

A SET OF AS-BUILT PLANS FOR COLUMBIA MEADOWS

A TRACT OF LAND BEING ALL OF LOT 1 OF 'BRYAN AND VETERANS MEMORIAL COMMERCIAL' P.B. 46, PGS. 186-187 AND AND A TRACT OF LAND BEING IN THE SOUTHWEST QUARTER OF FRACTIONAL SECTION 30 TOWNSHIP 47 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN CITY OF O'FALLON ST. CHARLES COUNTY, MISSOURI

Development Notes:

- Existing Zoning: R-3, PUD Single Family Residential
- Proposed Uses: Single Family Homes
- Property Owners: John M. Flavin, 5310 Park Street, Shawnee, KS 66216
- Per Flood Insurance Rate Map Panel Numbers 29183C0240G Dated January 20, 2016. This site is Zoned X, described as areas of minimum flood hazard.
- All streets are to be public and constructed per St. Louis County specifications except as modified by City of O'Fallon.
- Topographic information is per U.S.G.S. Datum.
- One tree shall be planted for every lot. Two trees for corner lots. Tree placement shall be per Section 402 of the City Code.
- All homes shall have a minimum of 2 off-street parking places with 2-car garages.
- All new utilities will be located underground.
- Maximum slope on yard slopes will be 3:1.
- Any signage will require a separate sign permit.
- All gravity sanitary laterals are to be schedule 40 PVC.
- A ten (10) foot wide general utility easement is required along all public right-of-ways.
- Sanitary sewers closer than 10 feet to the pavement edge or the pavement is within the 1:1 shear plane of the trench will require granular backfill within the trench.
- The developer shall comply with current Tree Preservation Ordinance Number 1689 and provide landscaping as set forth in Article 23 of the City of O'Fallon Zoning Ordinances.
- All useable common ground to be planted in native grasses and to be used for wildlife habitat.
- Street lights to be private and maintained by the HOA.
- All ponds will be stocked for fishing for the residents of the development.

Conditions of Approval From Planning and Zoning:

- Kemp Homes shall contribute Five Hundred Dollars (\$500.00) per home for future traffic improvements at Bryan Road and the Justice Center.
- All development must comply with all City Codes.
- The property/project must successfully become a certified "Wildlife Habitat" and be identified as such by authorized and appropriate signage at the entrance and other locations throughout the property.
- An easement must be obtained for all off-site grading in a form acceptable to the Director of the Department of Planning and Development.
- Developer must provide updated information from the Army Corps of Engineers in regard to jurisdictional waterways and wetlands.
- Developer must work with the O'Fallon Department of Economic Development to attract commercial business for the remaining commercial lots. (Developer did not purchase any Commercial lots along Bryan Road)
- The rear yard setback of all perimeter lots shall match the underlying setback of the underlying zoning district in accord with Sec. 400.236.6(A)(8) of the O'Fallon City Code. The lots on the Northern portion of the development still need to be addressed.
- On the lots that require the bufferyard, the rear yard setback shall start from the end of the buffer in accordance with City Code. (Affects Lots 4 & 5 only)

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE: _____
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN
COLUMBIA MEADOWS PLAT 1
AS-BUILT PLAN APPROVAL
AUGUST 18, 2022

Utility Contacts
Sanitary Sewers
City of O'Fallon
100 N. Main St.
O'Fallon, MO. 63366
Contact: 636-240-2000
Water
City of O'Fallon
100 N. Main St.
O'Fallon, MO. 63366
Contact: 636-240-2000
Storm Sewer
City of O'Fallon
100 N. Main St.
O'Fallon, MO. 63366
636-240-2000

Electric
Ameren Missouri
200 Callahan Road
Wentzville, MO. 63385
636-639-8312
Gas
Spire Gas
6400 Graham Road
St. Louis, MO. 63134
314-522-2297
Telephone
CenturyLink
1151 Century Tel Dr.
Wentzville, MO. 63385
636-332-7261
Fire District
O'Fallon Fire Protection District
111 Laura K Dr.
O'Fallon, MO. 63366
636-272-3493

PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
Bax Engineering Company, Inc.
221 Point West Blvd.
St. Charles, MO 63301
636-928-6552
FAX 928-1718

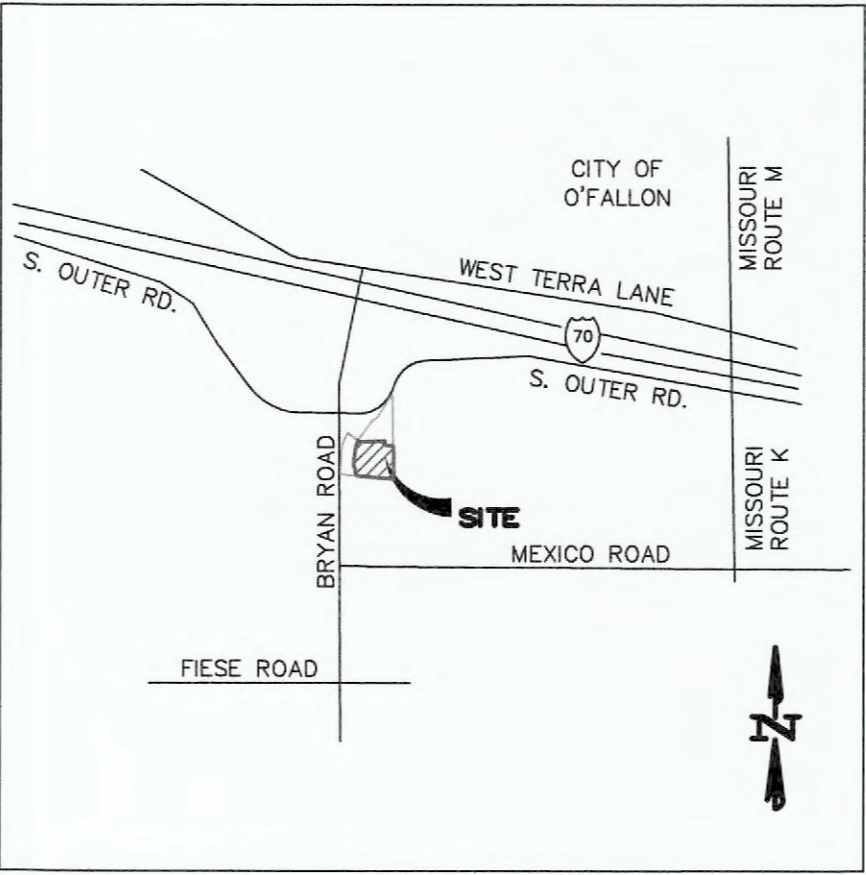
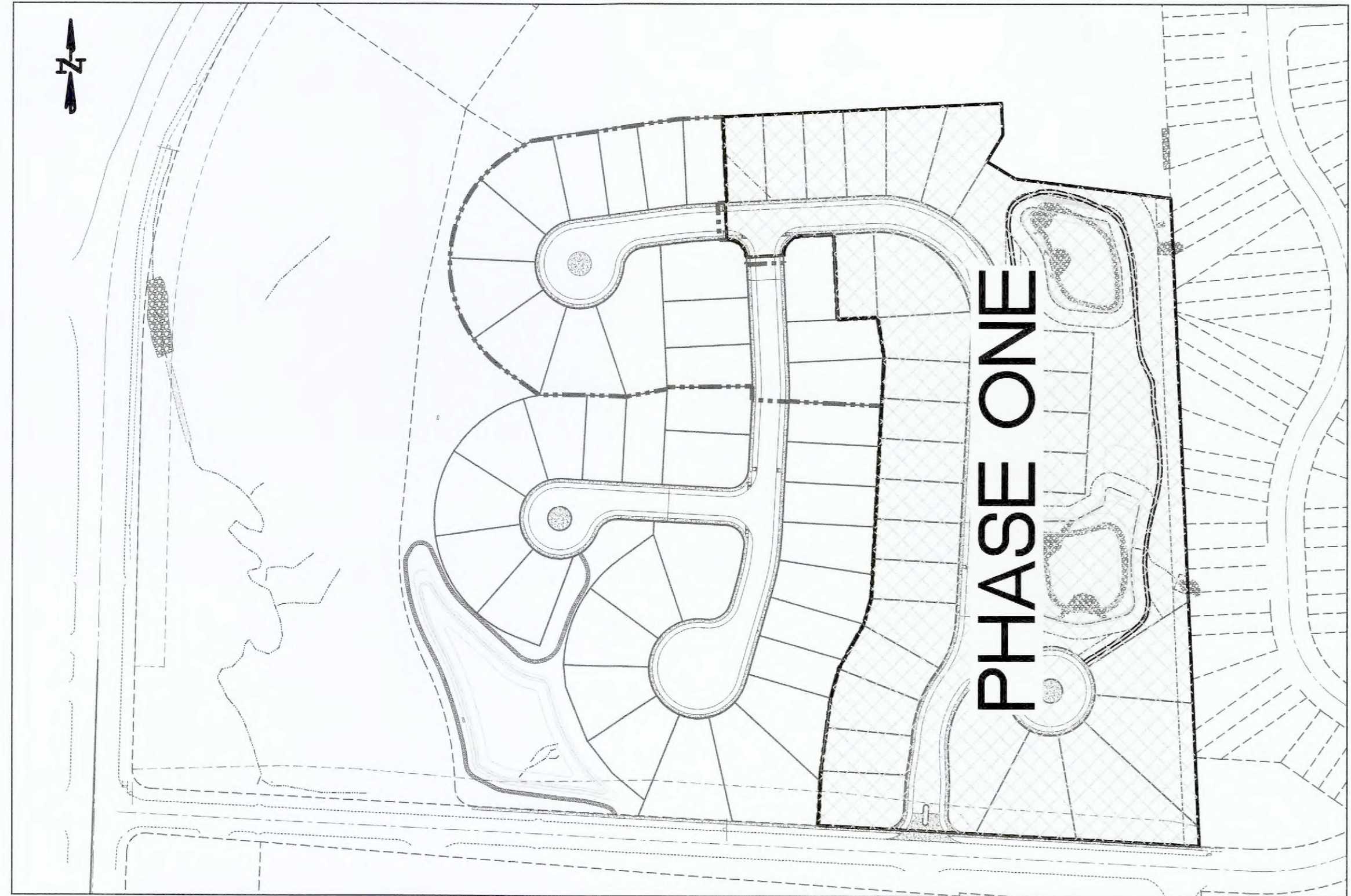
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Bax Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #006855
Missouri State Certificate of Authority
Surveying #000144

REVISIONS	
2/23/22	CITY COMMENTS REV.
4/22/22	CITY COMMENTS REV.

Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chestertfield, MO 63005
314-721-7779

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?
Page No.
1 of 38



Locator Map
NOT TO SCALE

Legend

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

AS-BUILT LEGEND

[Symbol]	AS-BUILT STORM MANHOLE
[Symbol]	AS-BUILT CURB INLET
[Symbol]	AS-BUILT AREA INLET
[Symbol]	AS-BUILT DOUBLE CURB INLET
[Symbol]	AS-BUILT STORM FLARED END
[Symbol]	AS-BUILT SANITARY MANHOLE
[Symbol]	AS-BUILT FIRE HYDRANT
[Symbol]	AS-BUILT WATER VALVE
[Symbol]	AS-BUILT LIGHT STANDARD
[Symbol]	AS-BUILT CLEANOUT

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES 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.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS
- TOPOGRAPHY AND SECTIONS OF RETENTION AREA 'B' AND RETENTION AREA 'C'.

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

BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



Plan View

SCALE: 1" = 150'

Reference Benchmarks

ALL AS-BUILT ITEMS HAVE BEEN LOCATED AND TIED TO MISSOURI STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, GRID NORTH, NAD83 FOR HORIZONTAL DATUM AND NAVD88 FOR VERTICAL DATUM.

REFERENCE BENCHMARK: ELEVATION=529.00
STATION "SC-06" IS LOCATED NEAR THE NORTH SIDE OF ST. PETERS, MO. ABOUT 0.8 KM (0.50 MI) NORTH OF INTERSTATE HIGHWAY 70 (EXIT 220), ALONG THE EAST SHOULDER OF STATE HIGHWAY 79, JUST EAST OF THE NORTH BOUND LANES AND JUST SOUTH OF A WITNESS POST. OWNERSHIP--STATE OF MISSOURI.

SITE BENCHMARK: ELEVATION=597.70'
FIRE HYDRANT LOCATED ON THE SOUTH SIDE OF WHITE MAGNOLIA DRIVE, 115.8' NORTHWEST OF AN IRON PIPE FOUND AT THE NORTHWEST CORNER OF LOT 100 OF TURTLE CREEK PLAT 3, AND 65.4' SOUTHWEST OF THE NEW INTERSECTION OF WHITE MAGNOLIA DRIVE AND COLUMBIA MEADOWS DRIVE.

VEGETATION ESTABLISHMENT For Urban Development Sites APPENDIX A	
SEEDING RATES:	
PERMANENT:	
Fall 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.	

Drawing Index

- COVER SHEET
- NOTES
- DEMOLITION PLAN
- SITE PLAN
- SITE PLAN
- GRADING PLAN
- GRADING PLAN
- WATER PLAN
- WATER PLAN
- STORMWATER POLLUTION PREVENTION PLAN
- PRE-DEVELOPED DRAINAGE AREA MAP
- POST-DEVELOPED DRAINAGE AREA MAP
- STREET PROFILES
- WARPPINGS & INTERSECTION DETAILS
- SANITARY SEWER PROFILES
- SEWER PROFILES
- STORM SEWER PROFILES
- POND CROSS-SECTIONS
- 21
- 22-23 SIGNAGE, STRIPING & JOINTING PLAN
- 24-25 LANDSCAPE PLAN
- 26 LIGHTING PLAN
- 27 LIGHTING PLAN
- 28 EROSION CONTROL DETAILS
- 29 STORM AND SANITARY DETAILS
- 30-31 PAVEMENT DETAILS
- 32-33 WATER DETAILS
- 34-35 CONSTRUCTION DETAILS
- 36 CONSTRUCTION DETAILS
- 37 WILDLIFE HABITAT PLANTING PLAN
- 38 LINE OF SIGHT EXHIBIT

* 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 21.76 Acres.
The area of land disturbance is 21.74 Acres.
Number of proposed lots is 69.
The estimated sanitary flow in gallons per day is 25,530 GPD.
Building setback information: Front 20 feet
Side 6 feet
Rear 15 feet

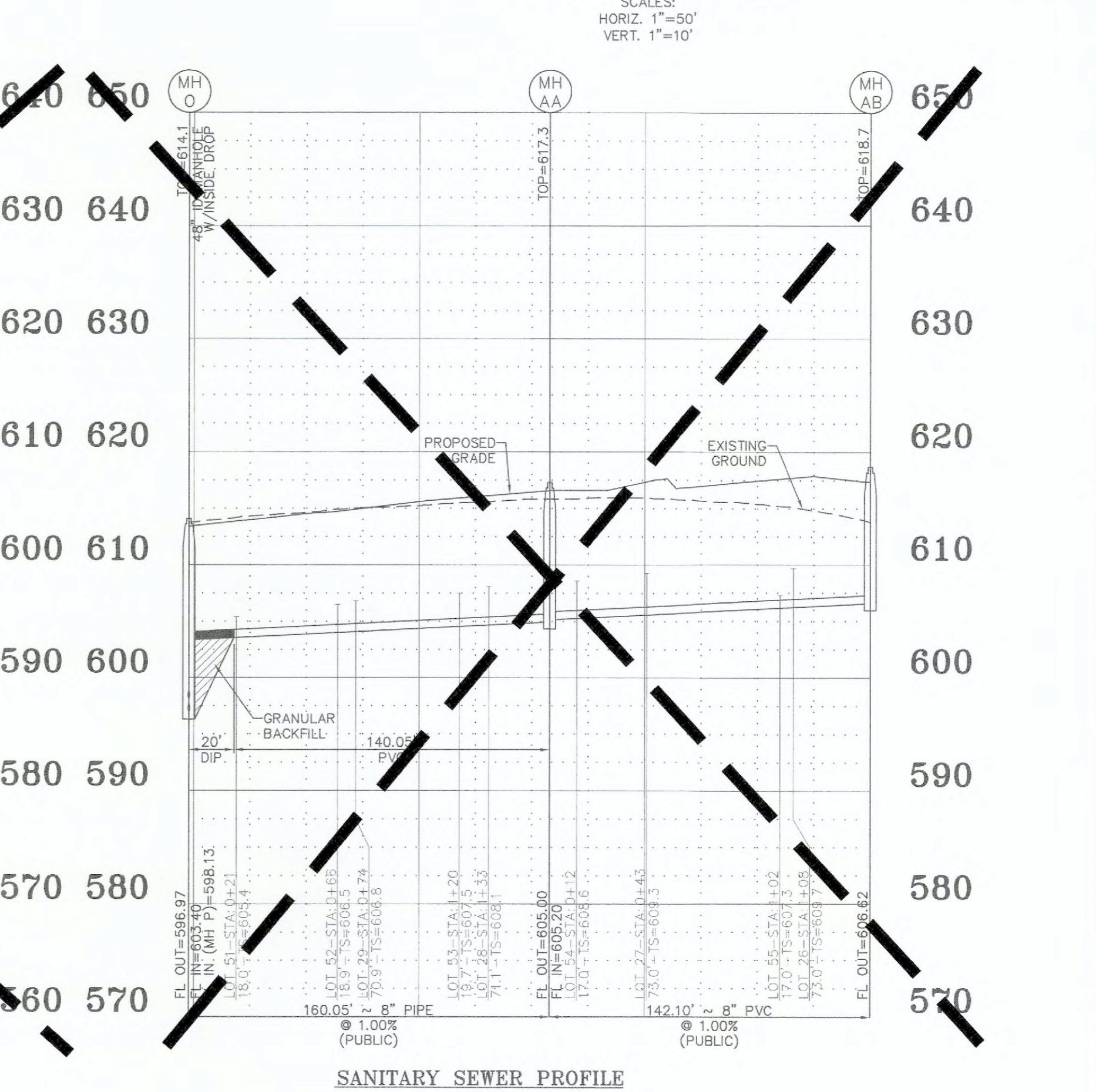
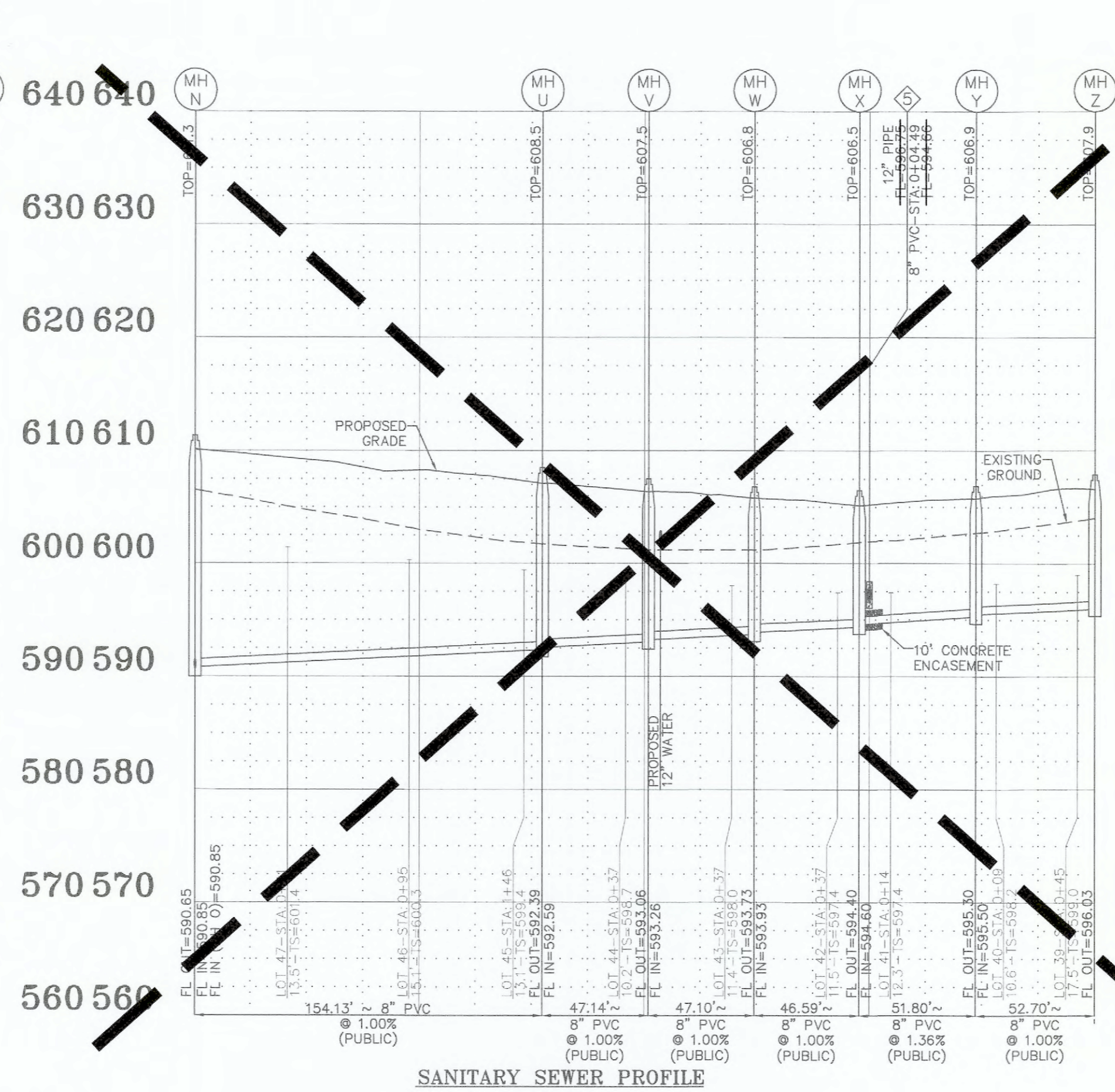
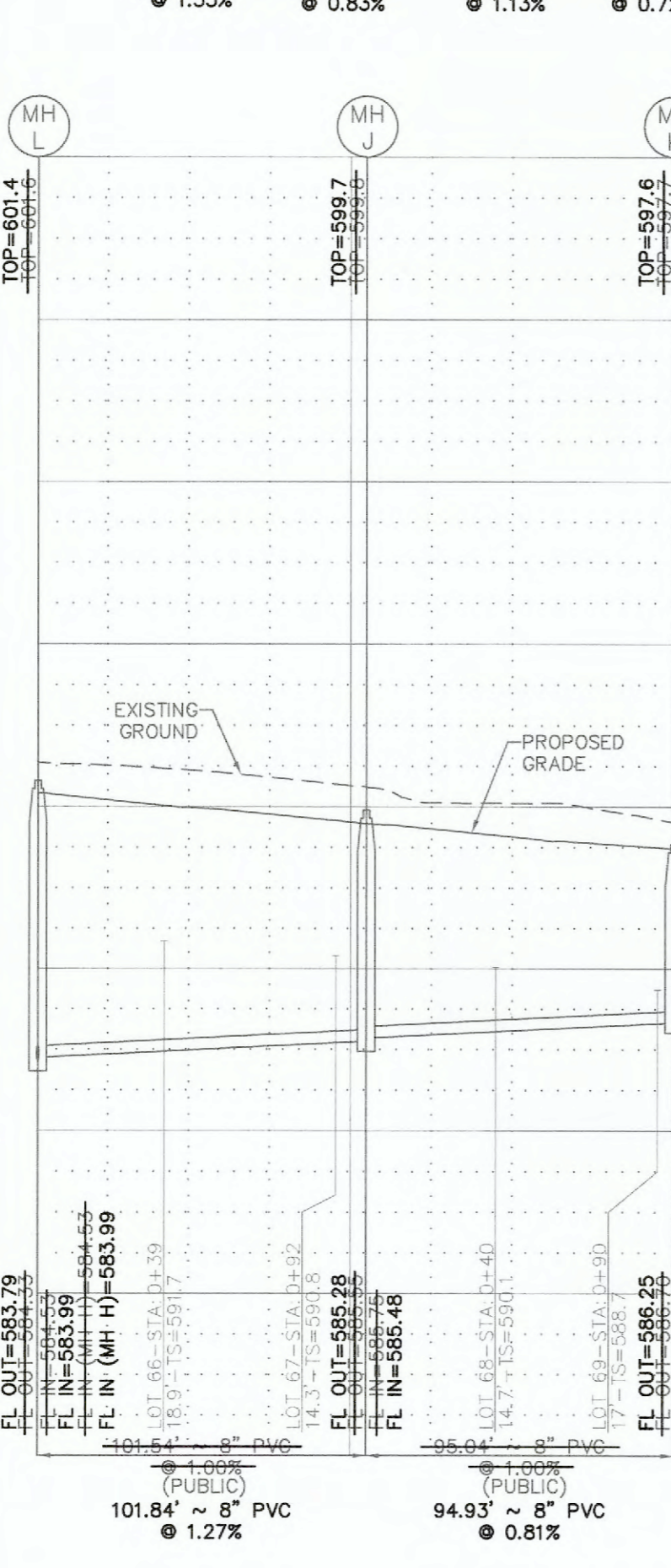
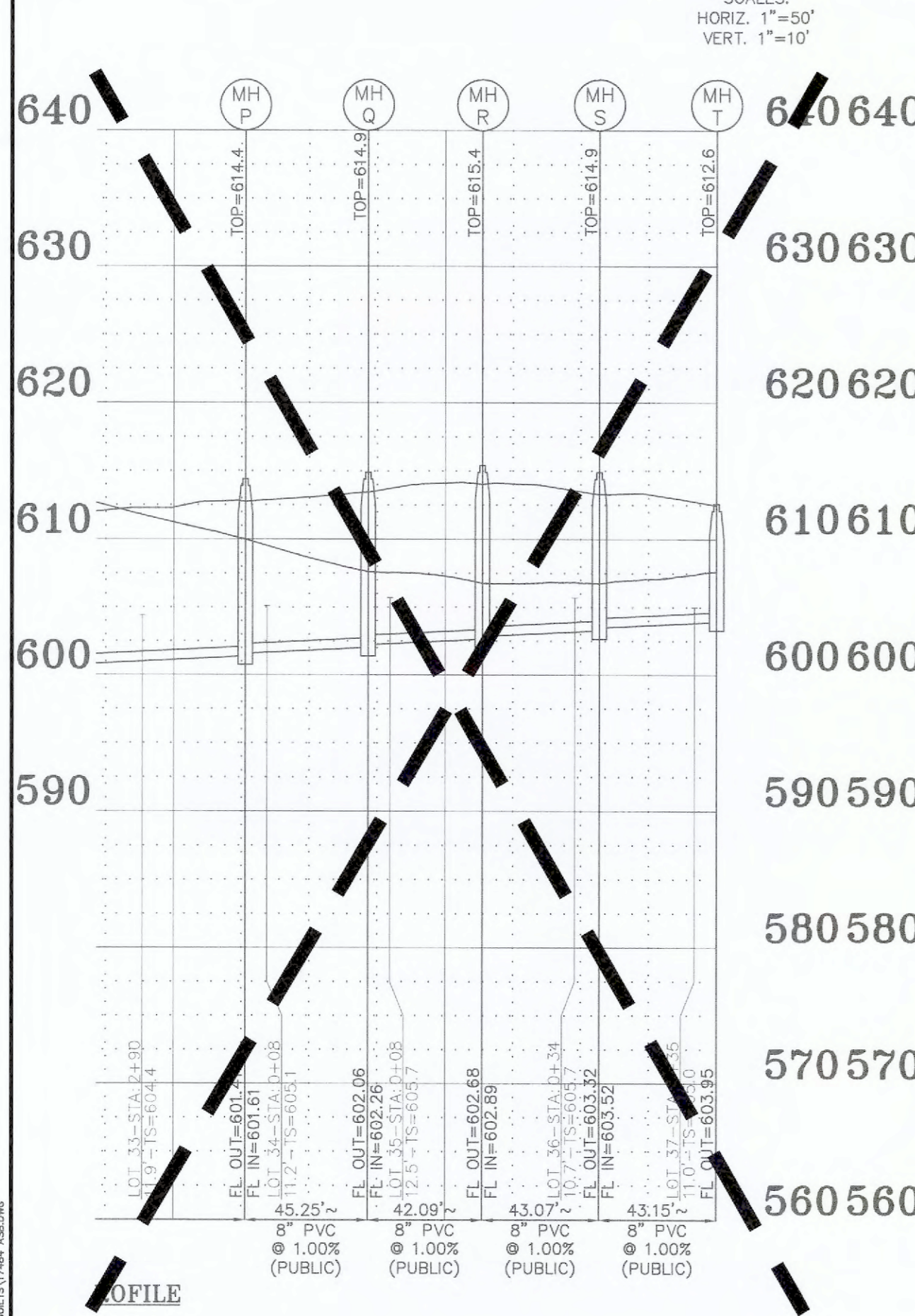
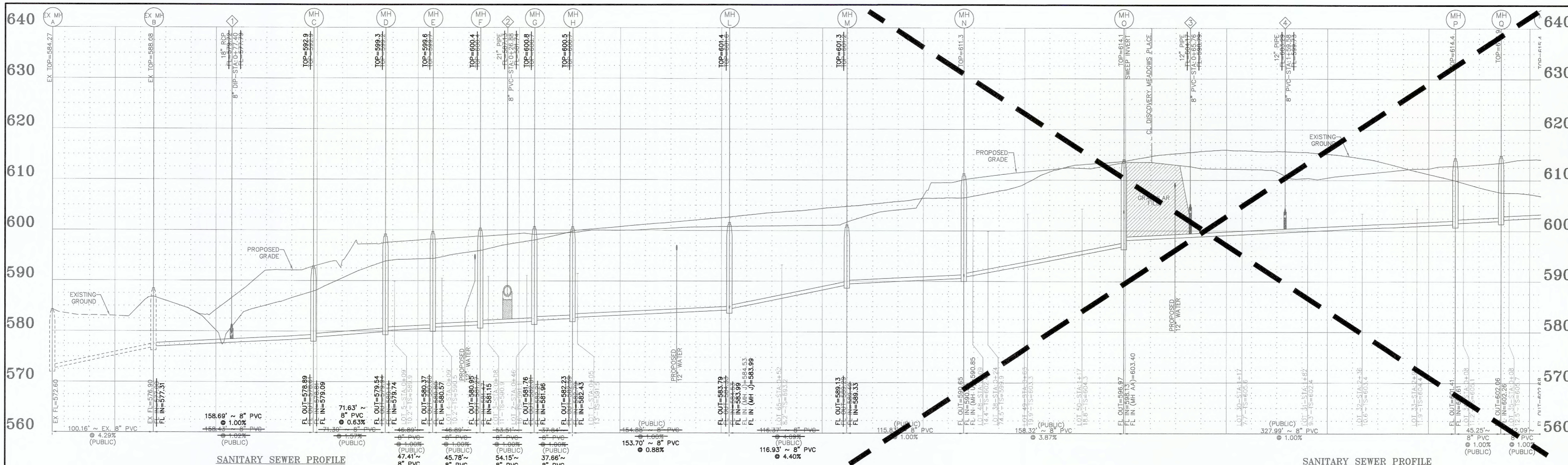
* Tree preservation calculations:
Existing Trees = 5.67 Acres
Trees Removed = 5.18 Acres
Trees Saved = 0.49 Acres
Tree Preservation trees to be retained:
5.67 Acres x 20% = 1.13 Acres
1.13 Acres - 0.49 Acres (Saved) = 0.64 Acres
0.49 Acres < 1.13 Acres (New trees required)
(See Tree Stand Delineation Plan and Landscape Plan, BY OTHERS)

City approval of any construction site plan 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 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 Inspector.

Lighting values will be reviewed on site prior to the final occupancy inspection.

LAST REVISION: 08/18/22 BY: BAX ENGINEERING COMPANY, INC. PROJECT: COLUMBIA MEADOWS PLAT 1, PHASE ONE. DRAWING NO. 2006000173-001



**AS-BUILT PUBLIC UTILITY
FINAL MEASUREMENTS**

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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #200600173



NOTE:
1. ALL SANITARY LATERALS SHALL BE CONSTRUCTED OF 4 INCH SCHEDULE 40 PVC AT 2% MINIMUM.
2. ALL SANITARY LATERALS AND SANITARY MAINS THAT CROSS UNDER PAVEMENT MUST HAVE PROPER GRANULAR BACKFILL AND REQUIRED COMPACTION.

PROJECT TITLE:
**COLUMBIA
MEADOWS
PHASE ONE**



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Missouri State Certificate of Authority
Engineering #00855
Missouri State Certificate of Authority
Surveying #000144

REVISIONS		
DATE	BY	REVISIONS
2/23/22	QTY	COMMENTS REVS.
4/22/22	QTY	COMMENTS REVS.

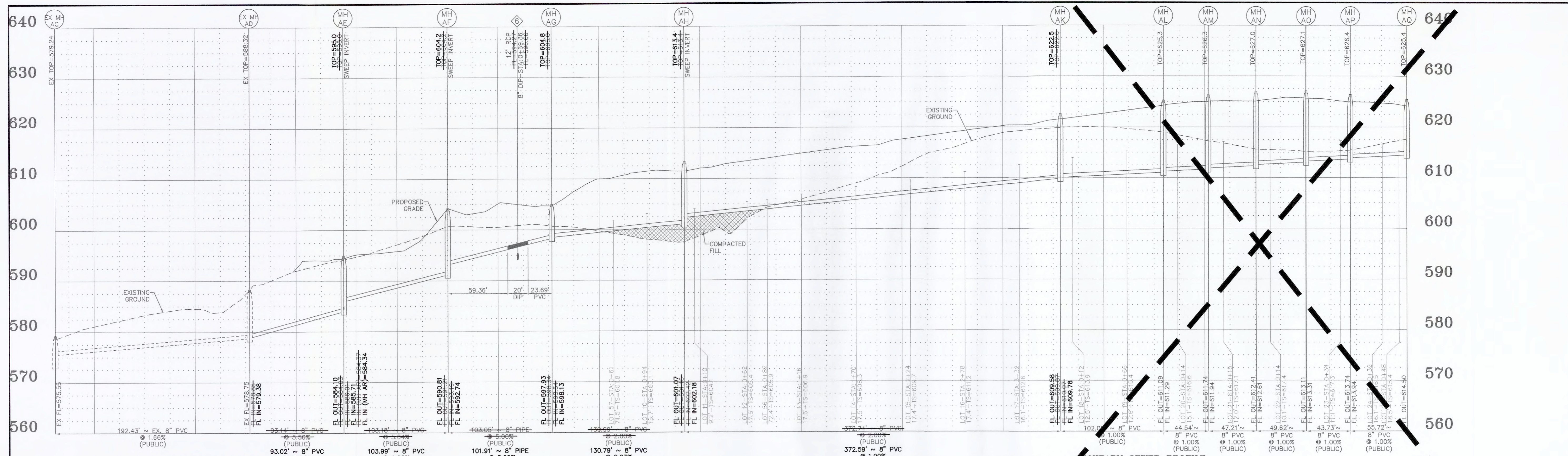
Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

SANITARY SEWER PROFILES

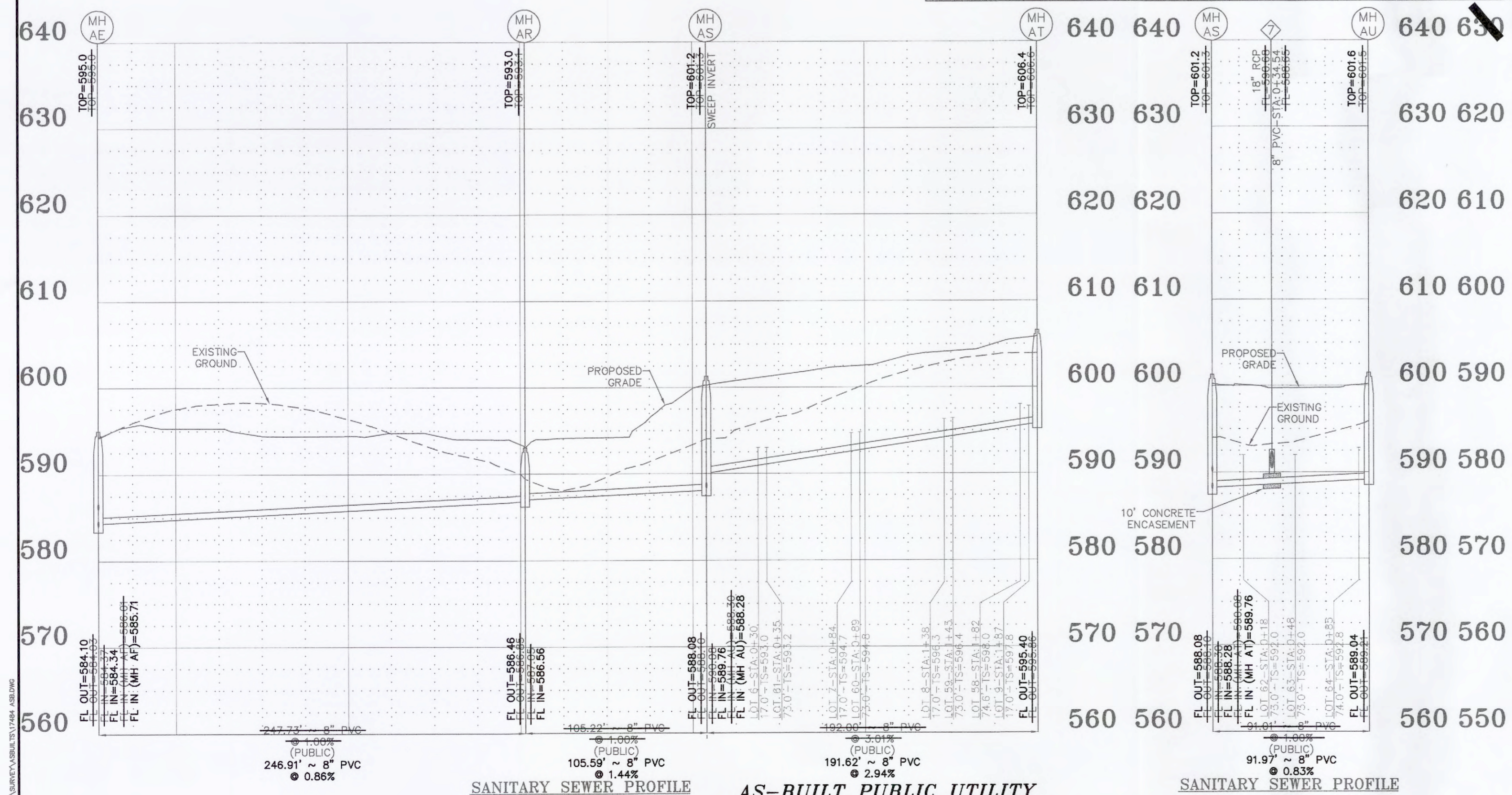
P+Z No. #19-004868
Approval Date: 07/23/2020
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Page No.
17 of 38

LAST REVISED 7/27/2022 BY: MRM
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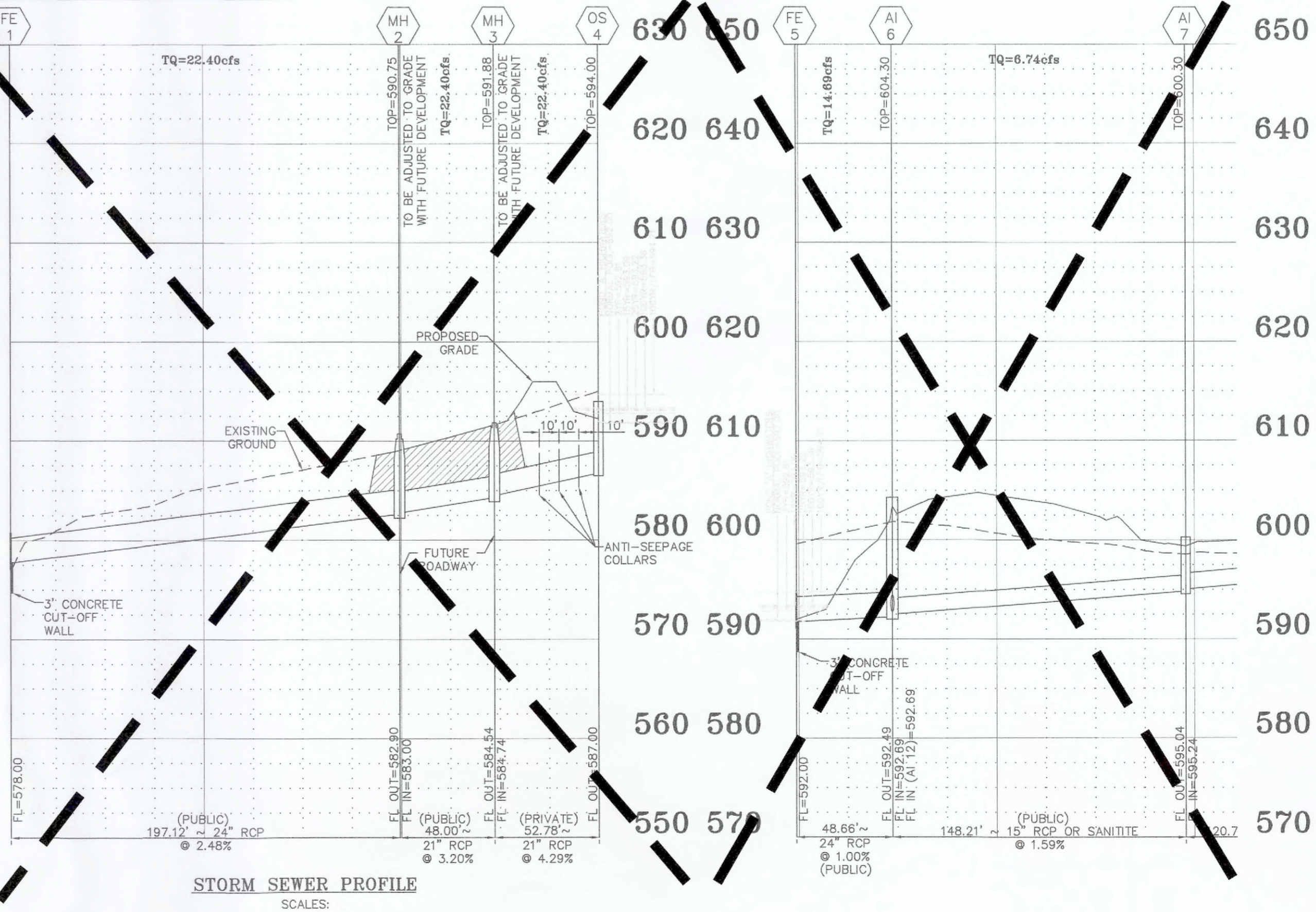
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 RCP STORM SEWERS THAT CROSS OVER SANITARY SEWER OR WATER MAIN TRENCHES CAN BE CONCRETE CRADLED BUT SANITITE PIPE MUST BE CONCRETE ENCASED, UNLESS OTHERWISE SHOWN.

PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
 221 Point West Blvd.
 St. Charles, MO 63301
 636-829-5552
 FAX 636-829-1718

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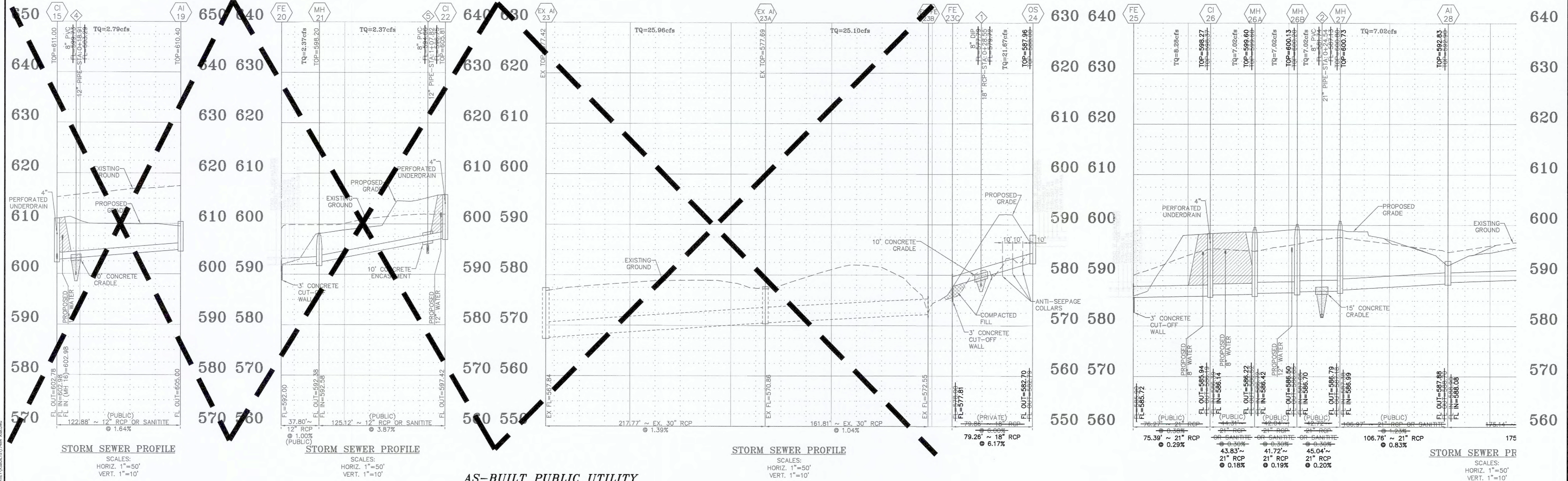
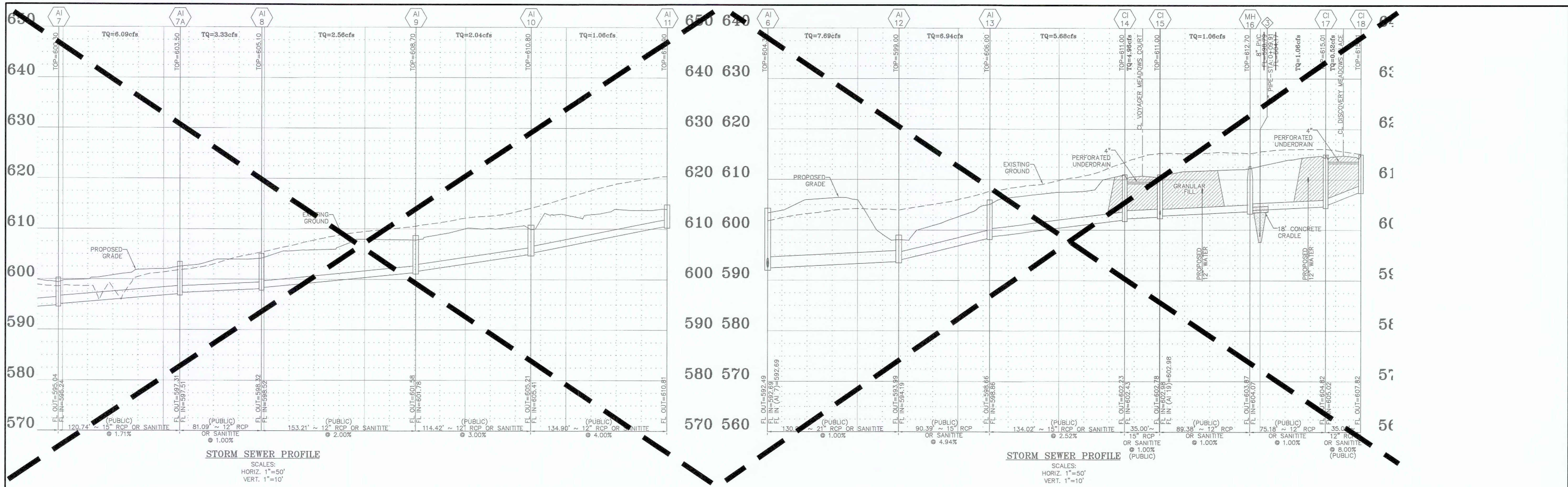
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 Missouri State Certificate of Authority
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Developer / Owner:
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 612 Trade Center Boulevard
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SEWER PROFILES

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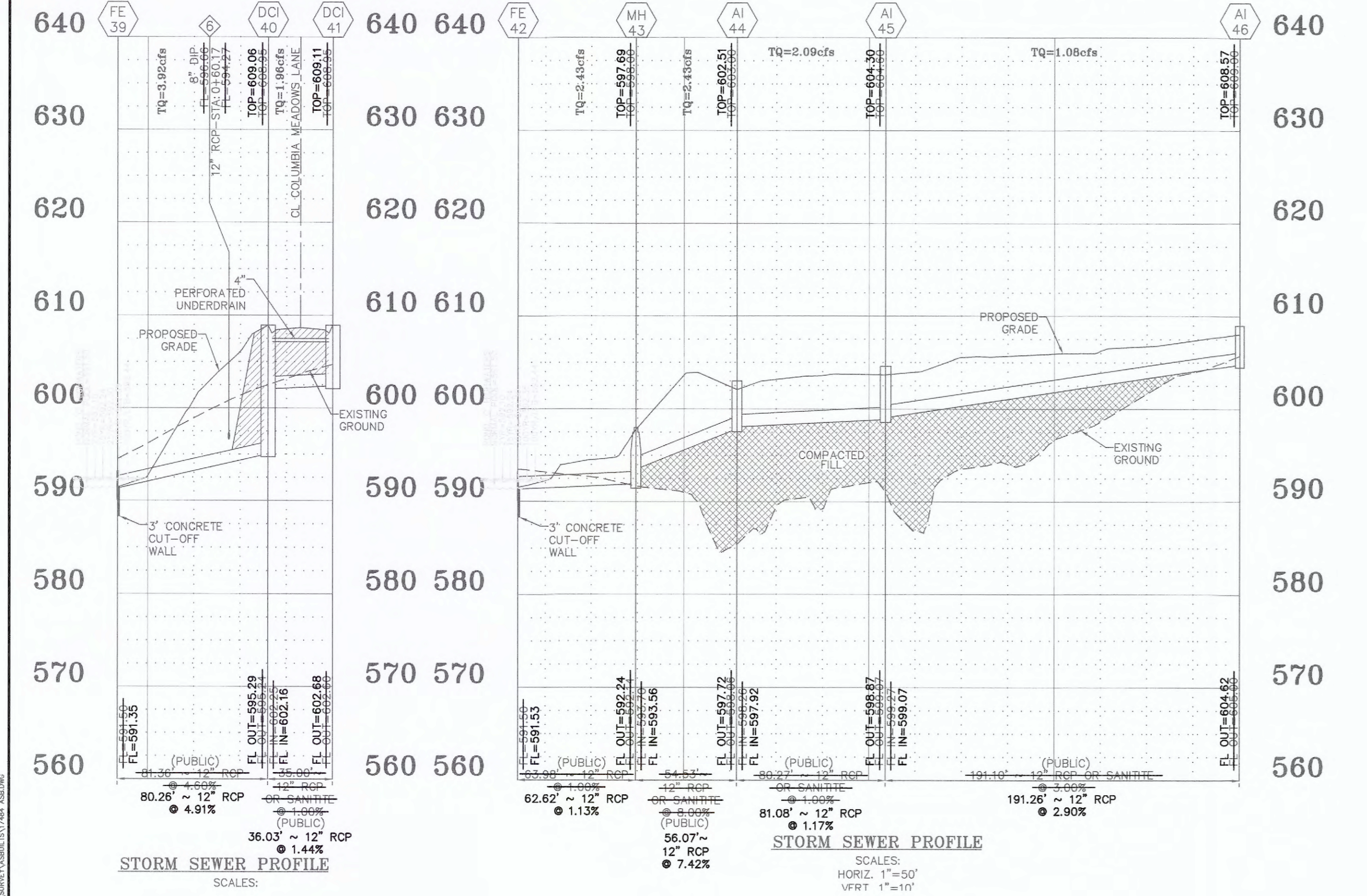
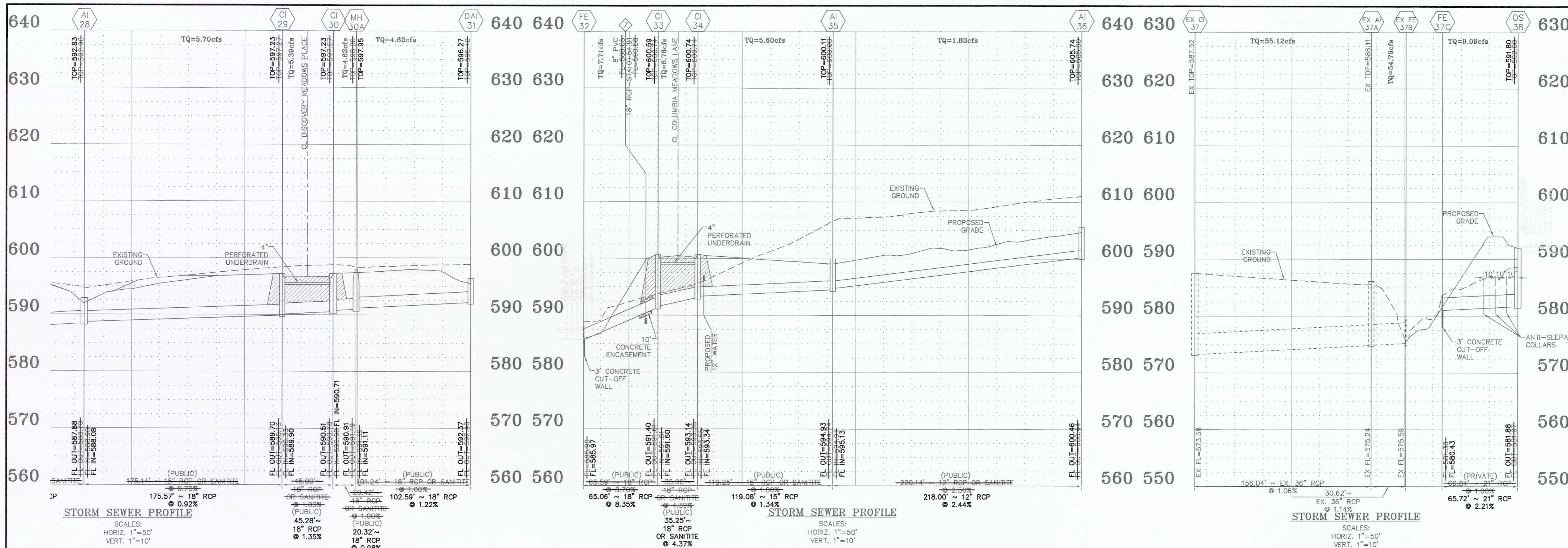
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STORM SEWER PROFILES

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Page No.
 19 of 38

Bax Project # 19-004868 Issue Date: 12/20/2021



St Charles County Government
Hydraulic Review Output Data

WVAULTSERVER\FileFolders\1700017484 - Bryan and Magnolia - 44 acres\Engineering\Hydraulics\As-Built\17484 As-Built.blt
4/29/2022

Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks	
1	AI46	AI45	191	12	604.62	599.07	2.90	608.57	3.67	604.90*	600.07	0.00090	0.17	1.38	0.03	0.03	0.00	0.00	4S	9.35	0.42	2.58	1.08	1.08	6.07	
2	AI45	AI44	81	12	598.87	597.92	1.17	604.30	4.50	599.40*	598.92	0.00340	0.28	2.86	0.11	0.00	0.01	0.00	4S	9.35	0.39	2.58	1.01	2.09	3.85	
3	AI44	MH43	56	12	597.72	593.56	7.42	602.51	4.45	598.06*	594.56	0.00470	0.28	3.09	0.15	0.00	0.08	0.00	4S	9.35	0.13	2.58	0.34	2.43	9.70	
4	MH43	FE42	63	12	592.24	591.53	1.13	597.69	4.87	592.82*	592.44	0.00470	0.29	3.09	0.15	0.00	0.04	0.00	MH	0.00	0.00	0.00	0.00	2.43	3.79	HW=592.44
5	DCI41	DCI40	36	12	602.68	602.16	1.44	608.11	5.74	603.37	603.16	0.00300	0.11	2.50	0.10	0.10	0.00	0.00	2.7%	4.71	0.76	2.58	1.96	1.96	4.28	
6	DCI40	FE39	80	12	595.29	591.35	4.91	608.06	13.27	595.79*	592.44	0.01210	0.97	4.99	0.39	0.00	0.01	0.00	2.7%	4.71	0.76	2.58	1.96	3.92	7.89	HW=592.44
7	OS38	FE37C	66	21	581.88	580.43	2.21	591.80	9.18	582.62*	582.18	0.00330	0.22	3.78	0.22	0.22	0.00	0.00	OS	0.00	0.91	3.06	9.09	23.56	23.56	ITP=582.18
8	AI36	AI35	218	12	600.46	595.13	2.44	605.74	4.89	600.85*	596.13	0.00280	0.57	2.33	0.08	0.08	0.00	0.00	4S	9.35	0.71	2.58	1.83	1.83	5.57	
9	AI35	CI34	119	15	594.93	593.34	1.34	600.11	4.38	595.73*	594.59	0.00750	0.89	4.56	0.32	0.00	0.07	0.00	4S	9.35	1.46	2.58	3.77	5.80	7.48	
10	CI34	CI33	35	18	593.14	591.60	4.37	600.74	7.04	593.70*	593.10	0.00410	0.14	3.83	0.23	0.00	0.01	0.00	LOW	3.40	0.45	2.58	1.16	6.76	21.96	
11	CI33	FE32	65	18	591.40	585.97	8.35	600.59	8.68	591.91*	588.73	0.00540	0.35	4.36	0.30	0.00	0.03	0.00	LOW	3.40	0.37	2.58	0.95	7.71	30.35	HW=588.73
12	DAI31	MH30A	103	18	592.37	591.11	1.23	596.27	3.24	593.03*	592.61	0.00190	0.19	2.61	0.11	0.11	0.00	0.00	6S	14.02	1.79	2.58	4.62	4.62	11.65	
13	MH30A	CI30	20	18	590.91	589.90	4.97	597.95	6.31	591.64	591.56	0.00190	0.04	2.61	0.11	0.00	0.04	0.00	MH	0.00	0.00	0.00	0.00	4.62	23.42	
14	CI30	CI29	45	18	590.51	589.90	1.35	597.23	5.67	591.56	591.40	0.00280	0.12	3.05	0.14	0.00	0.04	0.00	2.0%	1.84	0.30	2.58	0.77	5.39	12.20	
15	CI29	AI28	178	18	589.70	588.08	0.92	597.23	6.72	590.51*	589.81	0.00290	0.51	3.23	0.16	0.00	0.01	0.00	2.0%	1.84	0.12	2.58	0.31	5.70	10.68	
16	AI28	MH27	107	21	587.88	586.99	0.83	592.83	3.02	589.81	589.41	0.00200	0.21	2.82	0.13	0.00	0.19	0.00	4S	9.35	0.51	2.58	1.32	0.02	14.44	
17	MH27	MH26B	45	21	586.79	586.70	0.20	600.73	11.32	589.41	589.25	0.00200	0.09	2.82	0.13	0.00	0.07	0.00	MH	0.00	0.00	0.00	0.00	7.02	7.09	
18	MH26B	MH26A	42	21	586.50	586.42	0.19	600.13	10.88	589.25	589.13	0.00200	0.08	2.82	0.13	0.00	0.04	0.00	MH	0.00	0.00	0.00	0.00	7.02	6.91	
19	MH26A	CI26	44	21	586.22	586.14	0.18	599.60	10.47	589.13	589.97	0.00200	0.09	2.82	0.13	0.00	0.07	0.00	MH	0.00	0.00	0.00	0.00	7.02	6.72	
20	CI26	FE25	75	21	585.94	585.72	0.29	598.27	9.30	588.97	588.73	0.00270	0.20	3.44	0.16	0.00	0.04	0.00	LOW	3.40	0.49	2.58	1.28	6.28	8.53	HW=588.73
21	OS24	FE23C	79	18	582.70	577.81	6.17	587.96	2.94	585.02	579.31	0.04260	3.38	12.26	2.33	2.33	0.00	0.00	OS	0.00	1.87	3.20	21.67	21.67	26.09	TP=579.31

**AS-BUILT PUBLIC UTILITY
FINAL MEASUREMENTS**

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- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS
- TOPOGRAPHY AND SECTIONS OF RETENTION AREA 'B' AND RETENTION AREA 'C'.

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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #206000173



NOTE (STORM SEWERS):
RCP STORM SEWERS THAT CROSS OVER SANITARY SEWER OR WATER MAIN TRENCHES CAN BE CONCRETE CRADLED BUT SANITITE PIPE MUST BE CONCRETE ENCASED, UNLESS OTHERWISE SHOWN.

PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-829-6552
FAX 636-829-1718

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Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

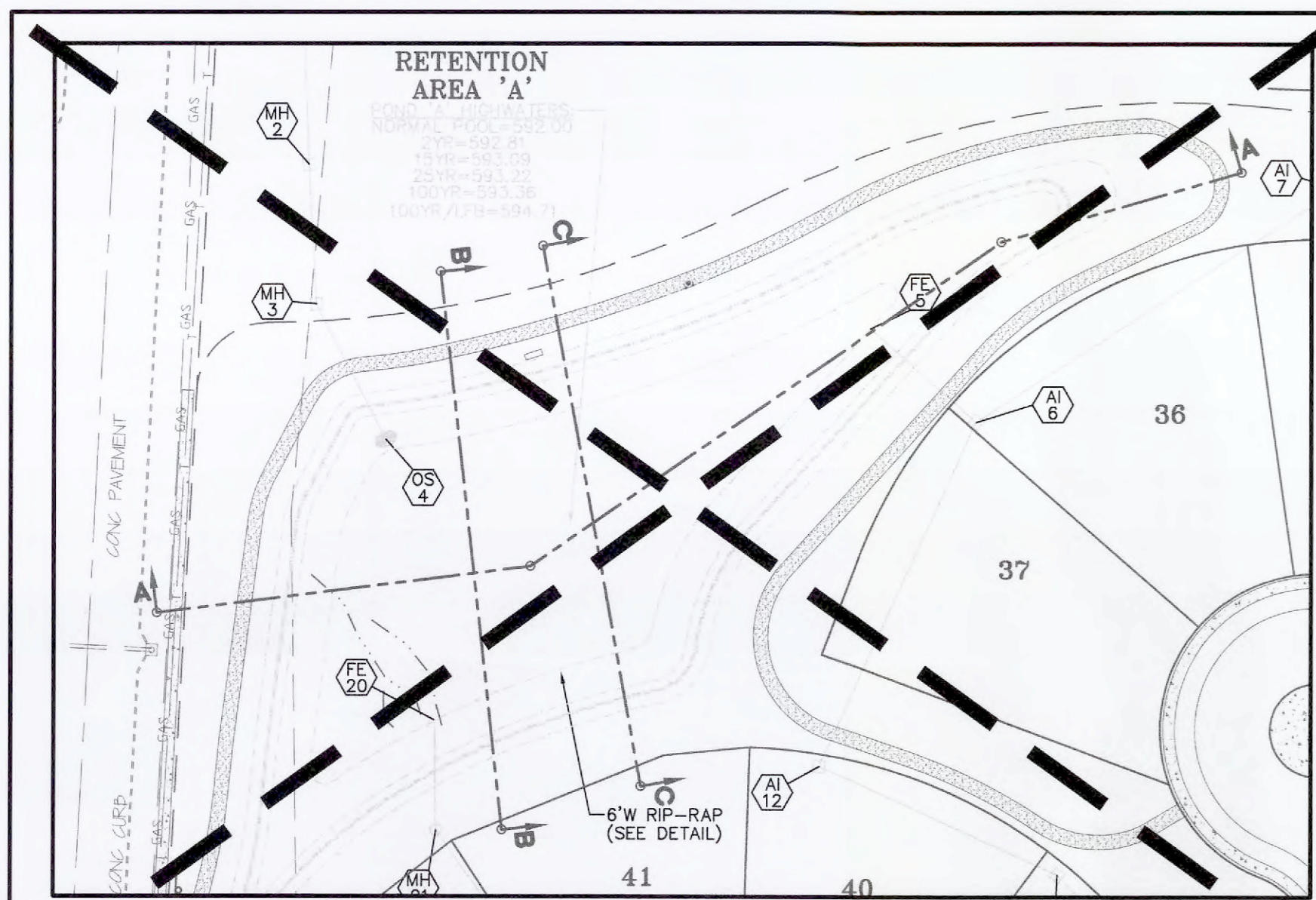
REVISIONS

2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

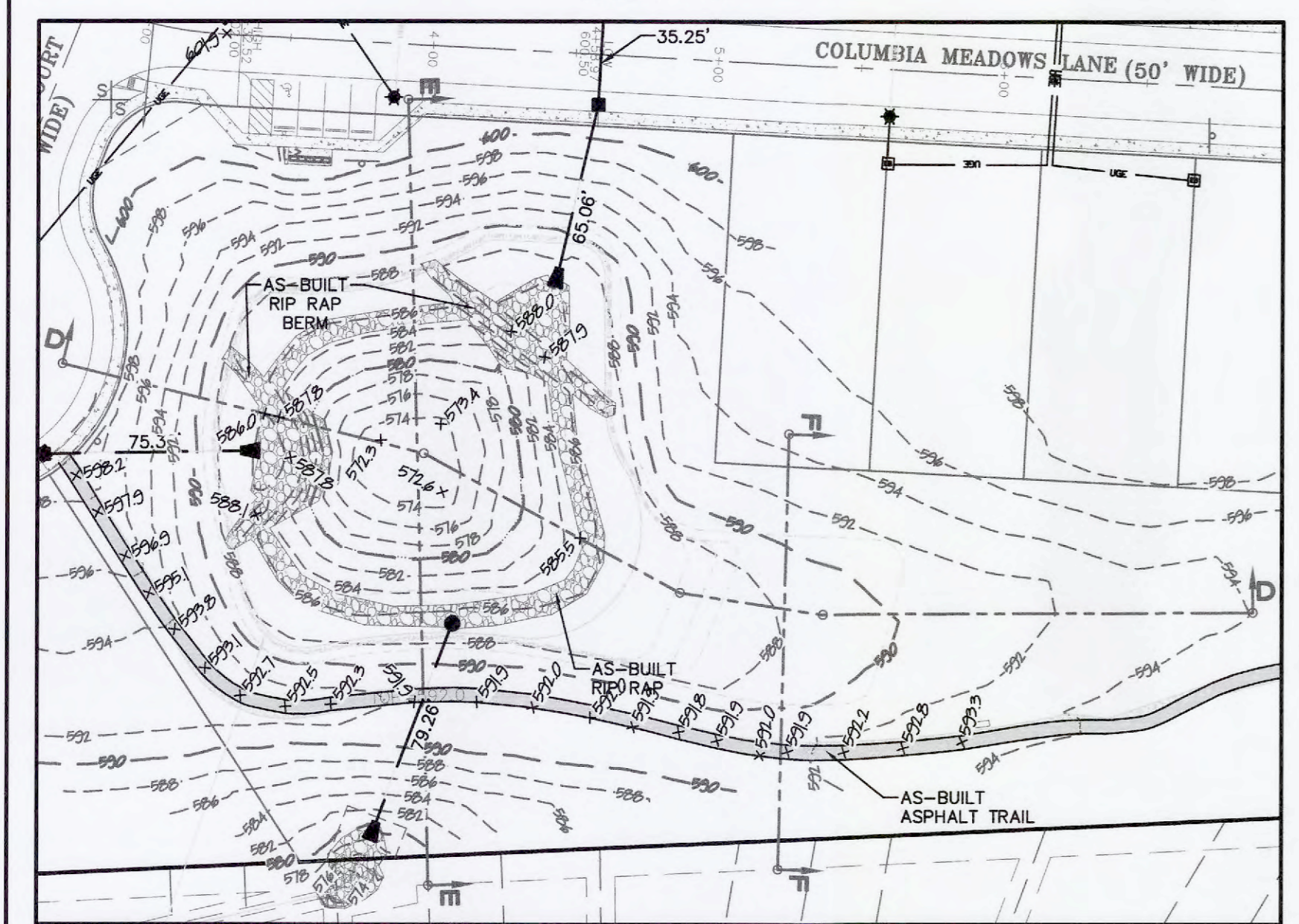
Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

STORM SEWER PROFILES

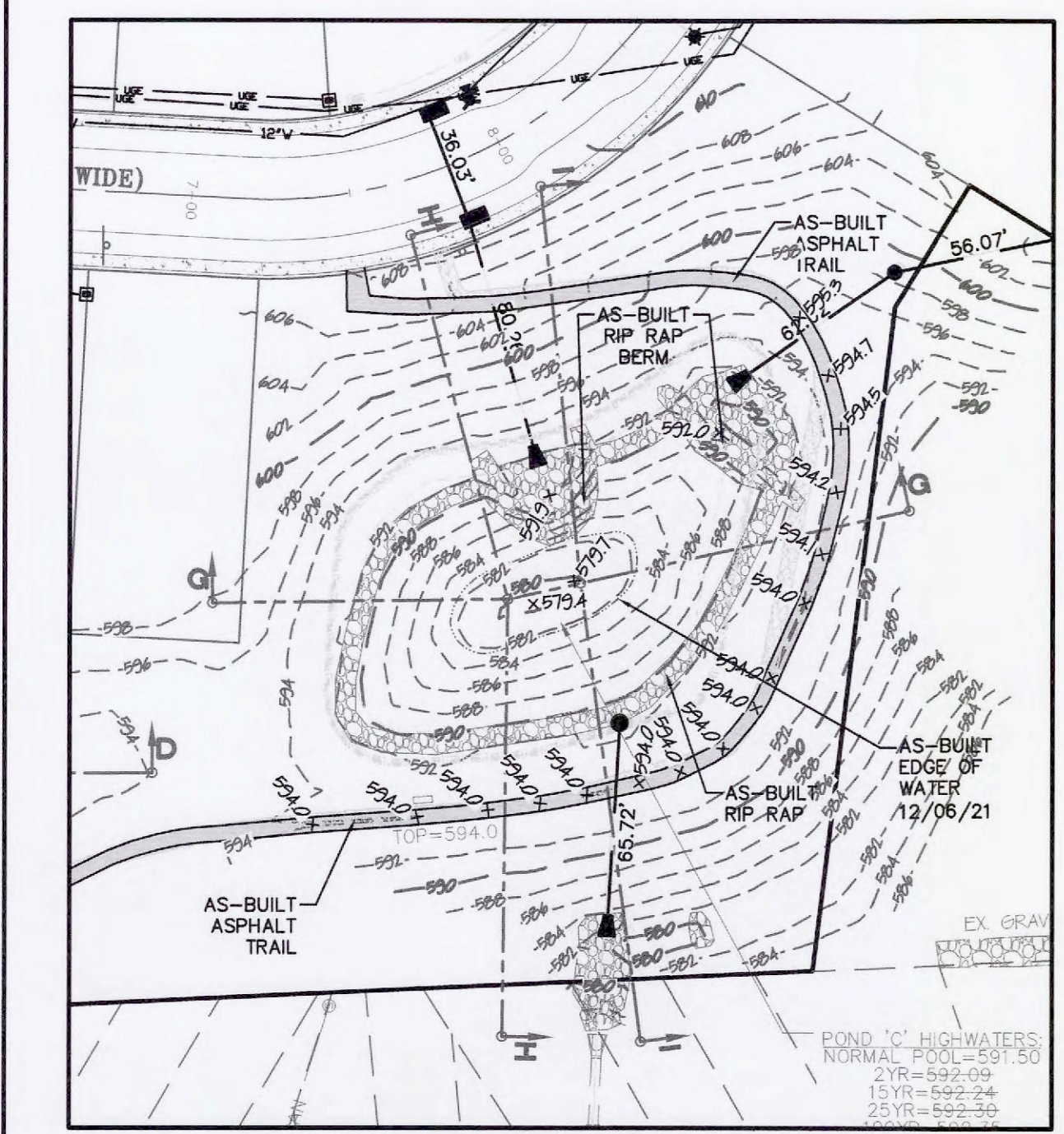
P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?
Page No. 20 of 38



POND 'A' SECTION DETAIL
SCALE: 1" = 50'



POND 'B' SECTION DETAIL
SCALE: 1" = 50'



POND 'C' SECTION DETAIL
SCALE: 1" = 50'

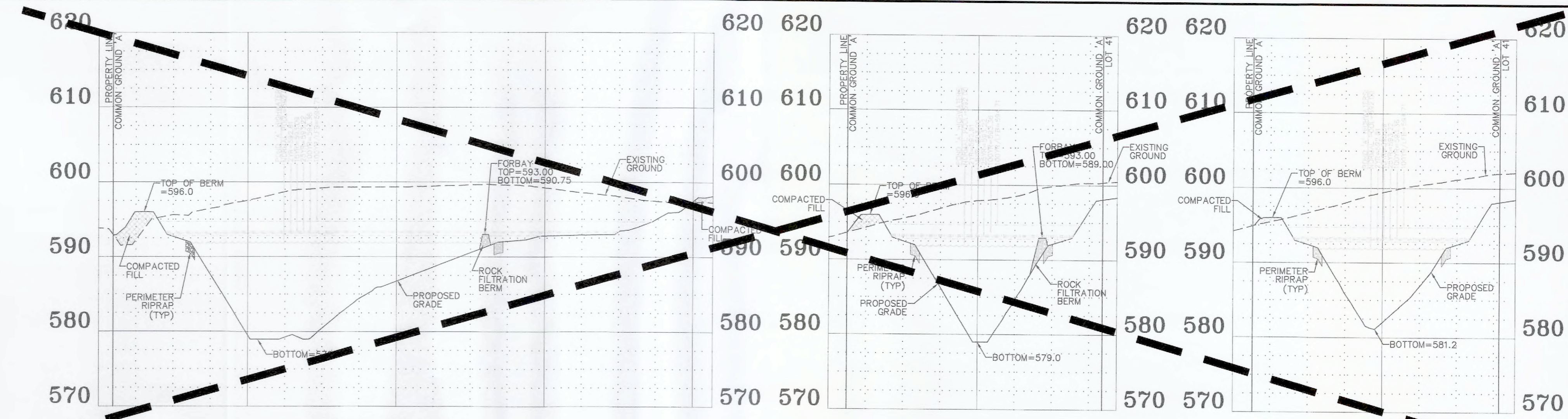
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- TOPOGRAPHY AND SECTIONS OF RETENTION AREA 'B' AND RETENTION AREA 'C'.

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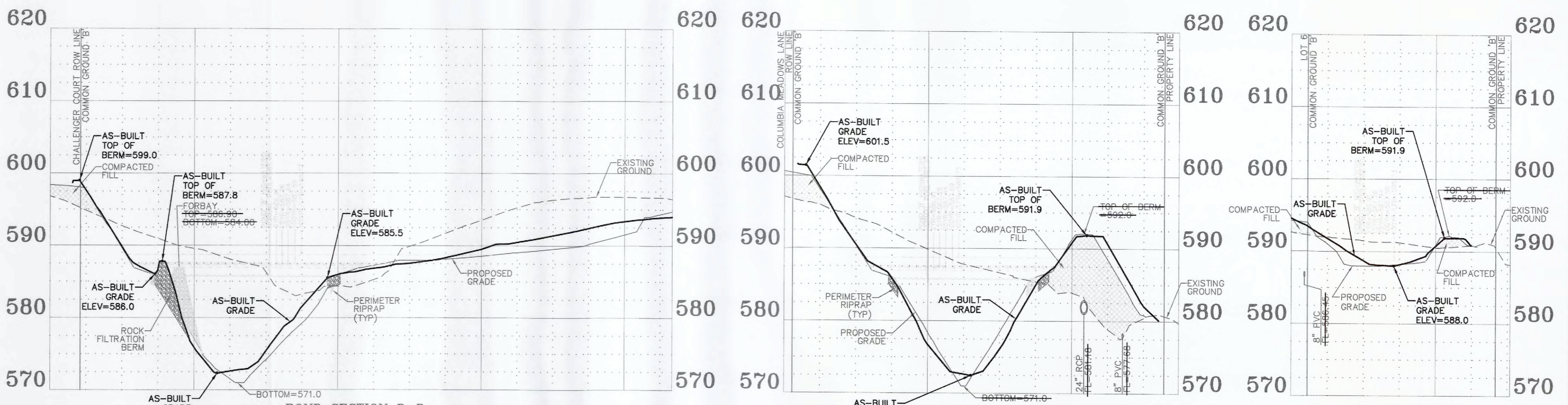
BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



POND SECTION A-A
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

POND SECTION B-B
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

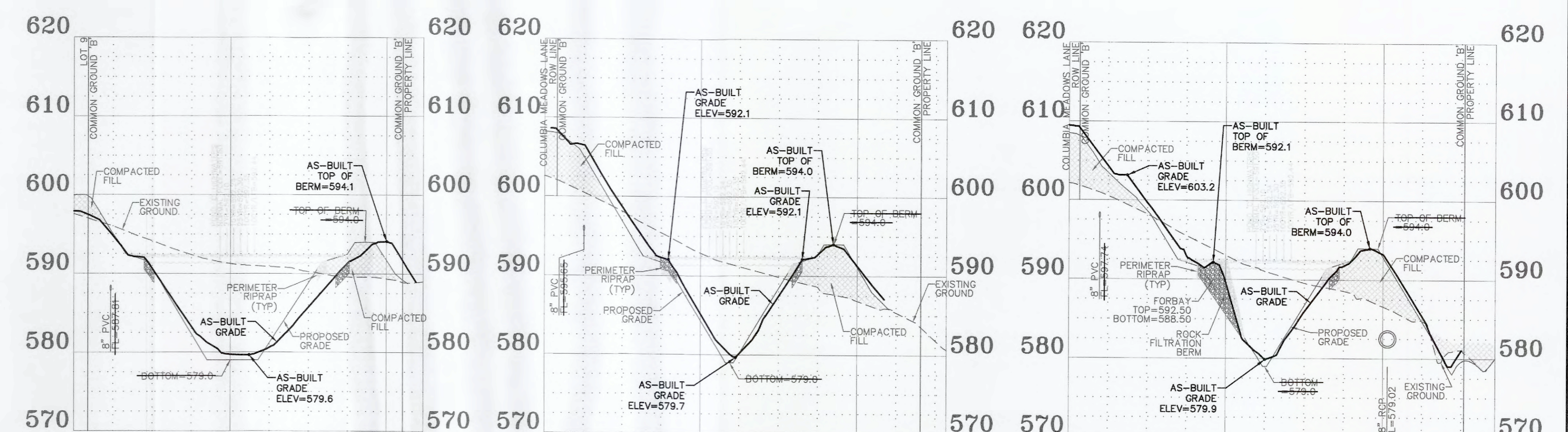
POND SECTION C-C
SCALE: HORIZ. 1"=50'
VERT. 1"=10'



POND SECTION D-D
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

POND SECTION E-E
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

POND SECTION F-F
SCALE: HORIZ. 1"=50'
VERT. 1"=10'



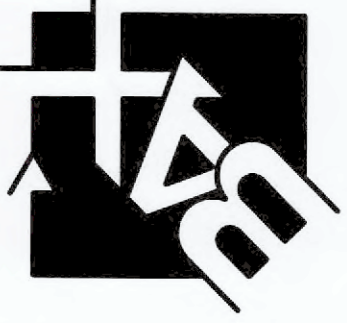
POND SECTION G-G
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

POND SECTION H-H
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

POND SECTION I-I
SCALE: HORIZ. 1"=50'
VERT. 1"=10'

PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
231 Point West Blvd.
St. Charles, MO 63301
636-928-5522
FAX 636-928-1716



DISCLAIMER OF RESPONSIBILITY
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Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

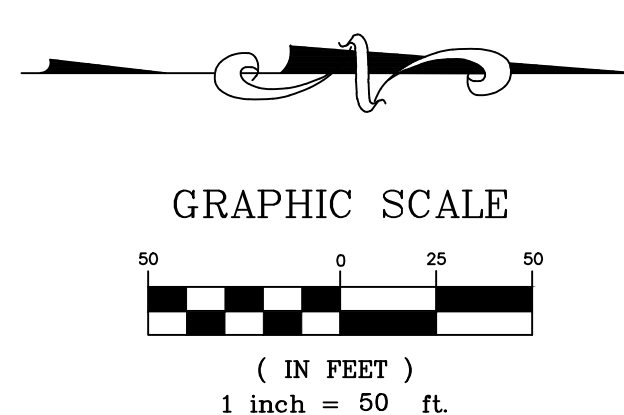
REVISIONS	
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

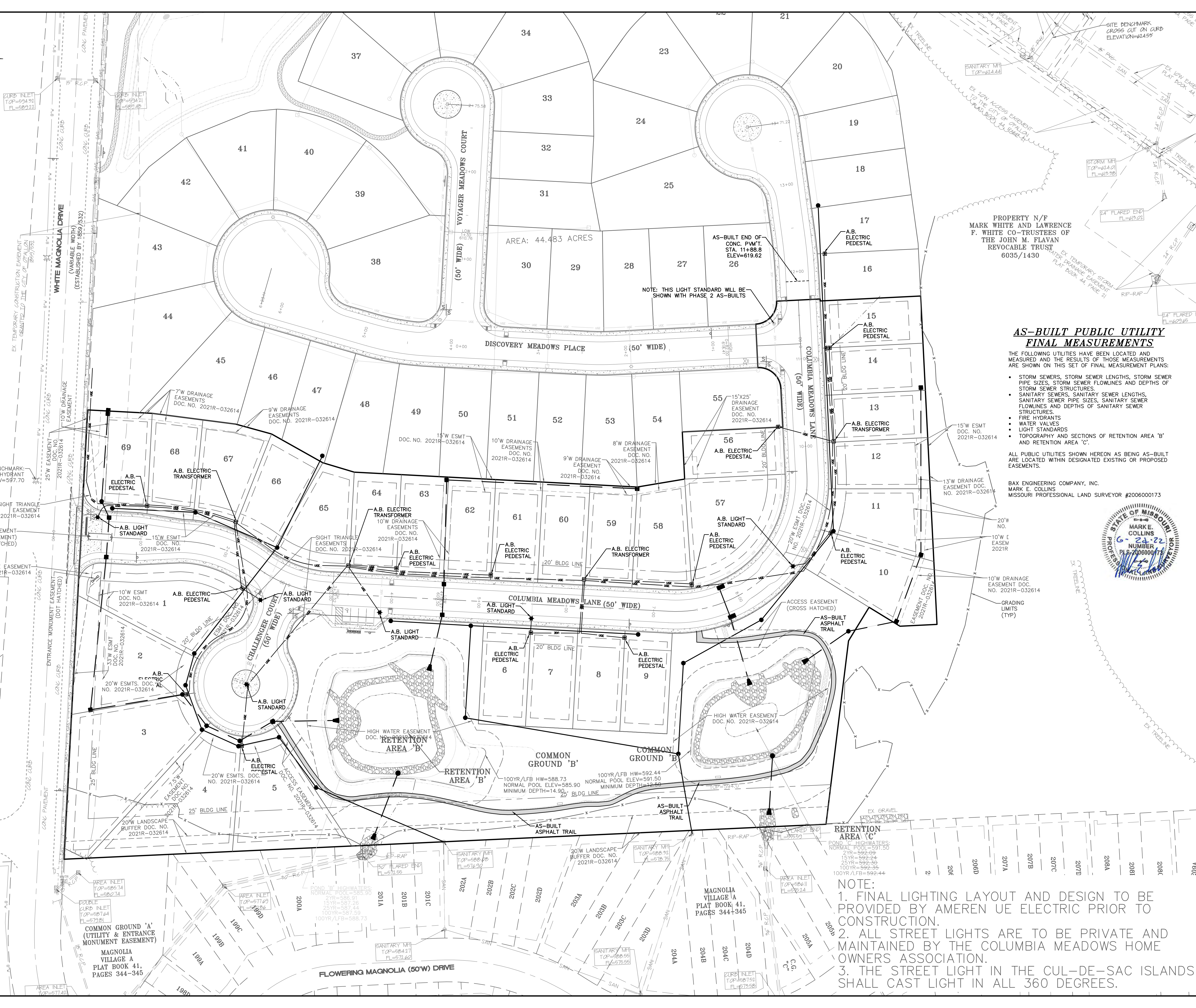
POND CROSS-SECTIONS

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?

Page No.
21 of 38



LOT 2
R&C SUBDIVISION
PLAT BOOK 35, PAGE 355
PROPERTY N/P
VININGS OF ORALSON ASSOCIATES LLC
6469/2451



**AS-BUILT PUBLIC UTILITY
FINAL MEASUREMENTS**

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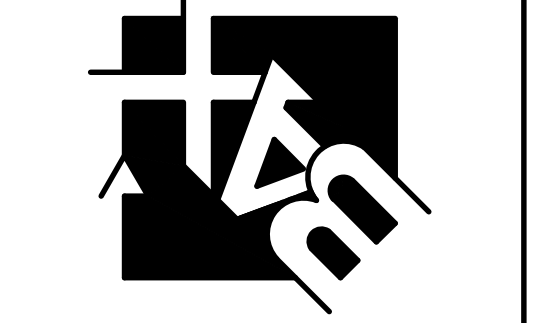
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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
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Bax Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #000655
Missouri State Certificate of Authority Surveying #200144

REVISIONS

DATE	REVISION
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.
6/24/22	CITY COMMENTS REVS.

Developer / Owner:
Alpha Land Development Two, LLC.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?

Page No.
26 of 38

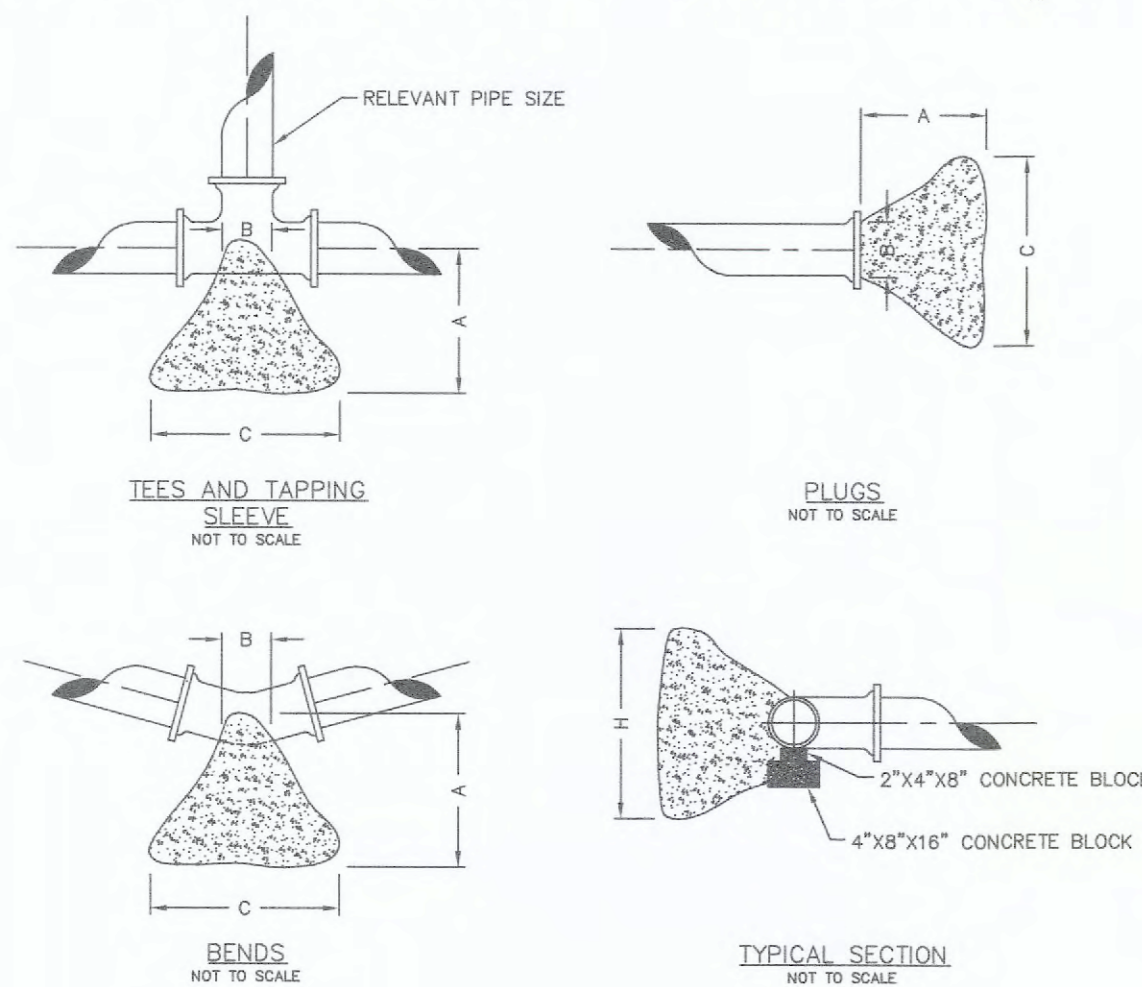
NOTE:

1. FINAL LIGHTING LAYOUT AND DESIGN TO BE PROVIDED BY AMEREN UE ELECTRIC PRIOR TO CONSTRUCTION.
2. ALL STREET LIGHTS ARE TO BE PRIVATE AND MAINTAINED BY THE COLUMBIA MEADOWS HOME OWNERS ASSOCIATION.
3. THE STREET LIGHT IN THE CUL-DE-SAC ISLANDS SHALL CAST LIGHT IN ALL 360 DEGREES.

LIGHTING PLAN

DATE: 06/20/22 BY: [Signature] PROJECT: 1744-BRYAN AND MAGNOLIA DRIVE, VILLAGE A, ASB 096
 LAST MODIFIED: 06/20/22 BY: [Signature] PROJECT: 1744-BRYAN AND MAGNOLIA DRIVE, VILLAGE A, ASB 096

NOTE: THIS DETAIL IS FROM PWS#2



THRUST BLOCK DIMENSIONS - INCHES

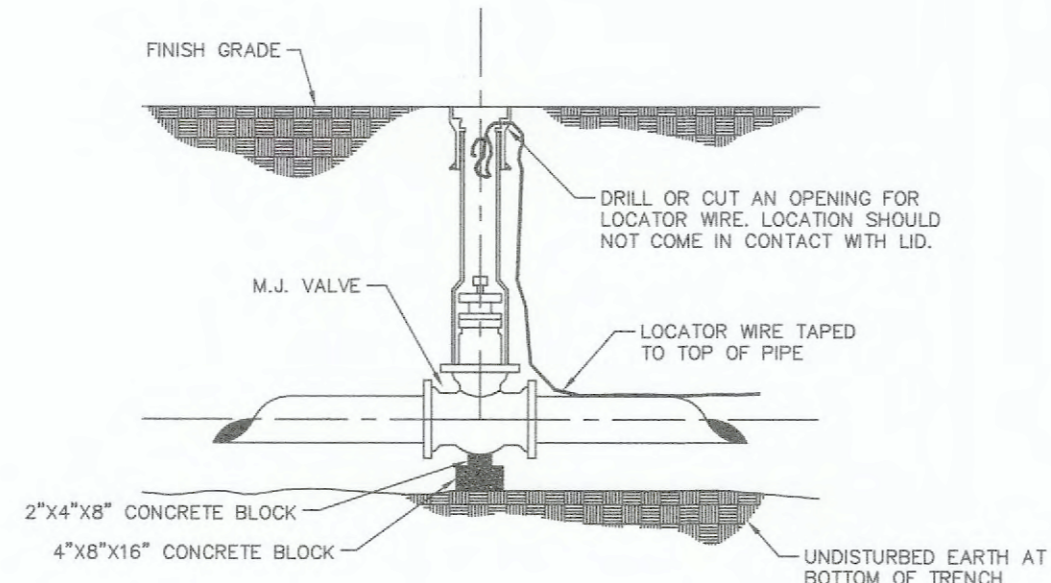
PIPE DIA.	ALL FTGS.		TEE PLUG TAPPING		90 DEGREE BEND		45 DEGREE BEND		22-1/2 BEND		11-1/4 BEND	
	A	B	C	H	C	H	C	H	C	H	C	H
4	14	4	24	12	26	15	18	12	12	12	12	12
6	16	6	36	18	36	24	30	18	24	12	12	12
8	20	8	36	30	42	36	36	24	24	18	18	12
10	20	10	48	36	66	36	36	36	28	24	18	18
12	24	12	68	36	82	42	52	36	40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

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

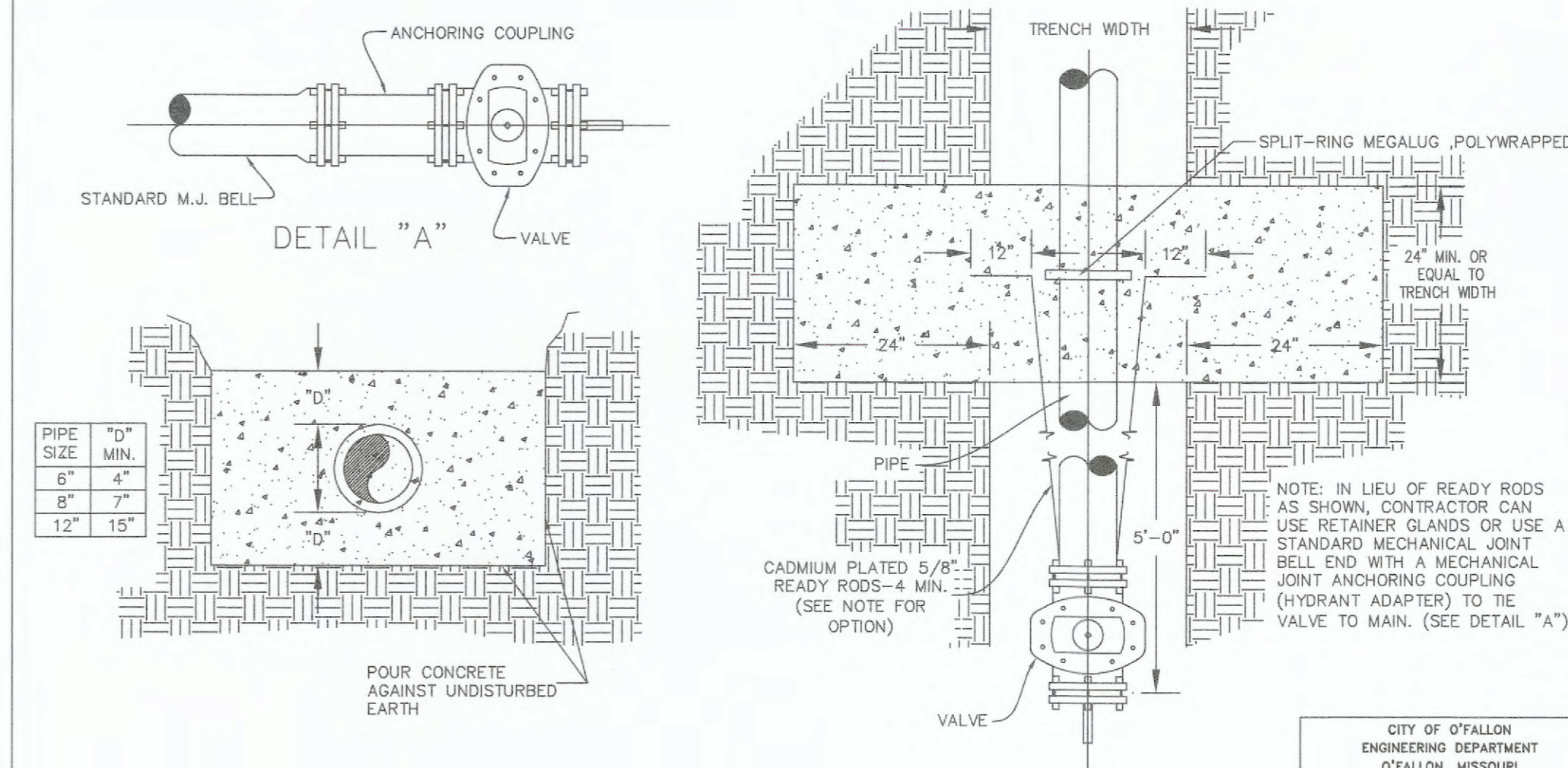
**HORIZONTAL THRUST BLOCKING
DETAIL "C"**

NOTE: THIS DETAIL IS FROM PWS#2

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

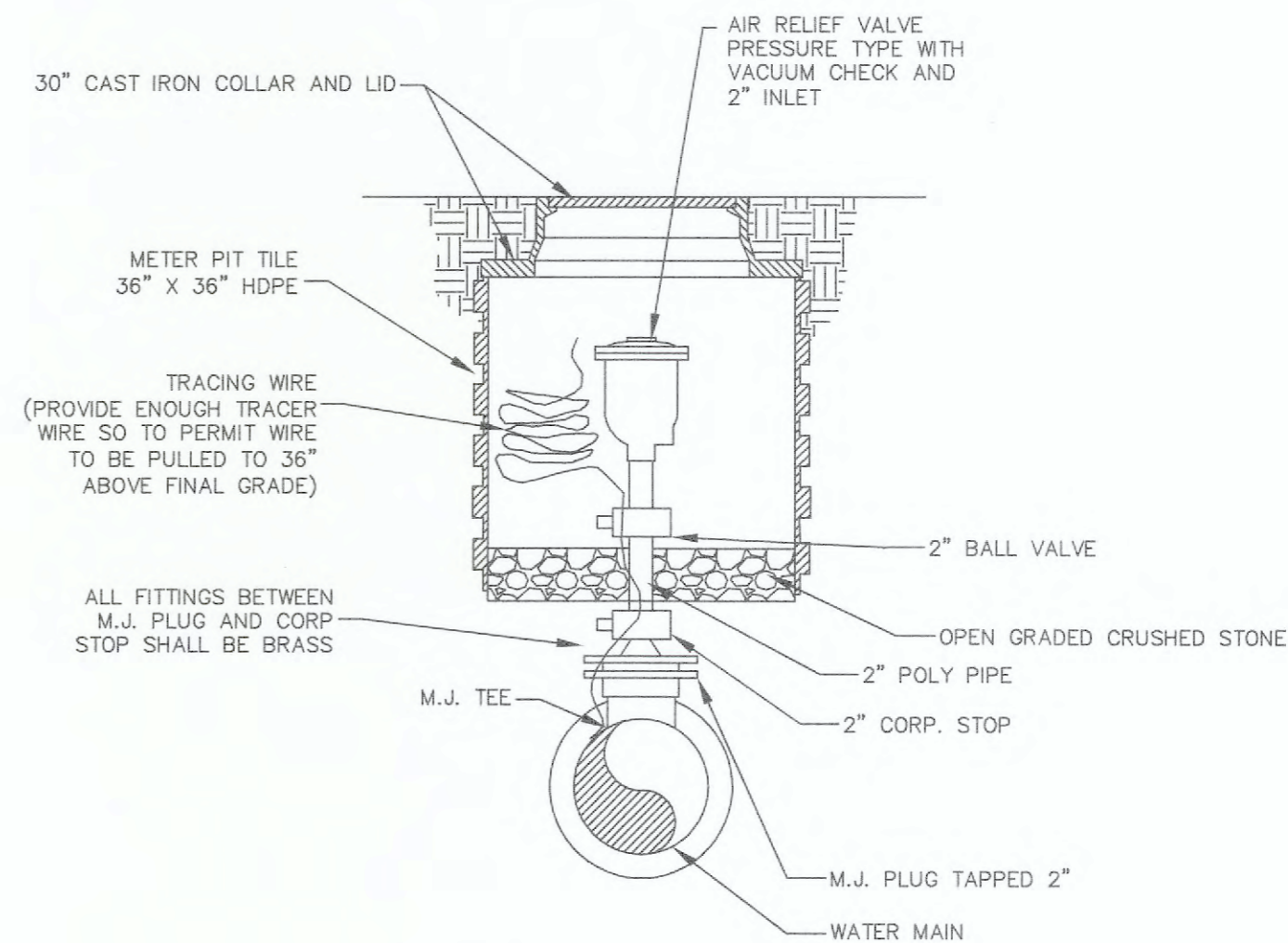


**GATE VALVE DETAIL
DETAIL "D"**



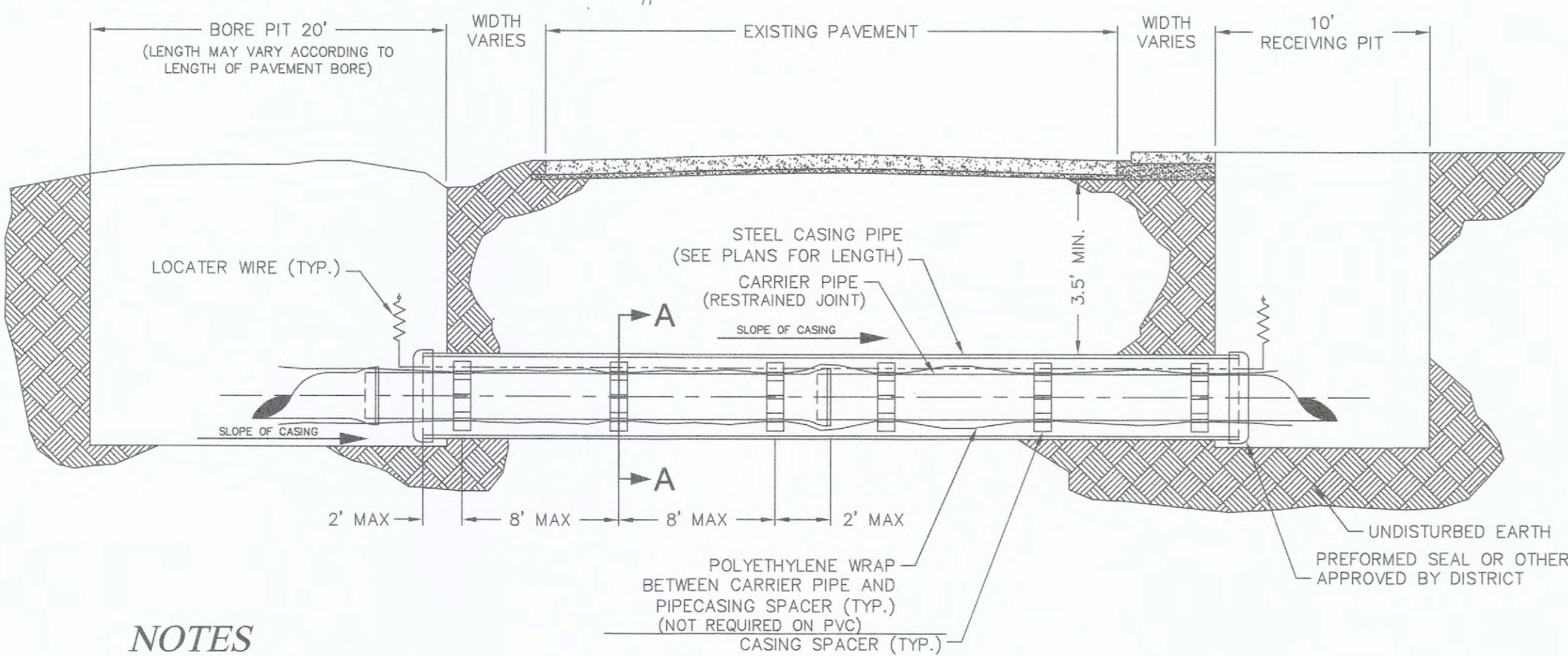
**CROSS BLOCK DETAIL
NOT TO SCALE**

**CROSS BLOCK
DETAILS**



**AIR RELIEF ASSEMBLY
NOT TO SCALE**

NOTE: THIS DETAIL IS FROM PWS#2

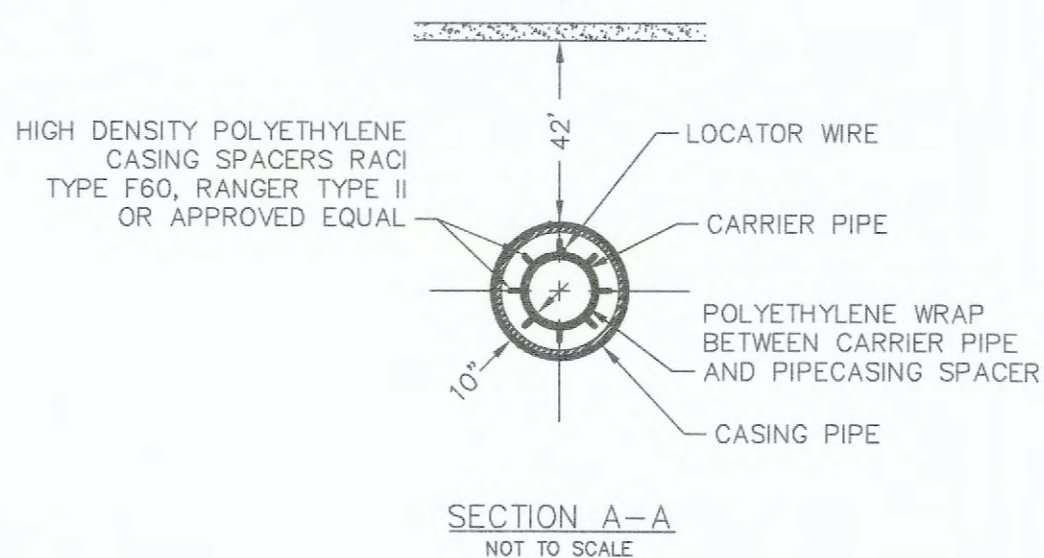


NOTES

- 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 ENCASEMENT
DETAIL "H"**



**SECTION A-A
NOT TO SCALE**

**AS-BUILT PUBLIC UTILITY
FINAL MEASUREMENTS**

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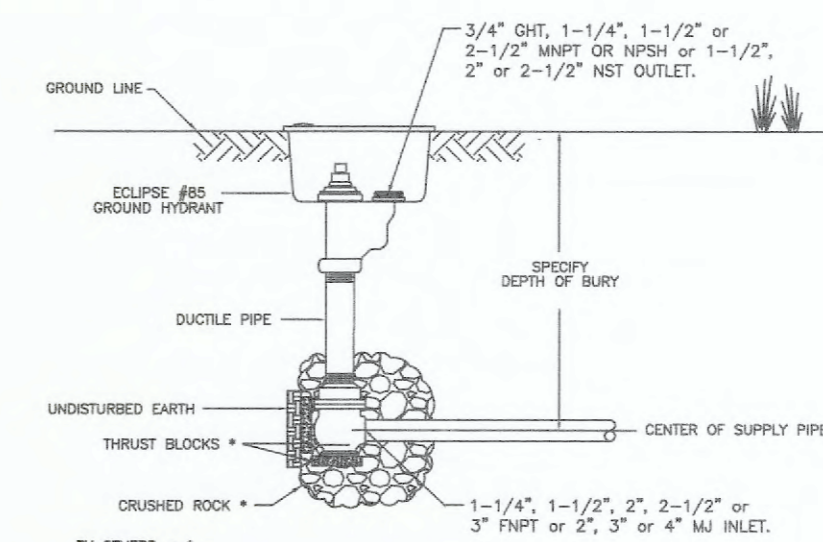
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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



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

THIS DRAWING IS THE PROPERTY OF THE KUPFERLE FOUNDRY COMPANY. IT IS NOT TO BE USED OR REPLICATED WITHOUT PERMISSION OF THE OWNER.

DATE: 8-26-09
MATERIAL: PART NO. 85B BLOW-OFF HYDRANT
SCALE TO FIT

KUPFERLE FOUNDRY COMPANY
2011 NORTH 9TH STREET, ST. LOUIS, MO 63102
314-281-8778 800-231-3900 FAX 314-213-2800
7622 WWW.KUPFERLE.COM

PROJECT TITLE:

**COLUMBIA
MEADOWS
PHASE ONE**

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-828-6552
FAX 636-828-1716



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Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

DATE	CITY COMMENTS	REVS.
2/23/22	CITY COMMENTS	REVS.
4/22/22	CITY COMMENTS	REVS.

Developer / Owner:
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314-721-7779

WATER DETAILS

P+Z No. #19-004868
Approval Date: 07/23/2020

City No. #?

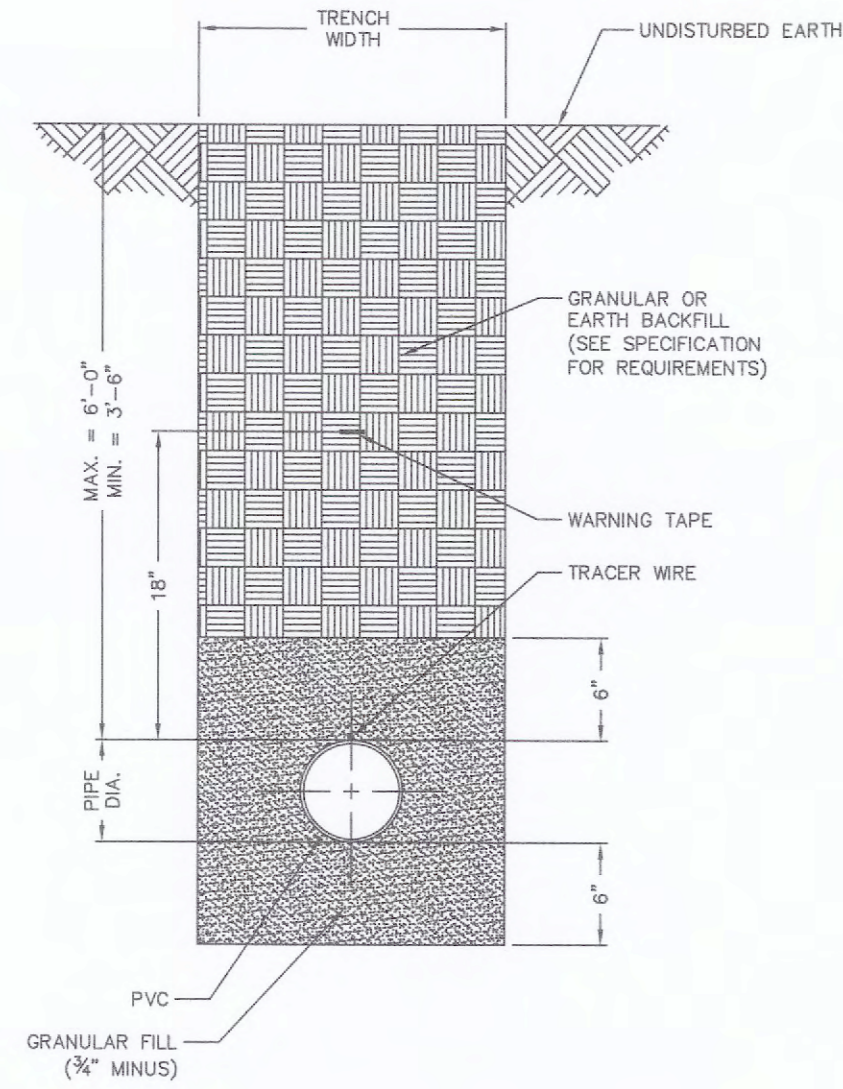
Page No.

32 of 38

LAND SURVEYOR'S SEAL DOES NOT APPLY TO CITY OF O'FALLON DETAILS ON THIS SHEET.

Bax Project # 19-17494 Issue Date: 12/20/2021

NOTE: THIS DETAIL IS FROM PWS#2

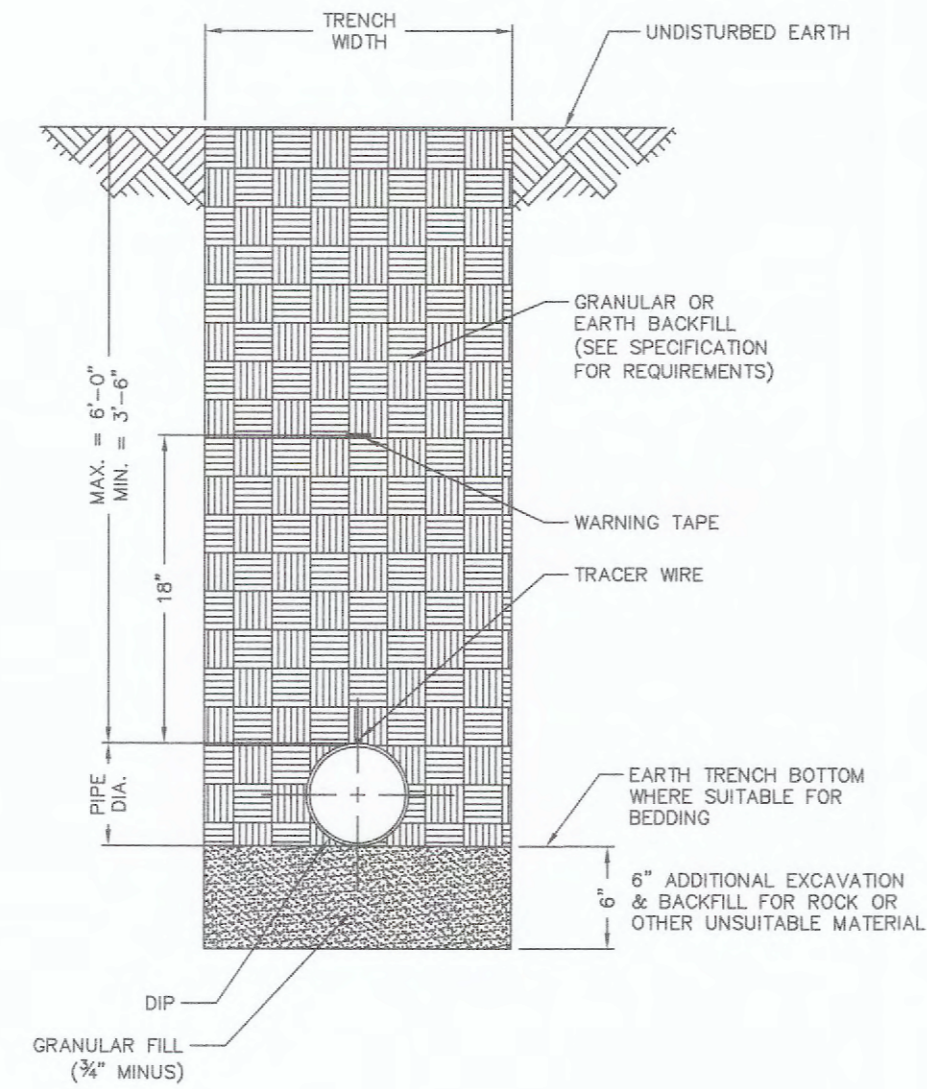


NOTES

- 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

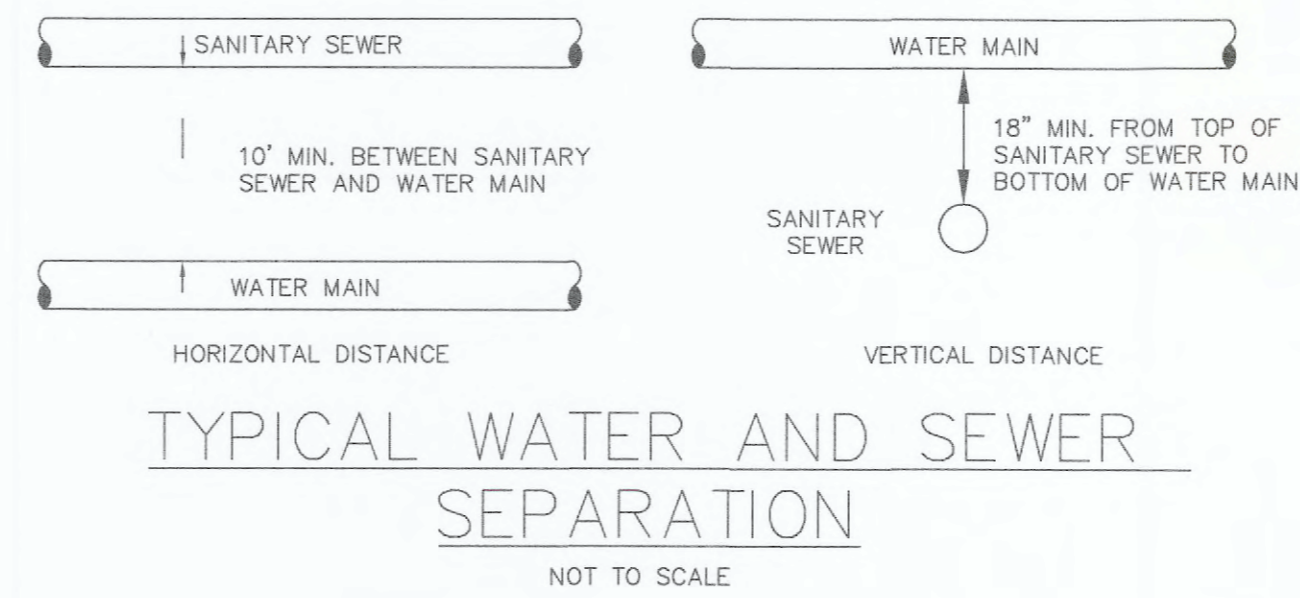
NOTE: THIS DETAIL IS FROM PWS#2



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



CITY OF FALLON
ENGINEERING DEPARTMENT
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.

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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- 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.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS
- TOPOGRAPHY AND SECTIONS OF RETENTION AREA 'B' AND RETENTION AREA 'C'.

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

BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-929-6552
FAX 636-929-1718



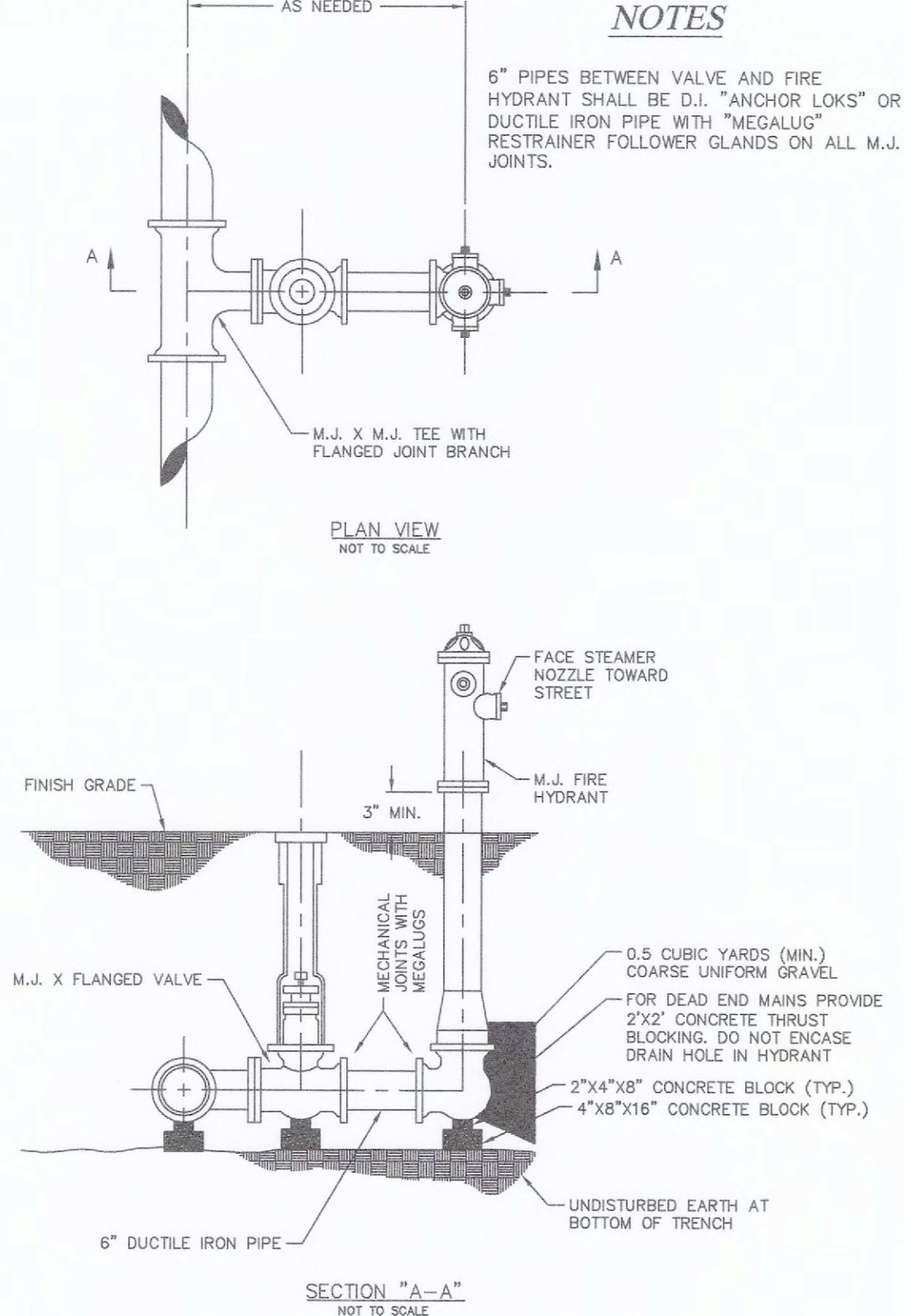
DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

Bax Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

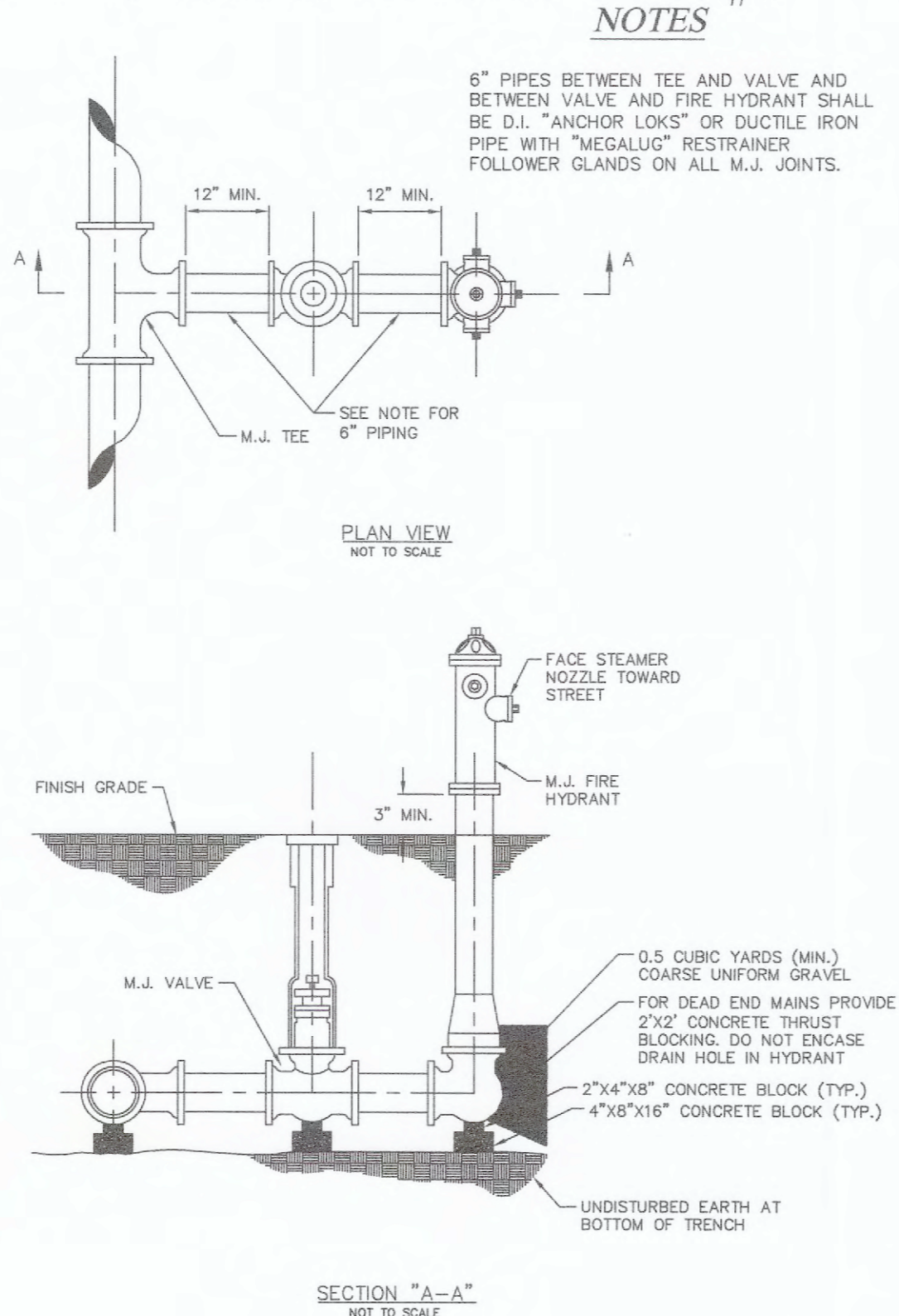
DATE	REVISIONS
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

NOTE: THIS DETAIL IS FROM PWS#2



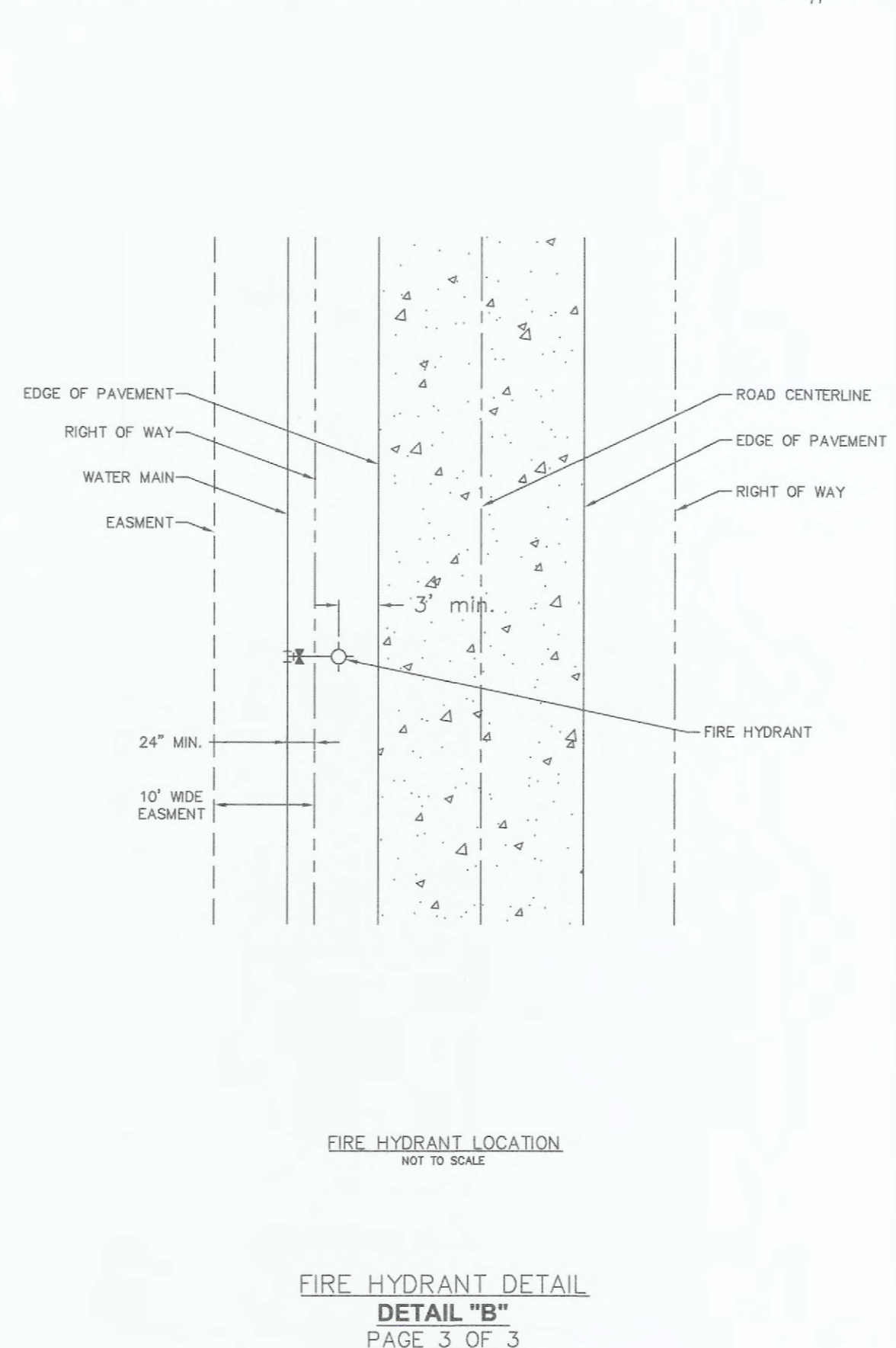
FIRE HYDRANT DETAIL
DETAIL "B"
PAGE 1 OF 3

NOTE: THIS DETAIL IS FROM PWS#2



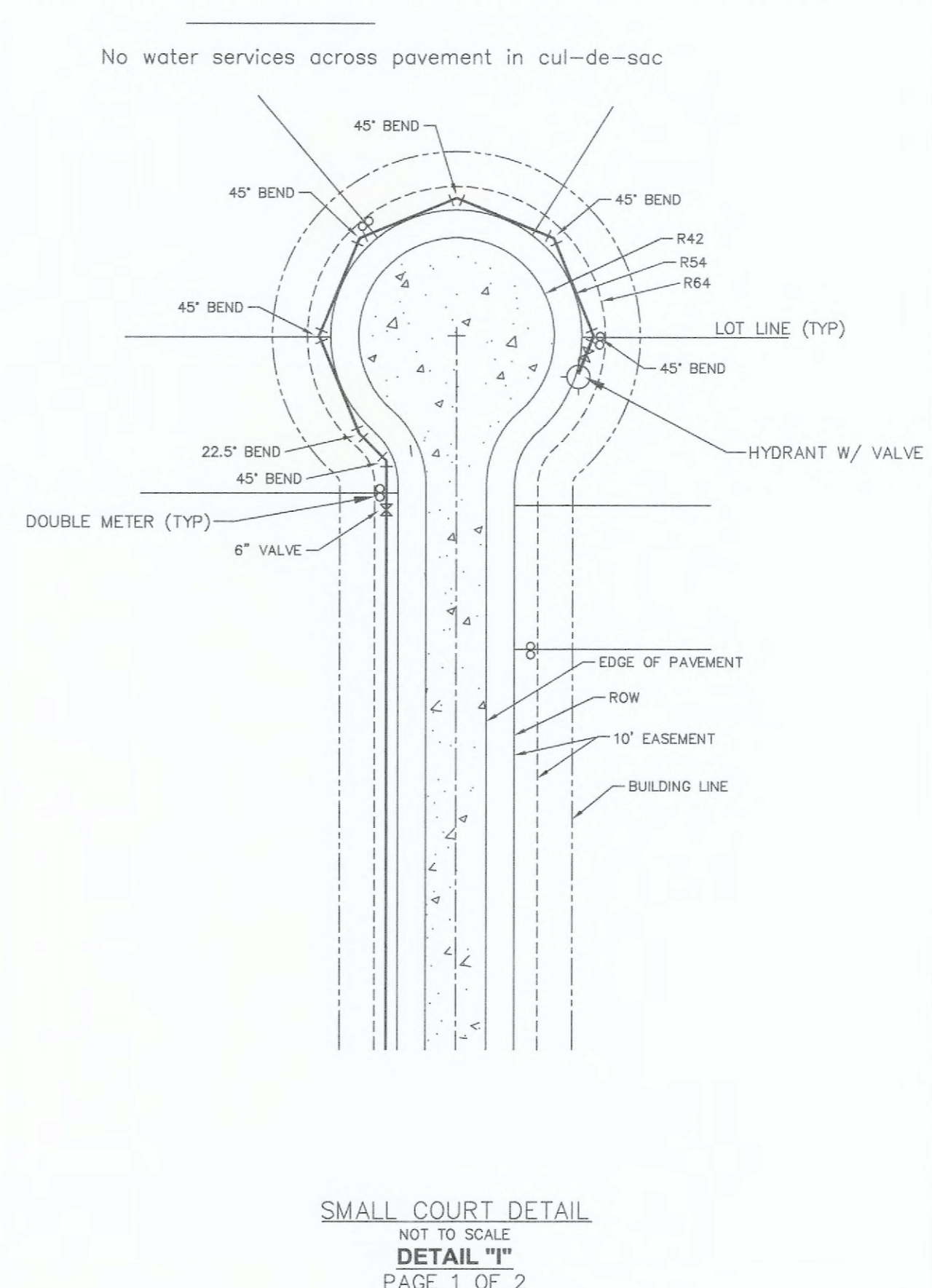
FIRE HYDRANT DETAIL
DETAIL "B"
PAGE 2 OF 3

NOTE: MODIFIED DETAIL FROM PWS#2



FIRE HYDRANT DETAIL
DETAIL "B"
PAGE 3 OF 3

NOTE: MODIFIED DETAIL FROM PWS#2



SMALL COURT DETAIL
NOT TO SCALE
DETAIL "I"
PAGE 1 OF 2

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

Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

WATER DETAILS

P+Z No. #19-004868

Approval Date: 07/23/2020

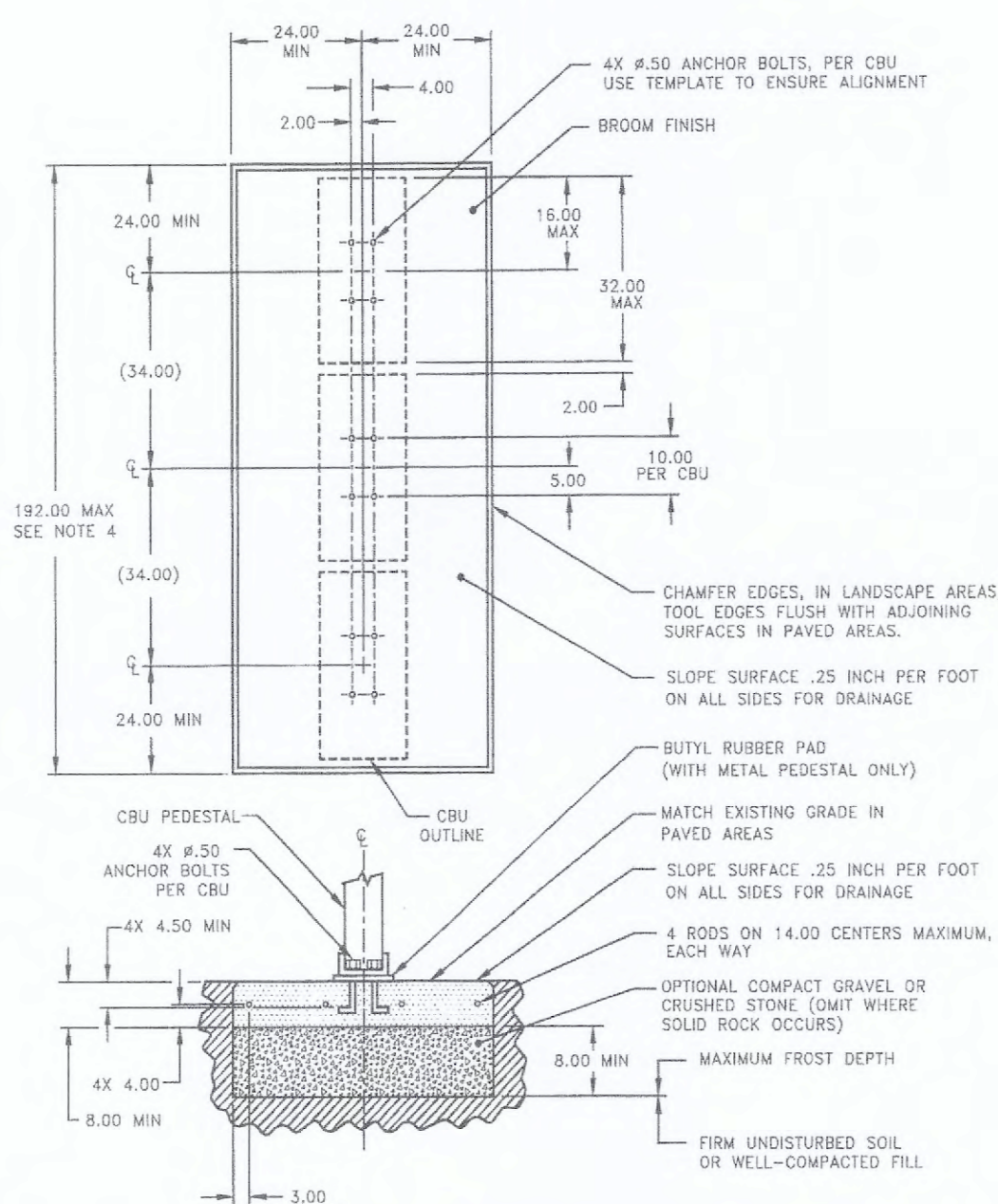
City No. #?

Page No.

33 of 38

LAST DATE REVISED: 02/20/22 BY: BAX
FILE LOCATION: \\BAX\ENGINEERING\PROJECTS\2020\19-004868\DWG\19-004868-01.dwg

USPS APPROVED SPECIFICATIONS - CONCRETE PAD (MULTIPLE UNIT)



- NOTES:
- CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, CONTAIN 4% MIN - 6% MAX AIR ENTRAINMENT AND BE PLACED WITH A 3.50 - 4.50 SLUMP IN ACCORDANCE WITH ACI 301.
 - REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
 - ANCHOR BOLTS SHALL CONFORM TO ASTM A193, GRADE 88M, TYPE 316 STAINLESS STEEL.
 - A 3 CBU CONFIGURATION IS DEPICTED. A 2 OR 4 CBU CONFIGURATION MAY BE USED AS LONG AS THEY ARE ARRANGED IN GROUPS SUCH THAT THE OVERALL DIMENSION OF THE CONCRETE BASE DOES NOT EXCEED 192 INCHES.

CLUSTER BOX UNIT (CBU)
-ANCHORING METHODS-

- CBUs must be level and mounted firmly in concrete, using one of the following methods.
- The J-bolt method is the preferred method of installation of CBU's on concrete pads; however, the J-bolt pattern must be accurate with the CBU pedestal plate. When using J-bolts, in order to prevent any damage or accidents that could result from the exposed bolts, consideration should be given as to the time lapse between pouring the concrete and the actual installation. Expansion anchors must be installed in accordance with the manufacturer's instructions.
 - The use of anchor bolts for the installation of CBU's on concrete pads is also acceptable as long as the methods described below are followed.
 - Hilti Kwik bolt II, 1/2" diameter X 5-1/2" overall length
Catalog Number: 000-453-696, KB II 12-512
Stainless Steel Catalog Number: 000-454-744
Minimum embedment in concrete must be no less than 3-1/2"
 - ITW Ramset Redhead Trubolt, galvanized, 1/2" diameter X 7" overall length
 - Rawl Stud, 1/2" diameter X 5 1/2" overall length, galvanized.
Catalog Number: 7324
Minimum embedment in concrete must be no less than 4"

CLUSTER BOX UNIT (CBU)
-CONCRETE PAD REQUIREMENTS-

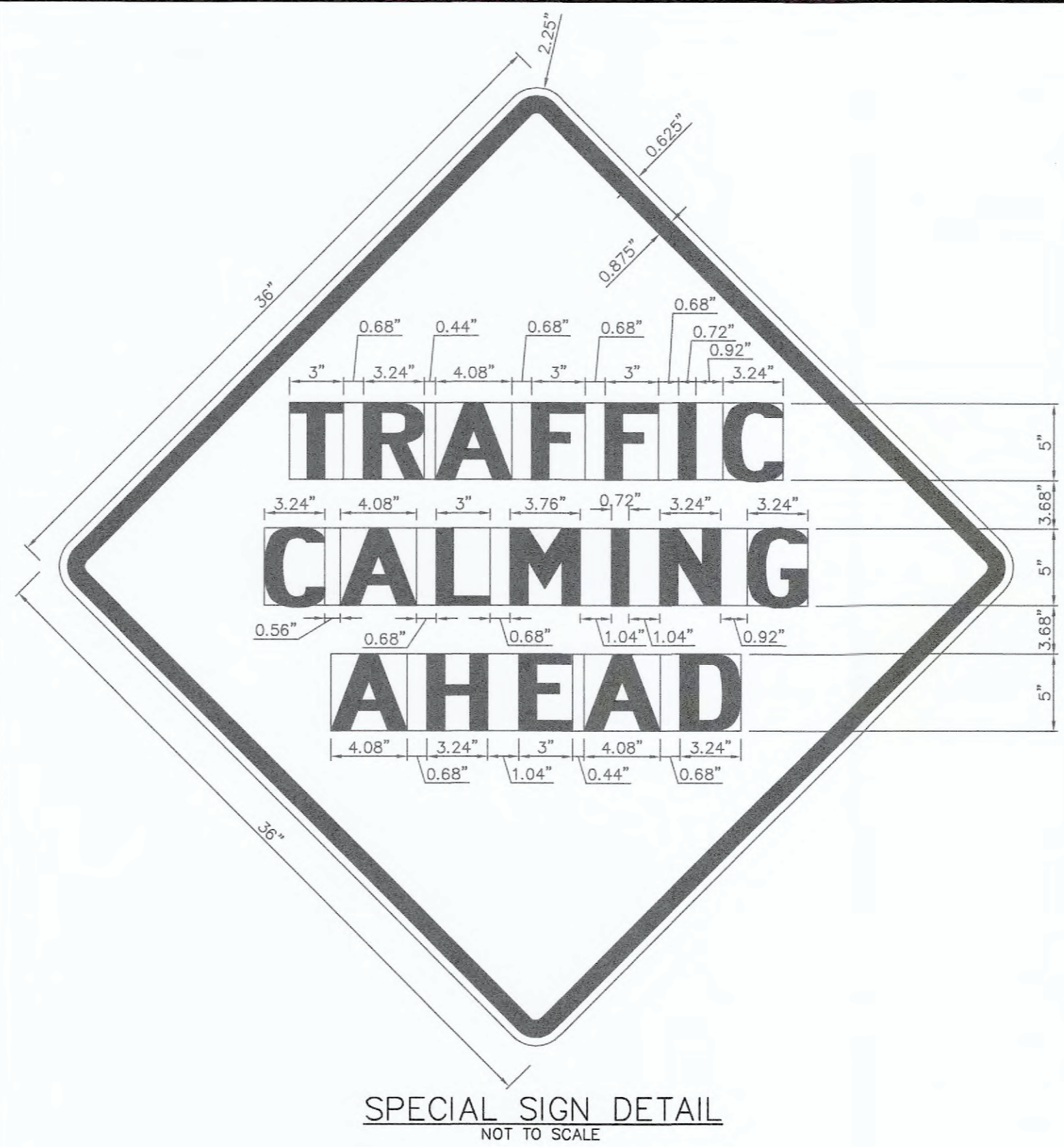
- ALL FREE STANDING PADS MUST BE 8" THICK -

1 UNIT	SINGLE PAD	4' X 4'
2 UNITS	DOUBLE PAD	4' X 7'
3 UNITS	TRIPLE PAD	4' X 10'
4 UNITS	QUAD PAD	4' X 13'

*** WHEN PLACING A PARCEL LOCKER AT ANY CBU LOCATION, INCREASE THE PAD SIZE BY AN ADDITIONAL 4' X 4' ***

POSTAL SERVICE DETAILS
FOR MULTI-UNIT CBU PLACEMENT

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



AS-BUILT PUBLIC UTILITY
FINAL MEASUREMENTS

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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-6552
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DISCLAIMER OF RESPONSIBILITY
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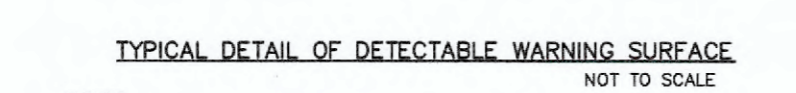
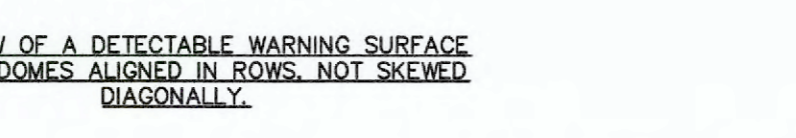
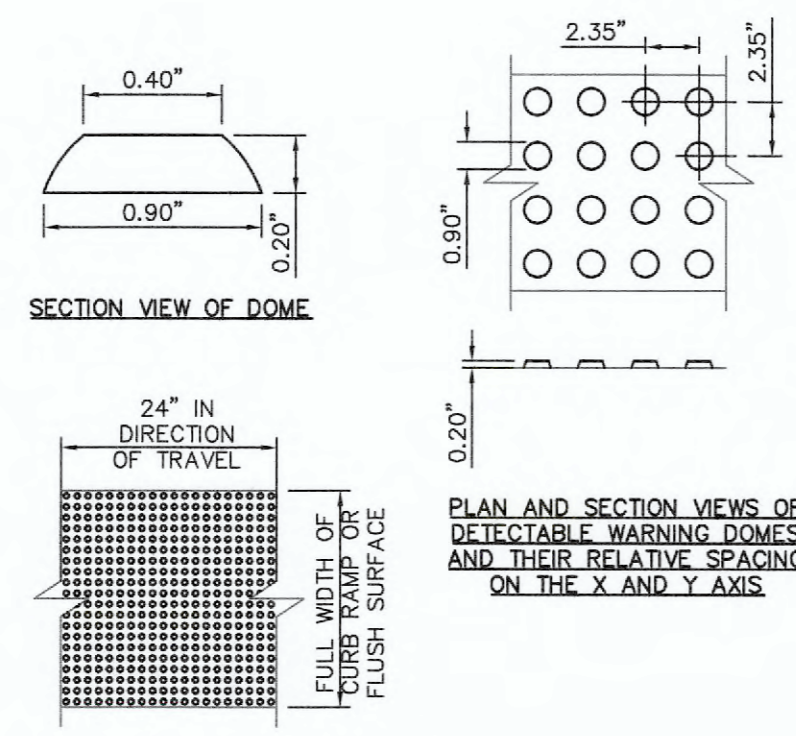
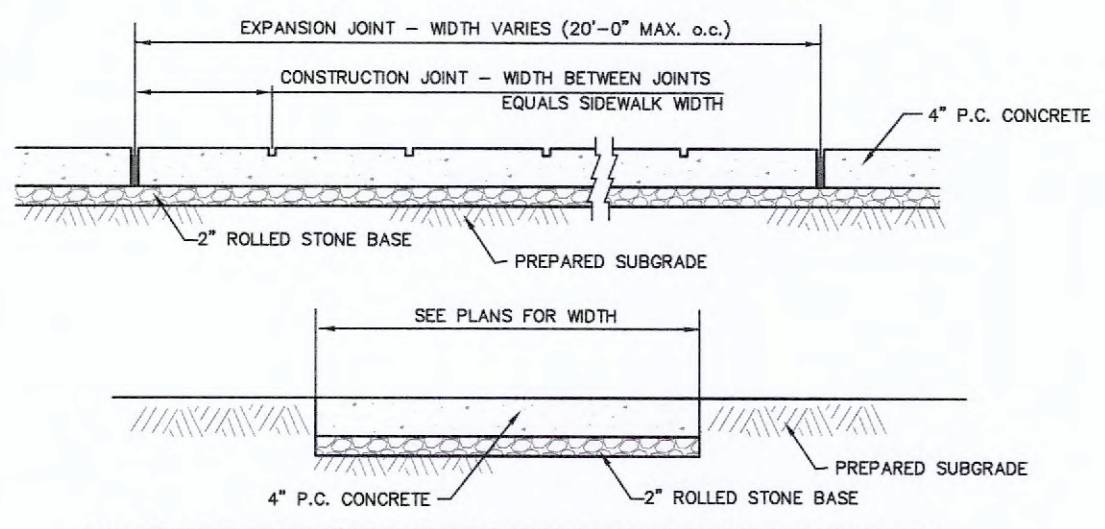
Bax Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #00055
Missouri State Certificate of Authority Surveying #000144

REVISIONS	
2/23/22	QTY COMMENTS REVS.
4/22/22	QTY COMMENTS REVS.

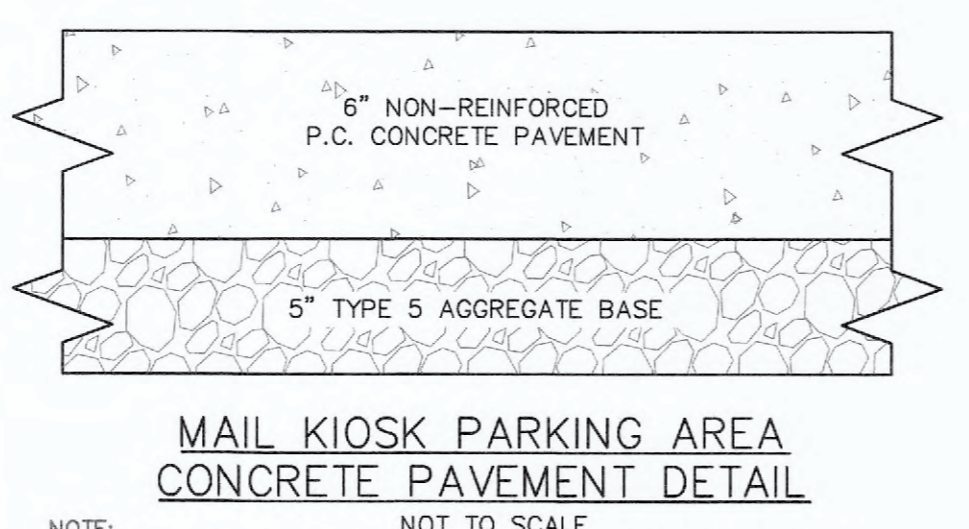
Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?
Page No. 34 of 38

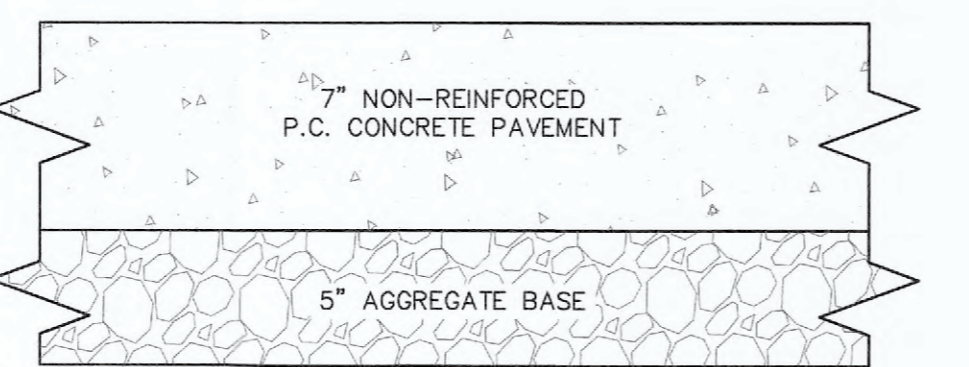
CONSTRUCTION DETAILS



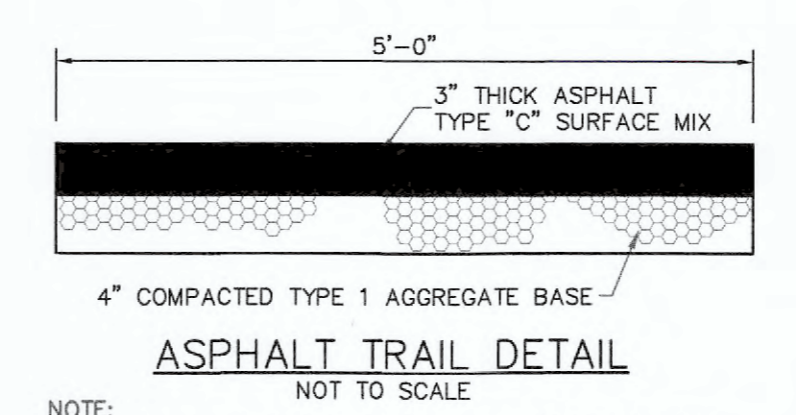
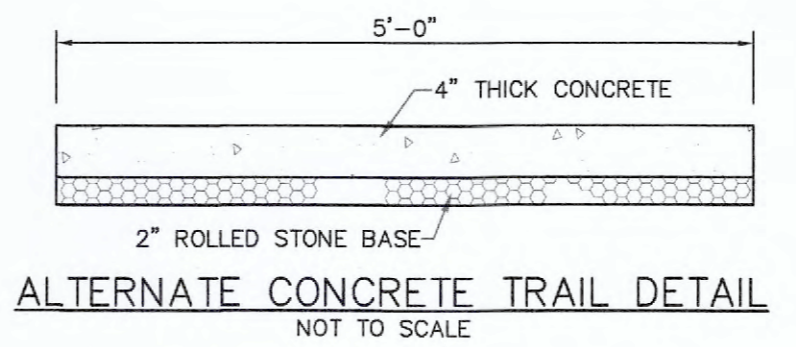
NOTE: TRUNCATED DOMES FOR CURB RAMPS LOCATED IN PUBLIC RIGHT-OF-WAY SHALL MEET ADA REQUIREMENTS AND SHALL BE CONSTRUCTED USING RED PRE-CAST TRUNCATED DOMES (NOT PRECAST CONCRETE) SUCH AS THOSE MANUFACTURED BY ARMOR TILE OR APPROVED EQUAL.



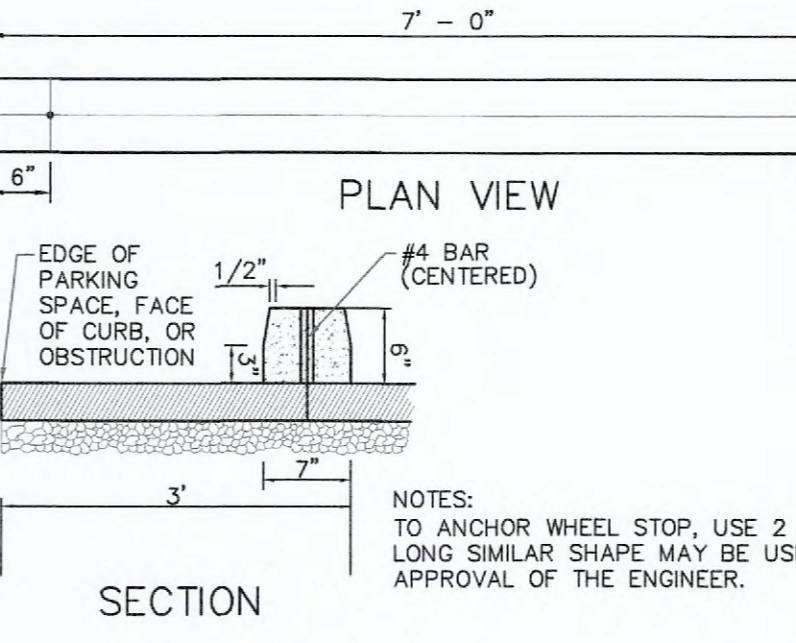
NOTE: ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.



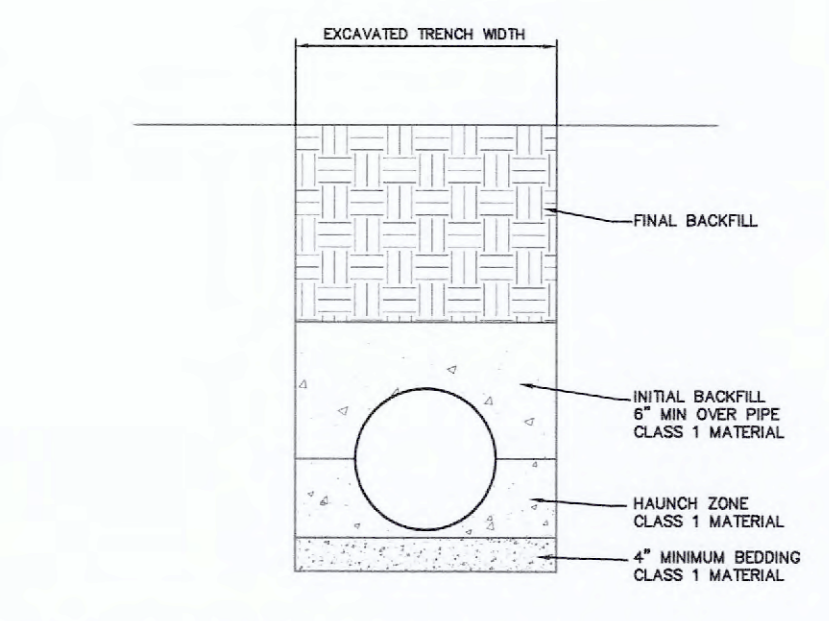
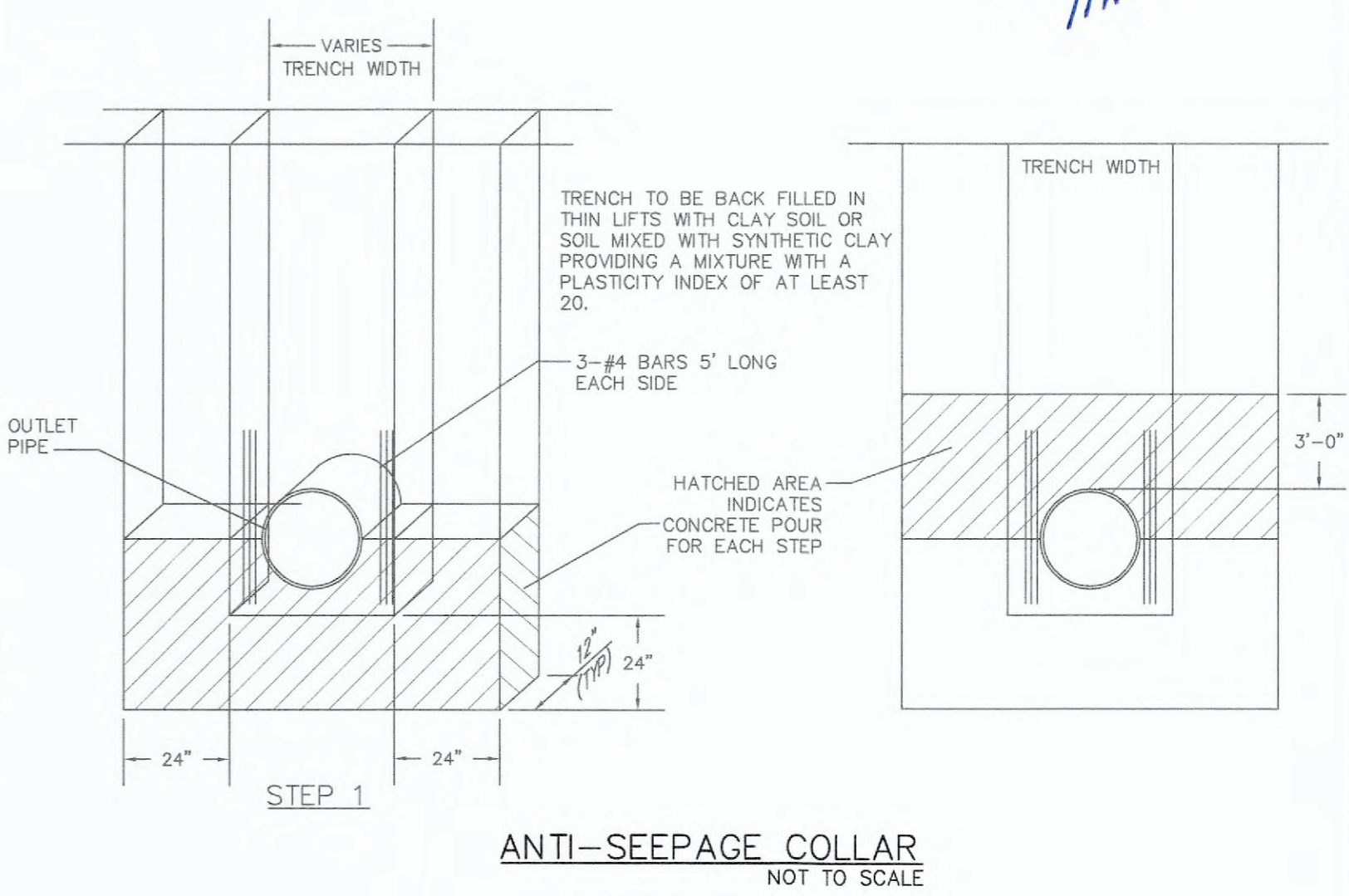
NOTE: ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.



NOTE: THE ASPHALT SURFACE SHALL BE COMPACTED TO 98% MAXIMUM DENSITY.



NOTES: TO ANCHOR WHEEL STOP, USE 2 - #4 BARS 24" LONG SIMILAR SHAPE MAY BE USED UPON APPROVAL OF THE ENGINEER.



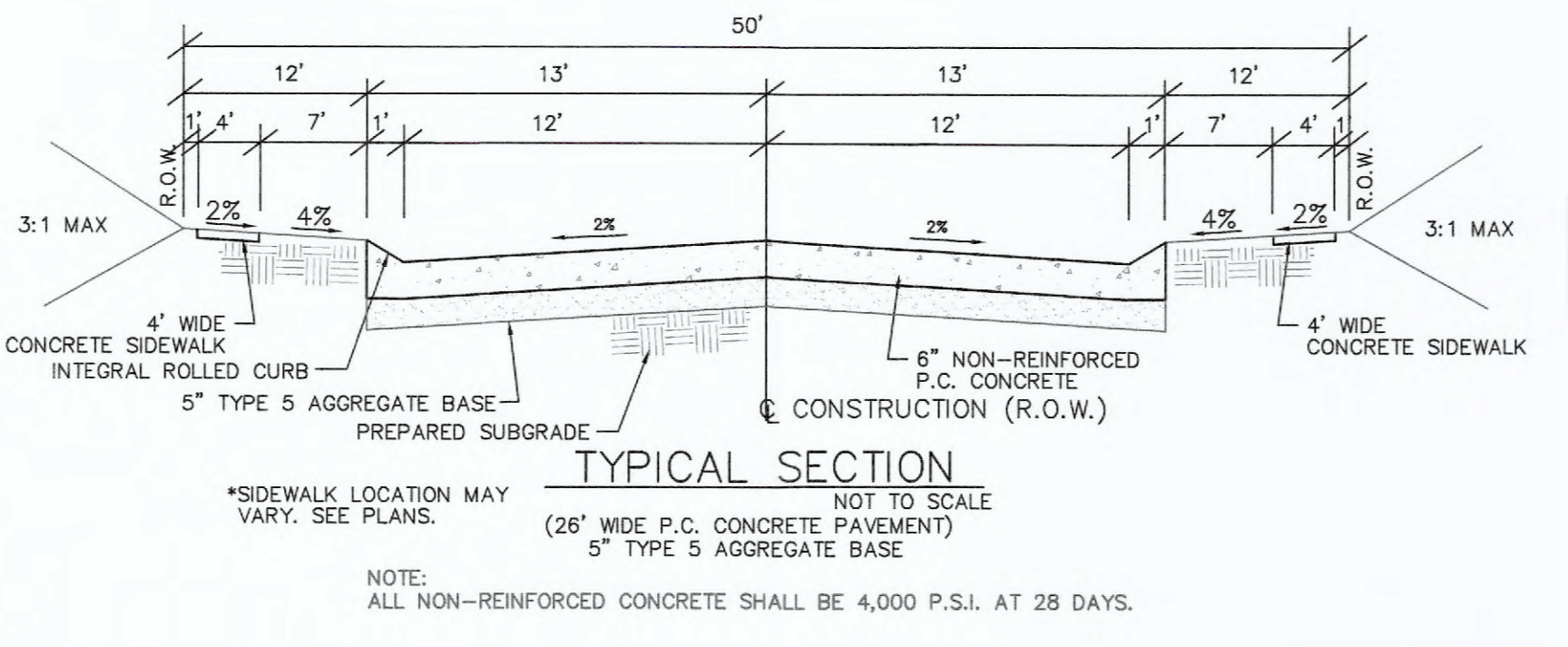
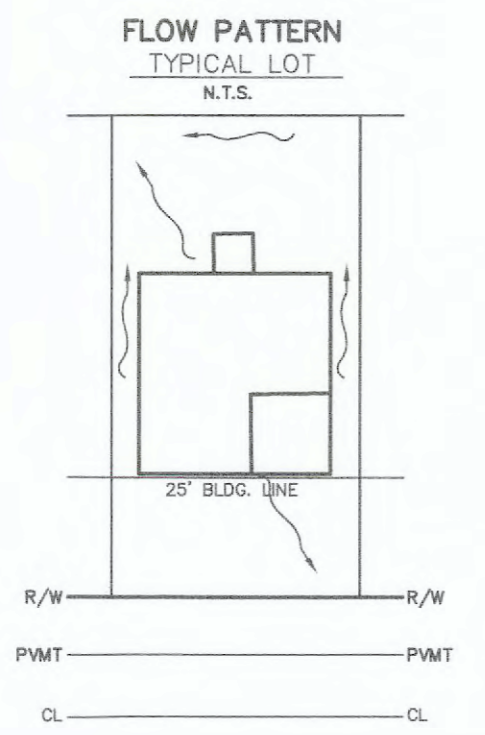
1. The use of High Density Polyethylene Corrugated pipe A.S.S. #13 or Equal will be permitted as an acceptable alternative to reinforced concrete pipe. Pipe shall meet A.S.T.M. D-2321 and AASHTO M-284-92T. Concrete lined and sections and joint structure shall be repaired. Pipe must have smooth interior wall and is not to be used inside the Public Right-of-Way.

All concrete pipe or HDPE pipe shall be installed with o-ring rubber type gaskets per M.S.D. Standard Construction Specifications of Manufacturer.

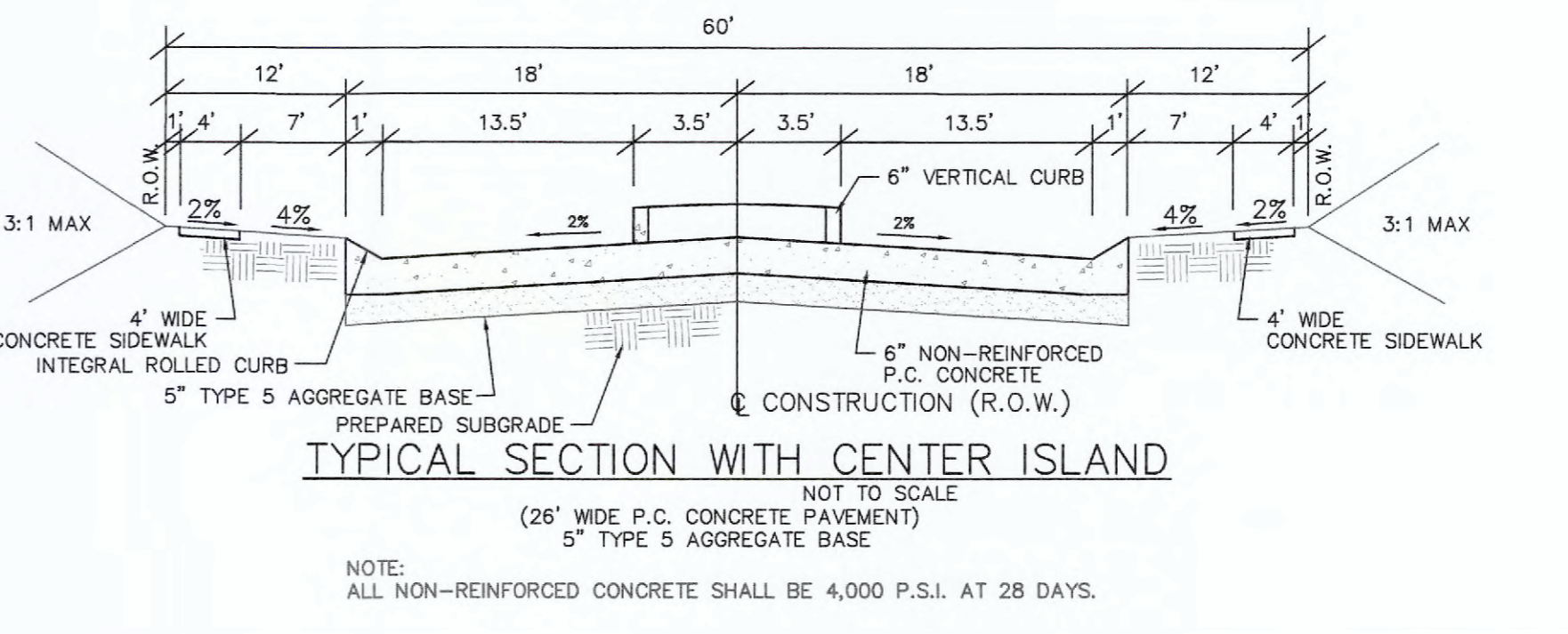
2. In typical conditions the minimum trench width is determined by the size of the pipe and the ability to get compaction equipment between the pipe and the trench walls. The minimum trench width should not be less than the outside diameter plus 18 inches or the pipe outside diameter times 1.25 plus 12 inches, whichever is greater. High speed trenchers may make satisfactory installation of pipe in narrower trenches. Poor trench wall conditions such as peat, mud, running sands, or expansive soils will require substantially wider backfill as well as deeper foundation and bedding. Trench width and foundation depth should be based on a thorough site investigation.

3. Backfill in the area up to the springline should be carefully placed and compacted to obtain a minimum S-value of 1,000 psi as detailed in ASTM D2922. A minimum of 12" of backfill should be placed and compacted above the crown of the pipe. It is typical for trenches to be backfilled entirely with Type I or Type II material when under pavement.

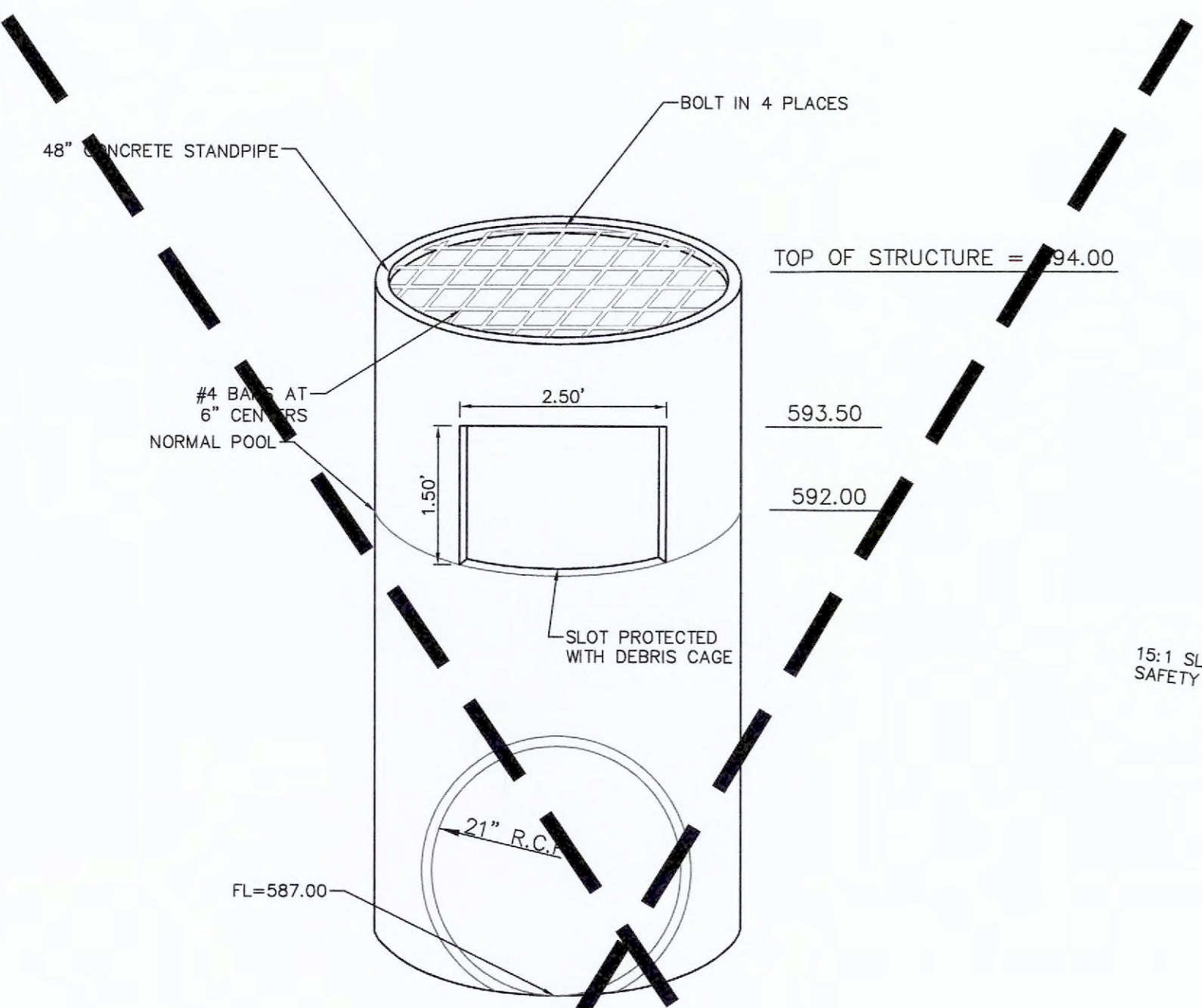
4. Flexible pipe should never be installed in a concrete cradle, as done for rigid pipe in a Class A installation. This type of installation could create concentrated forces at the ends of the cradle when the pipe has deformed.



NOTE: ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.



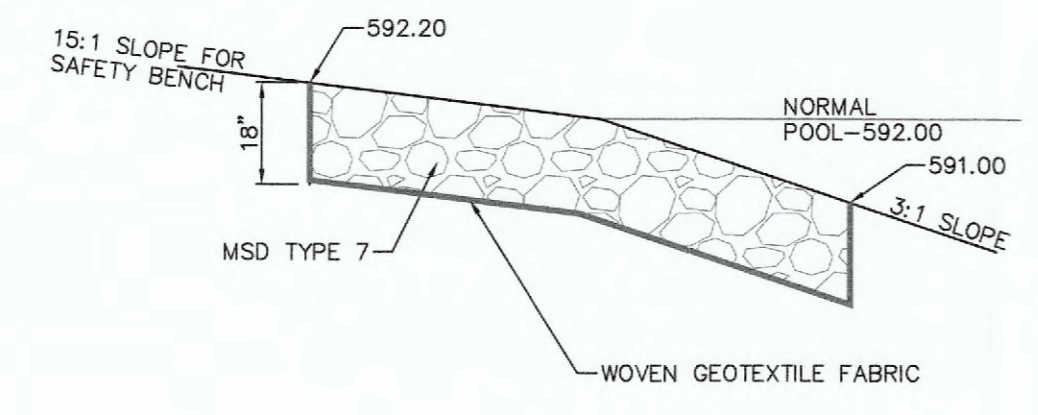
NOTE: ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.



2 YR 20 MIN HW = 592.81
 15 YR 20 MIN HW = 593.09
 25 YR 20 MIN HW = 593.22
 100 YR 20 MIN HW = 593.36
 100 YR 20 MIN LFB HW = 594.71

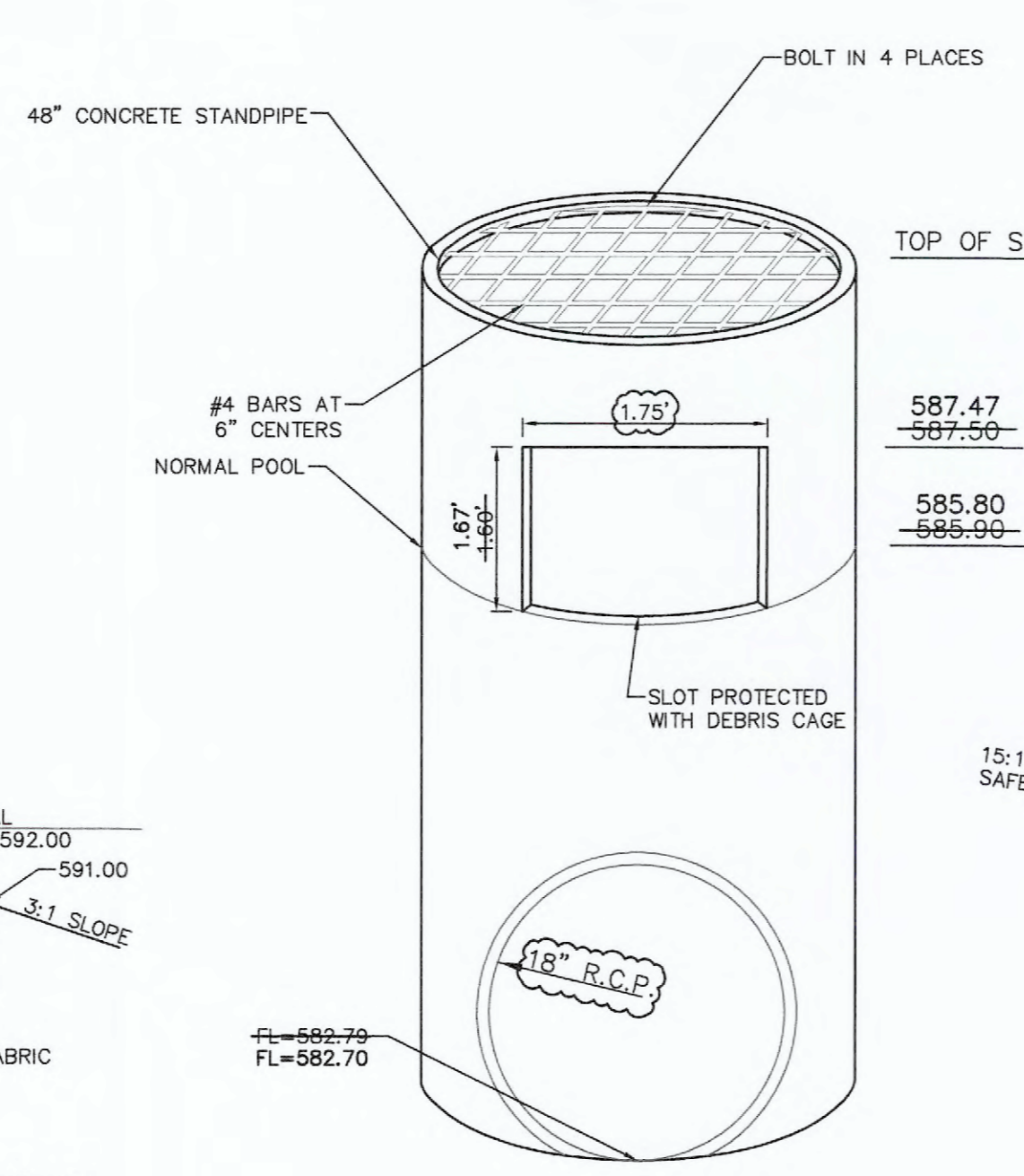
OVERFLOW STRUCTURE WET POND A OS 4
 N.T.S.

The Overflow Structure is to be a Standard 48" Concrete Standpipe. The bottom must be constructed to the correct height so that no brick will be used. The Normal Pool of Wet Pond A is 592.00. The Low Flow rectangular orifice of 2.50' W x 1.50' H will have a flowline of 592.00 to regulate the outflow. The top of the structure will have an elevation of 594.00. (See Detention Calculations)



WET POND A PERIMETER RIPRAP
 NOT TO SCALE

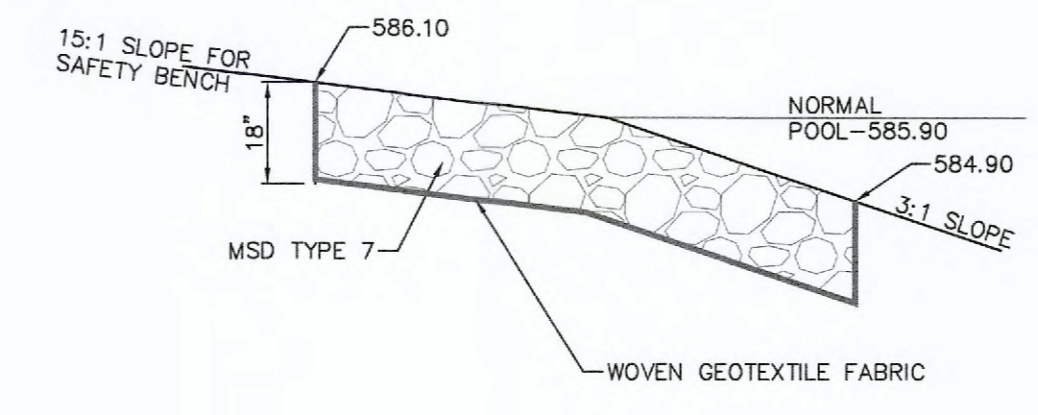
PERIMETER RIPRAP TO EXTEND 3 FEET HORIZONTALLY ON BOTH SIDES OF NORMAL POOL



2 YR 20 MIN HW = 586.91
 15 YR 20 MIN HW = 587.26
 25 YR 20 MIN HW = 587.44
 100 YR 20 MIN HW = 587.59
 100 YR 20 MIN LFB HW = 588.73

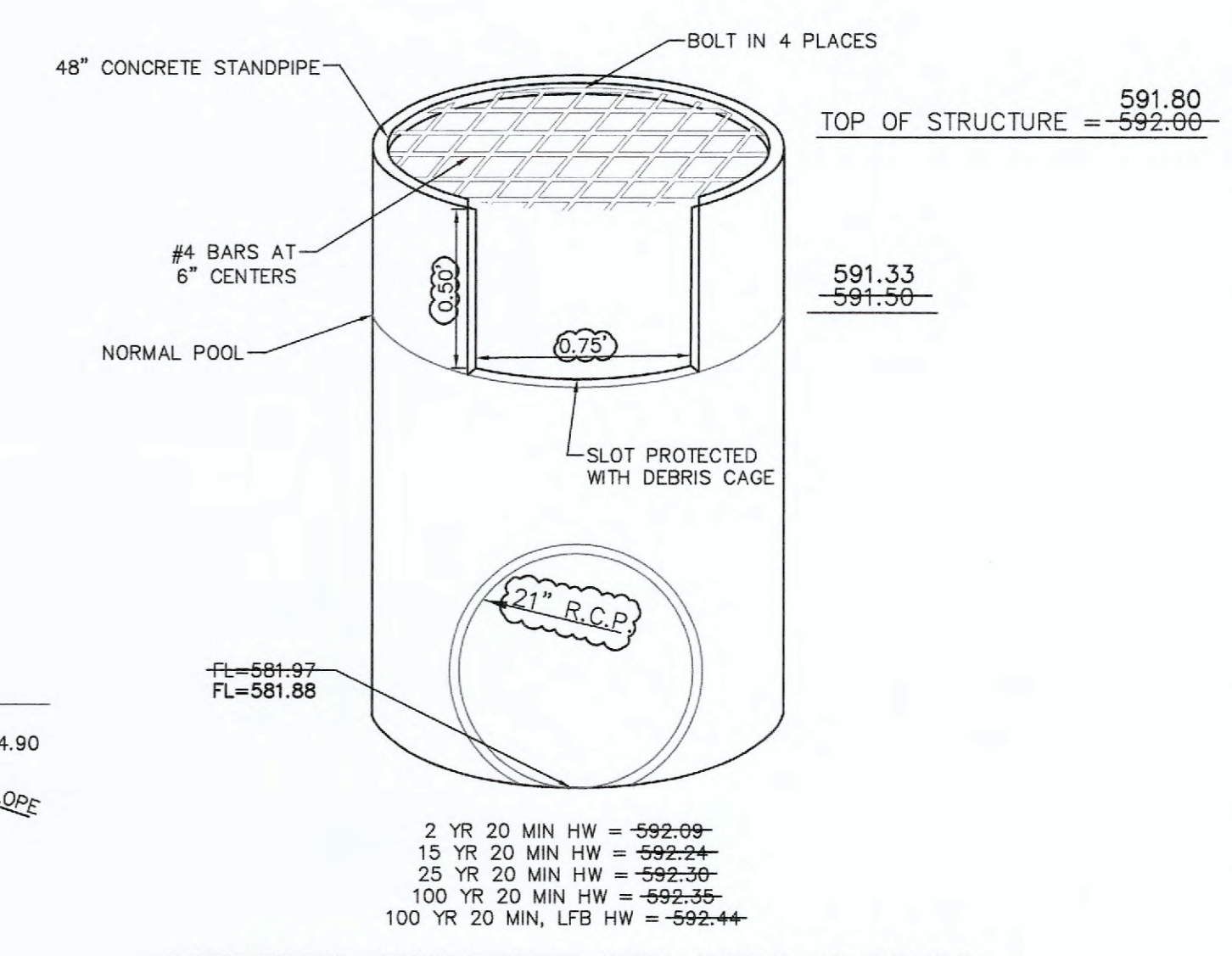
OVERFLOW STRUCTURE WET POND B OS 24
 N.T.S.

The Overflow Structure is to be a Standard 48" Concrete Standpipe. The bottom must be constructed to the correct height so that no brick will be used. The Normal Pool of Wet Pond B is 585.90. The Low Flow rectangular orifice of 1.75' W x 1.60' H will have a flowline of 585.90 to regulate the outflow. The top of the structure will have an elevation of 588.00. (See Detention Calculations)



WET POND B PERIMETER RIPRAP
 NOT TO SCALE

PERIMETER RIPRAP TO EXTEND 3 FEET HORIZONTALLY ON BOTH SIDES OF NORMAL POOL

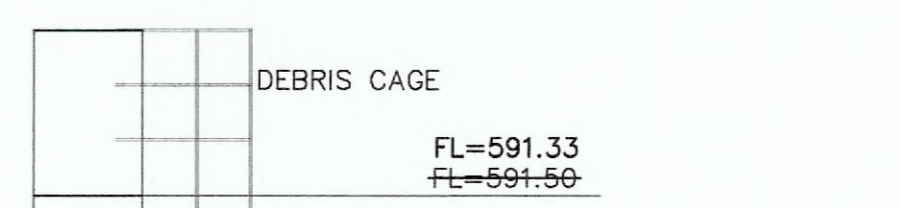


2 YR 20 MIN HW = 592.09
 15 YR 20 MIN HW = 592.24
 25 YR 20 MIN HW = 592.30
 100 YR 20 MIN HW = 592.35
 100 YR 20 MIN LFB HW = 592.44

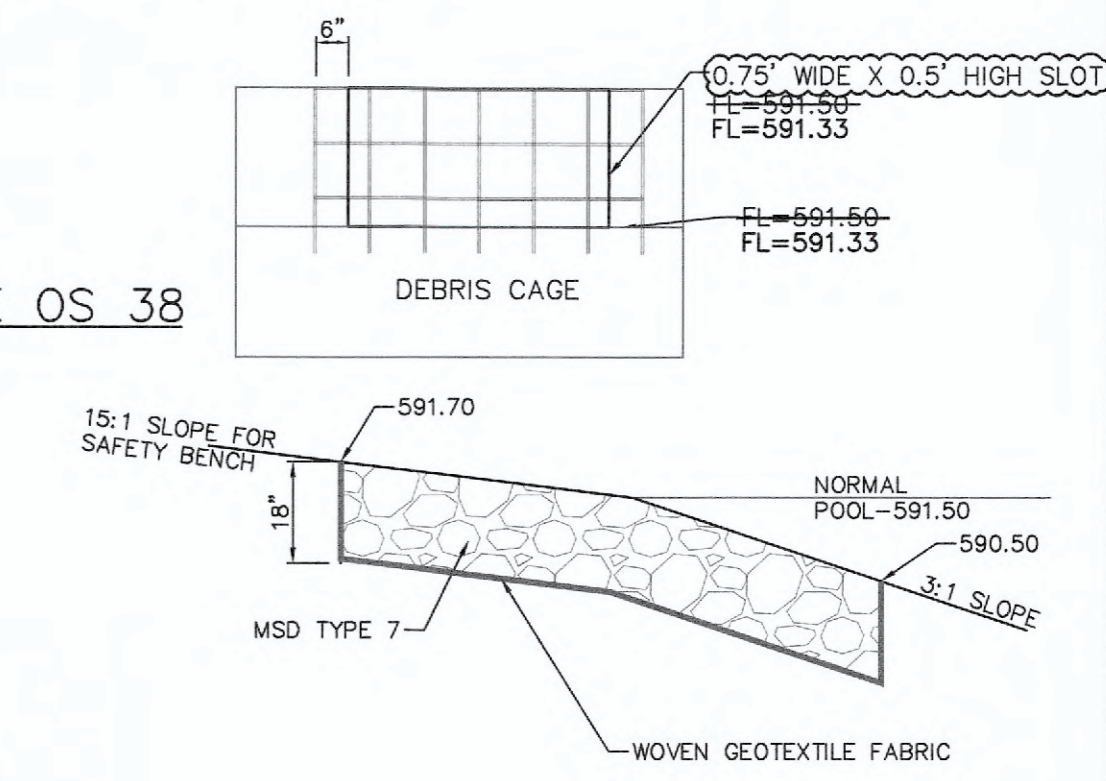
OVERFLOW STRUCTURE WET POND C OS 38
 N.T.S.

The Overflow Structure is to be a Standard 48" Concrete Standpipe. The bottom must be constructed to the correct height so that no brick will be used. The Normal Pool of Wet Pond C is 591.50. The Low Flow rectangular orifice of 0.75' W x 0.5' H will have a flowline of 591.50 to regulate the outflow. The top of the structure will have an elevation of 592.00. (See Detention Calculations)

#3 BARS DRILLED AND GROUTED TO OUTFALL STRUCTURE FLOOR AND WALL. 3" MAXIMUM SPACING OF REBAR. CAGE TO EXTEND A MINIMUM OF 6" FROM FACE OF STRUCTURE. SINCE SLOT EXTENDS TO TOP OF STRUCTURE, TIE #3 BARS USED FOR DEBRIS CAGE INTO #4 BARS USED FOR GRATE IN THE TOP OF OS 38.



DEBRIS CAGE OS 38
 NOT TO SCALE



WET POND C PERIMETER RIPRAP
 NOT TO SCALE

PERIMETER RIPRAP TO EXTEND 3 FEET HORIZONTALLY ON BOTH SIDES OF NORMAL POOL

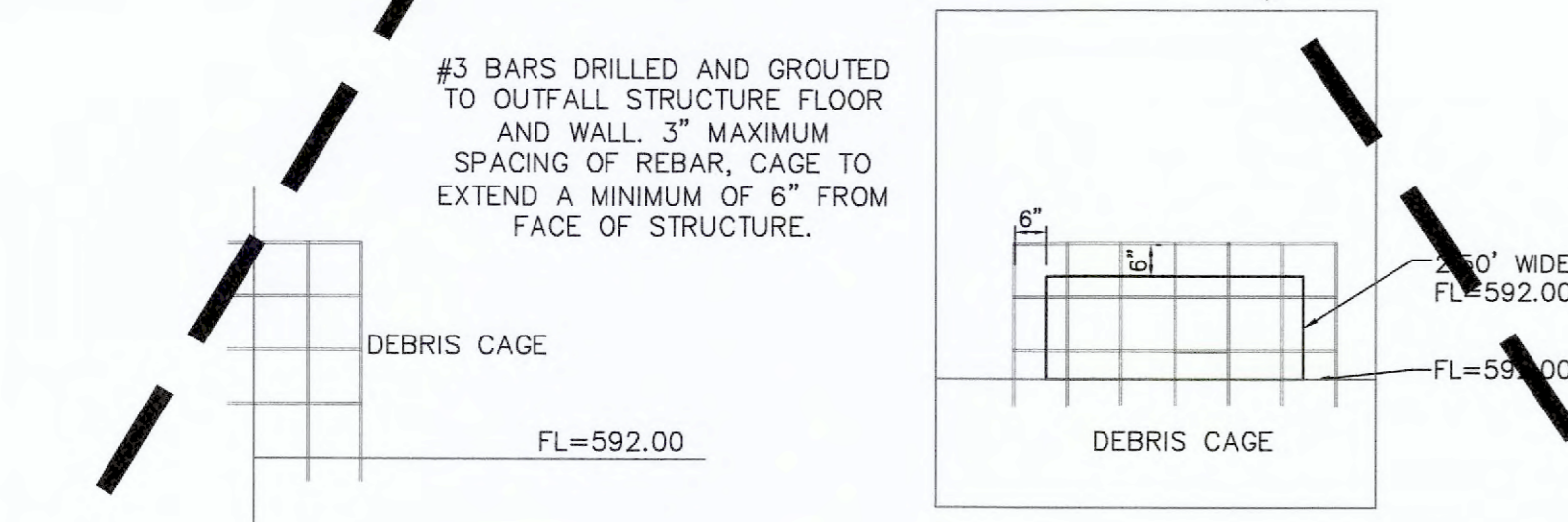
AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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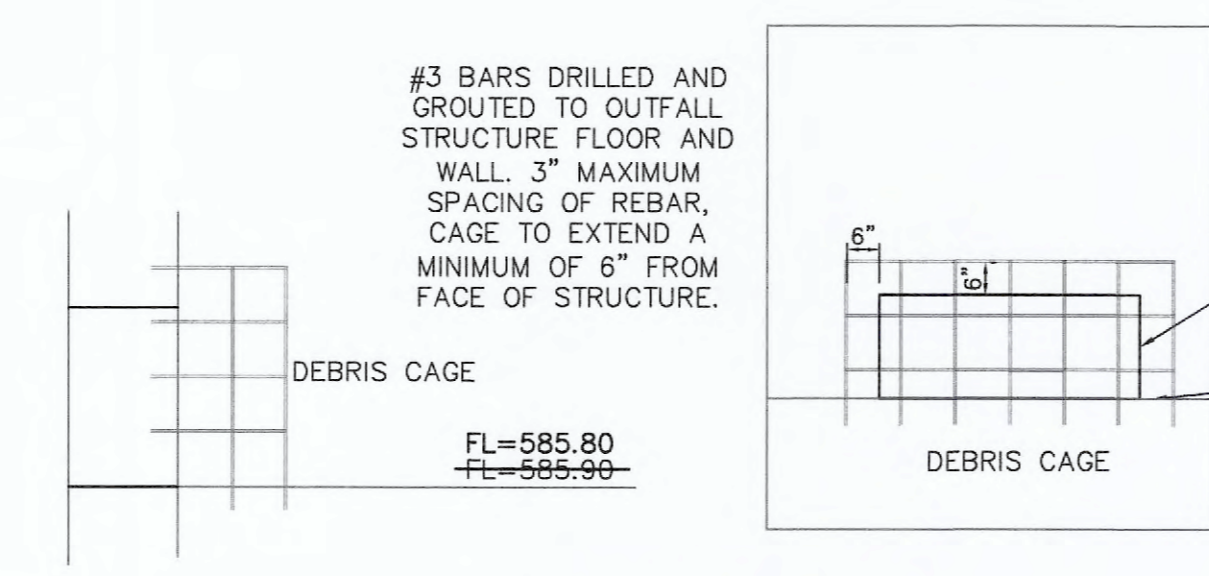
- STORM SEWERS, STORM SEWER LENGTHS, STORM SEWER PIPE SIZES, STORM SEWER FLOWLINES AND DEPTHS OF STORM SEWER STRUCTURES.
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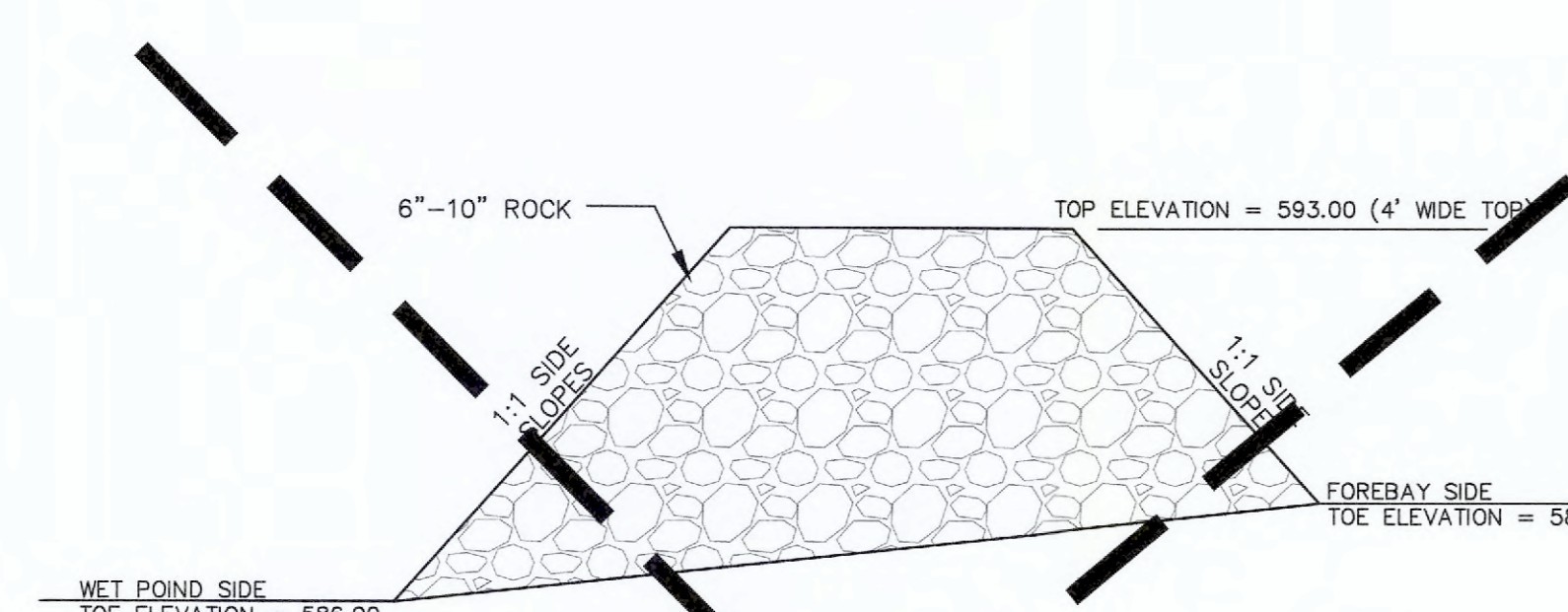
BAX ENGINEERING COMPANY, INC.
 MARK E. COLLINS
 MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



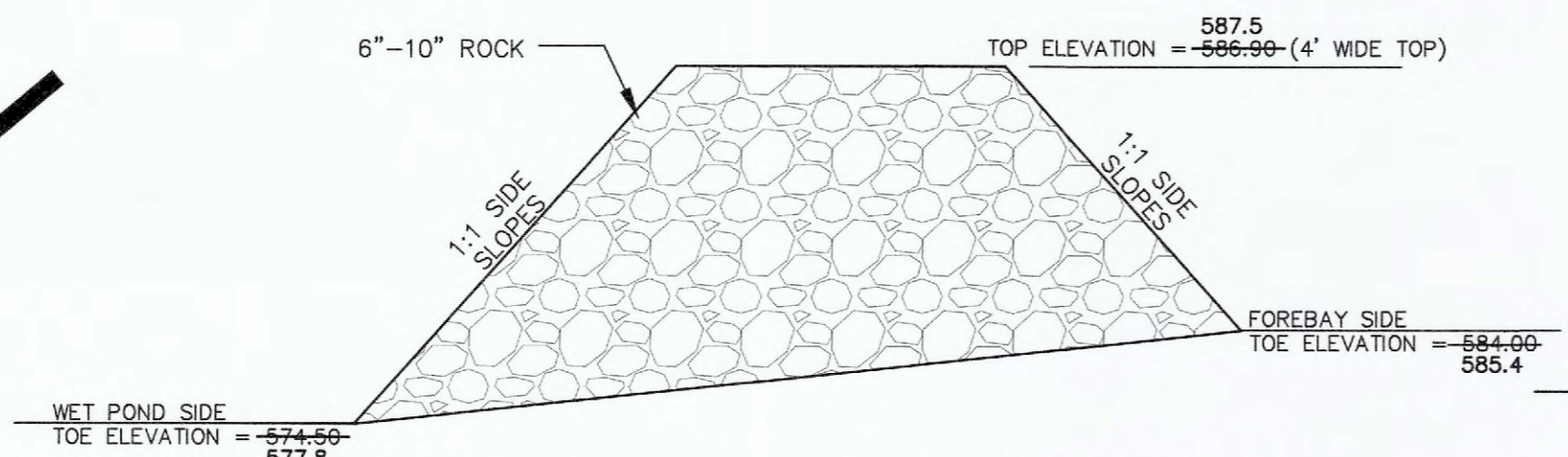
DEBRIS CAGE OS 4
 NOT TO SCALE



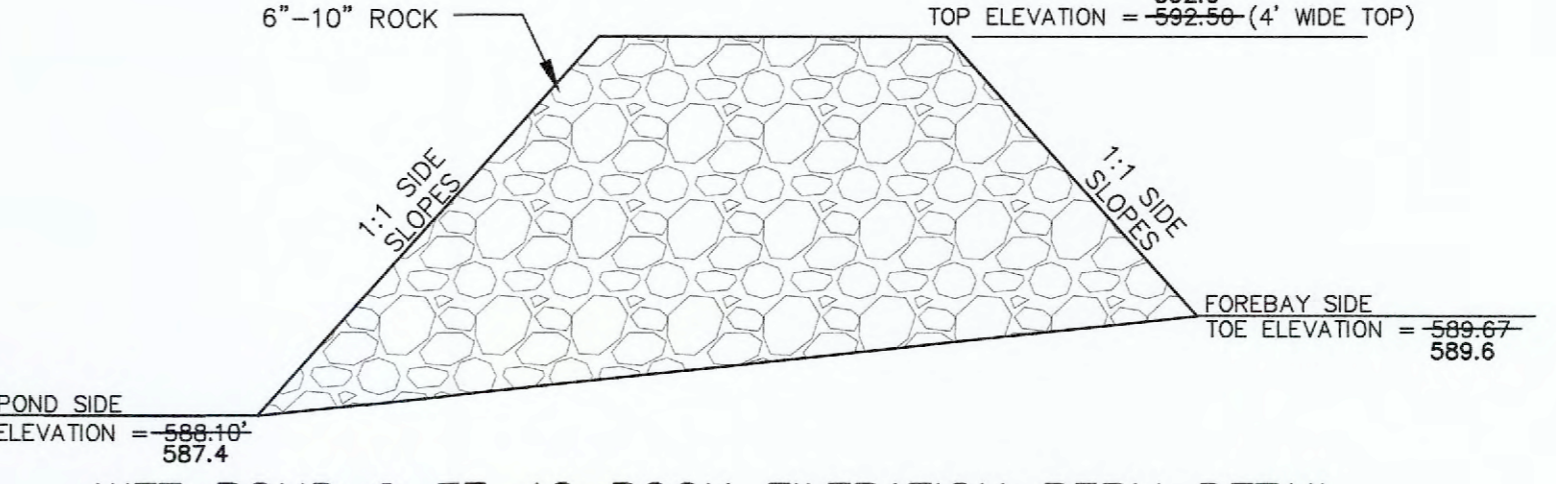
DEBRIS CAGE OS 24
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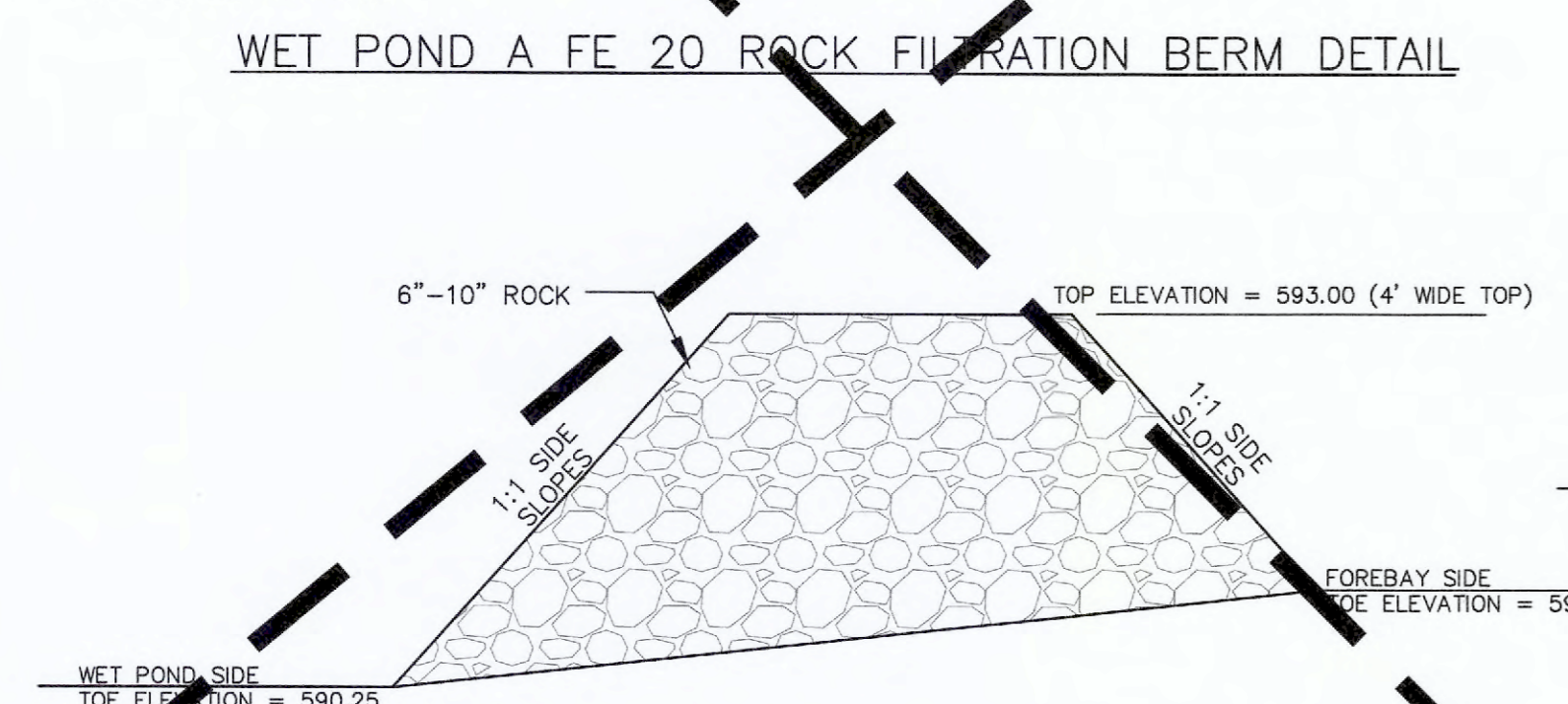
WET POND A FE 20 ROCK FILTRATION BERM DETAIL



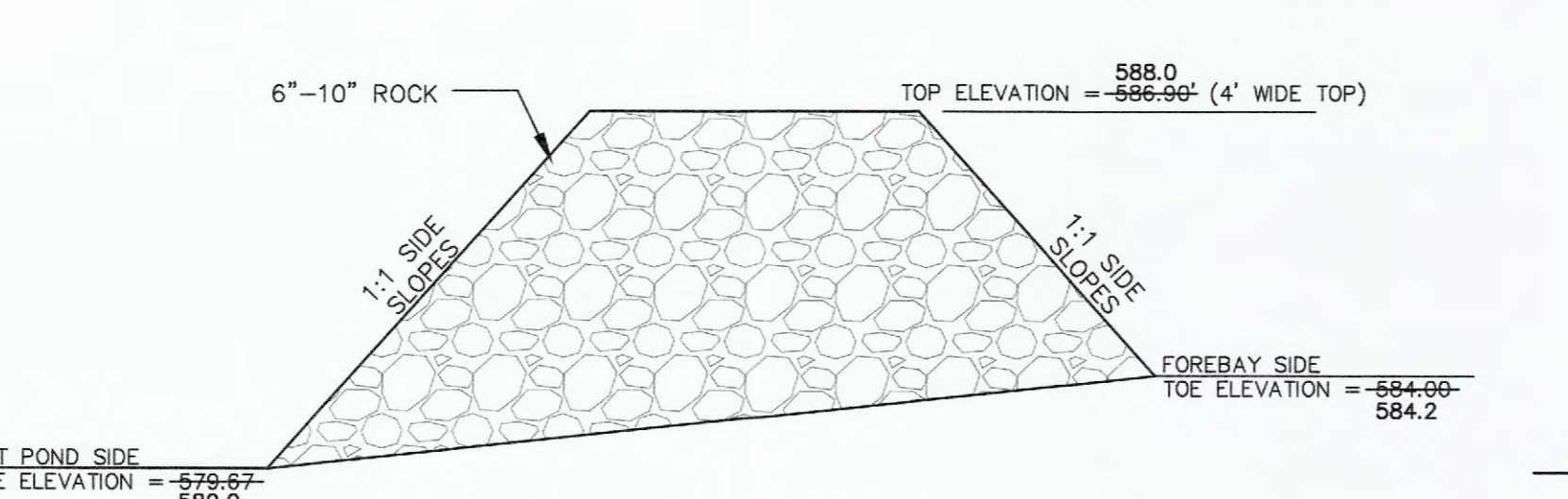
WET POND B FE 25 ROCK FILTRATION BERM DETAIL



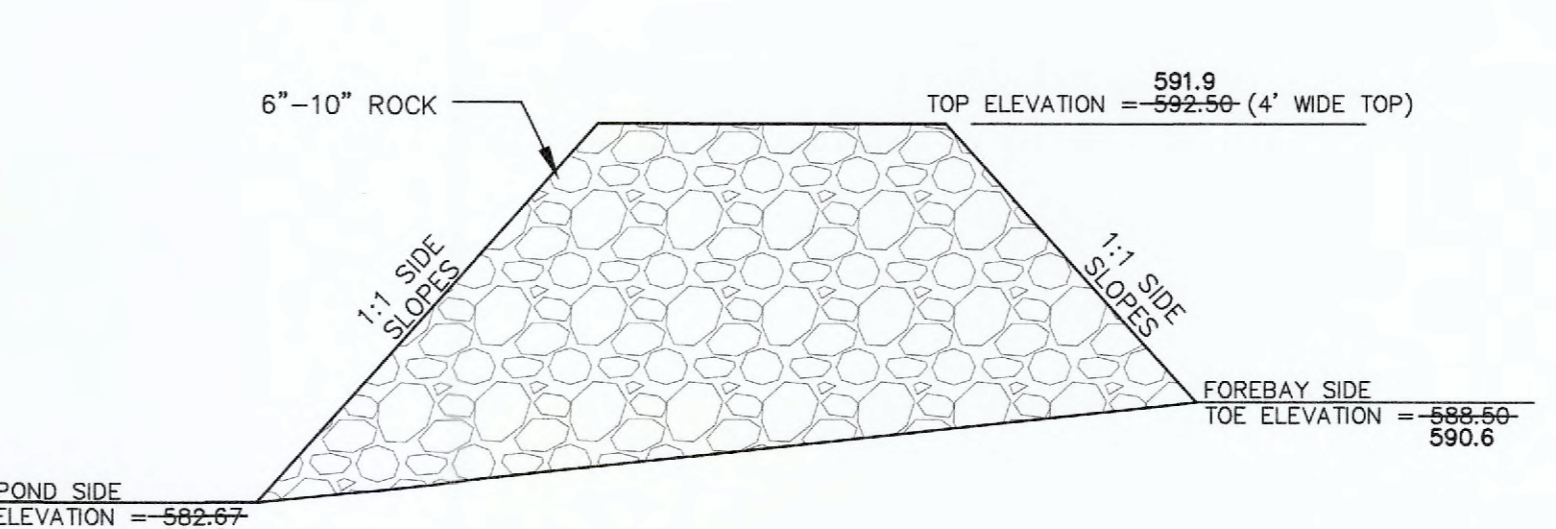
WET POND C FE 42 ROCK FILTRATION BERM DETAIL



WET POND A FE 5 ROCK FILTRATION BERM DETAIL

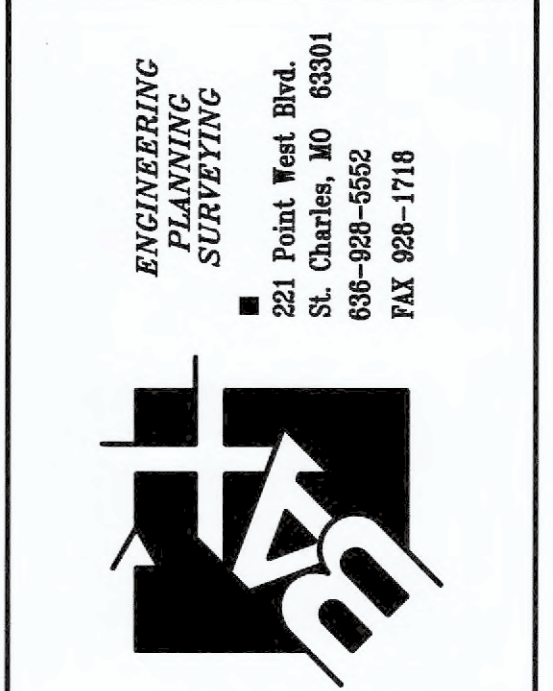


WET POND B FE 32 ROCK FILTRATION BERM DETAIL



WET POND C FE 39 ROCK FILTRATION BERM DETAIL

PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE



Box Engineering Company, Inc.
 Missouri State Certificate of Authority
 Engineering #000655
 Missouri State Certificate of Authority
 Surveying #000144

REVISIONS

DATE	REVISION
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

Developer / Owner:
 Alpha Land Development Two, L.L.C.
 612 Trade Center Boulevard
 Chesterfield, MO 63005
 314-721-7779

CONSTRUCTION DETAILS

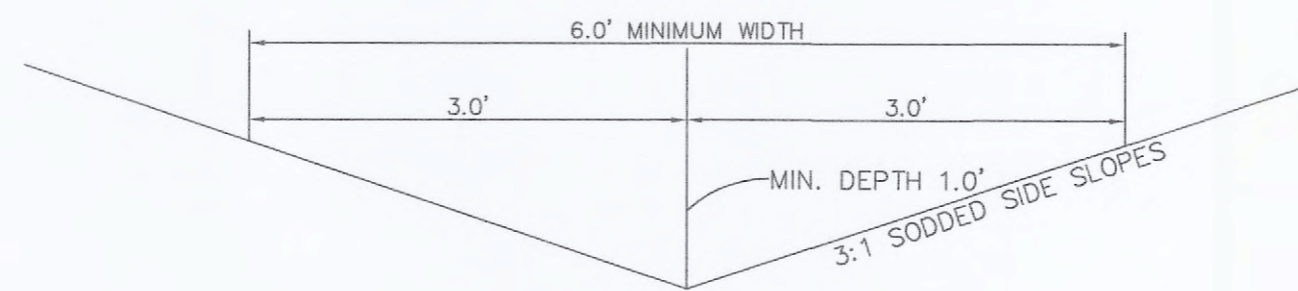
P+Z No. #19-004868
 Approval Date: 07/23/2020
 City No. #?
 Page No. 35 of 38

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

Location	100 YR FLOW	Top of Foundation	Type	Lowest Sill	X-section Location	Flow Line	Slope	Highwater	Freeboard
Behind Lot #10	2.43 cfs	613.80 ft	W/O	605.10 ft	Swale	603.45 ft	2.40%	604.00 ft	1.10 ft
Behind Lot #11	2.09 cfs	614.80 ft	W/O	606.10 ft	Swale	604.50 ft	2.40%	605.02 ft	1.08 ft
Behind Lot #12	2.09 cfs	616.10 ft	W/O	607.40 ft	Swale	605.80 ft	2.40%	606.32 ft	1.08 ft
Behind Lot #13	2.09 cfs	617.60 ft	W/O	608.90 ft	Swale	607.30 ft	2.00%	607.84 ft	1.06 ft
Behind Lot #14	1.08 cfs	619.00 ft	W/O	610.30 ft	Swale	608.85 ft	2.10%	609.27 ft	1.03 ft
Behind Lot #15	1.08 cfs	620.40 ft	L/O	615.40 ft	Swale	612.30 ft	8.30%	612.63 ft	2.77 ft
Behind Lot #16	1.08 cfs	621.90 ft	STD	620.40 ft	Swale	615.05 ft	8.30%	615.38 ft	5.02 ft
Behind Lot #17	1.08 cfs	623.30 ft	STD	621.80 ft	Swale	618.20 ft	2.00%	618.62 ft	3.18 ft
Behind Lot #18	1.06 cfs	624.60 ft	L/O	619.60 ft	Swale	617.30 ft	4.90%	617.66 ft	1.94 ft
Behind Lot #19	1.06 cfs	626.10 ft	W/O	617.40 ft	Swale	614.20 ft	4.90%	614.56 ft	2.84 ft
Behind Lot #20	2.04 cfs	627.30 ft	W/O	618.60 ft	Swale	612.00 ft	2.40%	612.52 ft	6.08 ft
Behind Lot #21	2.56 cfs	627.80 ft	W/O	619.10 ft	Swale	608.70 ft	2.00%	609.28 ft	9.82 ft
Behind Lot #22	3.33 cfs	628.10 ft	W/O	619.40 ft	Swale	606.00 ft	2.30%	606.63 ft	12.77 ft
Behind Lot #23	3.10 cfs	628.00 ft	W/O	619.30 ft	Swale	604.00 ft	5.50%	604.52 ft	14.78 ft
Behind Lot #24	3.10 cfs	627.20 ft	W/O	618.50 ft	Swale	610.50 ft	3.20%	611.08 ft	7.42 ft
Behind Lot #25	3.07 cfs	626.10 ft	W/O	617.40 ft	Swale	615.00 ft	4.00%	615.55 ft	1.85 ft
Behind Lot #26	0.32 cfs	620.40 ft	STD	618.90 ft	Swale	617.60 ft	2.00%	617.87 ft	1.03 ft
Behind Lot #27	1.40 cfs	620.00 ft	STD	618.50 ft	Swale	617.50 ft	4.00%	616.41 ft	2.09 ft
Behind Lot #28	1.40 cfs	618.80 ft	STD	617.30 ft	Swale	613.70 ft	4.00%	614.11 ft	3.19 ft
Behind Lot #29	2.79 cfs	617.50 ft	STD	616.00 ft	Weir	610.00 ft	---	610.50 ft	5.50 ft
Behind Lot #30	2.79 cfs	616.30 ft	STD	614.80 ft	Weir	610.20 ft	---	610.52 ft	4.28 ft
Behind Lot #31	2.79 cfs	613.10 ft	STD	611.60 ft	Weir	610.20 ft	---	610.50 ft	1.10 ft
Behind Lot #32	3.20 cfs	614.10 ft	STD	612.60 ft	Swale	608.25 ft	2.00%	608.89 ft	3.71 ft
Behind Lot #33	4.12 cfs	615.31 ft	STD	613.81 ft	Swale	609.70 ft	3.20%	610.34 ft	3.47 ft
Behind Lot #34	5.55 cfs	615.80 ft	L/O	610.80 ft	Swale	607.10 ft	5.80%	607.74 ft	3.06 ft
Behind Lot #35	9.53 cfs	616.40 ft	W/O	607.70 ft	Swale	604.40 ft	2.90%	605.29 ft	2.41 ft
Behind Lot #39	6.70 cfs	609.70 ft	STD	608.20 ft	Swale	606.00 ft	2.00%	606.84 ft	1.36 ft
Behind Lot #40	7.45 cfs	608.90 ft	L/O	603.90 ft	Swale	600.00 ft	6.00%	600.71 ft	3.19 ft
Between Lot #41 & #42	2.89 cfs	608.10 ft	side	606.60 ft	Swale	599.70 ft	2.00%	600.31 ft	6.29 ft
Behind Lot #43	1.48 cfs	608.70 ft	W/O	600.00 ft	Swale	598.00 ft	2.00%	598.48 ft	1.52 ft
Behind Lot #44	1.48 cfs	609.40 ft	W/O	600.70 ft	Swale	596.00 ft	4.20%	596.42 ft	4.28 ft
Behind Lot #45	2.95 cfs	610.10 ft	W/O	601.40 ft	Swale	595.50 ft	2.50%	596.09 ft	5.31 ft
Behind Lot #46	2.95 cfs	611.00 ft	W/O	602.30 ft	Swale	597.25 ft	2.50%	597.84 ft	4.46 ft
Behind Lot #47	2.95 cfs	612.10 ft	W/O	603.40 ft	Swale	599.00 ft	2.50%	599.59 ft	3.81 ft
Behind Lot #48	1.19 cfs	613.10 ft	W/O	604.40 ft	Swale	601.40 ft	2.50%	601.80 ft	2.60 ft
Behind Lot #49	5.60 cfs	614.00 ft	W/O	605.30 ft	Weir	600.78 ft	---	601.24 ft	4.06 ft
Behind Lot #50	5.60 cfs	615.00 ft	W/O	606.30 ft	Weir	600.78 ft	---	601.24 ft	5.06 ft
Behind Lot #51	3.50 cfs	616.10 ft	W/O	607.40 ft	Swale	601.30 ft	2.50%	601.90 ft	5.50 ft
Behind Lot #52	2.85 cfs	617.20 ft	W/O	608.50 ft	Swale	602.40 ft	2.50%	602.95 ft	5.55 ft
Behind Lot #53	2.16 cfs	618.20 ft	W/O	609.50 ft	Swale	604.10 ft	2.50%	604.60 ft	4.90 ft
Behind Lot #54	1.83 cfs	619.30 ft	W/O	610.60 ft	Swale	605.50 ft	4.00%	605.93 ft	4.67 ft
Behind Lot #56	1.83 cfs	616.60 ft	STD	615.10 ft	Swale	612.00 ft	8.00%	612.38 ft	2.72 ft
Behind Lot #57	1.83 cfs	612.50 ft	STD	611.00 ft	Swale	606.30 ft	8.00%	606.68 ft	4.32 ft
Behind Lot #58	1.83 cfs	608.70 ft	STD	607.20 ft	Swale	605.50 ft	4.00%	605.93 ft	1.27 ft
Behind Lot #59	2.16 cfs	607.10 ft	STD	605.60 ft	Swale	604.10 ft	2.50%	604.60 ft	1.00 ft
Behind Lot #60	2.85 cfs	605.50 ft	STD	604.00 ft	Swale	602.15 ft	2.50%	602.70 ft	1.30 ft
Behind Lot #61	3.50 cfs	603.90 ft	STD	602.40 ft	Swale	600.75 ft	2.50%	601.35 ft	1.05 ft
Behind Lot #62	5.60 cfs	603.55 ft	STD	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Between Lot #62 & #63	5.60 cfs	603.55 ft	side	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Behind Lot #63	5.60 cfs	603.55 ft	STD	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Behind Lot #64	5.60 cfs	603.55 ft	STD	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Behind Lot #65	2.95 cfs	603.90 ft	STD	602.65 ft	Swale	600.70 ft	2.50%	601.29 ft	1.36 ft
Behind Lot #66	2.95 cfs	602.40 ft	STD	600.90 ft	Swale	599.00 ft	2.50%	599.59 ft	1.31 ft
Behind Lot #67	2.95 cfs	601.50 ft	STD	600.00 ft	Swale	596.50 ft	2.50%	597.09 ft	2.91 ft
Behind Lot #68	2.95 cfs	600.80 ft	STD	599.30 ft	Weir	596.00 ft	---	596.41 ft	2.89 ft
Behind Lot #69	4.62 cfs	599.40 ft	STD	597.90 ft	Weir	596.00 ft	---	596.41 ft	1.49 ft

Location	100 YR FLOW	X-section Location	Flow Line	Bottom Width	Highwater	Depth in Street
CI14	7.34 cfs	Weir	611.11 ft	10.00 ft	611.48 ft	0.98 ft
CI22	3.90 cfs	Weir	605.57 ft	5.00 ft	606.30 ft	0.98 ft
CI33	13.38 cfs	Weir	600.85 ft	20.00 ft	601.21 ft	0.97 ft

OVERLAND FLOW CALCULATIONS
NOT TO SCALE



YARD SWALE DETAIL
NO SCALE

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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- 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.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS
- TOPOGRAPHY AND SECTIONS OF RETENTION AREA 'B' AND RETENTION AREA 'C'.

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

BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173

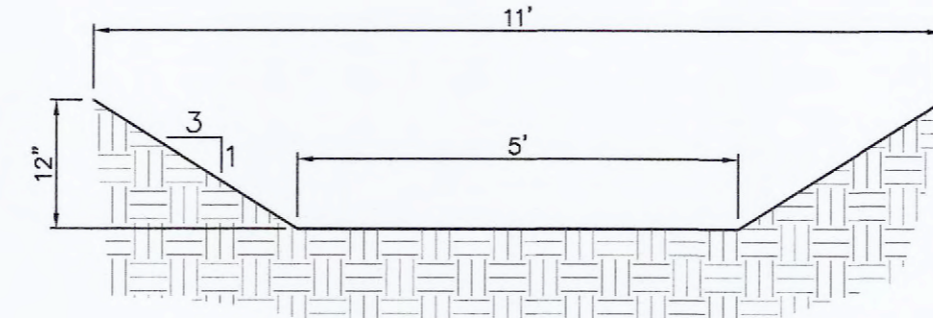


Minimum Slope of Swale = 2.00%
Maximum Discharge (Q) = 3.00 cfs
Maximum Velocity (V) = 3.00 ft/sec
N = 0.030 (grass)
Maximum side slopes = 3 (horizontal) : 1 (vertical)

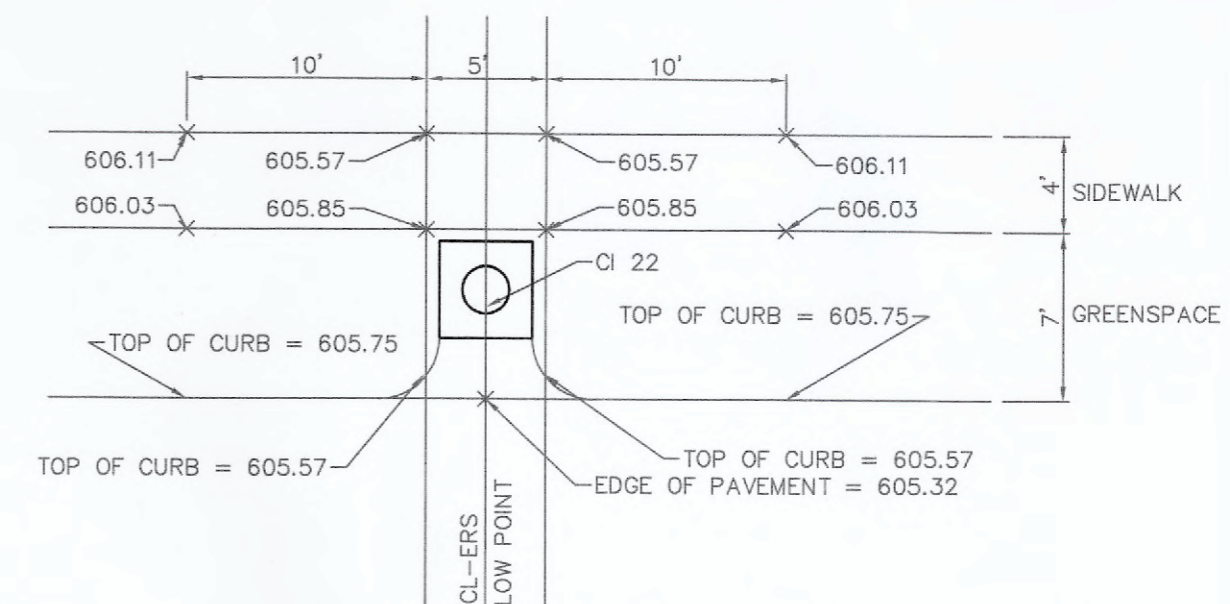
Longitudinal Slope (%)	Discharge (cfs)	Velocity (ft/sec)	Depth (ft)
0.5	3	1.73	0.76
1.0	3	2.23	0.67
2.0	3	2.87	0.59
3.0	1.90	2.99	0.46
4.0	1.23	2.99	0.37
5.0	0.92	2.99	0.32
6.0	0.70	2.98	0.28
7.0	0.60	2.96	0.26
8.0	0.43	2.96	0.22
9.0	0.39	2.95	0.21
10.0	0.36	3	0.20



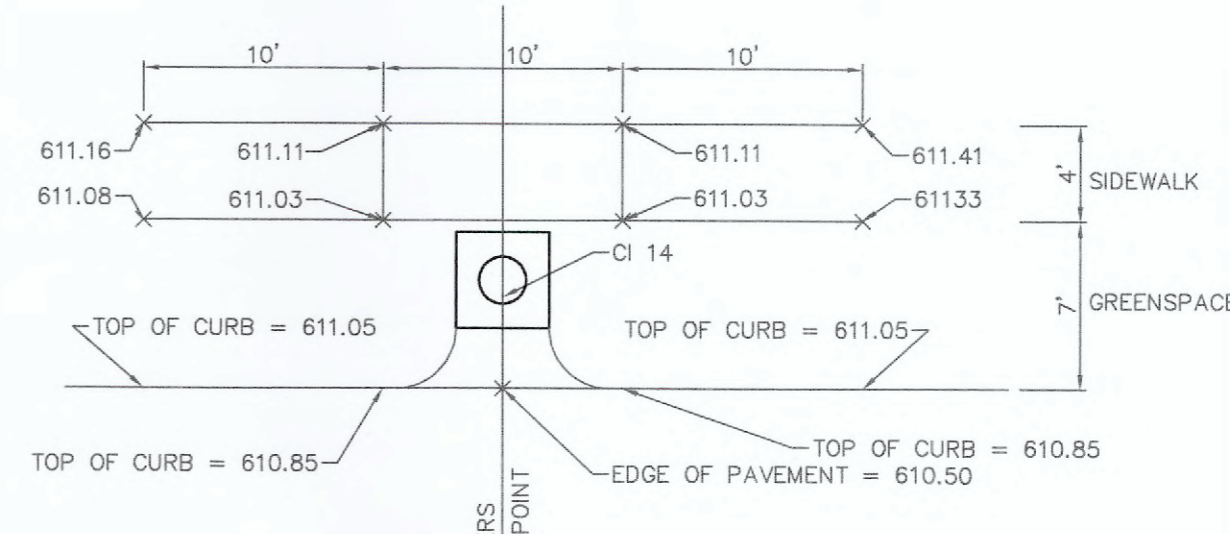
TYPICAL SWALE PROFILE
NOT TO SCALE



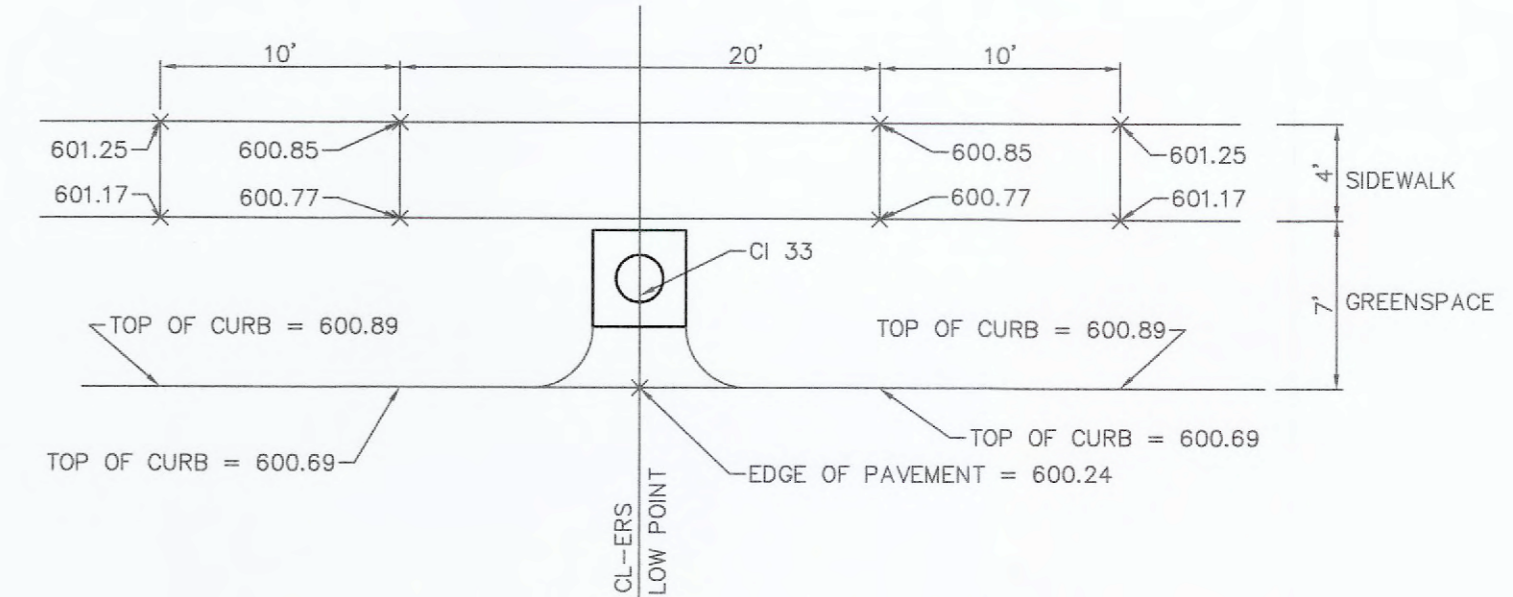
TYPICAL EMERGENCY RELIEF BETWEEN HOUSES
NOT TO SCALE



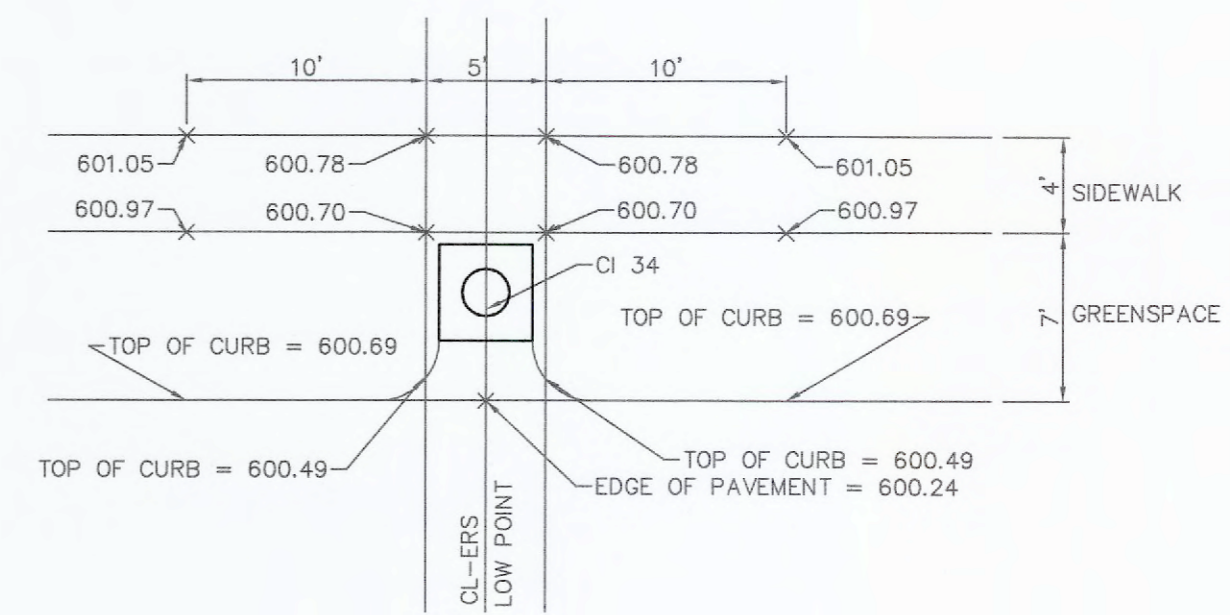
CI 22 SIDEWALK DETAIL
NOT TO SCALE



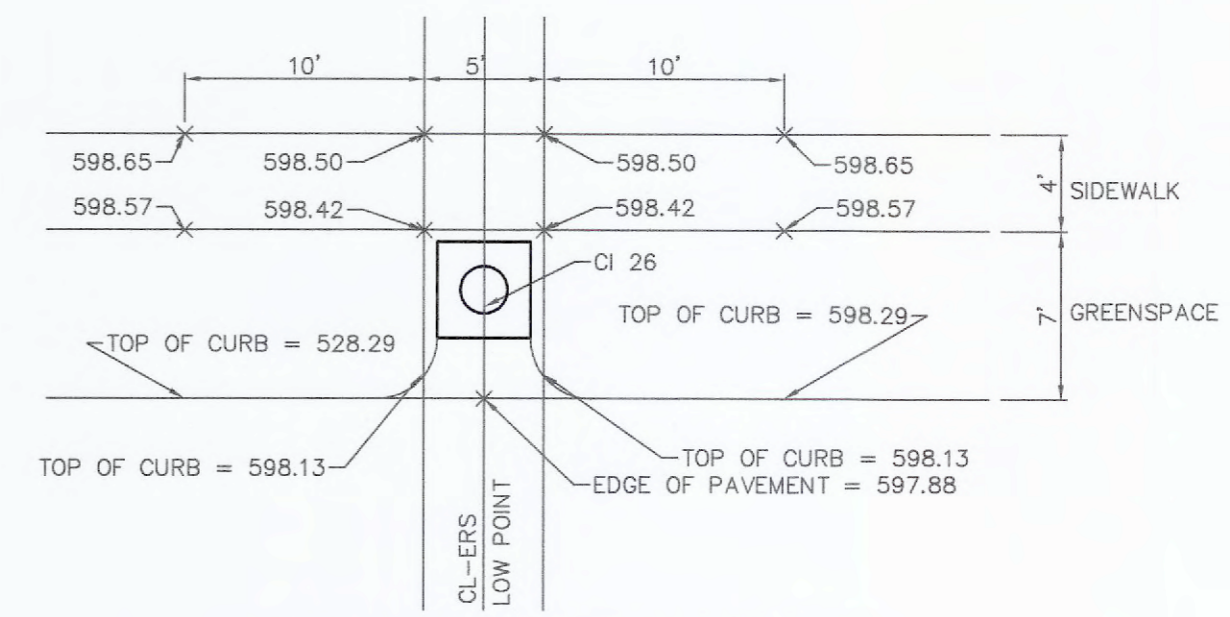
CI 14 SIDEWALK DETAIL
NOT TO SCALE



CI 33 SIDEWALK DETAIL
NOT TO SCALE



CI 34 SIDEWALK DETAIL
NOT TO SCALE



CI 26 SIDEWALK DETAIL
NOT TO SCALE

PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE



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.

Bax Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

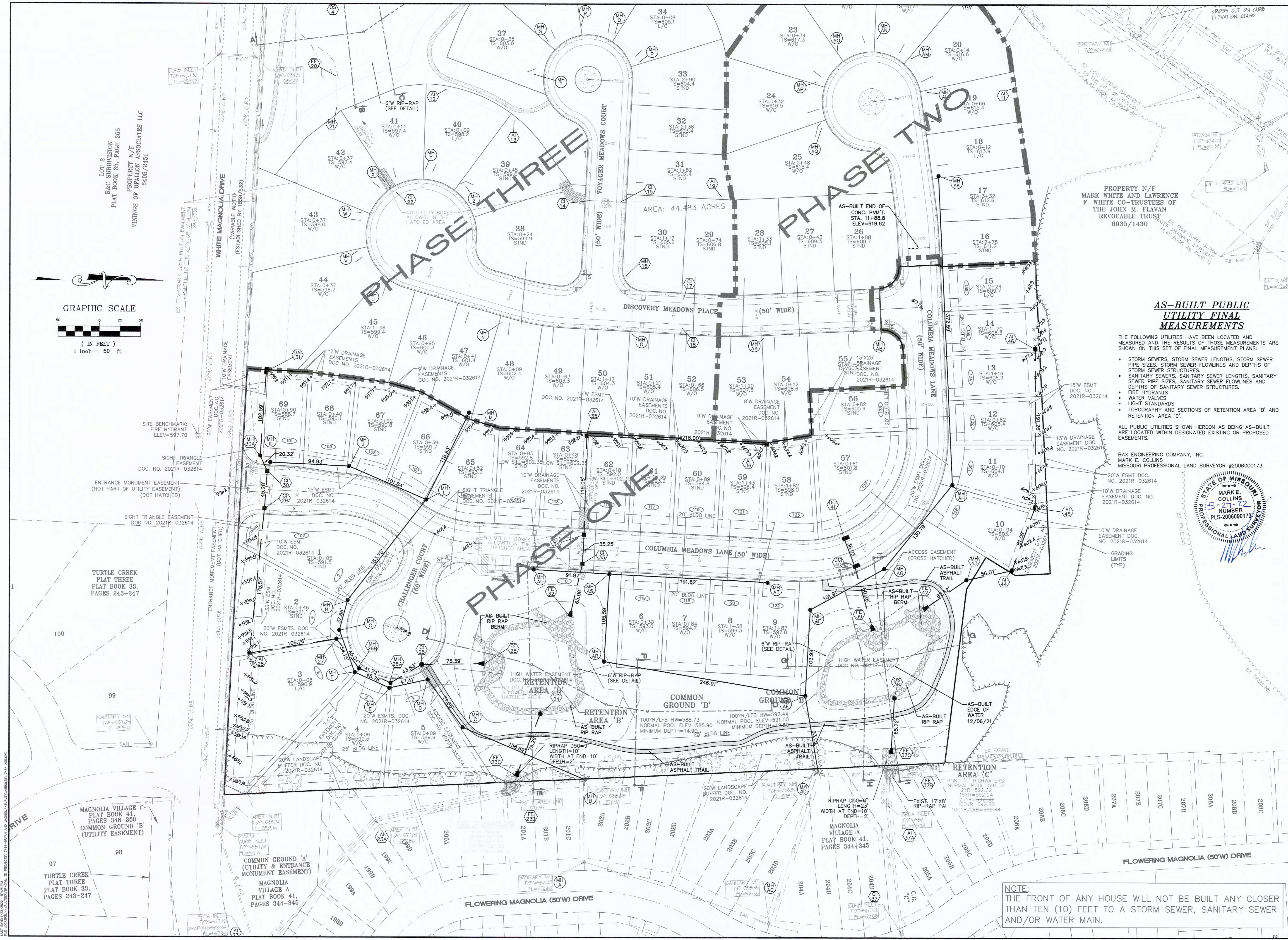
REVISIONS	
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?

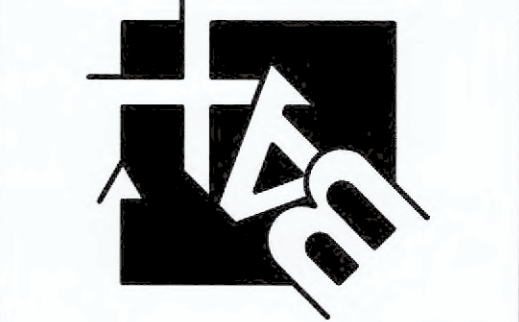
Page No.
36 of 38

CONSTRUCTION DETAILS



PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE

ENGINEERING PLANNING SURVEYING
 221 Point West Blvd.
 St. Charles, MO 63301
 636-828-6562
 FAX 636-828-1716



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Box Engineering Company, Inc.
 Missouri State Certificate of Authority
 Engineering #006355
 Missouri State Certificate of Authority
 Surveying #00144

REVISIONS

DATE	REVISION
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

Developer / Owner:
 Alpha Land Development Two, L.L.C.
 612 Trade Center Boulevard
 Chesterfield, MO 63005
 314-721-7779

SITE PLAN

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?
Page No. 4 of 38

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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- SANITARY SEWERS, SANITARY SEWER LENGTHS, SANITARY SEWER PIPE SIZES, SANITARY SEWER FLOWLINES AND DEPTHS OF SANITARY SEWER STRUCTURES.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS
- TOPOGRAPHY AND SECTIONS OF RETENTION AREA 'B' AND RETENTION AREA 'C'.

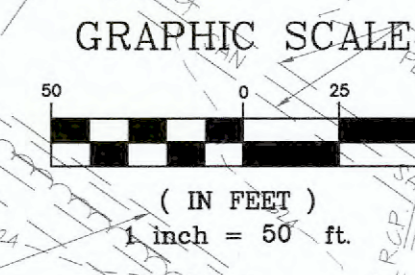
ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS.

BAX ENGINEERING COMPANY, INC.
 MARK E. COLLINS
 MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



NOTE:
 THE FRONT OF ANY HOUSE WILL NOT BE BUILT ANY CLOSER THAN TEN (10) FEET TO A STORM SEWER, SANITARY SEWER AND/OR WATER MAIN.

NOTE:
THE FRONT OF ANY HOUSE WILL NOT BE BUILT ANY CLOSER THAN TEN (10) FEET TO A STORM SEWER, SANITARY SEWER AND/OR WATER MAIN.



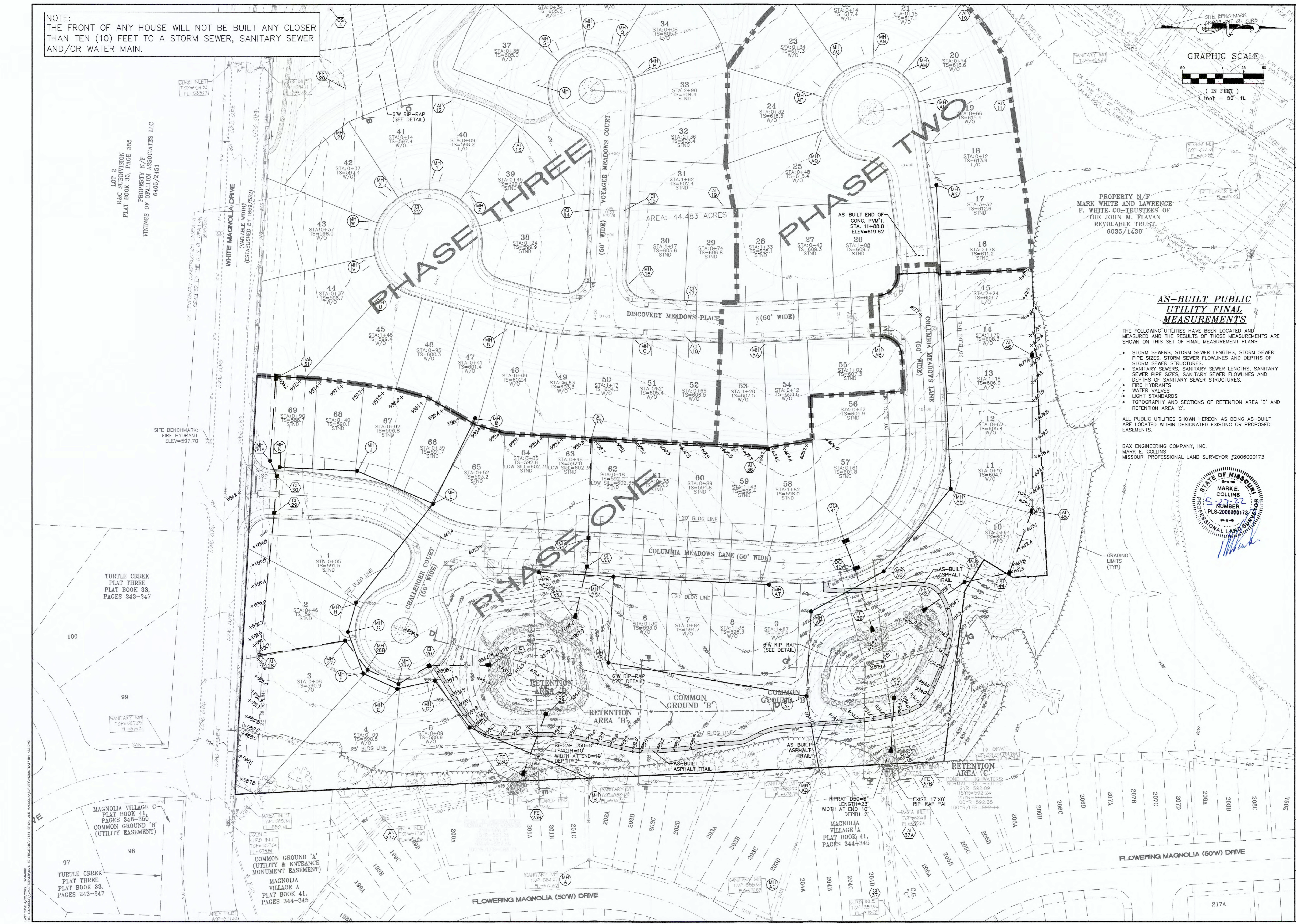
LOT 2
R&C SUBDIVISION
PLAT BOOK 35, PAGE 355
PROPERTY N/P
VININGS OF OPAHON ASSOCIATES LLC
6045/2451

TURTLE CREEK
PLAT THREE
PLAT BOOK 33,
PAGES 243-247

MAGNOLIA VILLAGE C
PLAT BOOK 41,
PAGES 344-350
COMMON GROUND 'B'
(UTILITY EASEMENT)

TURTLE CREEK
PLAT THREE
PLAT BOOK 33,
PAGES 243-247

COMMON GROUND 'A'
(UTILITY & ENTRANCE
MONUMENT EASEMENT)
MAGNOLIA
VILLAGE A
PLAT BOOK 41,
PAGES 344-345



**AS-BUILT PUBLIC
UTILITY FINAL
MEASUREMENTS**

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- LIGHT STANDARDS
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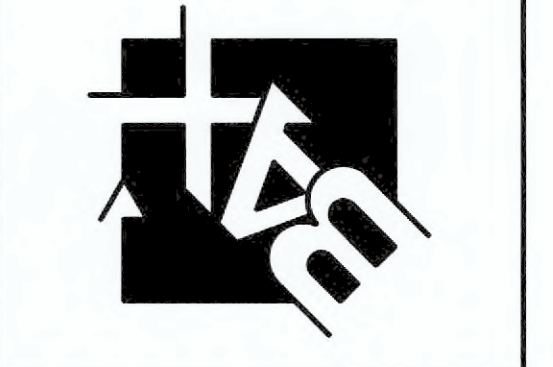
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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173



PROJECT TITLE:
**COLUMBIA
MEADOWS
PHASE ONE**

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-6552
FAX 636-928-1718



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Bax Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

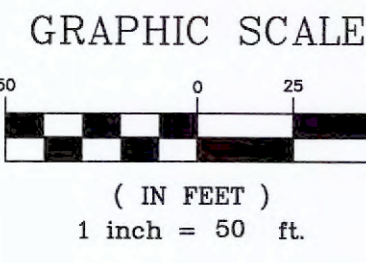
DATE	REVISION
2/23/22	CITY COMMENTS REVS.
4/22/22	CITY COMMENTS REVS.

Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

GRADING PLAN

P+Z No. #19-004868
Approval Date: 07/23/2020
City No. #?

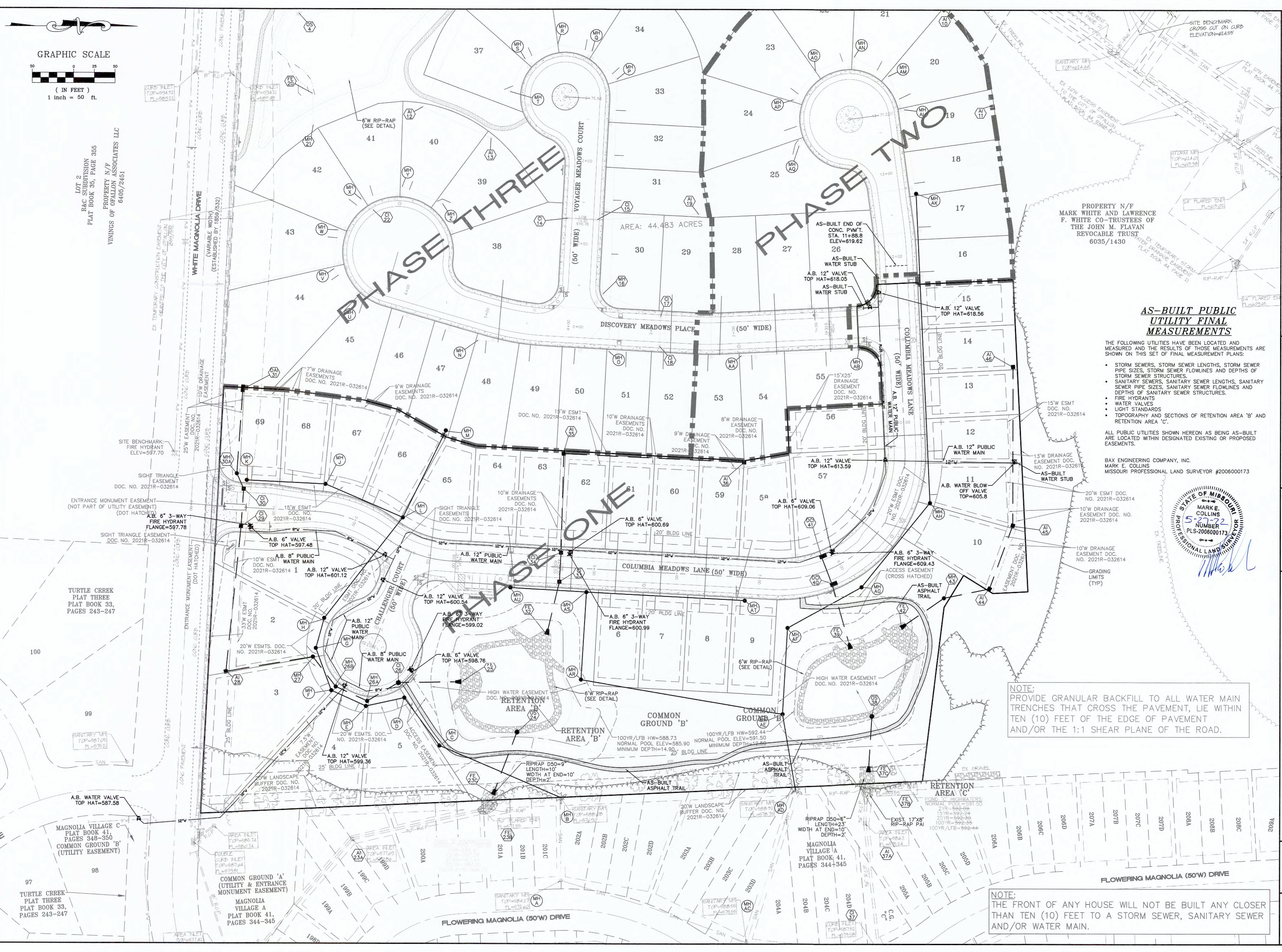
Page No.
6 of 38



LOT 2
R&C SUBDIVISION
PLAT BOOK 35, PAGE 355
PROPERTY N/P
WININGS OF OPELON ASSOCIATES LLC
6405/2461

PHASE THREE VOYAGER MEADOWS COURT

PHASE TWO



AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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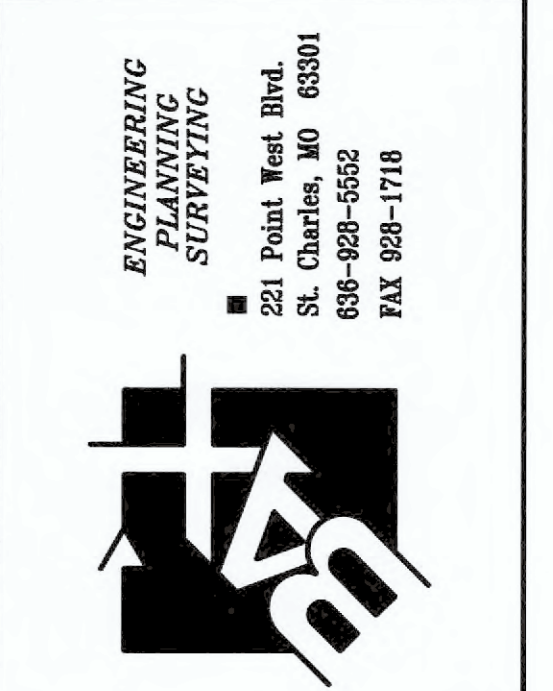
BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #200600173



NOTE:
PROVIDE GRANULAR BACKFILL TO ALL WATER MAIN TRENCHES THAT CROSS THE PAVEMENT, LIE WITHIN TEN (10) FEET OF THE EDGE OF PAVEMENT AND/OR THE 1:1 SHEAR PLANE OF THE ROAD.

NOTE:
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PROJECT TITLE:
COLUMBIA MEADOWS PHASE ONE



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Bax Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #000655
Missouri State Certificate of Authority Surveying #000144

REVISIONS	
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4/22/22	CITY COMMENTS REVS.

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314-721-7779

P4-Z No. #19-004868
Approval Date: 07/23/2020
City No. #?

Page No.
8 of 38

WATER PLAN