

METROPOLITAN ST. LOUIS SEWER DISTRICT

WHITE AND ROSALIE 1/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN

LEGEND

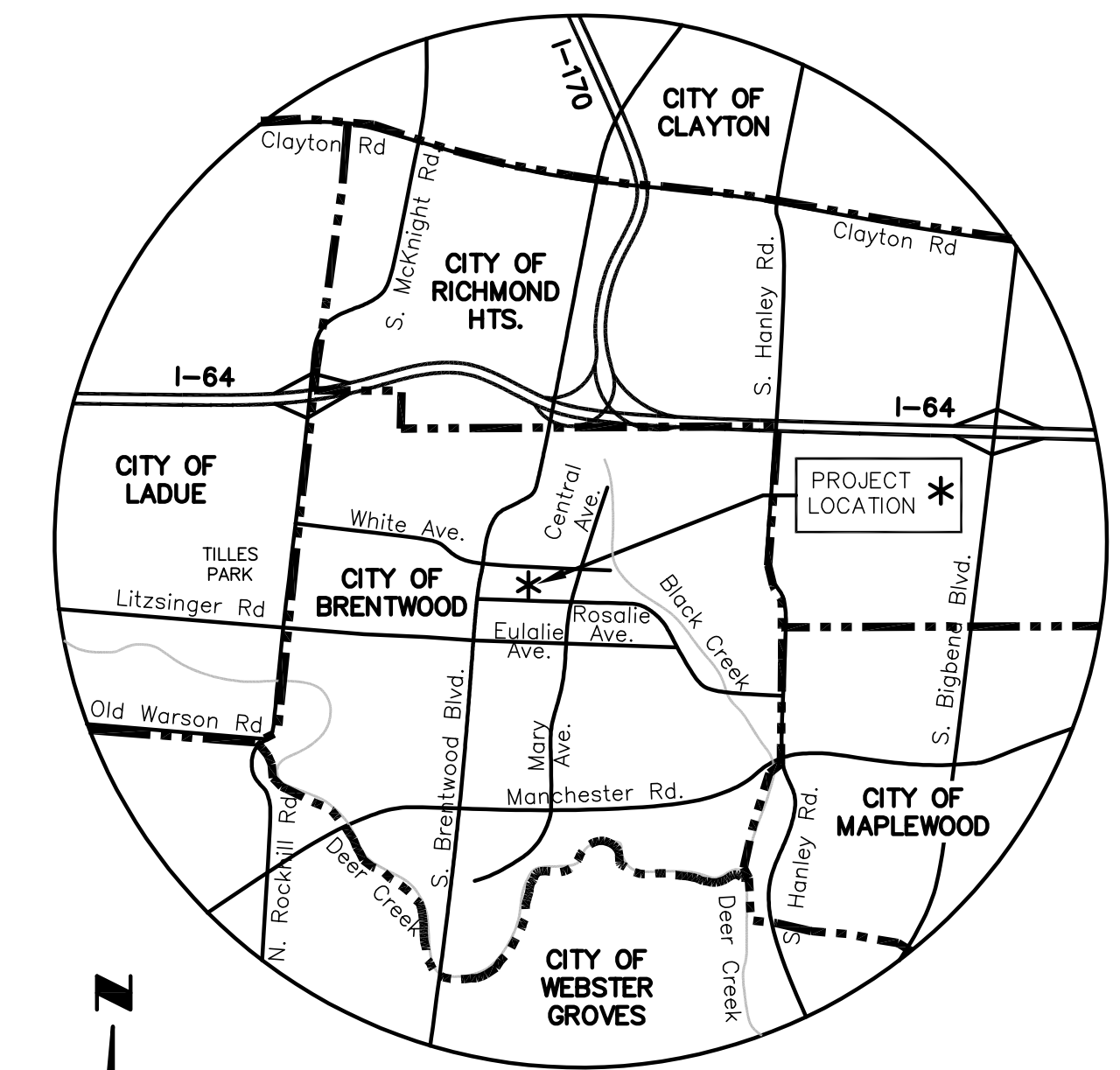
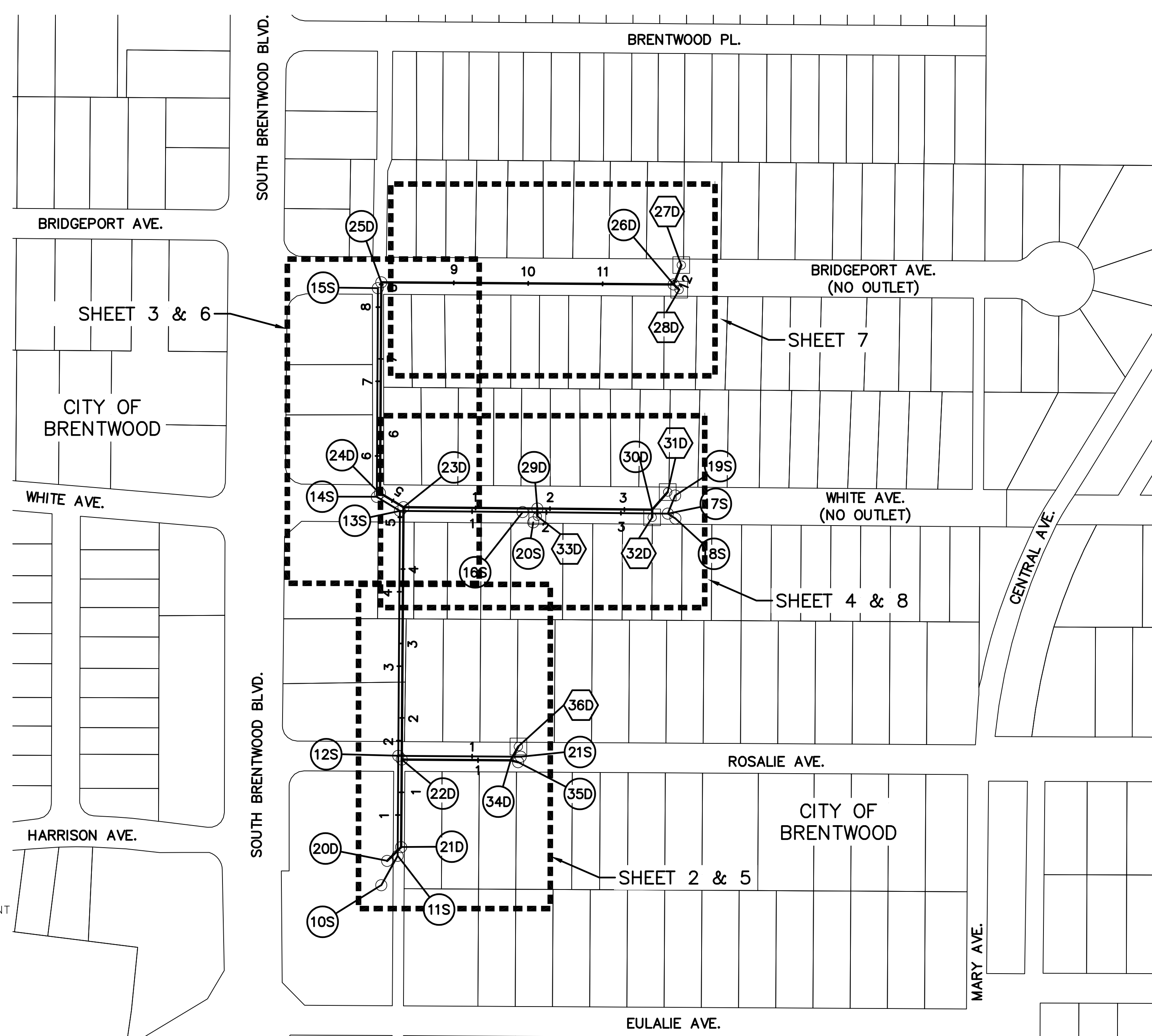
EXISTING		NEW
○	MANHOLE	●
◻	INLET MANHOLE	◼
□	INLET	■
▤	DOUBLE INLET	■
○ with dashed lines	MANHOLE DESIGNATOR	○
○ with solid lines	INLET OR STRUCTURE DESIGNATOR	○
□ with dashed lines	JUNCTION CHAMBER DESIGNATOR	□
□ with solid lines	OUTLET OR FES DESIGNATOR	□
--- x ---	PIPE 6" THRU 18"	--- x ---
=== x ===	PIPE 21" THRU 108"	=== x ===
--- x ---	FENCE	--- x ---
g 2" GAS	UNDERGROUND UTILITIES	
~~~~~	FLOWLINE OF CREEK OR DITCH	
--- x ---	GUARD RAIL	

**ABBREVIATIONS: (CONT.)**

CY	CUBIC YARD
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DR	DRIVE
E	EAST
ELEV	ELEVATION
ESMT	EASEMENT
EX	EXISTING
EX JN	EXPANSION JOINT
FL	FLOW LINE
FT	FOOT
GM	GAS METER
G	GAS
GV	GAS VALVE
H	HIGH
HWY	HIGHWAY
IN	INCH
IN ANG	INTERSECTION ANGLE
IP	IRON PIPE
L	LENGTH OF CURVE
LDB	LEFT DESCENDING BANK
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
N	NORTH
OH	OVERHEAD
#	NUMBER
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL OR P	PROPERTY LINE
PP	POWER POLE
PT	POINT OF TANGENCY
PVMT	PAVEMENT
PVC OR PVCP	POLYVINYL CHLORIDE PIPE
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDB	RIGHT DESCENDING BANK
ROW	RIGHT OF WAY
S	SOUTH
SAN	SANITARY
ST	STREET
STA	STATION
STD	STANDARD
STLCO	ST. LOUIS COUNTY
STM	STORM
T	TOP
T	TANGENT DISTANCE
TBA	TO BE ABANDONED
TBA&F	TO BE ABANDONED & FILLED
TBM	TEMPORARY BENCHMARK
TBR	TO BE REMOVED
TBR&R	TO BE REMOVED & REPLACED
TCE	TEMPORARY CONSTRUCTION EASEMENT
TH	TEST HOLE
TH	UNDERGROUND ELECTRIC
UE	USE IN PLACE
VCP	VITRIFIED CLAY PIPE
W	WATER
W	WEST
W	WIDE
WM	WATER METER
WV	WATER VALVE

**ABBREVIATIONS:**

ABS	ACRYLONITRILE-BUTADIENE-STYRENE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
ASPH	ASPHALT
ATP	ARBORIST-DEFINED TREE PROTECTION
AVE	AVENUE
BL OR P	BASE LINE
BLK	BLOCK
BLVD	BOULEVARD
BSMT	BASEMENT
BM	BENCH MARK
CIPP OR CPP	CURED IN PLACE PIPE
CL OR C	CENTER LINE
CMP	CORRUGATED METAL PIPE
CO	COMPANY
CONC	CONCRETE
CONST JT	CONSTRUCTION JOINT
CT	COURT



**LOCATION MAP**  
NOT TO SCALE

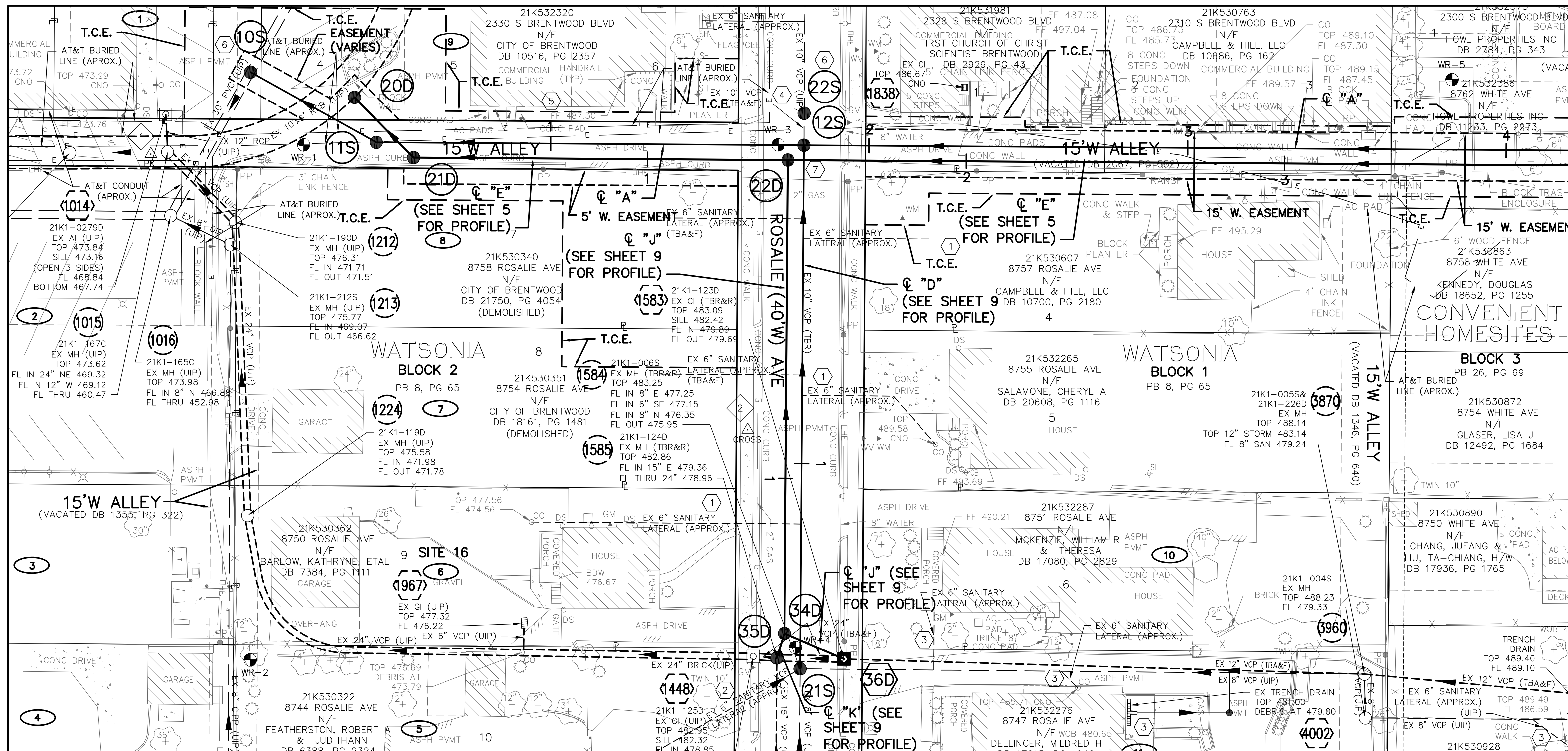
**SHEET NO**     **DESCRIPTION**

1	COVER SHEET
2-4	SANITARY PLAN AND PROFILE SHEETS
5-8	STORM PLAN AND PROFILE SHEETS
9	SANITARY AND STORM PROFILE SHEET
10	SEWER ABANDONMENT SHEET
11	DETAILS SHEET

**90% REVIEW**

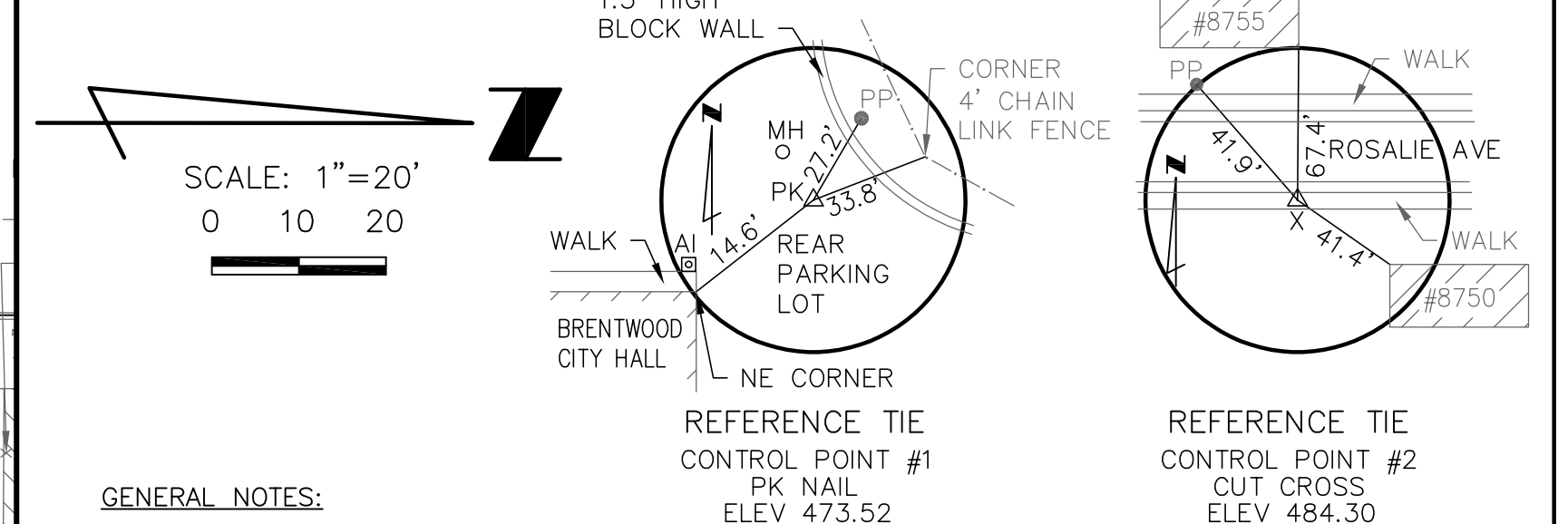
NOTE: UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UTILITIES LOCATED IN THE FIELD PRIOR TO EXCAVATION OR CONSTRUCTION.  
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 HDR Engineering, Inc. 401 SOUTH 18th STREET, Suite 300 St. Louis, Missouri 63103 (314) 425-8300 <small>Mo. State Certificate of Authority No. #000856</small>	REV.	DATE	DESCRIPTION	BY
	METROPOLITAN ST. LOUIS SEWER DISTRICT 2350 MARKET STREET ST. LOUIS, MISSOURI 63103-2555 (314) 768-6200			
Engineer Seal  ERIN JEARLS, P.E. CIVIL ENGINEER P.E. No. 2008002233 DATE:	WHITE AND ROSALIE 1/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI			
Designed EMJ Drawn RKF Checked JAG Date MAY, 2019 Sheet No. 1 of 11	WHITE AND ROSALIE STORM SEWER IMPROVEMENTS AND SEWER SEPARATION DESIGN COVER SHEET			



CL "A" MATCHLINE STA 4+25

POINT TABLE					
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION	
1		1014015.69	863692.88	PK NAIL IN ASPHALT	
2		1014203.17	863379.48	CUT CROSS	
EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
1014	1014	21K1-0279D	1014020.37	863680.48	EX. STORM AREA INLET
1015	1015	21K1-167C	1014020.96	863692.24	EX. COMBINED SEWER MANHOLE
1016	1016	21K1-165C	1014021.95	863712.24	EX. COMBINED SEWER MANHOLE
1212	1212	21K1-190D	1014042.25	863714.29	EX. STORM MANHOLE
1213	1213	21K1-212S	1014040.65	863721.41	EX. SANITARY MANHOLE
1224	1224	21K1-119D	1014046.15	863806.45	EX. STORM MANHOLE
1448	1448	21K1-125D	1014204.69	863850.68	EX. STORM CURB INLET
1583	1583	21K1-123D	1014233.33	863851.47	EX. STORM CURB INLET
1584	1584	21K1-006S	1014219.63	863854.53	EX. SANITARY MANHOLE
1585	1585	21K1-212S	1014212.27	863851.14	EX. STORM MANHOLE
1838	1838	21K1-124D	1014271.19	863671.96	EX. STORM GATE INLET
1967	1967	PRIVATE	1014133.13	863840.15	EX. STORM GATE INLET
3870	3870	21K1-005S	1014396.83	863856.20	EX. SANITARY/STORM MANHOLE
3960	3960	21K1-004S	1014397.11	863870.01	EX. SANITARY MANHOLE
4002	4002	PRIVATE	1014322.94	863868.24	EX. STORM TRENCH DRAIN
NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
10S	10S		1014047.02	863667.22	SAN. MH SET OVER FOULWATER DROP
11S	11S		1014086.52	863689.22	SANITARY MANHOLE
12S	12S		1014220.83	863690.12	SANITARY MANHOLE
21S	21S	21K1-006S	1014219.63	863854.53	SANITARY MANHOLE
22S	22S		1014220.90	863680.12	SANITARY TERMINAL MANHOLE



SCALE: 1"=20'  
0 10 20

GENERAL NOTES:

- UTILIZE THE EXISTING 6" SANITARY LATERAL PIPE AS MUCH AS POSSIBLE.
- SANITARY MANHOLES LOCATED IN PAVEMENT WILL REQUIRE MANHOLE FRAME AND COVER SEALS PER SPECIFICATIONS.
- ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
- COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.

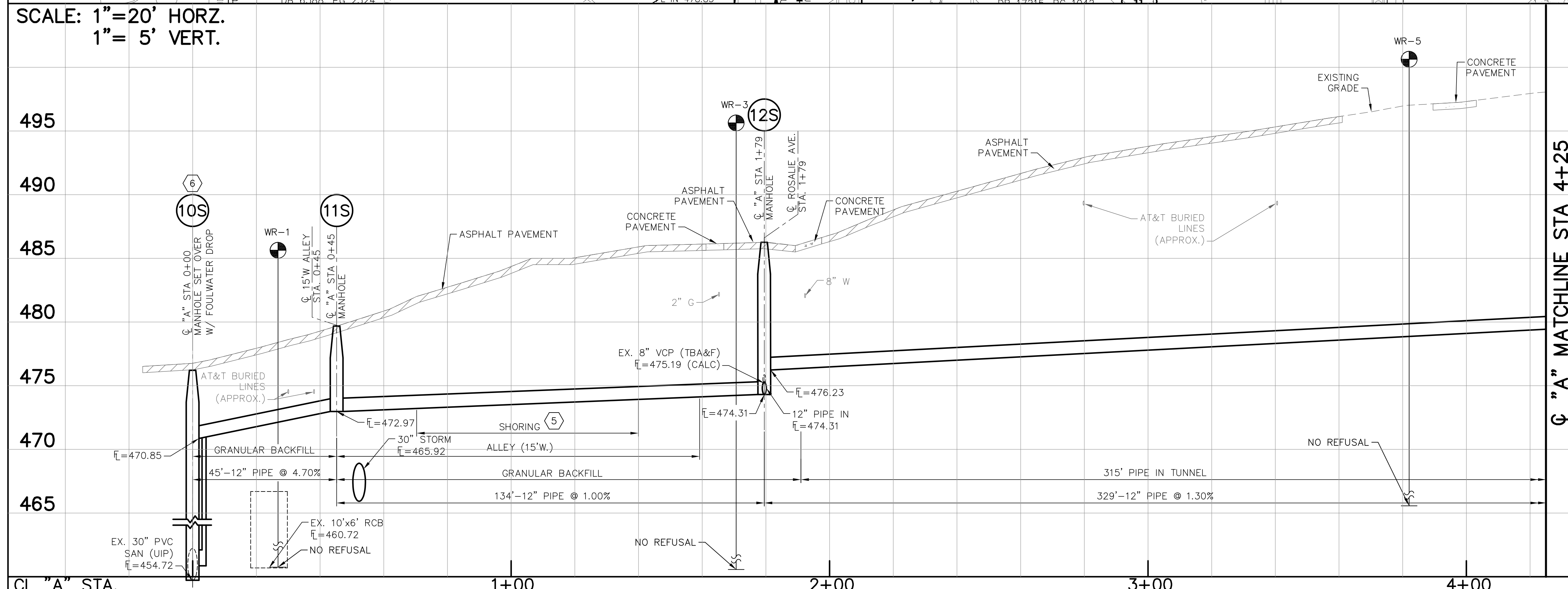
KEY NOTES:

- #8750, #8755 AND #8757 ROSALIE AVE. EXISTING 6" SANITARY LATERALS TO BE DISCONNECTED FROM EXISTING SANITARY SEWER AND RECONNECTED TO THE NEW SANITARY SEWER 21S-12S. #8750 ROSALIE AVE. EXISTING 6" SANITARY LATERAL TO GO OVER NEW STORM SEWER.
- RECONNECT EXISTING 6" SANITARY LATERAL (UIP) FROM #8744 ROSALIE AVE. TO NEW MH 21S.
- EXISTING 6" SANITARY LATERALS FROM #8746 WHITE AVE., #8747 ROSALIE AVE. AND #8751 ROSALIE AVE. REMAIN CONNECTED TO EXISTING 8" VCP SANITARY SEWER, IN WHICH FLOW GOES TO NEW MH 21S. THE PRIVATE AREA DRAIN FROM #8747 ROSALIE AVE. ALSO REMAINS CONNECTED TO EXISTING 8" VCP SANITARY SEWER.
- SEE SEWER ABANDONMENT SHEET DEMOLITION PLAN B. PLACE NEW TERMINAL MANHOLE 22S APPROXIMATELY 10' WEST OF NEW MANHOLE 12S TO ALLOW THE EXISTING 10" VCP SANITARY SEWER GOING WEST FROM MANHOLE 22S TO REMAIN ACTIVE FOR CONNECTED EXISTING 6" SANITARY LATERALS FROM #2330 AND #2328 S. BRENTWOOD BLVD., IN WHICH FLOW GOES TO EXISTING MANHOLE 21K1-007S. DOWNSTREAM FROM NEW TERMINAL MANHOLE 22S, EXISTING 6" SANITARY LATERALS #2300 AND #2328 S. BRENTWOOD BLVD. ARE LOCATED AT APPROXIMATELY 32' AND 62' RESPECTIVELY.
- SHORING REQUIRED ON WEST SIDE OF TRENCH ALONG COMMERCIAL BUILDING AT 2330 S. BRENTWOOD BLVD. BETWEEN APPROXIMATE SANITARY SEWER STATIONS 0+70 THROUGH 1+40.
- USE MSD STANDARD DETAIL, SHEET 22.
- CONCRETE ENCASUREMENT OF SANITARY SEWER PIPE SEGMENT PER MSD SPECIFICATIONS.

**90% REVIEW**

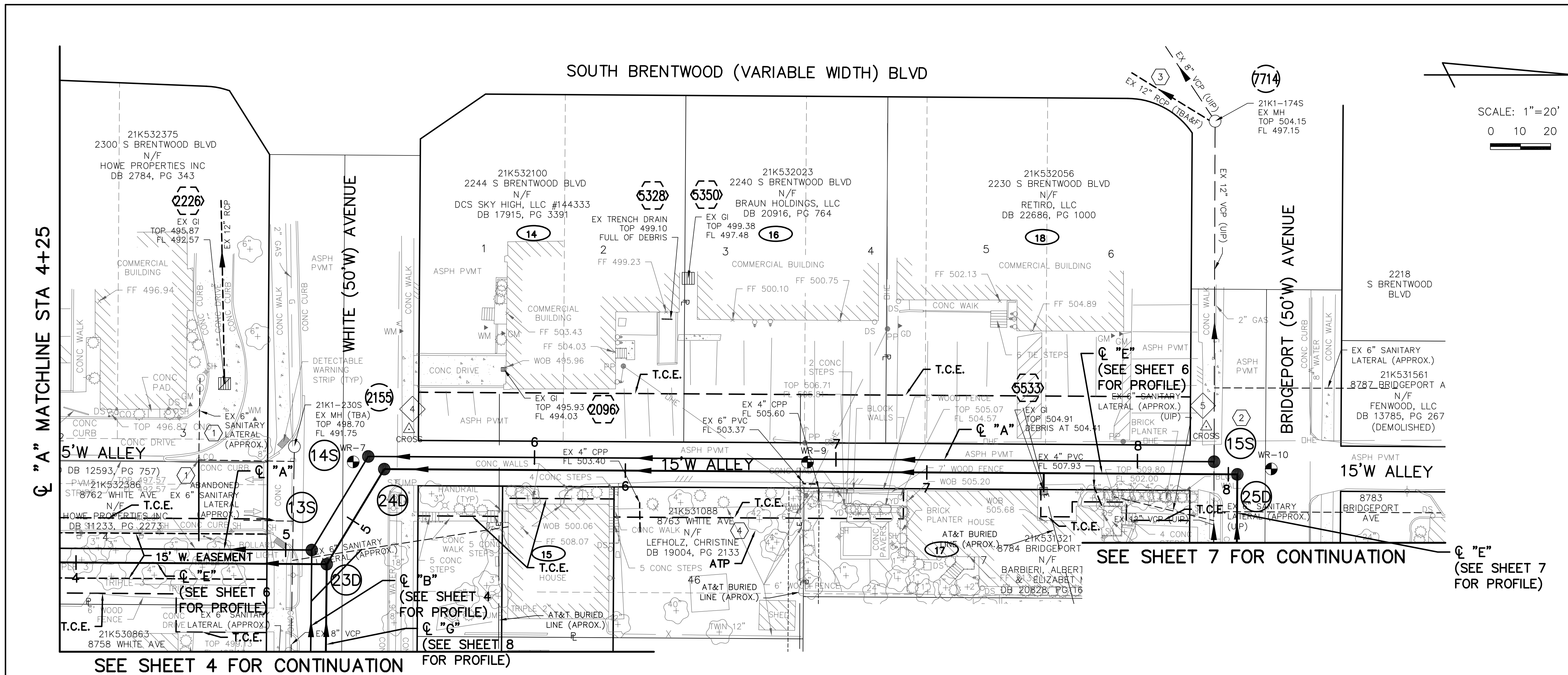
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 HDR Engineering, Inc. 401 S. 16th St., Suite 300 St. Louis, Missouri 63103 (314) 425-9300 ENGINEERING LICENSE NO. 000856	REV. DATE	DESCRIPTION	BY
	<b>METROPOLITAN ST. LOUIS SEWER DISTRICT</b>		
<b>WHITE AND ROSALIE I/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI</b>			
Engineer Seal	Designed	E.M.J.	Date
	Drawn	R.K.F.	MAY 2019
	Checked	J.A.G.	Sheet No. 2 of 11
ERIN JEARLS, P.E. CIVIL ENGINEER P.E. NO. 2008002233 DATE:			



CL "A" MATCHLINE STA 4+25

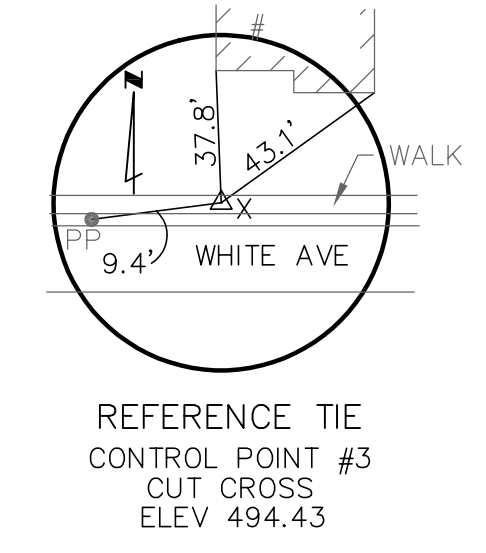
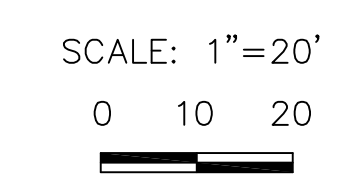




POINT TABLE				
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION
4		1014582.19	863652.31	CUT CROSS
5		1014846.63	863651.44	CUT CROSS

EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
2096	2096	PRIVATE	1014613.58	863632.44	EX. STORM GRATED INLET
2155	2155	PRIVATE	1014544.16	863658.01	EX. SANITARY MANHOLE
2226	2226	PRIVATE	1014521.00	863637.13	EX. STORM GRATED INLET
5328	5328	PRIVATE	1014667.78	863615.77	EX. STORM TRENCH DRAIN
5350	5350	PRIVATE	1014674.82	863602.24	EX. STORM GRATED INLET
5533	5533	PRIVATE	1014792.70	863672.79	EX. STORM GRATED INLET
7714	7714	21K1-174S	1014849.57	863550.13	EX. STORM GRATED INLET

NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
13S	13S		1014549.93	863692.32	SAN. MANHOLE-FOULWATER DROP
14S	14S		1014568.67	863661.32	SANITARY MANHOLE
15S	15S		1014849.23	863663.03	SANITARY MANHOLE-SET OVER



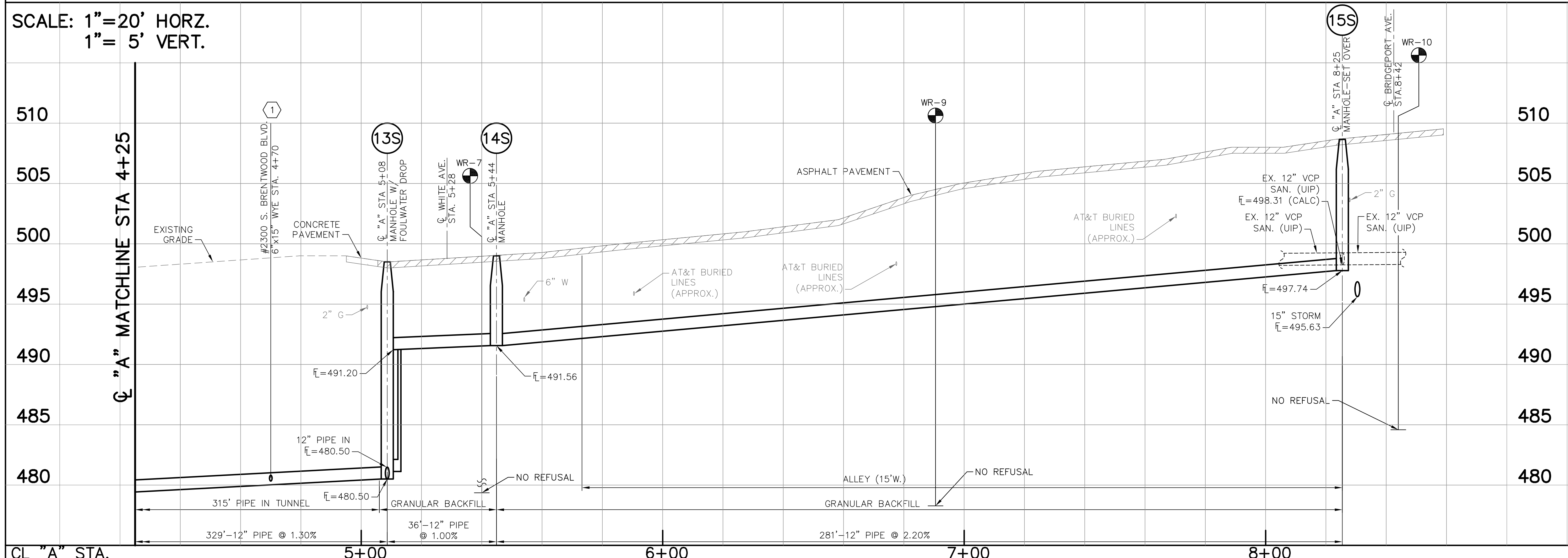
- GENERAL NOTES:**
- SEE SHEET 6 FOR NEW 6" STORM DRAIN LATERAL KEY NOTE.
  - SANITARY MANHOLES LOCATED IN PAVEMENT WILL REQUIRE MANHOLE FRAME AND COVER SEALS PER SPECIFICATIONS.
  - ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
  - LOCALIZED AREAS OF UNSUITABLE SUBGRADE WERE ENCOUNTERED IN SOIL BORINGS WR-9, WR-10, WR-11, AND WR-13 (SEE GEOTECH REPORTS). INTERMITTENT UNSUITABLE SUBGRADE IS ANTICIPATED ALONG BRIDGEPORT AVE. AND ALONG THE ALLEY BETWEEN BRIDGEPORT AND WHITE AVENUES.
  - COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.

- KEY NOTES:**
- ABANDON (TBA&F) EXISTING 6" SANITARY LATERAL (APPROX.) FROM CO TO EXISTING SANITARY SEWER 21K1-230S; 21K1-008S FOR #2300 S. BRENTWOOD BLVD. REROUTE NEW 6" SANITARY LATERAL FROM CO TO NEW SANITARY SEWER 13S; 12S. UIP EXISTING 6" SANITARY LATERAL UPSTREAM OF CO.
  - USE MSD STANDARD-DETAIL SHEET 22.
  - SEE SEWER ABANDONMENT SHEET DEMOLITION PLAN D FOR INTERCEPTOR ABANDONMENT INFORMATION.
  - THIS 42" TREE IS IDENTIFIED FOR ARBORIST-DEFINED TREE PROTECTION (ATP). SEE SPECIFICATIONS FOR DETAILS.

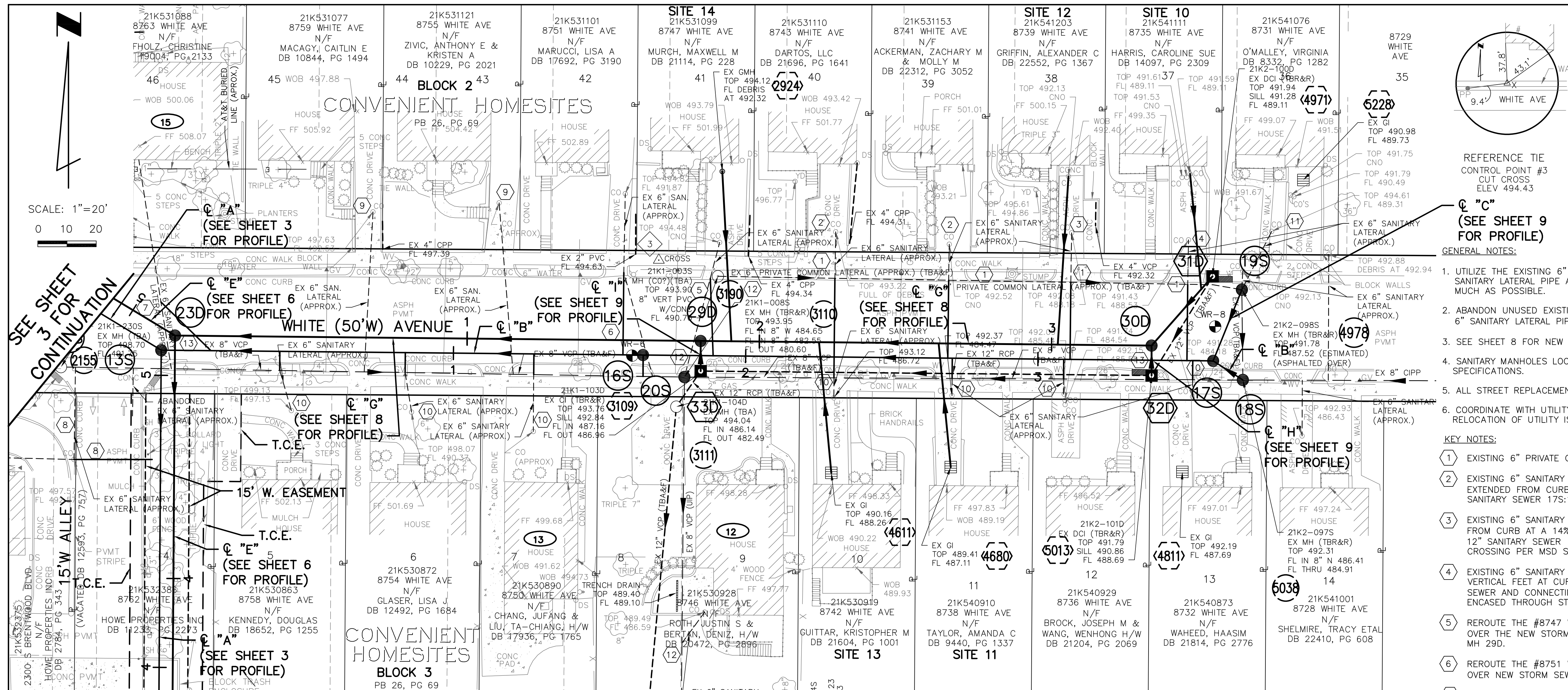
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	<b>METROPOLITAN ST. LOUIS SEWER DISTRICT</b>			
	<b>WHITE AND ROSALIE 1/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI</b>			
	Designed	E.M.J.	Date	MAY 2019
Drawn	R.K.F.	Sheet No.	3 of 11	
Checked	J.A.G.			
ERIN JEARLS, P.E. CIVIL ENGINEER P.E. No. 200802233 DATE:				







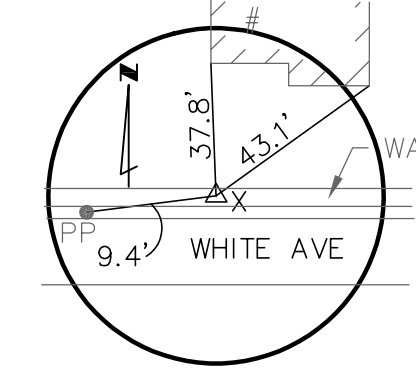
POINT TABLE				
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION
3		1014580.74	863862.58	CUT CROSS
4		1014582.19	863652.31	CUT CROSS

EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
2155	2155	21K1-230S	1014544.16	863658.01	EX. SANITARY MANHOLE
2924	2924	PRIVATE	1014611.19	863884.35	EX. STORM GRATED MANHOLE
3109	3109	21K1-103D	1014542.75	863876.90	EX. STORM CURB INLET
3110	3110	21K1-008S	1014507.93	863921.59	EX. SANITARY MANHOLE
3111	3111	21K1-104D	1014530.55	863868.98	EX. STORM MANHOLE
3190	3190	21K1-003S	1014575.20	863882.79	EX. SANITARY MANHOLE
4611	4611	PRIVATE	1014507.93	863921.59	EX. STORM GRATED INLET
4680	4680	PRIVATE	1014509.88	863962.48	EX. STORM GRATED INLET
4811	4811	PRIVATE	1014508.26	864041.72	EX. STORM GRATED INLET
4971	4971	21K2-100D	1014575.17	864052.08	EX. STORM CURB INLET
4978	4978	21K2-098S	1014570.61	864062.09	EX. SANITARY MANHOLE
5013	5013	21K2-101D	1014541.24	864031.19	EX. STORM DOUBLE CURB INLET
5038	5038	21K2-097S	1014539.70	864062.45	EX. SANITARY MANHOLE
5228	5228	PRIVATE	1014608.18	864083.12	EX. STORM GRATED INLET

NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
13S	13S		1014549.93	863692.32	SAN. MANHOLE-FOLLOWER DROP
16S	16S		1014548.24	863857.16	SANITARY MANHOLE
17S	17S		1014546.24	864052.28	SANITARY MANHOLE
18S	18S	21K2-097S	1014539.70	864062.45	SANITARY MANHOLE
19S	19S	21K2-098S	1014570.61	864062.09	SANITARY MANHOLE
20S	20S		1014575.20	863882.79	SANITARY TERMINAL MANHOLE



REFERENCE TIE CONTROL POINT #3 CUT CROSS ELEV 494.43

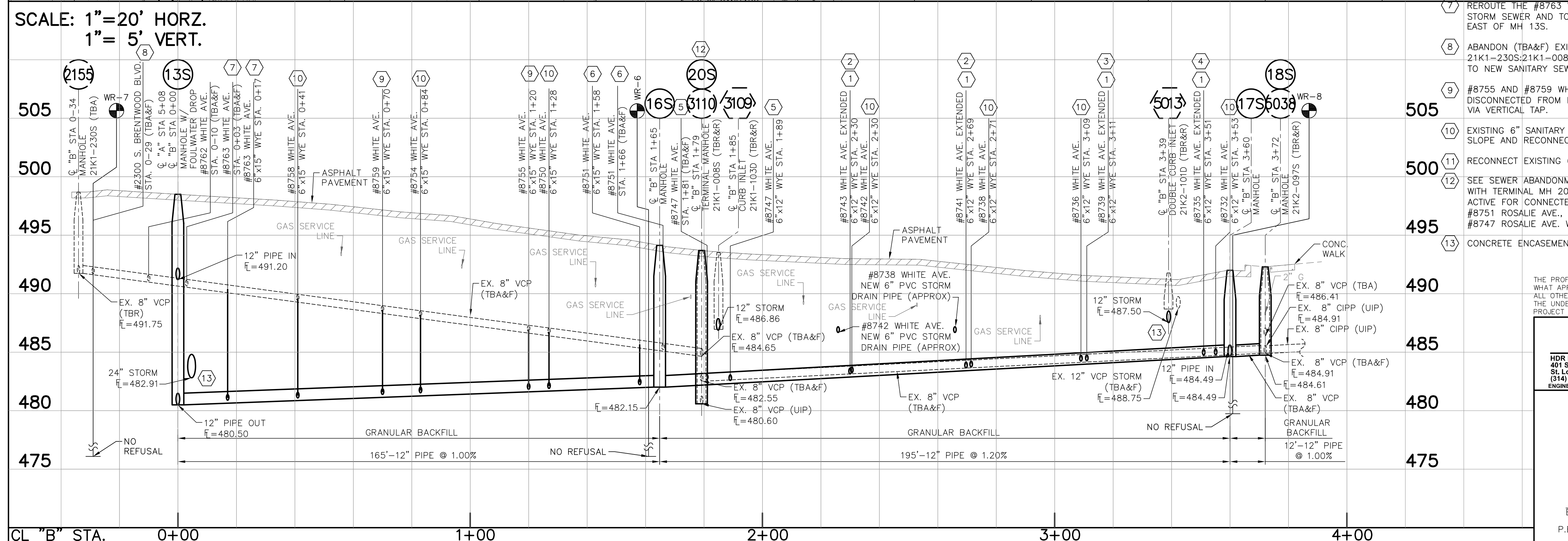
"C" (SEE SHEET 9 FOR PROFILE)

GENERAL NOTES:

- UTILIZE THE EXISTING 6" SANITARY LATERAL PIPE AS MUCH AS POSSIBLE.
- ABANDON UNUSED EXISTING 6" SANITARY LATERAL PIPE.
- SEE SHEET 8 FOR NEW 6" STORM DRAIN LATERAL KEY NOTES.
- SANITARY MANHOLES LOCATED IN PAVEMENT WILL REQUIRE MANHOLE FRAME AND COVER SEALS PER SPECIFICATIONS.
- ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
- COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.

KEY NOTES:

- EXISTING 6" PRIVATE COMMON LATERAL SHALL BE ABANDONED AND FILLED.
- EXISTING 6" SANITARY LATERALS TO 6" PRIVATE COMMON LATERAL FOR #8741 AND #8743 WHITE AVE. TO BE EXTENDED FROM CURB AT A 2% SLOPE, GOING OVER NEW STORM SEWER AND CONNECTING TO THE NEW 12" SANITARY SEWER 17S:16S.
- EXISTING 6" SANITARY LATERAL TO 6" PRIVATE COMMON LATERAL FOR #8739 WHITE AVE. TO BE EXTENDED FROM CURB AT A 14% SLOPE (APPROX.), GOING UNDER NEW STORM SEWER AND CONNECTING TO THE NEW 12" SANITARY SEWER 17S:16S. SANITARY LATERAL TO BE CONCRETE ENCASED THROUGH STORM SEWER CROSSING PER MSD SPECIFICATIONS.
- EXISTING 6" SANITARY LATERAL TO 6" PRIVATE COMMON LATERAL FOR #8735 WHITE AVE. TO DROP 2.5 VERTICAL FEET AT CURB, THEN BE EXTENDED FROM CURB AT A 2% SLOPE, GOING UNDER NEW STORM SEWER AND CONNECTING TO THE NEW 12" SANITARY SEWER 17S:16S. SANITARY LATERAL TO BE CONCRETE ENCASED THROUGH STORM SEWER CROSSING PER MSD SPECIFICATIONS.
- ROUTER THE #8747 WHITE AVE. 6" SANITARY LATERAL STARTING FROM THE CURB AT A 2% SLOPE, GOING OVER THE NEW STORM SEWER AND CONNECTING TO THE NEW 12" SANITARY SEWER 17S:16S AND EAST OF MH 29D.
- ROUTER THE #8751 WHITE AVE. 6" SANITARY LATERAL STARTING FROM THE CURB AT A 2% SLOPE, GOING OVER NEW STORM SEWER AND CONNECTING TO THE NEW 15" SANITARY SEWER 16S:13S WEST OF MH 16S.
- ROUTER THE #8763 WHITE AVE. 6" SANITARY LATERAL STARTING FROM STREET CENTER, GOING OVER NEW STORM SEWER AND TO THE EAST OF MH 23D, AND CONNECTING TO THE NEW 15" SANITARY SEWER 16S:13S EAST OF MH 13S.
- ABANDON (TBA&F) EXISTING 6" SANITARY LATERAL (APPROX.) FROM CO TO EXISTING SANITARY SEWER 21K1-230S:21K1-008S FOR #2300 S. BRENTWOOD BLVD. REROUTE NEW 6" SANITARY LATERAL FROM CO TO NEW SANITARY SEWER 13S:12S. U/P EXISTING 6" SANITARY LATERAL UPSTREAM OF CO.
- #8755 AND #8759 WHITE AVE. EXISTING 6" SANITARY LATERALS GOING OVER NEW STORM SEWER, TO BE DISCONNECTED FROM EXISTING SANITARY SEWER AND RECONNECTED TO NEW 15" SANITARY SEWER 16S:13S VIA VERTICAL TAP.
- EXISTING 6" SANITARY LATERALS TO BE DISCONNECTED FROM EXISTING SANITARY SEWER, EXTENDED AT A 2% SLOPE AND RECONNECTED TO THE NEW SANITARY SEWER.
- RECONNECT EXISTING 6" SANITARY LATERAL FROM #8731 WHITE AVE. TO NEW MANHOLE 19S.
- SEE SEWER ABANDONMENT SHEET DEMOLITION PLAN A. REMOVE AND REPLACE EXISTING MANHOLE 21K1-008S WITH TERMINAL MH 20S TO ALLOW THE OUTGOING SOUTH EXISTING 8" VCP SANITARY SEWER TO REMAIN ACTIVE FOR CONNECTED EXISTING 6" SANITARY LATERALS FROM #8746 WHITE AVE., #8747 ROSALIE AVE. AND #8751 ROSALIE AVE., IN WHICH FLOW GOES TO NEW MH 21S (SEE SHEET 2). PRIVATE AREA DRAIN FROM #8747 ROSALIE AVE. WILL ALSO REMAIN CONNECTED TO EXISTING SANITARY SEWER.
- CONCRETE ENCASEMENT OF SANITARY SEWER PIPE SEGMENT REQUIRED PER MSD SPECIFICATIONS.



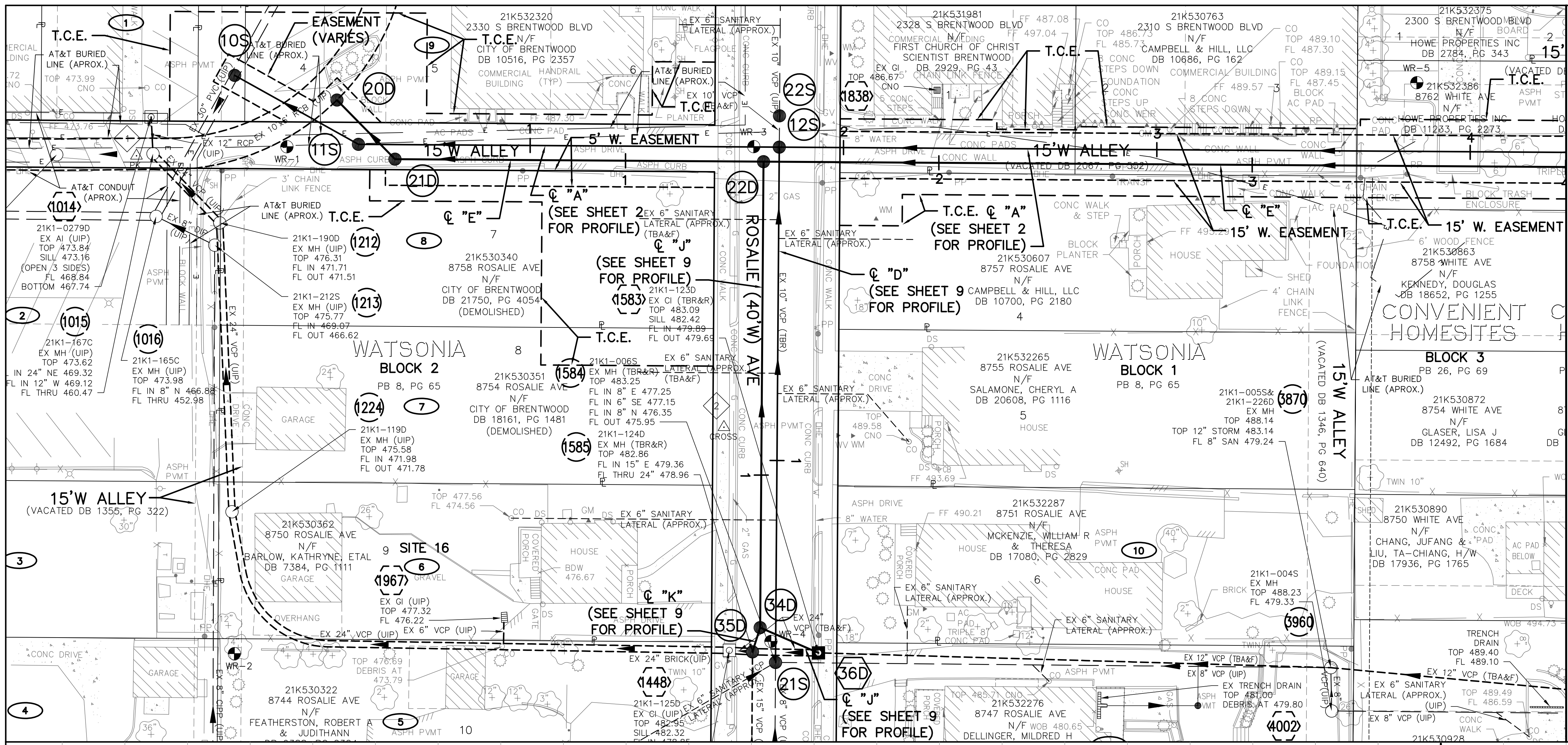
REV.	DATE	DESCRIPTION	BY

**90% REVIEW**

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<p>HDR Engineering, Inc. 401 S. 18th St., Suite 300 St. Louis, Missouri 63103 (314) 425-8300 ENGINEERING LICENSE NO. 000856</p>	<p>Engineer Seal</p>		
	<p>ERIN JEARLS, P.E. CIVIL ENGINEER P.E. No. 2008002233 DATE:</p>		
<p><b>METROPOLITAN ST. LOUIS SEWER DISTRICT</b></p> <p>WHITE AND ROSALIE I/I REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI</p>			
Designed	E.M.J.	Date	MAY 2019
Drawn	R.K.F.	Sheet No.	4 of 11
Checked	J.A.G.		





CL "E" MATCHLINE STA 4+00  
 CL "E" MATCHLINE STA 4+25

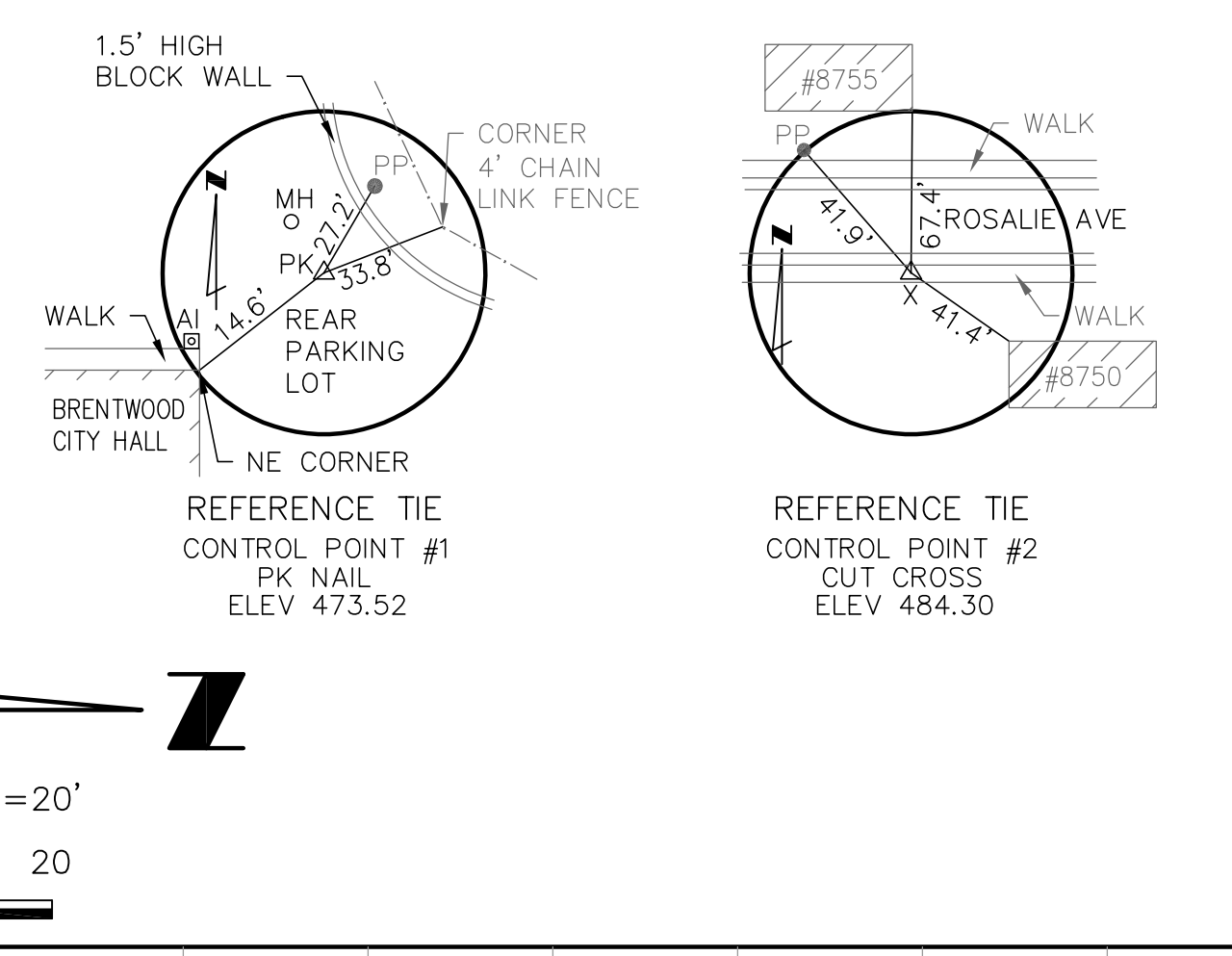
POINT TABLE				
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION
1		1014015.69	863692.88	PK NAIL IN ASPHALT
2		1014203.17	863379.48	CUT CROSS

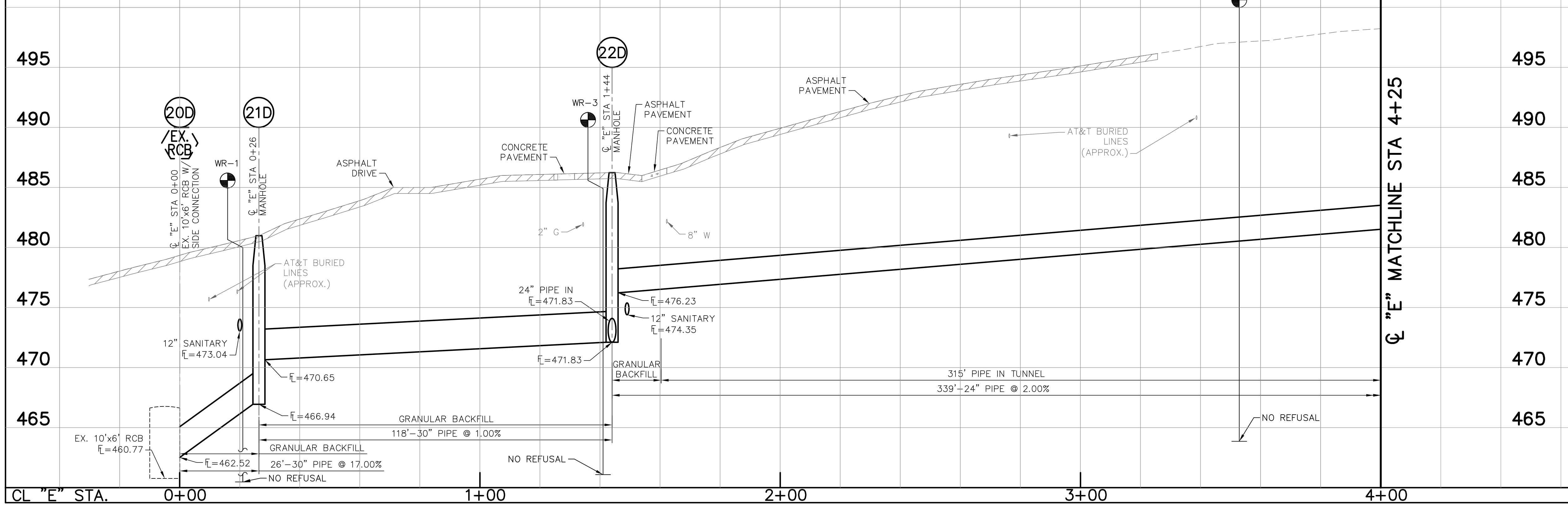
EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
1014	1014		1014020.37	863680.48	EX. STORM AREA INLET
1015	1015	21K1-167C	1014020.96	863692.24	EX. COMBINED SEWER MANHOLE
1016	1016	21K1-165C	1014021.95	863712.24	EX. COMBINED SEWER MANHOLE
1212	1212	21K1-190D	1014042.25	863714.29	EX. STORM MANHOLE
1213	1213	21K1-212S	1014040.65	863721.41	EX. SANITARY MANHOLE
1224	1224	21K1-119D	1014046.15	863806.45	EX. STORM MANHOLE
1448	1448	21K1-125D	1014204.89	863806.68	EX. STORM CURB INLET
1583	1583	21K1-123D	1014233.33	863851.47	EX. STORM CURB INLET
1584	1584	21K1-006S	1014219.63	863854.53	EX. SANITARY MANHOLE
1585	1585	21K1-124D	1014212.27	863851.14	EX. STORM MANHOLE
1838	1838		1014271.19	863671.96	EX. STORM GRATE INLET
1967	1967		1014133.13	863840.15	EX. STORM GRATE INLET
3870	3870	21K1-005S/ 21K1-226D	1014396.83	863856.20	EX. SANITARY/STORM MANHOLE

NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
20D	20D		1014079.66	863675.11	STORM SIDE CONNECTION
21D	21D		1014098.18	863693.97	STORM MANHOLE
22D	22D		1014215.79	863694.76	STORM MANHOLE
34D	34D		1014214.71	863843.42	STORM MANHOLE
35D	35D	21K1-124D	1014212.27	863851.14	STORM MANHOLE
36D	36D	21K1-123D	1014233.33	863851.47	STORM CURB INLET



SCALE: 1"=20' HORZ.  
 1"= 5' VERT.



- GENERAL NOTES:
- SEE SHEET 2 FOR EXISTING 6" SANITARY LATERAL KEY NOTES.
  - ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
  - COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.

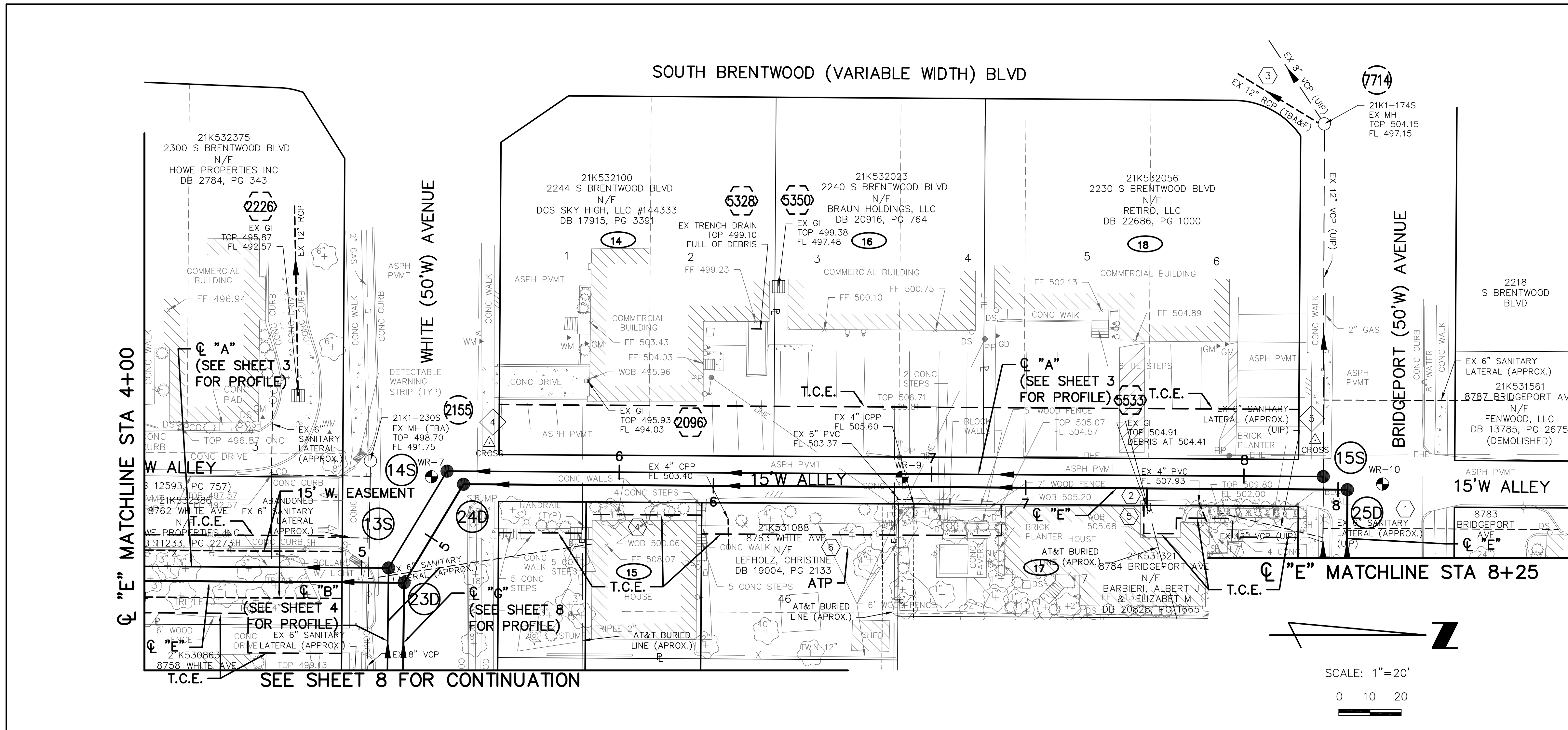
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 St. Louis, Missouri 63103  
 (314) 425-8300  
 ENGINEERING LICENSE NO. 000856

ERIN JEARLS, P.E.  
 CIVIL ENGINEER  
 P.E. No. 200800233  
 DATE:

REV.	DATE	DESCRIPTION	BY
<b>METROPOLITAN ST. LOUIS SEWER DISTRICT</b>			
<b>WHITE AND ROSALIE 1/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI</b>			
Designed	E.M.J.	Date	MAY 2019
Drawn	R.K.F.	Sheet No.	5 of 11
Checked	J.A.G.		



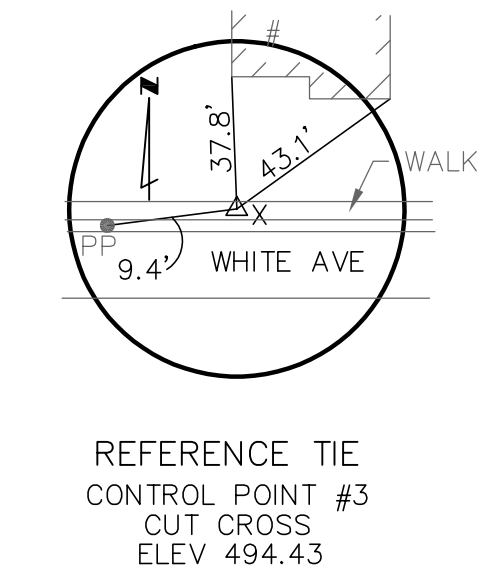
POINT TABLE				
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION
4		1014582.19	863652.31	CUT CROSS

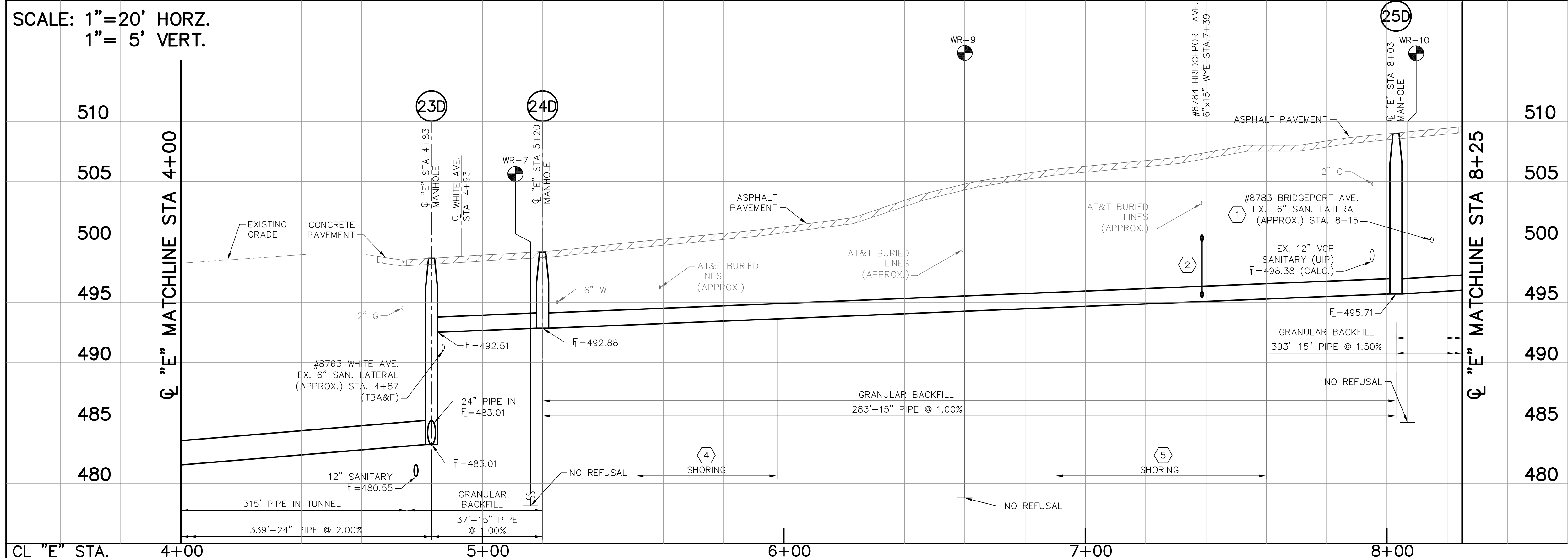
EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
2096	2096		1014613.58	863652.44	EX. STORM GRATED INLET
2155	2155		1014544.16	863658.01	EX. SANITARY MANHOLE
2226	2226		1014521.00	863657.13	EX. STORM GRATED INLET
5328	5328		1014667.78	863615.77	EX. STORM TRENCH DRAIN
5350	5350		1014674.82	863602.24	EX. STORM GRATED INLET
5533	5533		1014792.70	863672.79	EX. STORM GRATED INLET
7714	7714		1014849.57	863550.13	EX. SANITARY MANHOLE

NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
23D	23D		1014554.91	863697.03	STORM MANHOLE
24D	24D		1014573.96	863665.52	STORM MANHOLE
25D	25D		1014856.96	863667.25	STORM MANHOLE



- GENERAL NOTES:**
- SEE SHEET 3 FOR SANITARY SEWER KEY NOTES.
  - ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
  - LOCALIZED AREAS OF UNSUITABLE SUBGRADE WERE ENCOUNTERED IN SOIL BORINGS WR-9, WR-10, WR-11, AND WR-13 (SEE GEOTECH REPORTS). INTERMITTENT UNSUITABLE SUBGRADE IS ANTICIPATED ALONG BRIDGEPORT AVE. AND ALONG THE ALLEY BETWEEN BRIDGEPORT AND WHITE AVENUES.
  - COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.



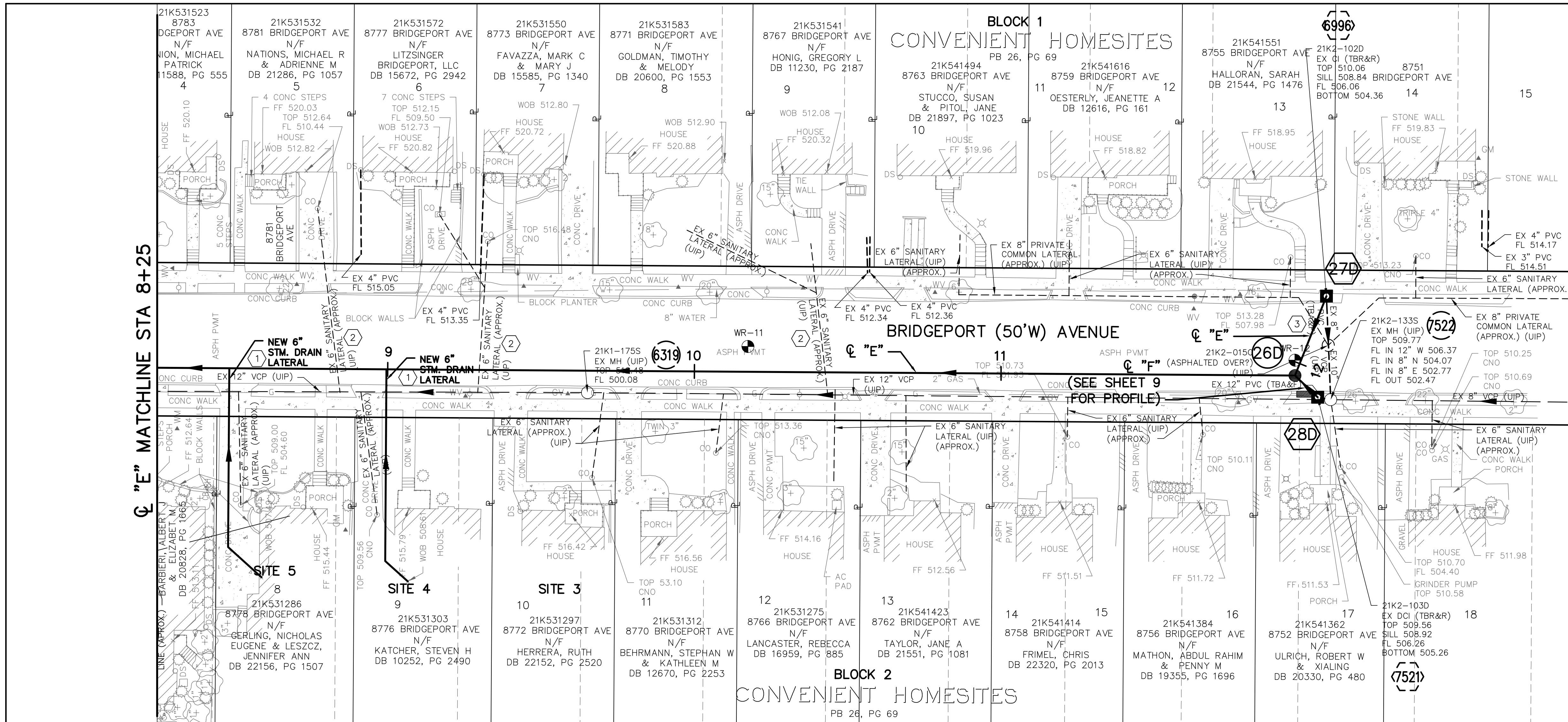
- KEY NOTES:**
- EXISTING 6" SANITARY LATERAL (UIP) TO GO OVER NEW 15" STORM SEWER.
  - CONNECT EXISTING PRIVATE DRIVEWAY/AREA DRAIN FROM #8784 BRIDGEPORT AVE. TO THE NEW 15" STORM SEWER VIA A NEW 6" STORM DRAIN LATERAL AT 1% MINIMUM SLOPE, THEN DROPPING VIA VERTICAL TAP.
  - SEE SEWER ABANDONMENT SHEET DEMOLITION PLAN D FOR INTERCEPTOR ABANDONMENT INFORMATION.
  - SHORING REQUIRED ON EAST SIDE OF TRENCH ALONG RESIDENTIAL BUILDING AT 8763 WHITE AVE. BETWEEN APPROXIMATE STORM SEWER STATIONS 5+55 THROUGH 5+95.
  - SHORING REQUIRED ON EAST SIDE OF TRENCH ALONG RESIDENTIAL BUILDING AT 8784 BRIDGEPORT AVE. BETWEEN APPROXIMATE STORM SEWER STATIONS 6+90 THROUGH 7+60.
  - THIS 42" TREE IS IDENTIFIED FOR ARBORIST-DEFINED TREE PROTECTION (ATP). SEE SPECIFICATIONS FOR DETAILS.

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<b>WHITE AND ROSALIE 1/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI</b>				
Engineer Seal	Designed	E.M.J.	Date	MAY 2019
	Drawn	R.K.F.	Sheet No.	6 of 11
	Checked	J.A.G.		
ERIN JEARLS, P.E. CIVIL ENGINEER P.E. No. 2008002233 DATE:				





POINT TABLE				
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION
9		1014846.63	863651.44	CUT CROSS

EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
6319	6319	21K1-175S	1014848.73	863829.42	EX. SANITARY MANHOLE
6996	6996	21K2-102D	1014880.16	864070.35	EX. STORM CURB INLET
7521	7521	21K2-103D	1014847.21	864067.48	EX. STORM CURB INLET
7522	7522	21K2-133S	1014846.42	864071.73	EX. SANITARY MANHOLE
		21K2-015C			EX. SANITARY/STORM MANHOLE

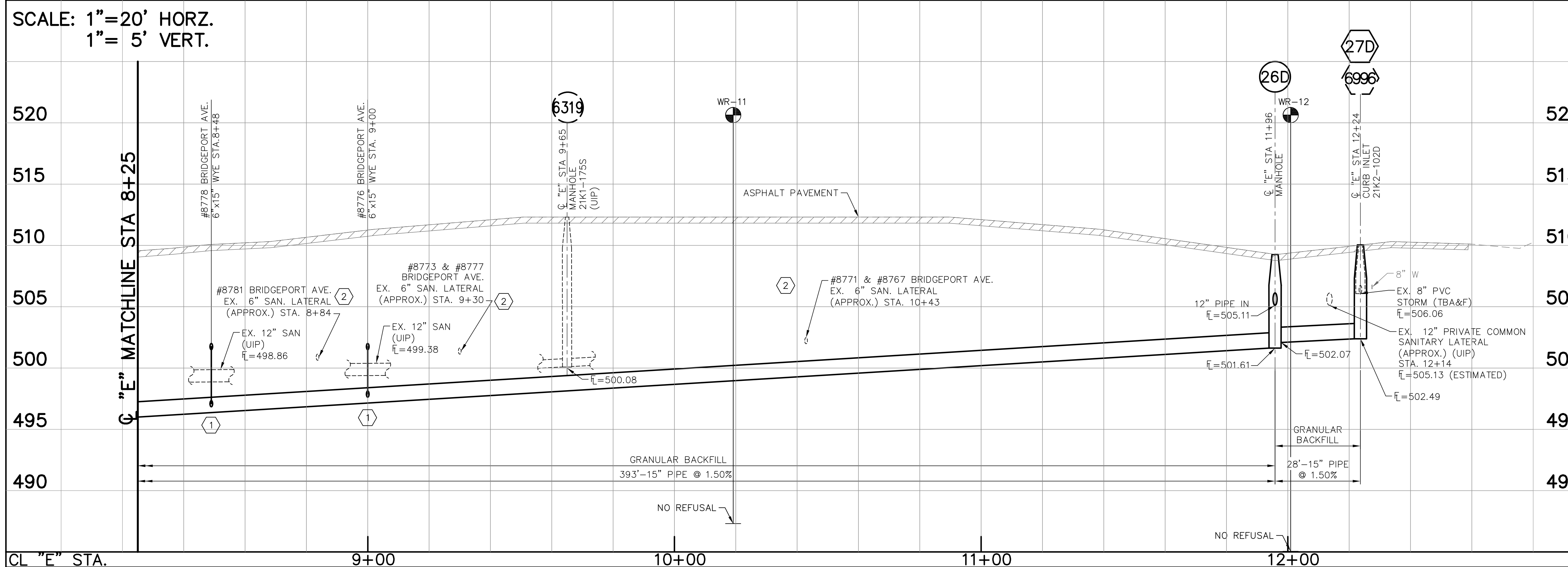
  

NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
26D	26D	1014854.28	864060.08		STORM MANHOLE
27D	27D	21K2-102D	1014880.16	864070.35	STORM CURB INLET
28D	28D	21K2-103D	1014847.21	864067.48	STORM DOUBLE CURB INLET

SCALE: 1"=20'



- GENERAL NOTES:**
- UTILIZE THE EXISTING 6" SANITARY LATERAL PIPE AS MUCH AS POSSIBLE.
  - ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
  - LOCALIZED AREAS OF UNSUITABLE SUBGRADE WERE ENCOUNTERED IN SOIL BORINGS WR-9, WR-10, WR-11, AND WR-13 (SEE GEOTECH REPORTS). INTERMITTENT UNSUITABLE SUBGRADE IS ANTICIPATED ALONG BRIDGEPORT AVE. AND ALONG THE ALLEY BETWEEN BRIDGEPORT AND WHITE AVENUES.
  - COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.
- KEY NOTES:**
- CONNECT EXISTING PRIVATE DRIVEWAY/AREA DRAINS FROM #8776 AND #8778 BRIDGEPORT AVE. TO THE NEW 15" STORM SEWER VIA A NEW 6" STORM DRAIN LATERAL GOING OVER EXISTING 12" VCP SANITARY SEWER (UIP) AT 1% MINIMUM SLOPE, THEN DROPPING VIA VERTICAL TAP.
  - #8767, #8771, #8773, #8777, #8781, AND #8783 BRIDGEPORT AVE. EXISTING 6" SANITARY LATERALS (UIP) TO GO OVER NEW 15" STORM SEWER.
  - SEE SEWER ABANDONMENT SHEET DEMOLITION PLAN C.



SCALE: 1"=20' HORZ.  
1"=5' VERT.

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Engineer Seal

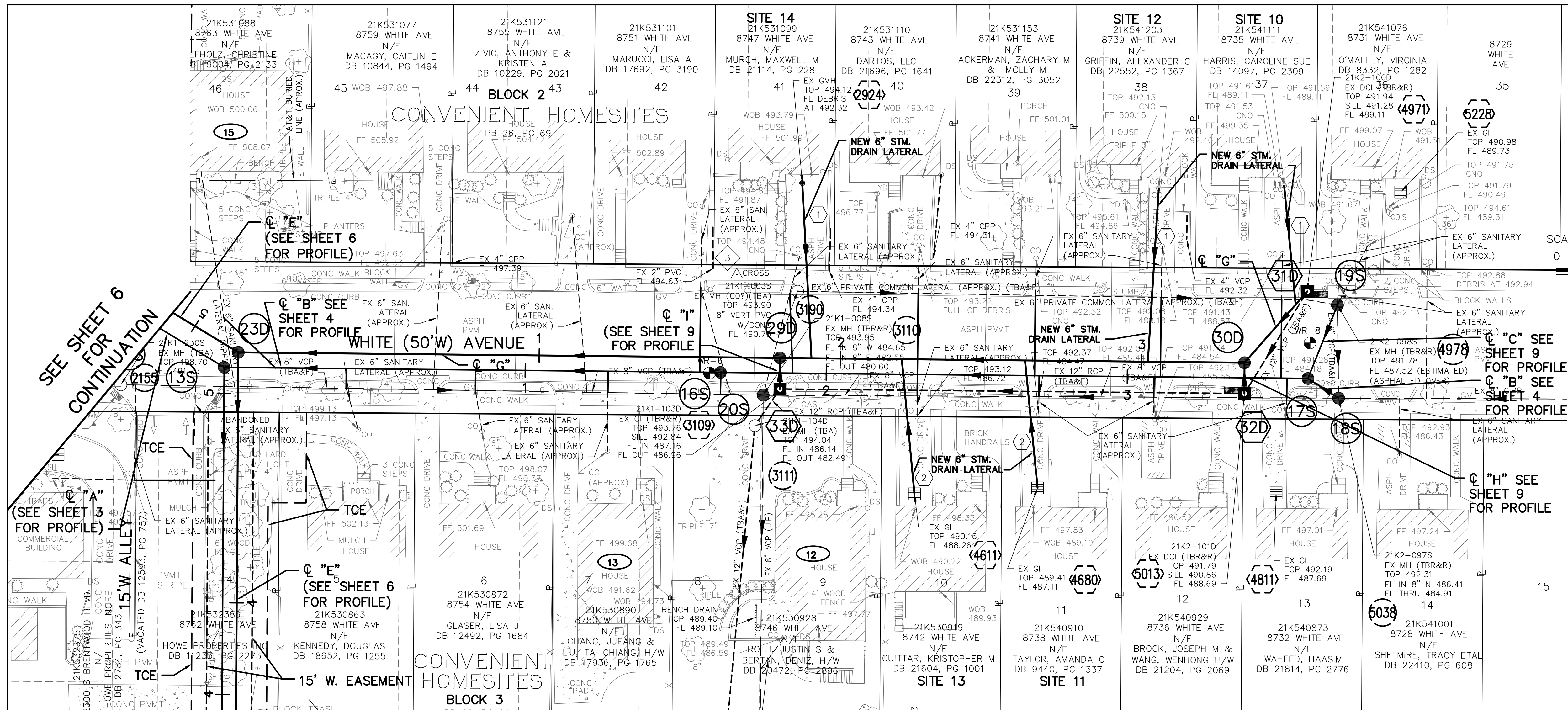
**METROPOLITAN ST. LOUIS SEWER DISTRICT**

WHITE AND ROSALIE  
1/1 REDUCTION AND BRIDGEPORT  
SEWER SEPARATION DESIGN  
11212-015.1  
ST. LOUIS COUNTY, MISSOURI

Designed: E.M.J. Date: MAY 2019  
Drawn: R.K.F. Sheet No: 7 of 11  
Checked: J.A.G.

ERIN JEARLS, P.E.  
CIVIL ENGINEER  
P.E. No. 2008002233  
DATE:





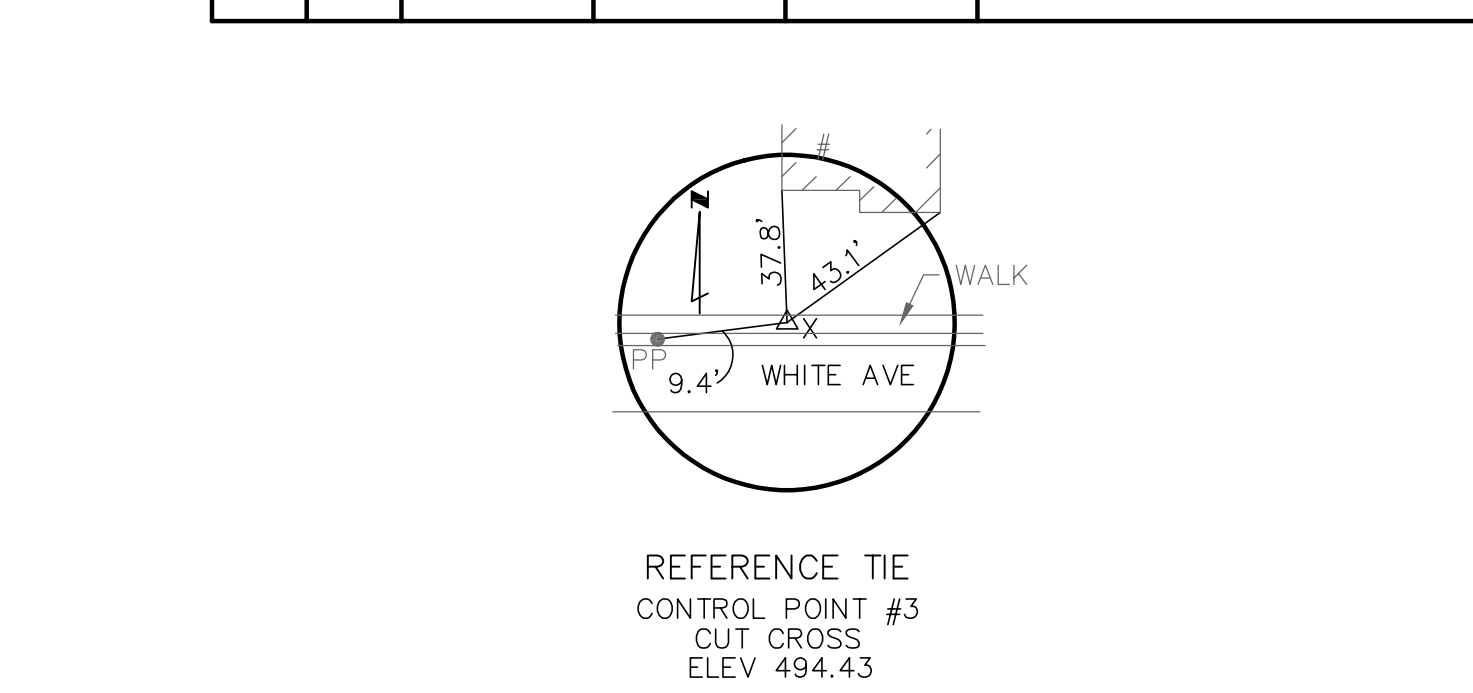
POINT TABLE				
CONTROL POINT #	MSD ID #	NORTHING	EASTING	DESCRIPTION
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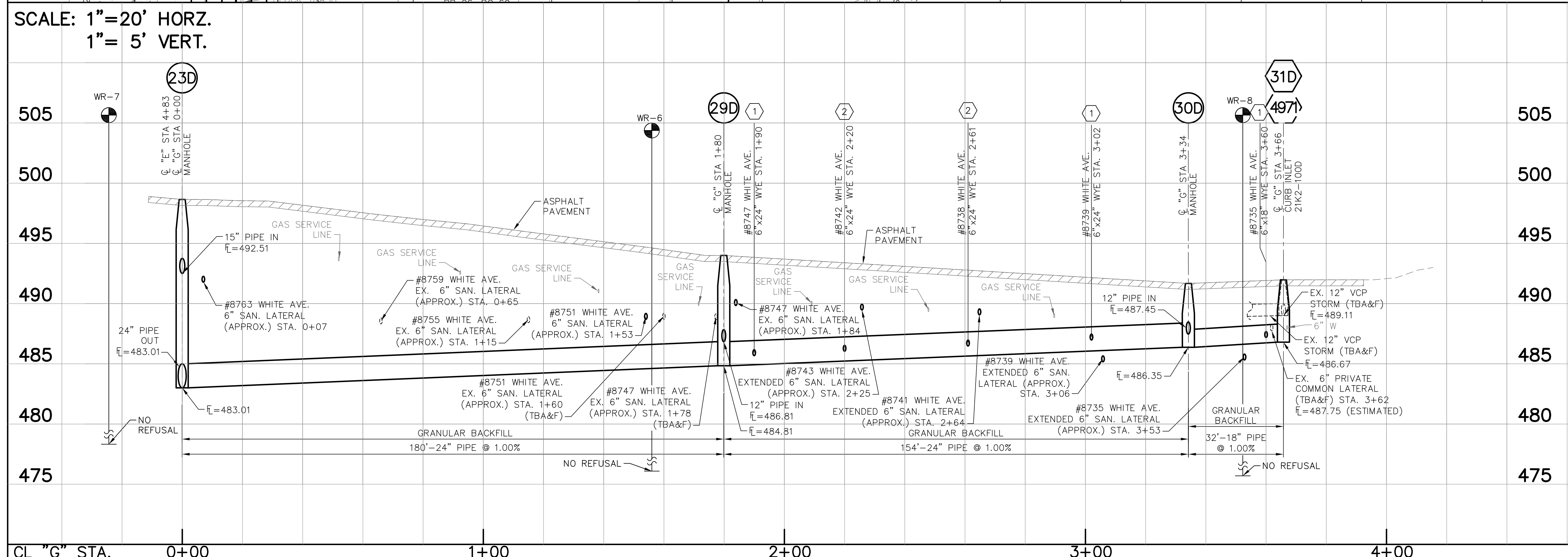
EXISTING STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
2096	2096	21K1-230S	1014611.19	863884.35	EX. STORM GRATED INLET
2155	2155	21K1-230S	1014544.16	863658.01	EX. SANITARY MANHOLE
2924	2924	21K1-230S	1014611.19	863884.35	EX. STORM GRATED MANHOLE
3109	3109	21K1-103D	1014542.75	863876.90	EX. STORM CURB INLET
3110	3110	21K1-008S	1014507.93	863921.59	EX. SANITARY MANHOLE
3111	3111	21K1-104D	1014530.55	863868.58	EX. STORM MANHOLE
3190	3190		1014575.20	863882.79	EX. SANITARY MANHOLE
4611	4611		1014507.93	863921.59	EX. STORM GRATED INLET
4680	4680		1014509.88	863962.48	EX. STORM GRATED INLET
4811	4811		1014508.26	864041.72	EX. STORM GRATED INLET
4971	4971	21K2-100D	1014575.17	864052.08	EX. STORM CURB INLET
4978	4978	21K2-098S	1014570.61	864062.09	EX. SANITARY MANHOLE
5013	5013	21K2-101D	1014541.24	864031.19	EX. STORM DOUBLE CURB INLET
5038	5038	21K2-097S	1014539.70	864062.45	EX. SANITARY MANHOLE
5228	5228		1014608.18	864083.12	EX. STORM GRATED INLET

NEW STRUCTURE TABLE					
PT. #	I.D.	MSD ID #	NORTHING	EASTING	DESCRIPTION
23D	23D		1014554.91	863697.03	STORM MANHOLE
29D	29D		1014553.07	863876.91	STORM MANHOLE
30D	30D		1014551.48	864031.20	STORM MANHOLE
31D	31D	21K2-100D	1014575.17	864052.08	STORM DOUBLE CURB INLET
32D	32D	21K2-101D	1014541.24	864031.19	STORM DOUBLE CURB INLET
33D	33D	21K2-103D	1014542.75	863876.90	STORM CURB INLET



- GENERAL NOTES:**
- SEE SHEET 4 FOR EXISTING 6" SANITARY LATERAL KEY NOTES.
  - ALL STREET REPLACEMENT SHALL BE WITH RIGID BASE PAVEMENTS AS DEFINED IN SPECIFICATIONS.
  - COORDINATE WITH UTILITY, OWNER, AND ENGINEER WHERE UTILITY CONFLICTS OCCUR TO DETERMINE IF RELOCATION OF UTILITY IS NECESSARY.



- KEY NOTES:**
- CONNECT EXISTING PRIVATE DRIVEWAY/AREA DRAINS FROM #8735, #8739, AND #8747 WHITE AVE. TO THE NEW STORM SEWER VIA A NEW 6" STORM DRAIN LATERAL AT 1% MINIMUM SLOPE.
  - CONNECT EXISTING PRIVATE DRIVEWAY/AREA DRAINS FROM #8738 AND #8742 WHITE AVE. TO THE NEW STORM SEWER VIA A NEW 6" STORM DRAIN LATERAL AT 1% MINIMUM SLOPE, GOING OVER NEW SANITARY SEWER.

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**METROPOLITAN  
ST. LOUIS SEWER DISTRICT**

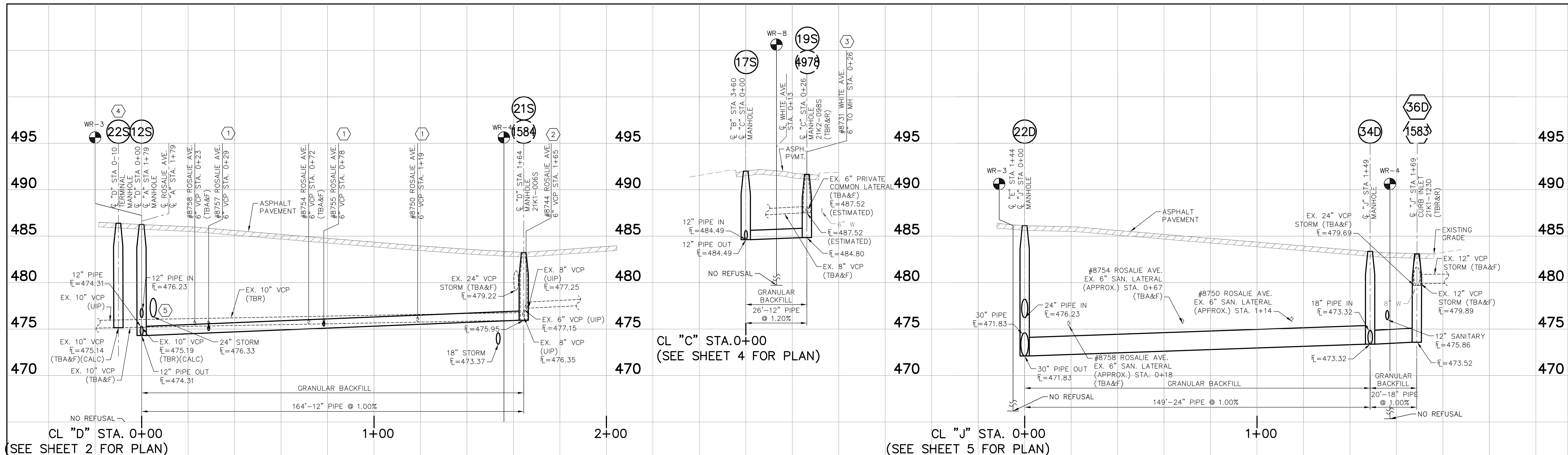
**WHITE AND ROSALIE  
1/1 REDUCTION AND BRIDGEPORT  
SEWER SEPARATION DESIGN  
11212-015.1  
ST. LOUIS COUNTY, MISSOURI**

Engineer Seal

Designed: E.M.J. Date: MAY 2019  
 Drawn: R.K.F.  
 Checked: J.A.G. Sheet No. 8 of 11

ERIN JEARLS, P.E.  
 CIVIL ENGINEER  
 P.E. NO. 2008022233  
 DATE:



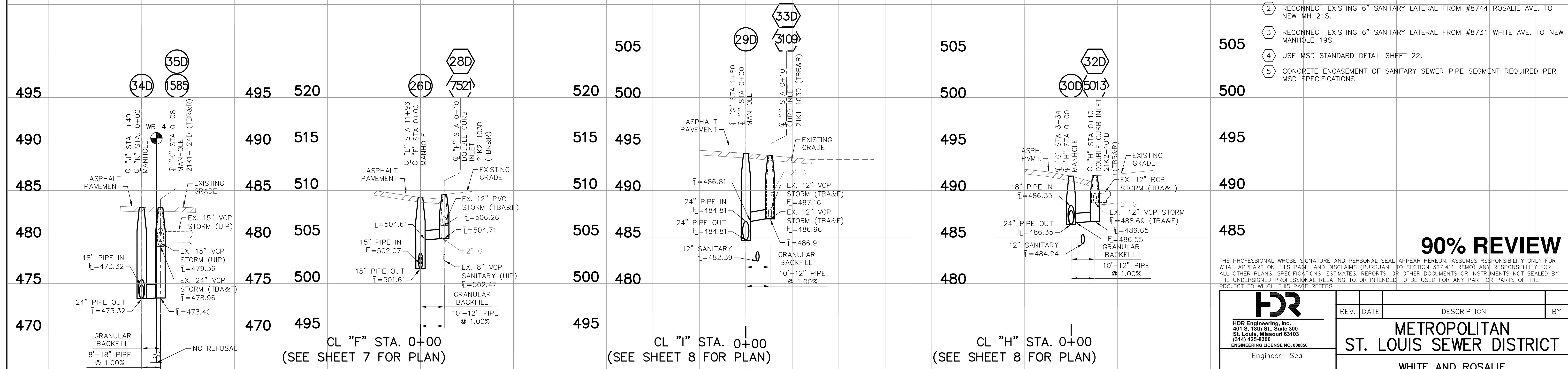


CL "D" STA. 0+00 (SEE SHEET 2 FOR PLAN)

CL "C" STA. 0+00 (SEE SHEET 4 FOR PLAN)

CL "J" STA. 0+00 (SEE SHEET 5 FOR PLAN)

- KEY NOTES:**
- #8750, #8755, AND #8757 ROSALIE AVE. EXISTING 6" SANITARY LATERALS TO BE DISCONNECTED FROM EXISTING SANITARY SEWER AND RECONNECTED TO THE NEW SANITARY SEWER 215.1+25. #8750 ROSALIE AVE. EXISTING 6" SANITARY LATERAL TO GO OVER NEW STORM SEWER.
  - RECONNECT EXISTING 6" SANITARY LATERAL FROM #8744 ROSALIE AVE. TO NEW MH 215.
  - RECONNECT EXISTING 6" SANITARY LATERAL FROM #8731 WHITE AVE. TO NEW MANHOLE 19S.
  - USE MSD STANDARD DETAIL SHEET 22.
  - CONCRETE ENCASUREMENT OF SANITARY SEWER PIPE SEGMENT REQUIRED PER MSD SPECIFICATIONS.



CL "K" STA. 0+00 (SEE SHEET 5 FOR PLAN)

CL "F" STA. 0+00 (SEE SHEET 7 FOR PLAN)

CL "I" STA. 0+00 (SEE SHEET 8 FOR PLAN)

CL "H" STA. 0+00 (SEE SHEET 8 FOR PLAN)

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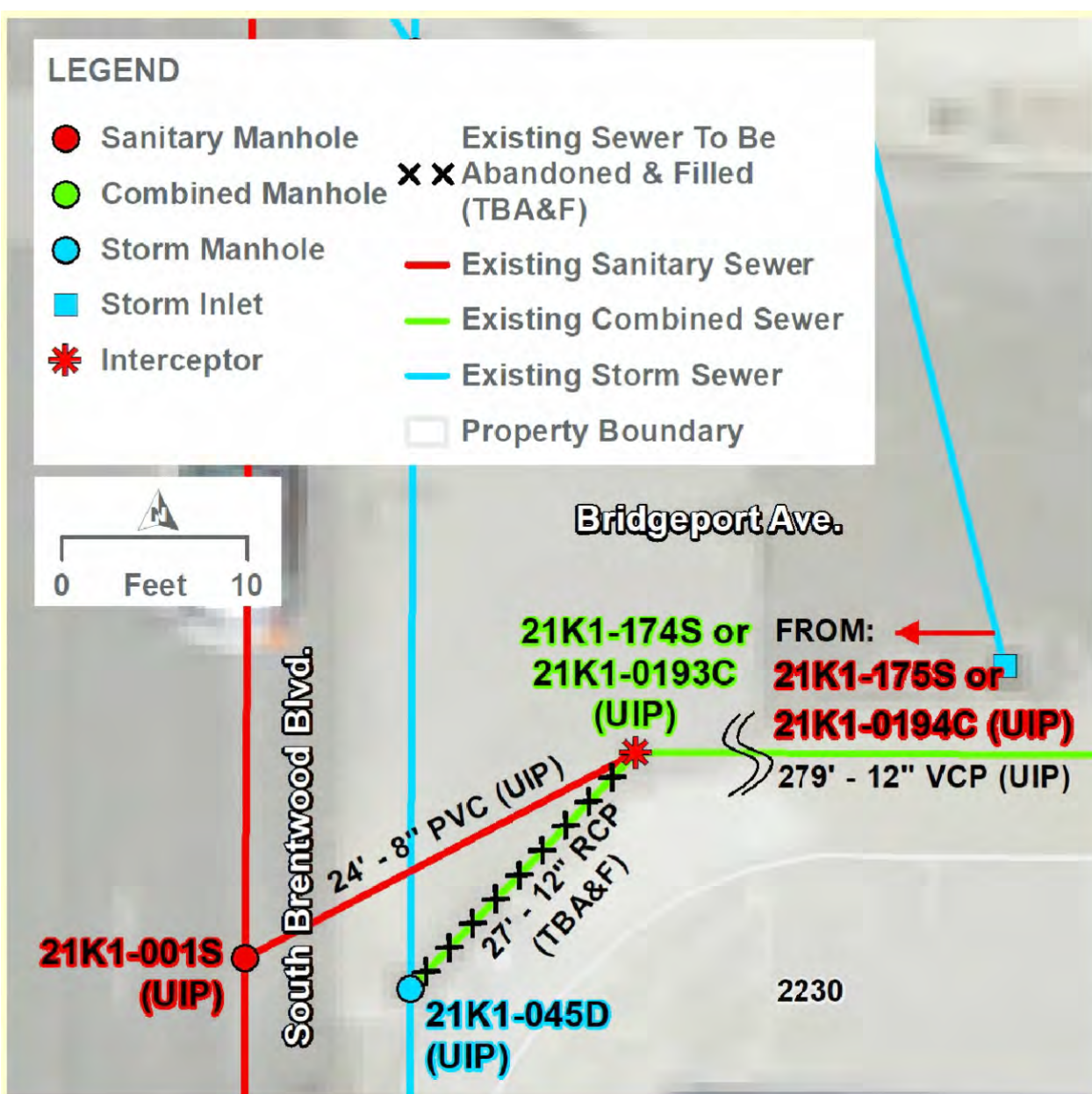
<p>HDR Engineering, Inc. 401 S. 18th St., Suite 300 St. Louis, Missouri 63103 (314) 425-8300 ENGINEERING LICENSE NO. 000856</p> <p>Engineer Seal</p>	REV.	DATE	DESCRIPTION	BY
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	<p>WHITE AND ROSALIE 1/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI</p>			
	Designed	E.M.J.	Date	MAY 2019
Drawn	R.K.F.	Sheet No.	9	of 11
Checked	J.A.G.			
<p>ERIN JEARLS, P.E. CIVIL ENGINEER P.E. No. 2008002233 DATE:</p>				



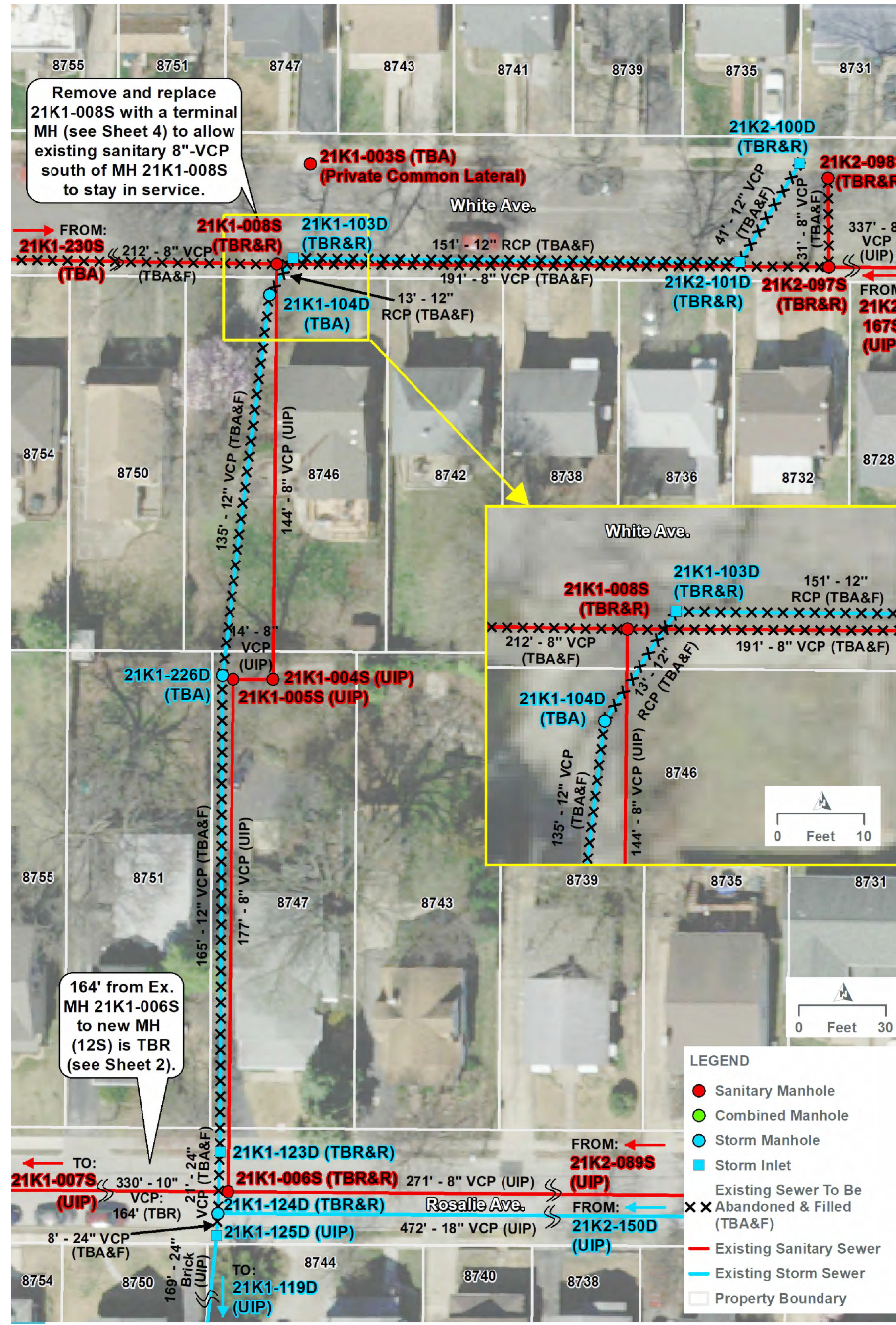
**DEMOLITION TABLES**

STRUCTURES				
STRUCTURE -- MSD I.D. #	NORTHING	EASTING	DESCRIPTION	FINAL STATUS
21K1-003S	1014575.20	863882.79	EXISTING PRIVATE MANHOLE	TBA
21K2-097S	1014539.70	864062.45	EXISTING MANHOLE	TBR&R
21K2-098S	1014570.61	864062.09	EXISTING MANHOLE	TBR&R
21K1-004S	1014397.11	863870.01	EXISTING MANHOLE	UIP
21K1-005S	1014396.83	863856.20	EXISTING MANHOLE	UIP
21K1-006S	1014219.63	863854.53	EXISTING MANHOLE	TBR&R
21K1-008S	1014540.70	863871.35	EXISTING MANHOLE	TBR&R
21K1-174S	1014849.57	863550.13	EXISTING MANHOLE	UIP
21K1-230S	1014544.16	863658.01	EXISTING MANHOLE	TBA
21K2-100D	1014575.17	864052.08	EXISTING MANHOLE	TBR&R
21K2-101D	1014541.24	864031.19	EXISTING CURB INLET	TBR&R
21K1-103D	1014542.75	863876.90	EXISTING CURB INLET	TBR&R
21K1-104D	1014530.55	863868.58	EXISTING MANHOLE	TBA
21K1-226D	1014396.83	863856.20	EXISTING MANHOLE	TBA
21K1-123D	1014233.33	863851.47	EXISTING CURB INLET	TBR&R
21K1-124D	1014212.29	863851.14	EXISTING MANHOLE	TBR&R
21K1-125D	1014204.89	863850.68	EXISTING CURB INLET	UIP
21K2-102D	1014880.16	864070.35	EXISTING CURB INLET	TBR&R
21K2-015C	1014864.13	864070.94	EXISTING MANHOLE	UIP
21K2-133S	1014846.42	864071.73	EXISTING MANHOLE	UIP
21K2-103D	1014847.21	864067.48	EXISTING CURB INLET	TBR&R

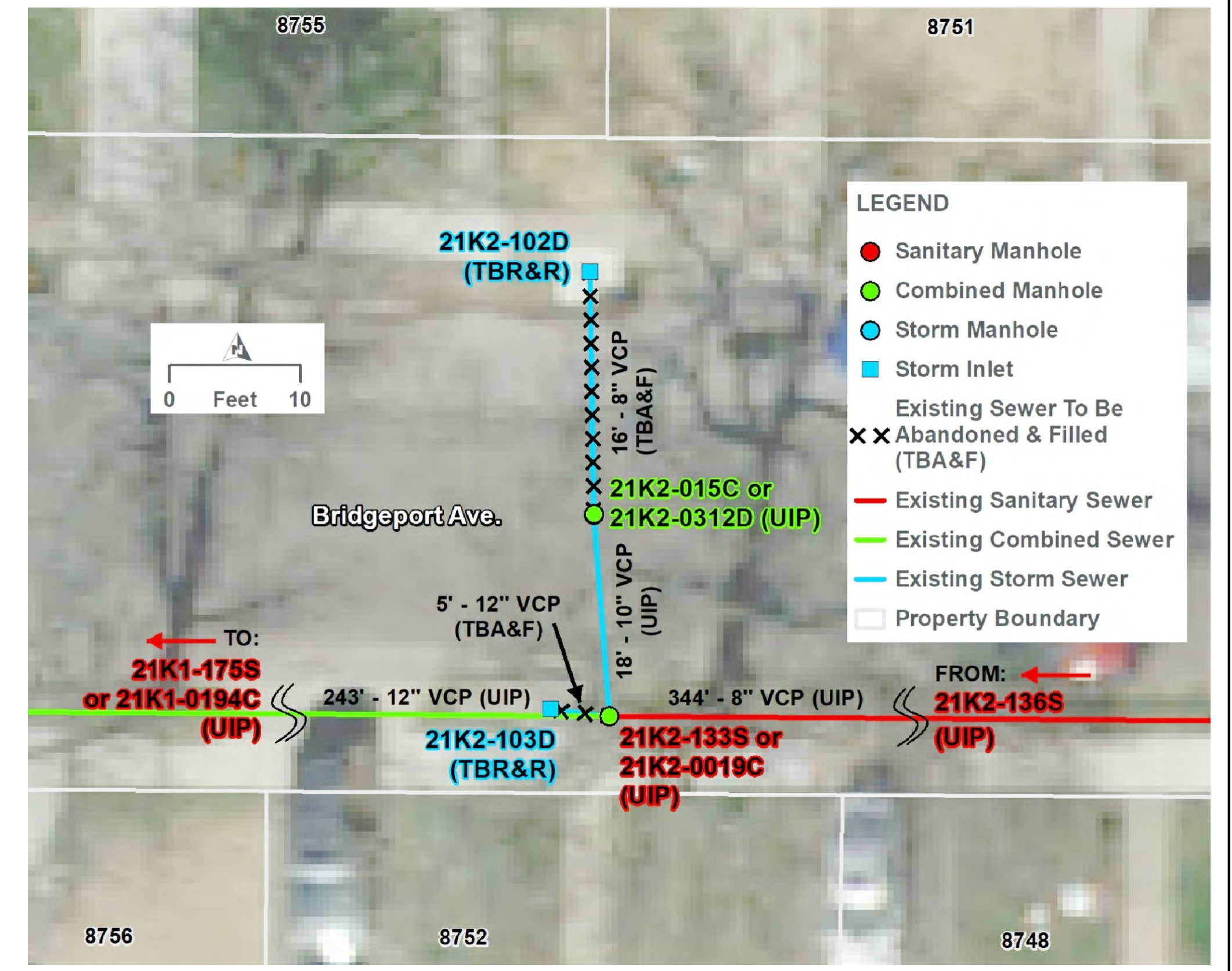
PIPES					
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	LENGTH (FEET)	SIZE (INCHES)	MATERIAL	STATUS
21K2-098S	21K2-097S	31	8	VCP	TBA&F
21K2-097S	21K1-008S	191	8	VCP	TBA&F
21K1-230S	21K1-008S	212	8	VCP	TBA&F
21K1-006S	NEW MANHOLE 12S	165	10	VCP	TBR
21K1-174S	21K1-045D	27	12	RCP	TBA&F
21K1-174S	21K1-001S	24	8	PVC	UIP
21K2-100D	21K2-101D	41	12	VCP	TBA&F
21K2-101D	21K1-103D	151	12	RCP	TBA&F
21K1-103D	21K1-104D	13	12	RCP	TBA&F
21K1-104D	21K1-226D	135	12	VCP	TBA&F
21K1-226D	21K1-123D	165	12	VCP	TBA&F
21K1-123D	21K1-124D	21	24	VCP	TBA&F
21K1-124D	21K1-125D	8	24	VCP	TBA&F
21K1-125D	21K1-119D	169	24	BRICK	UIP
21K2-102D	21K2-015C	16	8	VCP	TBA&F
21K2-015C	21K2-135S	18	10	VCP	UIP
21K2-103D	21K2-133S	5	12	VCP	TBA&F
21K2-133S	21K1-175S	243	12	VCP	UIP
NEW MANHOLE 12S	NEW MANHOLE 22S	10	10	VCP	TBA&F
NEW MANHOLE 22S	21K1-007S	156	10	VCP	UIP



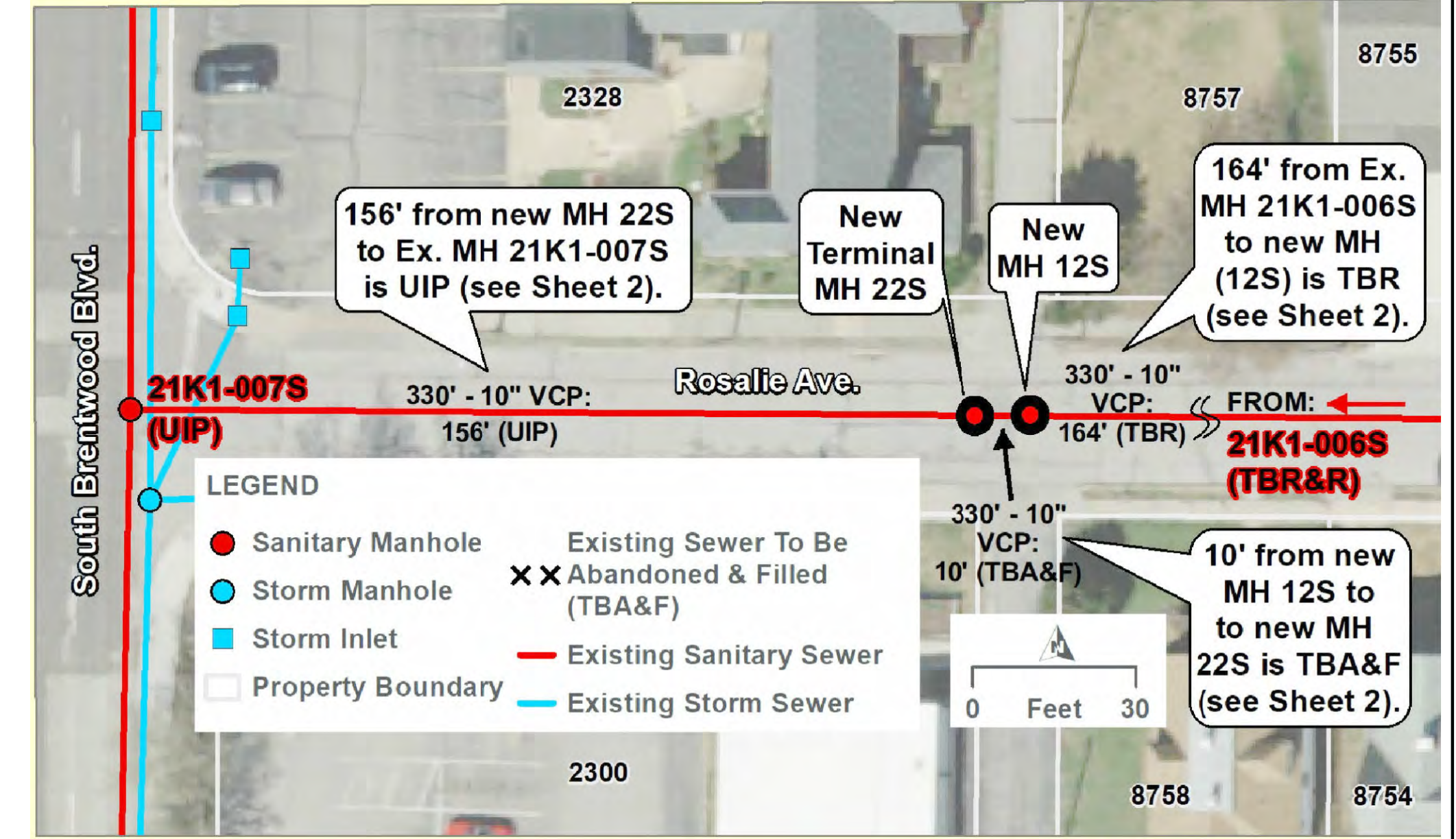
**DEMOLITION PLAN D-BRIDGEPORT AVENUE**



**DEMOLITION PLAN A-WHITE/ROSALIE AVENUE**



**DEMOLITION PLAN C-BRIDGEPORT AVENUE**



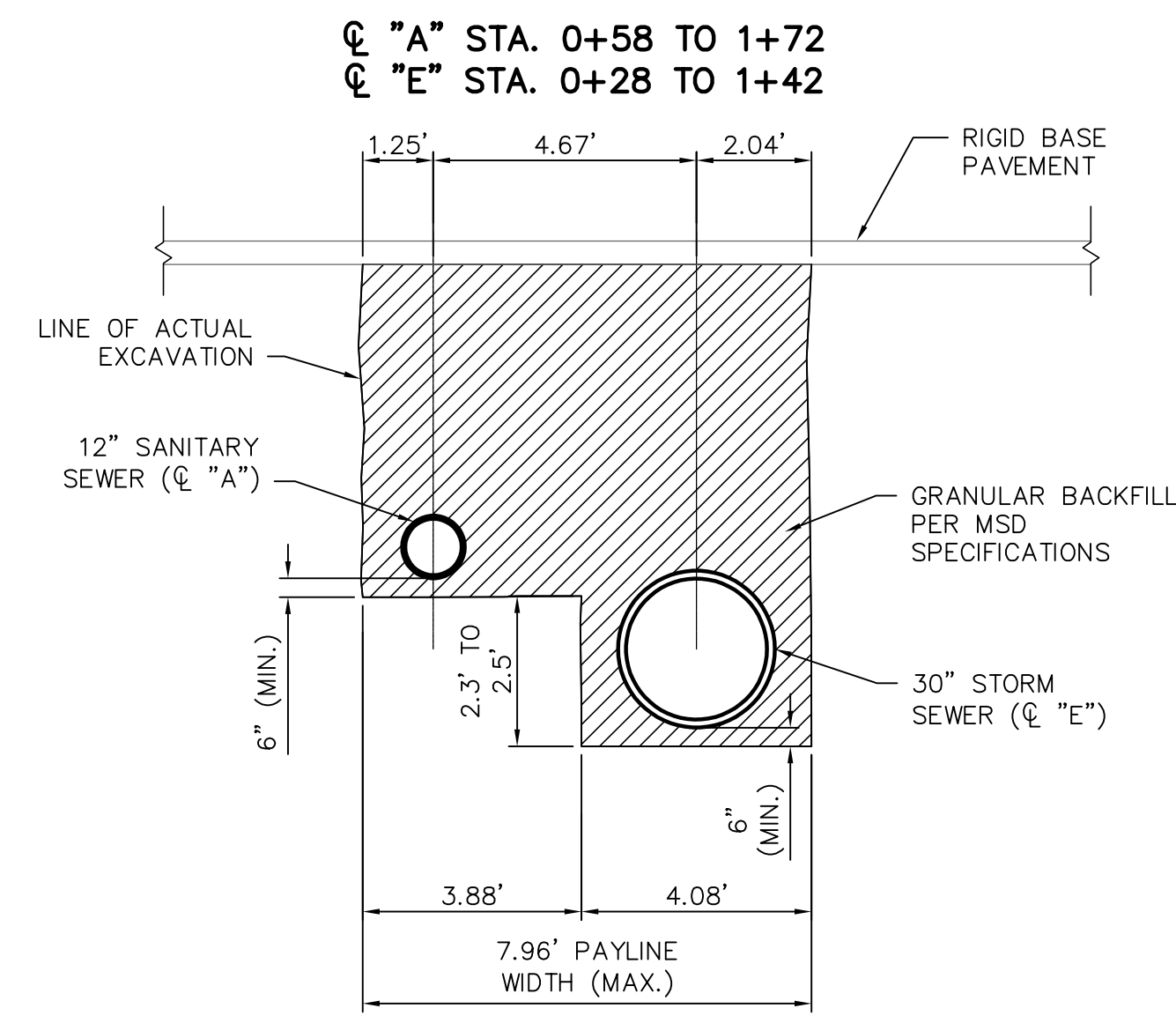
**DEMOLITION PLAN B-ROSALIE AVENUE**

**90% REVIEW**

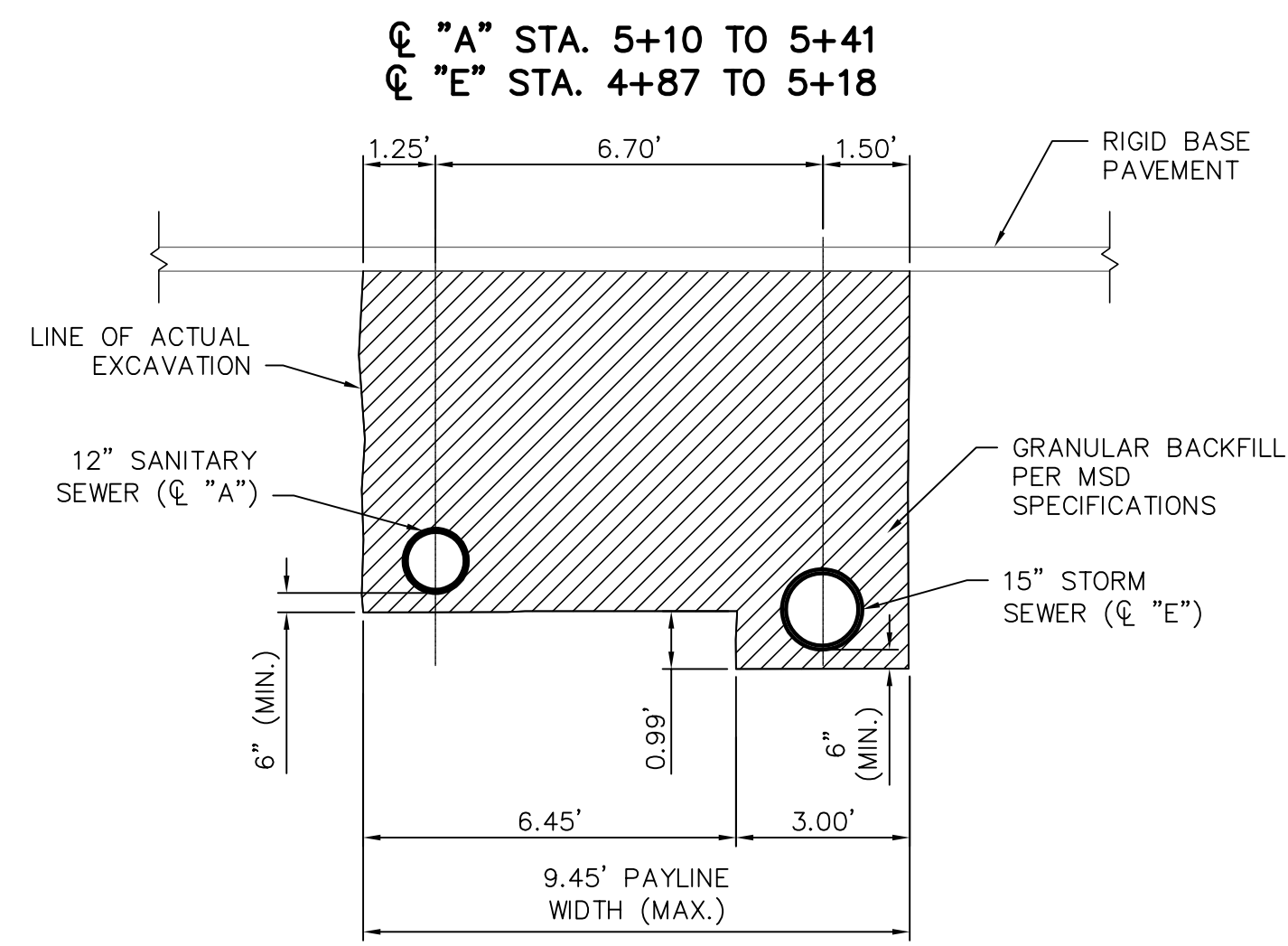
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 HDR Engineering, Inc. 401 S. 18th St., Suite 300 St. Louis, Missouri 63103 (314) 425-5300 ENGINEERING LICENSE NO. 000856 Engineer Seal	REV.	DATE	DESCRIPTION	BY
	<b>METROPOLITAN ST. LOUIS SEWER DISTRICT</b>  WHITE AND ROSALIE I/1 REDUCTION AND BRIDGEPORT SEWER SEPARATION DESIGN 11212-015.1 ST. LOUIS COUNTY, MISSOURI			
ERIN JEANLS, P.E. CIVIL ENGINEER P.E. No. 2008002233 DATE:	Designed	E.M.J.	Date	MAY 2019
	Drawn	R.K.F.	Sheet No.	10 of 11
	Checked	J.A.G.		

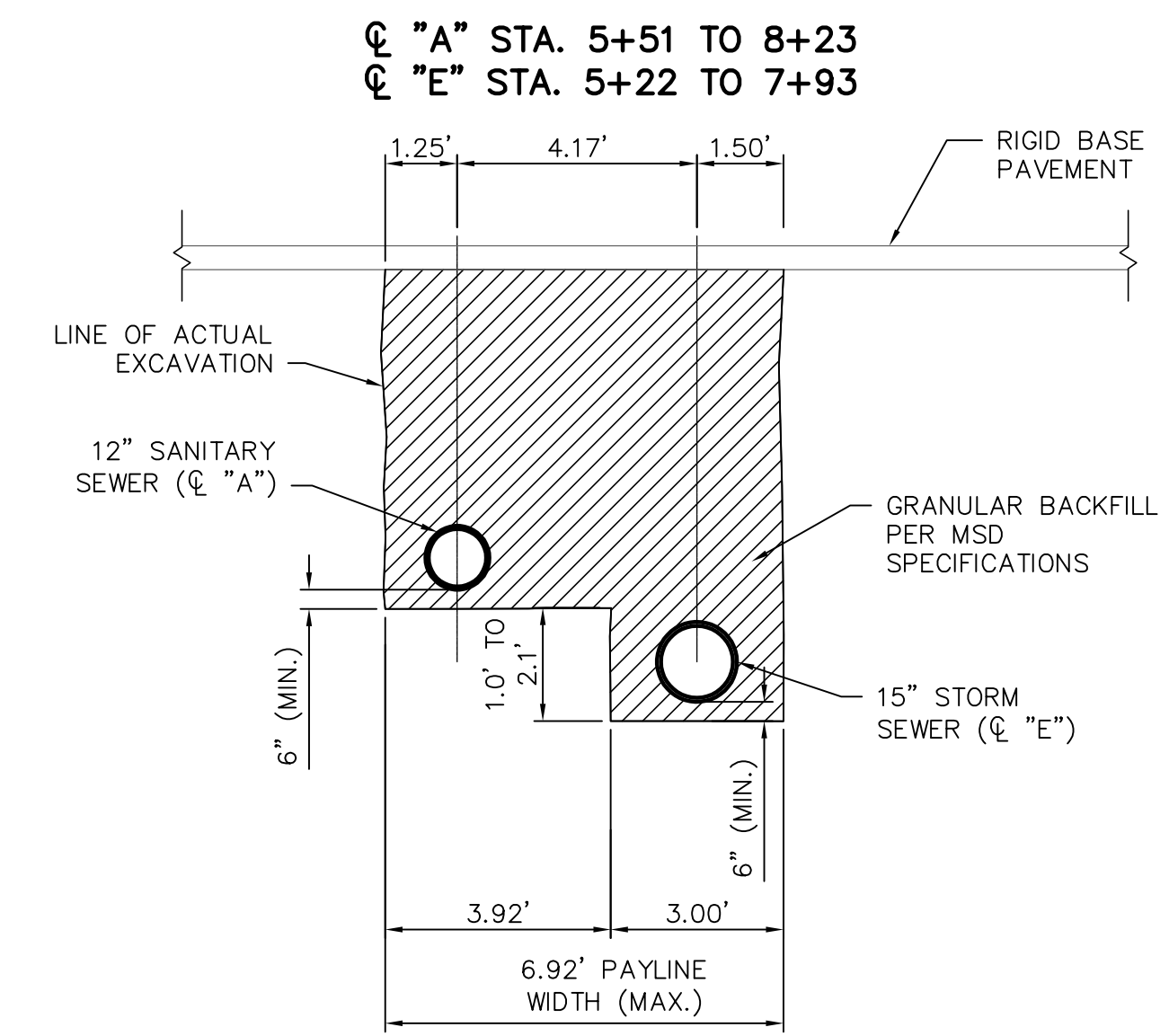




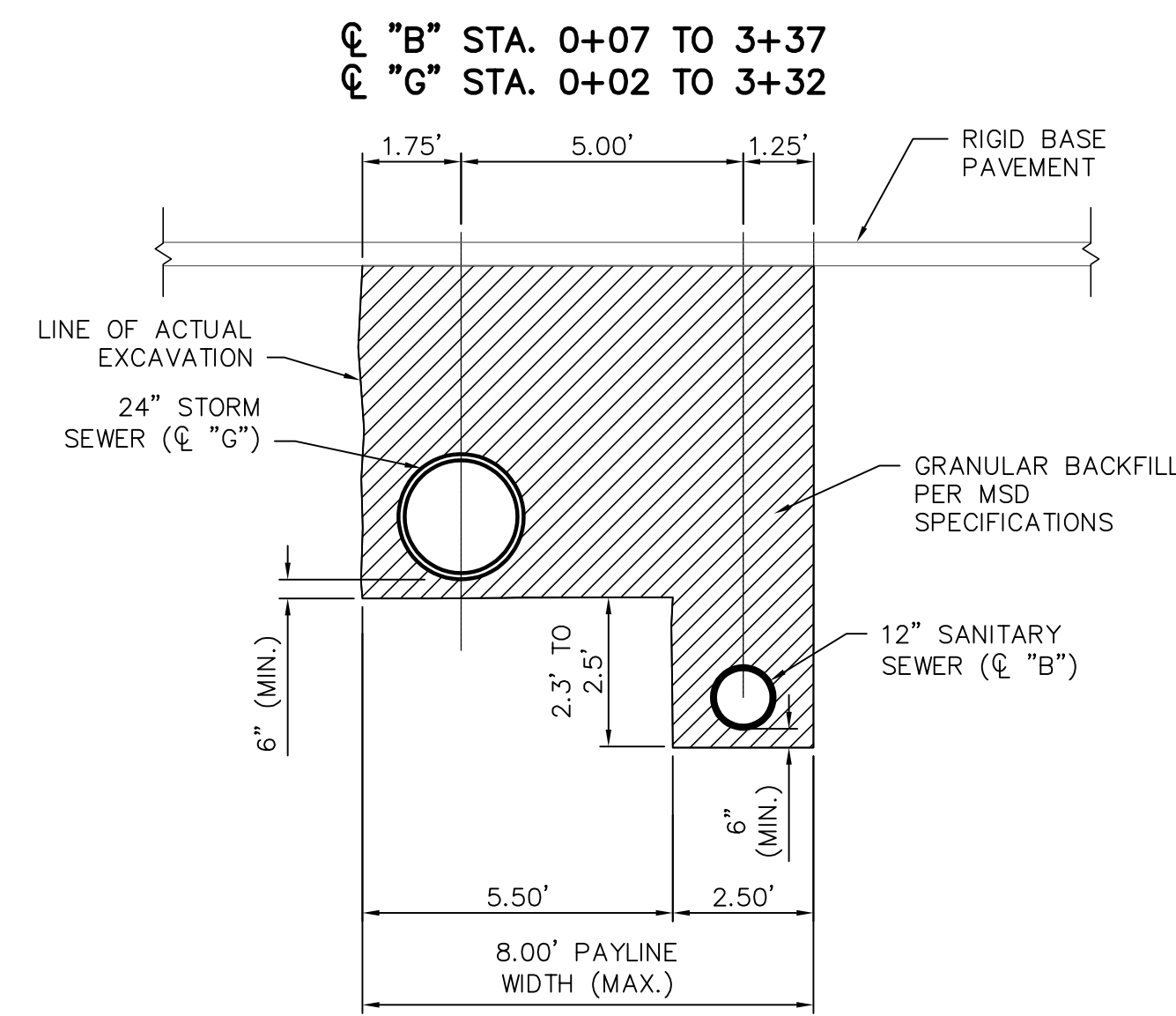
① **PIPE EXCAVATION DETAIL 1**  
NOT TO SCALE



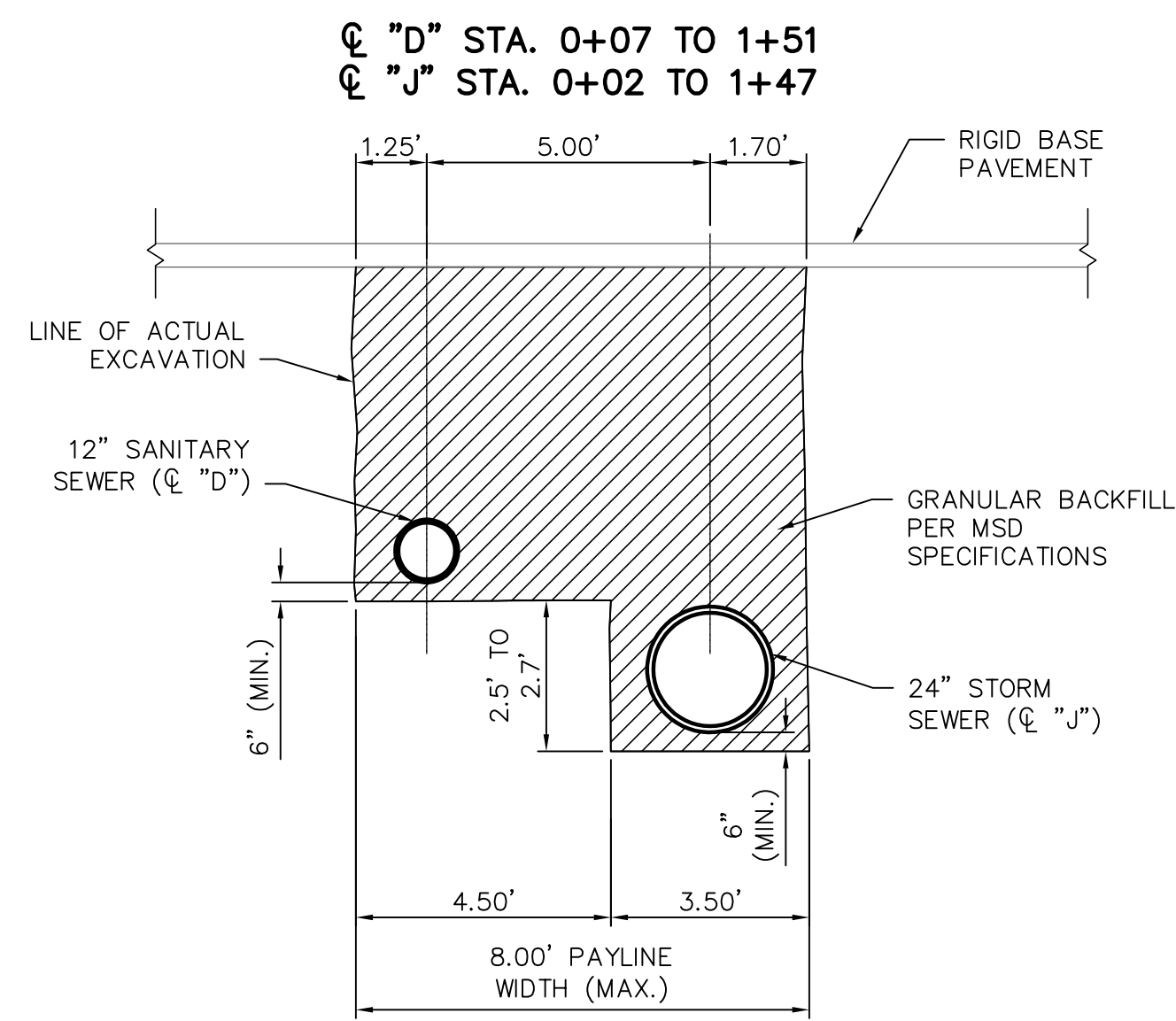
**PIPE EXCAVATION DETAIL 2**  
NOT TO SCALE



② **PIPE EXCAVATION DETAIL 3**  
NOT TO SCALE



**PIPE EXCAVATION DETAIL 4**  
NOT TO SCALE



**PIPE EXCAVATION DETAIL 5**  
NOT TO SCALE

**KEY NOTES:**

- ① SEE SHEET 2 FOR SHORING REQUIREMENTS.
- ② SEE SHEET 6 FOR SHORING REQUIREMENTS.

**90% REVIEW**

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