MARKING** (indicated by dashed lines)
- 36.0' EXISTING TRAVELED WAY** (total width of the traveled way)
- Dimensions:**
 - 11.5' (left lane width)
 - 11.0' (middle lane width)
 - 12.0' (right lane width)
 - 2.5' (shoulder width)
 - 5.0' (width of the 2" BP-1 asphalt mill and overlay)
 - 6.0' (width of the 2" BP-1 asphalt mill and overlay)
 - 1.0' (width of the 2" BP-1 asphalt mill and overlay)
- VARIES** (indicated by dashed lines and arrows)
- R.O.W. VARIES** (Right of Way boundary)

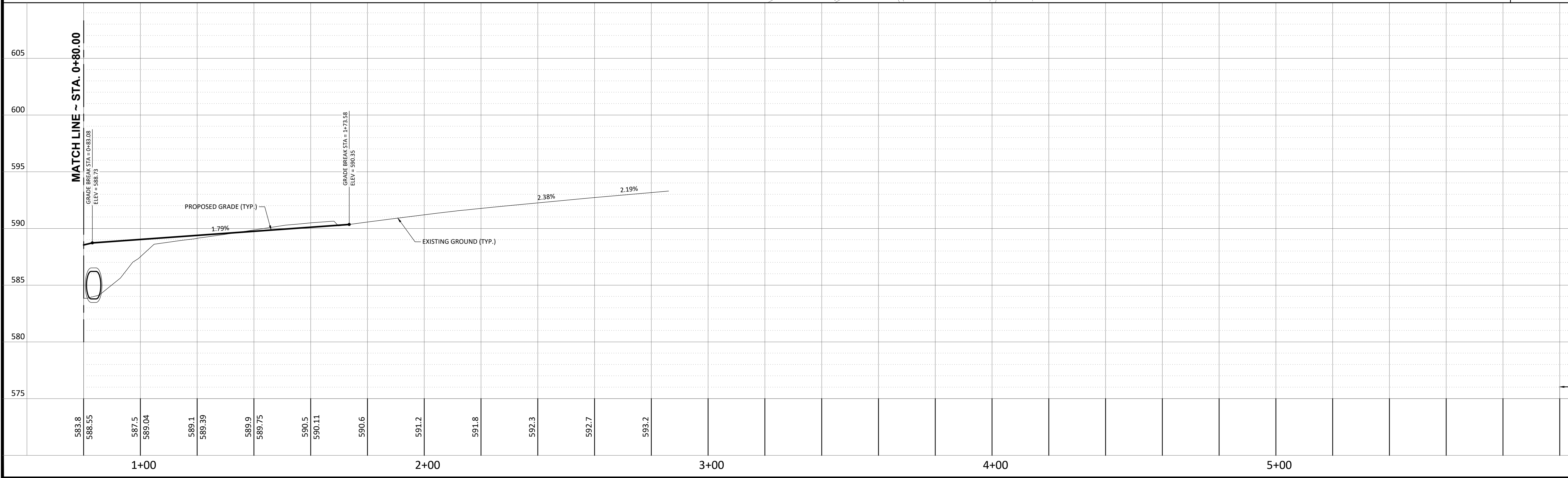
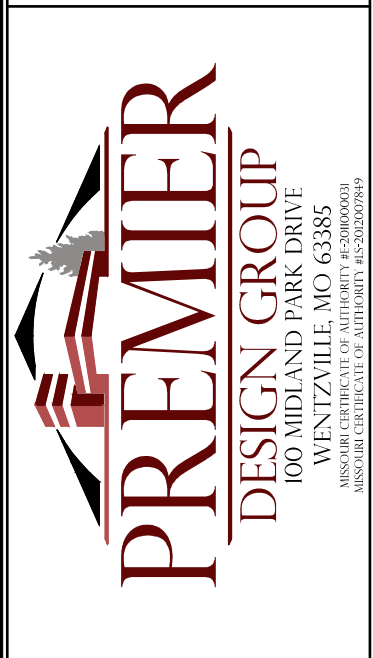
TYPICAL SECTION SOMMERS ROAD

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**SOMMERS AND OLD
HIGHWAY N INTERSECTION**

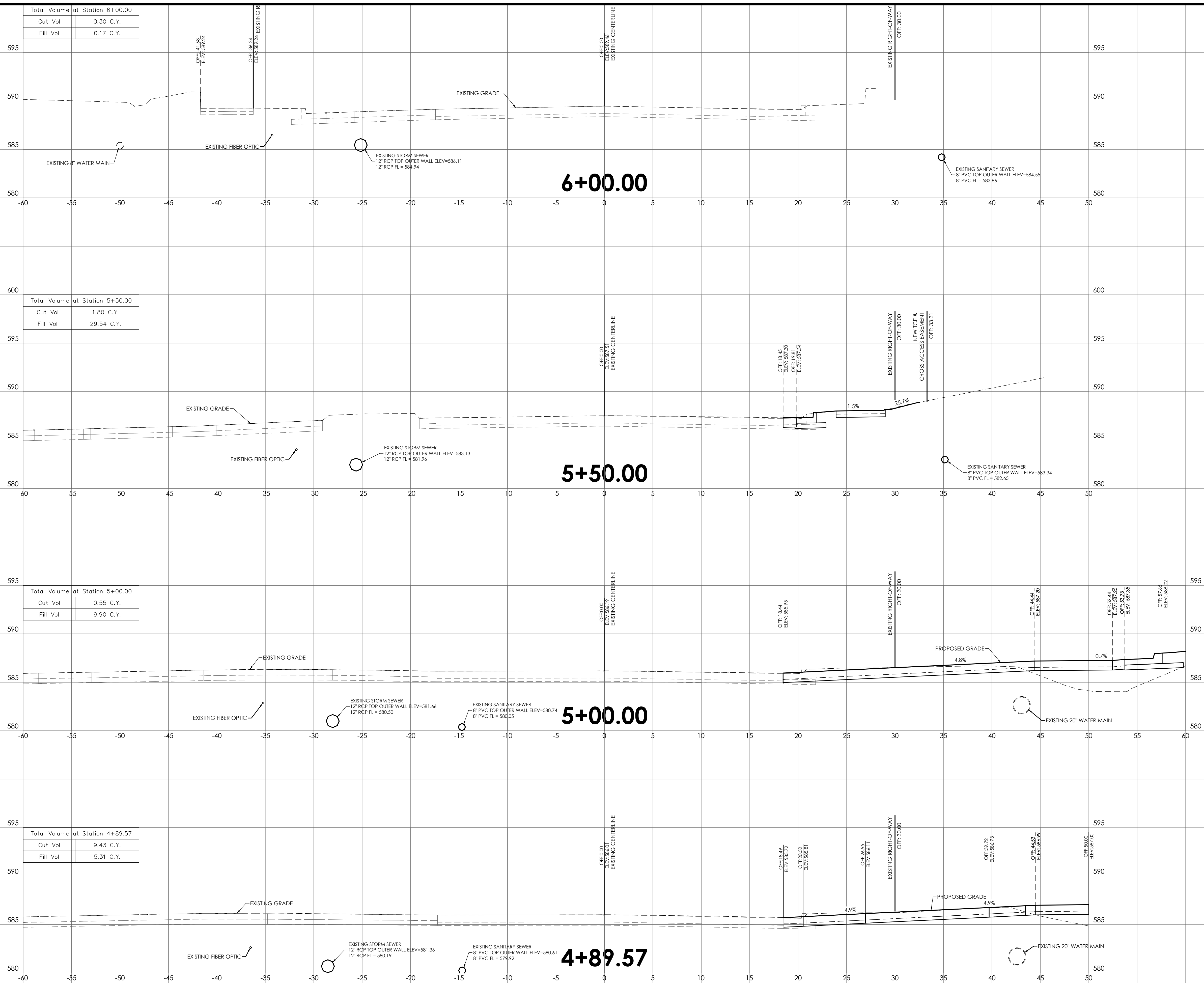
CENTERLINE PLAN & PROFILE

SOMMERS ROAD

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**SOMMERS AND OLD
HIGHWAY N INTERSECTION**

**CENTERLINE PLAN & PROFILE
COMMERCIAL ENTRANCE**



ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date.

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER

DATE PREPARED

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| 7-7-2023 | |
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DISTRICT SHEET
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ST. CHARLE

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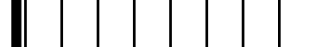
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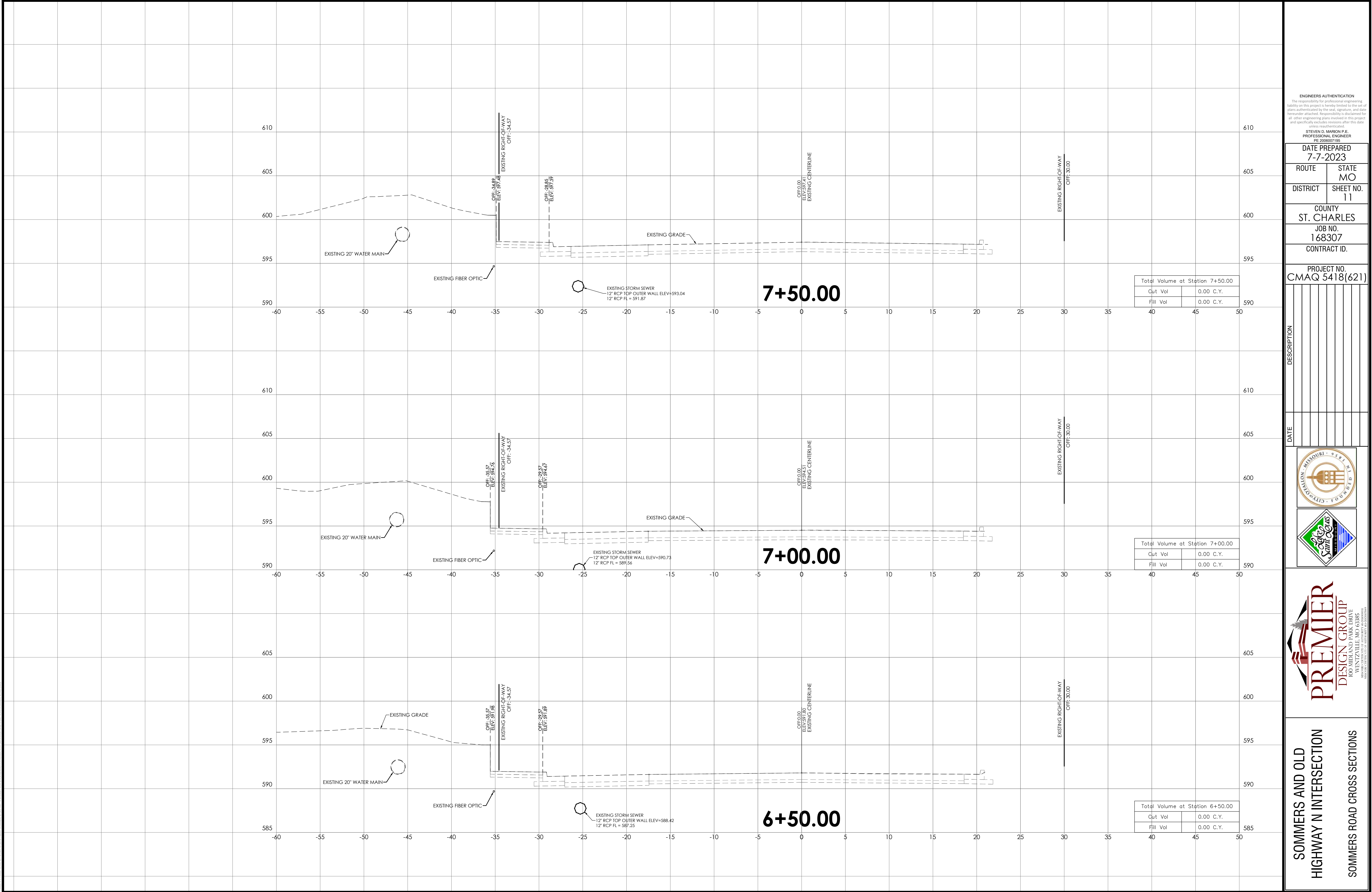
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STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 208807185

DATE PREPARED
7-7-2023

ROUTE STATE
DISTRICT SHEET NO.
11

COUNTY
ST. CHARLES

JOB NO.
168307

CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

DESCRIPTION

DATE



SOMMERS AND OLD
HIGHWAY N INTERSECTION
SOMMERS ROAD CROSS SECTIONS

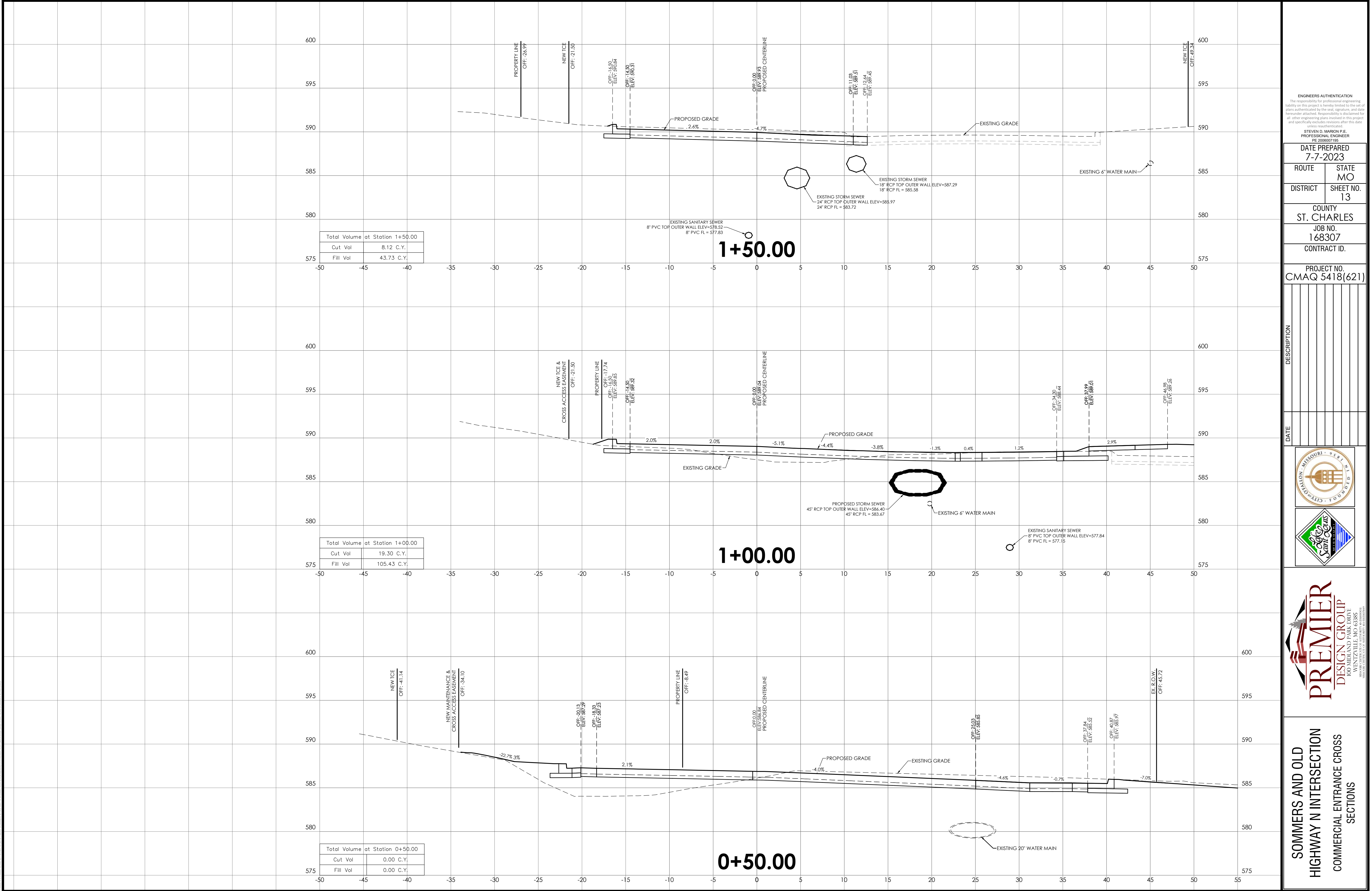
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER

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COUNTY
ST. CHARLES

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ENGINEERS AUTHENTICATION
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STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 208807105

DATE PREPARED
7-7-2023

ROUTE STATE
DISTRICT SHEET NO.
13

COUNTY
ST. CHARLES

JOB NO.
168307

CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

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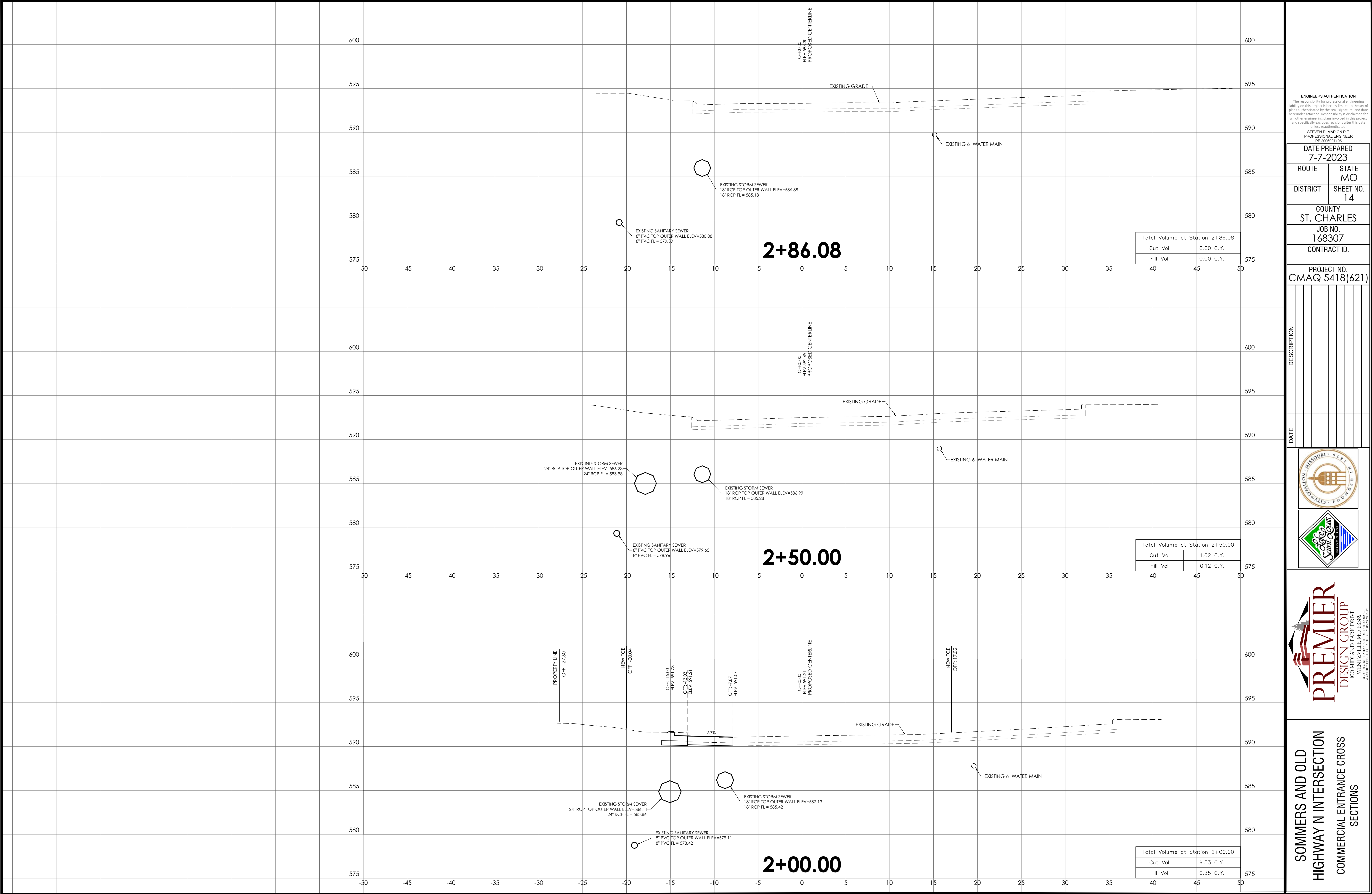
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SOMMERS AND OLD
HIGHWAY N INTERSECTION
COMMERCIAL ENTRANCE CROSS
SECTIONS



ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after the date of the last plan revision.

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 208807185

DATE PREPARED
7-7-2023

ROUTE STATE
DISTRICT SHEET NO.
14

COUNTY
ST. CHARLES

JOB NO.
168307

CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

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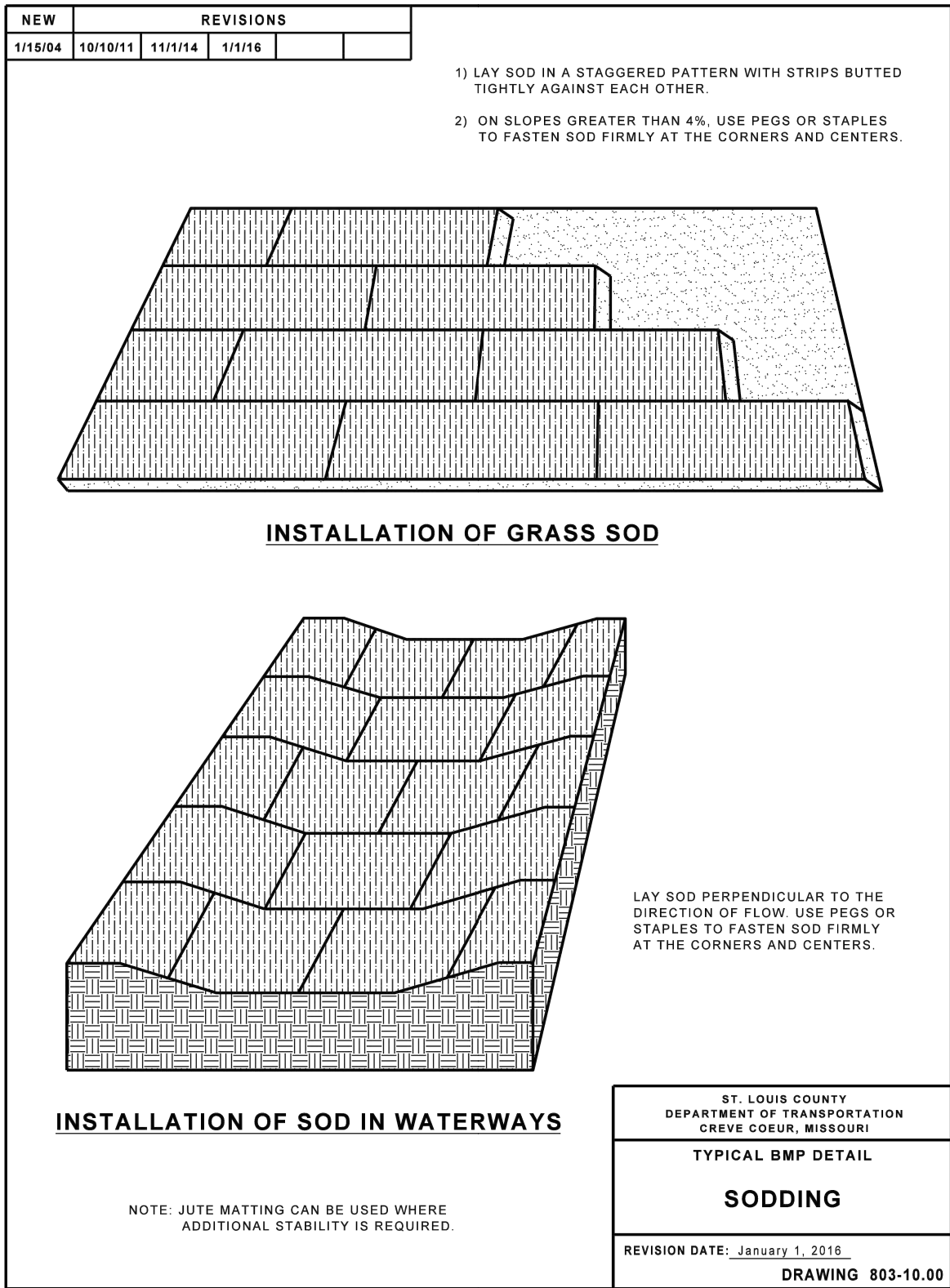
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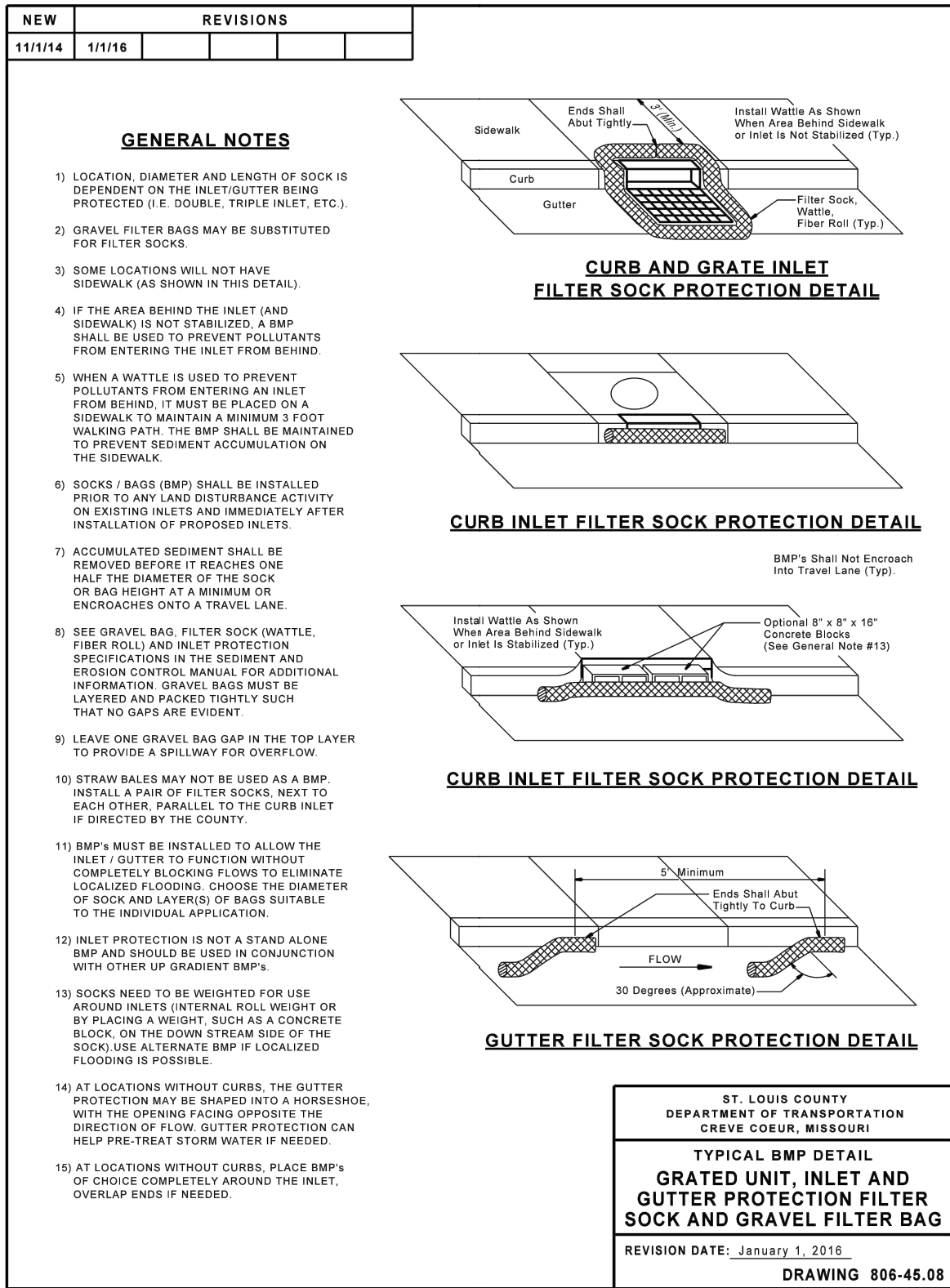
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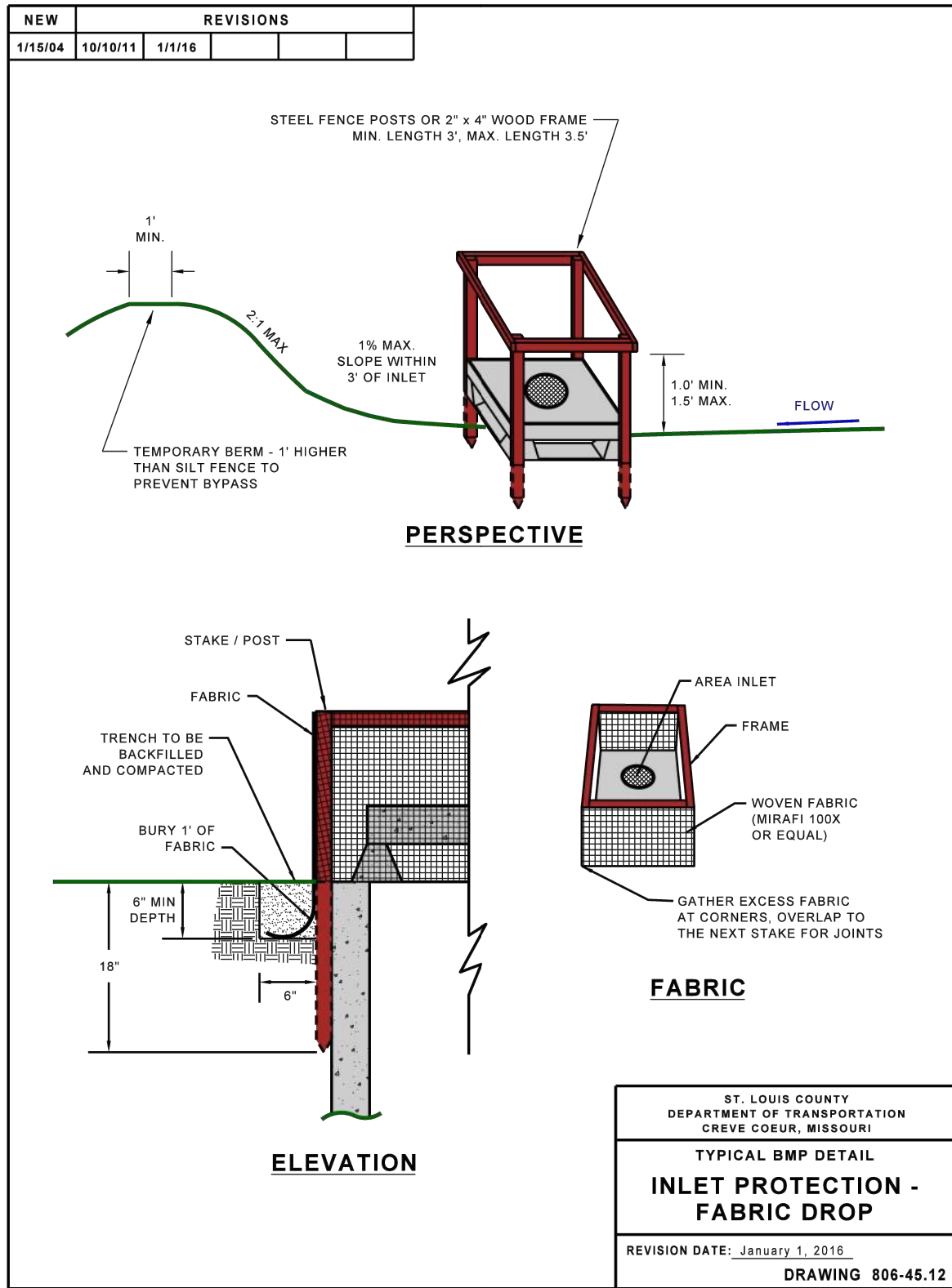
SOMMERS AND OLD
HIGHWAY N INTERSECTION
COMMERCIAL ENTRANCE CROSS
SECTIONS



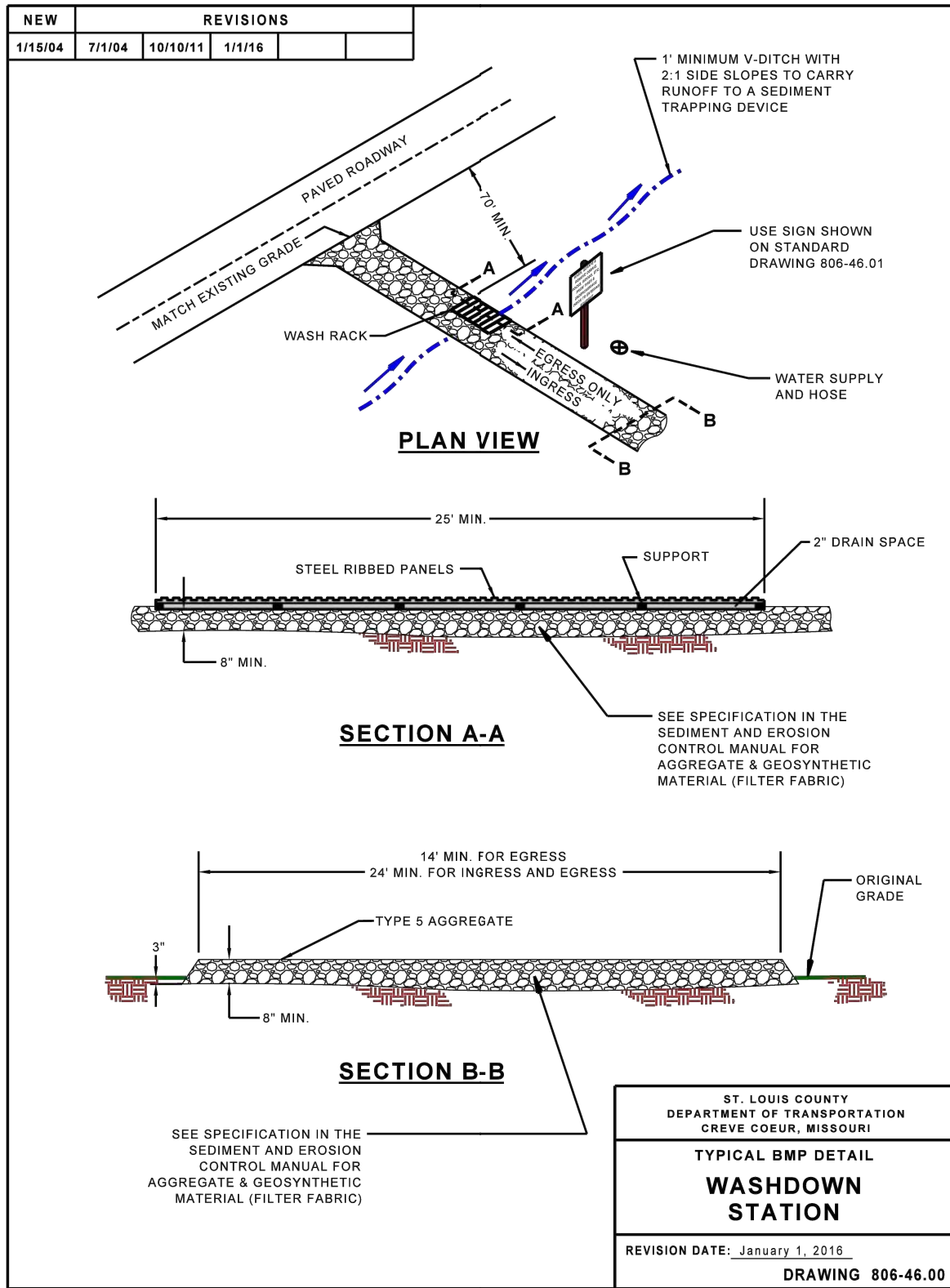
1/1/2016 Page 114 Sediment and Erosion Control Manual Standard Drawings



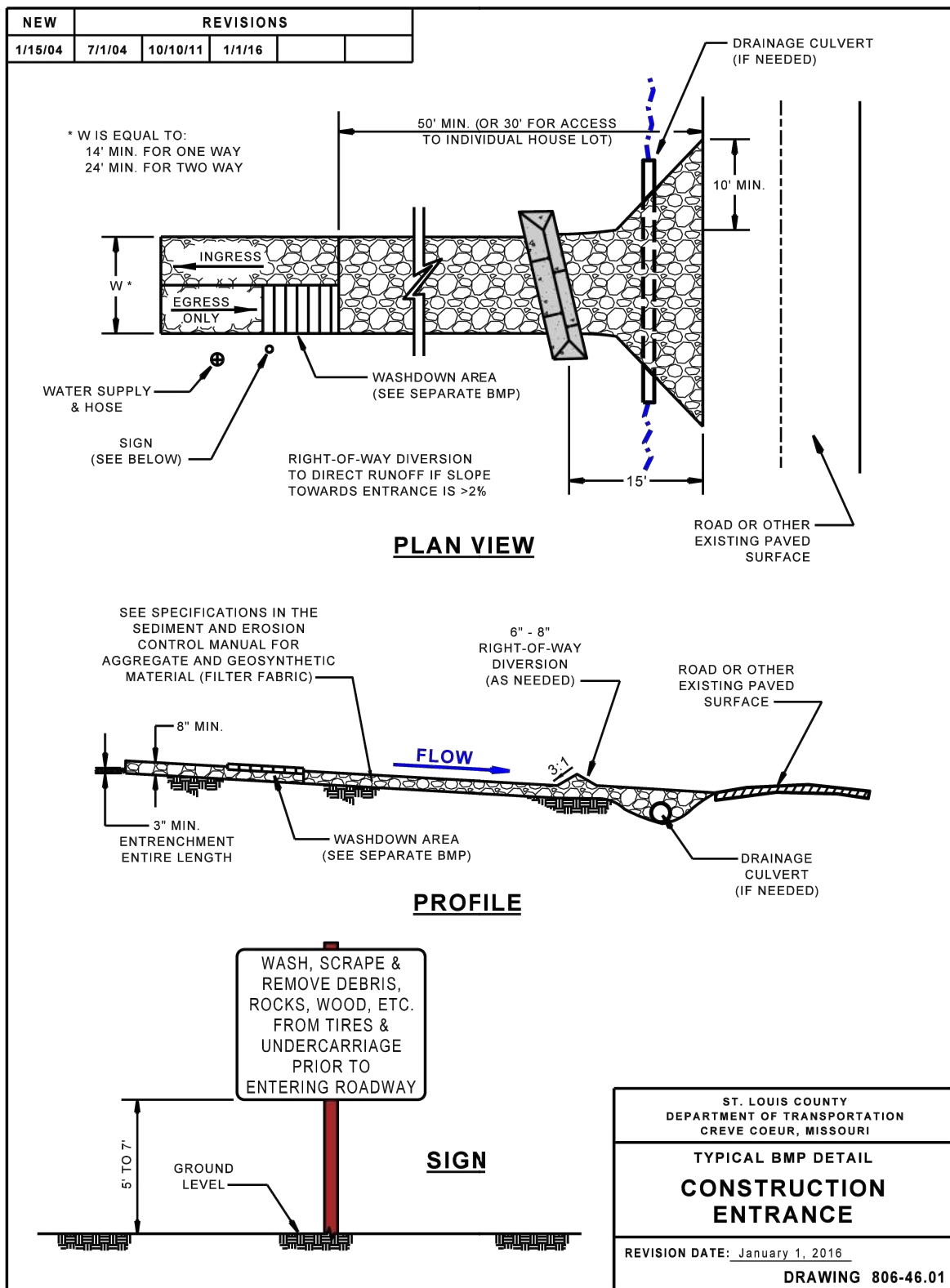
1/1/2016 Page 124 Sediment and Erosion Control Manual Standard Drawings



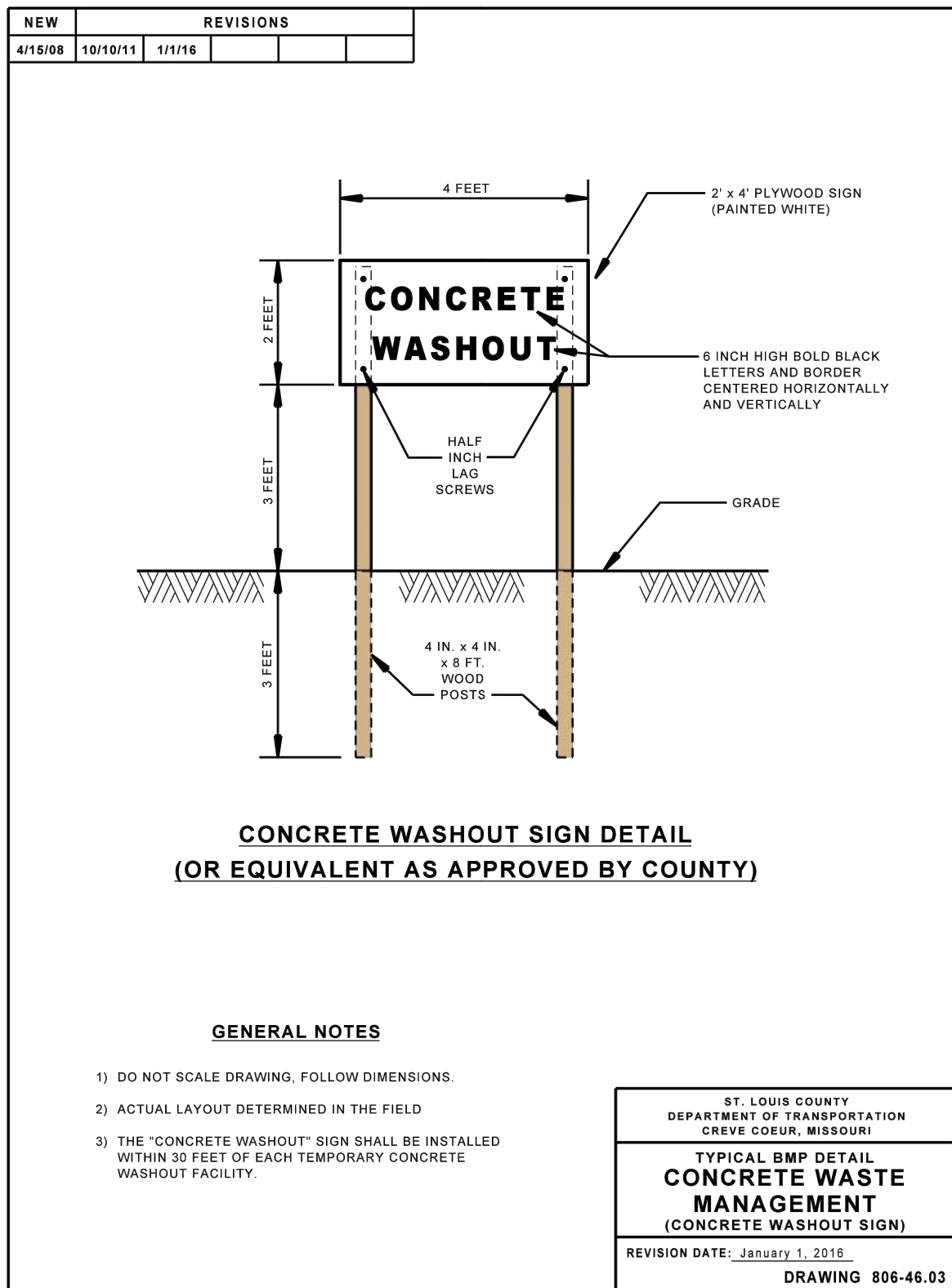
1/1/2016 Page 125 Sediment and Erosion Control Manual Standard Drawings



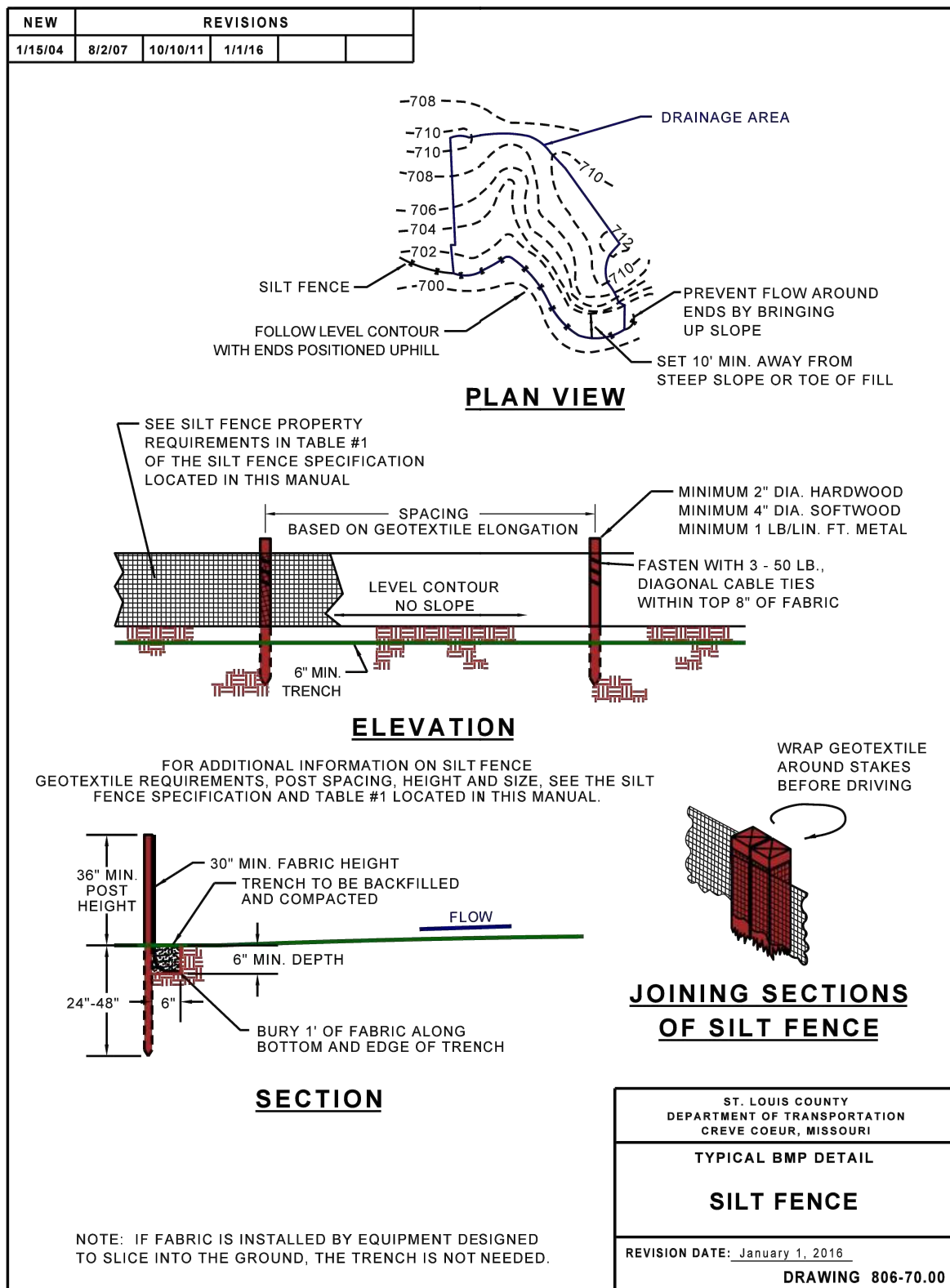
1/1/2016 Page 127 Sediment and Erosion Control Manual Standard Drawings



1/1/2016 Page 128 Sediment and Erosion Control Manual Standard Drawings



1/1/2016 Page 129 Sediment and Erosion Control Manual Standard Drawings



1/1/2016 Page 143 Sediment and Erosion Control Manual Standard Drawings

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STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 008007005

DATE PREPARED
7-7-2023

ROUTE STATE
DISTRICT SHEET NO.
17

COUNTY
ST. CHARLES

JOB NO.
168307

CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

DESCRIPTION

DATE

1/1/2016

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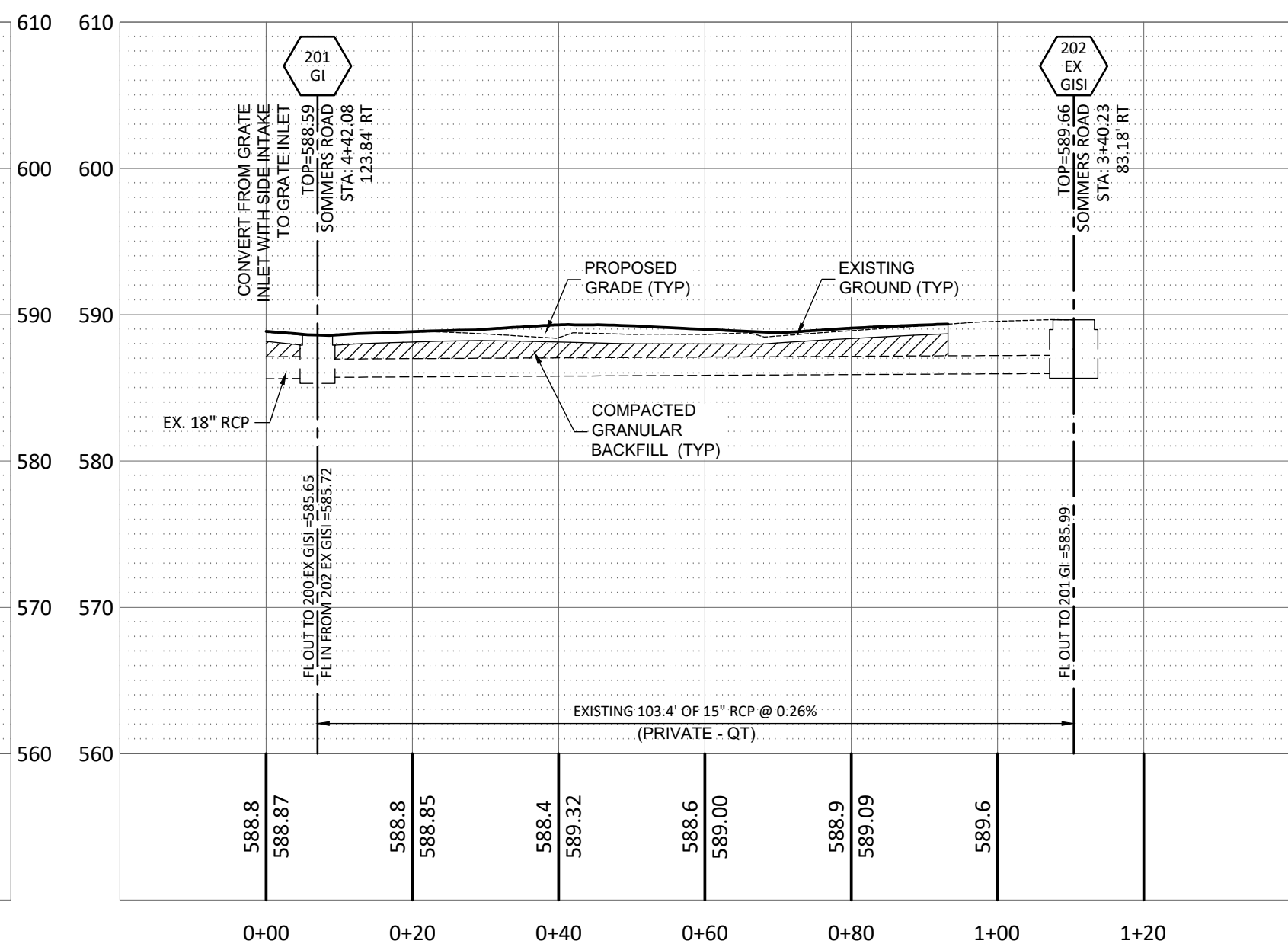
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1"=20' HORIZONTAL
1"=10' VERTICAL



- The class of bedding and the class of pipe shall conform to the requirements of Table 5.12-1 for the applicable overfill height.

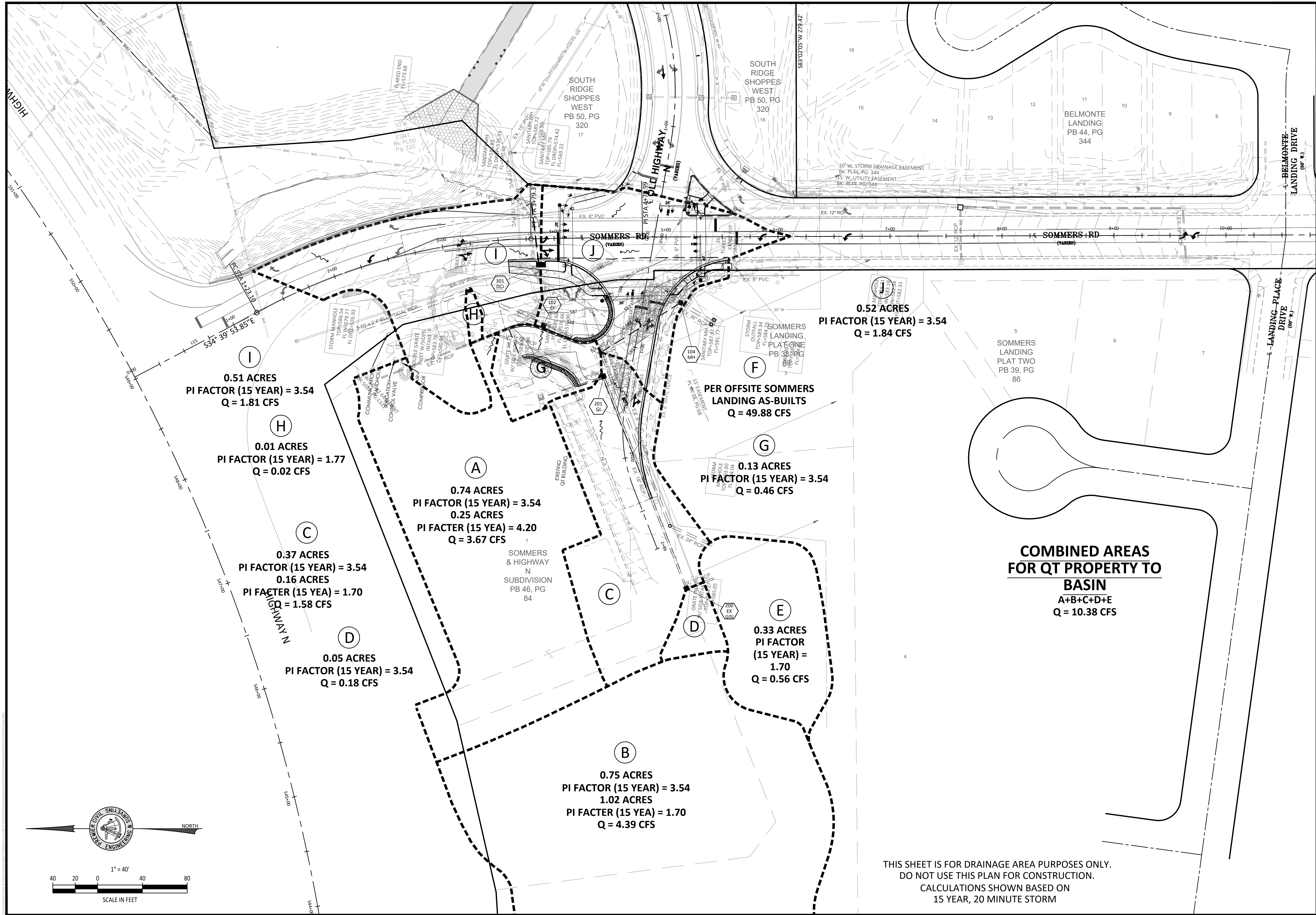
| Class of Pipe | Allowable Overfill Heights (feet) | | | |
|-------------------------|-----------------------------------|-------|-------|-----|
| | Bedding Class | | | |
| | C | B | B1 | A* |
| III | 1-15 | 16-18 | 34-42 | --- |
| IV | 1-22 | 23-27 | 43-65 | 100 |
| V | 1-27 | 28-33 | 65-80 | 124 |
| * With imperfect trench | | | | |



1"=20' HORIZONTAL
1"=10' VERTICAL

Notes: s-Supercritical depth

[illegible]



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| ENGINEERS AUTHENTICATION The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date. STEVEN D. MARION P.E. PROFESSIONAL ENGINEER PE 008607105 | |
| DATE PREPARED 7-7-2023 | |
| ROUTE | STATE MO |
| DISTRICT | SHEET NO. 19 |
| COUNTY ST. CHARLES | |
| JOB NO. 168307 | |
| CONTRACT ID. | |

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| PROJECT NO. CMAQ 5418(621) | |
| DESCRIPTION | |
| DATE | |



SOMMERS AND OLD
HIGHWAY N INTERSECTION
DRAINAGE AREA MAP

THIS SHEET IS FOR DRAINAGE AREA PURPOSES ONLY.
DO NOT USE THIS PLAN FOR CONSTRUCTION.
CALCULATIONS SHOWN BASED ON
15 YEAR, 20 MINUTE STORM

[illegible]

NEW REVISIONS

| NO. | DATE | DESCRIPTION |
|--------|----------|-------------|
| 3-1-10 | 10-08-12 | |

GENERAL NOTES

- Do not scale drawing, follow dimensions.
- See Standard Drawing C608.40, "Concrete Curb Ramp Details (Types 1)" for the remainder of the "General Notes" for this drawing as well as ramp construction details.
- For Ramp Configuration 14, see "Curb Ramp Length Tables" on Standard Drawing C608.41.

*** Note:** Required standard sidewalk cross slope is 1.5% (with a variance of + or - 0.5%). Sidewalk slope shall follow and not be greater than the grade of the roadway pavement parallel to the sidewalk. Ramp slope shall be a maximum of 12:1 (or 8.3%). Cross slope of min. 5 ft. or 6 ft. wide landings shall not exceed 1.5% (+ or - 0.5%) in any direction.

**** Note:** On ramped island provide 5 ft. minimum landing. On cut-through island provide 5 ft. minimum cut-through width.

++ Note: See standard drawings C608.23, C608.24, C608.25, C608.26, C608.27, C608.31, C608.32 & C608.33, for additional island details.

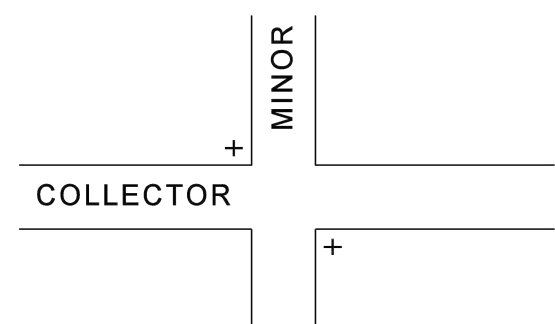
Ramp Configuration 13 - Standard Right-of-Way With Raised 4 Inch Monolithic Concrete Island (Type "1") Concrete Curb Ramps

Ramp Configuration 14 - Restrictive Right-of-Way With Raised 4 Inch Cut-Through Island (Type "3") Concrete Curb Ramp

DRAWING C608.49

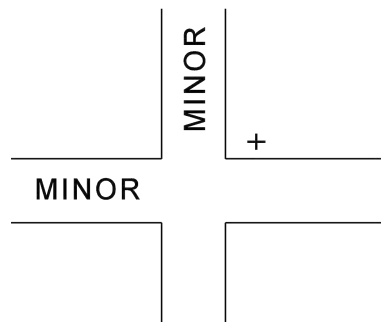
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| NEW | REVISIONS | | | |
|--------|-----------|---------|---------|--------|
| 7-8-88 | 11-2-98 | 7-31-07 | 3-28-08 | 1-1-10 |



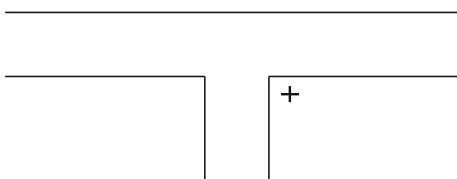
Intersection of a collector street with a minor street, use two (2) sets of signs, both as far right indications on major Street.)

CASE 1



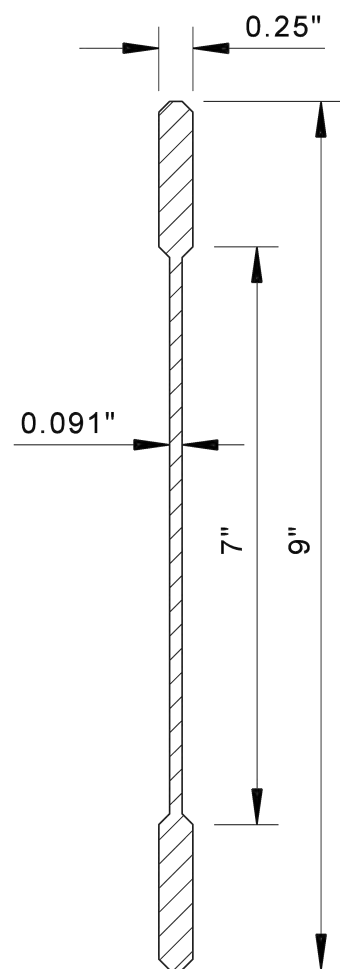
Intersection with two (2) minor streets.
(Install in north or northeast quadrant.)

CASE 2

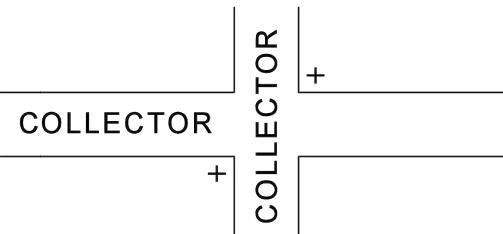


Intersection with "T" intersection.
(Install as far right indication on
continuing street.)

CASE 3



CROSS SECTION
SIGN BLADE



Intersection of two (2) collector streets.
(use two (2) sets of signs. Install in north and
south or northeast and southwest quadrants.)

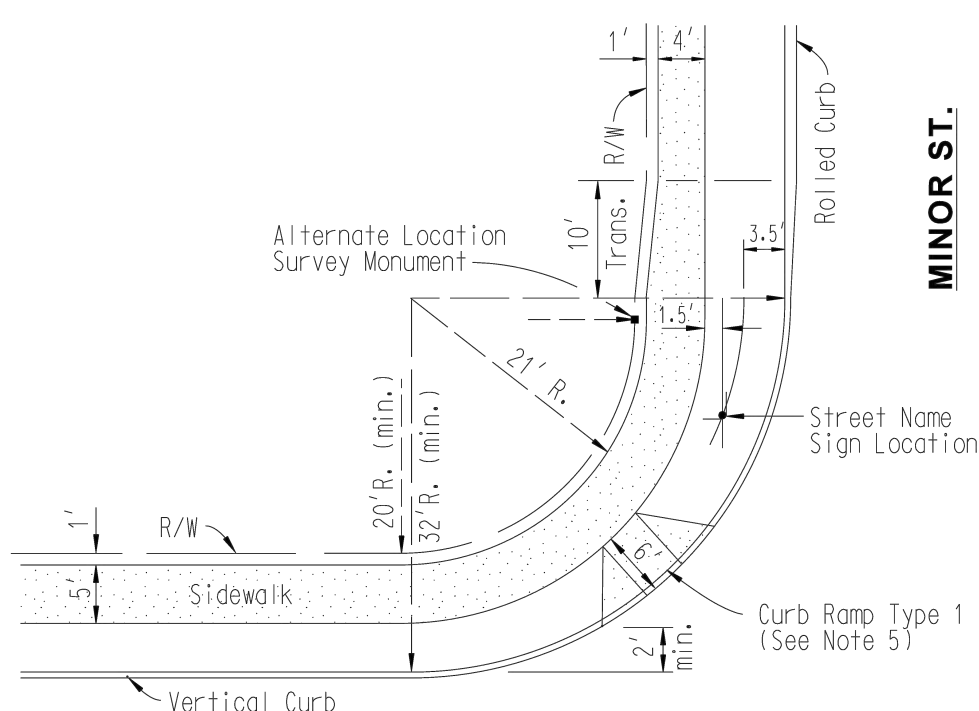
CASE 4

GENERAL NOTES

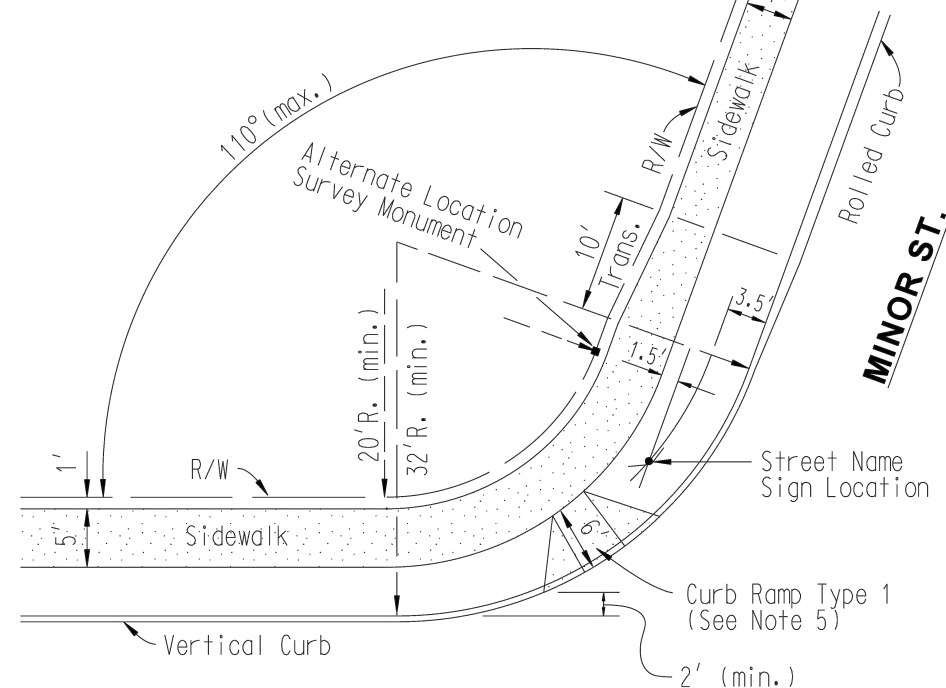
- 1) Street name sign blanks shall be 9 inches wide, extruded aluminum panels in 30, 36, 42, 48 and 54 inch lengths per drawing shown on this exhibit. Signs shall be made from 6063-T6 aluminum alloy, which has been anodized, degreased, deburred, and etched.
- 2) Sign Legend shall be 6 inch. Series C 2000, uppercase lettering for Street Name and 3.75 inch. Series B 2000, uppercase letters for the Suffix. Apply white high intensity non-reflective sheeting (ASTM 4956 Type IV) to both sides of blank. The Street Name and Suffix shall be cut from green, transparent acrylic, electro-cut film and overlaid on both sides of sign.
- 3) Sign Posts shall have a 2-3/8 inch outside diameter and be 10 feet in length. They shall be either Schedule 40 aluminum pipe or galvanized steel with a wall thickness of 0.065 inches. The inside wall shall be galvanized or have a full zinc based organic coating in accordance with ASTM-A513 to obtain a weight of 0.90 ounce per square foot commercial zinc weight (G-90).
- 4) Signs are to be mounted a minimum of 3.5 feet from the back of curb with a minimum clearance from the sidewalk of 1.5 feet.
- 5) Additional information relating to fabrication, field testings and quality of street name signs, connectors and posts is on file at the Traffic Operations Building, 2688 Adie Road, Maryland Heights, Missouri 63043.
- 6) Sign posts shall be mounted 18-24 inches in the ground and set in a concrete base.
- 7) For additional information refer to the Typical Intersection Details for "Sidewalks, Street Name Signs and Monuments," Std. Dwg. C608.55.
- 8) The contractor shall be responsible for verification of underground utilities and structures shown or not shown prior to the placement of sign posts.

| |
|---|
| SAINT LOUIS COUNTY DEPARTMENT OF HIGHWAYS AND TRAFFIC CLAYTON, MISSOURI STREET NAME SIGNS, DETAILS AND LOCATIONS REVISION DATE: <u>January 1, 2010</u> DRAWING C903.10 |
|---|

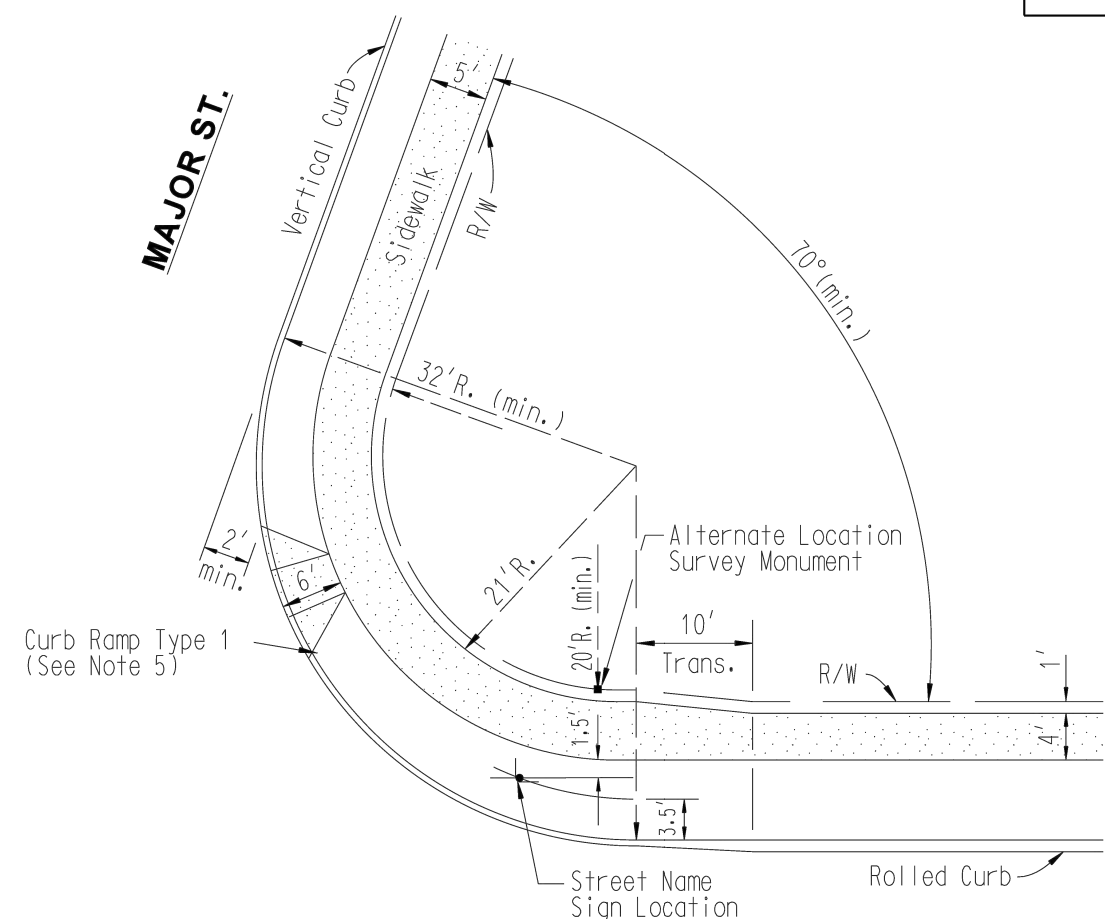
| NEW | REVISIONS | | | |
|--------|-----------|---------|---------|--------|
| 7-1971 | 3-2-98 | 11-2-98 | 7-31-07 | 1-1-10 |



MAJOR ST.



MAJOR ST.



MINOR ST.

GENERAL NOTES

1. Do not scale drawing, follow dimensions.
2. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as "Concrete Sidewalk".
3. Sidewalk cross slope 0.02' /ft.
4. For sidewalk locations on Cul-de-Sacs see "Government Construction Details", Std. Dwg. C502.06 through C502.10.
5. Curb ramps are required with sidewalk and curb.
6. Street name signs shall be located on both approaching lanes of the street or street of intersection. Refer to Std. Dwg. C903.10 "Street Name Signs, Details and Locations".
7. The contractor shall be responsible for verification of underground utilities and features shown on drawings prior to the placement of the sign posts.

SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

SIDEWALK CONSTRUCTION DETAILS

**SIDEWALK,
STREET NAME SIGNS
AND MONUMENTS**

REVISION DATE: January 1, 2010

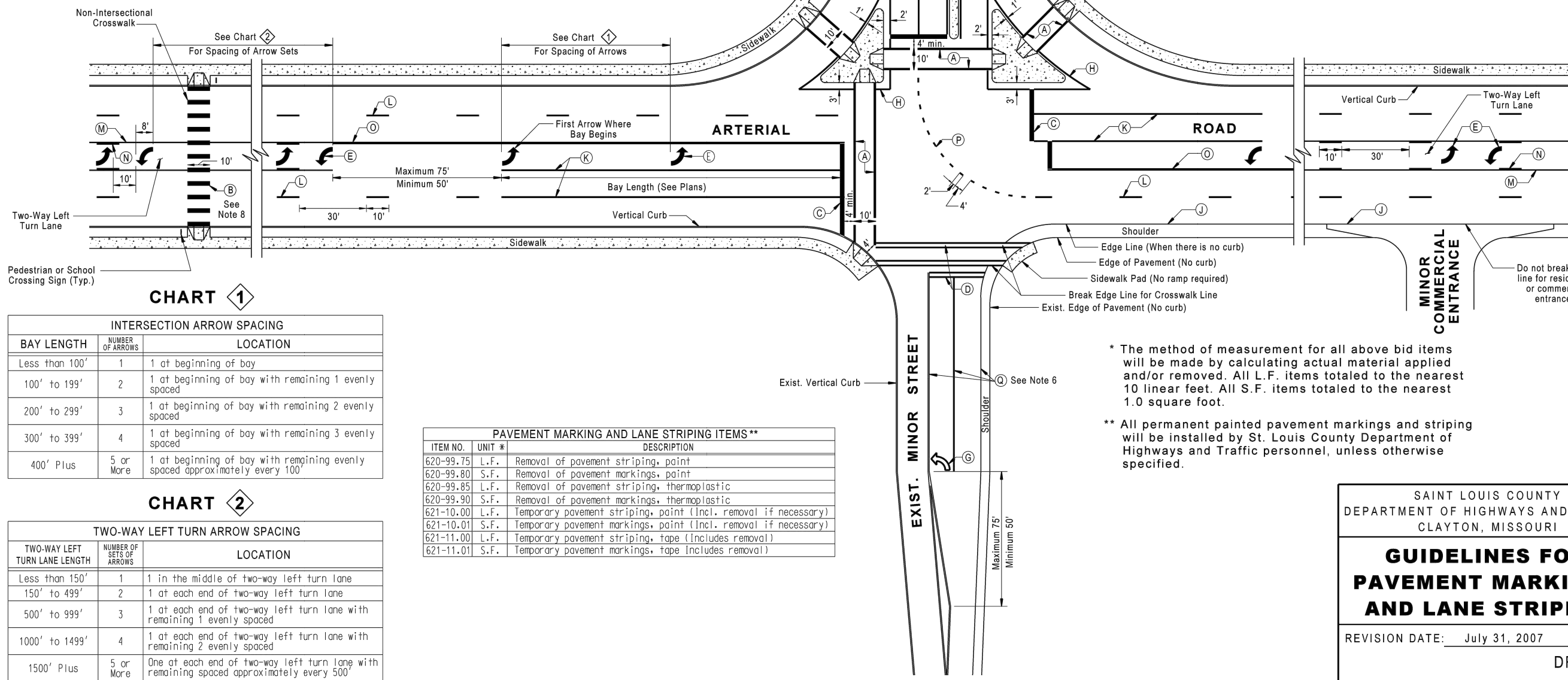
DRAWING:
C608.55

| NEW | REVISIONS | | | |
|---------|-----------|---------|---------|--|
| 1-29-98 | 10-29-98 | 7-22-99 | 7-31-07 | |

GENERAL NOTES

1. Do not scale drawing, follow dimensions.
2. Pavement markings/stripping shall not be installed until a preliminary layout is approved by the Department. Final striping is to be installed after the Department has approved the final conditions.
3. On concrete surfaces painted line striping shall follow along longitudinal pavement joints unless otherwise shown on the plans.
4. Two arrow markings (12.5 sq. ft.) shall not be used, unless otherwise directed by the Department.
5. Existing striping shall be removed as directed by the Department.
6. Existing lane lines when shown shall have a lighter line weight symbol than proposed lane lines.
7. Grosswalk markings shall be present where pedestrian signal indicates a crosswalk. Grosswalk markings shall be present where crosswalks are present. Grosswalk markings may also be installed at intersections controlled by stop signs if there is a substantial conflict between vehicle and pedestrian movement.

- 8) Non-intersectional crosswalk blocks shall be centered on the lane lines and travel lanes to avoid the wheel paths of vehicles.
- 9) Pavement markings in neutral areas, including transverse lines and chevron markings, shall be installed in accordance with the current edition of the "Manual on Uniform Traffic Control Devices".
- 10) Pavement markings at railroad-highway grade crossings shall be installed in accordance with the "Manual on Uniform Traffic Control Devices"



| PAVEMENT MARKING AND LANE STRIPING ITEMS** | | |
|--|--------|---|
| ITEM NO. | UNIT # | DESCRIPTION |
| 620-99.75 | L.F. | Removal of pavement striping, point |
| 620-99.80 | S.F. | Removal of pavement markings, point |
| 620-99.85 | L.F. | Removal of pavement striping, thermoplastic |
| 620-99.90 | S.F. | Removal of pavement markings, thermoplastic |
| 621-10.00 | L.F. | Temporary pavement striping, point (incl. removal if necessary) |
| 621-10.01 | S.F. | Temporary pavement markings, point (incl. removal if necessary) |
| 621-11.01 | L.F. | Temporary pavement striping, tape (includes removal) |
| 621-11.01 | S.F. | Temporary pavement markings, tape (includes removal) |




LEGEND

- MARKING (SQ. FT.)**
- (A) Crosswalk Line, White, 12" wide
 - (B) Crosswalk Block, White, 24" wide
 - (C) Stop Line, White, 24" wide
 - (D) Existing Stop Line / Crosswalk
 - (E) Arrow, Turn, White, 15.5 Sq. Ft.
 - (F) Arrow, Turn & Thru, White, 33.0 Sq. Ft.

STRIPING (L.F.)

- ⑧ Edge Line, Island, Solid, White, 4" wide
 - ① Edge Line, Median, Solid, Yellow, 4" wide
 - ① Edge Line, Pavement, Solid, White, 4" wide
 - ① Lane Line, Solid, White, 4" wide
 - ① Lane Line, Intermittent, White, 4" wide
 - ① Lane Line, Solid, Yellow, 4" wide
 - ① Lane Line, Intermittent, Yellow, 4" wide
 - ② Center Line, Solid Double, Yellow, 4" wide Each
 - ② Turning Lane Line, Intermittent, White, 4" wide
- (Use with Dual Turns or as directed by the Department;
Existing Lane/Edge Line

| | | |
|------------------------|-----------------|-----------------|
| ST. LOUIS COUNTY PROJ. | | |
| | SHEET NUMBER | TOTAL SHEETS |

| ENGINEERS AUTHENTICATION | | | | | | | | | |
|--|--|--|--|--|-----------------|--|--|--|--|
| The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthorized. | | | | | | | | | |
| STEVEN D. MARCON P.E. PROFESSIONAL ENGINEER PE 2006007156 | | | | | | | | | |
| DATE PREPARED 7-7-2023 | | | | | | | | | |
| ROUTE | | | | | STATE MO | | | | |
| DISTRICT | | | | | SHEET NO. 24 | | | | |
| COUNTY ST. CHARLES | | | | | | | | | |
| JOB NO. 168307 | | | | | | | | | |
| CONTRACT ID. | | | | | | | | | |
| PROJECT NO. CMAQ 5418(621) | | | | | | | | | |
| DESCRIPTION | | | | | | | | | |
| DATE | | | | | | | | | |
|   | | | | | | | | | |
|  | | | | | | | | | |
| SOMMERS AND OLD HIGHWAY N INTERSECTION CONSTRUCTION DETAILS | | | | | | | | | |

| CODE NO. | SPEC. | ITEM | UNIT | TOTAL QUANTITIES |
|---------------|-------------|---|------|------------------|
| ROADWAY ITEMS | | | | |
| 202-20.10 | MODOT / JSP | REMOVAL OF IMPROVEMENTS | L.S. | 1 |
| 203-99.07 | MODOT | FURNISHED BORROW | C.Y. | 222 |
| 206-40.00 | MODOT | POUROUS BACKFILL | C.Y. | 350 |
| 304-05.04 | MODOT | TYPE 5 AGGREGATE FOR BASE (4 IN. THICK) | S.Y. | 1,259 |
| 310-10.02 | MODOT | GRAVEL (A) (FOR TEMPORARY ACCESS) | TON | 100 |
| 401-12.09 | MODOT | BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1) | TON | 360 |
| 502-11.08 | MODOT | CONCRETE PAVEMENT (8 IN. NON-REINF) | S.Y. | 1,078 |
| 502-99.05 | MODOT / JSP | CONCRETE PAVERS | S.Y. | 39 |
| 502-99.05 | MODOT / JSP | 4 IN. RAISED CONCRETE MEDIAN | S.Y. | 88 |
| 603-99.01 | MODOT / JSP | ADJUST UTILITY COVER TO GRADE | EACH | 3 |
| 603-99.02 | MODOT / JSP | RECONSTRUCT UTILITY COVER AND ADJUST TO GRADE | EACH | 1 |
| 604-20.10 | MODOT | ADJUSTING MANHOLE | EACH | 1 |
| 609-99.03 | MODOT/JSP | 2' VERTICAL CURB AND GUTTER | L.F. | 567 |
| 614-30.20 | MODOT | CURB INLET | EACH | 1 |
| 614-99.02 | MODOT | DOUBLE CURB INLET | EACH | 1 |
| 616-99.01 | MODOT / JSP | TRAFFIC CONTROL (ALL INCLUSIVE) | L.S. | 1 |
| 618-10.00 | MODOT | BOND & MOBILIZATION | L.S. | 1 |

| CODE NO. | SPEC. | ITEM | UNIT | TOTAL QUANTITIES |
|-------------------------------|-------------|--|------|------------------|
| 622-10.01 | MODOT | COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LES | S.Y. | 3,339 |
| 627-40.00 | MODOT | CONTRACTOR FURNISHED SURVEYING AND STAKING | L.S. | 1 |
| 627-99.01 | MODOT / JSP | AS BUILT PLANS | L.S. | 1 |
| 726-99.23 | MODOT/JSP | 3.75' X 2.4' ELLIPTICAL REINFORCED CONCRETE PIPE | L.F. | 84 |
| 731-00.60 | MODOT | PRECAST CONCRETE MANHOLE - 60 IN. | EACH | 1 |
| 803-10.00A | MODOT | TURF TYPE TALL FESCUE SODDING | S.Y. | 519 |
| 806-10.07A | MODOT | CURB INLET CHECK | EACH | 4 |
| 806-10.17 | MODOT | TEMPORARY SEEDING AND MULCHING | ACRE | 0.1 |
| 806-10.19 | MODOT | SILT FENCE | L.F. | 170 |
| SIGNING/STRIPING/SIGNAL ITEMS | | | | |
| 616-10.10 | MODOT | RELOCATED SIGNS | S.F. | 9 |
| 620-00.03 | MODOT | PREFORMED THERMOPLASTIC PAVEMENT MARKING, 4 IN., WHITE | L.F. | 459 |
| 620-00.06 | MODOT | PREFORMED THERMOPLASTIC PAVEMENT MARKING, 4 IN., YELLOW | L.F. | 1,314 |
| 620-00.09 | MODOT | PREFORMED THERMOPLASTIC PAVEMENT MARKING, 6 IN., WHITE | L.F. | 307 |
| 620-00.15 | MODOT | PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN., WHITE | L.F. | 48 |
| 620-00.21 | MODOT | PREFORMED THERMOPLASTIC PAVEMENT MARKING, LEFT/RIGHT ARROW | EACH | 8 |
| 620-00.27 | MODOT | PREFORMED THERMOPLASTIC PAVEMENT MARKING, COMBINATION STR/LT/RT | EACH | 4 |
| 620-60.00C | MODOT | 4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS | L.F. | 153 |

[illegible]

SOMMERS AND OLD
HIGHWAY N INTERSECTION

QUANTITIES SHEET

| CODE NO. | SPEC. | ITEM | UNIT | TOTAL QUANTITIES |
|------------|-------|---|------|------------------|
| 620-60.01C | MODOT | 4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS | L.F. | 188 |
| 620-61.24A | MODOT | 24 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS | L.F. | 22 |
| 620-99.02 | MODOT | WHITE STANDARD PAVEMENT MARKING PAINT, TURN SYMBOLS | EACH | 7 |
| 620-53.01B | MODOT | TEMPORARY REMOVABLE MARKING TAPE 4 IN., WHITE | L.F. | 459 |
| 620-53.03B | MODOT | TEMPORARY REMOVABLE MARKING TAPE 4 IN., YELLOW | L.F. | 1,314 |
| 620-53.09 | MODOT | TEMPORARY REMOVABLE MARKING TAPE 24 IN., WHITE | L.F. | 48 |
| 901-11.12 | MODOT | BRACKET ARM, 15 FT.(POWDER COATED BLACK) | EACH | 4 |
| 901-71.10 | MODOT | POLE & BRACKET CABLE | L.F. | 400 |
| 901-13.11 | MODOT | LUMINAIRE, LED-A (POWDER COATED BLACK) | EACH | 4 |
| 902-32.25 | MODOT | POST, TYPE C, 25 FT. ARM (POWDER COATED BLACK) | EACH | 1 |
| 902-32.35 | MODOT | POST, TYPE C, 35 FT. ARM (POWDER COATED BLACK) | EACH | 2 |
| 902-32.40 | MODOT | POST, TYPE C, 40 FT. ARM (POWDER COATED BLACK) | EACH | 1 |
| 902-02.13 | MODOT | SIGNAL HEAD, TYPE 3S, LED | EACH | 4 |
| 902-05.13 | MODOT | SIGNAL HEAD, TYPE 3B, LED | EACH | 4 |
| 902-05.14 | MODOT | SIGNAL HEAD, TYPE 4B, LED | EACH | 4 |
| 9025-08.11 | MODOT | SIGNAL HEAD, TYPE 1S, PEDESTRIAN | EACH | 8 |
| 902-08.33 | MODOT | SH-FLAT SHEET- SIGNAL SIGN | S.F. | 38 |
| 902-08.34 | MODOT | SIGN HARDWARE | EACH | 12 |
| 902-27.08 | MODOT | SIGNAL POST, 8 FT. (POWDER COATED BLACK) | EACH | 6 |

| CODE NO. | SPEC. | ITEM | UNIT | TOTAL QUANTITIES |
|-----------|-------|--|------|------------------|
| 902-42.83 | MODOT | CONTROLLER ASSEMBLY HOUSING, NEMA TS2 CONTROLLER | EACH | 1 |
| 902-49.75 | MODOT | VIDEO DETECTION SYSTEM | EACH | 1 |
| 902-52.00 | MODOT | CONDUIT, 2" TRENCH W/TRACE WIRE | L.F. | 144 |
| 902-53.00 | MODOT | CONDUIT, 3" TRENCH W/TRACE WIRE | L.F. | 66 |
| 902-54.00 | MODOT | CONDUIT, 4" TRENCH W/TRACE WIRE | L.F. | 36 |
| 902-72.00 | MODOT | CONDUIT, 2" PUSHED W/TRACE WIRE | L.F. | 540 |
| 902-73.00 | MODOT | CONDUIT, 3" PUSHED W/TRACE WIRE | L.F. | 349 |
| 902-82-08 | MODOT | CABLE, 8 AWG 1 CONDUCTOR, POWER | L.F. | 30 |
| 902-83.03 | MODOT | CABLE, 12 AWG 2 CONDUCTOR | L.F. | 1,250 |
| 902-83.10 | MODOT | CABLE, 16 AWG 5 CONDUCTOR | L.F. | 2,190 |
| 902-83.11 | MODOT | CABLE, 16 AWG 7 CONDUCTOR | L.F. | 3,620 |
| 902-86.20 | MODOT | 120 V POWER SUPPLY CABINET W/UPS | EACH | 1 |
| 902-88.11 | MODOT | PREFORMED, PULL BOX CLASS 2 | EACH | 6 |
| 902-88.12 | MODOT | PREFORMED, PULL BOX CLASS 3 | EACH | 2 |
| 902-88.16 | MODOT | PREFORMED, PULL BOX CLASS 5 | EACH | 1 |
| 902-91.00 | MODOT | BASE, CONCRETE | C.Y. | 17 |
| 902-99.02 | MODOT | PUSHBUTTON POST (POWDER COATED BLACK) | EACH | 2 |
| 902-99.02 | MODOT | APS SYSTEM (INTERSECTION) | EACH | 1 |

QUANTITIES SHEET

SUMMARY OF QUANTITIES

| CODE NO. | SPEC. | ITEM | UNIT | TOTAL QUANTITIES |
|-----------------------|-------|---|------|------------------|
| 902-99.02 | MODOT | ILLUMINATED STREET NAME SIGN | EACH | 4 |
| 902-99.03 | MODOT | CABLE, 14 AWG 3 CONDUCTOR | L.F. | 1,170 |
| 902-99.03 | MODOT | FIBER OPTIC CABLE, 72SM | L.F. | 3,600 |
| BIKE/PEDESTRIAN ITEMS | | | | |
| 304-05.04 | MODOT | TYPE 5 AGGREGATE FOR BASE (4 IN. THICK) | S.Y. | 142 |
| 608-10.12 | MODOT | TRUNCATED DOMES | S.F. | 84 |
| 608-60.04 | MODOT | CONCRETE SIDEWALK, 4 IN. | S.Y. | 142 |

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER

DATE PREPARED
7-7-2023

| | |
|-------|-------------|
| ROUTE | STATE MO |
|-------|-------------|

| | |
|----------|------------------|
| DISTRICT | SHEET NO. 25B |
|----------|------------------|

COUNTY
ST. CHARLES

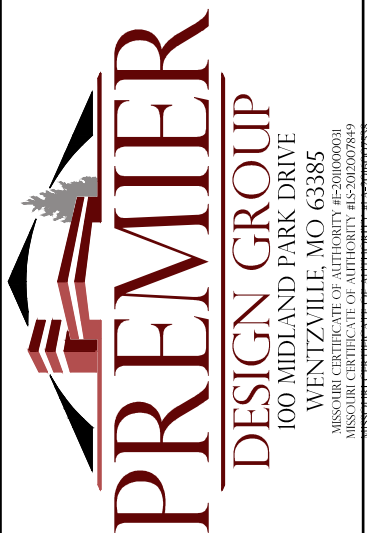
JOB NO.
68307

CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

DESCRIPTION

DATE _____

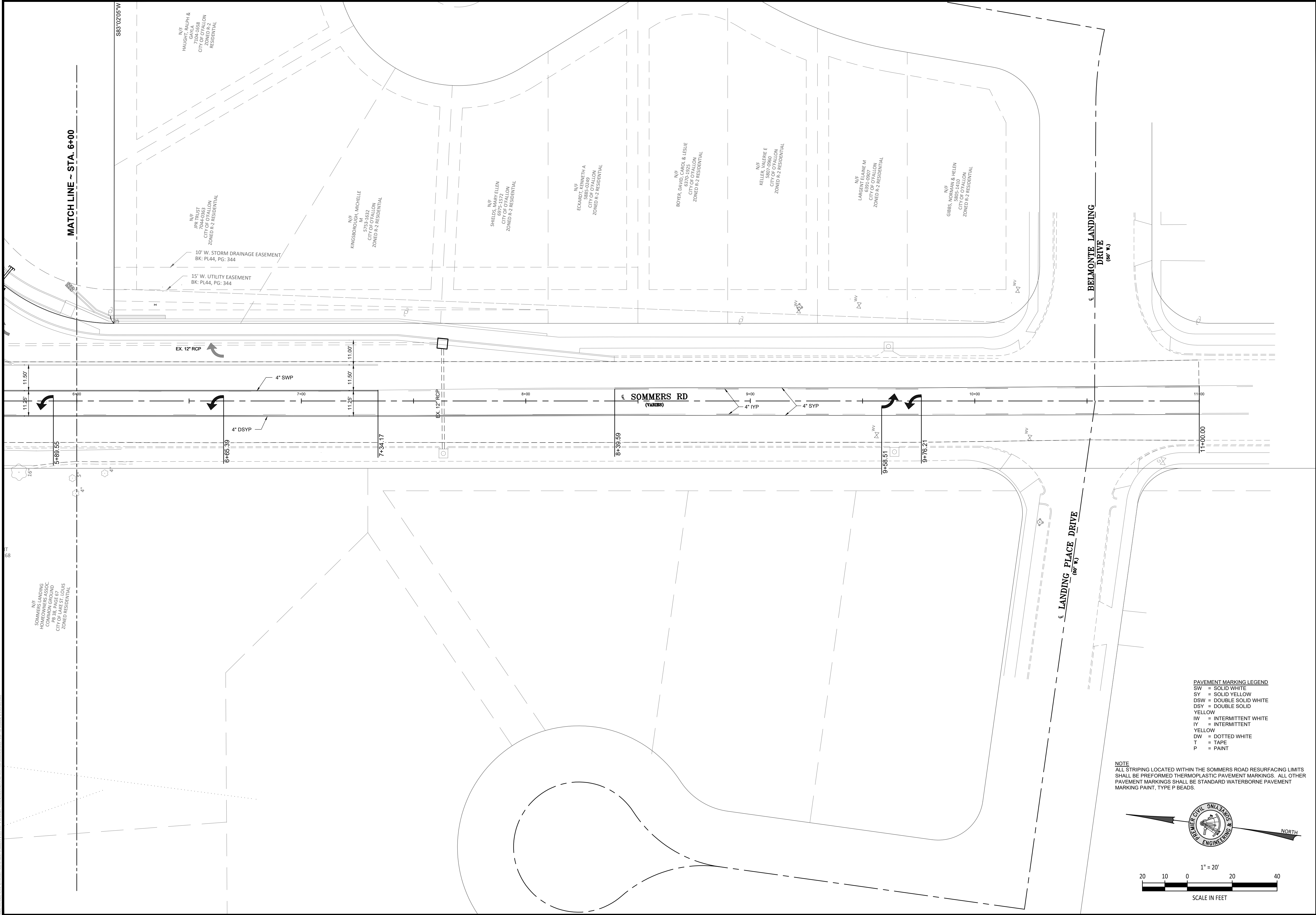


SOMMERS AND OLD
HIGHWAY N INTERSECTION

QUANTITIES SHEET

SOMMERS AND OLD HIGHWAY N INTERSECTION

SIGNAGE & STRIPING PLAN



ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after the date of the original plan.

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 008007105

DATE PREPARED
7-7-2023

ROUTE
STATE
MO

DISTRICT
SHEET NO.
27

COUNTY
ST. CHARLES



JOB NO.
168307


CONTRACT ID.

PROJECT NO.
CMAQ 5418(621)

DESCRIPTION

DATE

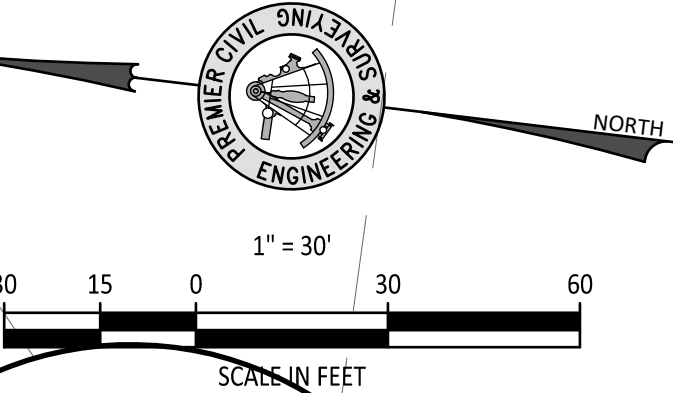




PREMIER
DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
TEL: 636.335.1111
WWW.PREMIERDESIGNGROUP.COM

SOMMERS AND OLD
HIGHWAY N INTERSECTION

SIGNAGE & STRIPING PLAN



SOMMERS AND OLD
HIGHWAY N INTERSECTION

TRAFFIC CONTROL PLAN

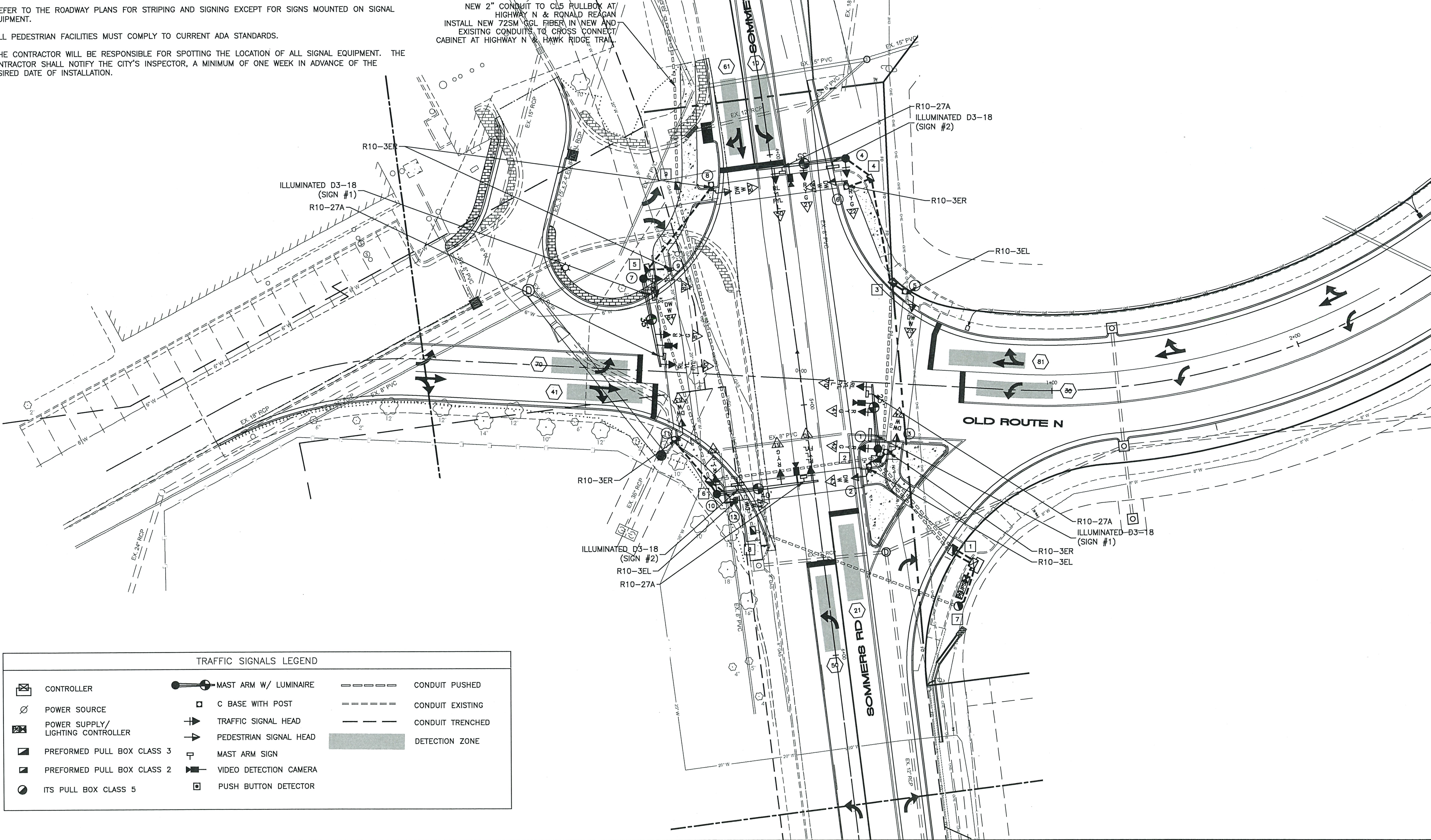
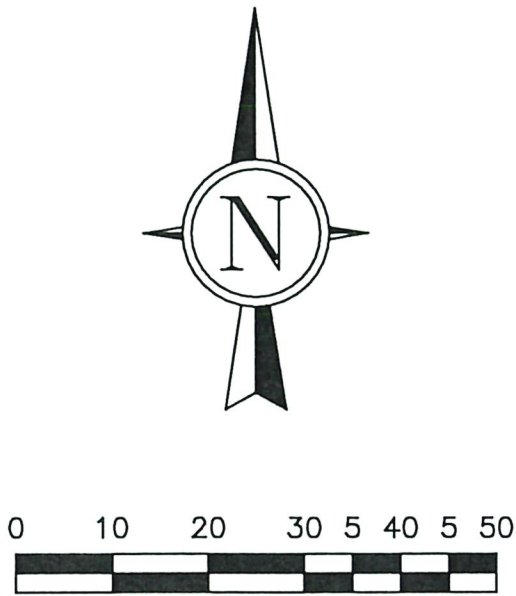
The diagram illustrates a work zone layout with various safety measures and equipment placement. Key elements include:

- Protective Vehicle:** A vehicle positioned at the rear of the work zone, with a "Protective Vehicle / Roll Ahead Space" indicated.
- Channelizer Spacing:** Channelizers are spaced to reduce turning traffic from entering the two-way left turn lane.
- Work Zone:** The work zone is defined by a "ROAD WORK AHEAD" sign and a "ROAD CLOSED AHEAD" sign.
- Signage:** Signs include "AHEAD OF WORK" (orange diamond), "ROAD WORK AHEAD" (orange diamond), "ROAD CLOSED AHEAD" (orange diamond), and "S" (white square).
- Dimensions:** Dimensions include "100' (5 channels min)", "16 min. lane width", "16 min. lane width", "100' (5 channels min)", and "16 min. lane width".
- Equipment:** Equipment includes "TA-31" (Traffic Alert System), "AWRS" (Advanced Warning Rail System), and "S" (Sign).
- Notes:** Notes include "For protective vehicle shall be used while work is in progress. The protective vehicle should be equipped with a TMA and flashing arrow panel and positioned at least 150 ft. in advance of the work space. The protective vehicle may be eliminated if the roadway is posted at 45 mph or below, the work vehicle is positioned in advance of the work space, and the work vehicle uses activated rotating lights or strobe lights.", "Channelizer spacing may be reduced to discourage turning traffic from entering the two-way left turn lane.", "For short duration operations, signs and channelizers may be reduced or eliminated.", "For mobile operations where workers are on foot and move with the operation, channelizers may be reduced or eliminated.", "Additional warning signs shall be erected at each intersection with another state highway within the work zone. Upon the discretion of the supervisor, additional warning signs may be erected at other intersections within the work zone.", "If rumble strips are used, review EPG 616.6.97 RUMBLE STRIPS.", "For long-term operations, refer to EPG 616.6.2.2 Flags and Advance Warning Rail System.", "SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES."

GENERAL NOTES:

1. THE INSTALLATION OF THE TRAFFIC SIGNALS SHALL BE IN ACCORDANCE WITH THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION'S STANDARD SPECIFICATIONS, LATEST EDITION, AND CITY OF O'FALLON STANDARDS.
2. EXISTING UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES AND UTILITIES IF SHOWN ON THESE PLANS, SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF THE LOCATIONS OF ALL EXISTING UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE VERIFIED PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. CALL MISSOURI ONE-CALL SYSTEM AT 1-800-DIG-RITE (344-7483).
3. TRAFFIC CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARDS.
4. DIRECTIONAL BORING MAY BE USED INSTEAD OF TRENCHING OR PUSHING CONDUIT, HOWEVER, NO ADDITIONAL PAYMENT WILL BE MADE.
5. THE TRAFFIC SIGNAL CONSTRUCTION SHALL BE COORDINATED WITH THE ROADWAY CONSTRUCTION.
6. REFER TO THE ROADWAY PLANS FOR STRIPING AND SIGNING EXCEPT FOR SIGNS MOUNTED ON SIGNAL EQUIPMENT.
7. ALL PEDESTRIAN FACILITIES MUST COMPLY TO CURRENT ADA STANDARDS.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR SPOTTING THE LOCATION OF ALL SIGNAL EQUIPMENT. THE CONTRACTOR SHALL NOTIFY THE CITY'S INSPECTOR, A MINIMUM OF ONE WEEK IN ADVANCE OF THE DESIRED DATE OF INSTALLATION.

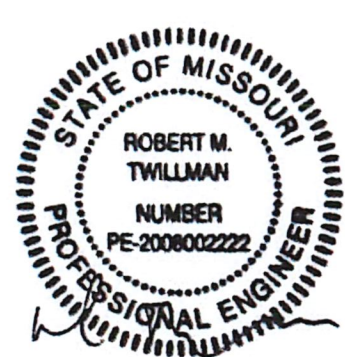
NEW 2" CONDUIT TO CL5 PULLBOX AT
HIGHWAY N & RONALD REAGAN
INSTALL NEW 72SM GGL FIBER IN NEW AND
EXISTING CONDUITS TO CROSS CONNECT
CABINET AT HIGHWAY N & HAWK RIDGE TRAIL



TRAFFIC SIGNALS LEGEND

| | | | | | |
|--|--------------------------------------|--|------------------------|--|------------------|
| | CONTROLLER | | MAST ARM W/ LUMINAIRE | | CONDUIT PUSHED |
| | POWER SOURCE | | C BASE WITH POST | | CONDUIT EXISTING |
| | POWER SUPPLY/ LIGHTING CONTROLLER | | TRAFFIC SIGNAL HEAD | | CONDUIT TRENCHED |
| | PREFORMED PULL BOX CLASS 3 | | PEDESTRIAN SIGNAL HEAD | | DETECTION ZONE |
| | PREFORMED PULL BOX CLASS 2 | | MAST ARM SIGN | | |
| | ITS PULL BOX CLASS 5 | | VIDEO DETECTION CAMERA | | |
| | | | PUSH BUTTON DETECTOR | | |

Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
06/30/23

ROUTE
— STATE
MO

DISTRICT
SL SHEET NO.
TS1

COUNTY
ST. CHARLES

JOB NO.
068-2023

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

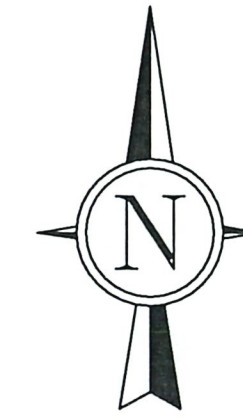
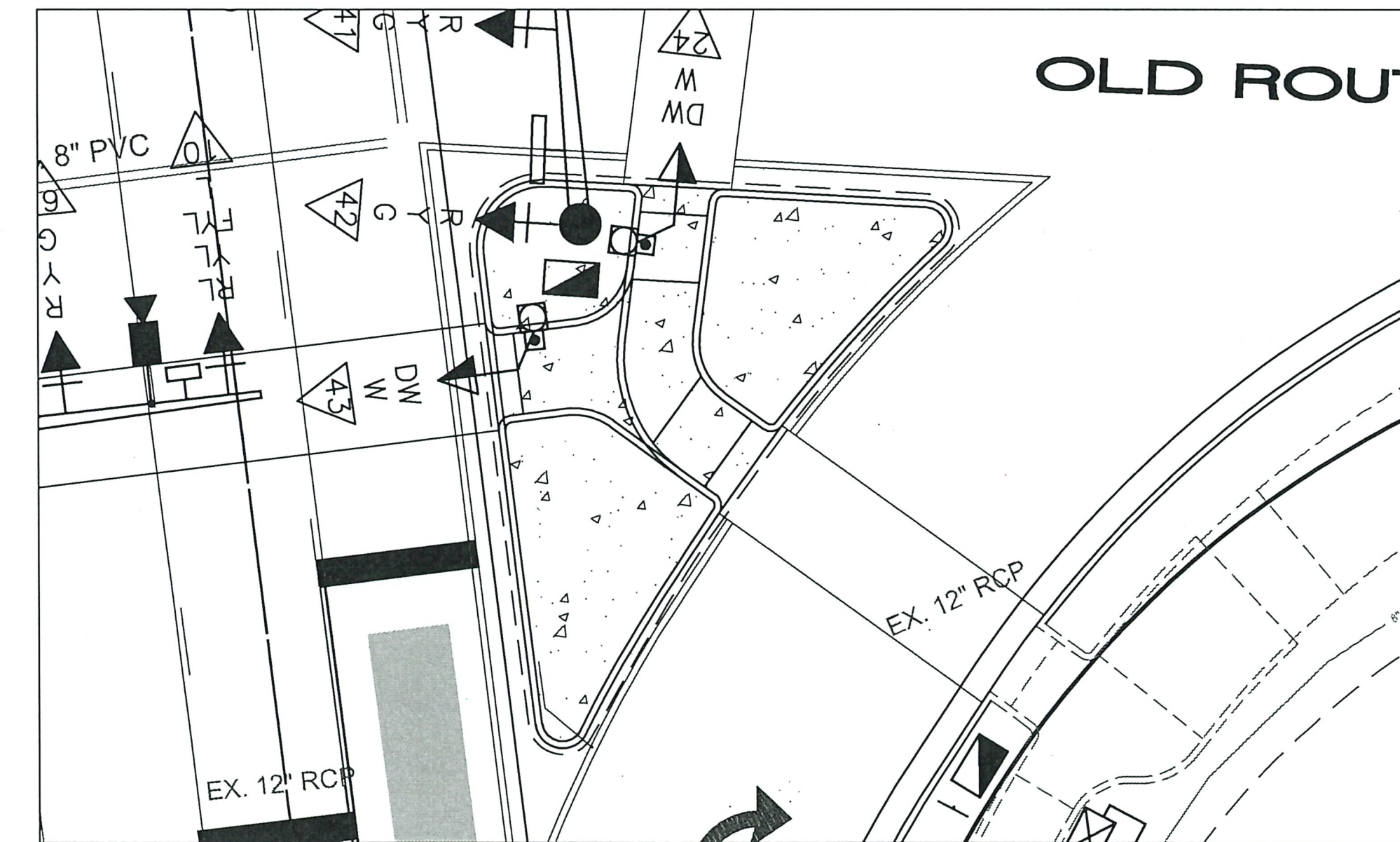
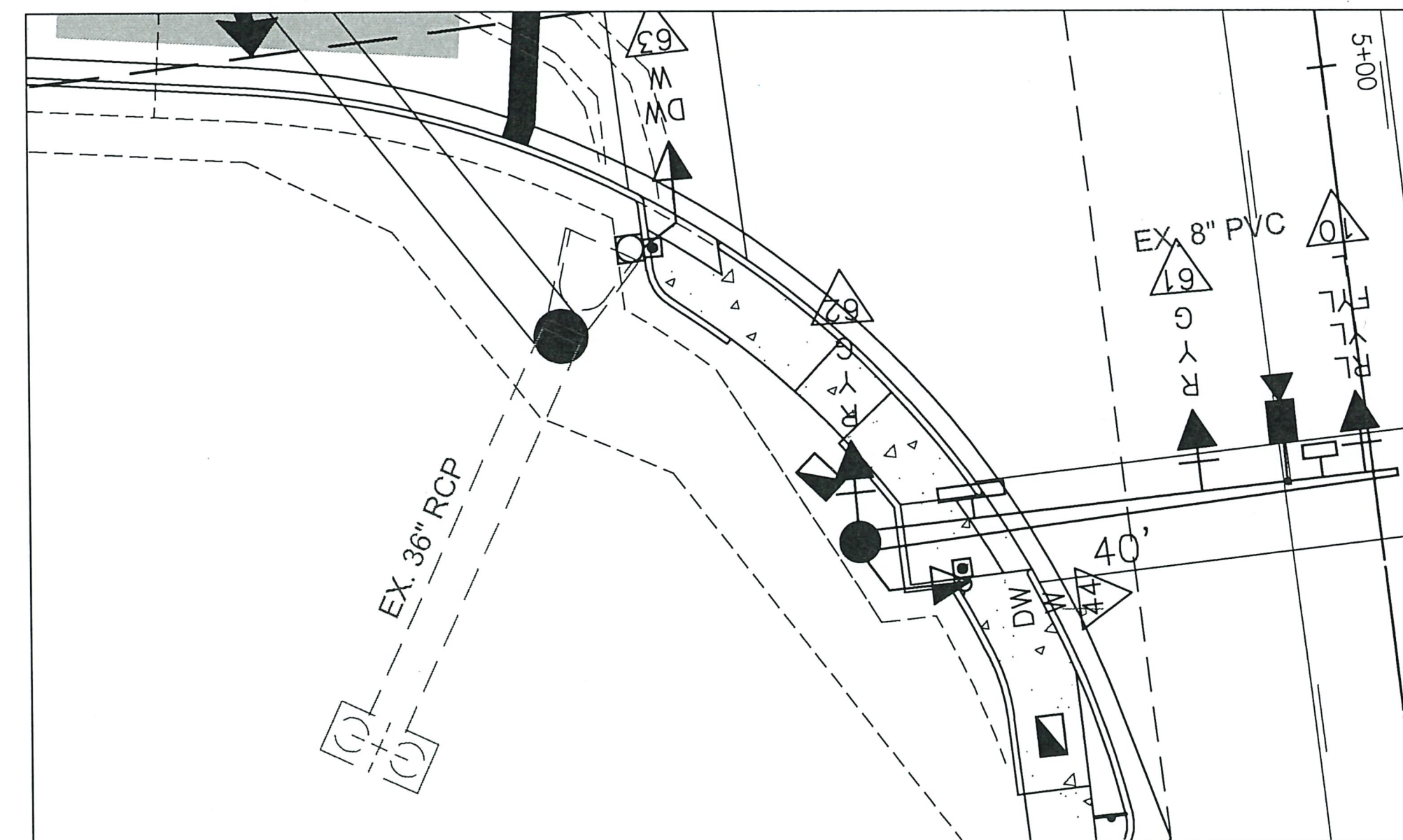
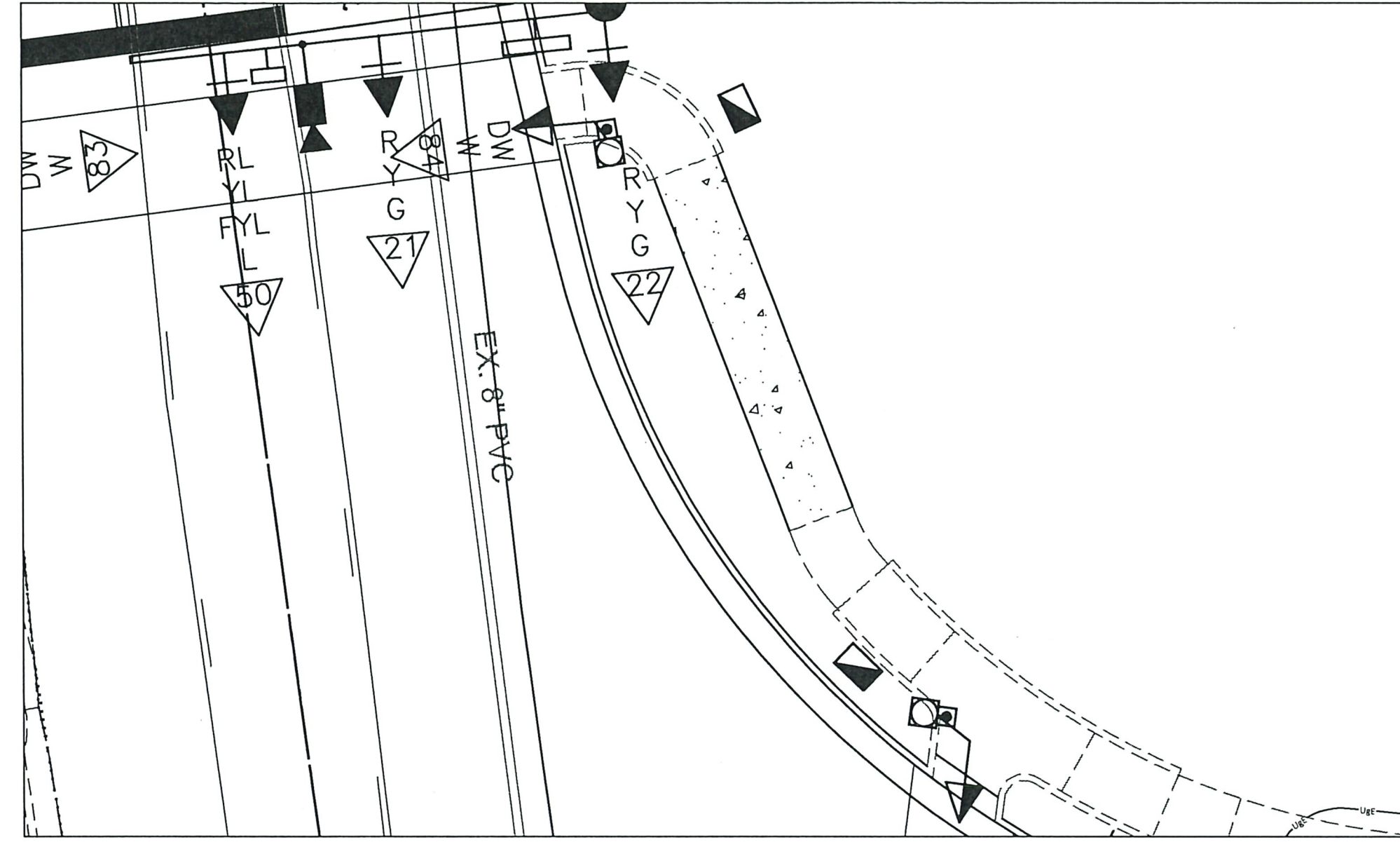
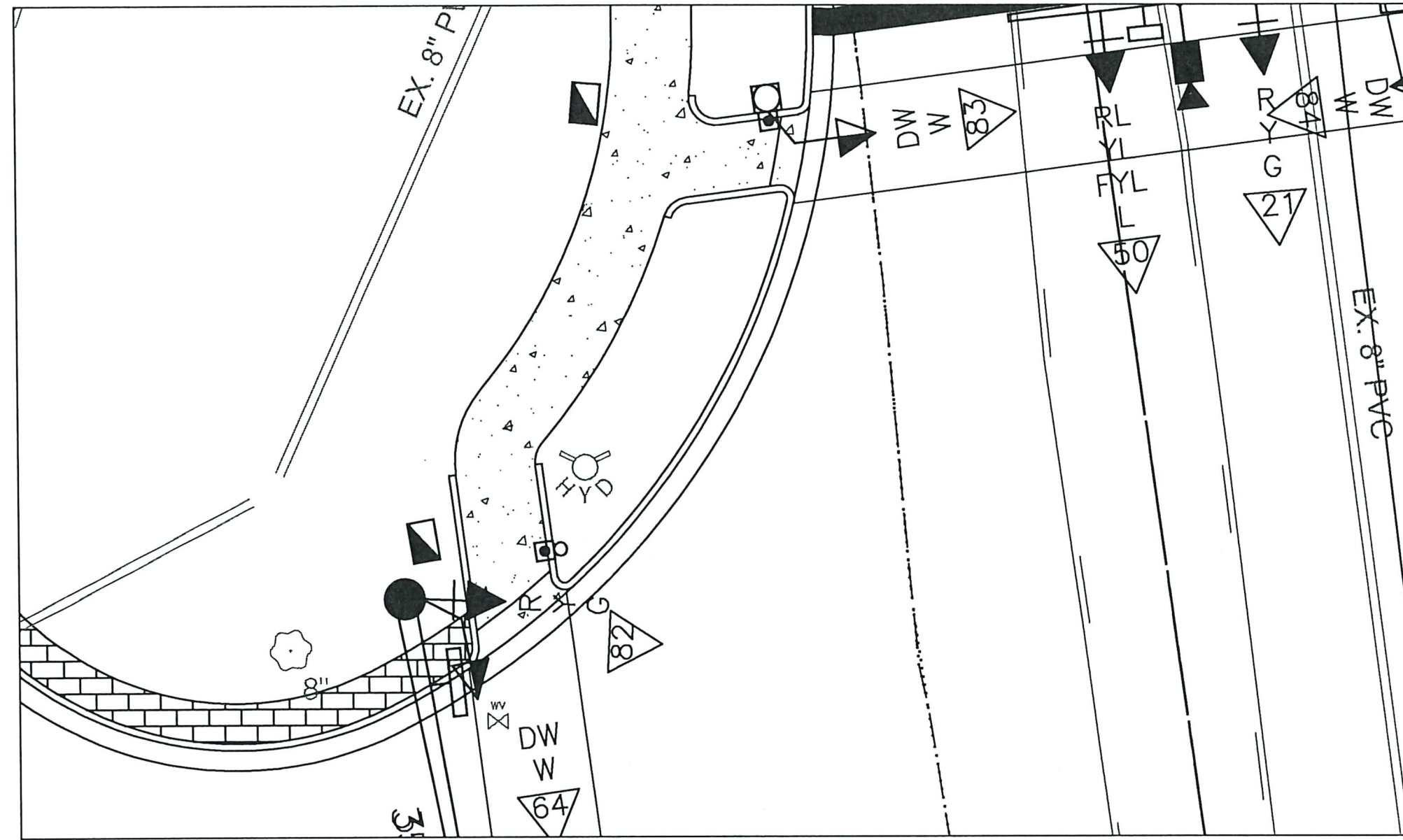
DATE

TRANSPORTATION
ENGINEERS+PLANNERS
12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6844
LOCATIONS IN ST. LOUIS, MO,
ST. CHARLES, MO &
COLLINGSVILLE, IL
www.cbbtraffic.com



TRAFFIC SIGNAL PLAN
SOMMERS & OLD HIGHWAY N
CMAQ 5418(621)
LAKE ST. LOUIS, MO

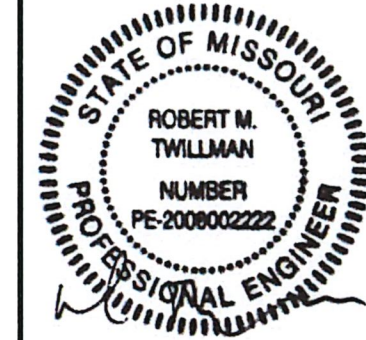
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



INDICATES LANDING AREA
1.5% MAX SLOPE (ALL DIRECTIONS)
0.5% MIN. SLOPE (ALL DIRECTIONS)
5'X5' MIN. AREA

[illegible]

Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
06/30/23

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| ROUTE — | STATE MO |
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| DISTRICT SL | SHEET NO TS2 |
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COUNTY
ST. CHARLES

JOB NO.
068-2023

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| CONTRACT ID. | |
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| PROJECT NO. |
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| BRIDGE NO. |
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**TRANSPORTATION
ENGINEERS+PLANNERS**

12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 874-6644

LOCATIONS IN ST. LOUIS, MO,
ST. CHARLES, MO &
COLLINSVILLE, IL



ADA DETAILS
SOMMERS & OLD HIGHWAY N
CMAQ 5418(621)
AKE ST | OLIS MO

[illegible]

EFFECTIVE: 04/01/2018

NOTES:

ONE TYPE C OR CL POST PER
A-ARM. PAY FOR POST BASED
ON LENGTH OF A-ARM.

ONE TYPE B OR BL POST PER
SET OF E & K-ARMS. PAY FOR
POST BASED ON THE LONGEST
ARM OF EACH E & K-ARM SET.

TABULATE THE NUMBER OF
POSTS NEEDED AT THE
BOTTOM OF THE TABLE.

SEE SHEET D-37C FOR
SIGNAL SIGNS.

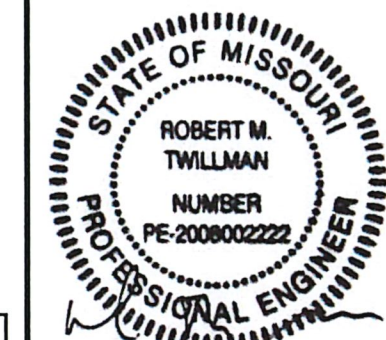
| <u>LEGEND</u> | |
|---------------|-------------------------------|
| YRt | — YELLOW RIGHT ARROW |
| Rt | — GREEN RIGHT ARROW |
| RL | — RED LEFT ARROW |
| L | — GREEN LEFT ARROW |
| S | — GREEN STRAIGHT ARROW |
| G | — CIRCULAR GREEN |
| Y | — CIRCULAR YELLOW |
| R | — CIRCULAR RED |
| RL | — RED LEFT ARROW |
| FYL | — FLASHING YELLOW LEFT ARROW |
| FYRt | — FLASHING YELLOW RIGHT ARROW |
| | |
| T | — TOP MOUNT |
| S | — SIDE MOUNT |
| C | — SPANWIRE MOUNT |
| B | — MAST ARM MOUNT |

| REMARKS | |
|---|--|
| ALL LENGTHS AND SPACINGS ARE IN FEET UNLESS OTHERWISE INDICATED. | |
| * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE. | |
| ** SEE STANDARD PLANS 902.10 AND 902.30 FOR CONCRETE REQUIREMENTS ON BASES. | |
| <p>1. SIGNAL STRUCTURES WHICH WILL EXCEED THE DIMENSION LIMITS SHOWN ON STANDARD PLAN SHEETS IN SECTION 902 AND ANY OTHER INSTALLATION WHERE THE DETAILS OF CONSTRUCTION ARE NOT FURNISHED IN THE CONTRACT PLANS, SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION, AND LATEST INTERIMS. THE STRUCTURE SHALL BE DESIGNED AS IMPORTANCE CATEGORY I FOR FATIGUE WITH A 50-YEAR DESIGN LIFE. THE CONTRACTOR SHALL SUBMIT A SET OF SHOP DETAIL DRAWINGS INCLUDING WELD PROCEDURE SPECIFICATIONS AND DESIGN COMPUTATIONS FOR MODOT RECORDS AND REFERENCE. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED IN ACCORDANCE WITH THE LAWS RELATING TO ARCHITECTS AND PROFESSIONAL ENGINEERS (CHAPTER 327, RSMO.), AND SHALL INCLUDE A TITLE BLOCK OR SUMMARY SHEET WHICH LISTS AND CERTIFIES THAT THE PRODUCT MEETS ALL OF THE SPECIFIED DESIGN CRITERIA.</p> <p>2. ALL SIGNAL POSTS, MAST ARMS, BRACKET ARMS, HOUSING, BANDING, HARDWARE AND MISCELLANEOUS ITEMS NECESSARY TO ATTACH EQUIPMENT SHALL BE POWDER COATED BLACK. SIGNAL AND POWER SUPPLY CABINETS SHALL NOT BE POWDER COATED. POWDER COATING MUST BE DONE BY THE MANUFACTURER; NO PAINTING ON OR OFF SITE WILL BE ALLOWED.</p> | |

NOTE: ALL POWER, VIDEO AND COMMUNICATIONS CABLE FOR THE VIDEO DETECTION SYSTEM SHALL BE INCIDENTAL TO THE VIDEO DETECTION SYSTEM PAY ITEM.

| CONDUIT | | | | | | | | | | | | | | | | | CABLE (ALL CABLE SHALL CONFORM TO IMSA 20-1 STANDARDS) | | | | | | | | | | | | | | | | | |
|-----------|----|------------------------------------|--------------|--------|----|---------------------------------|----|--------|-----|----|--------|----|----|-----------------|----|---------------|--|------|----|------------------------------------|---------------|--------|---------|---------------------------------|------------|--------|--------------------------------|----------|-------------------|----------------------------|------|----------------|-------------------|--------------------------|
| FROM | TO | CENTER TO CENTER DISTANCE | LOOP DET. | TRENCH | | | | PUSHED | | | MEDIAN | | | ON STRUCTURE | | | REMARKS | FROM | TO | CENTER TO CENTER DISTANCE | POWER | | CONTROL | | | | CLOSED LOOP INTERCONNECT | LUMINARE | | DETECTOR | | FIBER | | REMARKS |
| | | | | 1" | 2" | 3" | 4" | 2" | 3" | 4" | 2" | 3" | 4" | 2" | 3" | 1c #8 | | | | | APS CABLES | 5c #16 | 7c #16 | 3c #14 | 3 PAIR #16 | 2c #12 | | 1c #10 | 1c #14 IN DUCT | 2c #14 LEAD-IN CABLE | 72SM | MULTI- MODE | | |
| Ø | ⊠ | | | | | (INCL. IN COST OF POWER SUPPLY) | | | | | | | | | | RIGID STEEL | Ø | ⊠ | | | | | | (INCL. IN COST OF POWER SUPPLY) | | | | | | | | | RIGID STEEL | |
| ⊠ | ⊠ | 20 | | | 36 | | | | | | | | | | | 2-4"Ø10' EACH | ⊠ | ⊠ | | 28 | | | | | | | | | | | | | 3-1c#8 | |
| ⊠ | ① | 20 | | 26 | | | | | | | | | | | | 2-3"Ø10' EACH | ⊠ | ① | | | | | | | | | | | | | | | F-70 | |
| ① | ② | 94 | | | | | | 90 | | | | | | | | 2-3"Ø47' EACH | ⊠ | ① | | | | | | | | | | | | | | | F-41 | |
| ② | ① | 4 | | 7 | | | | | | | | | | | | | ⊠ | ① | | | | | | | | | | | | | | | F-42 | |
| ② | ② | 4 | | 5 | | | | | | | | | | | | | ⊠ | ① | | | | | | | | | | | | | | | ILLUMINATED SIGN | |
| ② | ③ | 4 | | 5 | | | | | | | | | | | | | ⊠ | ① | | | | | | | 202 | 95 | | | | | | | MAST ARM LIGHTING | |
| ② | ③ | 70 | | | | | | 68 | | | | | | | | | ⊠ | ② | | | | 167 | | | | | | | | | | | P-43 | |
| ③ | ⑤ | 6 | | 7 | | | | | | | | | | | | | ⊠ | ② | | | | 166 | | | | | | | | | | | PUSH BUTTON | |
| ③ | ④ | 42 | | | | | | 40 | | | | | | | | | ⊠ | ③ | | | | 167 | | 168 | | | | | | | | | P-24 | |
| ④ | ④ | 13 | | | 16 | | | | | | | | | | | | ⊠ | ③ | | | | | | | | | | | | | | | PUSH BUTTON | |
| ④ | ⑥ | 10 | | 11 | | | | | | | | | | | | | ⊠ | ④ | | | | | | | | | | | | | | | F-50 | |
| ② | ⑥ | 67 | | | | | | 65 | | | | | | | | | ⊠ | ④ | | | | | | | | | | | | | | | F-21 | |
| ⑥ | ⑩ | 6 | | | 9 | | | | | | | | | | | | ⊠ | ④ | | | | | | | | | | | | | | | F-22 | |
| ⑥ | ⑪ | 22 | | 23 | | | | | | | | | | | | | ⊠ | ④ | | | | | | | | | | | | | | | ILLUMINATED SIGN | |
| ⑥ | ⑫ | 16 | | 17 | | | | | | | | | | | | | ⊠ | ④ | | | | | | | 335 | 95 | | | | | | | MAST ARM LIGHTING | |
| ⑥ | ⑮ | 88 | | | | | | 86 | | | | | | | | | ⊠ | ⑤ | | | | 245 | | | | | | | | | | | P-23 | |
| ⑤ | ⑦ | 5 | | | 8 | | | | | | | | | | | | ⊠ | ⑤ | | | | 244 | | | | | | | | | | | PUSH BUTTON | |
| ⑤ | ⑧ | 42 | | 43 | | | | | | | | | | | | | ⊠ | ⑥ | | | | | 297 | | | | | | | | | | P-84 | |
| ⑤ | ⑨ | 10 | | 11 | | | | | | | | | | | | | ⊠ | ⑥ | | | | 296 | | | | | | | | | | | PUSH BUTTON | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑩ | | | | | | 291 | | | | | | | | | F-10 | |
| ⊠ | ⑦ | 16 | | 19 | | | | | | | | | | | | | ⊠ | ⑩ | | | | | | 279 | | | | | | | | | F-61 | |
| ⑦ | ⑧ | 86 | | | | | | 84 | | | | | | | | | ⊠ | ⑩ | | | | | | 247 | | | | | | | | | F-62 | |
| ⑧ | ⑨ | 140 | | | | | | 138 | | | | | | | | | ⊠ | ⑩ | | | | | | | 262 | | | | | | | | ILLUMINATED SIGN | |
| ⑨ | EX | 320 | | | | | | 318 | | | | | | | | TO HIGHWAY N | ⊠ | ⑩ | | | | | | | | 277 | 95 | | | | | | MAST ARM LIGHTING | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑩ | | | | | | | | | | | | | | | P-44 | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑫ | | | | 248 | | | | | | | | | | | PUSH BUTTON | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑪ | | | | | 258 | | | | | | | | | | P-63 | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑪ | | | | 257 | | | | | | | | | | | PUSH BUTTON | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑦ | | | | | | | 381 | | | | | | | | F-30 | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑦ | | | | | | | 369 | | | | | | | | F-81 | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑦ | | | | | | | 340 | | | | | | | | F-82 | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑦ | | | | | | 352 | | | | | | | | | ILLUMINATED SIGN | |
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| | | | | | | | | | | | | | | | | | ⊠ | ⑨ | | | | 339 | | | | | | | | | | | PUSH BUTTON | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑧ | | | | | 372 | | | | | | | | | | P-83 | |
| | | | | | | | | | | | | | | | | | ⊠ | ⑧ | | | | 371 | | | | | | | | | | | PUSH BUTTON | |
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| SUBTOTALS | | | | 141 | 66 | 36 | | 540 | 349 | | | | | | | | SUBTOTALS | | | 28 | | | 1378 | 2084 | 3447 | 1114 | | 1184 | 380 | | | 3420 | | |
| TOTALS | | | | 141 | 66 | 36 | | 540 | 349 | | | | | | | | ADD 5% | | | 29 | | | 1447 | 2188 | 3619 | 1170 | | 1243 | 399 | | | 3591 | | |
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Corporate Engineering
Certificate # 000381



CIVIL ENGINEER

DATE PREPARED
06/30/23

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| ROUTE — | STATE MO |
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| DISTRICT SL | SHEET NO. TS4 |
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COUNTY
ST. CHARLES

JOB NO.
068-2023

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| CONTRACT ID. | |
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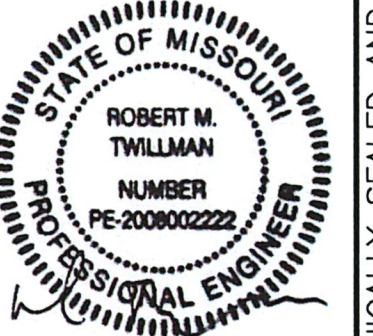
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CIVIL ENGINEER

DATE PREPARED
06/30/23

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| ROUTE — | STATE MO |
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| DISTRICT SL | SHEET NO. TS6 |
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COUNTY
ST. CHARLES

JOB NO.
068-2023

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| CONTRACT ID. | |
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| PROJECT NO. | |
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| BRIDGE NO. | |
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ENGINEERS+PLANNERS
TRANSPORTATION

12400 OLIVE BLVD, SUITE 430
DALLAS, TEXAS 75241
(314) 878-6844

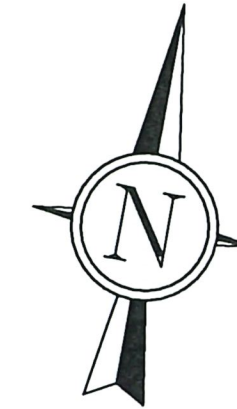
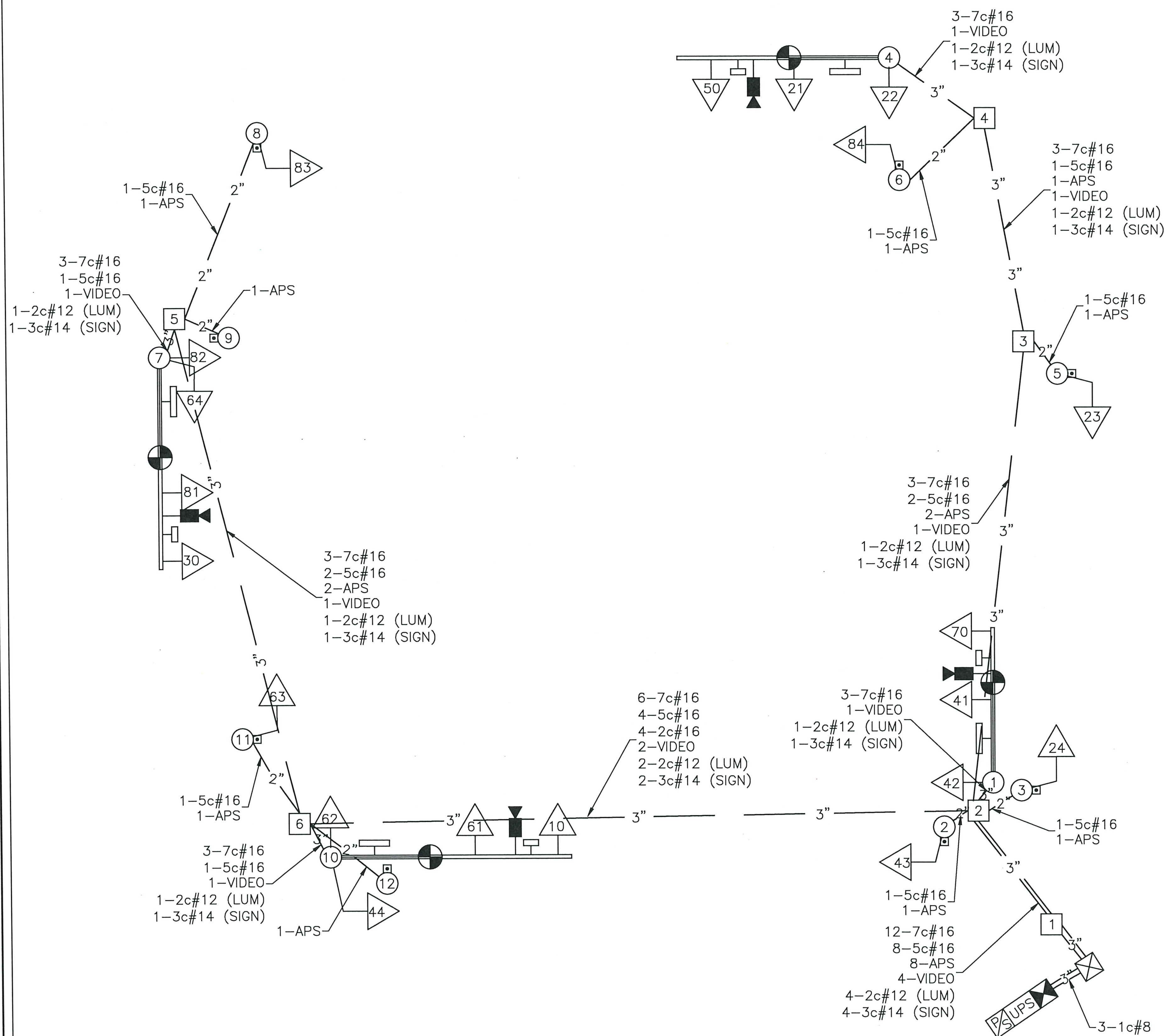
LOCATIONS IN ST. LOUIS, MO,
ST. CHARLES, MO &
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D37D - WIRING DIAGRAM

SOMMERS & OLD HIGHWAY N
CMAQ 5418(621)
LAKE ST. LOUIS, MO

WIRING DIAGRAM



LEGEND

——X"—— CONDUIT CONTAINING CABLE WITH SIZE

_____ CABLE

X-X_C MULTI-CONDUCTOR CABLE #16 AWG (UNLESS OTHERWISE INDICATED)

LIC #14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)


CC CAMERA CABLE

☒ PULL BOX WITH NUMBER

 POST WITH NUMBER

 POST WITH MAST ARM

(X) POST WITH MAST ARM AN



1

 DETECTOR WITH 100% EFFICIENCY

 SIGNAL HEAD WITH NUM

 SIGNAL CONTROL

 POWER SOURCE

 LIGHTING CONTROLLER

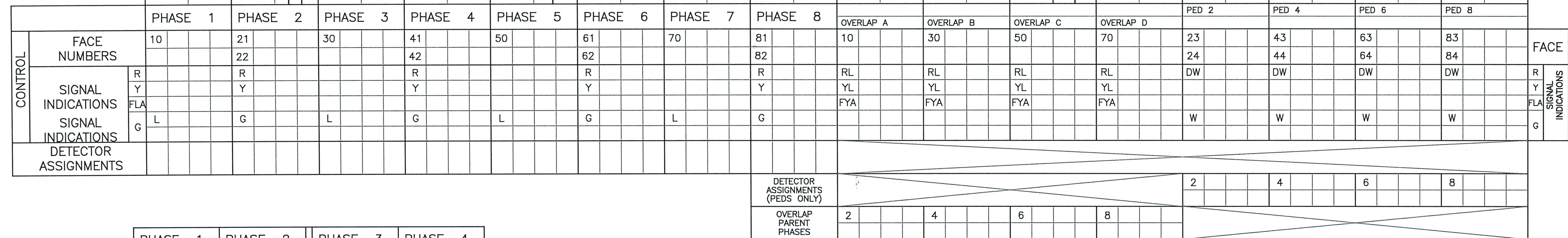
POWER SUPPLY

 VIDEO DETECTION CAMERA

PREEMPTION DETECTION

 PEDESTAL MOUNT PREAMPLIFIER

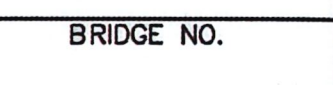
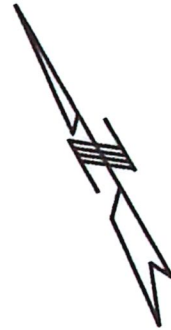
*DASHED OR GRAY LINES INDICATE EXISTING EQUIPMENT



IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY. TIME TO BE DETERMINED BY THE ENGINEER AT SIGNAL TURN ON AND SET IN THE CONTROLLER BY THE CONTRACTOR.

| | |
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| FLASHING OPERATION | |
| SOMMERS RD | FR |
| OLD HIGHWAY N | FR |
| CONTROLLER TYPE | NEMA |

| LEGEND | |
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| —▶— | ACTUATED VEHICULAR MOVEMENT |
| —▷— | PARTIALLY RESTRICTED ACTUATED VEHICULAR MOVEMENT |
| —▷ | NON-ACTUATED VEHICULAR MOVEMENT |
| —▷— | PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT |
| —▶ | ACTUATED PEDESTRIAN MOVEMENT |
| —▷ | NON-ACTUATED PEDESTRIAN MOVEMENT |
| — — | VEHICLE STOPPED |
| FDW | FLASHING DON'T WALK |
| R/W | RIGHT OF WAY INTERVAL |
| DW | DON'T WALK |
| Rrt | RED RIGHT ARROW |
| YRt | YELLOW RIGHT ARROW |
| RT. | GREEN RIGHT ARROW |
| W | WALK |
| RL | RED LEFT ARROW |
| Y —YL | YELLOW LEFT ARROW |
| L | GREEN LEFT ARROW |
| S | GREEN STRAIGHT AHEAD ARROW |
| G | CIRCULAR GREEN |
| Y | CIRCULAR YELLOW |
| R | CIRCULAR RED |
| Ø | TRAFFIC PHASE |
| AO | ALL OTHERS |
| FR | FLASHING RED |
| FY | FLASHING YELLOW |
| FYA | FLASHING ARROW INDICATION |
| FYL | FLASHING YELLOW LEFT |
| FYR | FLASHING YELLOW RIGHT |

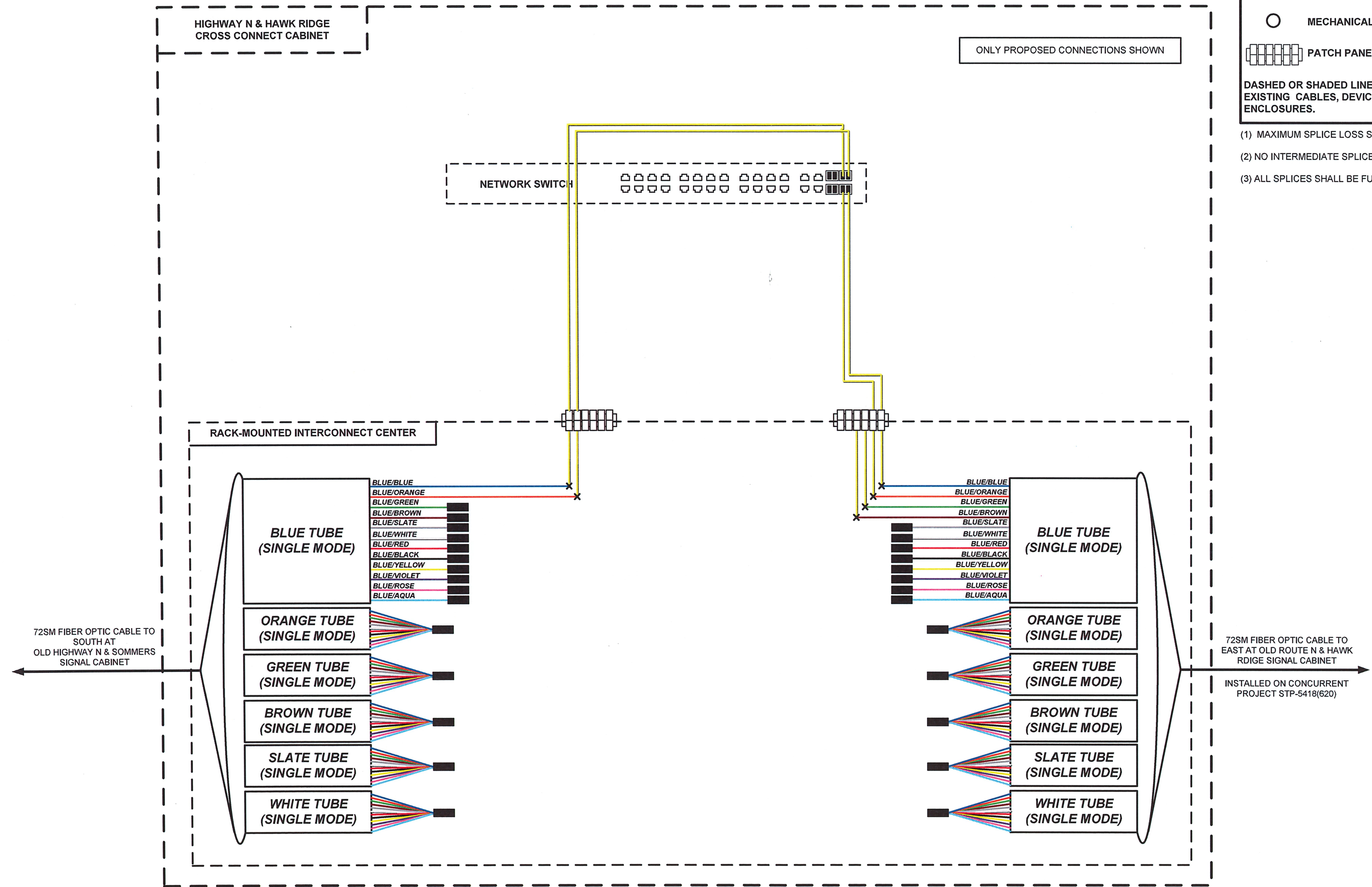


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CMAQ 5418(621)
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FIBER SPLICING & CABINET DETAILS
CROSS CONNECT CABINET
HIGHWAY N AT SOMMERS
CMAQ 5418(621)
LAKE ST. LOUIS, MISSOURI

KEY

DATE PREPARED
6/30/23

ROUTE
STATE
MO

DISTRICT
SL

SHEET NO.
TS9

COUNTY
ST. CHARLES

JOB NO.
68-23

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

