

A SET OF AS-BUILT PLANS FOR GRANT WAREHOUSE & STORAGE

A TRACT OF LAND BEING PART OF THE NORTH HALF OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 47 NORTH, RANGE 2 EAST OF THE FIFTH PRINCIPAL MERIDIAN CITY OF O'FALLON ST. CHARLES COUNTY, MISSOURI

Planning and Zoning conditions:

The approval is conditional upon the following Staff recommendations being met:

- There is an existing ingress/egress and utility easement shown at the north end of the site and it cannot be obstructed with any improvements.
- If the number of employees or proposed land use changes from the parking calculation provided, then additional parking spaces will be needed to meet the City Code.
- The applicant shall comply with the municipal code requirements.
- Clarify the fence location.
- Applicant shall remedy all delinquencies and resolve all outstanding obligations to the City with respect to all compliance issues related to Applicant's properties within the City (see Section 100.012 of the Municipal Code).
- Provide typical lot easement per City Code.
- Specify in the development notes which basin provides detention for this site.
- Additional storm water quality, besides sheet run off, may be required to meet storm water quality requirements.
- Please note on the revised plans that the highway easement for the detention basin is in the footprint of the southern building expansion, and the expansion cannot be built as depicted.

The approval is also conditional upon the following Municipal Code requirements being provided in conjunction with the Construction Site Plans:

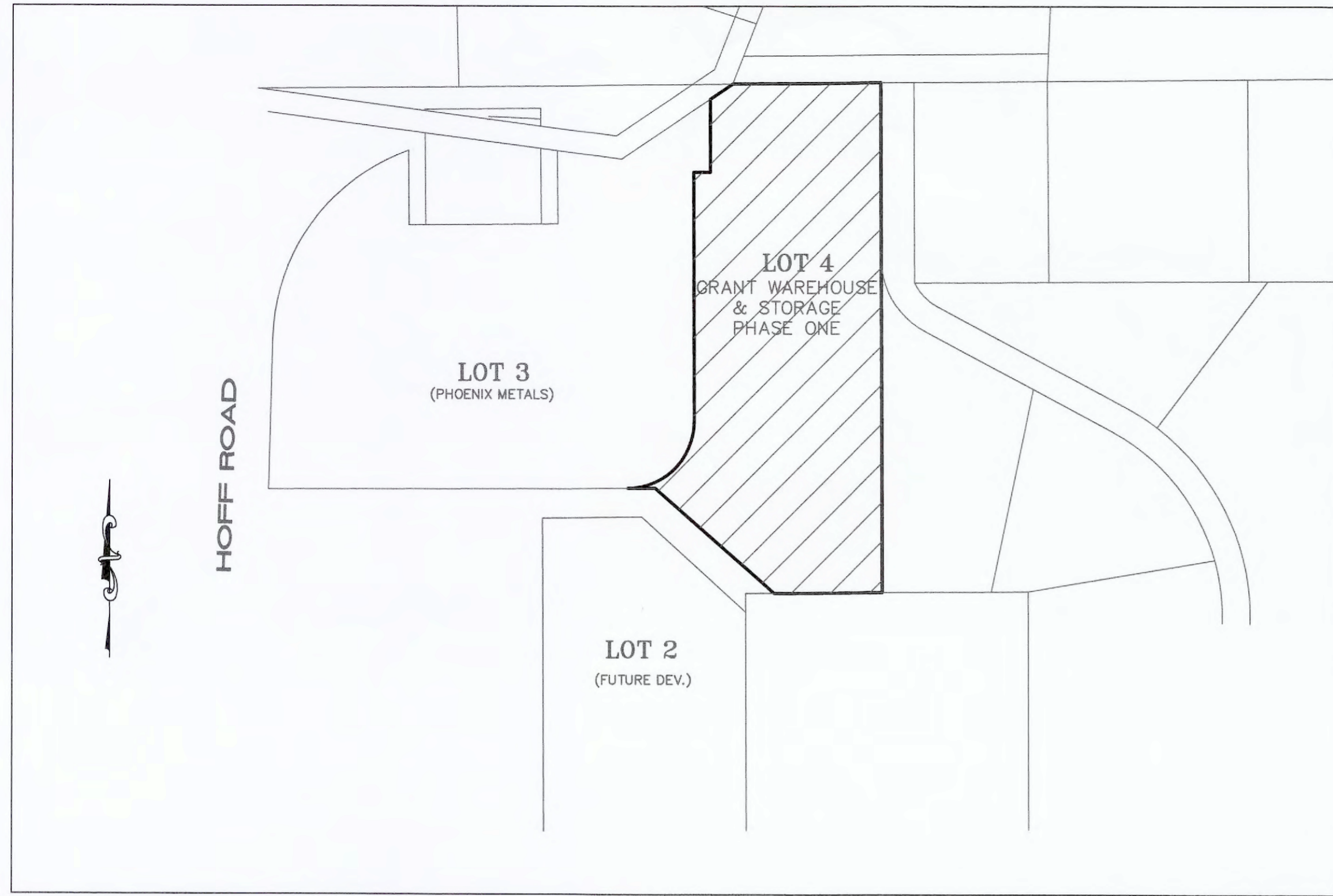
- All signage shall be reviewed and approved through a separate permitting process.
- A 50 foot buffer zone shall be provided adjacent to the residential properties.
- Any equipment or mechanical units shall be screened in accordance with Section 400.278.
- The photometric lighting plans shall be reviewed for accuracy and revised as needed.

Development Notes:

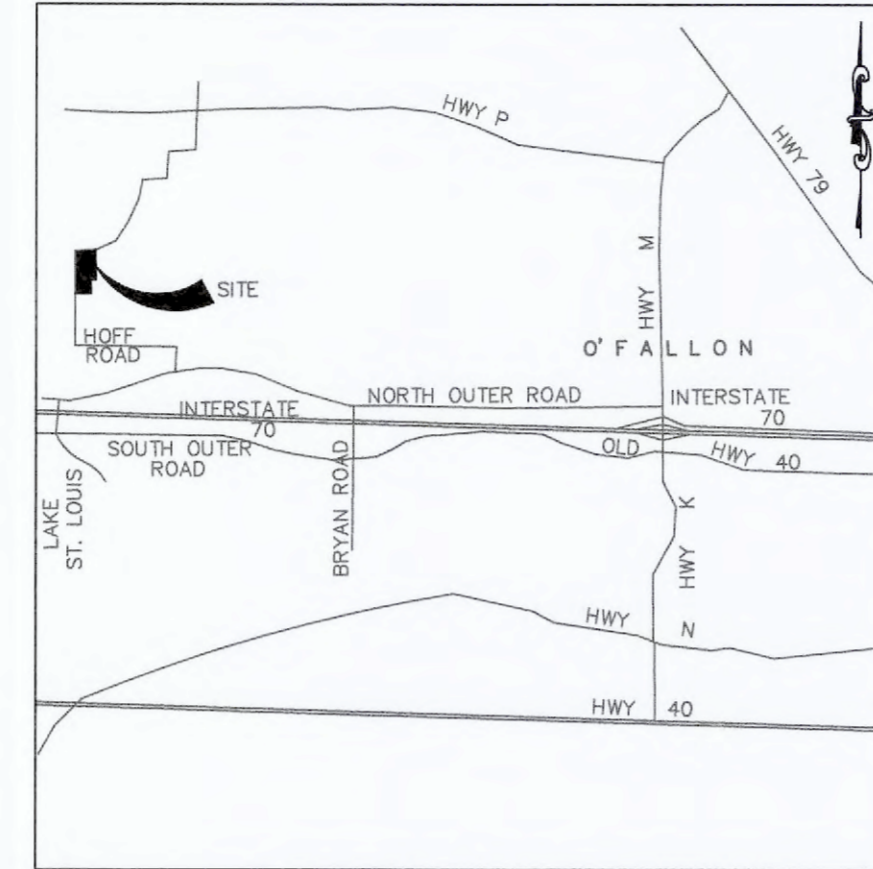
- Area of Tract: 6.917 Acres
- Existing Zoning: I-1 Light Industrial
- Proposed Use: Office/Warehouse (City of O'Fallon)
- Area of Proposed Buildings: 37,300 sq.ft.
- The required height and building setbacks are as follows:
Minimum Front Yard: 30 feet
Minimum Side Yard: 20 feet
Minimum Rear Yard: 35 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 Gas Company 314-522-2297
City of O'Fallon Water 636-281-2858
Century Tel 636-332-7261
O'Fallon Fire Protection District 636-272-3493
Fort Zumwalt School District 636-272-6620
- According to the Flood Insurance Rate Map of St. Charles County, (Community Panel number 2918300210G dated January 20, 2016) this property lies within zone X. Zone X is defined as an area outside the 500 year Flood Plain Limits.
- 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. = 18
Total Parking Provided: = 25
(includes 4 accessible spaces)
- Landscape Requirements:
Street Tree Requirements:
1 tree for every 40' of frontage = 49' / 40' = 2 Trees Required
2 Trees Provided
Open Spaces:
1 tree for every 4,000 s.f. landscaped area.
9,671 s.f. / 4,000 s.f. = 3 Trees Required
4 Trees Provided
Total trees provided = 6
Interior Landscaping Required:
Not less than 6% of interior parking lot shall be landscaped.
26 spaces x 270' x 120' = 828,000 sq.ft. landscaping required
Total 860 sq.ft. landscaping provided

Utility Contacts

Sanitary Sewer	Gas
City of O'Fallon 100 N. Main St. O'Fallon, MO 63366 Contact: 636-281-2858	Spire Gas Company 6400 Graham Road St. Louis, MO 63134 314-522-2297
Water	Telephone
City of O'Fallon 1100 N. Main St. O'Fallon, MO 63366 Contact: 636-281-2858	Century Tel 1151 Century Tel Dr. Wentzville, MO 63385 636-332-7261
Storm Sewer	Charter Communications
City of O'Fallon 100 N. Main St. O'Fallon, MO 63366 636-281-2858	941 Charter Commons Town & Country, MO 63017 636-387-6633
Ameren UE	Fire Department
200 Callahan Road Wentzville, MO 63385 636-639-8312	O'Fallon Fire Protection District 119 E. Elm St. O'Fallon, MO 63366 636-272-3493



Plan View



Locator Map

Benchmarks Project

BENCHMARK:
RM46 ELEV. 469.17 - "CHISELED SQUARE" ON TOP OF ABUTMENT AT SOUTHWEST CORNER OF HOFF ROAD BRIDGE OVER PERUQUE CREEK. THIS BENCHMARK HAS BEEN REPLACED FROM NEW BRIDGE CONSTRUCTION AT THIS TIME.

BENCHMARK:
ELEV. 577.42 - "O" IN OPEN ON FIRE HYDRANT ON EAST SIDE OF HOFF ROAD. 40' EAST OF CL OF HOFF ROAD AND 90' NORTH OF ENTRANCE FOR 1010 HOFF ROAD.

Site

VEGETATION ESTABLISHMENT For Urban Development Sites APPENDIX A

SEEDING RATES:
PERMANENT: Tall Fescue - 150 lbs./ac. Smooth Brome - 100 lbs./ac. Combined - Fescue @ 75 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 August 1 to October 1 Wheat or Rye - March 15 to November 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.

Legend

600.00	EXISTING LABELS	EXIST. SINGLE CURB INLET
600.00	PROPOSED LABELS	EXIST. AREA INLET
CI	SINGLE CURB INLET	PROPOSED SINGLE CURB INLET
DCI	DOUBLE CURB INLET	PROPOSED AREA INLET
AI	AREA INLET	PROPOSED GRATE INLET
DAI	DOUBLE AREA INLET	EXIST. SANITARY MANHOLE
GI	GRATE INLET	EXIST. STORM MANHOLE
DGI	DOUBLE GRATE INLET	POWER POLE
MH	MANHOLE	GUY WIRE
FE	FLARED END SECTION	LIGHT STANDARD
EP	END PIPE	FIRE HYDRANT
CP	CONCRETE PIPE	WATER METER
RCP	REINFORCED CONCRETE PIPE	WATER VALVE
OMP	CORRUGATED METAL PIPE	GAS VALVE
CPP	CORRUGATED PLASTIC PIPE	TELEPHONE PEDESTAL
PVC	POLY VINYL CHLORIDE (PLASTIC)	SIGN
CO	CLEAN OUT	TREE
.....	SLOPE LIMITS	
---	DRAINAGE SWALE	
---	EXISTING STORM SEWER	
---	EXISTING SANITARY SEWER	
---	EXISTING WATER LINE	
---	EXISTING FIBER OPTIC LINE	
---	EXISTING GAS LINE	
---	EXISTING UNDERGROUND ELECTRIC	
---	EXISTING OVERHEAD ELECTRIC	
---	EXISTING CABLE TV LINE	
---	EXISTING TELEPHONE LINE	
---	PROPOSED STORM SEWER	
---	PROPOSED SANITARY SEWER	
---	FENCE LINE	
---	SAWCUT LINE	

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- 7 POST-DEVELOPED DRAINAGE AREA MAP
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GRADING QUANTITIES:
1,954 C.Y. CUT

THE ABOVE GRADING QUANTITY IS APPROXIMATE ONLY, NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

IT IS THE INTENTION OF THE ENGINEERING FOR THE EARTHWORK TO BALANCE ON-SITE. THE ENGINEER SHALL BE NOTIFIED IF ANY DIFFICULTIES ARISE IN ACHIEVING THE BALANCE.



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

* 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

* The area of this phase of development is 6.92 Acres
The area of land disturbance is 2.77 Acres

Building setback information:
Front 30 feet
Side 20 feet
Rear 35 feet
Max. Building Height 50 feet

* The estimated sanitary flow in gallons per day is 4,440 g.p.d.

* Differential Runoff Calculations:
Existing Runoff = 0.36 Ac. x 3.50(1.26cfs) + 6.56 Ac. x 1.70(11.50fs) = 12.41cfs
Proposed Runoff = 2.02 Ac. x 3.50(7.07cfs) + 4.90 Ac. x 1.70(8.33cfs) = 15.40cfs
Increased Runoff = 2.99cfs

City approval of any 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 codes.
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, they shall make such changes at their 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 improvement 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 Inspector.
Lighting values will be reviewed on site prior to the final occupancy inspection.

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: Jamie Greenlee DATE: 01/21/2021
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

AS-BUILT LEGEND

A.B.	AS-BUILT
EMR	AS-BUILT ELECTRIC METER
GM	AS-BUILT GAS METER
DS	AS-BUILT DOWNSPOUT
TP	AS-BUILT TELECOMMUNICATIONS PEDESTAL
TE	AS-BUILT TELEPHONE BOX
TC	AS-BUILT CABLE TV BOX
WV	AS-BUILT WATER VALVE
FW	AS-BUILT FIRE HOSE CONNECTION
SM	AS-BUILT SANITARY MANHOLE

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES, WATER QUALITY AREAS, DETENTION BASIN, PAVEMENT, AND BUILDING 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 SERVICE LINES, WATER METERS AND FIRE HOSE CONNECTION.
- GAS METER AND GAS LINE.
- ELECTRIC TRANSFORMER, ELECTRIC METER.
- TELEPHONE COMMUNICATION PEDESTALS, TELEPHONE BOX.
- DETENTION BASIN "A", WATER QUALITY AREA 1 AND WATER QUALITY AREA 2.
- ONE STORY METAL BUILDING.
- CONCRETE PAVEMENT AND PARKING STALLS.

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

SIGNED:
P.E./L.S.



PROJECT TITLE:

GRANT WAREHOUSE & STORAGE AS-BUILT PLANS

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-6562
FAX 636-928-1718



DISCLAIMER OF RESPONSIBILITY
I hereby certify that the documents intended to be authorized by my seal are limited to this sheet, 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.

REVISIONS

01/18/21	CITY COMMENT REVS.

Developer / Owner:
MUSM, L.L.C.
2209 DROSTE ROAD
ST. CHARLES, MO 63301
636-949-0680

COVER SHEET

P+Z No. #1407.06.01
Approved September 5, 2019
City No. 19-007140

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Exam Project # 01-1169JF Issue Date: 09/22/2020

COMMERCIAL

GENERAL NOTES

- GN #1 Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet supports
GN #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.
GN #3 Truncated domes for curb ramps located in public right of way shall meet ADA requirements and shall be constructed using red pre cast truncated domes per pavement details.
GN #4 Any proposed pavilions or playground areas will need a separate permit from the Building Division.
GN #5 The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities.
GN #6 All proposed utilities and/or utility relocations shall be located underground.
GN #7 All proposed fencing requires a separate permit through the Planning and Development Division.
GN #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.
GN #9 All free standing signs shall be located a minimum of ten (10) feet away from any right of way line and/or property line and a minimum of three (3) feet from the back of curbing or sidewalk.
GN #10 All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division.
GN #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.
GN #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.
GN #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.

Erosion Control Notes

- EN #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).
EN #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.
EN #3 Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with St. Charles County Soil and Water Conservation District Erosion and Sediment Control guidelines.
EN #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.
EN #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.

Grading Notes

- GRN #1 Developer must supply City construction inspectors with 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.
GRN #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.
GRN #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.
GRN #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.
GRN #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.
GRN #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.
GRN #7 All low places whether on site or off shall be graded to provide drainage with temporary ditches.
GRN #8 All existing wells on site shall be capped per DNR standards.

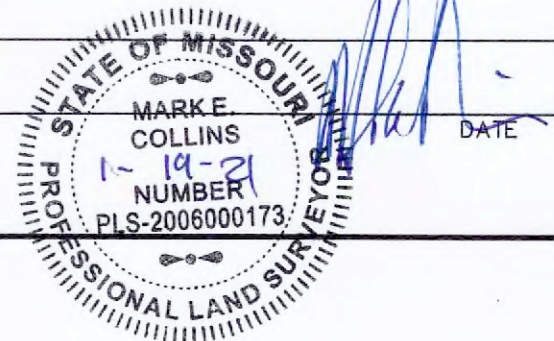
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CONCRETE PAVEMENT AND PARKING STALLS.

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SIGNED: P.E./L.S. DATE



Grading Notes Continued

- GRN #10 All trench back fills under paved areas shall be granular back fill, and compacted mechanically.
a) Depth, Trench back fills 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.
b) Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
c) 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.
d) Surface Bridging, The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to saturate and arch over the trench rather than collapse and consolidate during the jetting process).
GRN #11 Site grading.
a. 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.
b. 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.

Sanitary Sewer Notes

- SAN #1 All sanitary sewer installation is to be in accordance with current M.S.D. standards and specifications except as modified by the City of O'Fallon Ordinances.
SAN #2 Brick shall not be used in the construction of sanitary sewer structures.
SAN #3 Connections at all sanitary structures are to be made with A-Loak joint or equal.
SAN #4 All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter pipe.
SAN #5 All sanitary mains shall be a minimum of 8" diameter pipe.
SAN #6 All sanitary sewer line with a slope greater than 20% will require concrete cradle or concrete collar.
SAN #7 All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
SAN #8 All sanitary sewer mains must have a minimum of 42" cover.
SAN #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.
SAN #10 Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer.
SAN #11 The sanitary sewers should run diagonally through the side yards to minimize any additional utility easements required.
SAN #12 All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10CSR-B.120 (7)(E).
SAN #13 All sanitary sewer pipe shall be SDR35 or equal.
SAN #14 All sanitary sewer manholes and pipes will be tested to the following specifications.
SAN #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

- STM #1 All Storm Sewer installation is to be in accordance with current M.S.D. standards and specifications except as modified by the City of O'Fallon ordinances.
STM #2 Brick shall not be used in the construction of storm sewer structures.
STM #3 A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
STM #4 HDPE pipe is to be N-12WT or equal and to meet ASTM F1417 water tight field test.
STM #5 Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer.
STM #6 The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
STM #7 All concrete pipes will be installed with O-ring rubber type gaskets.
STM #8 Connections at all storm structures are to be made with A-loak joint or equal.
STM #9 Pre cast concrete inlet covers are not to be used.
STM #10 The swale in the detention basins shall have a minimum 1% longitudinal slope and be lined with a permanent erosion control blanket that will allow infiltration of storm water.
STM #11 All storm sewer shall be reinforced concrete pipe or H.D.P.E. pipe.
STM #12 The discharge point of all flared end sections shall be protected by rip rap or other approved means.
STM #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.
STM #14 Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.

Water Notes

- WN #1 Fire hydrants shall be a maximum of 600' apart.
WN #2 Coordinate with the water company on the location of water meters.
WN #3 All water main must have a minimum of 42" of cover.
WN #4 Provide water valves to isolate the system.
WN #5 All water mains shall be class 200 SDR 21 or equal with locator/tracer wires.
WN #6 DISINFECTING:
WN #7 PRESSURE TESTING:
WN #8 All taps for valves, meters, and manholes are to be constructed to within 1 inch (0.08') of finish grade.

Water Notes

- WN #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.

Roadway Notes

- RN #1 All paving (public and private) to be in accordance with the current St. Louis County Standards and Specifications except as modified by the City of O'Fallon ordinances.
RN #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.
RN #3 Provide 6" of concrete over 4" of MoDot type 1 or type 5 aggregate rock or asphalt equivalent for minor residential streets per City Code 405.370.
RN #4 Multi-use trail (when required) shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.
RN #5 Type C (BP-1) Compaction requirements shall be 98% minimum density according to St. Charles Co. Standard Specifications.
RN #6 Provide pavement striping at any point where the multi-use trail crosses existing or proposed pavement.
RN #7 All street stub-outs over 250' in length will require a temporary turnaround.
RN #8 All sub grade in cut or fill will need to conform to the City of O'Fallon Compaction requirements.
RN #9 Material Testing And Frequency.
RN #10 Approval Of Sub grade And Base (Sub base).
RN #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.
RN #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.
RN #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.
RN #14 Sub grade and base beneath pavements shall be compacted to St. Charles County Highway Department specifications.
RN #15 The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer.
RN #16 Utility Work Prior To Base Construction.
RN #17 Equipment calibration.
RN #18 All permanent traffic control will be per M.U.T.C.D. or MoDot standards.
RN #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).

Flood plain Information

FP #1 A flood plain development application from the City is required for any work within the flood plain limits.

Retaining Walls: Terraced and Vertical

- RW #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.
RW #2 Retaining walls will not be allowed in public right-of-way without written approval from the City Engineer.
RW #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.
RW #4 Retaining walls that alter the channeled 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.
RW #5 See section 405.275 of the City code for additional design requirements.

PROJECT TITLE: GRANT WAREHOUSE & STORAGE & STORAGE AS-BUILT PLANS



DISCLAIMER OF RESPONSIBILITY: I hereby certify that the documents intended to be authenticated by my seal are limited to this sheet, 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.


Table with columns: DATE, QTY, COMMENT, REVS. (Revision table)

Developer / Owner: MJS&M, L.L.C. 2209 DROSTE ROAD ST. CHARLES, MO 63301 636-949-0680

P+Z No. #1407.06.01 Approved September 5, 2019 City No. 19-007140

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ENGINEERING SURVEYING
 221 Point West Blvd.
 St. Charles, MO 63301
 636-429-5552
 FAX 636-429-1716



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REVISIONS

DATE	BY	COMMENT	REVS.
01/18/21	QTY	COMMENT	REVS.

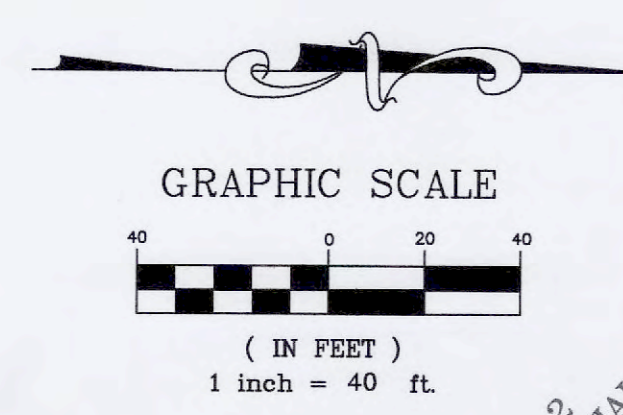
Developer / Owner:
 MJSM, L.L.C.
 2209 DROSTE ROAD
 ST. CHARLES, MO 63301
 636-949-0680

SITE PLAN

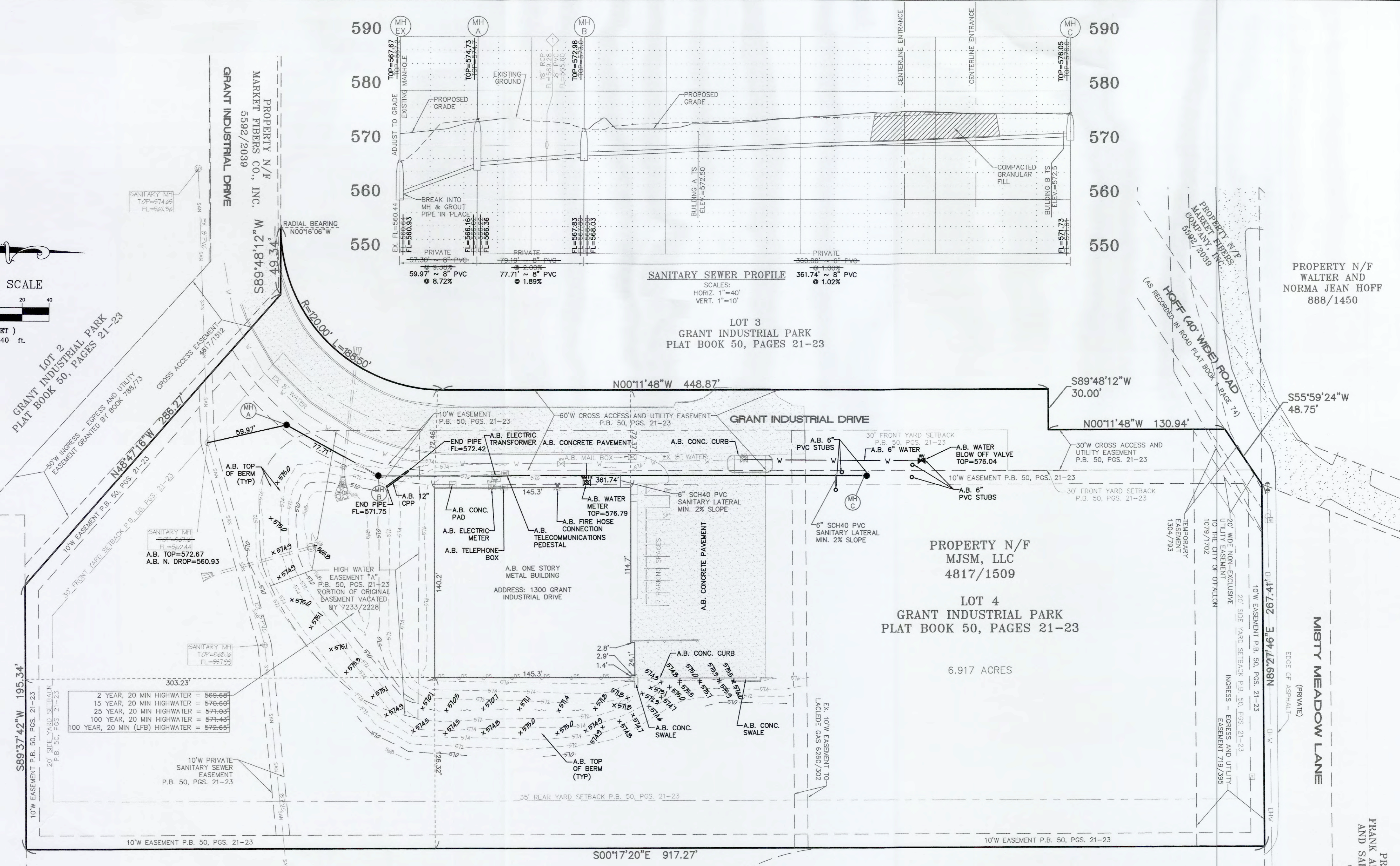
P+Z No. #1407.06.01
 Approved September 5, 2019

City No. 19-007140

Page No. 3 of 11



PROPERTY N/F
 GAR KAR HOLDINGS, L.L.C.
 5432/481



2 YEAR, 20 MIN HIGHWATER = 569.69
 15 YEAR, 20 MIN HIGHWATER = 570.69
 25 YEAR, 20 MIN HIGHWATER = 571.95
 100 YEAR, 20 MIN HIGHWATER = 574.43
 100 YEAR, 20 MIN (LFB) HIGHWATER = 572.85

LANDSCAPE LEGEND

QTY. (4)	SUGAR MAPLE	ACER SACCHARUM	MINIMUM 2-1/2" CALIPER - MATURE GROWTH 45'
QTY. (2)	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	MINIMUM 6' IN HEIGHT - MATURE GROWTH 25'
QTY. (14)	BOXWOOD	BUXUS 'GREEN GEM' 18"	MINIMUM (3-5 GALLON)

ALL TREES SHALL BE DECIDUOUS AT MIN. CALIPER MEASURED 1 FOOT ABOVE GRADE AT 2.5 INCHES. ALL SHRUBS SHALL BE 5 GALLON CONTAINER AND NOT LESS THAN 18 INCHES IN HEIGHT. LANDSCAPING AS DEPICTED IS SUBJECT TO FINAL DESIGN BY A QUALIFIED LANDSCAPE DESIGNER


AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES, WATER QUALITY AREAS, DETENTION BASIN, PAVEMENT, AND BUILDING HAVE BEEN LOCATED AND MEASURED AND THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS:

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- WATER SERVICE LINES, WATER METERS AND FIRE HOSE CONNECTION.
- GAS METER AND GAS LINE.
- ELECTRIC TRANSFORMER, ELECTRIC METER.
- TELEPHONE COMMUNICATION PEDESTALS, TELEPHONE BOX.
- DETENTION BASIN "A", WATER QUALITY AREA 1 AND WATER QUALITY AREA 2.
- ONE STORY METAL BUILDING.
- CONCRETE PAVEMENT AND PARKING STALLS.

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SIGNED: _____ DATE: _____
 P.E./L.S.



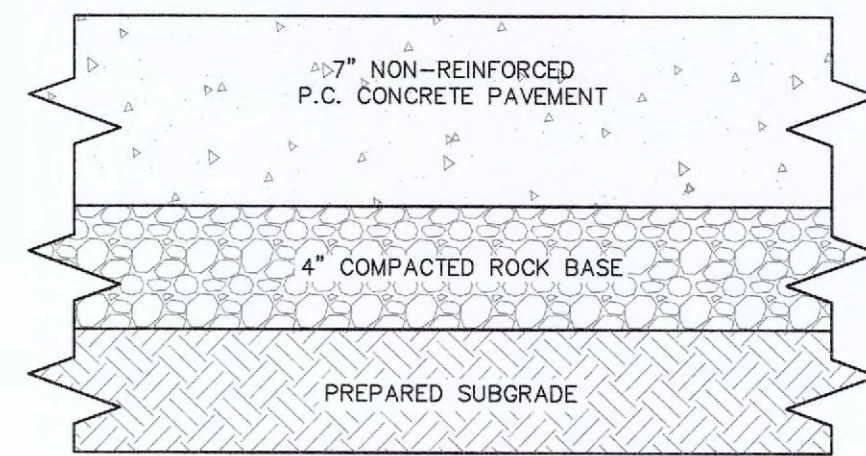

CALL BEFORE YOU DIG!
 1-800-DIG-RITE

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.

Site Address: 1300 & 1400 Grant Industrial Drive

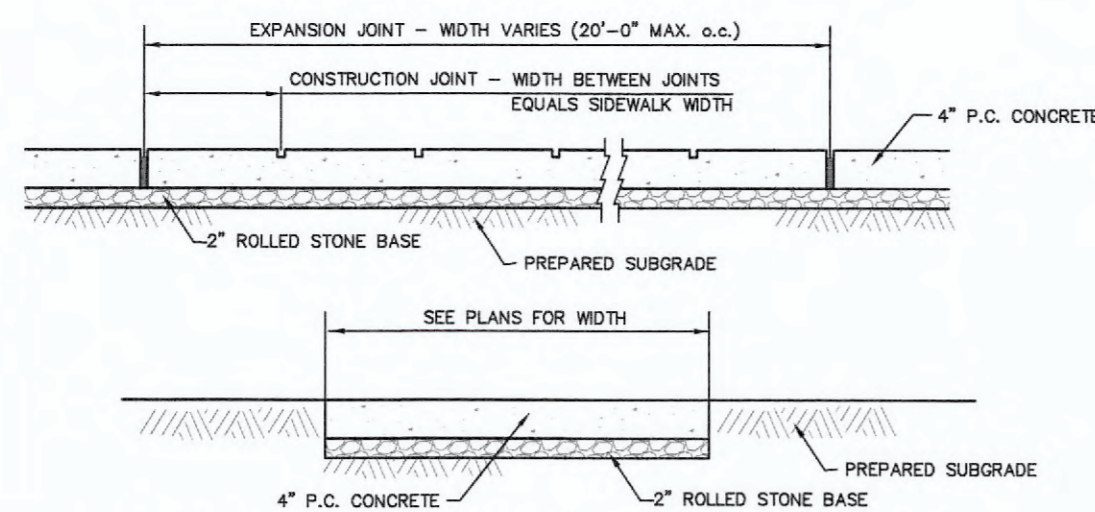
PROPERTY N/F
 FRANK AND MARILYN MEIER
 AND SARAH L. STOVERINK
 6677/2008

PROPERTY N/F
 RONALD AND
 CAROL SATTELE
 864/522



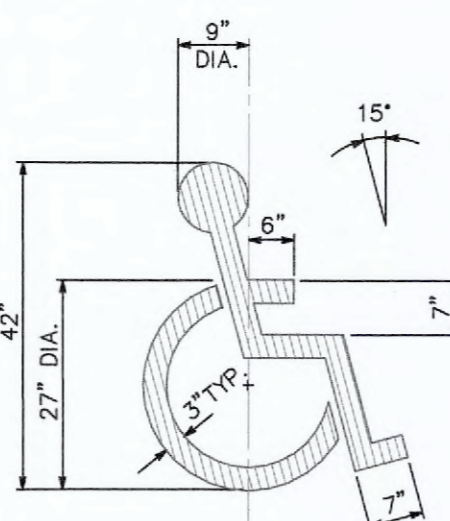
ONSITE PAVEMENT DETAIL
NOT TO SCALE

- NOTE:
1. ALL GRANULAR ROLLED STONE BASE UNDER PROPOSED CONCRETE MUST BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO-99.
 2. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI IN 28 DAYS.



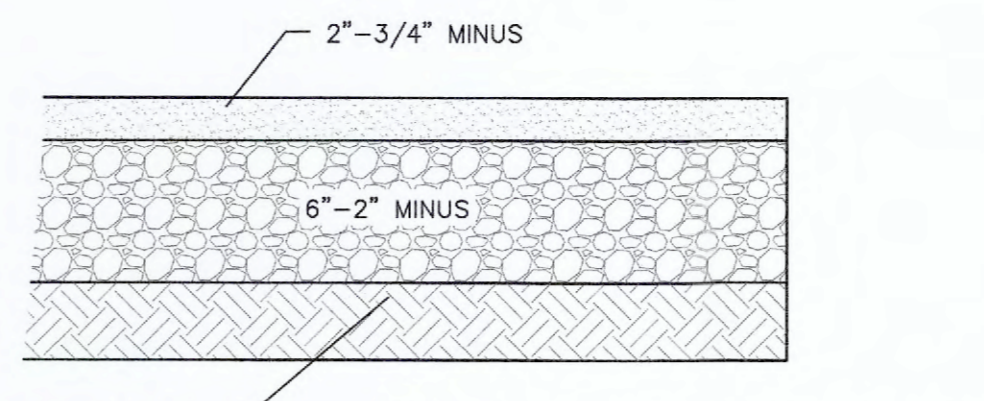
CONCRETE SIDEWALK DETAIL
NOT TO SCALE

* ALL GRANULAR ROLLED STONE BASE UNDER PROPOSED CONCRETE MUST BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO-99. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI IN 28 DAYS.



PAINTED ACCESSIBLE PARKING SYMBOL
NOT TO SCALE

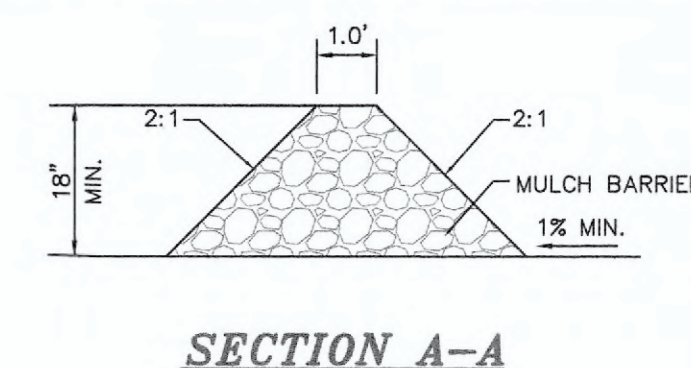
NOTE: All painted ADA symbols and ADA parking striping shall be blue.



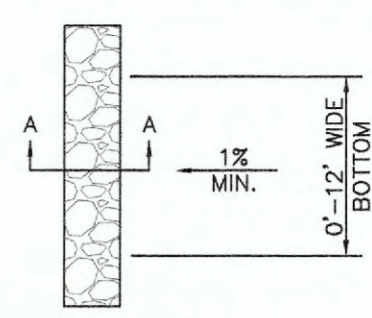
GRAVEL LOT DETAIL
NOT TO SCALE

GRASS SWALE NOTES

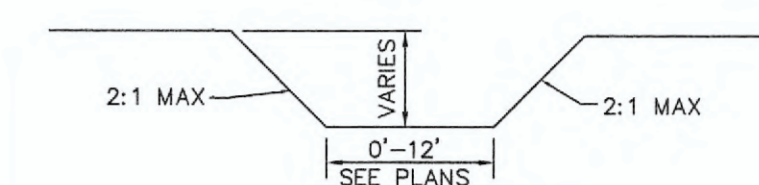
1. A dense cover of water-tolerant, erosion-resistant grass or other vegetation must be established using either sod or seeding with erosion control matting.
2. Recommended grasses include, but are not limited to the following: Prairie Cordgrass, Prairie Dropseed, reed canary grass, redtop and rough-stalked blue grass. Note that these grasses can be mixed.
3. Maintain a minimum of 6" grass height or greater in swale.
4. Construction standards and specifications should comply with the City of Fallon Standards.
5. Swale should initially be excavated to within 6" of finish grade. Final grade excavation shall be deferred until all disturbed areas in the watershed have been stabilized. Final excavation shall remove all accumulated sediment.
6. When final grading is completed, the swale bottom should be filled with rotary tillers or disc harrows to provide a well aerated surface.
7. Soils for swale area should consist of: SL, ML, SM, or SC type materials.
8. Mulch barrier shall be removed after construction complete and rock check dam installed. (see detail on sheet 9)



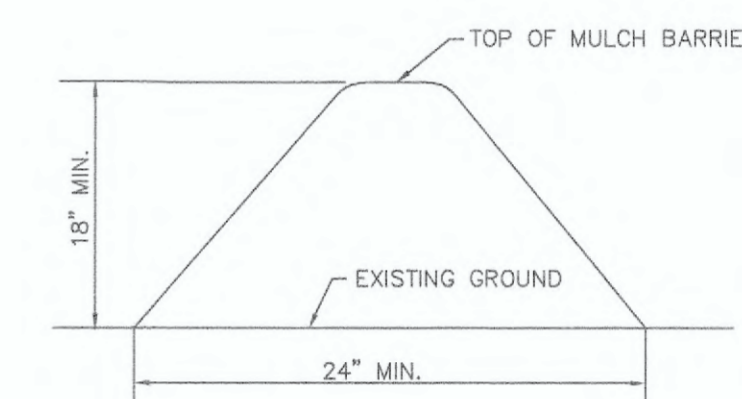
SECTION A-A



GRASS SWALE PLAN

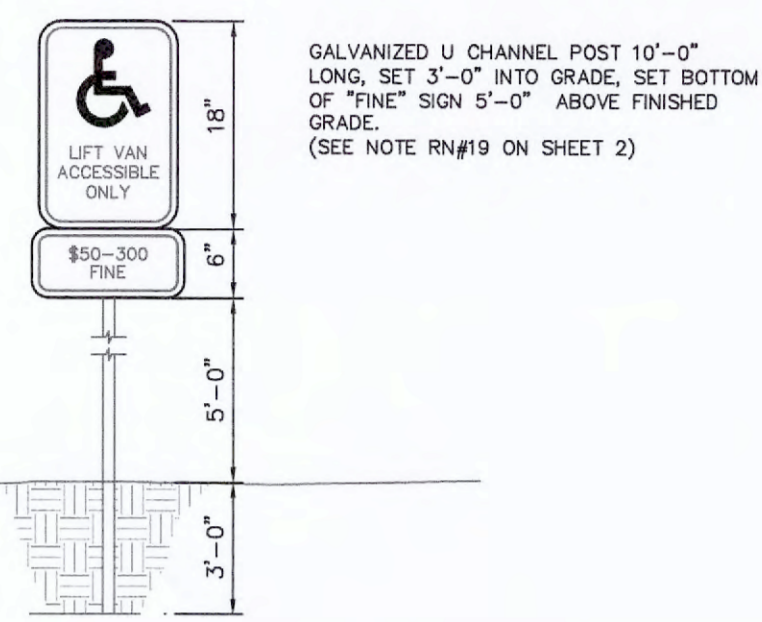


GRASS SWALE SECTION



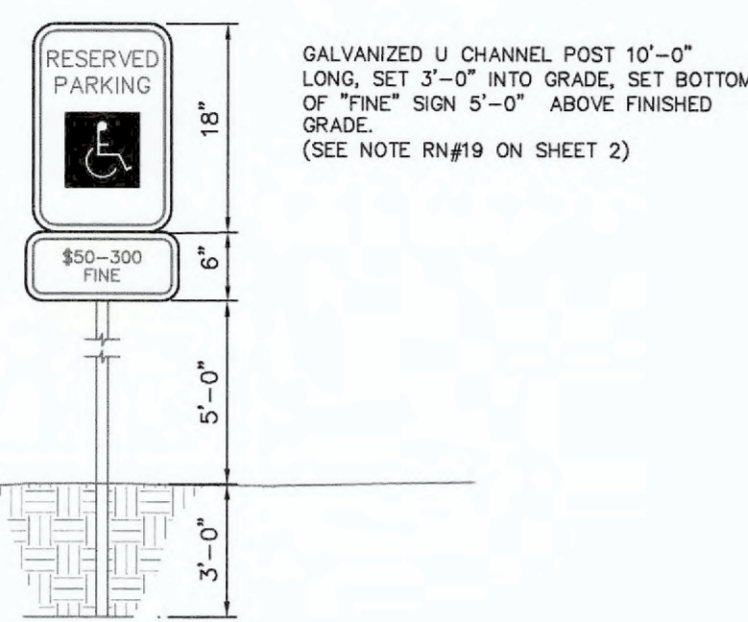
MULCH SEDIMENT BARRIER
NOT TO SCALE

NOTE: CONTRACTOR TO USE MULCH FROM ONSITE CLEARING OPERATIONS WHEN POSSIBLE.



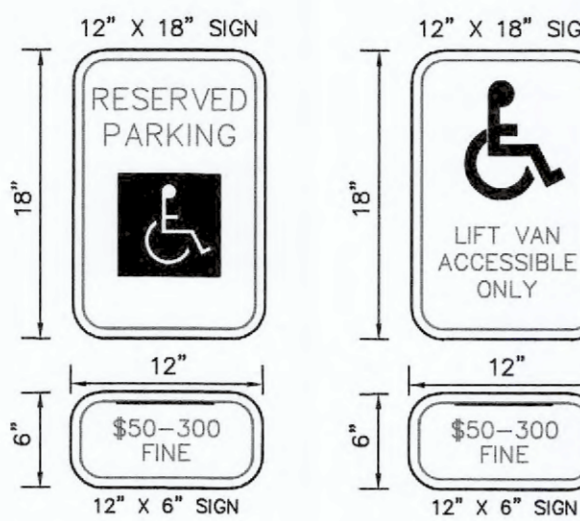
LIFT VAN ACCESSIBLE ONLY PARKING SIGN
NOT TO SCALE

GALVANIZED U CHANNEL POST 10"-0" LONG, SET 3"-0" INTO GRADE, SET BOTTOM OF "FINE" SIGN 5"-0" ABOVE FINISHED GRADE. (SEE NOTE RN#19 ON SHEET 2)

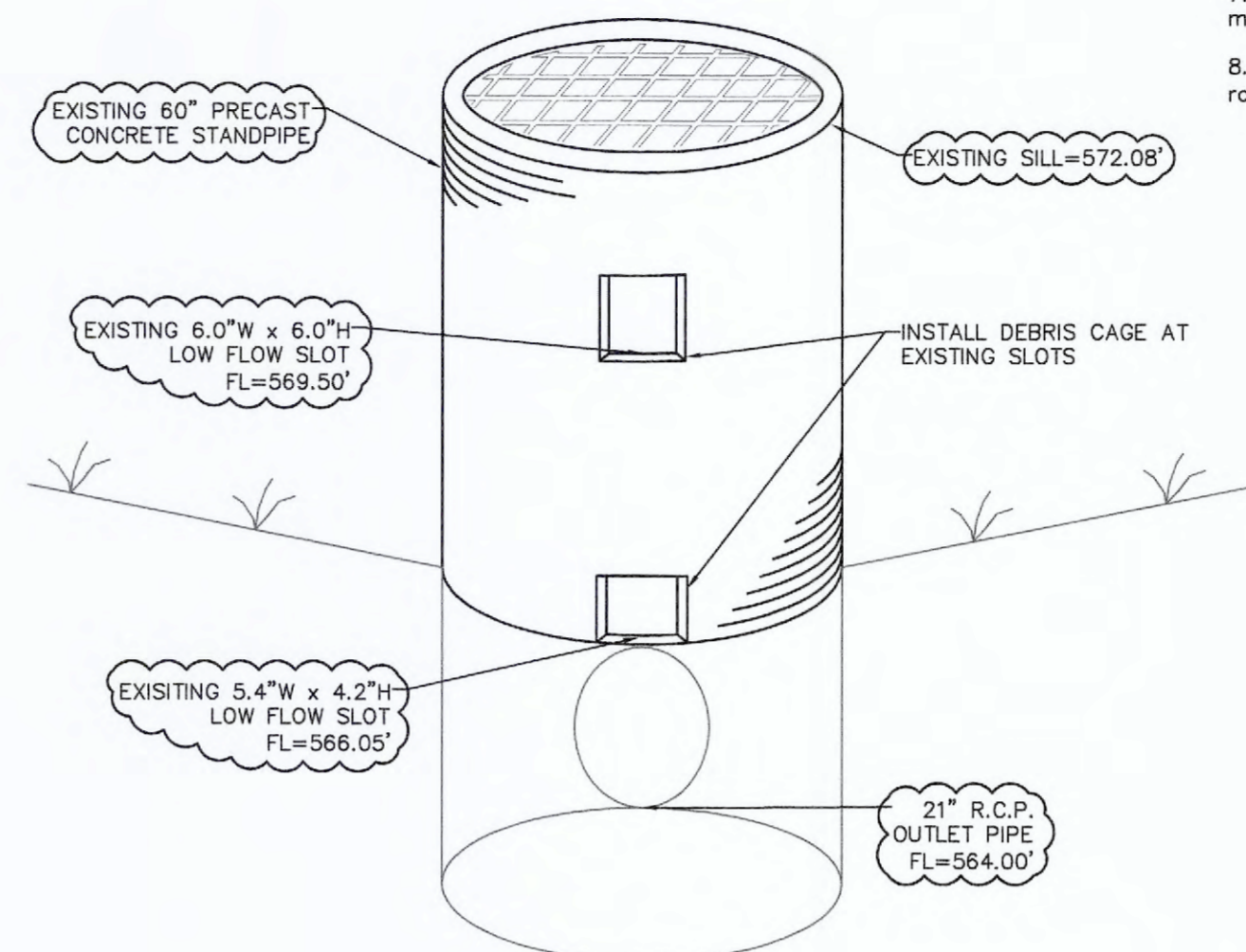


ACCESSIBLE VEHICLE PARKING SIGN
NOT TO SCALE

GALVANIZED U CHANNEL POST 10"-0" LONG, SET 3"-0" INTO GRADE, SET BOTTOM OF "FINE" SIGN 5"-0" ABOVE FINISHED GRADE. (SEE NOTE RN#19 ON SHEET 2)

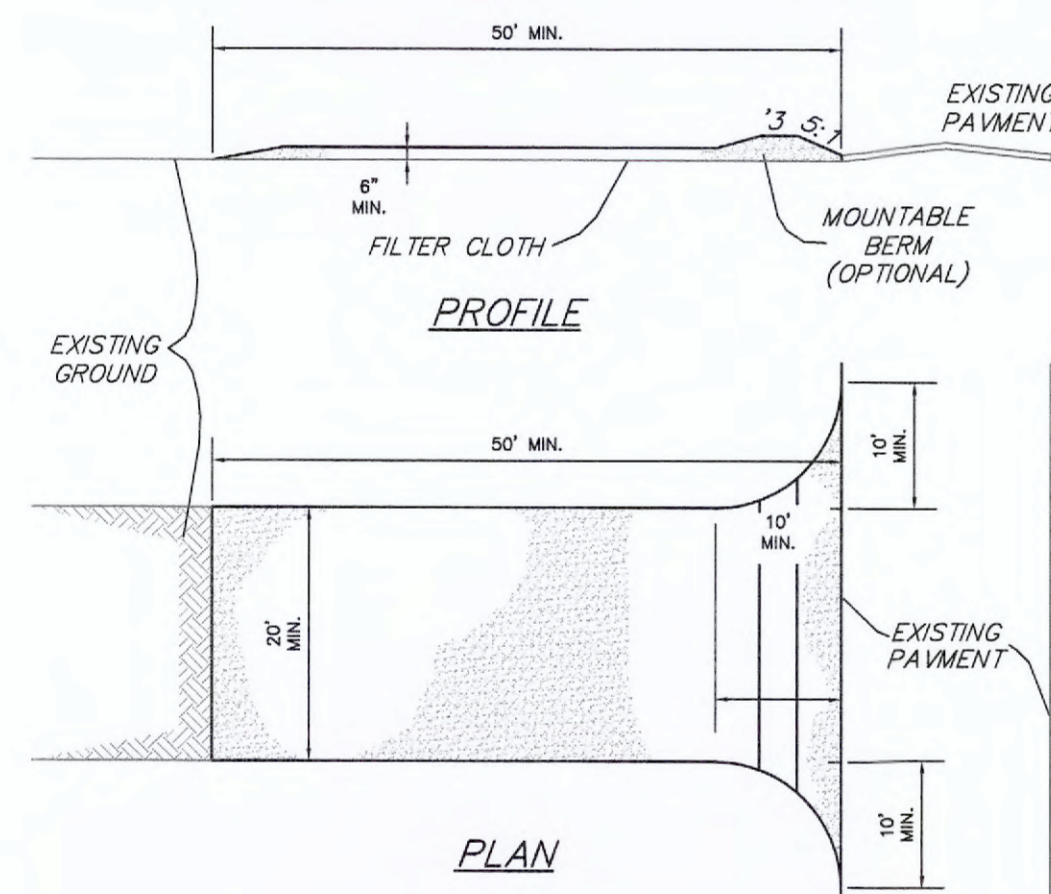


ACCESSIBLE PARKING SIGNS
NOT TO SCALE



EXISTING OVERFLOW STRUCTURE DETAIL
NOT TO SCALE

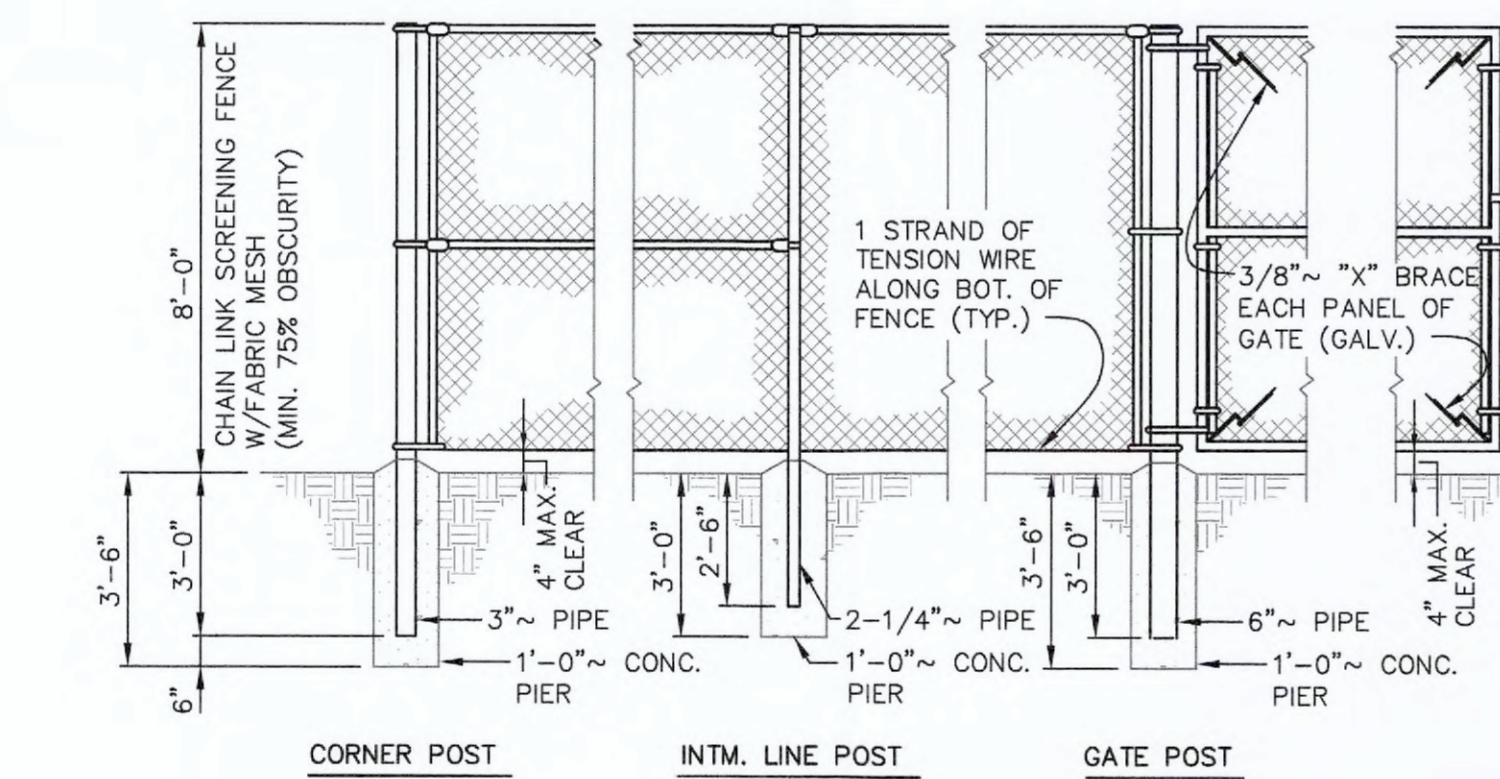
- 2 YEAR, 20 MIN HIGHWATER = 569.68'
- 15 YEAR, 20 MIN HIGHWATER = 570.60'
- 50 YEAR, 20 MIN HIGHWATER = 571.03'
- 100 YEAR, 20 MIN HIGHWATER = 571.43'
- 100 YEAR, 20 MIN (LFB) HIGHWATER = 572.65'



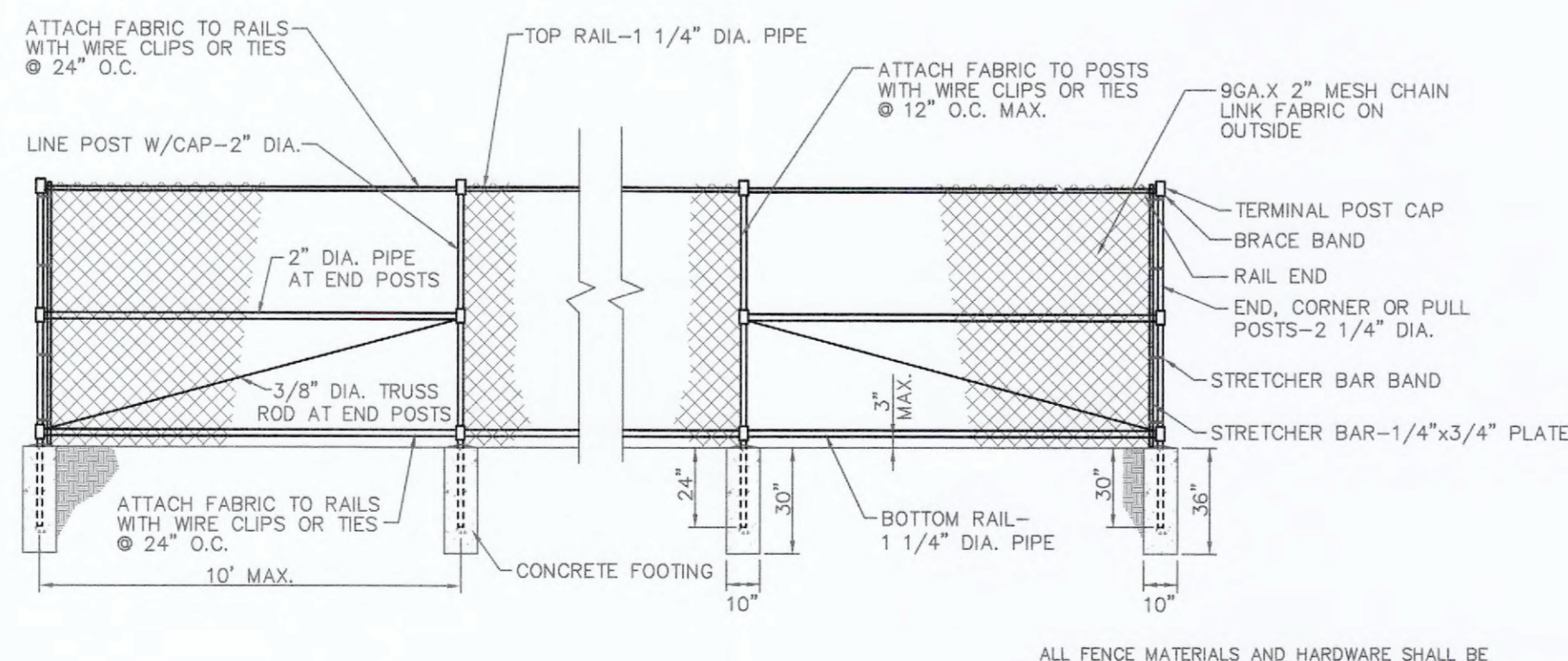
CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Twenty (20) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE/WASHDOWN AREA
NOT TO SCALE

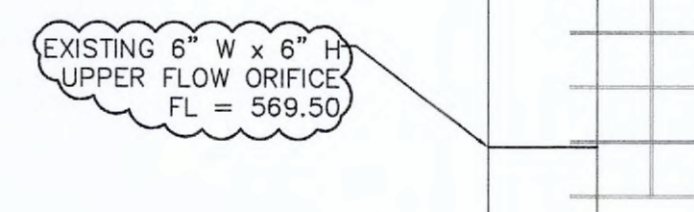


FENCE DETAIL
NOT TO SCALE



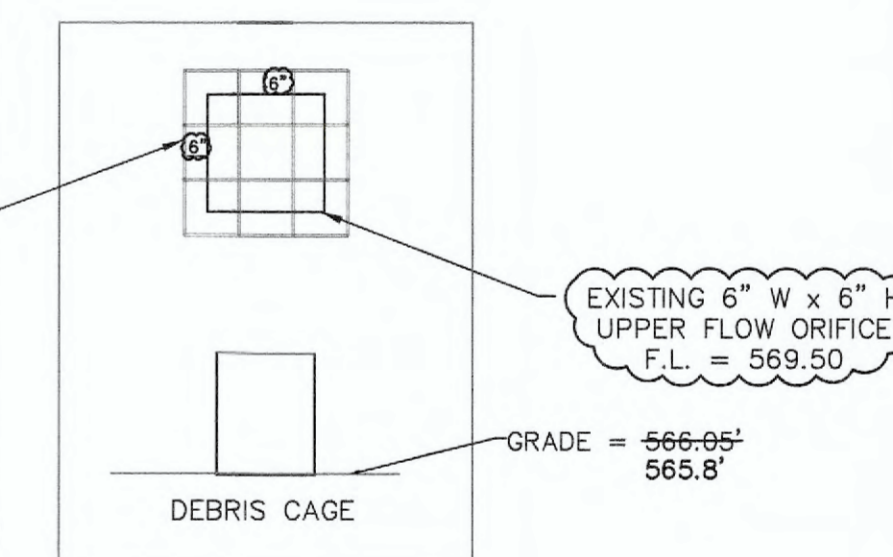
6'H. CHAINLINK FENCE ELEVATION
NOT TO SCALE

ALL FENCE MATERIALS AND HARDWARE SHALL BE IN ACCORDANCE WITH MDOOT SPECIFICATIONS



UPPER ORIFICE DEBRIS CAGE
N.T.S.

18" W x 18" H DEBRIS CAGE #3 BARS BOLTED IN FOUR PLACES TO OUTFALL STRUCTURE WALL. 3" MAXIMUM SPACING OF REBAR, CAGE TO EXTEND A MINIMUM OF 6" FROM FACE OF STRUCTURE.



LOWER ORIFICE DEBRIS CAGE
N.T.S.

18" W x 11" H DEBRIS CAGE #3 BARS BOLTED IN FOUR PLACES TO OUTFALL STRUCTURE WALL. 3" MAXIMUM SPACING OF REBAR, CAGE TO EXTEND A MINIMUM OF 6" FROM FACE OF STRUCTURE.

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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SIGNED:
P.E./L.S.



Site Address: 1300 & 1400 Grant Industrial Drive

PROJECT TITLE:
GRANT WAREHOUSE & STORAGE AS-BUILT PLANS



DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, 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.

REVISIONS

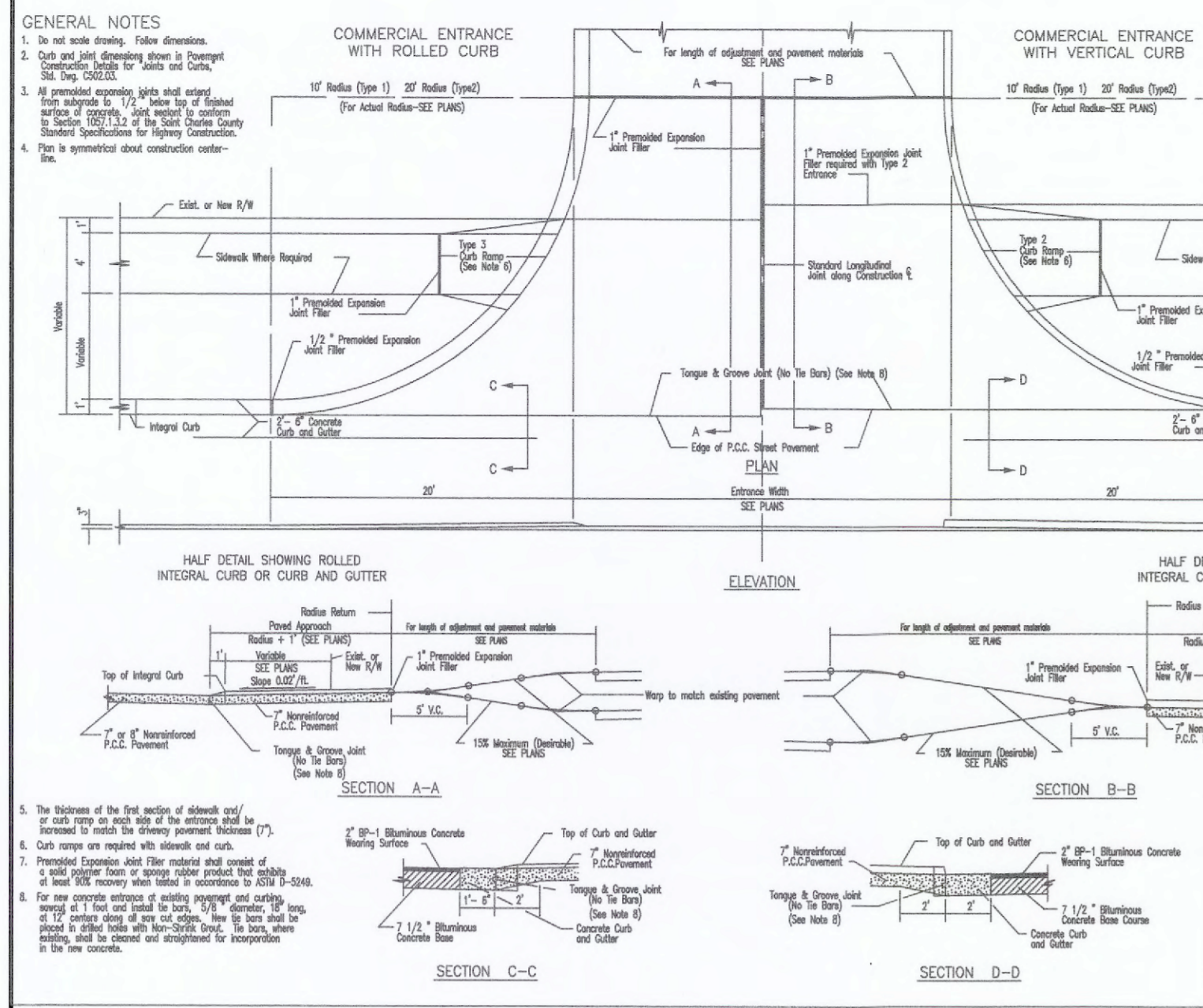
NO.	DATE	REVISION
01/18/21	CITY COMMENT REVS.	

Developer / Owner:
MJS&M, L.L.C.
2209 DROSTE ROAD
ST. CHARLES, MO 63301
636-949-0680

P+Z No. #1407.06.01
Approved September 5, 2019
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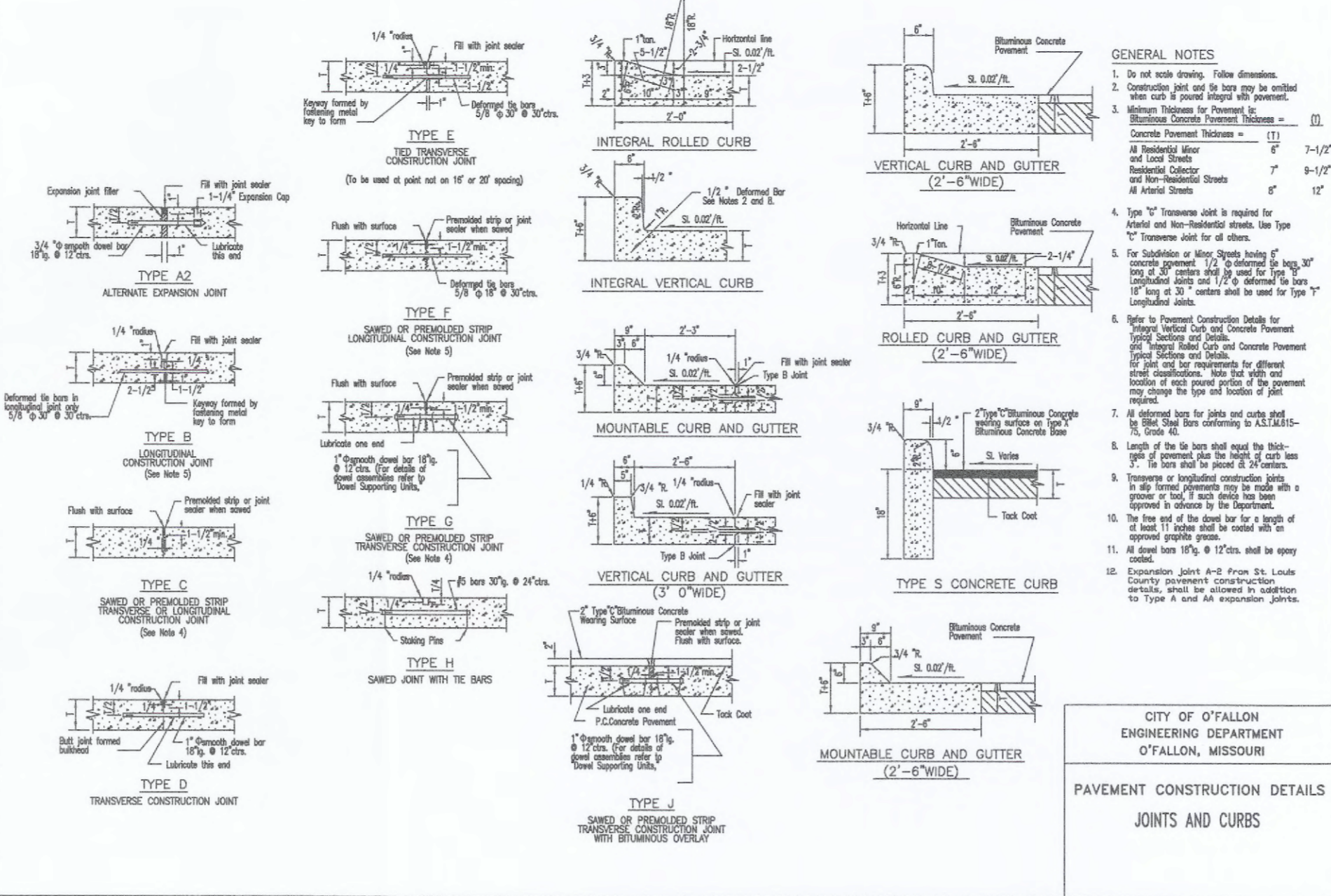
Page No. 8 of 11

Issue Date: 09/22/2020



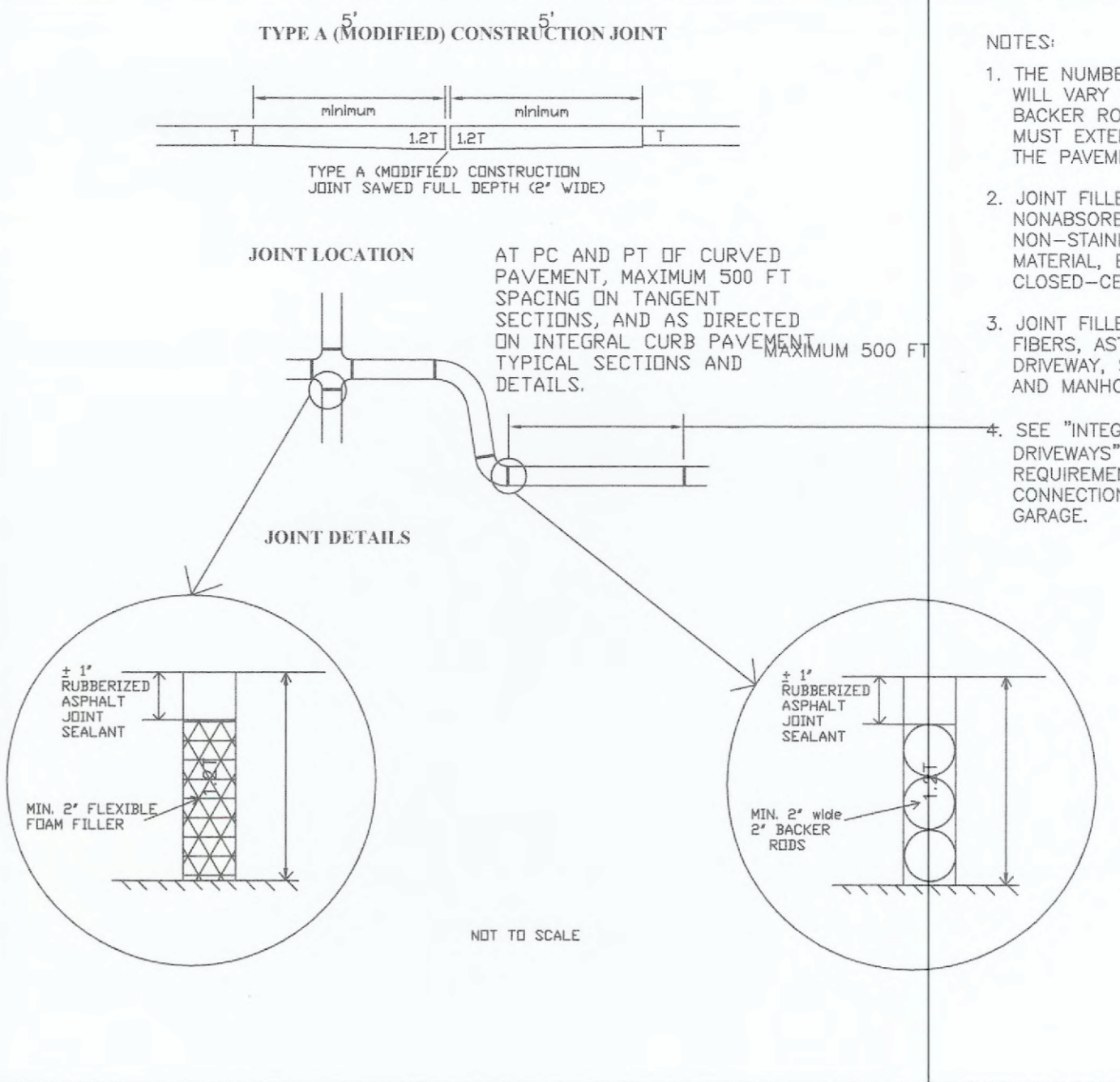
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

ENTRANCE CONSTRUCTION DETAILS
TYPE 1 & 2 SPECIAL
CONCRETE ENTRANCES



CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

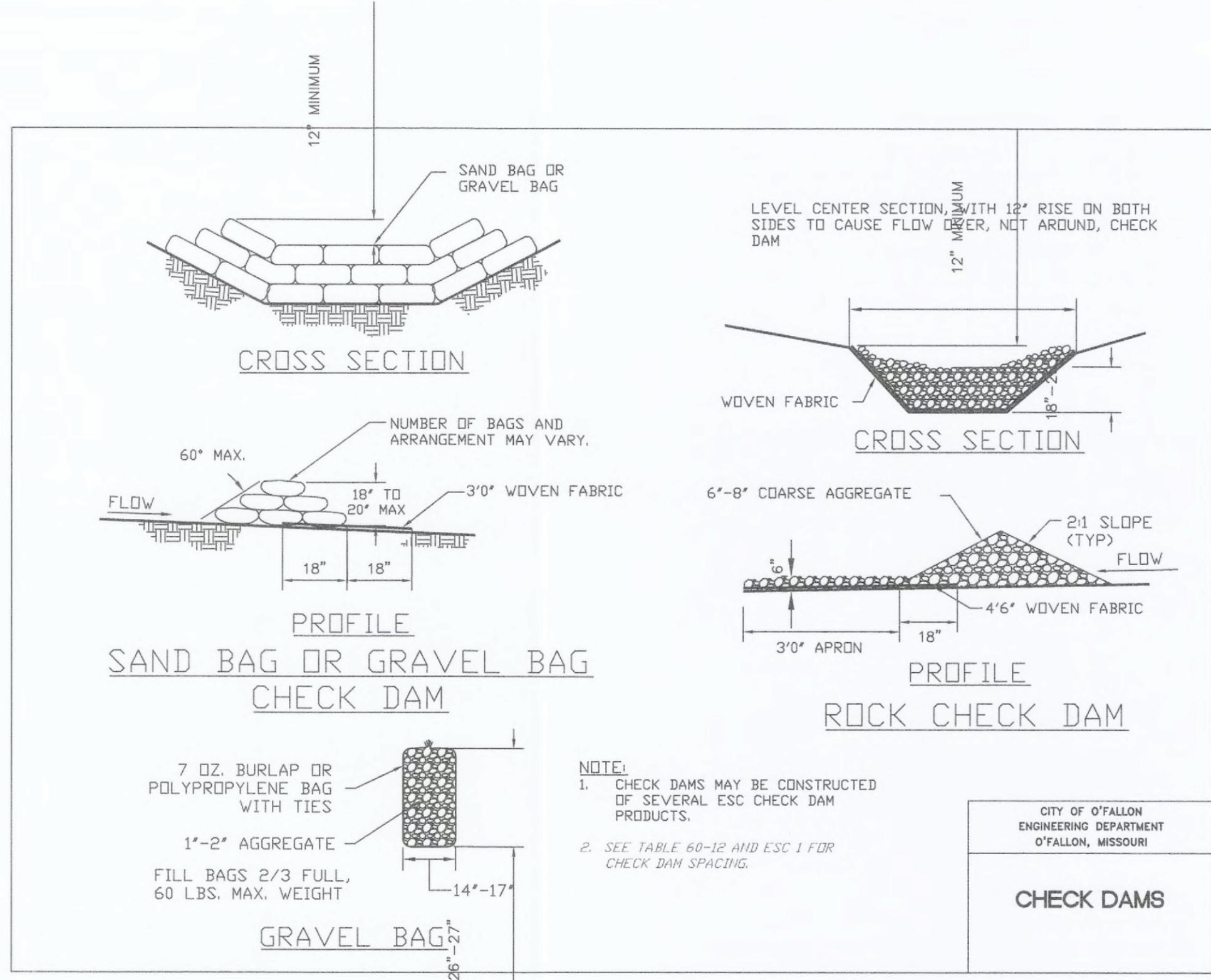
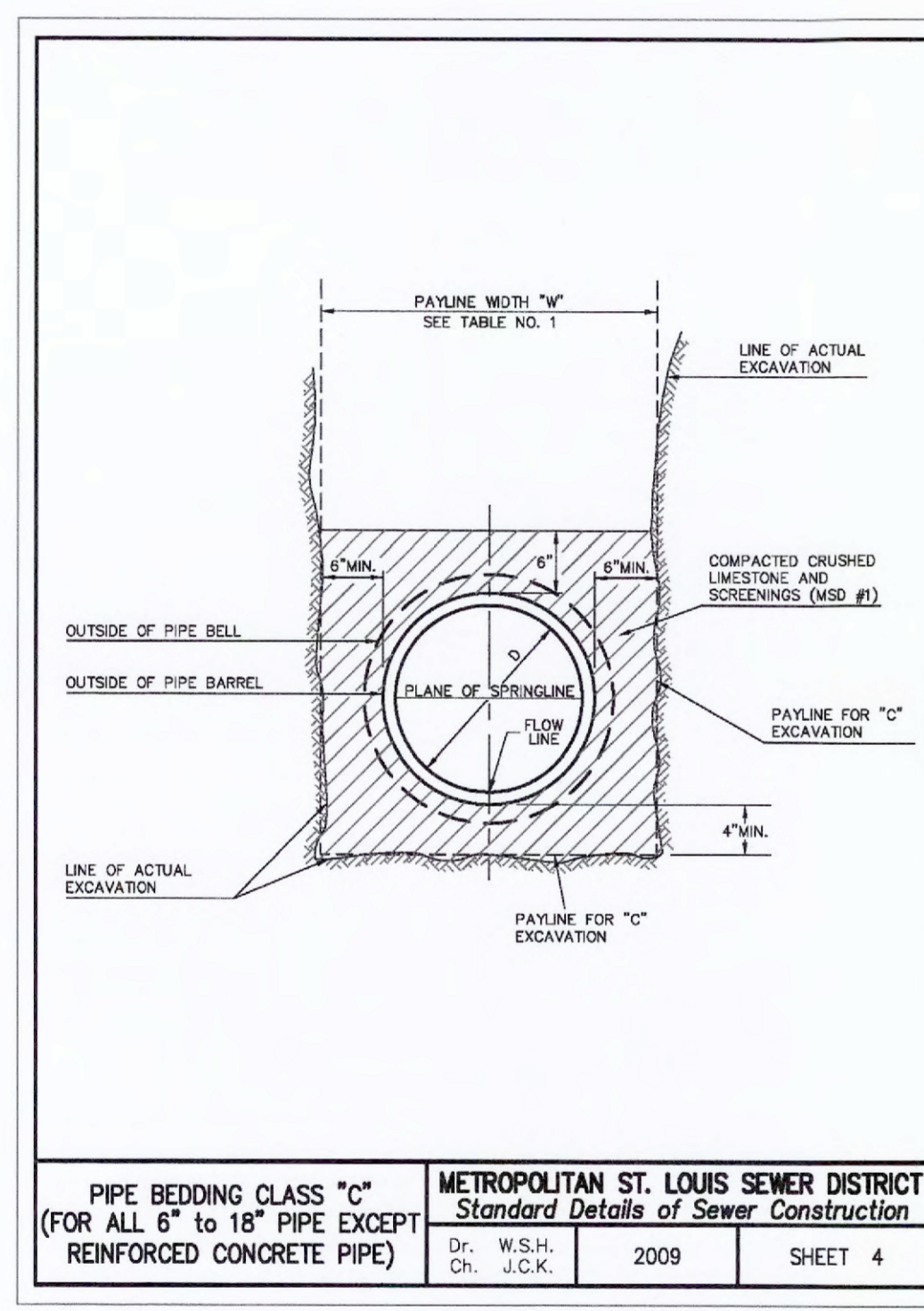
PAVEMENT CONSTRUCTION DETAILS
JOINTS AND CURBS



CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

PAVEMENT CONSTRUCTION
DETAIL

- NOTES:
1. THE NUMBER OF BACKER RODS REQUIRED WILL VARY WITH THE PAVEMENT THICKNESS. BACKER RODS AND FLEXIBLE FOAM FILLER MUST EXTEND THROUGH THE FULL DEPTH OF THE PAVEMENT.
 2. JOINT FILLER SHALL BE A FLEXIBLE, NONABSORBENT, NON-GASSING, NON-STAINING, NON-SHRINKING MATERIAL, EXTRUDED FROM A CLOSED-CELL POLYMER, ASTM D-5249.
 3. JOINT FILLER COMPOSED OF CELLULAR FIBERS, ASTM D-1751, MAY BE USED AT DRIVEWAYS, SIDEWALK, AND SEWER INLET AND MANHOLE LOCATIONS.
 4. SEE "INTEGRAL CURB DETAIL "B" AT DRIVEWAYS" FOR EXPANSION JOINT REQUIREMENTS AT DRIVEWAY CONNECTIONS TO THE STREET AND THE GARAGE.



CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CHECK DAMS

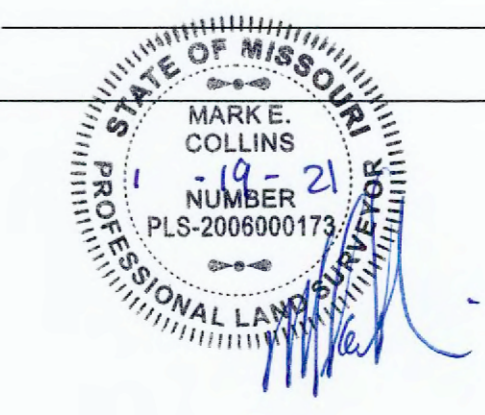
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SIGNED: _____ DATE: _____
P.E./L.S.



PROJECT TITLE:
GRANT WAREHOUSE & STORAGE AS-BUILT PLANS



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REVISIONS	
DATE	REVISION
01/18/21	CITY COMMENT REVS.

Developer / Owner:
MUSM, L.L.C.
2209 DROSTE ROAD
ST. CHARLES, MO 63301
636-949-0680

REFERENCE DETAILS

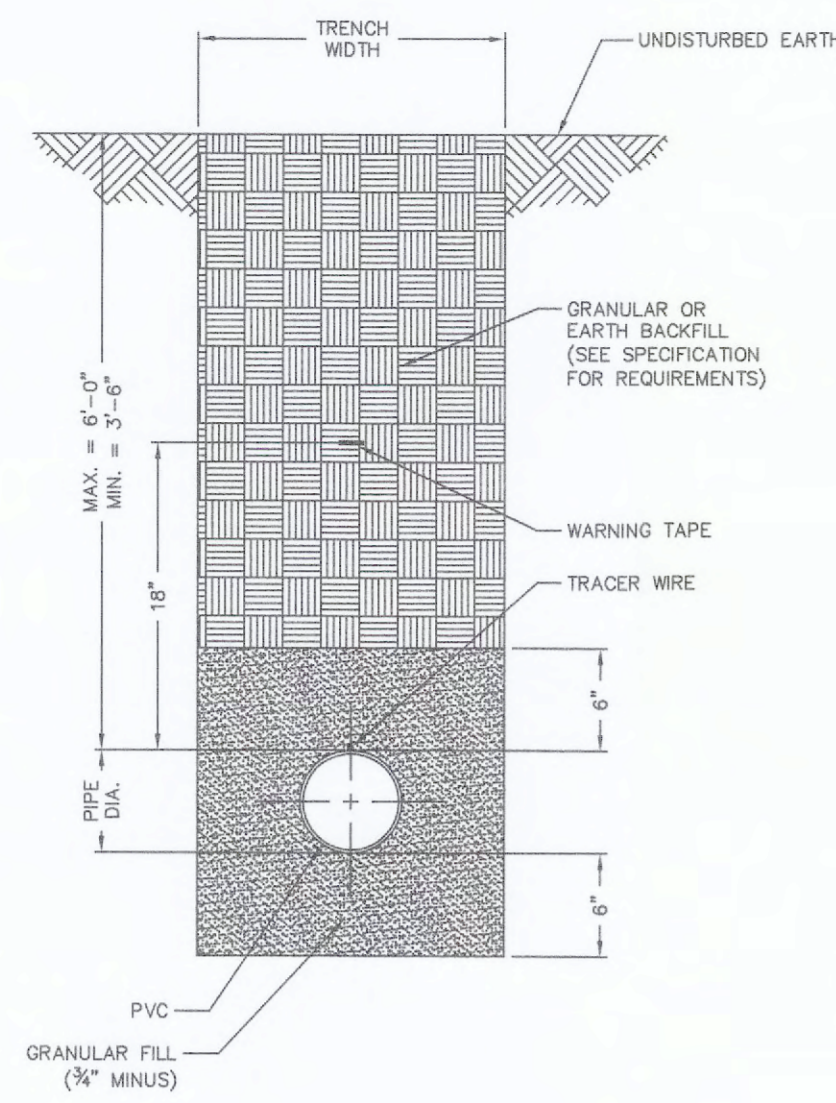
P+Z No. #1407.06.01
Approved September 5, 2019
City No. 19-007140

Page No. 9 of 11

LAND SURVEYOR'S SEAL DOES NOT APPLY TO DETAILS ON THIS SHEET

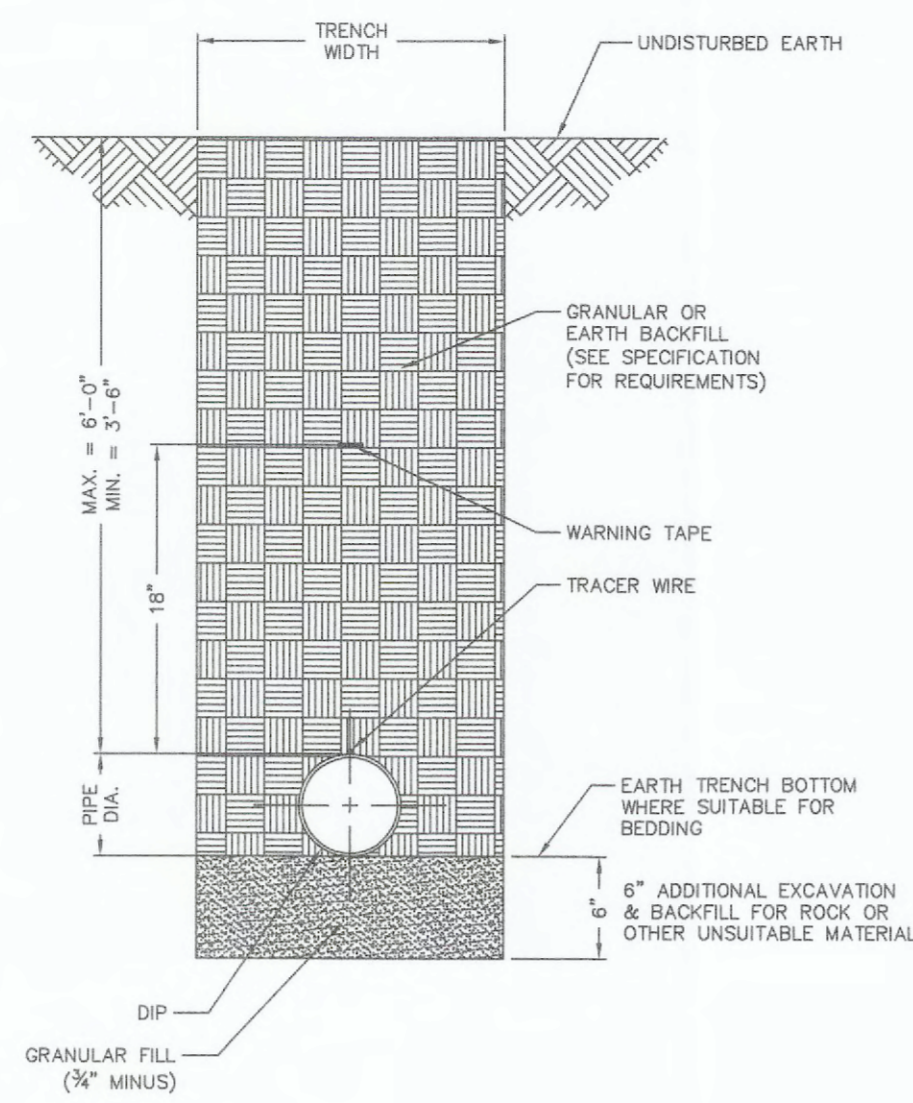
Site Address: 1300 & 1400 Grant Industrial Drive

NOTE: THIS DETAIL IS FROM PWS#2

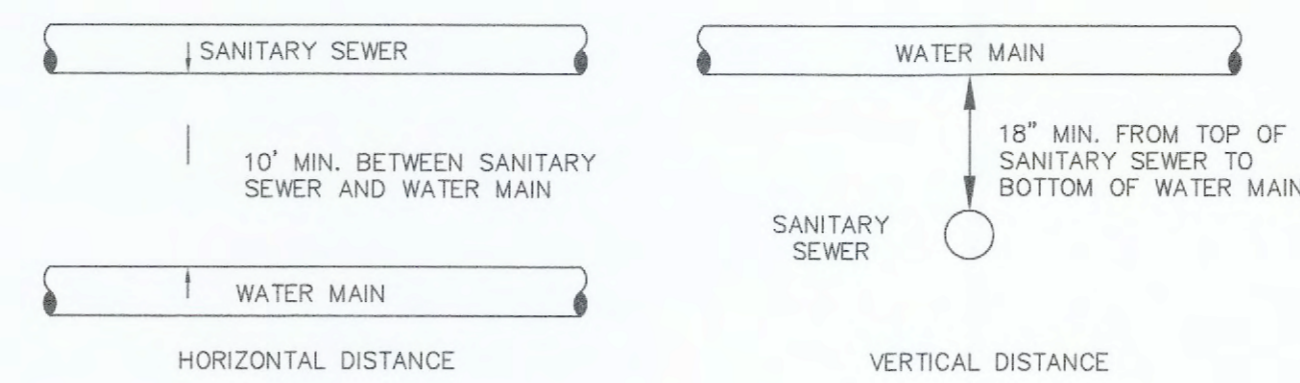


NOTES
 1) SEE SPECIFICATIONS FOR ADDITIONAL DETAILS FOR BEDDING AND BACKFILL.
TYPICAL TRENCH SECTION FOR PVC PIPE
 NOT TO SCALE
DETAIL "A"
 PAGE 1 OF 2

NOTE: THIS DETAIL IS FROM PWS#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.

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 GRANT WAREHOUSE & STORAGE AS-BUILT PLANS
 Issue Date: 09/22/2020

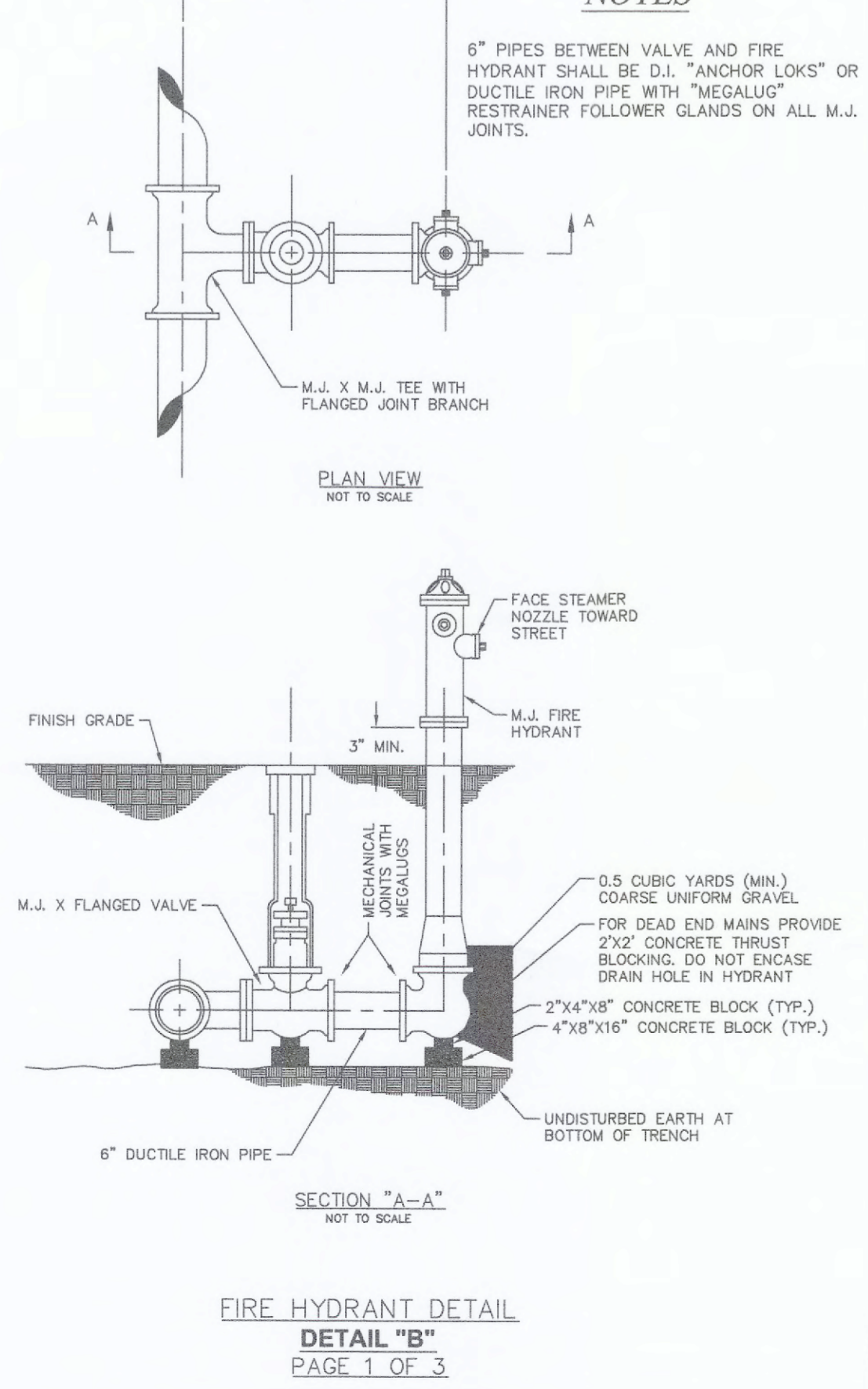
ENGINEERING PLANNING SURVEYING
 221 Point West Blvd.
 St. Charles, MO 63301
 636-928-6562
 FAX 928-1718

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REVISIONS

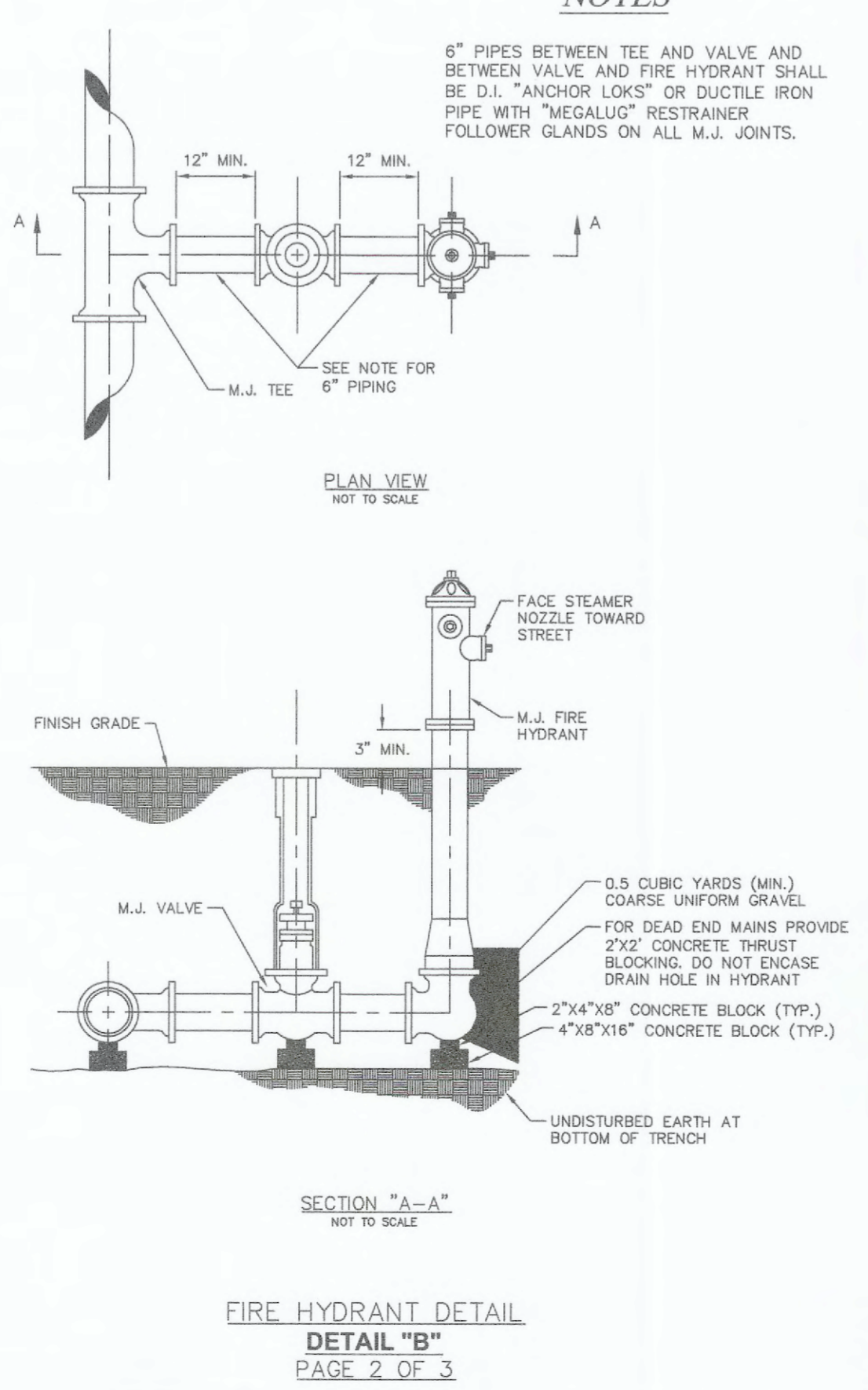
DATE	REVISION
01/18/21	CITY COMMENT REVS.

NOTE: THIS DETAIL IS FROM PWS#2



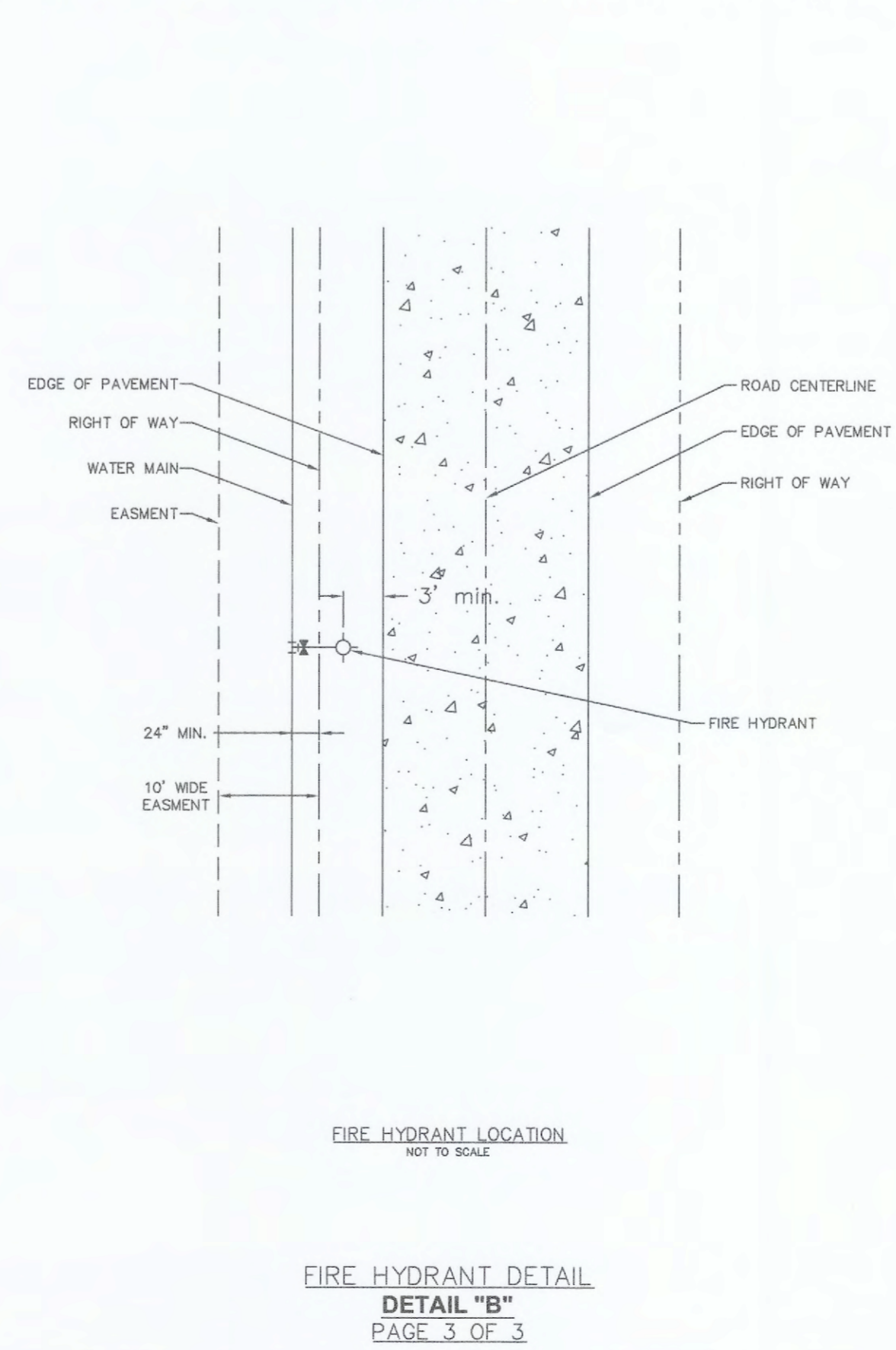
FIRE HYDRANT DETAIL 'B'
 PAGE 1 OF 3

NOTE: THIS DETAIL IS FROM PWS#2



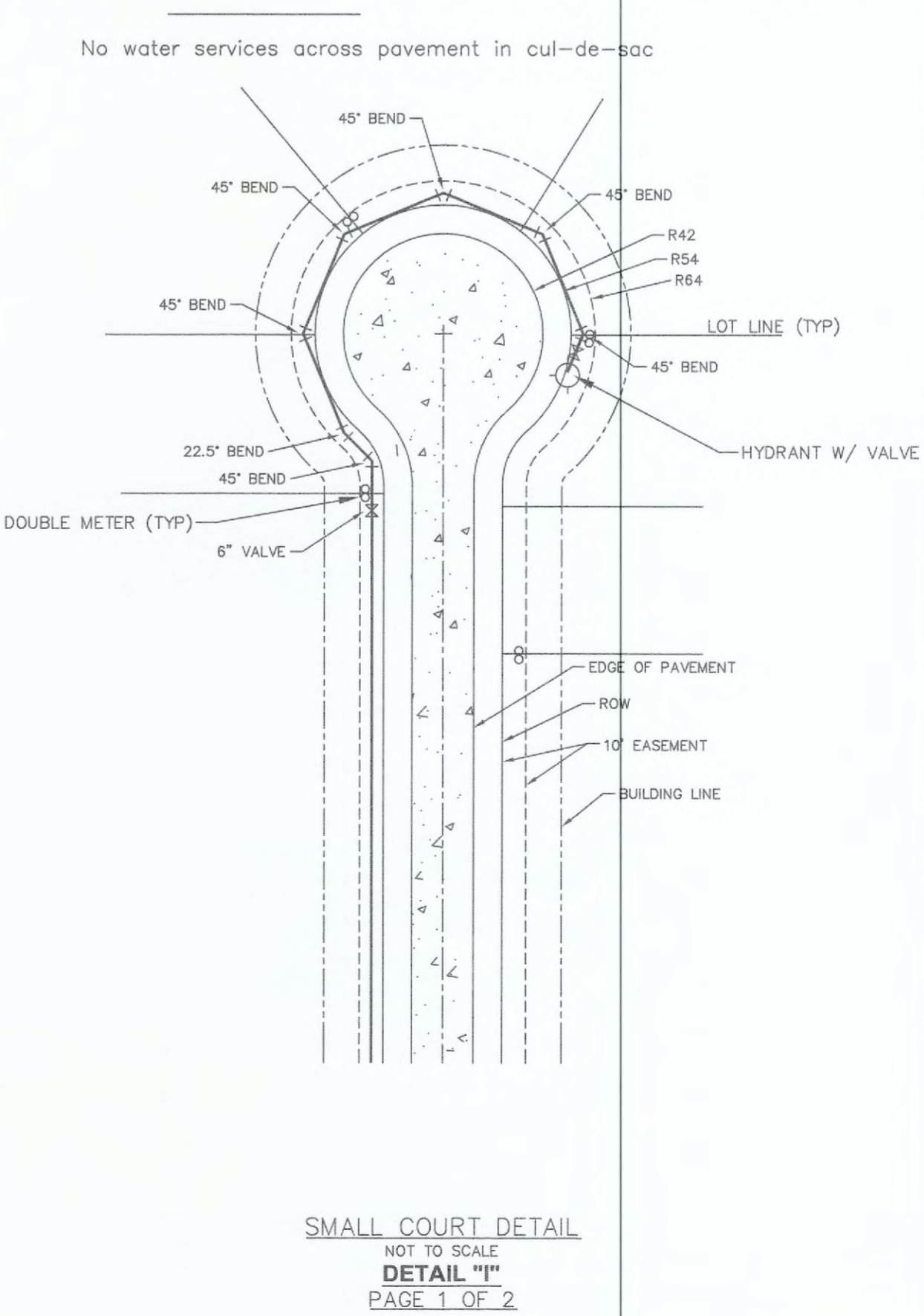
FIRE HYDRANT DETAIL 'B'
 PAGE 2 OF 3

NOTE: MODIFIED DETAIL FROM PWS#2



FIRE HYDRANT DETAIL 'B'
 PAGE 3 OF 3

NOTE: MODIFIED DETAIL FROM PWS#2



SMALL COURT DETAIL 'I'
 PAGE 1 OF 2

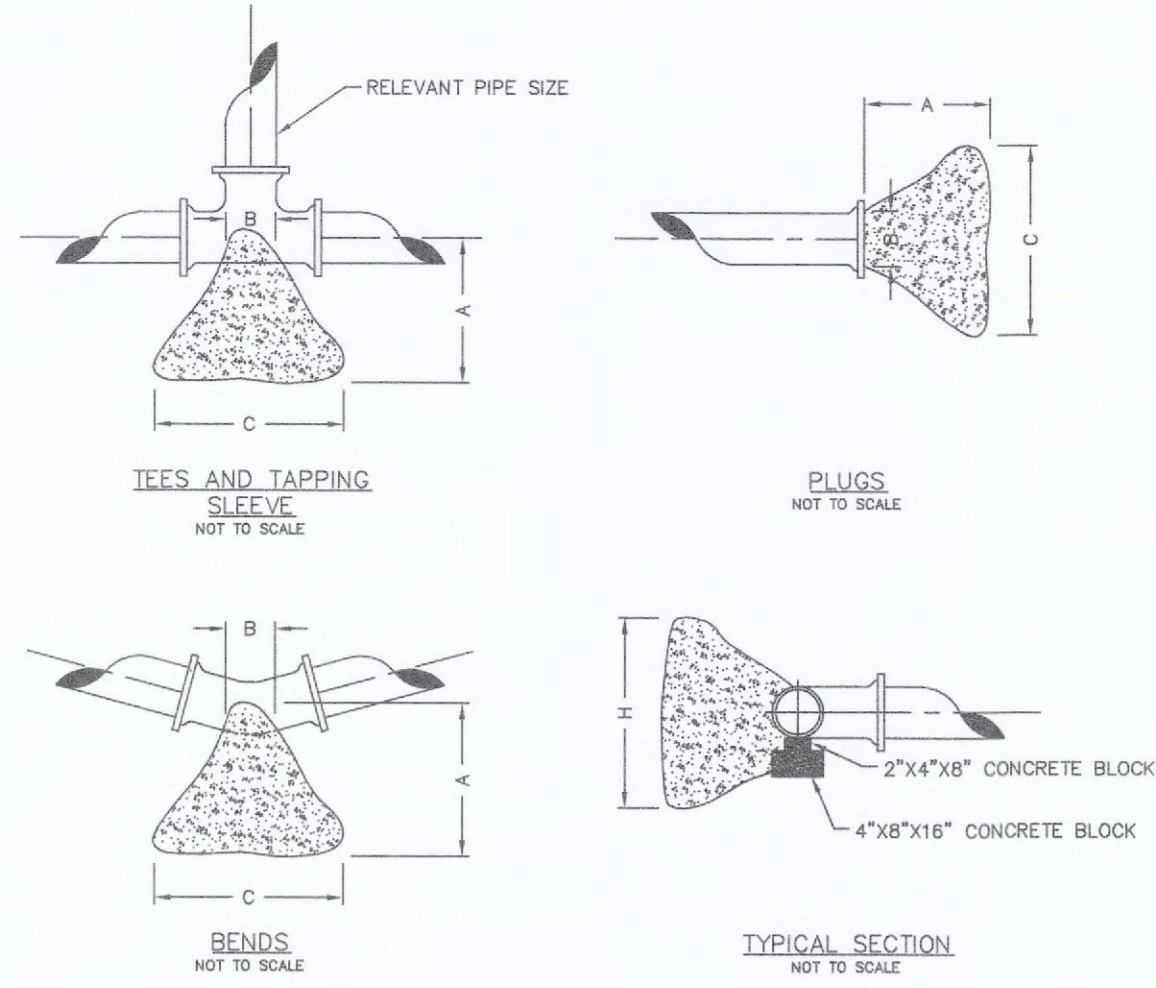
Developer / Owner:
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 636-949-0680

REFERENCE DETAILS

P+Z No. #1407.06.01
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Page No. 10 of 11

NOTE: THIS DETAIL IS FROM PWS#2



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	
	A	B	C	H	C	H	C	H	C	H	C	H
4	14	4	24	12	26	15	18	12	12	12	12	12
6	16	6	36	18	36	24	30	18	24	12	12	12
8	20	8	36	30	42	36	36	24	24	18	18	12
10	20	10	48	36	66	36	36	36	28	24	18	18
12	24	12	68	36	82	42	52	36	40	24	28	18

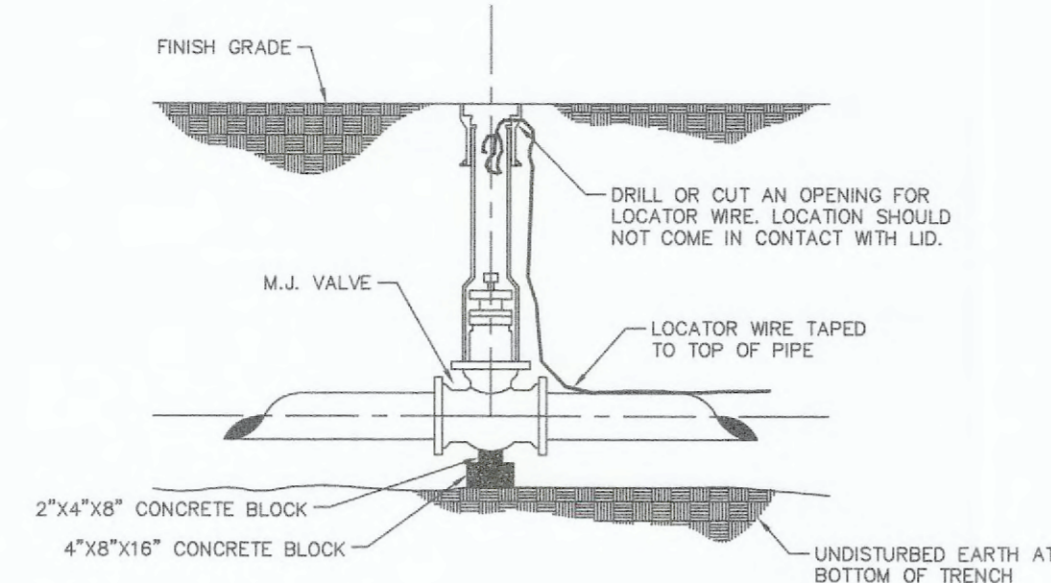
NOTE

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

HORIZONTAL THRUST BLOCKING
DETAIL "C"

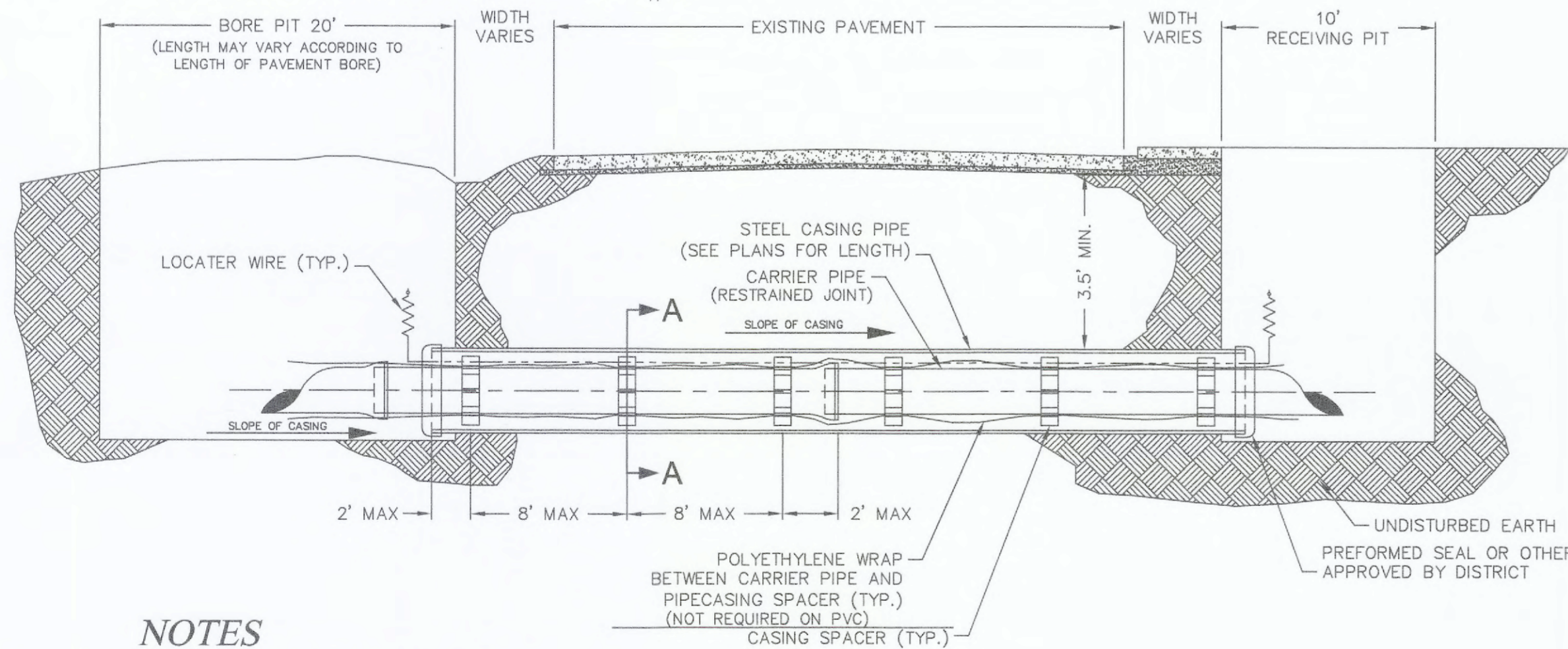
NOTE: THIS DETAIL IS FROM PWS#2

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



GATE VALVE DETAIL
DETAIL "D"

NOTE: THIS DETAIL IS FROM PWS#2



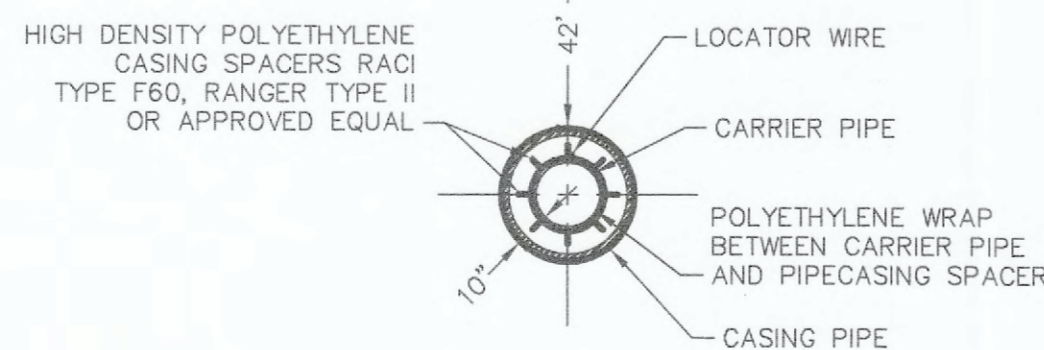
NOTES

- INSTALLATION OF THE CASING AND CARRIER PIPES SHALL MEET THE REQUIREMENTS OF PUBLIC WATER SUPPLY DISTRICT No. 2 OF ST. CHARLES COUNTY.
- 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.
- THE CARRIER PIPE SHALL BE RESTRAINED JOINT PIPE

FOR SANITARY SEWER BORES, SEE THE MSD DETAIL

TYPICAL WATER BORE AND ENCASUREMENT
DETAIL "H"

PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

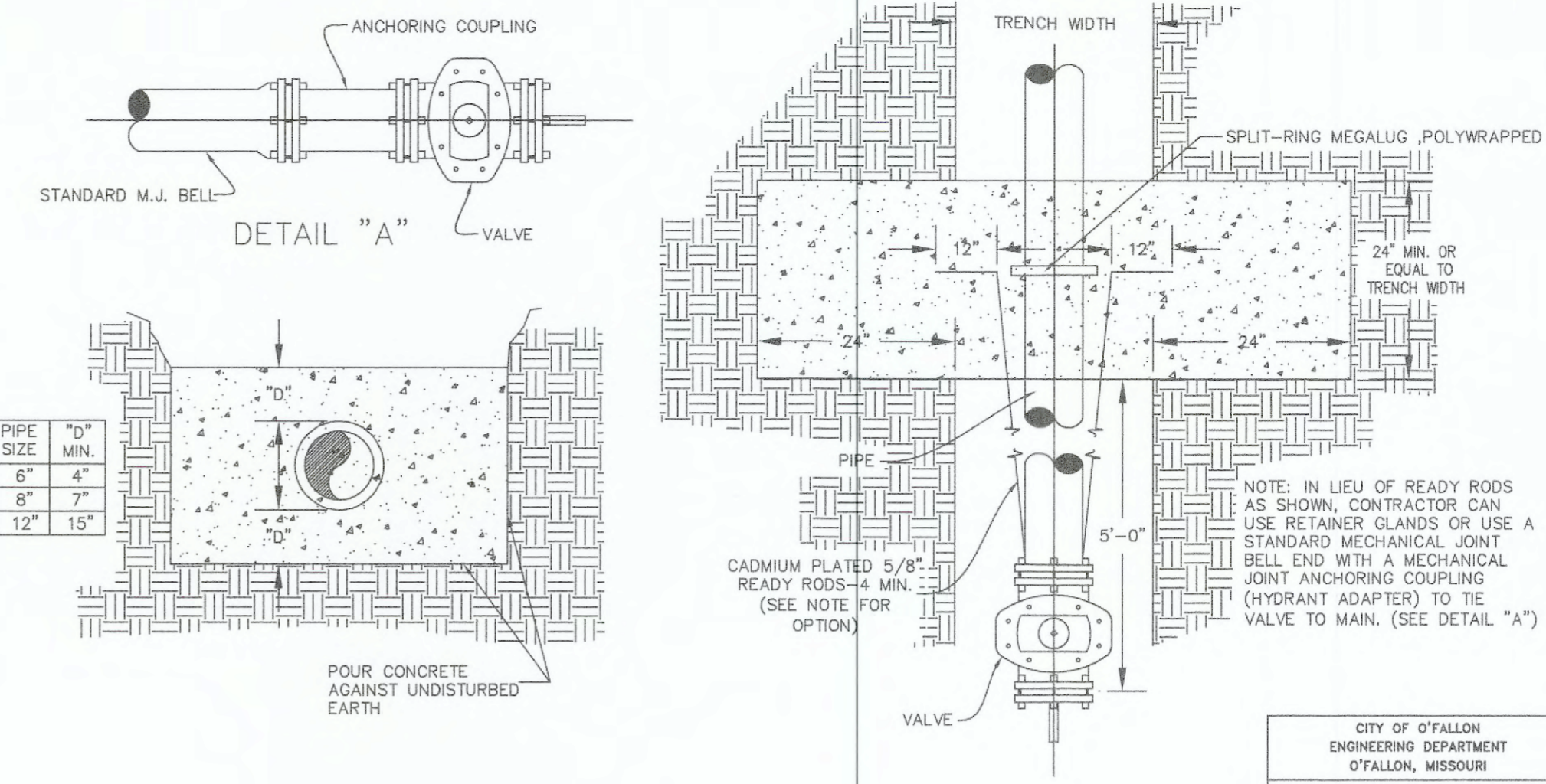
AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES, WATER QUALITY AREAS, DETENTION BASIN, PAVEMENT, AND BUILDING 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 SERVICE LINES, WATER METERS AND FIRE HOSE CONNECTION.
- GAS METER AND GAS LINE.
- ELECTRIC TRANSFORMER, ELECTRIC METER.
- TELEPHONE COMMUNICATION PEDESTALS, TELEPHONE BOX.
- DETENTION BASIN "A", WATER QUALITY AREA 1 AND WATER QUALITY AREA 2.
- ONE STORY METAL BUILDING.
- CONCRETE PAVEMENT AND PARKING STALLS.

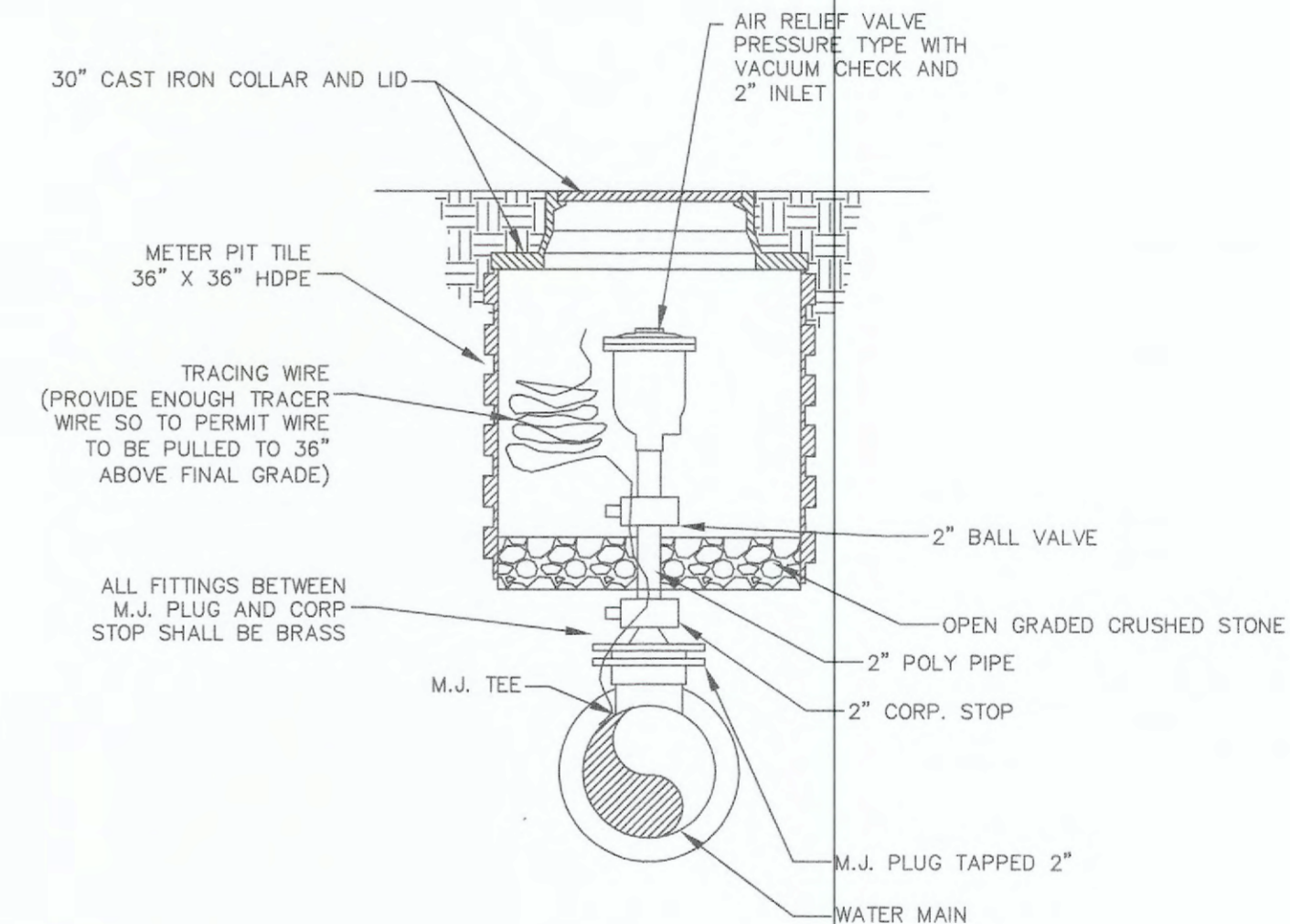
ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS.

SIGNED: _____ DATE: _____
P.E./L.S.



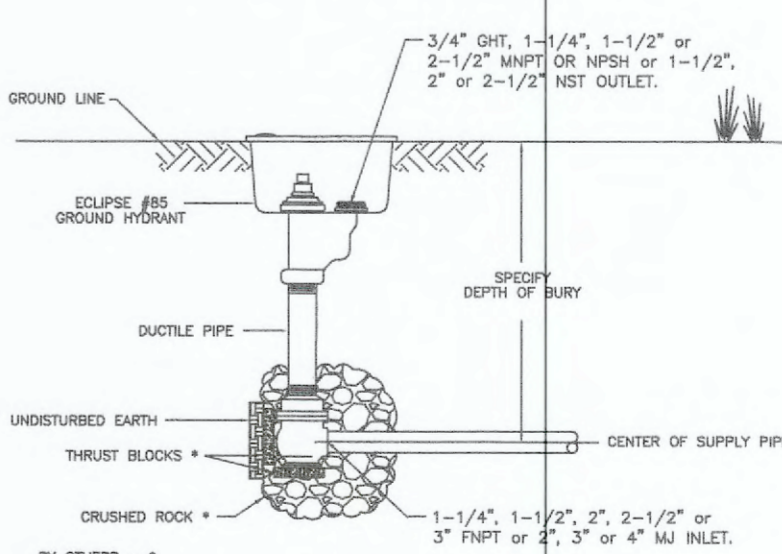
CROSS BLOCK DETAIL
NOT TO SCALE

CROSS BLOCK
DETAILS



AIR RELIEF ASSEMBLY
NOT TO SCALE

ECLIPSE NO. 85 GROUND HYDRANT



Ground Hydrants shall be self-draining, non-freezing, compression type with a 1-3/8" main opening, and operated with a "T" Handle operating handle. Inlet shall be (2", 2-1/2" & 3" FNPT, or 2", 3" or 4" MJ). Outlet shall be (3/4" GHT or 1", 1-1/4", 1-1/2", 2" or 2-1/2" MNPT or 1-1/2", 2" or 2-1/2" NST).

Hydrants shall have a (ductile iron (STD), galvanized steel, stainless steel, or brass) exterior casing pipe, a galvanized (STD), stainless steel or brass) interior non-turning operating rod with a heavy wall (cast iron (STD), or brass) box and locking lid.

Principal interior operating parts shall be brass, bronze and aluminum and be removable for servicing without excavating the hydrant.

Ground Hydrants shall be set in 4 cubic feet of crushed stone to allow for proper drainage of the hydrant. Recommendations of the AWWA should followed when installing the hydrant.

Hydrants shall be Eclipse No. 85 Eclipse Blow-Off Hydrant as manufactured by John C. Kupferle Company, St. Louis, MO or approved equal.

BLOW-OFF DETAIL

NO.	DATE	REVISION

Site Address: 1300 & 1400 Grant Industrial Drive

PROJECT TITLE:
GRANT WAREHOUSE & STORAGE AS-BUILT PLANS

ENGINEERING PLANNING SURVEYING
221 Point West Blvd. 63301
St. Charles, MO 63080-6552
PAX 928-1718



DISCLAIMER OF RESPONSIBILITY
I hereby certify that the documents intended to be authenticated by my seal are limited to this sheet, 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.

REVISIONS

DATE	QTY	COMMENT	REVS.
01/18/21			

Developer / Owner:
MJS&M, L.L.C.
2209 DROSTE ROAD
ST. CHARLES, MO 63301
636-949-0680

P+Z No. #1407.06.01
Approved September 5, 2019
City No. 19-007140

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LAND SURVEYOR'S SEAL DOES NOT APPLY TO DETAILS ON THIS SHEET