

Onsite Grading Quantity:

586 Cu.Yds. Cut  
6,351 Cu.Yds. Fill  
5,765 Cu.Yds. Short

THE ABOVE YARDAGE IS AN APPROXIMATION ONLY.  
NOT FOR BIDDING PURPOSES. CONTRACTORS SHALL  
VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

THE SHRINKAGE FACTOR WAS ESTIMATED AT 8%

Offsite Basin  
Grading Quantity:

12,868 Cu.Yds. Cut  
3,448 Cu.Yds. Fill  
9,418 Cu.Yds. heavy

THE ABOVE YARDAGE IS AN APPROXIMATION ONLY.  
NOT FOR BIDDING PURPOSES. CONTRACTORS SHALL  
VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

THE SHRINKAGE FACTOR WAS ESTIMATED AT 8%

PROJECT ELEVATIONS UTILIZE THE NAVD 88 VERTICAL DATUM  
AND WERE GENERATED BY GPS OBSERVATIONS USING A  
CELLULAR EQUIPPED TRIMBLE R8 GNSS ROVER AND TRIMBLE TSC3  
DATA COLLECTOR AND ARE BASED ON THE MISSOURI HIGHWAYS  
AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION  
SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING  
REFERENCE STATIONS.

Site

SITE BENCHMARK (NAVD 88) - "X" CUT IN SQUARE ON CONCRETE  
NEAR GRATE INLET ON NORTH SIDE OF OF SUBJECT PROPERTY  
(ELEVATION=560.19) AND IS LOCATED AS SHOWN HEREON.

Drawing Index

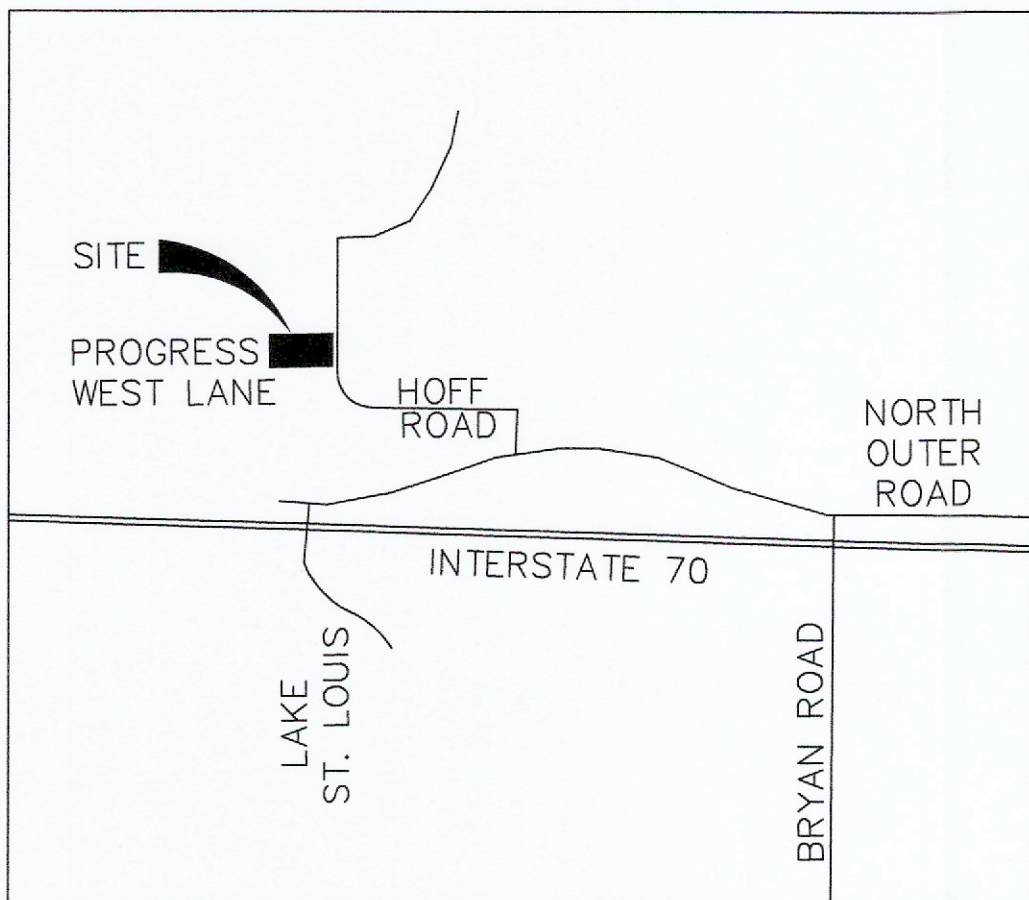
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VEGETATION ESTABLISHMENT  
For Urban Development Sites  
APPENDIX A

**SEEDING RATES:**  
**PERMANENT:**  
Tall Fescue - 150 lbs./ac.  
Smooth Brome - 100 lbs./ac.  
Combined - Fescue @ 15 lbs./ac. AND  
Brome @ 50 lbs./ac.  
**TEMPORARY:**  
Wheat or Rye - 150 lbs./ac. (3.5 lbs. per 1,000 s.f.)  
Oats - 120 lbs./ac. (2.75 lbs. per 1,000 s.f.)  
**SEEDING PERIODS:**  
Fescue or Brome - March 1 to June 1  
Wheat or Rye - August 1 to October 1  
Oats - March 15 to September 15  
**MULCH RATES:**  
100 lbs. per 1000 sq. ft. (4,356 lbs. per ac.)  
**FERTILIZER RATES:**  
Nitrogen 30 lbs./ac.  
Phosphate 30 lbs./ac.  
Potassium 30 lbs./ac.  
Lime 600 lbs./ac. ENM\*  
\* ENM = effective neutralizing material as per  
State evaluation of quarried rock.

A SET OF AS-BUILT PLANS FOR  
*PROGRESS WEST LOT 5*

A TRACT OF LAND BEING PART  
OF FRACTIONAL SECTION 26  
TOWNSHIP 47 NORTH, RANGE 2 EAST  
OF THE FIFTH PRINCIPAL MERIDIAN  
CITY OF O'FALLON  
ST. CHARLES COUNTY, MISSOURI



Utility Contacts:

Sanitary Sewer  
City of O'Fallon  
100 N. Main St.  
O'Fallon, MO. 63366  
Contact: 636-281-2858

Water  
City of O'Fallon  
100 N. Main St.  
O'Fallon, MO. 63366  
Contact: 636-281-2858

Storm Sewer  
City of O'Fallon  
100 N. Main St.  
O'Fallon, MO. 63366  
636-281-2858

Ameren UE  
200 Callahan Road  
Wentzville, MO. 63385  
636-639-8312

Gas  
Spire Energy Company  
6400 Graham Road  
St. Louis, MO. 63134  
314-522-2297

Telephone  
Century Tel  
1151 Century Tel Dr.  
Wentzville, MO. 63385  
636-332-7261

Fire Department  
O'Fallon Fire Protection District  
119 E. Elm St.  
O'Fallon, MO. 63366  
636-272-3493

AS-BUILT LEGEND

- AS-BUILT OUTFALL STRUCTURE
- AS-BUILT GRATE INLET
- AS-BUILT STORM FLARED END
- AS-BUILT DOWNSPOUT
- AS-BUILT CLEANOUT
- AS-BUILT FIRE HYDRANT
- AS-BUILT WATER METER
- AS-BUILT LIGHT STANDARD
- AS-BUILT ELECTRIC TRANSFORMER
- AS-BUILT ELECTRIC BOX
- AS-BUILT AC UNIT
- AS-BUILT ELECTRIC METER

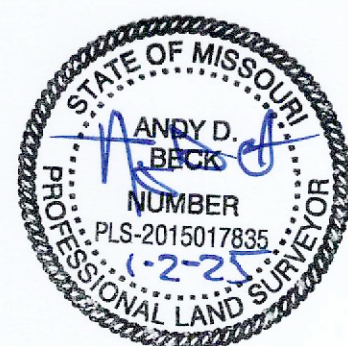
AS-BUILT PUBLIC UTILITY  
FINAL MEASUREMENTS

THE FOLLOWING ITEMS HAVE BEEN LOCATED AND MEASURED AND THE RESULTS  
OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT  
PLANS:

- STORM SEWERS, STORM SEWER LENGTHS, STORM SEWER PIPE SIZES, STORM  
SEWER FLOWLINES AND DEPTHS OF STORM SEWER STRUCTURES.
- SANITARY SEWERS, SANITARY SEWER LENGTHS, SANITARY SEWER PIPE SIZES,  
SANITARY SEWER FLOWLINES AND DEPTHS OF SANITARY SEWER STRUCTURES.
- WATER MAINS, WATER MAIN SIZE AND LENGTHS, FIRE HYDRANTS, AND WATER  
VALVES.
- LIGHT STANDARDS, ELECTRIC TRANSFORMERS, ELECTRIC PEDESTALS, ELECTRIC  
LINES.
- DETENTION BASIN TOPO AND DETENTION BASIN CROSS SECTIONS.

ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN  
DESIGNATED EXISTING OR PROPOSED EASEMENTS.

ANDY D. BECK  
MISSOURI PROFESSIONAL  
LAND SURVEYOR #2015017835



DEVELOPMENT NOTES

- Area of Tract: 7.371 Acres
- Existing Zoning: I-2 Heavy Industrial
- Proposed Use: Warehouse  
(City of O'Fallon)
- Disturbed Area: 1.46 Acres  
Offsite Detention Basin: 2.84 Acres
- The required height and building setbacks are as follows:  
Minimum Front Yard: 30 feet  
Minimum Side Yard: 25 feet (for a corner lot, the side yard  
on the road shall not be less than thirty (30) feet)  
Minimum Rear Yard: 50 feet  
Maximum Height of Building: 50 feet
- Site is served by:  
City of O'Fallon Sewer 636-281-2858  
AmerenUE Company 636-639-8312  
Spire Energy 636-946-8937  
City of O'Fallon Water 636-281-2858  
Centurylink 636-332-3011  
O'Fallon Fire Protection District 636-272-3493  
Fort Zumwalt School District 636-272-6820
- We have determined the horizontal location of this tract of land in St. Charles  
County, Missouri, by scaling the property in reference to the following flood  
insurance rate map (firm), St. Charles County, Missouri and incorporated areas,  
map number 29183c0220g, community panel number (City of O'Fallon, 290316  
0220 g with an effective date of January 20, 2016), by express reference to  
this map and its legend, this tract of land is indicated to be within the following  
zone:  
Zone X - areas determined to be outside the 0.2% annual chance floodplain
- Landscape Requirements:  
Street Tree Requirements:  
1 tree for every 40' of frontage = 184/40 = 4 Trees Required  
5 Trees Provided  
Open Spaces:  
1 tree for every 4,000 s.f. landscaped area.  
1,700 s.f. / 4,000 s.f. = 1 Trees Required  
2 Trees Provided  
Interior Landscaping Required: Not less than 6% of interior parking lot  
shall be landscaped.  
14 spaces x 171 = 2,394 x 6% = 144 sq.ft. landscaping required.  
Total interior landscaping Provided = 210 sq.ft.  
20% of existing trees of the entire development shall be retained.  
Existing trees = 0.42Ac. (20% = 0.08 ac)  
Trees removed = 0.31Ac.  
0.11Ac or 27% remaining
- Parking Required:  
Warehouse: 1 space per every employee on the maximum work shift,  
plus one (1) for each vehicle utilized in the operation of the business,  
plus two (2) guest spaces. =3  
Offices: One (1) space per 300sq.ft. of floor area.  
2,000sq.ft. / 300 = 6.6 =7  
Total Parking Required: =10  
Total Parking Provided: =15  
(includes two (2) accessible space)
- Site Coverage Calculations:  

TOTAL LOT SQ.FT.	STRUC. SQ.FT.	% OF LOT	PAVED SQ.FT.	% OF LOT	GREENSPACE SQ.FT.	% OF LOT
57,934	11,000	19.0	25,791	44.5	21,143	36.5
- Estimated sanitary flow contributed by this site is 1,000 g.p.d.
- Property Owner: H&K Machine Service Co.  
2260 Bluestone Dr.  
St. Charles, MO 63303
- Maximum slopes allowed are 3:1.
- Lighting will be building mounted and will be reviewed onsite prior to the final  
occupancy inspection. Corrections will need to be made if not in compliance with  
City Standards.
- All utilities will be located underground.
- All proposed fencing requires a separate permit through the Planning Department.
- All sign locations and sizes must be approved separately through the Planning  
Dept.
- All paving to be in accordance with St. Charles County standards and  
specifications except as modified by the City of O'Fallon ordinances.
- All sidewalks, curb ramps, ramp 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.
- This site will be in compliance with Phase 2 Illicit Stormwater Discharge Guidelines  
per Ordinance 5082.
- All construction methods shall comply with all OSHA Standards.
- "Wave" style bike racks are not accepted by the City.
- Any roof mounted or ground installed units are to be screened.
- Stormwater cleansing will be provided onsite.
- M.R. bathe electric will contribute to the cost of the offsite regional  
detention basin based on individual lot size. Basin will be built by the overall  
property owner.

100 YEAR RUNOFF CALCULATIONS:  
EXISTING CONDITIONS BEFORE ANY CONSTRUCTION:  
EXISTING GRASS = 1.30 x 2.30 = 2.99 C.F.S.  
EXISTING BLDG/PVMT = 0 x 4.77 = 0 C.F.S.  
EXISTING RUNOFF = 2.99 C.F.S.

PROPOSED CONDITIONS AFTER CONSTRUCTION IS COMPLETE:  
PROPOSED GRASS = 0.47 x 2.30 = 1.08 C.F.S.  
PROPOSED BLDG/PVMT = 0.83 x 4.77 = 3.96 C.F.S.  
PROPOSED RUNOFF = 5.04 C.F.S.

5.044 - 2.99 = 2.05 c.f.s. Increase. PER CITY CODE MAX. INCREASE IS  
1 C.F.S./AC. MAX. SITE INCREASE ALLOWED = 1.30 C.F.S. < 2.05 C.F.S.  
DETENTION REQUIRED.  
DEVELOPER IS PROPOSING TO CONTRIBUTE THE COST OF ONSITE DETENTION  
FOR THE DEVELOPMENT OF FUTURE REGIONAL DETENTION BASIN.

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

NOT FOR CONSTRUCTION  
Site Address: Progress West Lane

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED  
APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE  
PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF  
THE IMPROVEMENTS.

PROJECT TITLE:  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

ENGINEERING  
PLANNING  
SURVEYING

221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5562  
FAX 628-1718

DISCLAIMER OF RESPONSIBILITY  
I hereby specify that the documents intended to be  
authentic and true copies of the original documents, and I  
hereby disclaim any responsibility for all other  
Drawings, Specifications, Estimates, Reports or other  
documents or instruments relating to or intended to  
be used for any part or parts of the architectural or  
engineering project or survey.

Copyright 2023  
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Engineering Authority No. 000855  
Surveying Authority No. 000144  
All Rights Reserved

REVISIONS

NO.	DESCRIPTION	DATE

Developer / Owner:  
MR BATHE ELECTRIC  
1040 LIBERTY INDUSTRIAL DR.  
O'FALLON, MO 63366  
OWNER UNDER CONTRACT

COVER SHEET

P+Z No. #23-009249  
APPROVED 09-07-23  
City No. #CSP23-000055

Page No.

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\* City of O'Fallon Construction work hours per City Ordinance 3429 as shown in section  
500.420 of the Municipal Code of the City of O'Fallon are as follows:

October 1 through May 31  
7:00 A.M. To 7:00 P.M. Monday Through Sunday  
June 1 Through September 30  
6:00 A.M. To 8:00 P.M. Monday Through Friday  
7:00 A.M. to 8:00 P.M. Saturday and Sunday

CITY OF O'FALLON  
ENGINEERING DEPARTMENT  
ACCEPTED FOR CONSTRUCTION  
BY: Ryan Rockwell DATE: 1/9/25  
PROFESSIONAL ENGINEER'S SEAL  
INDICATES RESPONSIBILITY FOR DESIGN



GENERAL NOTES

1. Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sumps
2. Sidewalks, curb ramps, 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.
- 2.1. Truncated domes 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
3. Any proposed pavilions or playground areas will need a separate permit from the Building Division.
4. 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
5. All proposed utilities and/or utility relocations shall be located underground.
6. All proposed fencing requires a separate permit through the Building Safety Division.
7. 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.
8. (INTENTIONALLY OMITTED)
9. All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division.
10. 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.
11. 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.
12. 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.
13. 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 Engineer 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.
14. 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.

Grading Notes

1. 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 ASSHTO 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 up in 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 the 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 material 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 fill less than 8 feet deep shall be probed to a depth extending half the depth of the trench back fill, but not less than 3 feet. 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.
- 10.2. Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
- 10.3. 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.
- 10.4. 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!

Erosion Control Notes

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 protects water quality and controls run off to maximum extent practical in compliance with Phase II Illicit Storm Water Discharge Guidelines. (Ord. 5082, section 405.245)
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

Sanitary Sewer Notes

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. Lateral Saddle will not be allowed for sewer tap.
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 18 inches above sanitary sewer. Add concrete cradle to only RCP storm sewer and encase flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
11. The sanitary sewers should run diagonally through the side 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 10CSR-8.120 (7)(E).
13. All sanitary sewer pipe shall be SDR35 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 C1244, 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 1" minus rock back fill to all sanitary sewer and all other utilities that lie within the 1:1 shear plane of the road.

Storm Sewer Notes

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 RCP 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 of 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, 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)

Flood plain Information

1. Refer to Section 415 for Floodplain Development Information

Retaining Walls: Terraced and Vertical

1. A permit is required for all retaining walls that are 48 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 walking 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 O'Fallon Engineering Department regardless of the height of the wall.
5. See section 405.275 of the City code for additional design requirements.

Water Notes

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 meters. 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 a 28 day, 4,000 psd concrete mix.
7. DISINFECTING: Disinfecting shall be accomplished by placing sufficient hypo chlorite 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 hypo chlorite solution until satisfactory results are achieved. All disinfecting shall be done by the contractor. Only the testing to determine the chlorine residual will be done by the City.
8. PRESSURE TESTING: Immediately following disinfection, the piping 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 any further drops occur, the test shall be considered a failure. If the pressure test fails, 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 MDNR required dechlorination will be performed by the contractor.
9. All tops for valves, meters, and manholes are to be constructed to within 1 inch (.08") of finish grade. Grading around structure tops on slopes need to be accounted for.
10. BACTERIOLOGICAL TESTING: After 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 a like manner and submitted for analysis. The two samples taken on consecutive days, a minimum of 24 hours apart, must be found to be "safe" by 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.

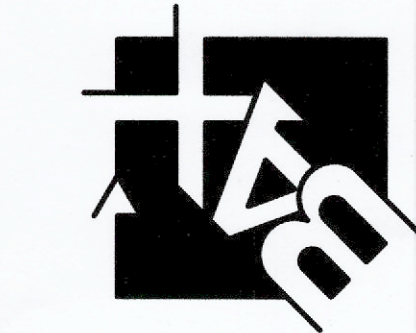
Roadway Notes

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 405.370.
  - 3.1. Rock to meet the 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 405.210.B.1) The gradation of this rock needs to be submitted to the City for approval. Any deliveries made without the proper delivery ticket, including signature, will not be accepted. The delivery ticket must list the project name or jobsite 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 405.210.A.2.k)
4. Multi-use trail (when required) Shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.
5. Type C (BP-1) Compaction 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 stub-outs over 250' in length will require a temporary turnaround.
8. All sub grade in cut and fill will need to conform to the 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 the project.
  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 four 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 with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no faster than three (3) miles per hour. If soft spots are detected, or pumping, rutting or heaving occurs greater than one (1) inch at the sub grade, the roadbed shall be considered unsatisfactory 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 ruts 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 lines, grades and cross sections shall be plus or minus four-hundredths (+0.04) feet.
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 w16-3p or w16-7p signs.
19. All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by City of O'Fallon and MoDOT)
20. 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 a 28 day, 4,000 psi concrete mix.

PROJECT TITLE:  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

ENGINEERING  
DRAWING  
STAMP  
SURVEYING

241 Point West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 636-928-1718



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REVISIONS

NO.	DESCRIPTION	DATE

Developer / Owner:

MR BATH ELECTRIC  
1040 LIBERTY INDUSTRIAL DR.  
OFFALLON, MO 63366

CITY NOTES PLAN

P+Z No.

#23-009249  
APPROVED 09-07-23

City No.

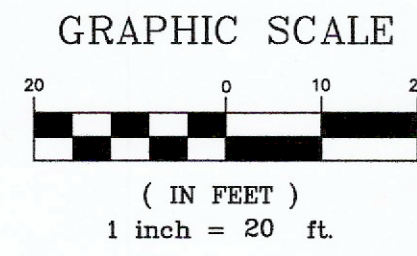
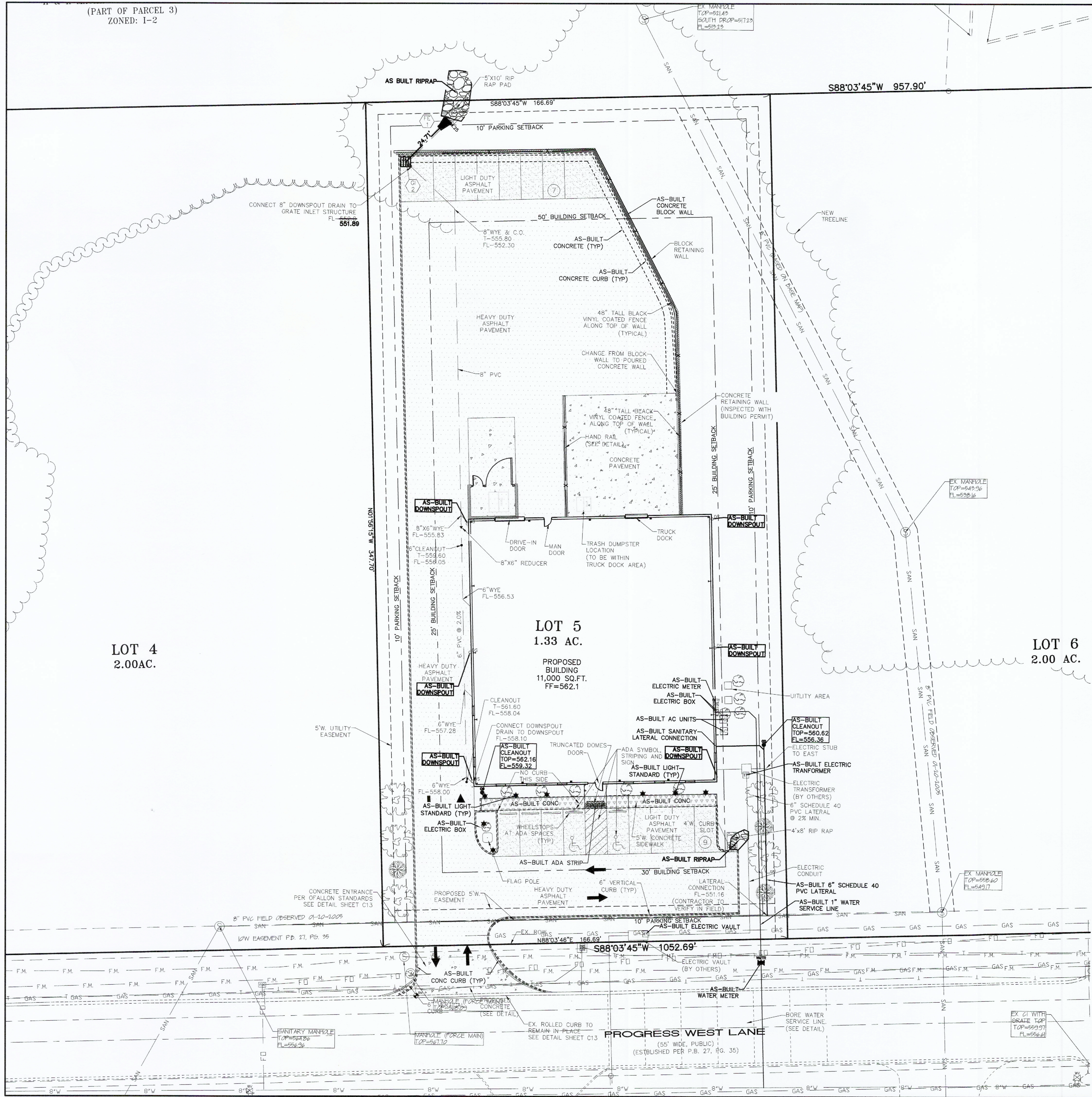
#CSP23-000055

Page No.

C2







- LEGEND:
- 3" ASPHALT OVER 8" ROCK
  - 4" ASPHALT OVER 8" ROCK
  - 4" CONCRETE OVER 4" ROCK
  - 8" CONCRETE OVER 4" ROCK (TRUCK DOCK)
  - 7" CONCRETE OVER 5" ROCK (ENTRANCE)

**LANDSCAPE LEGEND**

- QTY. (9) ~ INDICATES PROPOSED BEAUTYBERRY, GOLDEN CURRANT OR WILD HYDRANGEA
- QTY. (5) ~ INDICATES PROPOSED RED SUNSET MAPLE (MIN. 2" CALIPER)
- QTY. (3) ~ INDICATES PROPOSED WHITE PINE (MIN. 2" CALIPER)

NOTE: LANDSCAPING AS DEPICTED IS SHOWN TO MEET CITY CODE REQUIREMENTS AND SHOULD BE USED FOR BID PURPOSES. REVISIONS OR ALTERATIONS SUGGESTED BY CONTRACTOR (USING A QUALIFIED LANDSCAPE DESIGNER) SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL COORDINATE WITH OWNER ON MATERIALS AND PLACEMENT.

NOTE: STREET TREES ARE TO BE PLACED OUTSIDE OF RIGHT-OF-WAY. DO NOT PLACE OVER EXISTING UTILITIES.



**PROJECT TITLE:**  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

**ENGINEERING PLANNING SURVEYING**  
221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 636-928-1718

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**Developer / Owner:**  
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1040 LIBERTY INDUSTRIAL DR.  
OFALLON, MO 63366

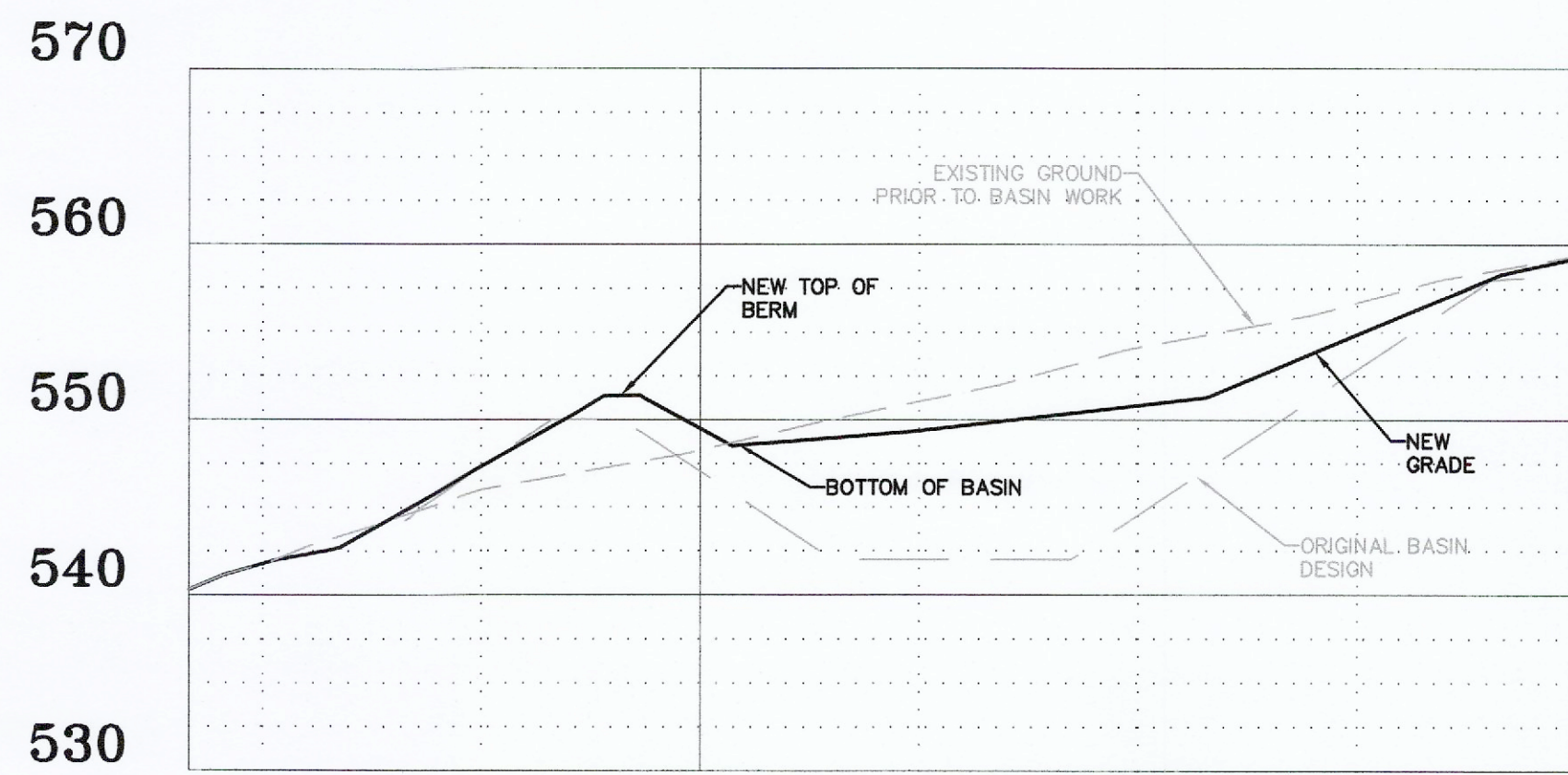
**P+Z No.** #23-009249  
**City No.** APPROVED 09-07-23  
#CSP23-000055

**Page No.** C3

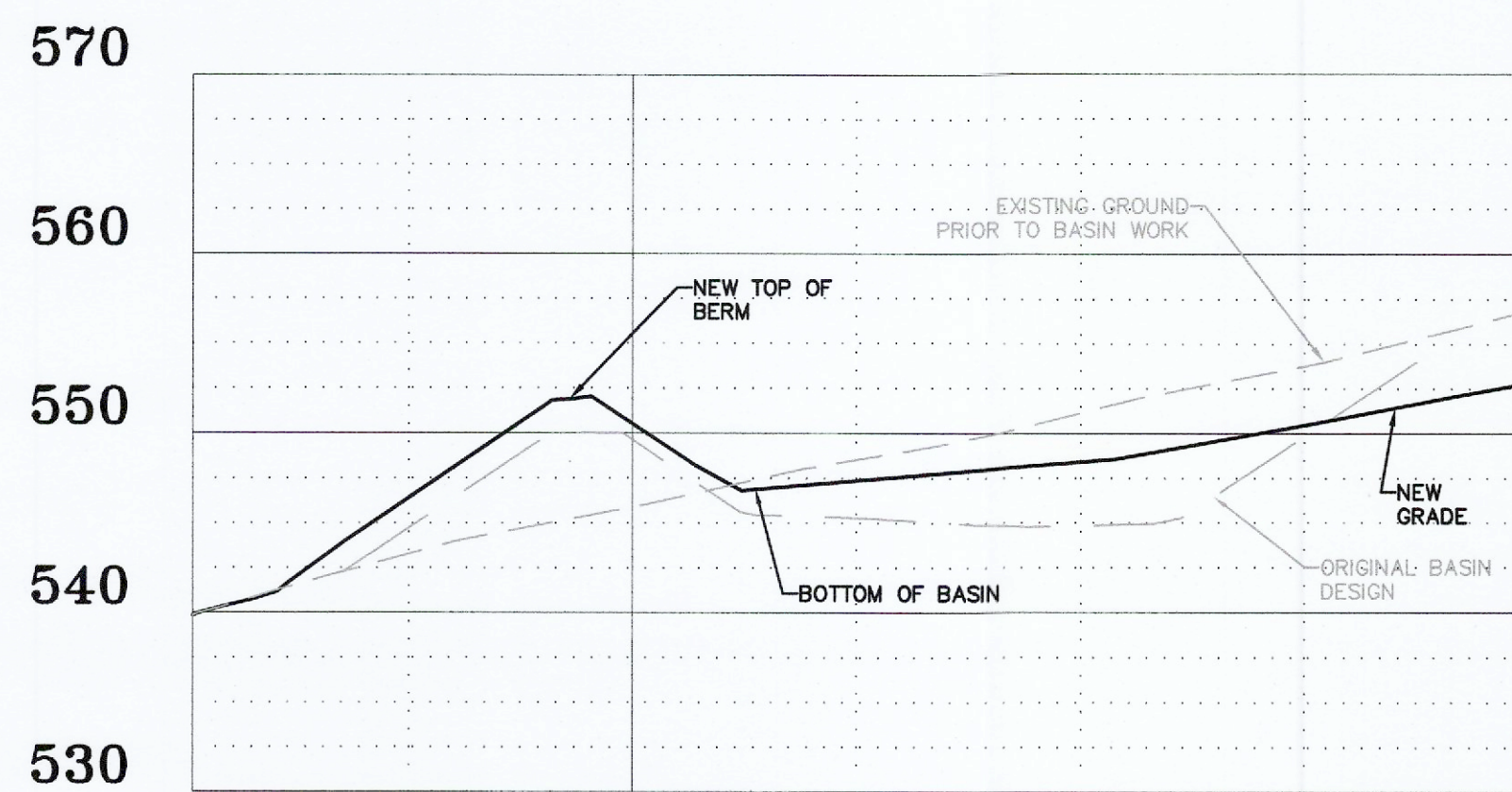
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**Issue Date:** 12-08-2023

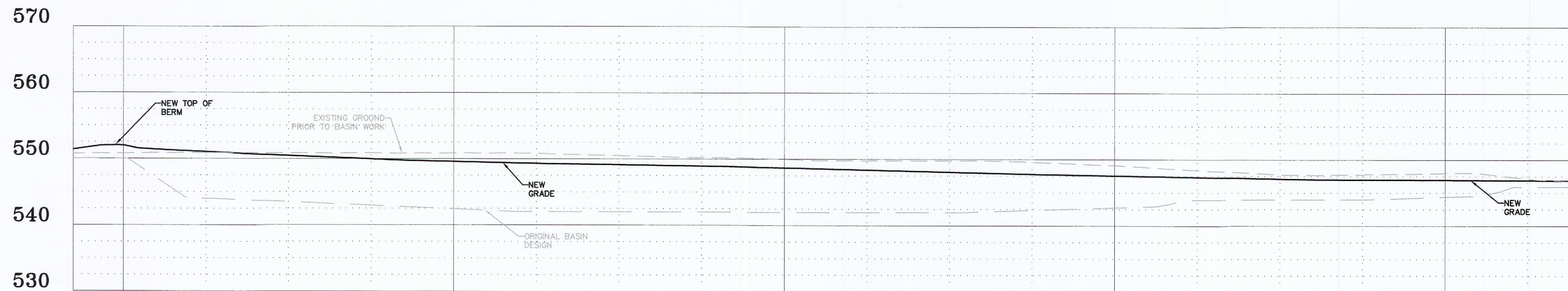




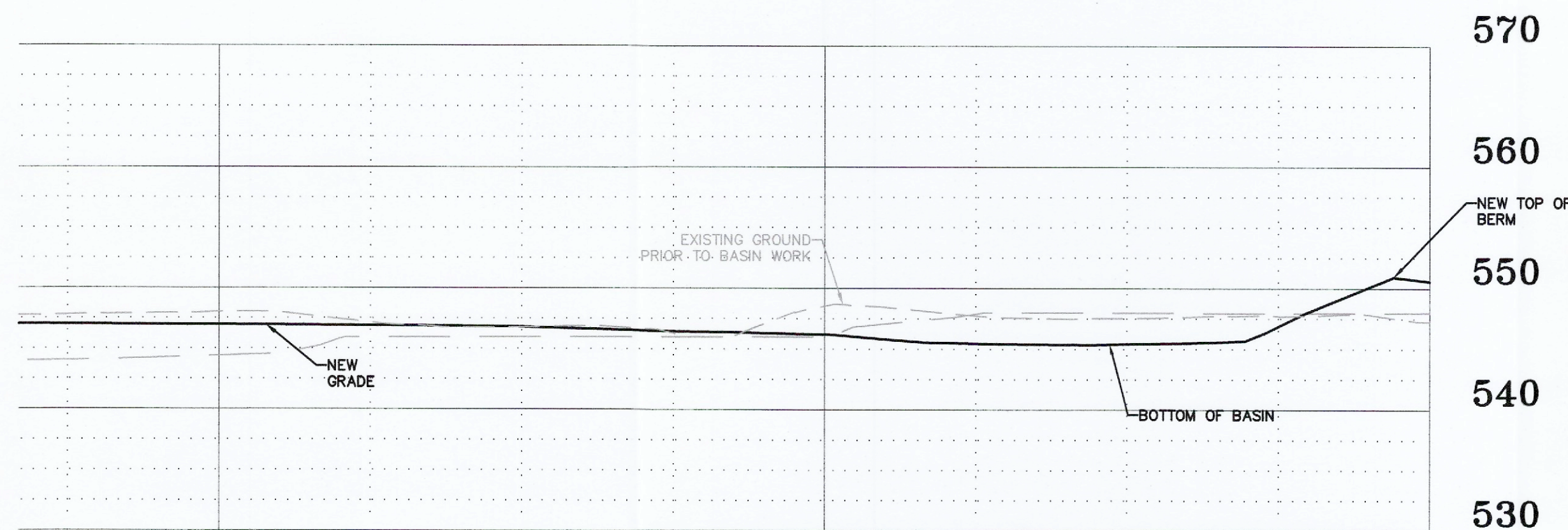
DETENTION BASIN  
CROSS SECTION A-A  
SCALE:  
1" = 20'H  
1" = 10'V



DETENTION BASIN  
CROSS SECTION B-B  
SCALE:  
1" = 20'H  
1" = 10'V



DETENTION BASIN  
CROSS SECTION C-C  
SCALE:  
1" = 20'H  
1" = 10'V



DETENTION BASIN  
CROSS SECTION C-C  
SCALE:  
1" = 20'H  
1" = 10'V



UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

PROJECT TITLE:  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

ENGINEERING  
PLANNING  
SURVEYING  
221 Point West Blvd.  
St. Charles, MO 63301  
636-929-5562  
FAX 929-1718



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REVISIONS

NO.	DESCRIPTION

Developer / Owner:

MR BATHE ELECTRIC  
1040 LIBERTY INDUSTRIAL DR.  
O'FALLON, MO 63366

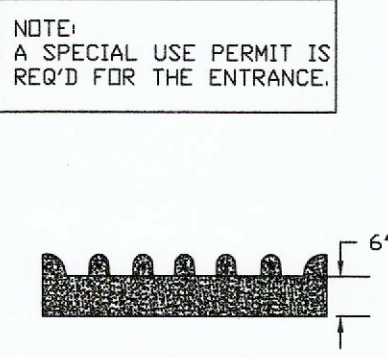
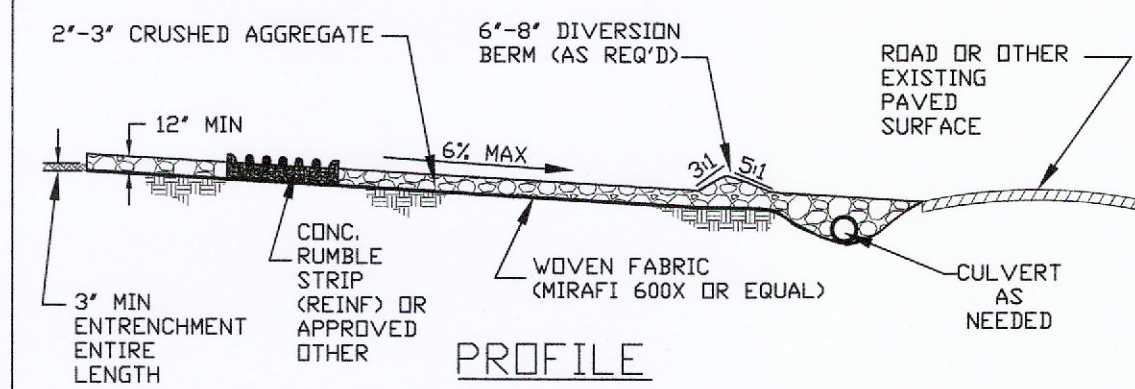
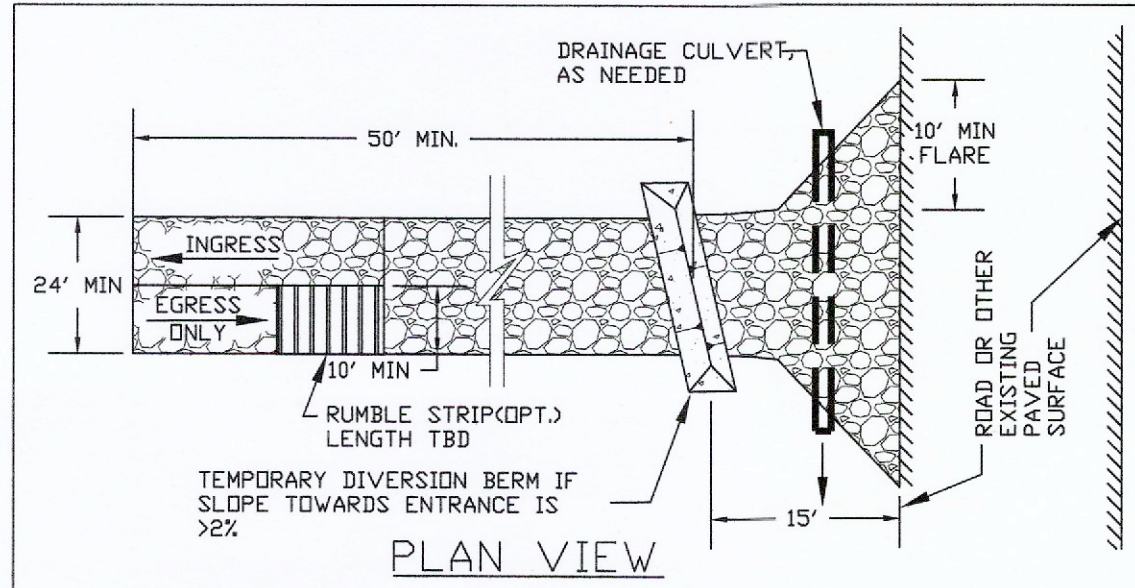
BASIN CROSS SECTIONS  
AND STORM PROFILE

P+Z No. #23-009249  
APPROVED 09-07-23  
City No. #CSP23-000055

Page No.  
C5A

Box Project #89-3028H Issue Date: 12-08-2023



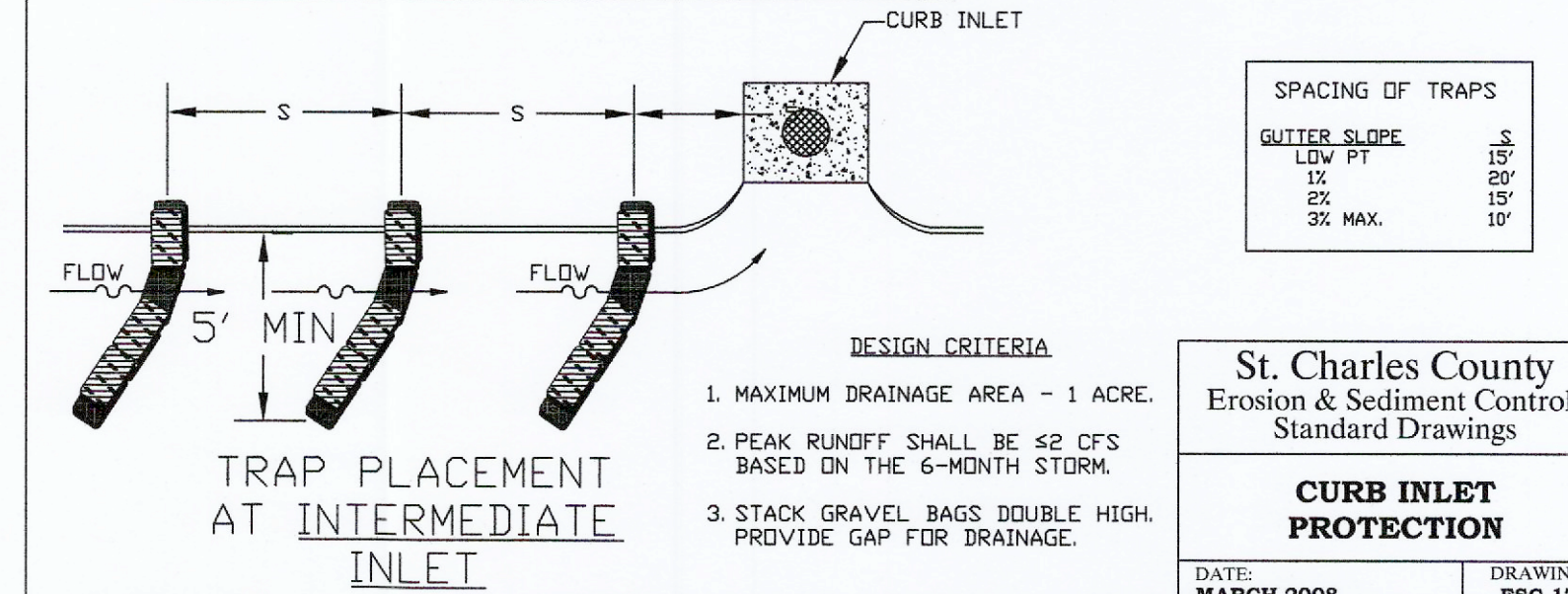
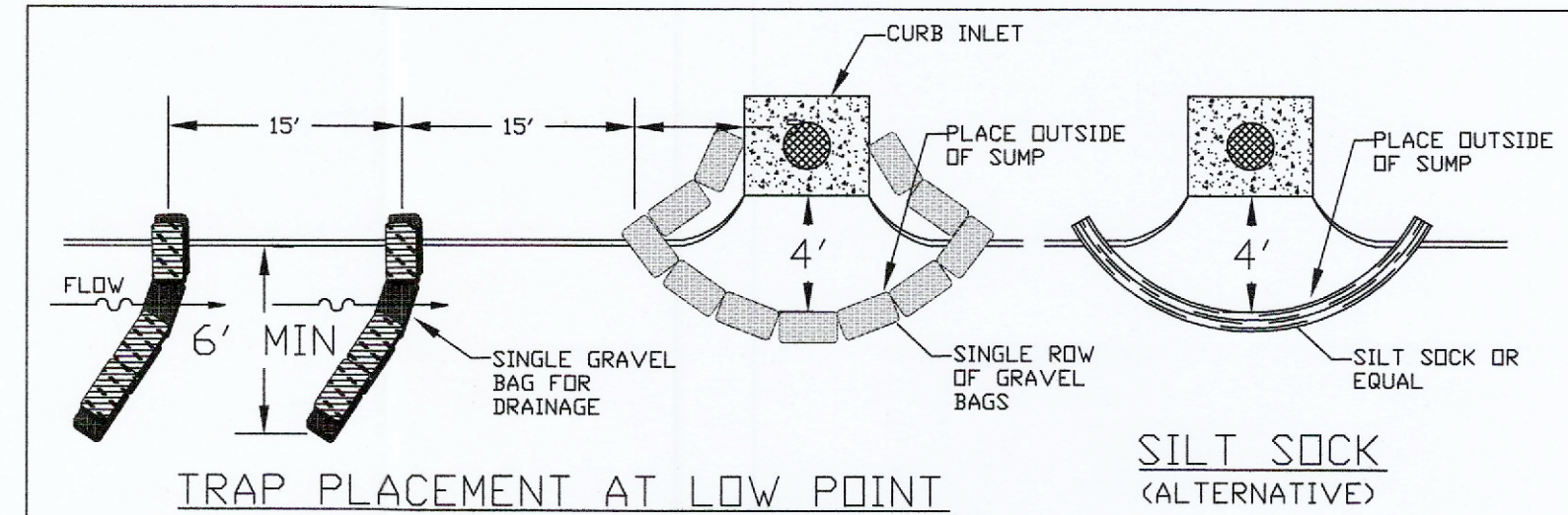


- DESIGN NOTES
1. DIVERT ALL RUNOFF TO A SEDIMENTATION CONTROL DEVICE.
  2. PROVIDE WATER SUPPLY FOR WASHDOWN.

St. Charles County  
Erosion & Sediment Controls  
Standard Drawings

**CONSTRUCTION TRAFFIC WASH-OFF PAD**

DATE: APRIL 2008 DRAWING: ESC-4

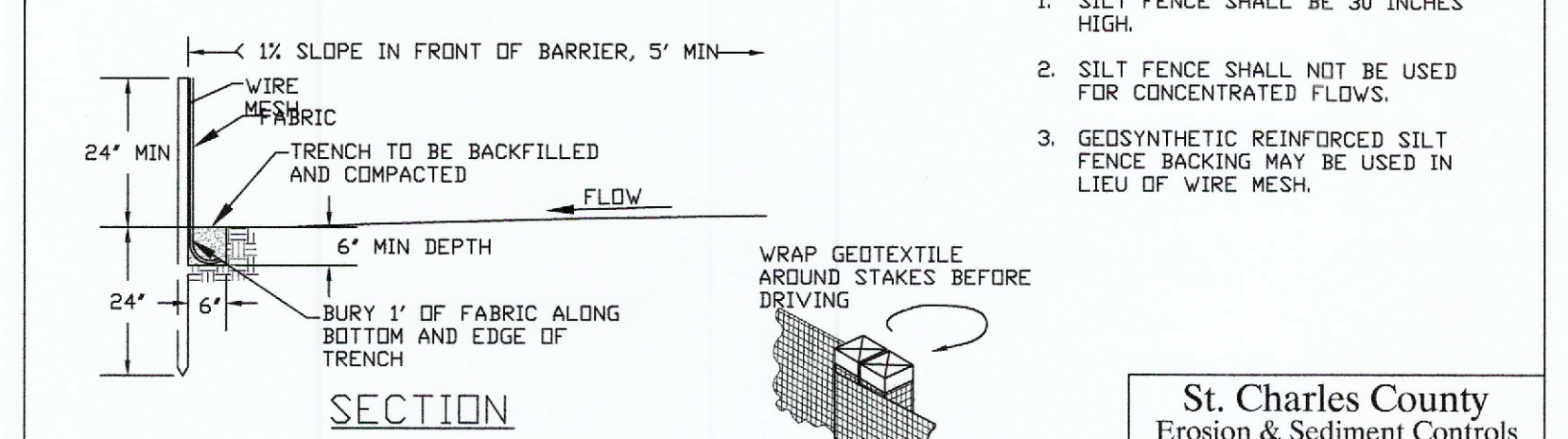
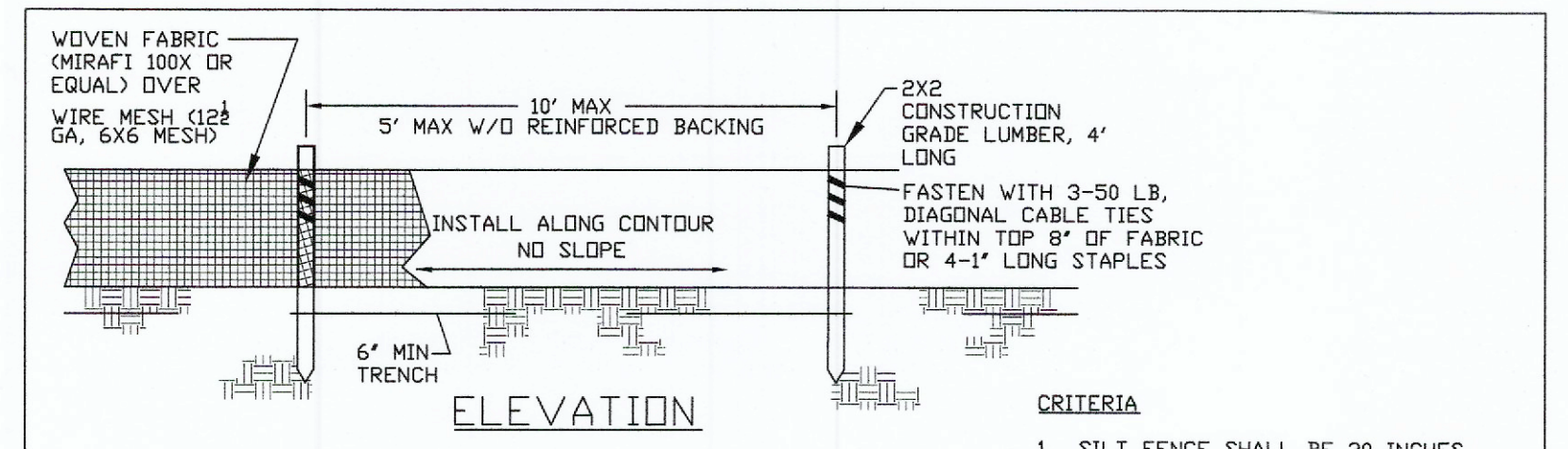


- DESIGN CRITERIA
1. MAXIMUM DRAINAGE AREA - 1 ACRE.
  2. PEAK RUNOFF SHALL BE 52 CFS BASED ON THE 6-MONTH STORM.
  3. STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

St. Charles County  
Erosion & Sediment Controls  
Standard Drawings

**CURB INLET PROTECTION**

DATE: MARCH 2008 DRAWING: ESC-17



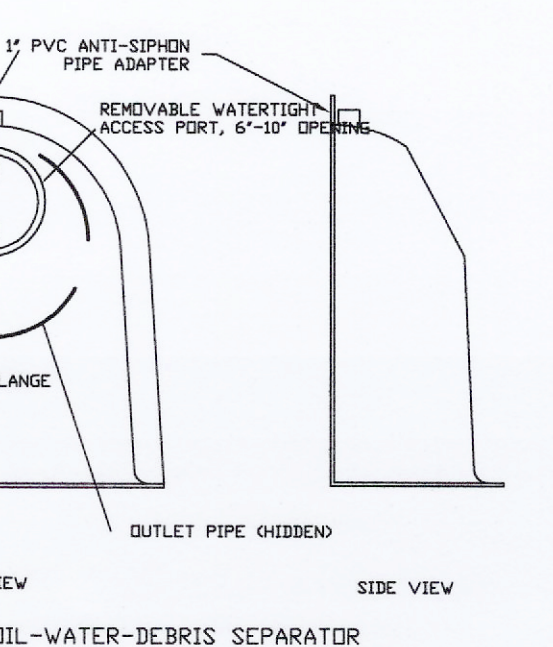
- CRITERIA
1. SILT FENCE SHALL BE 30 INCHES HIGH.
  2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
  3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.

St. Charles County  
Erosion & Sediment Controls  
Standard Drawings

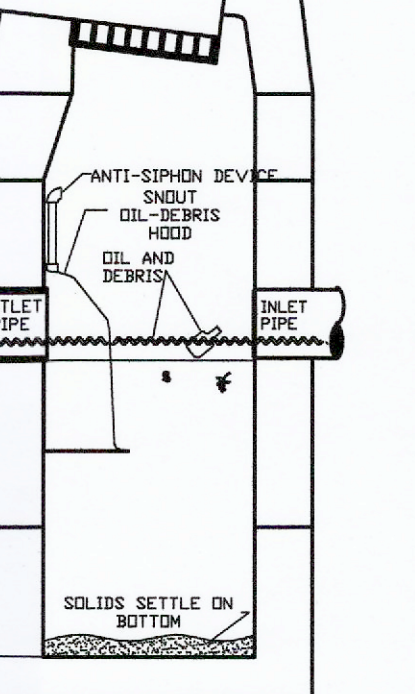
**SILT FENCE INSTALLATION SHEET FLOW (ONLY)**

DATE: MAY 2005 DRAWING: ESC-5

CONFIGURATION DETAIL

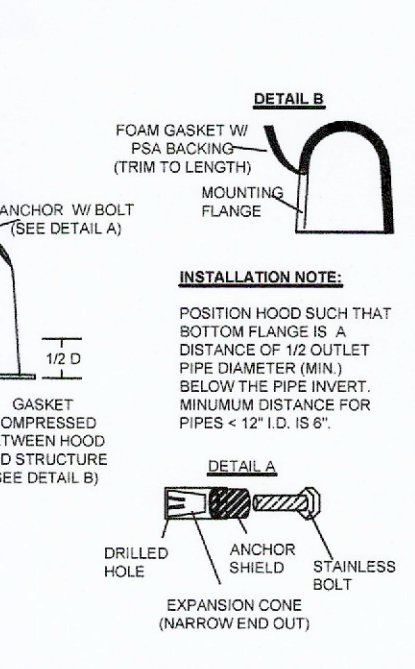


TYPICAL INSTALLATION



\*NOTE: SUMP DEPTH OF 36\"/>

INSTALLATION DETAIL

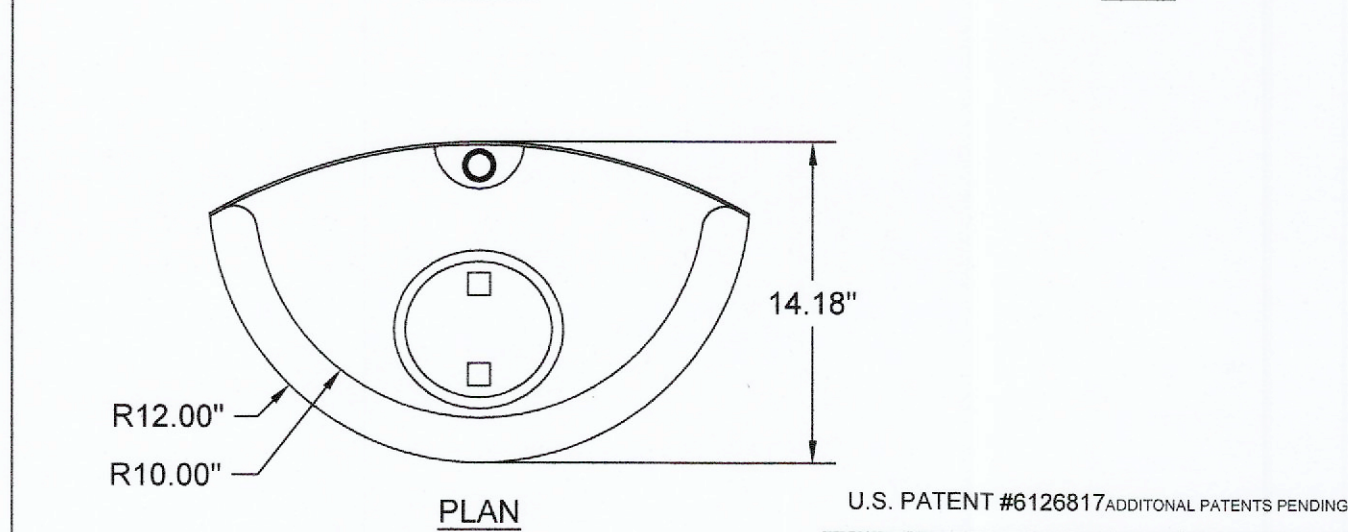
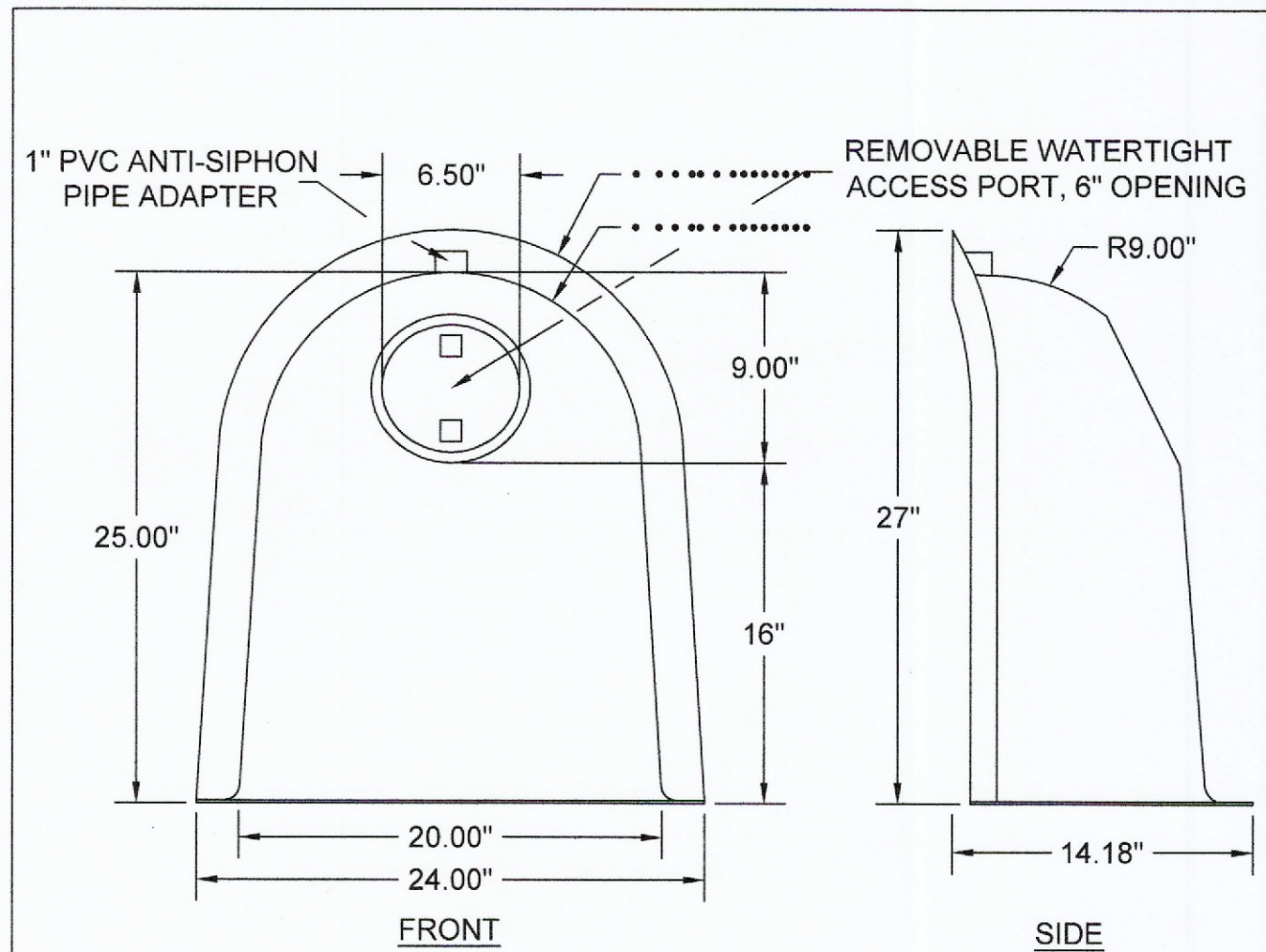


HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES

DESCRIPTION	DATE	SCALE
OIL-DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/18	NONE
DRAWING NUMBER	SP-SN	

- NOTES:
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. 9 BATHURS DRIVE, UNIT A1-A2, EAST HADDAM, CT 06423. TOLL FREE: (800) 504-8008 OR (888) 434-0277, FAX: (877) 434-3197. WEB SITE: [www.bmpinc.com](http://www.bmpinc.com) OR PRE-APPROVED EQUAL.
  2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH 150 GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.18\"/>

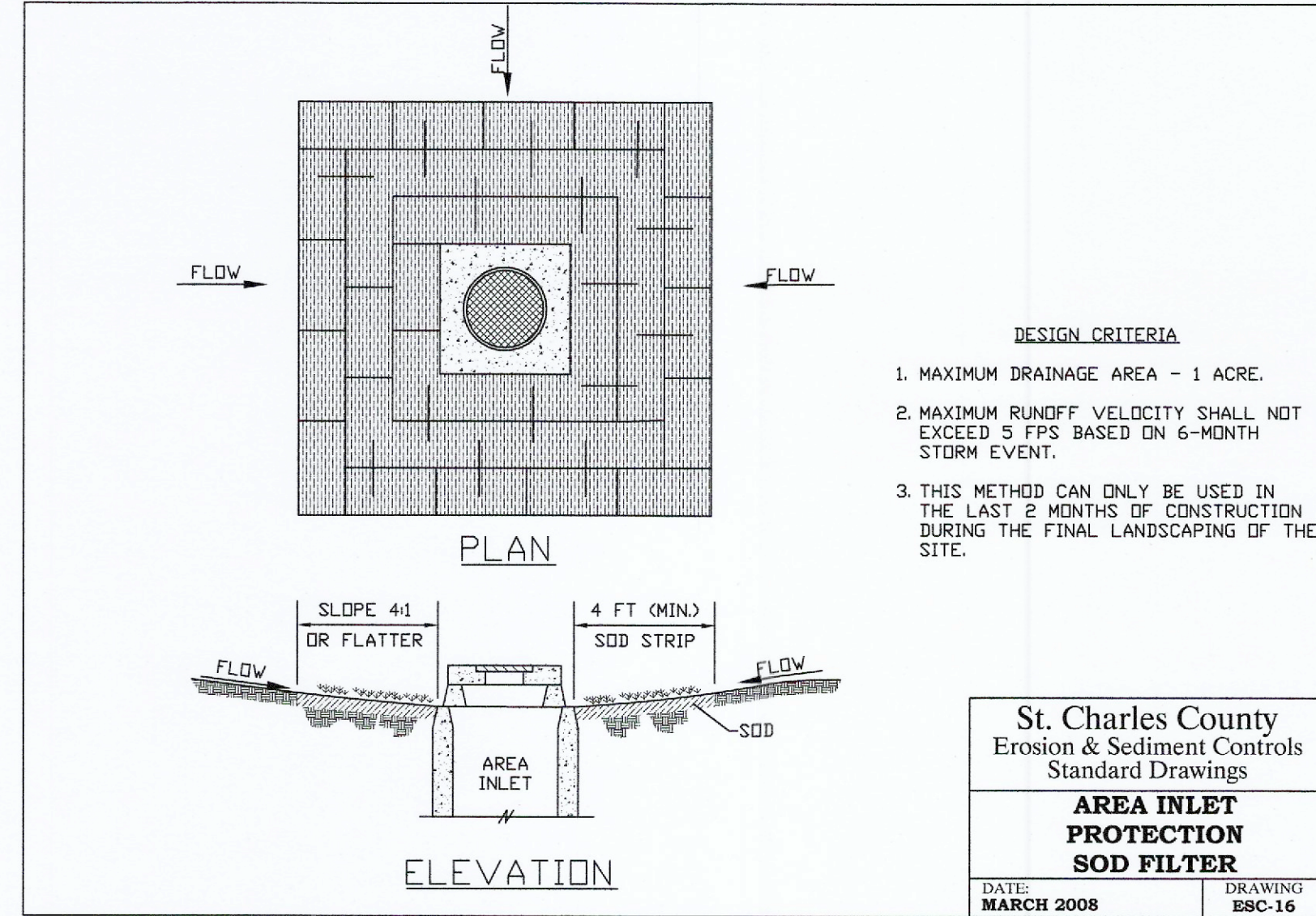
US Patent # 6126817, 7951294, 7857966, 8512556  
Canada Patent # 2885146, 2690156, 2690156 others pending



U.S. PATENT #6126817 ADDITIONAL PATENTS PENDING

**BMP, INC.**  
53 MT. ARCHER ROAD, LYME, CT. 06371  
(800) 504-8008 FAX: (860) 434-3195

DESCRIPTION	DATE	SCALE
18R SNOOUT OIL & DEBRIS STOP	09/06/99	NONE
DRAWING NUMBER	18R	



- DESIGN CRITERIA
1. MAXIMUM DRAINAGE AREA - 1 ACRE.
  2. MAXIMUM RUNOFF VELOCITY SHALL NOT EXCEED 5 FPS BASED ON 6-MONTH STORM EVENT.
  3. THIS METHOD CAN ONLY BE USED IN THE LAST 2 MONTHS OF CONSTRUCTION DURING THE FINAL LANDSCAPING OF THE SITE.

St. Charles County  
Erosion & Sediment Controls  
Standard Drawings

**AREA INLET PROTECTION SOD FILTER**

DATE: MARCH 2008 DRAWING: ESC-16

Snout Maintenance Recommendations:

1. Monthly monitoring for the first year of a new installation after the site has been stabilized is a recommended practice.
2. Measurements should be taken after each rain event of .5 inches or more, or monthly, as determined by local weather conditions.
3. Checking sediment depth and noting the surface pollutants in the structure will be helpful in planning maintenance.
4. The pollutants collected in SNOOUT equipped structures will consist of floatable debris and oils on the surface of the captured water, and grit and sediment on the bottom of the structure.
5. It is best to schedule maintenance based on the solids collected in the sump.
6. Optimally, the structure should be cleaned when the sump is half full.
7. Structures should also be cleaned if a spill or other incident causes a larger than normal accumulation of pollutants in a structure.
8. Maintenance is best done with a vacuum truck.
9. All collected wastes must be handled and disposed of according to local environmental requirements.
10. To maintain the SNOOUT hoods, an annual inspection of the anti-siphon vent and access hatch are recommended. A simple flushing of the vent, or a gentle rodding with a flexible wire is all that's typically needed to maintain the anti-siphon properties. Opening and closing the access hatch once a year ensures a lifetime of trouble-free service.

REFERENCE ONLY

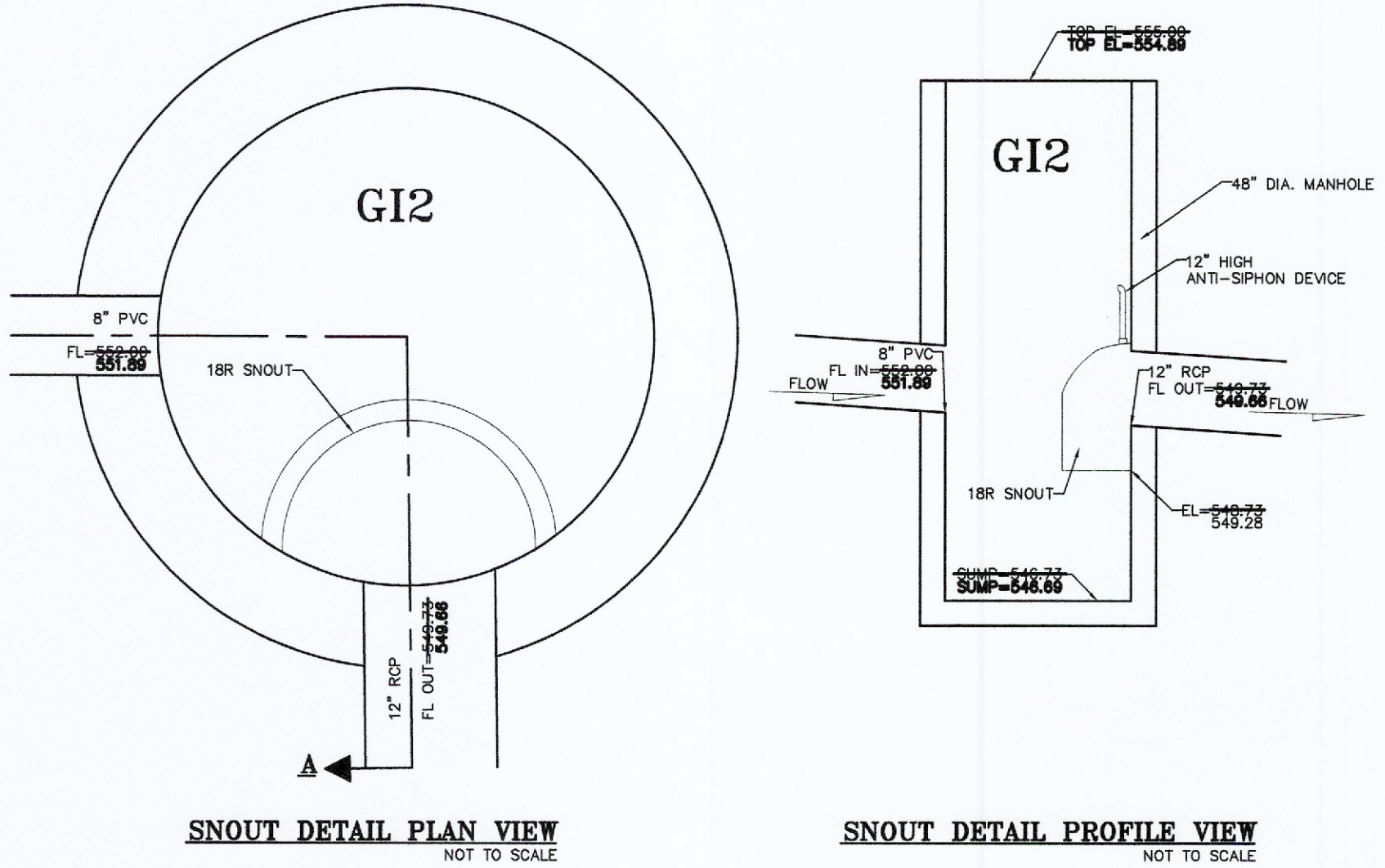
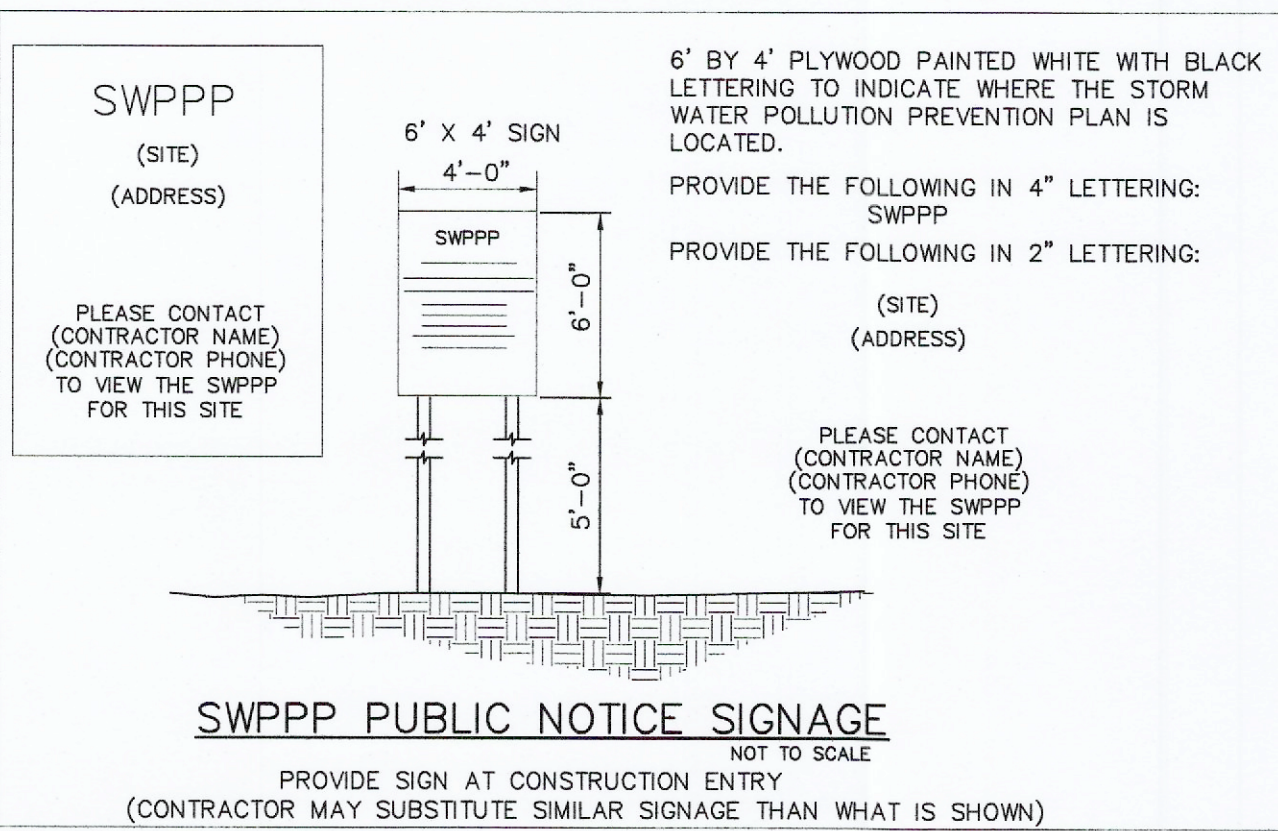
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REVISIONS

Table 60-5 Soil Stabilization Schedule

Soil Disturbance Activity or Condition	Required Stabilization Time
Soil disturbance has ceased in areas greater than 2,000 square feet.	14 days
After construction of dikes, swales, diversions, and other concentrated flow areas	5 days
When slopes are steeper than 3 horizontal to 1 vertical	7 days
When slopes are greater than 3% and longer than 150 feet.	14 days
Perimeter controls around soil stockpiles.	End of workday
Stabilization or covering of inactive stockpiles.	30 days
When land disturbance is completed, permanent soil stabilization must be installed.	30 days

THE CONTRACTOR IS TO PROVIDE THE CITY WITH ALL SWPPP INSPECTION REPORTS.



Developer / Owner:  
MR BATHE ELECTRIC  
1040 LIBERTY INDUSTRIAL DR.  
OFALLON, MO 63366

P+Z No. #23-009249  
APPROVED 09-07-23  
City No. #CSP23-000055

Page No. C7

PROJECT TITLE:  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

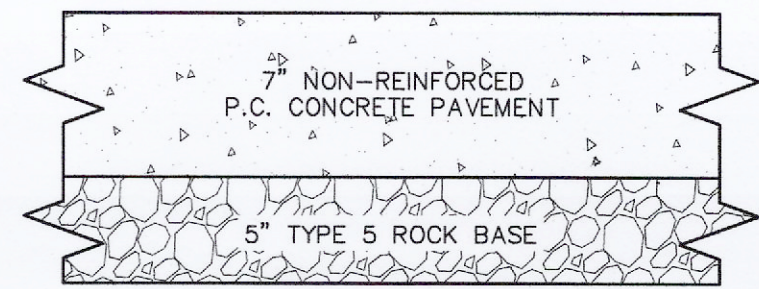
ENGINEERING SURVEYING  
221 Pointe West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 636-928-1718



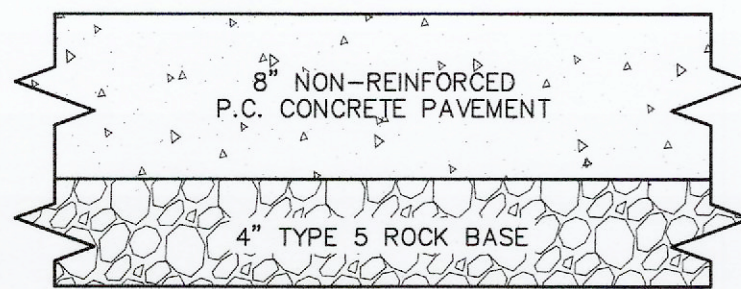
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SWPP DETAILS

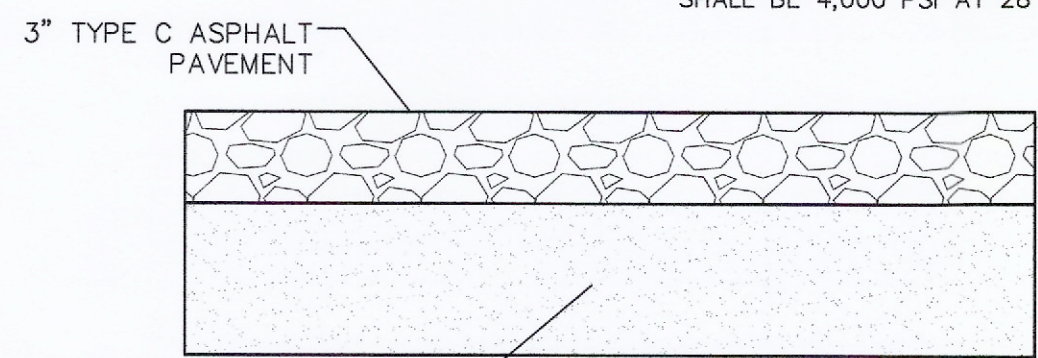




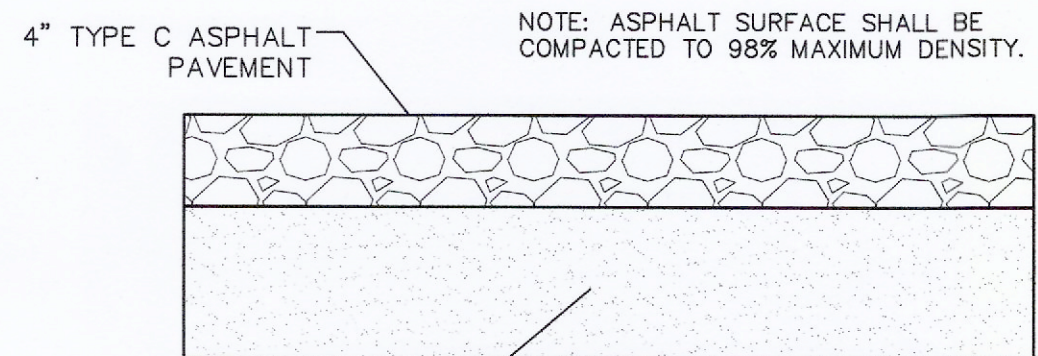
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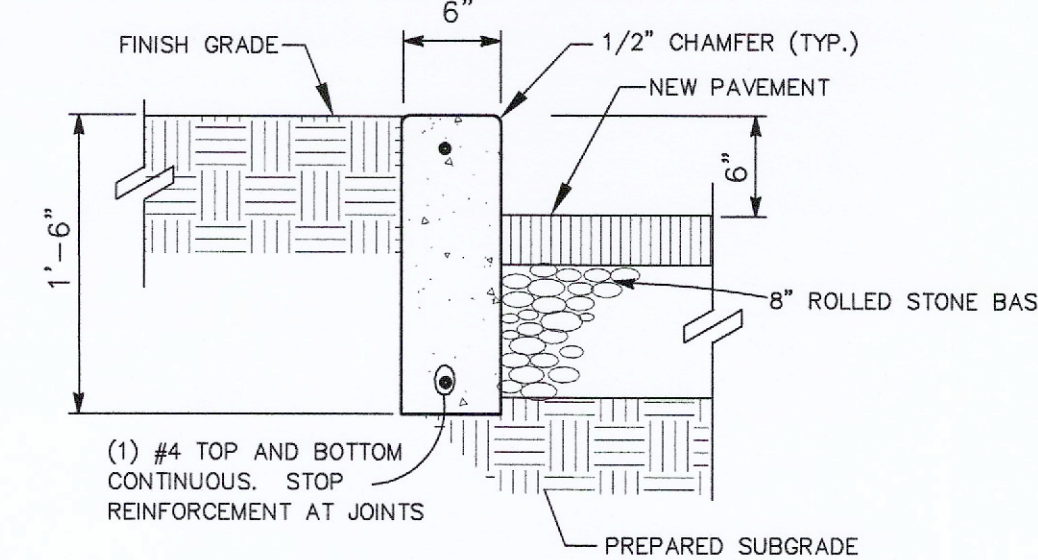
CONCRETE TRUCK DOCK DETAIL  
NOT TO SCALE



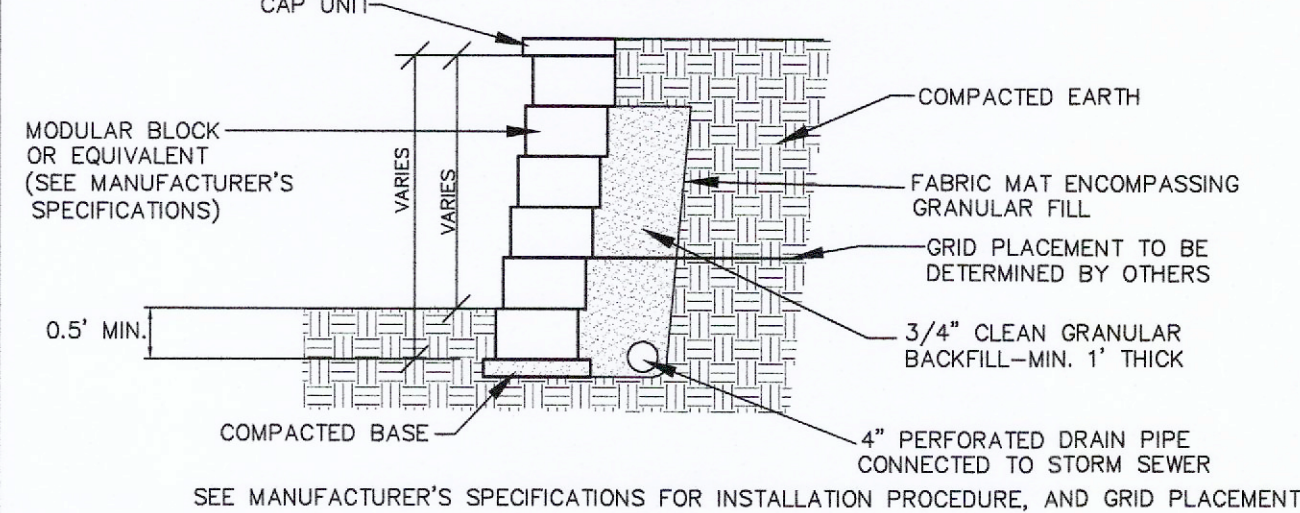
LIGHT DUTY ASPHALT PAVEMENT DETAIL  
NOT TO SCALE



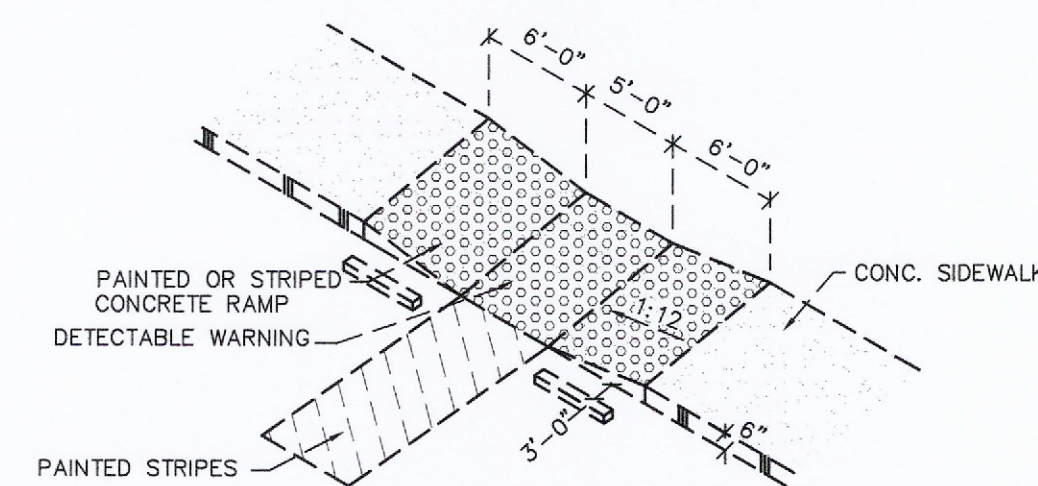
HEAVY DUTY ASPHALT PAVEMENT DETAIL  
NOT TO SCALE



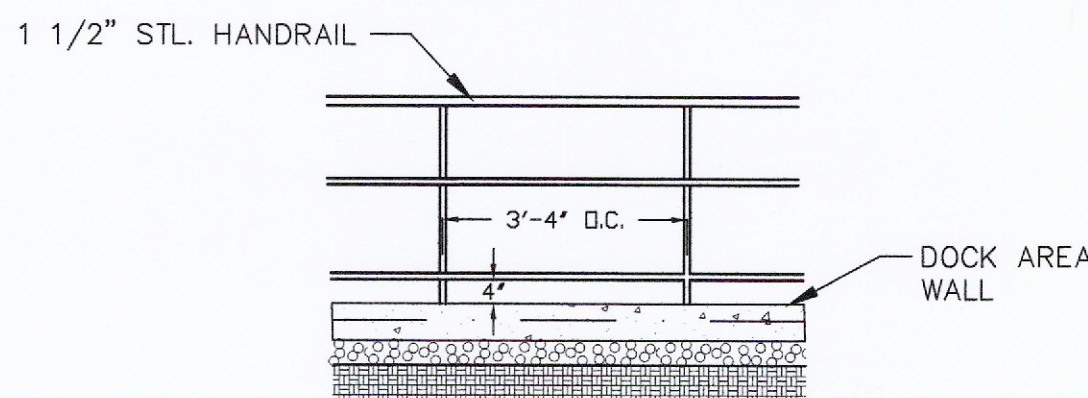
CONCRETE CURB DETAIL  
NOT TO SCALE



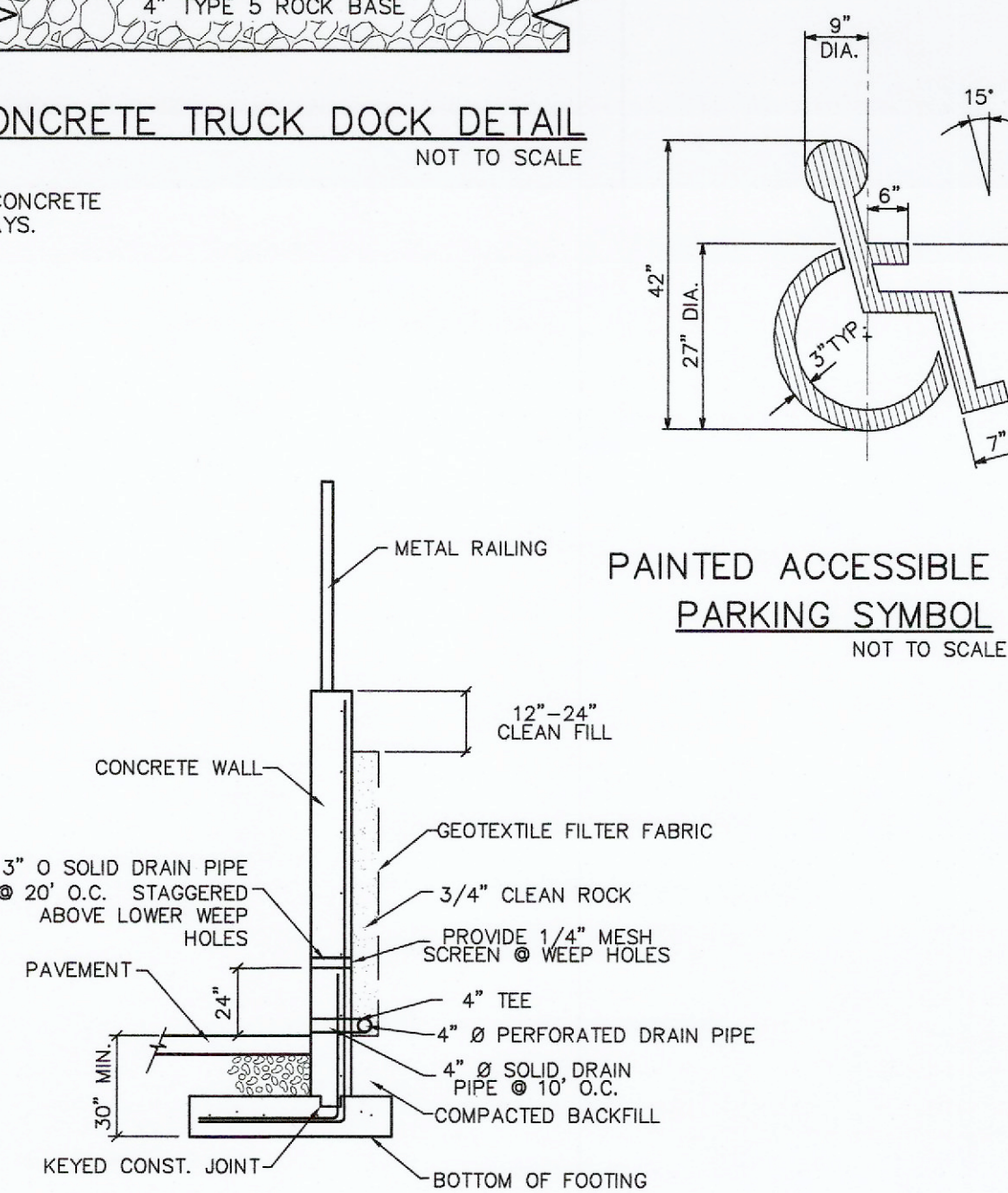
MODULAR BLOCK CONCRETE RETAINING WALL  
(RETAINING WALL DESIGN BY OTHERS) NOT TO SCALE



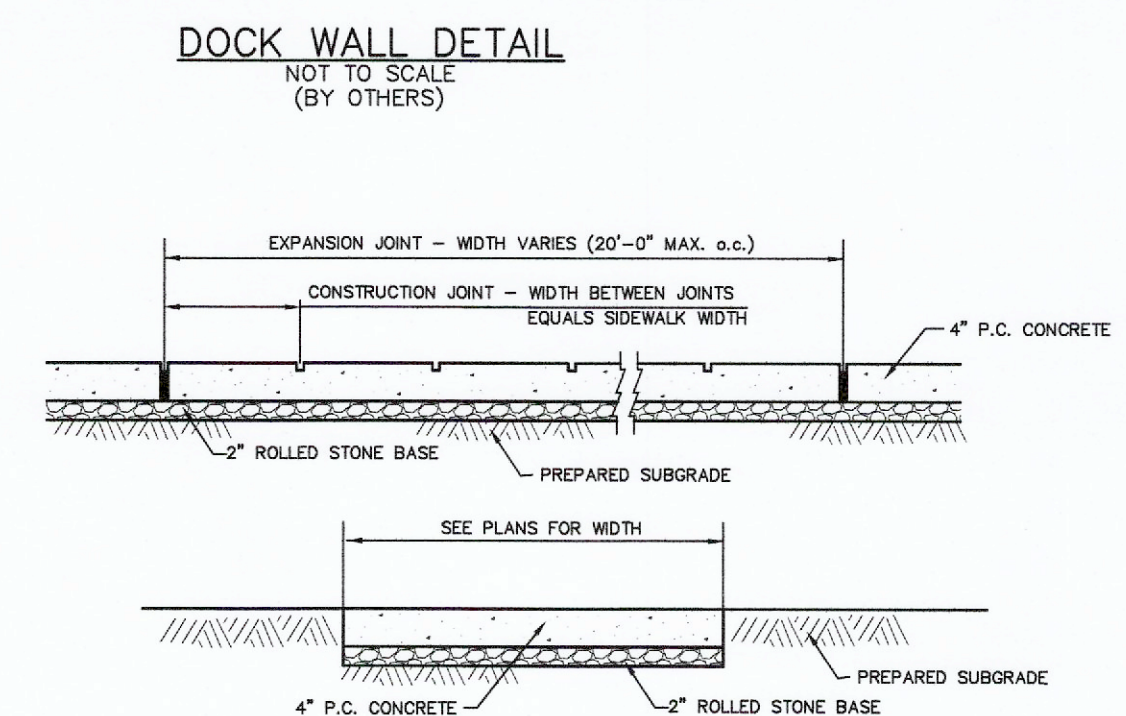
HANDICAPPED RAMP DETAIL  
NOT TO SCALE



TRUCK DOCK HANDRAIL DETAIL  
NOT TO SCALE  
(BY OTHERS)



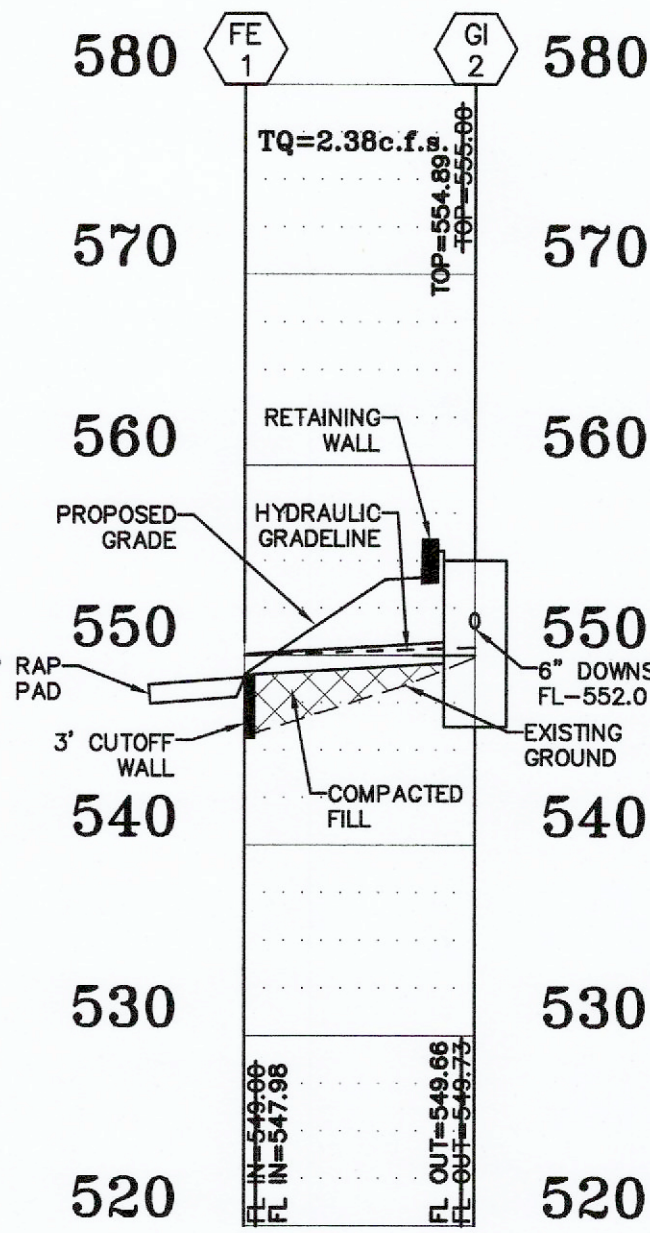
PAINTED ACCESSIBLE  
PARKING SYMBOL  
NOT TO SCALE



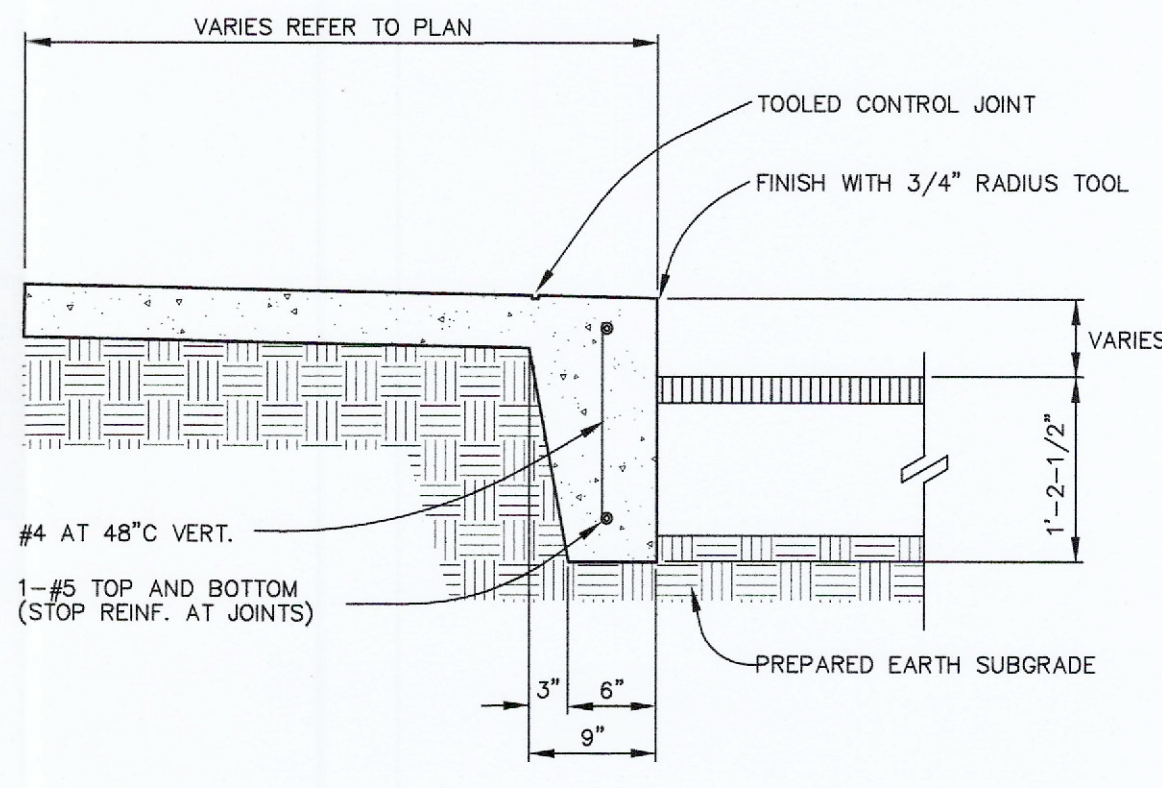
DOCK WALL DETAIL  
NOT TO SCALE  
(BY OTHERS)

CONCRETE SIDEWALK DETAIL  
NOT TO SCALE

\* ALL GRANULAR ROLLED STONE BASE UNDER PROPOSED CONCRETE MUST BE COMPACTED TO 100% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST ASHTO T-99. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI IN 28 DAYS.



STORM SEWER PROFILE  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 10'

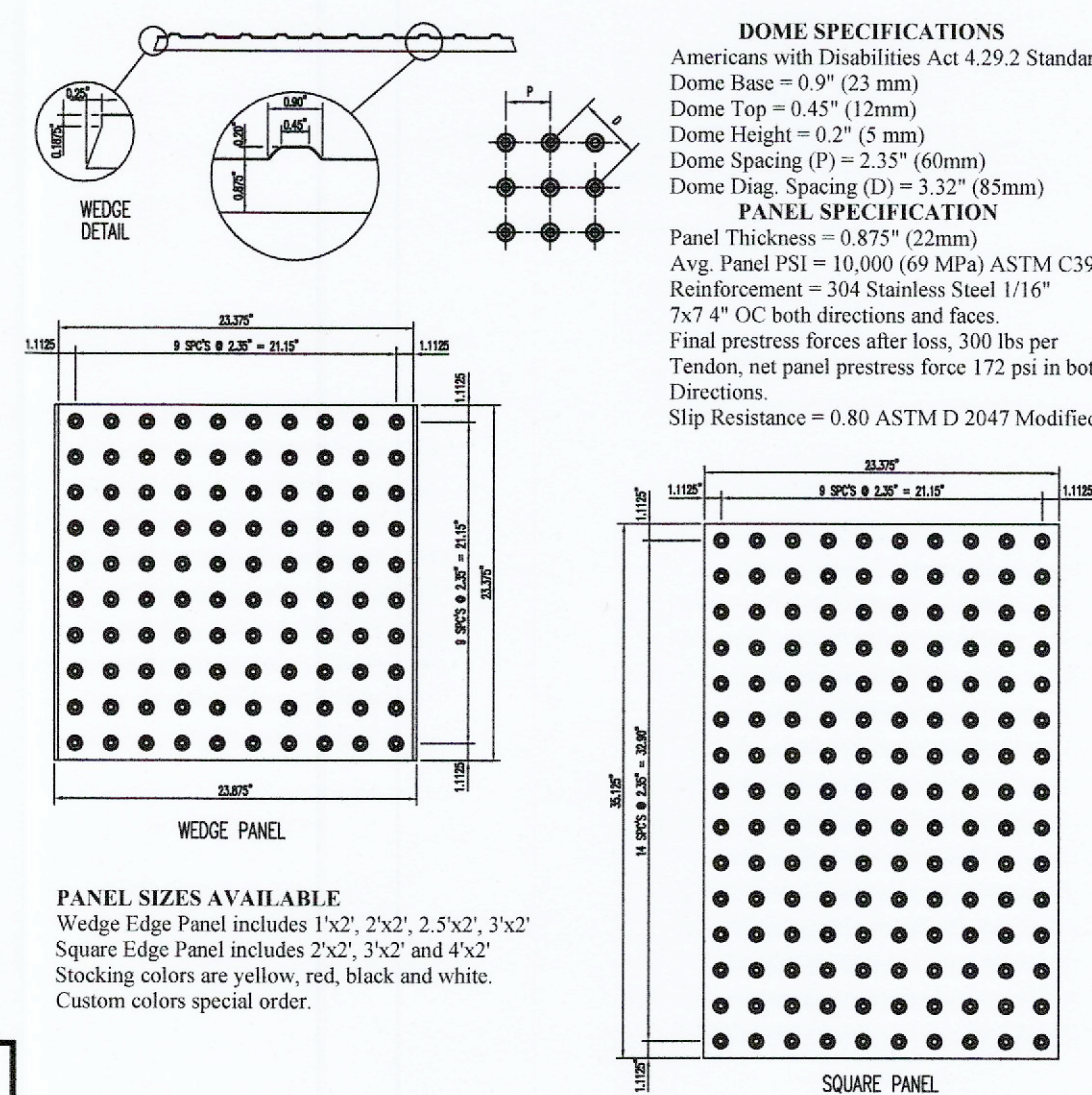


TURNED DOWN CONCRETE WALK  
NOT TO SCALE

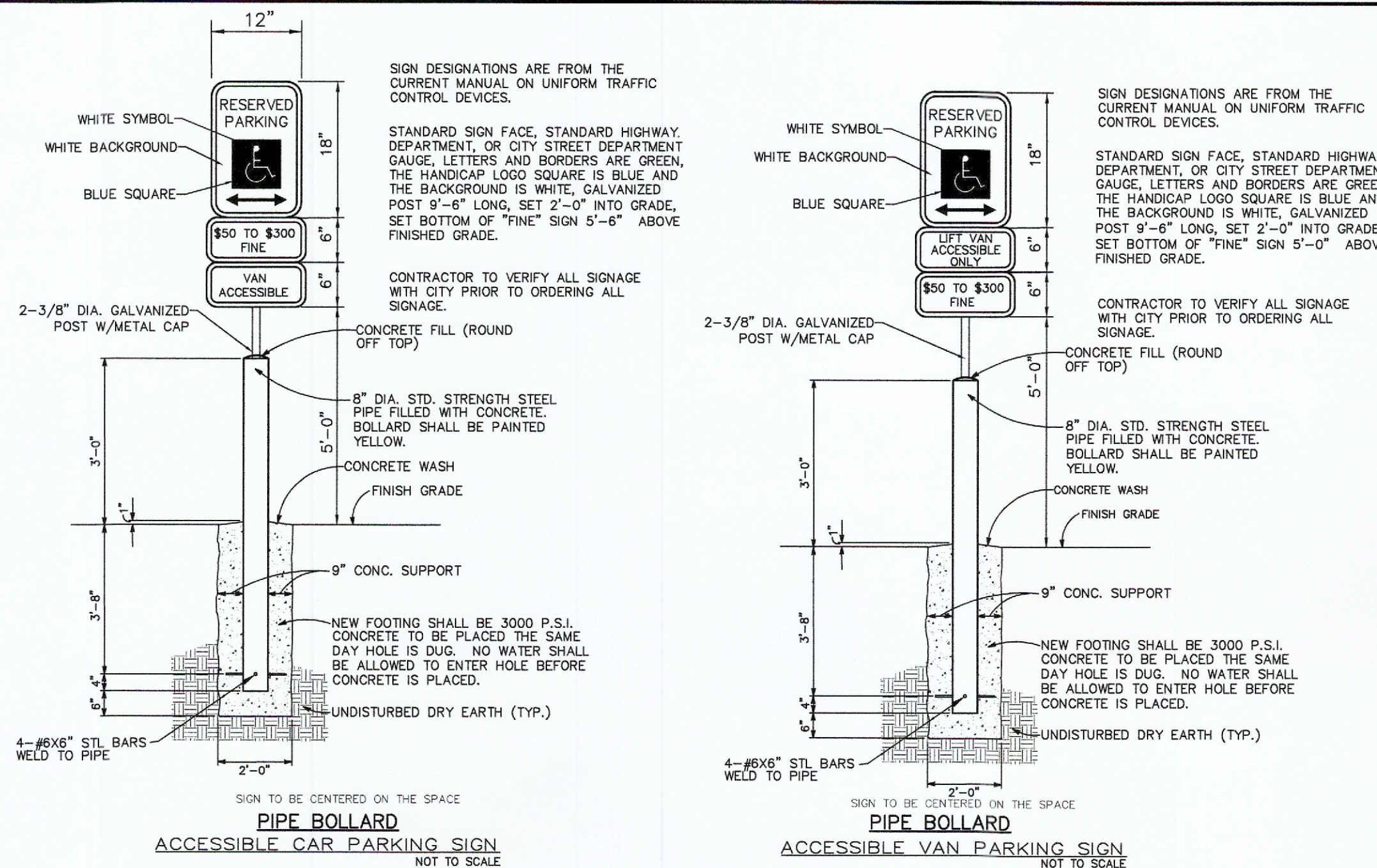
PROVIDE 1/2" PREMOULDED EXPANSION JOINT FILLER AT 60' CENTERS  
PROVIDE TOOLED CONTRACTION JOINTS AT 10' C.C.

CASTinFACT • Warning Panels are the latest innovation in detectable warning systems. A long term solution meeting both state and federal guidelines for handicap detection. CASTinFACT Warning Panels are designed for exterior use at the bottom of curb ramps and other locations such as depressed corners, raised crosswalks and raised intersections, borders of median and islands, at the edge of transit platforms and where railroad tracks cross the sidewalk to warn people with visual impairments of potential hazards. Detectable warnings must be installed across the full width of ramps, and 24" minimum in length up the ramp. CASTinFACT Warning Panels are integrally colored to provide visual contrast with the adjacent walking surface.

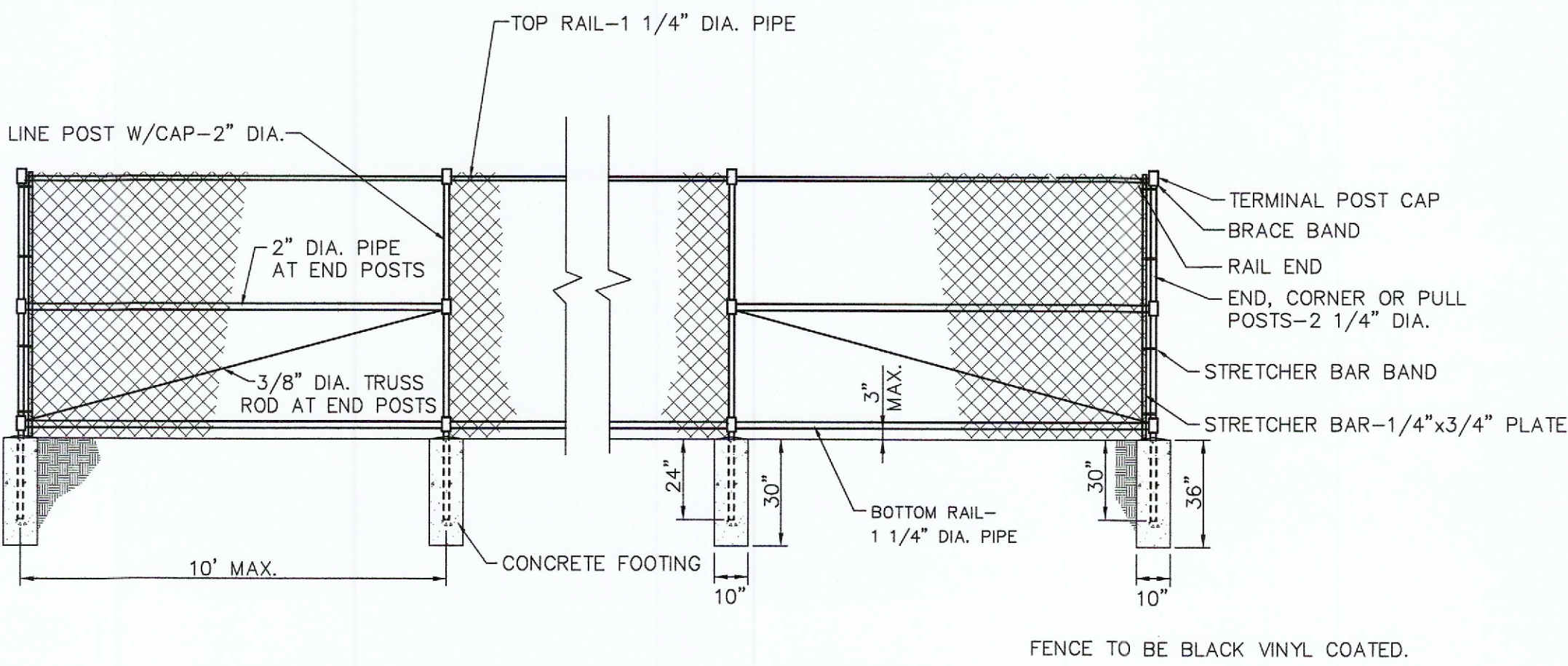
CASTinFACT • are cementitious based concrete panels with the same co-efficient of expansion as the concrete base. 7/8" thick high strength concrete reinforced with stainless steel prestress strands resulting in a high strength and crack resistant panel. Abrasion resistant truncated domes are achieved with an engineered mix design of granite and quartz aggregate that produces an average compressive strength of 10,000 psi (69 MPa). CASTinFACT are quality controlled manufactured to produce a dense, freeze thaw durable panel. Architectural concrete finished for safe wet and dry slip resistance. Concrete surfaces are easily maintained and cleaned with pressure washing.



TYPICAL DETAIL OF DETECTABLE WARNING SURFACE  
NOT TO SCALE



48"H. CHAINLINK FENCE ELEVATION  
NOT TO SCALE

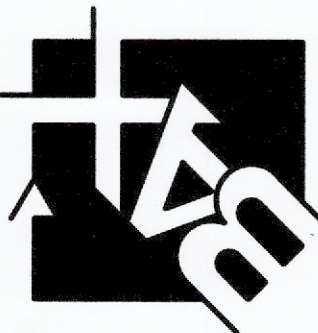


RETAINING WALL PROFILE  
SCALE: 1" = 20'

PROJECT TITLE:  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

ENGINEERING  
PLANNING  
SURVEYING

221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 928-1718



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Surveying Authority No. 000144  
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REVISIONS

NO.	DESCRIPTION

Developer / Owner:  
MR BATHE ELECTRIC  
1040 LIBERTY INDUSTRIAL DR.  
O'FALLON, MO 63366

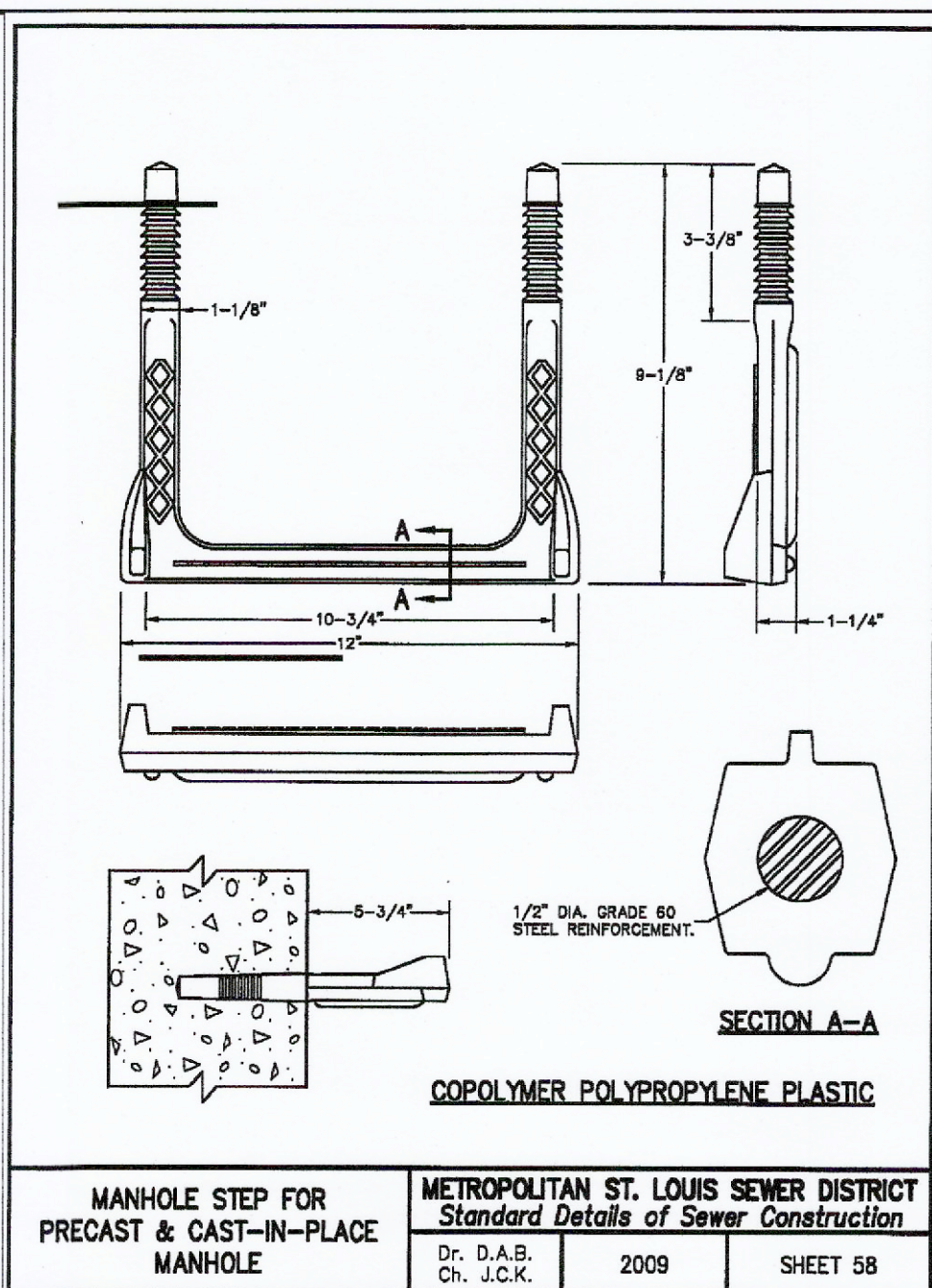
P+Z No.  
#23-009249  
APPROVED 09-07-23  
City No.  
#CSP23-000055

Page No.

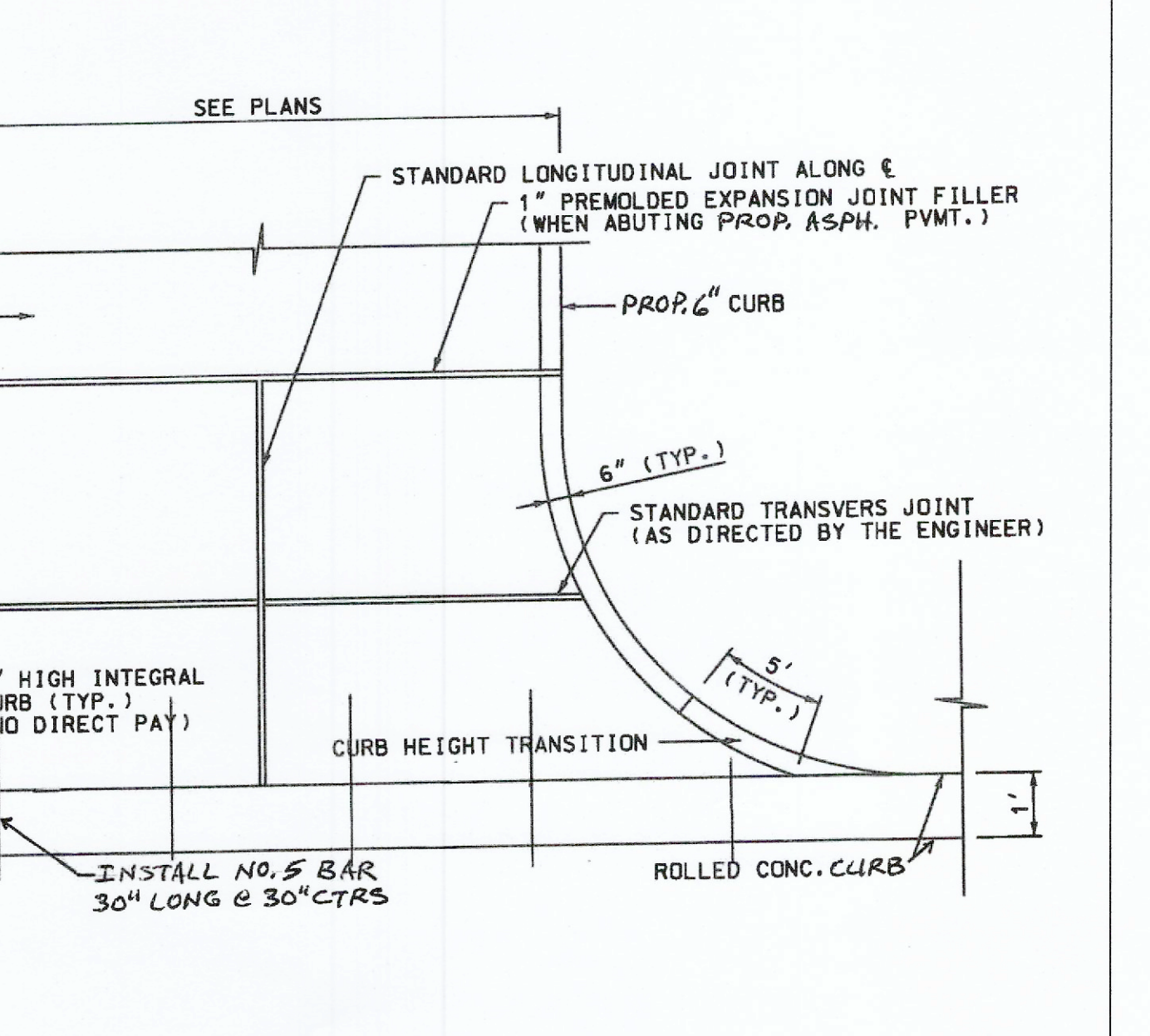
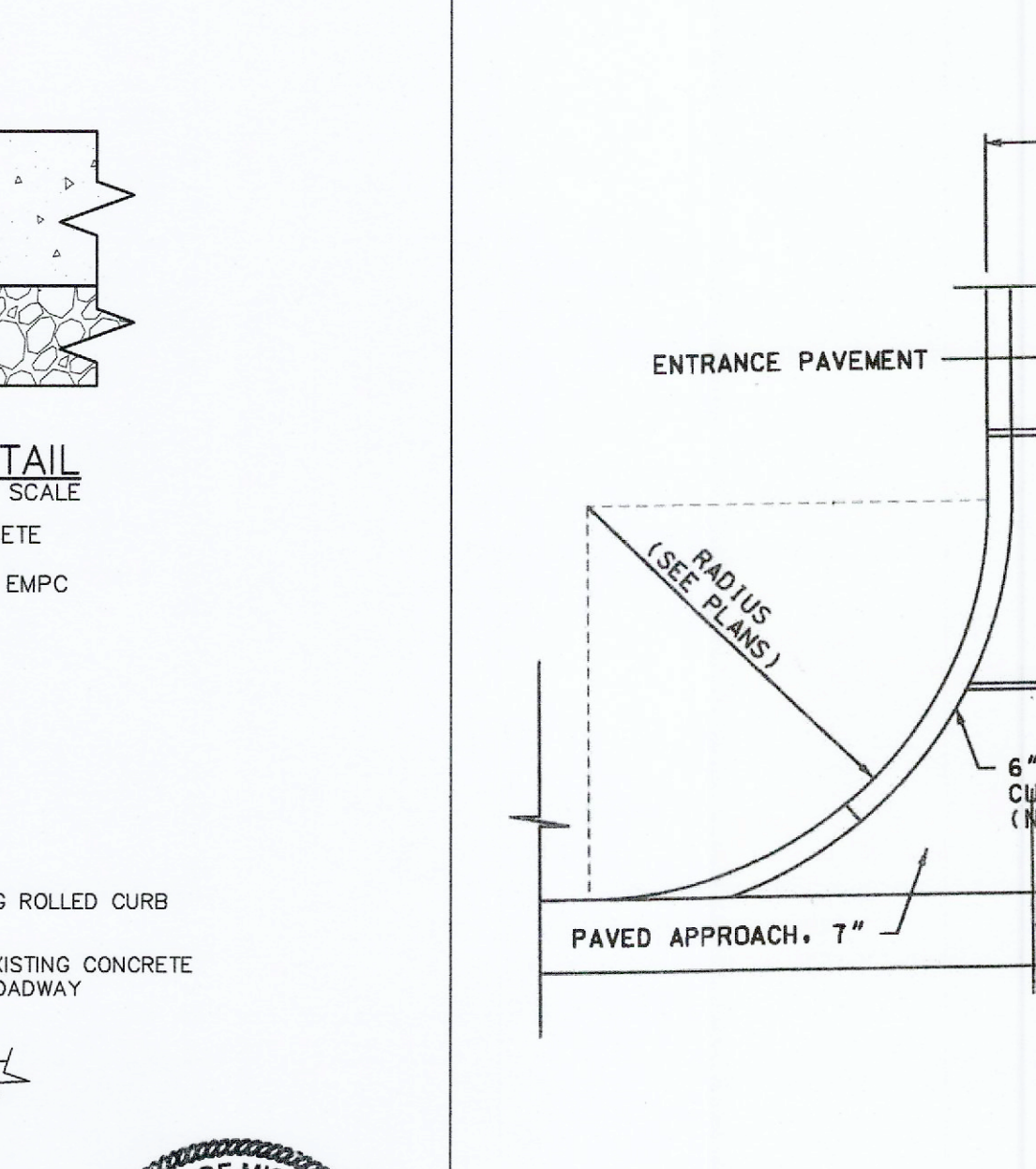
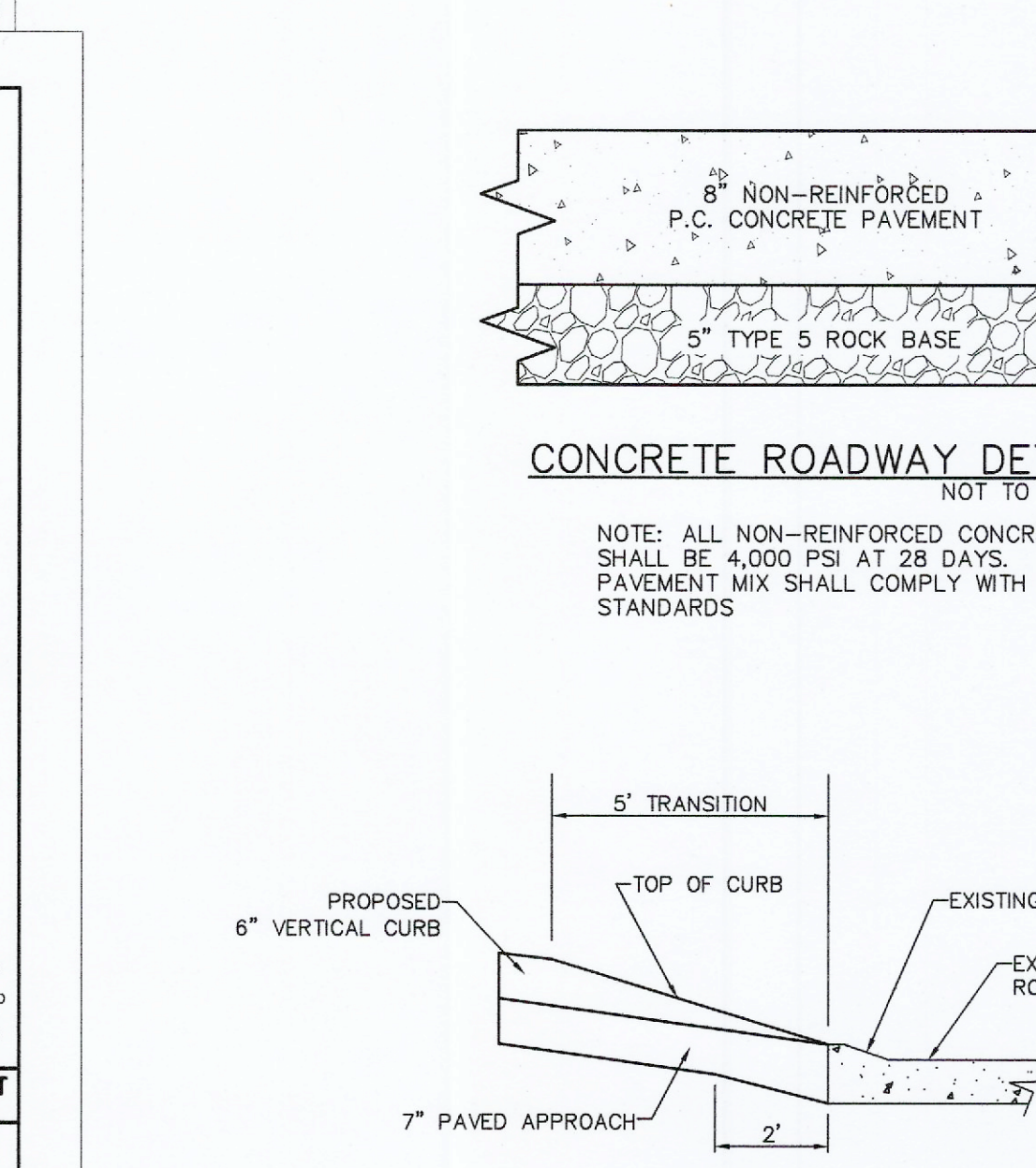
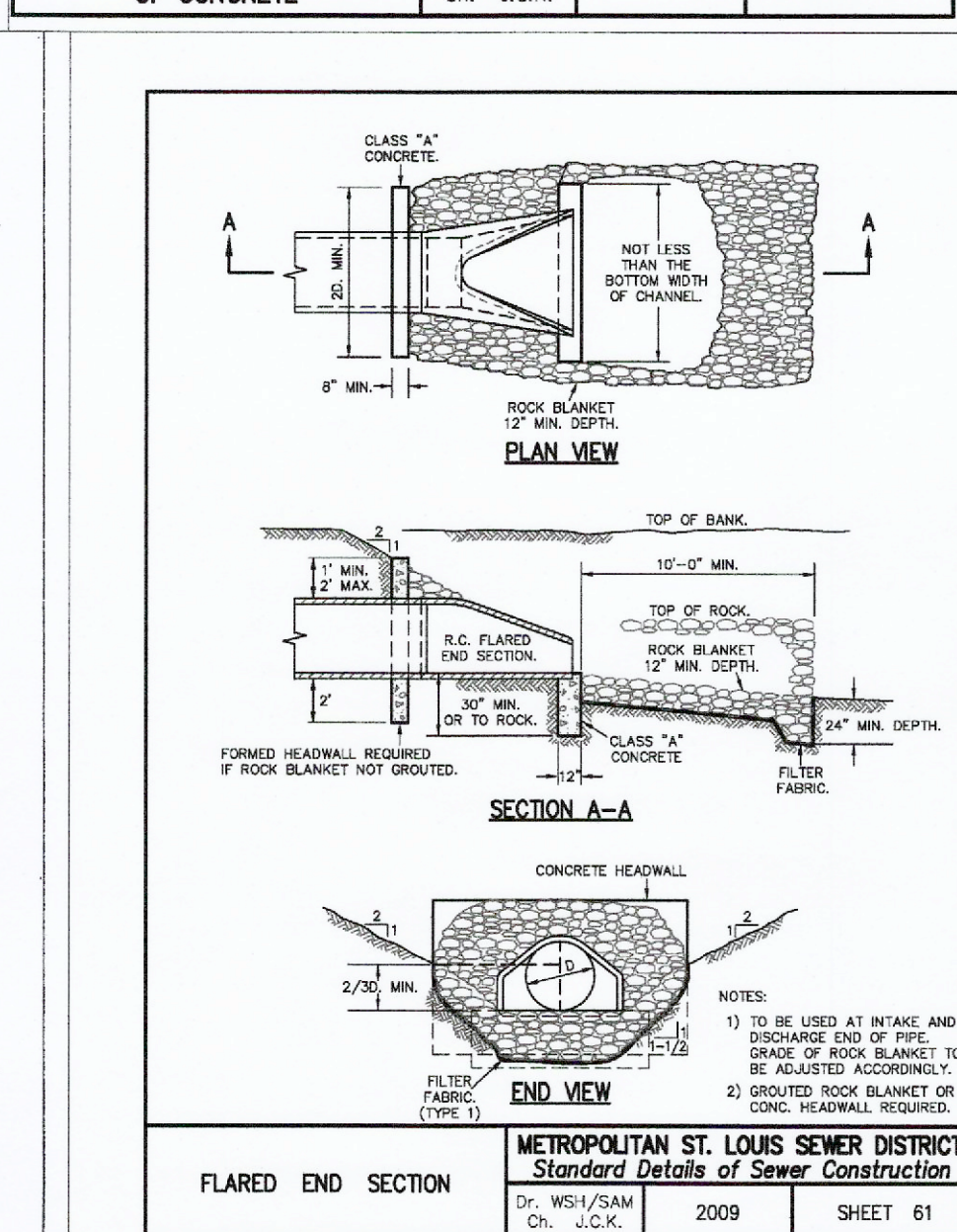
C12

CONSTRUCTION DETAILS





ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CONCRETE ENCASUREMENT (CU. FT. PER FT.)	INSIDE DIMENSIONS OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CONCRETE ENCASUREMENT (CU. FT. PER FT.)
4	30	2.50	3.28				
6	30	2.50	3.59				
8	30	2.50	3.87				
10	30	2.50	4.09				
12	30	2.50	4.25				
15	36	3.00	5.55				
18	36	3.00	5.77	14 x 23	41	3.42	5.94
21	39	3.25	6.61				
24	42	3.50	7.39	19 x 30	49	4.08	7.68
27	45	3.75	8.18	22 x 34	53	4.42	8.61
30	48	4.08	9.30	24 x 38	58	4.83	9.70
33	53	4.42	10.53	27 x 42	62	5.17	10.71
36	58	4.87	11.43	29 x 45	66	5.50	11.72
42	63	5.25	13.38	32 x 49	71	5.92	13.14
48	70	5.83	15.87	38 x 60	83	6.92	16.18
54	77	6.42	18.15	43 x 68	92	7.67	18.81
60	84	7.00	20.73	48 x 76	101	8.42	21.59
66	91	7.58	23.45	53 x 83	109	9.08	24.35
72	98	8.17	26.37	58 x 91	118	9.83	27.45
78	105	8.75	29.39	63 x 98	126	10.50	30.50
84	112	9.33	32.37	68 x 106	135	11.25	33.91
90	119	9.92	35.90	72 x 113	143	11.92	36.99
96	126	10.50	39.37	77 x 121	152	12.67	40.89
102	133	11.08	42.99	82 x 128	160	13.33	44.45
108	140	11.67	46.75	87 x 136	168	14.00	47.79
114	147	12.25	50.66	92 x 143	176	14.67	51.70
120	154	12.83	54.72	97 x 151	185	15.42	56.01
126	161	13.42	58.92				
132	168	14.00	63.27	108 x 168	202	16.83	64.48
144	182	15.17	72.40	116 x 180	218	18.17	73.59



GENERAL NOTES			
1. Do not scale drawing. Follow dimensions.			
2. Construction joint and tie bars may be omitted when curb is poured integral with pavement.			
3. Minimum thickness for pavement (in): Bluminous Concrete Pavement Thickness =			(1)
Concrete Pavement Thickness =	6"	7-1/2"	
All Residential Minor and Local Streets	7"	9-1/2"	
Residential Collector and Non-Residential Streets	8"	12"	
All Arterial Streets			
4. Type "C" Transverse Joint is required for Arterial and Non-Residential streets. Use Type "C" Transverse Joint for all others.			
5. For Subdivision or Minor Streets having 6" concrete pavement, 1/2" @ 18" centers shall be used for Type "D" Longitudinal Joints and 1/2" @ 18" centers shall be used for Type "F" Longitudinal Joints.			
6. Refer to Pavement Construction Details for Integral Vertical Curb and Concrete Pavement Typical Sections and Details. and Integral Rolled Curb and Concrete Pavement Typical Sections and Details for joint and bar requirements for different street classifications. Note that width and location of each poured portion of the pavement may change the type and location of joint required.			
7. All deformed bars for joints and curbs shall be Blat Steel Bars conforming to A.S.T.M. A615-75, Grade 40.			
8. Length of the tie bars shall equal the thickness of pavement plus the height of curb less 3". Tie bars shall be placed at 24" centers.			
9. Transverse or longitudinal construction joints in sloped pavements may be made with a groover or tool, if such device has been approved in advance by the Department.			
10. The free end of the dowel bar for a length of at least 11 inches shall be coated with an approved graphite grease.			
11. All dowel bars 18" @ 12" ctrs. shall be epoxy coated.			
12. Expansion Joint A-2 From St. Louis County pavement construction details shall be allowed in addition to Type A and AA expansion joints.			(1)

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI			
PAVEMENT CONSTRUCTION DETAILS JOINTS AND CURBS			
Developer / Owner: MR BATHE ELECTRIC 1040 LIBERTY INDUSTRIAL DR. O'FALLON, MO 63366			
P+Z No. #23-009249 APPROVED 09-07-23 City No. #CSP23-000055			
Page No. C13			

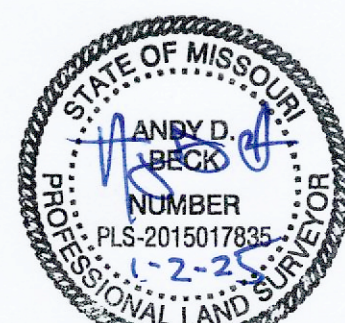
**PROJECT TITLE:**  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

**ENGINEERING SURVEYING**  
221 Pointe West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 636-928-1718

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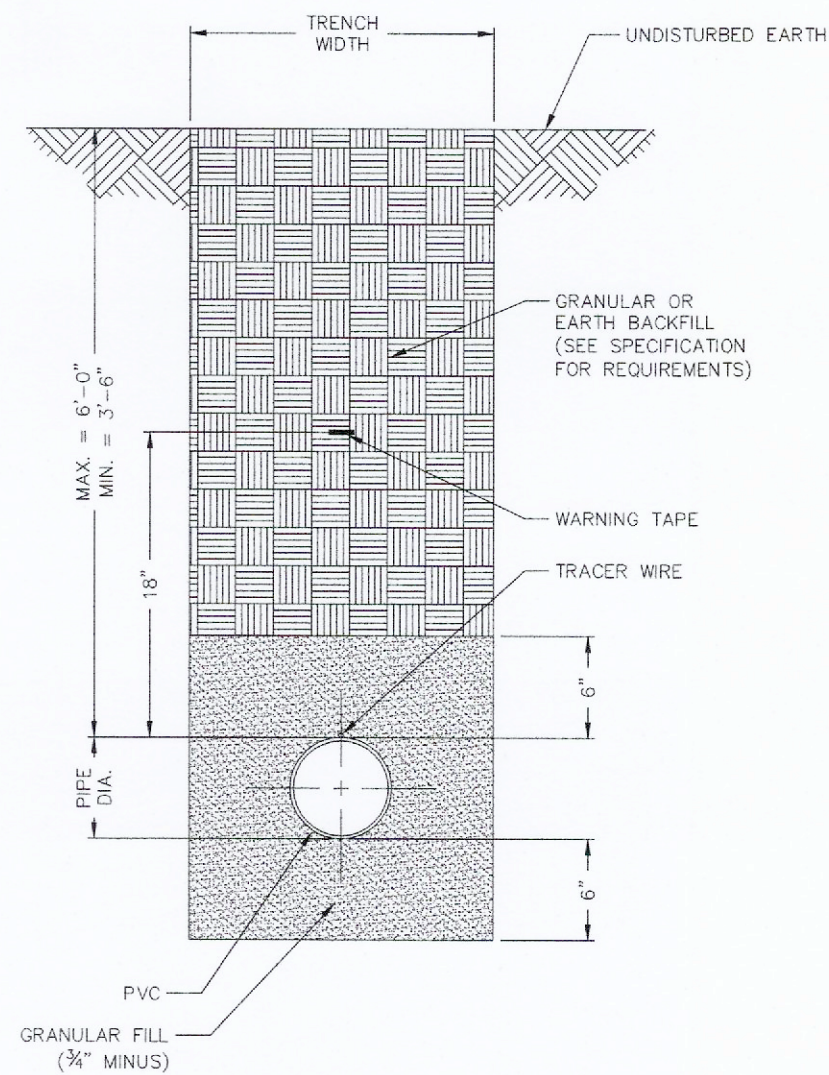
REVISIONS	

**CONSTRUCTION DETAILS**





NOTE: THIS DETAIL IS FROM PWSD#2

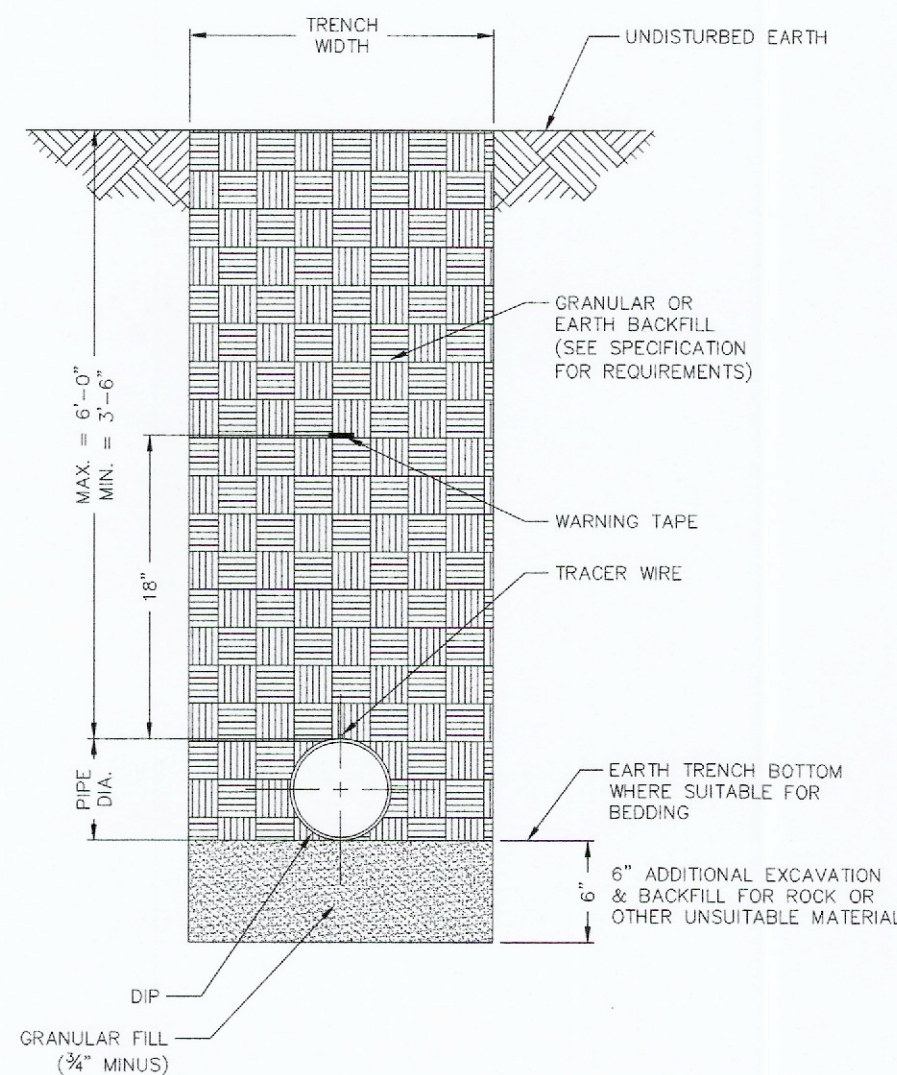


#### NOTES

- 1) SEE SPECIFICATIONS FOR ADDITIONAL DETAILS FOR BEDDING AND BACKFILL.

TYPICAL TRENCH SECTION  
FOR PVC PIPE

NOT TO SCALE  
DETAIL "A"  
PAGE 1 OF 2

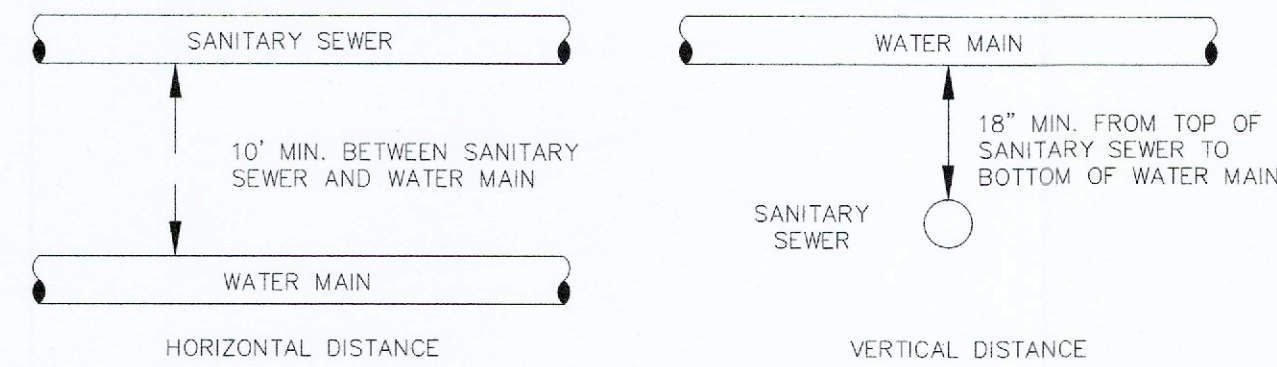


#### NOTES

- 1) POLYWRAP REQUIRED FOR DUCTILE IRON PIPE
- 2) SEE SPECIFICATIONS FOR ADDITIONAL DETAILS FOR BEDDING AND BACKFILL.

TYPICAL TRENCH SECTION  
FOR DUCTILE IRON PIPE

NOT TO SCALE  
DETAIL "A"  
PAGE 2 OF 2



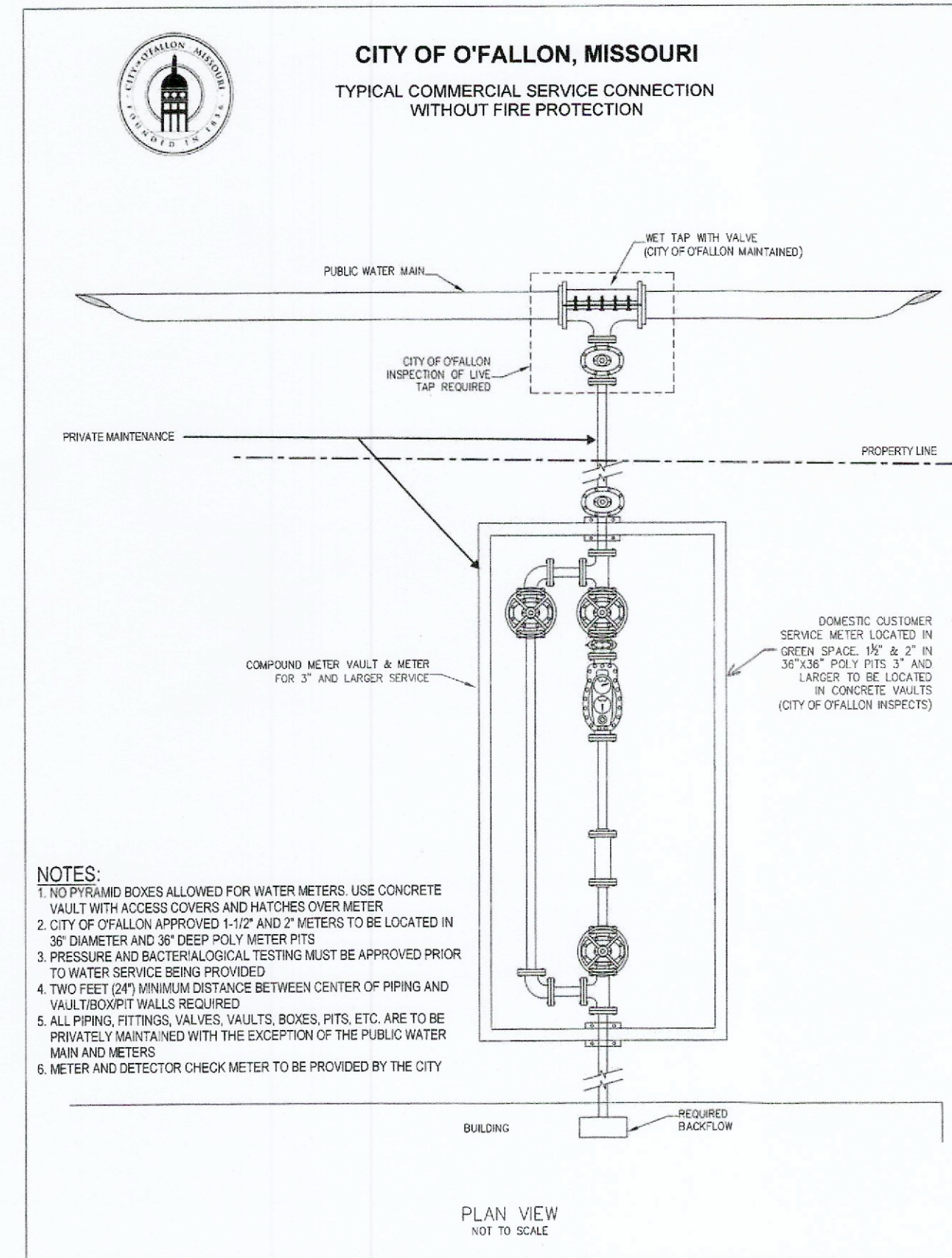
### TYPICAL WATER AND SEWER SEPARATION

NOT TO SCALE

CITY OF O'FALLON  
ENGINEERING DEPARTMENT  
O'FALLON, MISSOURI  
WATER AND SEWER  
SEPARATION DETAIL

Ductile Iron Pipe installation shall follow the Ductile Iron Research Association (DIPRA) guide line.

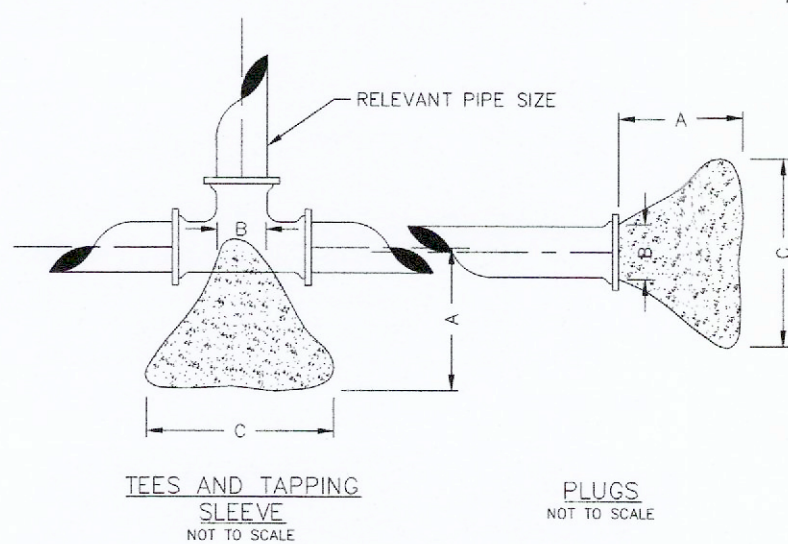
The Installation of PVC Pipe shall follow the Uni-Bell PVC Pipe Association Handbook of PVC Design and Construction.



#### NOTES:

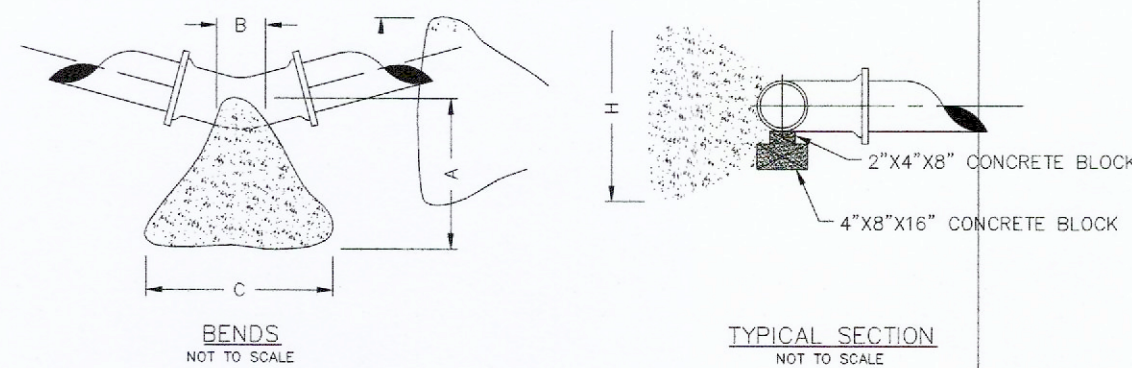
- 1) NO PRISM BOXES ALLOWED FOR WATER METERS. USE CONCRETE VAULT WITH ACCESS COVERS AND HATCHES OVER METER.
- 2) CITY OF O'FALLON APPROVED 1-1/2" AND 2" METERS TO BE LOCATED IN 36" DIAMETER AND 36" DEEP POLY-METER PITS.
- 3) PRESSURE AND BACTERIOLOGICAL TESTING MUST BE APPROVED PRIOR TO WATER SERVICE BEING PROVIDED.
- 4) TWO FEET (2') MINIMUM DISTANCE BETWEEN CENTER OF PIPING AND VAULT/POCKET WALLS REQUIRED.
- 5) ALL PIPING, FITTINGS, VALVES, VAULTS, BOXES, PITS, ETC. ARE TO BE PRIVATELY MAINTAINED WITH THE EXCEPTION OF THE PUBLIC WATER MAIN AND METERS.
- 6) METER AND DETECTOR CHECK METER TO BE PROVIDED BY THE CITY.

NOTE: THIS DETAIL IS FROM PWSD#2



TEES AND TAPPING  
SLEEVE  
NOT TO SCALE

PLUGS  
NOT TO SCALE



TYPICAL SECTION  
NOT TO SCALE

#### THRUST BLOCK DIMENSIONS - INCHES

PIPE DIA.	ALL FTGS.		TEE PLUG TAPPING		90 DEGREE BEND		45 DEGREE BEND		22-1/2 BEND		11-1/4 BEND	
					C	H	C	H	C	H	C	H
4	A	B	C	H	C	H	C	H	C	H	C	H
6	14	4	24	12	26	15	18	12	12	12	12	12
8	16	6	36	18	36	24	30	18	24	12	12	12
10	20	8	36	30	42	36	24	24	18	18	12	12
12	20	10	48	36	66	36	36	36	28	24	18	18
16	24	12	68	36	82	52	36	40	24	28	18	18

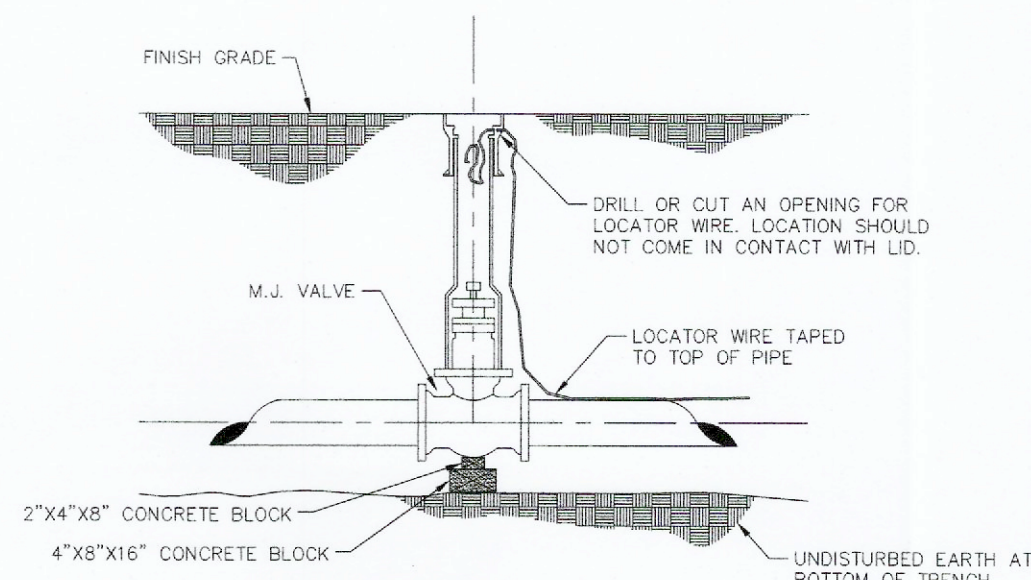
#### NOTE

FOR FITTINGS LARGER THAN 12", SPECIAL RESTRAINT DESIGNS ARE REQUIRED.

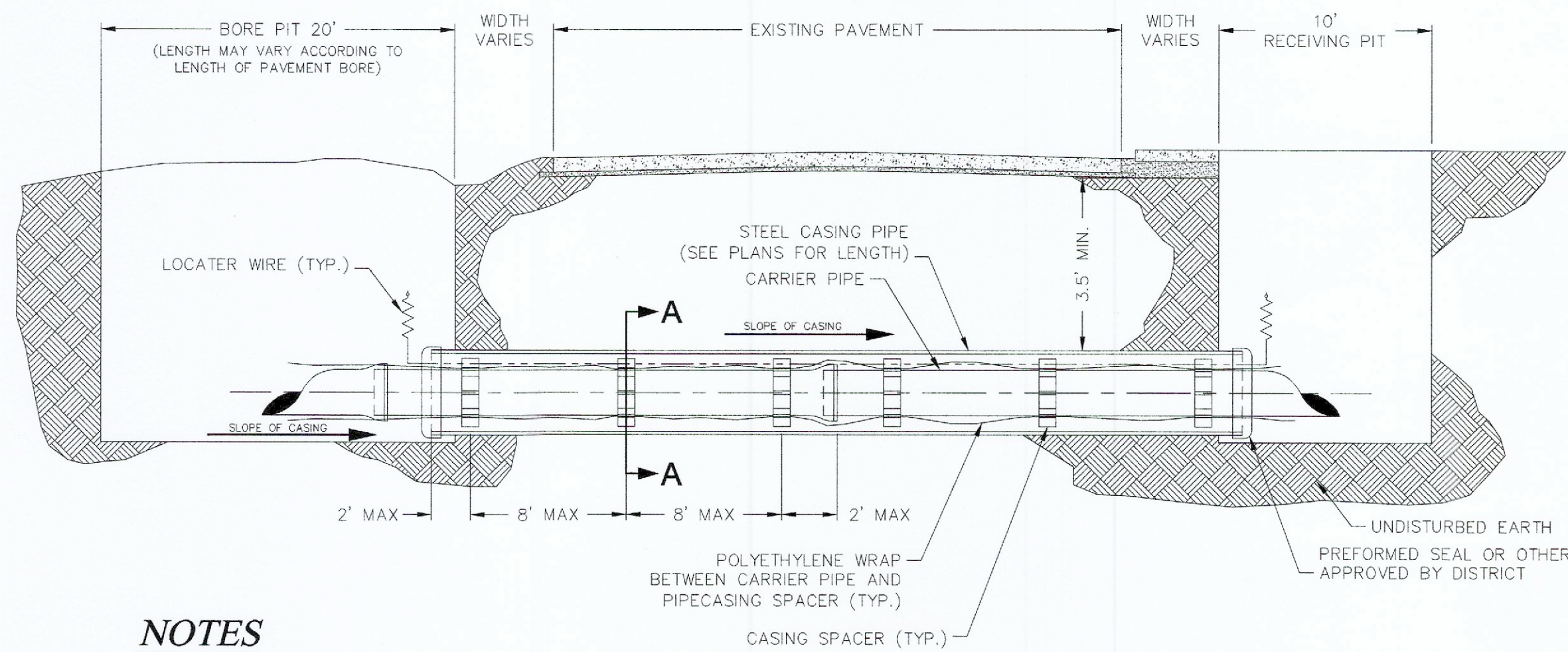
HORIZONTAL THRUST BLOCKING  
DETAIL "C"

NOTE: THIS DETAIL IS FROM PWSD#2

Buffalo box is an acceptable product to use.  
Tyler 562-S and 564-S are acceptable products.



GATE VALVE DETAIL  
NOT TO SCALE  
DETAIL "D"

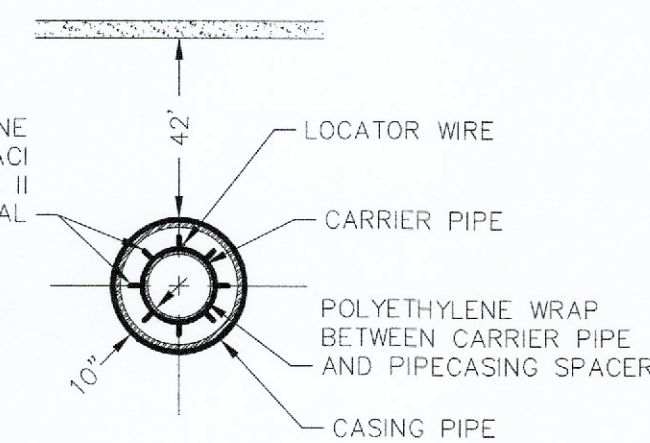


#### NOTES

- A. INSTALLATION OF THE CASING AND CARRIER PIPES SHALL MEET THE REQUIREMENTS OF PUBLIC WATER SUPPLY DISTRICT No. 2 OF ST. CHARLES COUNTY.
- B. CASING PIPES FOR ROAD AND HIGHWAY CROSSINGS SHALL BE WELDED STEEL PIPE WITH A MINIMUM WALL THICKNESS OF 1/4" NON-COATED AND SHALL HAVE A MINIMUM DIAMETER OF 10" LARGER THAN THE NOMINAL SIZE OF THE CARRIER PIPE.
- C. THE CARRIER PIPE SHALL BE RESTRAINED JOINT PIPE.

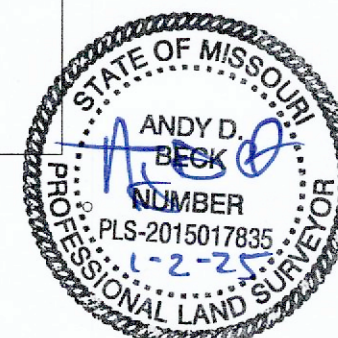
PLAN VIEW  
NOT TO SCALE

HIGH DENSITY POLYETHYLENE  
CASING SPACERS RACI  
TYPE F60, RANGER TYPE II  
OR APPROVED EQUAL



SECTION A-A  
NOT TO SCALE

TYPICAL WATER  
BORE AND ENCASEMENT  
DETAIL "H"



PROJECT TITLE:  
AS-BUILT PLANS FOR:  
PROGRESS WEST LOT 5

ENGINEERING  
PLANNING  
SURVEYING

221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 636-928-1718



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Surveying Authority No. 000144  
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#### REVISIONS

NO.	DESCRIPTION

Developer / Owner:  
MR BATH ELECTRIC  
1040 LIBERTY INDUSTRIAL DR.  
O'FALLON, MO 63366

P+Z No. #23-009249  
APPROVED 09-07-23  
City No. #CSP23-000055

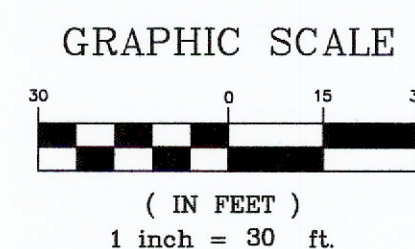
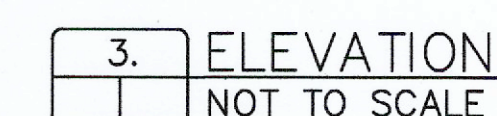
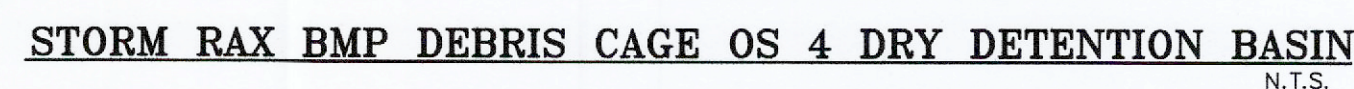
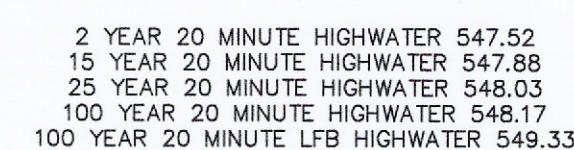
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WATER DETAILS

Box Project #69-3029H Issue Date: 12-08-2023





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#23-009249  
APPROVED 09-07-23

**City No.**  
#CSP23-000055

Page No.

C15

## DETAILS

Bax Project #89-3029H Issue Date: 12-08-2023