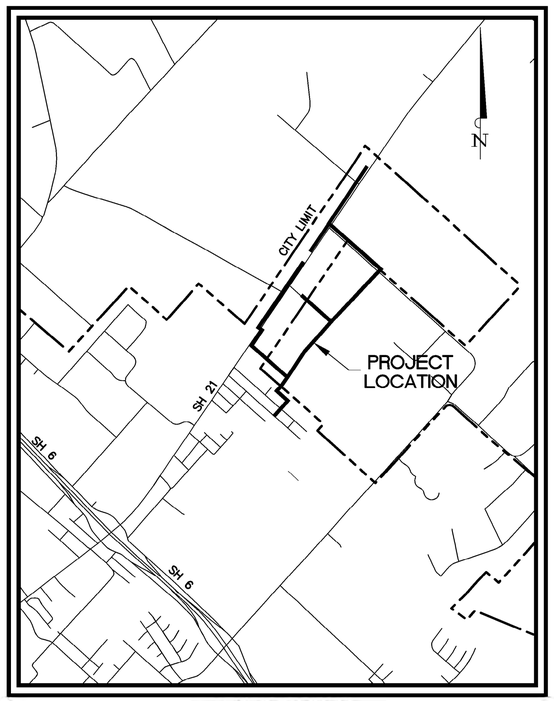
The City of Bryan
Construction Plans for
SH 21 SANITARY SEWER EXTENSION

LOCATION MAP:



CITY OF BRYAN
VICINITY MAP
N.T.S.

CITY OF BRYAN
The Good Life, Texas Style.™

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STRUCTURAL

ST1	STRUCTURAL DETAILS

JULY 2015

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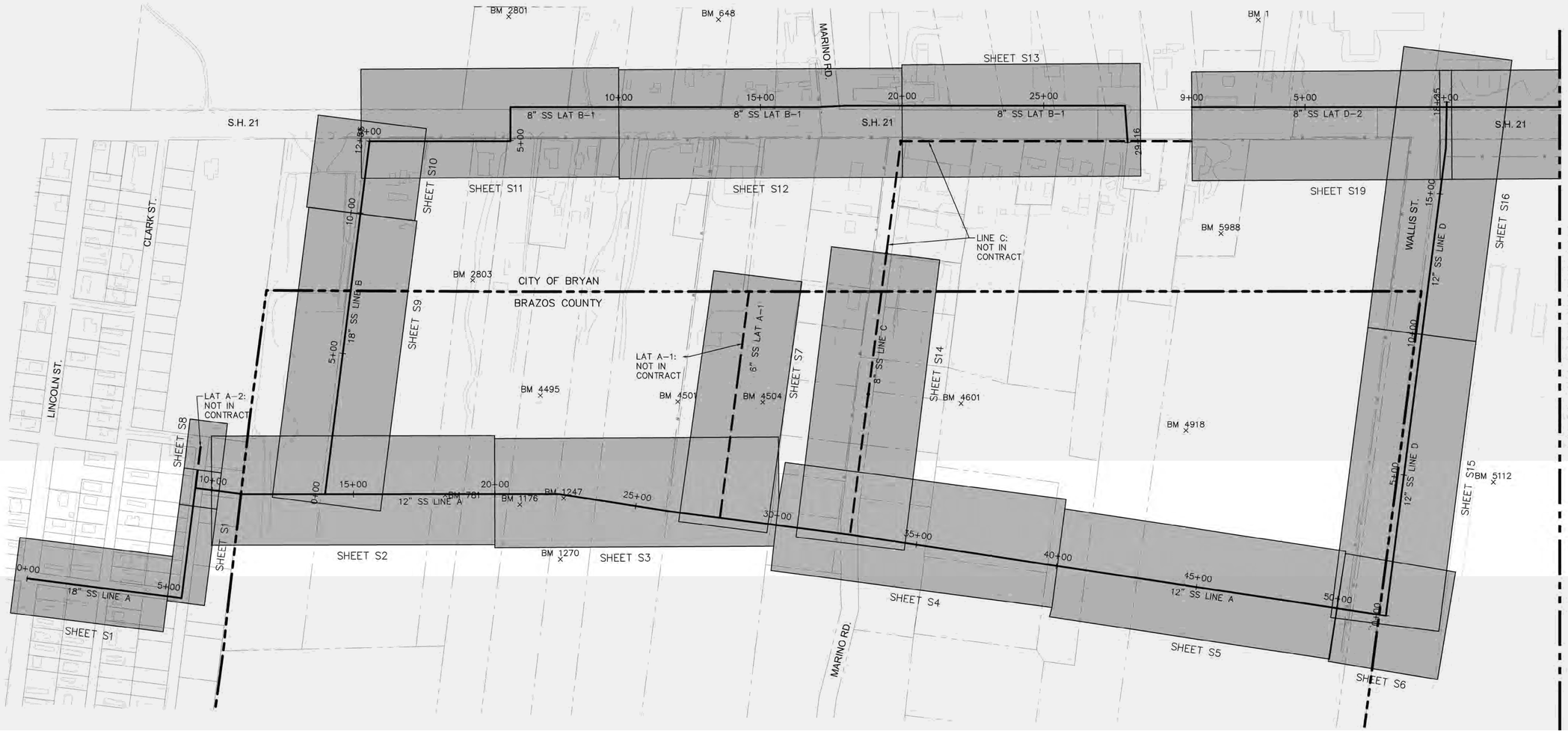
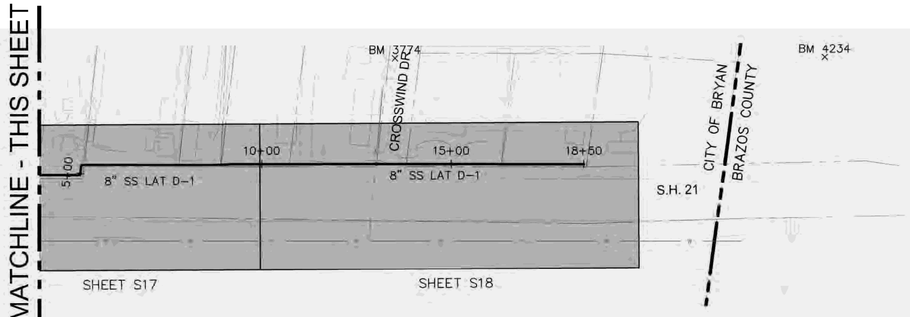
SH21 SANITARY SEWER EXTENSION

KHA JOB #: 061271609
CITY OF BRYAN JOB #: 411-D4-1025



MATCHLINE - THIS SHEET



MATCHLINE - THIS SHEET

LEGEND

- PROP. SANITARY SEWER
- PROP. FUTURE SANITARY SEWER (NOT IN CONTRACT)
- CITY LIMITS
- PROPERTY LINES
- SHEET AREAS

NOTES

1. ALL CONTROL POINTS ARE STATE PLANE CENTRAL COORDINATES SCALED TO SURFACE.

PROJECT BENCH MARKS

NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
BM # 1	1/2" Iron Rod with Cap set	10247132.45	3550552.61	346.16
BM # 648	1/2" Iron Rod with Cap set	10245558.54	3549478.07	329.46
BM # 781	pk nail set	10243816.69	3550321.23	319.60
BM # 1176	60D nail set	10244015.42	3550497.32	319.23
BM # 1247	60D nail set	10244155.90	3550565.87	320.29
BM # 1270	60D nail set	10244025.15	3550737.15	316.44
BM # 2801	pk nail set	10244952.34	3549052.95	336.04
BM # 2803	pk nail set	10244323.06	3549750.16	329.66
BM # 3774	pk nail set	10248779.10	3551674.25	349.10
BM # 4234	pk nail set	10249718.70	3552309.96	348.41
BM # 4495	60D nail set	10244291.86	3550220.16	324.85
BM # 4501	60D nail set	10244680.52	3550511.67	320.71
BM # 4504	60D nail set	10244927.34	3550682.21	316.40
BM # 4601	60D nail set	10245503.24	3551080.12	334.89
BM # 4918	60D nail set	10246105.63	3551605.85	333.31
BM # 5112	60D nail set	10246900.13	3552366.82	336.94
BM # 5330	1/2" Iron Rod with Cap set	10247458.34	3553072.11	344.61
BM # 5988	pk nail set	10246599.16	3551101.27	344.06

No.	REVISIONS	DATE	BY

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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SURVEY CONTROL & SHEET REFERENCE

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
G3

Plotted By:Lewis, Tyler Sheet Set:Khsi Layout:Layout1 July 17, 2015 02:35:30pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\G3 Sheet Reference.dwg
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DA	Land Use	Area (Ac.)	CAP./Ac.	GPD/CAP.	ADD per Acre (GPD/Ac)	Peak Flow ADDx4 (GPD/Ac)	Avg. Flow (GPM)	Peak Flow (GPM)
LATERAL D1								
D1-1	Commercial	10.72	30	50	1500	6,000	11.2	44.7
D1-2	Commercial	1.82	30	50	1500	6,000	1.9	7.6
D1-3	Commercial	1.65	30	50	1500	6,000	1.7	6.9
D1-4	Commercial	2.19	30	50	1500	6,000	2.3	9.1
LATERAL D2								
D2-1	Commercial	4.24	30	50	1500	6,000	4.4	17.7
D2-2	Commercial	14.04	30	50	1500	6,000	14.6	58.5
D2-3	Commercial	4.45	30	50	1500	6,000	4.6	18.5
LINE D								
D-1	Commercial	2.53	30	50	1500	6,000	2.6	10.5
D-2	Airport	2.88	15	25	375	1,500	0.8	3.0
D-3	Commercial	3.04	30	50	1500	6,000	3.2	12.7
D-4	Airport	3.50	15	25	375	1,500	0.9	3.6
D-5	Commercial	1.46	30	50	1500	6,000	1.5	6.1
D-6	Airport	33.26	15	25	375	1,500	8.7	34.6
D-7	Commercial	7.56	30	50	1500	6,000	7.9	31.5
LINE C1								
C1-1	Commercial	1.39	30	50	1500	6,000	1.4	5.8
C1-2	Commercial	4.37	30	50	1500	6,000	4.6	18.2
C1-3	Commercial	2.00	30	50	1500	6,000	2.1	8.3
LINE C								
C-1	Commercial	2.52	30	50	1500	6,000	2.6	10.5
C-2	Commercial	2.20	30	50	1500	6,000	2.3	9.2
C-3	Commercial	1.89	30	50	1500	6,000	2.0	7.9
C-4	Commercial	2.18	30	50	1500	6,000	2.3	9.1
C-5	Commercial	0.91	30	50	1500	6,000	0.9	3.8
C-6	Commercial	1.66	30	50	1500	6,000	1.7	6.9
C-7	Commercial	2.14	30	50	1500	6,000	2.2	8.9
LATERAL B1								
B1-1	Commercial	4.62	30	50	1500	6,000	4.8	19.3
B1-2	Commercial	4.76	30	50	1500	6,000	5.0	19.8
B1-3	Commercial	2.73	30	50	1500	6,000	2.8	11.4
B1-4	Commercial	2.94	30	50	1500	6,000	3.1	12.3
B1-5	Commercial	1.55	30	50	1500	6,000	1.6	6.5
B1-6	Commercial	1.58	30	50	1500	6,000	1.6	6.6
B1-7	Commercial	1.56	30	50	1500	6,000	1.6	6.5
B1-8	Commercial	2.04	30	50	1500	6,000	2.1	8.5
B1-9	Commercial	9.40	30	50	1500	6,000	9.8	39.2
B1-10	Commercial	11.86	30	50	1500	6,000	12.4	49.4
B1-11	Industrial	34.22	15	50	750	3,000	17.8	71.3
B1-12	Industrial	24.65	15	50	750	3,000	12.8	51.4
B1-13	Commercial	52.40	30	50	1500	6,000	54.6	218.3
B1-14	Commercial	74.57	30	50	1500	6,000	77.7	310.7
B1-15	Commercial	32.20	30	50	1500	6,000	33.5	134.2
B1-16	Commercial	5.04	30	50	1500	6,000	5.3	21.0
LINE B								
B-1	Commercial	3.52	30	50	1500	6,000	3.7	14.7
B-2	Commercial	2.74	30	50	1500	6,000	2.9	11.4
LINE A								
A-1	Low Density Res.	8.14	5.34	100	534	2,136	3.0	12.1
A-2	Low Density Res.	4.54	5.34	100	534	2,136	1.7	6.7
A-3	Low Density Res.	14.31	5.34	100	534	2,136	5.3	21.2
A-4	Low Density Res.	15.18	5.34	100	534	2,136	5.6	22.5
A-5	Low Density Res.	3.83	5.34	100	534	2,136	1.4	5.7
A-6	Low Density Res.	5.87	5.34	100	534	2,136	2.2	8.7
A-7	Commercial	2.22	30	50	1500	6,000	2.3	9.3
A-8	Low Density Res.	3.15	5.34	100	534	2,136	1.2	4.7
A-9	Commercial	2.43	30	50	1500	6,000	2.5	10.1
A-10	Low Density Res.	6.30	5.34	100	534	2,136	2.3	9.3
A-11	Low Density Res.	12.90	5.34	100	534	2,136	4.8	19.1
A-12	Low Density Res.	21.27	5.34	100	534	2,136	7.9	31.6
A-13	Low Density Res.	17.33	5.34	100	534	2,136	6.4	25.7
A-14	Commercial	5.46	30	50	1500	6,000	5.7	22.8
A-15	Airport	3.24	15	25	375	1,500	0.8	3.4
A-16	Airport	2.84	15	25	375	1,500	0.7	3.0
A-17	Low Density Res.	2.61	5.34	100	534	2,136	1.0	3.9
A-18	Airport	2.82	15	25	375	1,500	0.7	2.9
A-19	Low Density Res.	2.62	5.34	100	534	2,136	1.0	3.9
A-20	Airport	2.81	15	25	375	1,500	0.7	2.9
A-21	Commercial	3.80	30	50	1500	6,000	4.0	15.8
A-22	Commercial	5.03	30	50	1500	6,000	5.2	21.0
A-23	Commercial	4.53	30	50	1500	6,000	4.7	18.9
Total		526.02						1651.0

NOTES

LAND USE DETERMINATION ASSUMPTIONS
1. COMMERCIAL - 30 PERSONS/ACRE
2. INDUSTRIAL - 15 PERSONS/ACRE
3. LOW-DENSITY RESIDENTIAL - 0.5 ACRES LOTS

No.	REVISIONS	DATE	BY

Kimley»Horn

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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER BASIN MAP

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
G4

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:Layout1 July 17, 2015 02:36:14pm K:\CST_Civil\612716\09-21 SSWR\DWG\Sheet\G4 San Sewer DAY.dwg
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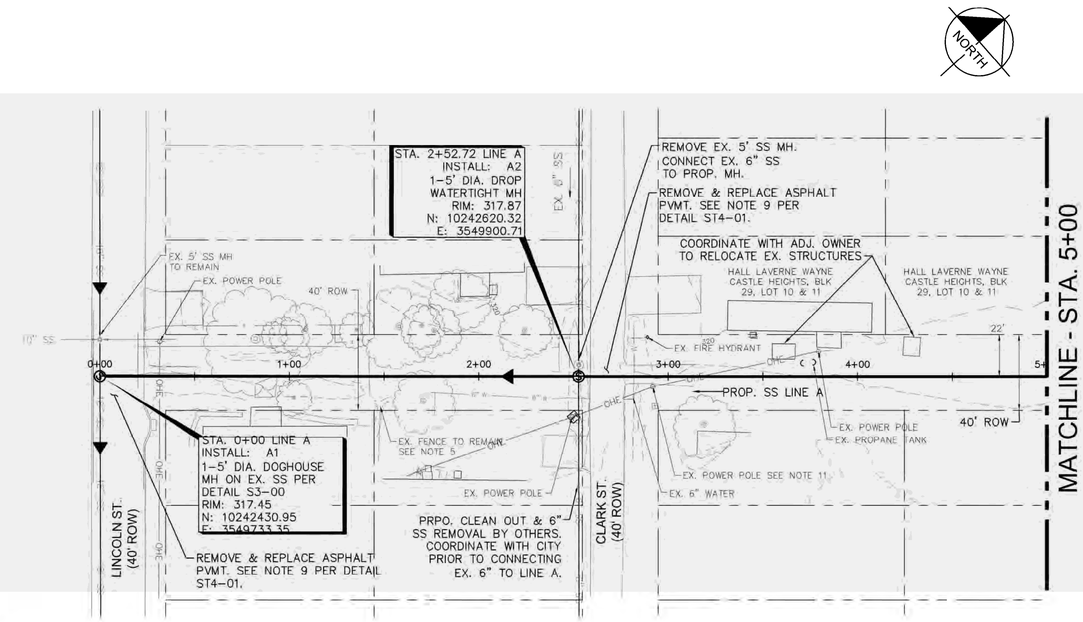
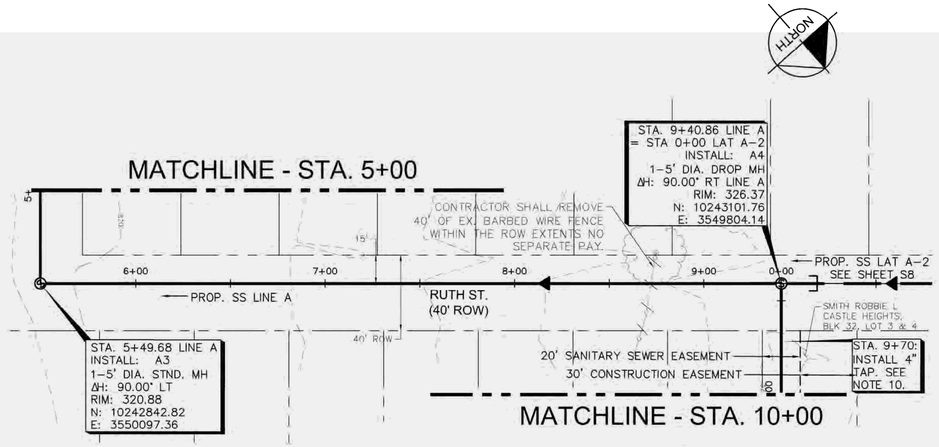




CAUTION!!

EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES ON THE PLANS.

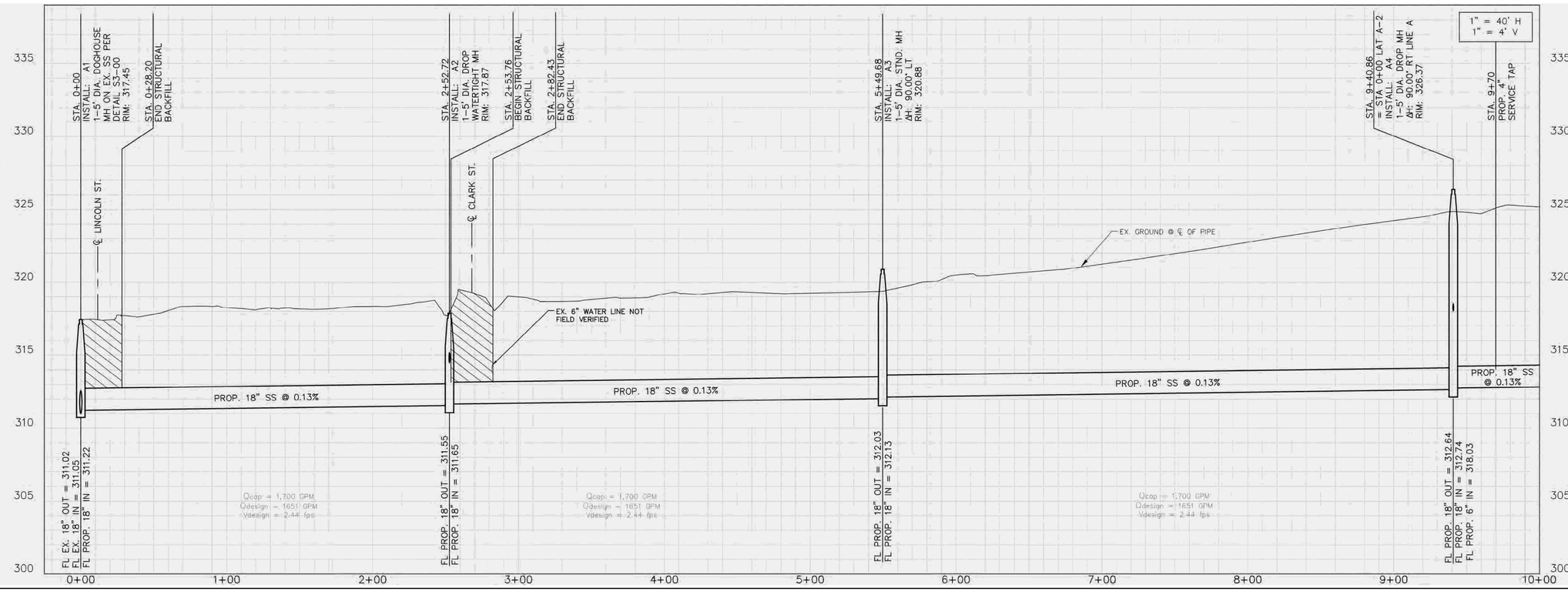
0 40' 80'
GRAPHIC SCALE 40'

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   -PVC SDR26-ASTM D3034 FOR SIZES 6"-12"
   -PVC SDR26-ASTM F679 FOR SIZES > 12"
2. ALL MANHOLES SHALL BE PRECAST PER DETAIL S1-00 ON SHT. D1.
3. EMBEDMENT SHALL BE PER DETAILS ON SHEET D1.
4. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND COORDINATING WITH OWNERS OF EXISTING UTILITIES IN THE AREA PRIOR TO INITIATING CONSTRUCTION.
5. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT EXISTING FENCES ALONG THE ALIGNMENT. DAMAGED FENCES SHALL BE REPLACED WITH LIKE KIND IN EQUAL OR BETTER CONDITION. IF EXISTING FENCES ARE REQUIRED TO BE REMOVED, CONTRACTOR SHALL COORDINATE WITH THE OWNER AND INSTALL TEMPORARY FENCING UNTIL THE FENCE IS REINSTALLED. EXISTING FENCES IN THE ROW SHALL BE RELOCATED TO THE PROPERTY LINE.
6. WITHIN 14 DAYS OF COMPLETION OF A SEGMENT OF UTILITY INSTALLATION CONTRACTOR SHALL GRADE AND HYDROMULCH DISTURBED AREAS. HYDROMULCHING SHALL COORDINATE WITH CONTRACTOR'S PHASING PLANS.
7. CONTRACTOR SHALL TRENCH AND BACKFILL EACH DAY'S WORK AND PLATE OR FENCE ANY OPEN EXCAVATIONS OUTSIDE OF WORKING HOURS.
8. REFER TO SHEETS TP1 – TP5 FOR EXISTING TREE PROTECTION.
9. EX. PAVEMENT IDENTIFIED IN THE PLAN FOR REMOVAL AND REPLACEMENT SHALL BE NEATLY SAW CUT PER ST4-00A,01A,02A,&01.
10. REF. SHEET G5. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR SERVICE DESIGN & CONNECTION TYPE (SEE DETAIL S6-01 ON SHT. D2).
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.



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STATE OF TEXAS
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7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO STA 10+00 LINE A

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S1

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:Begin to Sta 10+00 July 17, 2015 02:38:12pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line A.dwg
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MATCHLINE - STA. 10+00

CITY OF BRYAN
BRAZOS COUNTY

PATE DAVID
A006300, STEPHEN F
AUSTIN #10, TRACT 79
8.2969 ACRES
(BOTH SIDES)

RUIZ, MARIA C.
A006300, STEPHEN F
AUSTIN #10, TRACT 78
15.94 ACRES
(BOTH SIDES)

KASSEM ADNAN S
A006300, STEPHEN F
AUSTIN #10, TRACT 77
3.0507 ACRES
(BOTH SIDES)

WEATHERFORD BRENDA MAE
A006301, STEPHEN F
AUSTIN #10, TRACT 76.21
9.515 ACRES
(BOTH SIDES)

MATCHLINE - STA. 20+00

STA 11+01:
INSTALL GATE. SEE SHEET D4 DETAIL 2

STA. 11+12 LINE A
INSTALL: A5
1-5' DIA. STND. MH
ΔH: 7.19' LT
RIM: 326.41
N: 10243230.04
E: 3549917.42

STA. 14+00.05 LINE A
= STA. 0+00 LINE B
INSTALL: A6
1-5' DIA. STND. MH
RIM: 322.85
N: 10243468.10
E: 3550079.58

PROP. SS LINE B
SEE SHEET S9

82.67°

STA 13+88:
INSTALL GATE. SEE SHEET D4 DETAIL 2

EX. FENCE, TO REMAIN
SEE NOTE 5

30' CONSTRUCTION EASEMENT

PROP. SS LINE A

20' SANITARY SEWER EASEMENT

CONCRETE RIPRAP

24' DIP AERIAL CROSSING

STA 18+89:
INSTALL GATE. SEE SHEET D4 DETAIL 3

STA. 19+00: INSTALL 8" STUB OUT. SEE NOTE 10.

STA. 19+00 LINE A
INSTALL: A7
1-4' DIA. STND. MH
RIM: 320.33
N: 10243881.31
E: 3550361.03

BM 781

CAUTION!!

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NORTH

0 40' 80'
GRAPHIC SCALE 40'

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- 380 EX. MAJOR CONTOUR
- 382 EX. MINOR CONTOUR
- SS EX. SANITARY SEWER
- W EX. WATER
- GAS EX. GAS
- OHP EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   —PVC SDR26–ASTM D3034 FOR SIZES 6"–12"
   —PVC SDR26–ASTM F679 FOR SIZES > 12"
2. ALL MANHOLES SHALL BE PRECAST PER DETAIL S1–00 ON SHT. D1.
3. EMBEDMENT SHALL BE PER DETAILS ON SHEET D1.
4. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND COORDINATING WITH OWNERS OF EXISTING UTILITIES IN THE AREA PRIOR TO INITIATING CONSTRUCTION.
5. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT EXISTING FENCES ALONG THE ALIGNMENT. DAMAGED FENCES SHALL BE REPLACED WITH LIKE KIND IN EQUAL OR BETTER CONDITION. IF EXISTING FENCES ARE REQUIRED TO BE REMOVED, CONTRACTOR SHALL COORDINATE WITH THE OWNER AND INSTALL TEMPORARY FENCING UNTIL THE FENCE IS REINSTALLED. EXISTING FENCES IN THE ROW SHALL BE RELOCATED TO THE PROPERTY LINE.
6. WITHIN 14 DAYS OF COMPLETION OF A SEGMENT OF UTILITY INSTALLATION CONTRACTOR SHALL GRADE AND HYDROMULCH DISTURBED AREAS. HYDROMULCHING SHALL COORDINATE WITH CONTRACTOR'S PHASING PLANS.
7. CONTRACTOR SHALL TRENCH AND BACKFILL EACH DAY'S WORK AND PLATE OR FENCE ANY OPEN EXCAVATIONS OUTSIDE OF WORKING HOURS.
8. REFER TO SHEETS TP1 – TP5 FOR EXISTING TREE PROTECTION.
9. EX. PAVEMENT IDENTIFIED IN THE PLAN FOR REMOVAL AND REPLACEMENT SHALL BE NEATLY SAW CUT PER ST4–00A,01A,02A,&01.
10. REF. SHEET G5. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR SERVICE DESIGN & CONNECTION TYPE (SEE DETAIL S6–01 ON SHT. D2).
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.

1" = 40' H
1" = 4' V

STA. 11+12
INSTALL: A5
1-5' DIA. STND. MH
ΔH: 7.19' LT
RIM: 326.41

STA. 14+00.05
= STA. 0+00 LINE B
INSTALL: A6
1-5' DIA. STND. MH
RIM: 322.85

STA. 14+03
BEGIN DIP

STA. 17+05.20
PROP. PIER AND CAP REF. ST1

STA. 17+13.20
PROP. 4" SERVICE TAP

STA. 18+97
END DIP

STA. 19+00
INSTALL: A7
1-4' DIA. STND. MH
RIM: 320.33

EX. GROUND @ ℄ OF PIPE

CITY GIS CONTOURS @ ℄ OF PIPE

APPROXIMATE 100 YR. FLOODPLAIN ELEV.

8' 8' 8'

PROP. 18" SS @ 0.13%

PROP. 18" SS @ 0.13%

PROP. 12" SS @ 0.23%

PROP. 12" SS @ 0.55%

CONCRETE RIPRAP

40 LF OF DUCTILE IRON PIPE WITH RESTRAINED JOINTS ON PIERS WITH ANCHOR BLOCKS & CONC. RIPRAP PER DETAILS ON SHEET ST1

494 LF DUCTILE IRON ANSI/AWWA C151/A21.5, CLASS 350 W/ CERAMIC EPOXY LINING (PROTECTO 401 OR EQUAL)

FL PROP. 18" OUT = 312.96
FL PROP. 18" IN = 313.06

Qpeak = 1,700 GPM
Qdesign = 1651 GPM
Vdesign = 2.44 fps

FL PROP. 18" OUT = 313.43
FL PROP. 12" IN = 313.93
FL PROP. 18" IN = 313.53

Qpeak = 1,700 GPM
Qdesign = 1639 GPM
Vdesign = 2.44 fps

Qpeak = 767 GPM
Qdesign = 620 GPM
Vdesign = 2.42 fps

FL PROP. 12" OUT = 315.08
FL PROP. 12" IN = 315.18
FL PROP. 8" IN = 315.52

Qpeak = 1,186 GPM
Qdesign = 583 GPM
Vdesign = 3.35 fps

335 330 325 320 315 310 305 300

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00

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WWW.KIMLEY-HORN.COM

STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

No.	REVISIONS	DATE	BY

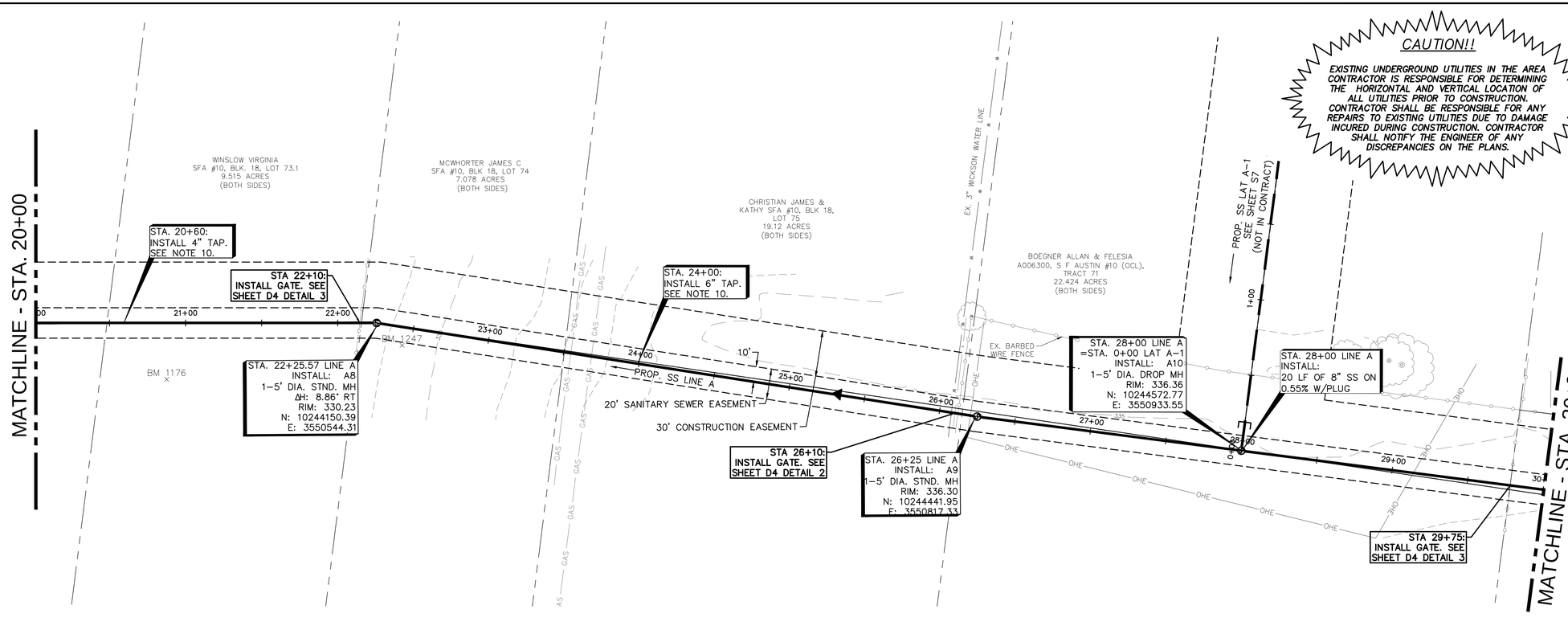
KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE STA 10+00 TO 20+00 LINE A

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S2



LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
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- EX. MINOR CONTOUR
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

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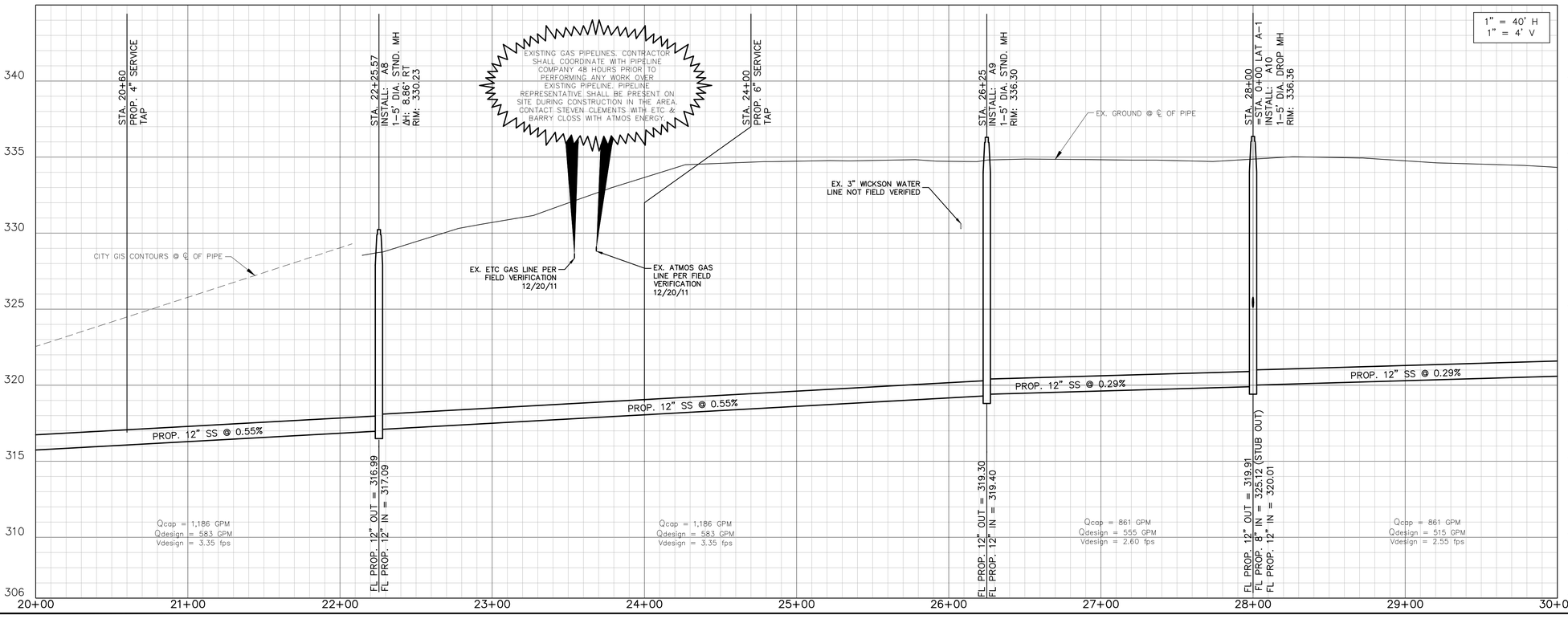

No.	REVISIONS	DATE	BY
1	ADDENDUM 1	7/22/15	TWL

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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED
PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE STA 20+00 TO 30+00 LINE A

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S3

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:20+00-30+00 July 31, 2015 02:36:01pm K:\CST_Civil\61271609-21 SSWR\DWG\Sheet\P&P Line A.dwg
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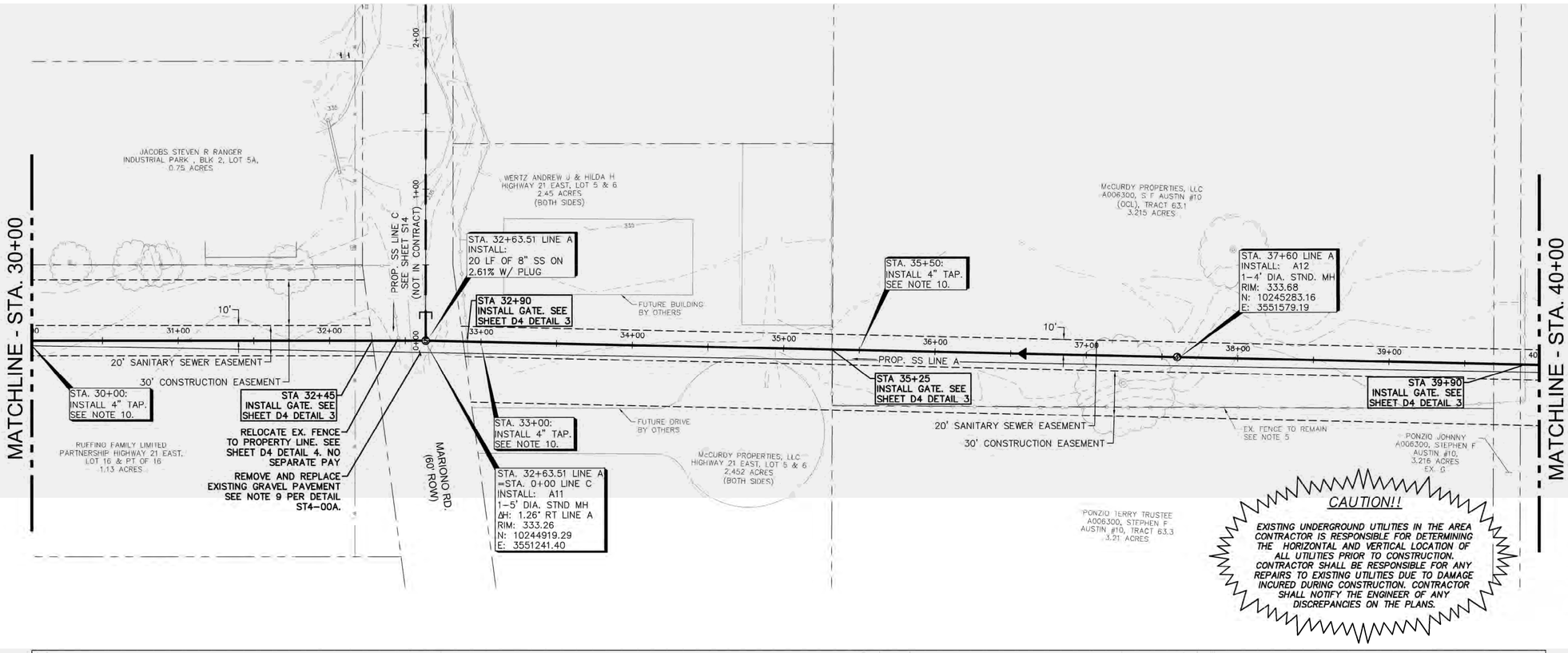

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. FENCE
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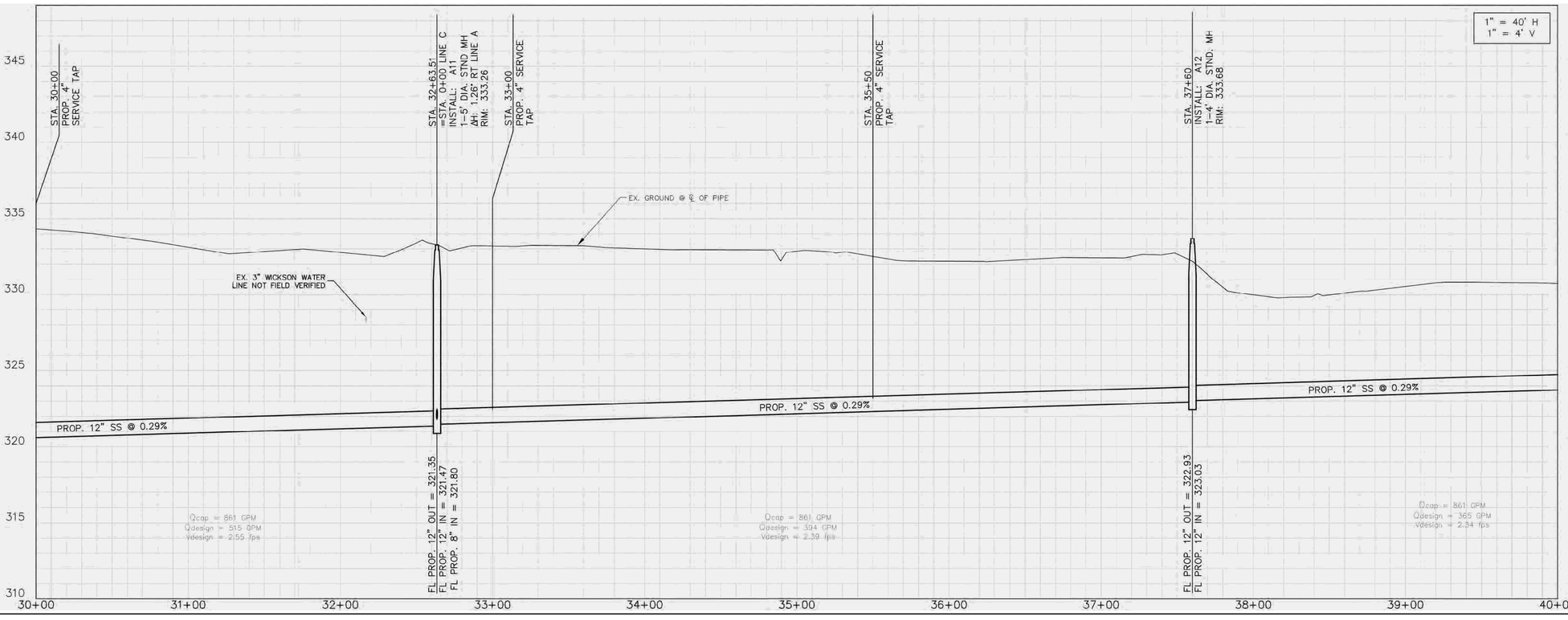
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.



No.	REVISIONS	DATE	BY

Kimley»Horn
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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE STA 30+00 TO 40+00 LINE A

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER
S4

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:40+00-50+00 July 17, 2015 - 02:40:11pm K:\CST_Civil\61271609-21 SSWR\DWG\Sheet\P&P Line A.dwg
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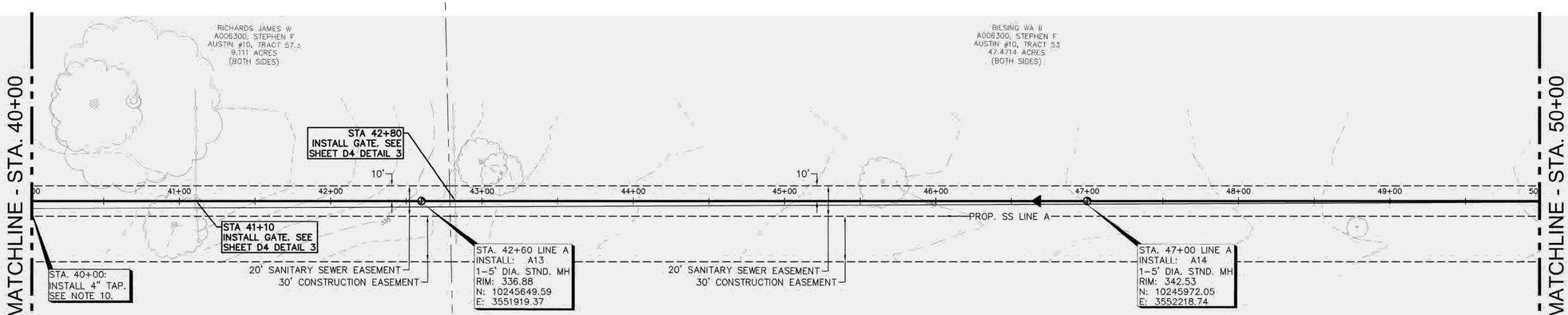

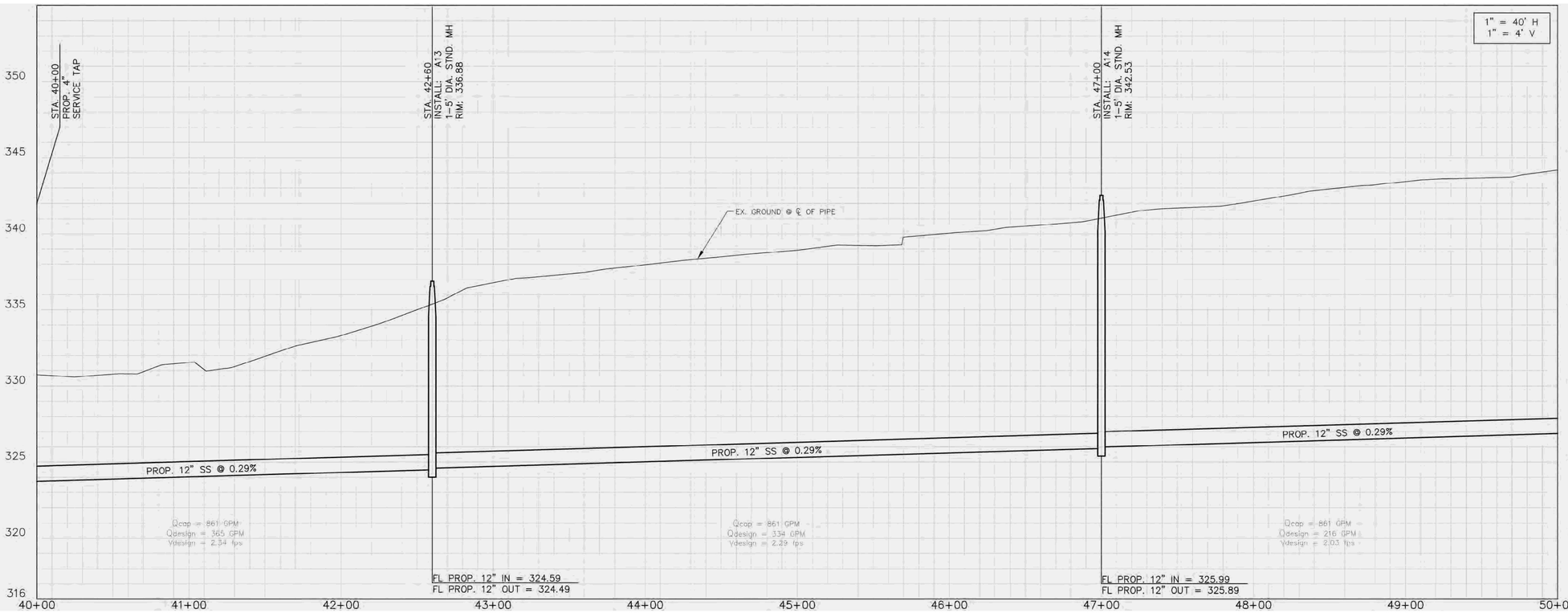

0 40' 80'
GRAPHIC SCALE 40'

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- 380 EX. MAJOR CONTOUR
- 380 EX. MINOR CONTOUR
- SS EX. SANITARY SEWER
- W EX. WATER
- GAS GAS EX. GAS
- OHE OHE EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

CAUTION!!

EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES ON THE PLANS.

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWSE NOTED:
   —PVC SDR26–ASTM D3034 FOR SIZES 8"–12"
   —PVC SDR26–ASTM F679 FOR SIZES > 12"
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10. REF. SHEET G5. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR SERVICE DESIGN & CONNECTION TYPE (SEE DETAIL S6–01 ON SHT. D2).
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.

No.	REVISIONS	DATE	BY

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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

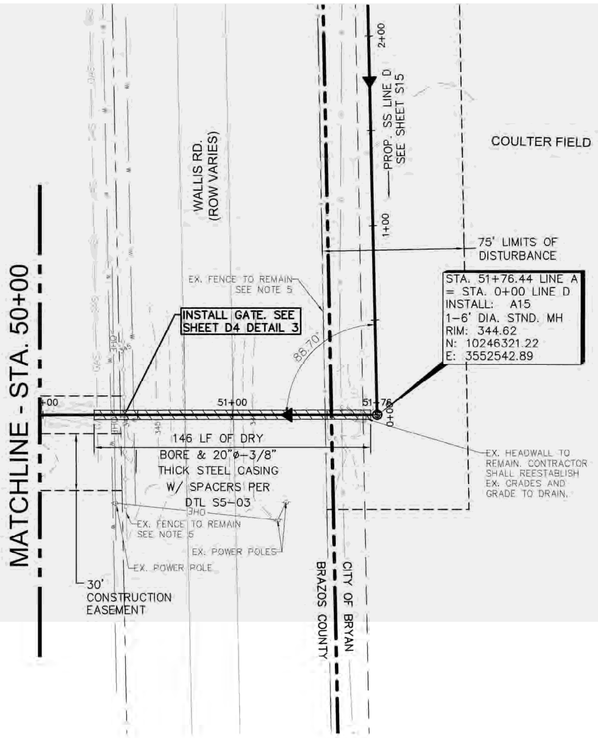
KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

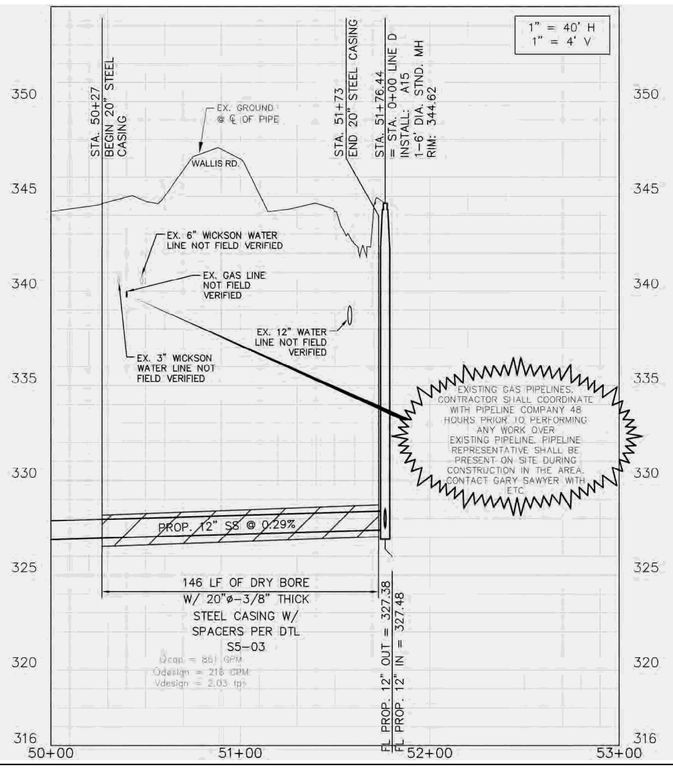
SANITARY SEWER PLAN & PROFILE STA 40+00 TO 50+00 LINE A

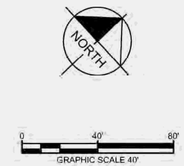
SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S5







LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
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7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
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DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE STA 50+00 TO END LINE A

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER
S6

Plotted By:Lewis, Tyler 'Sheet Set:Kha Layout:50+00-END July 17, 2015 02:40:38pm K:\CST_Civil\61271609-21 SSWR\DWG\Sheet\P&P Line A.dwg
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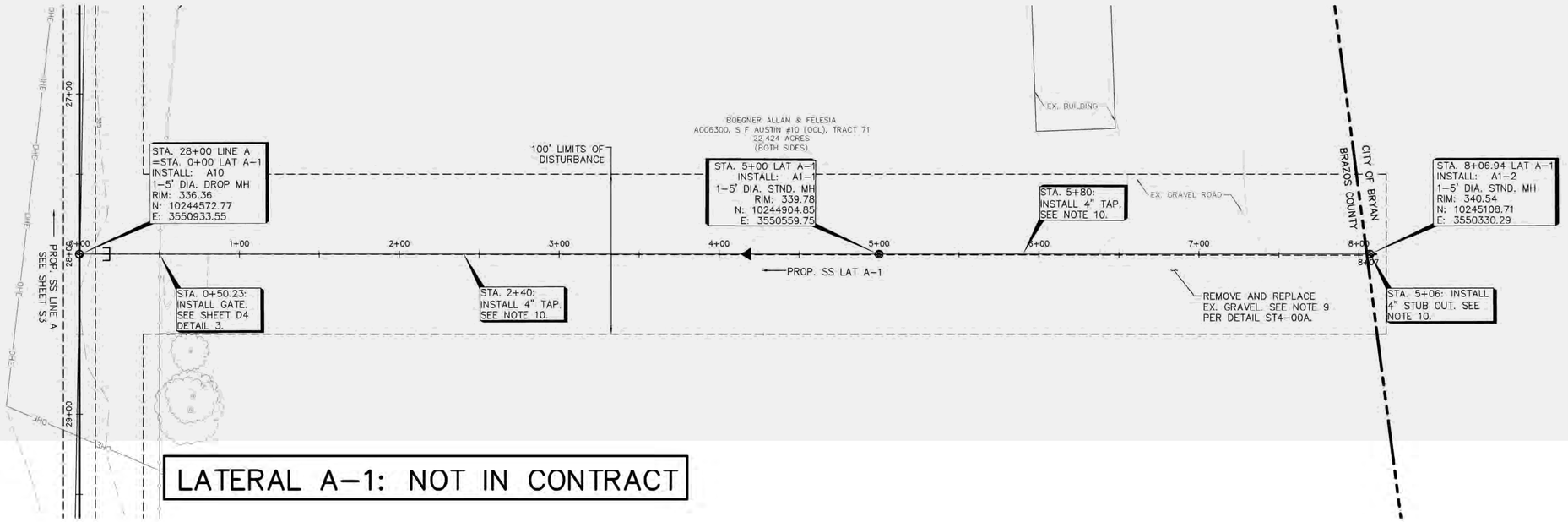

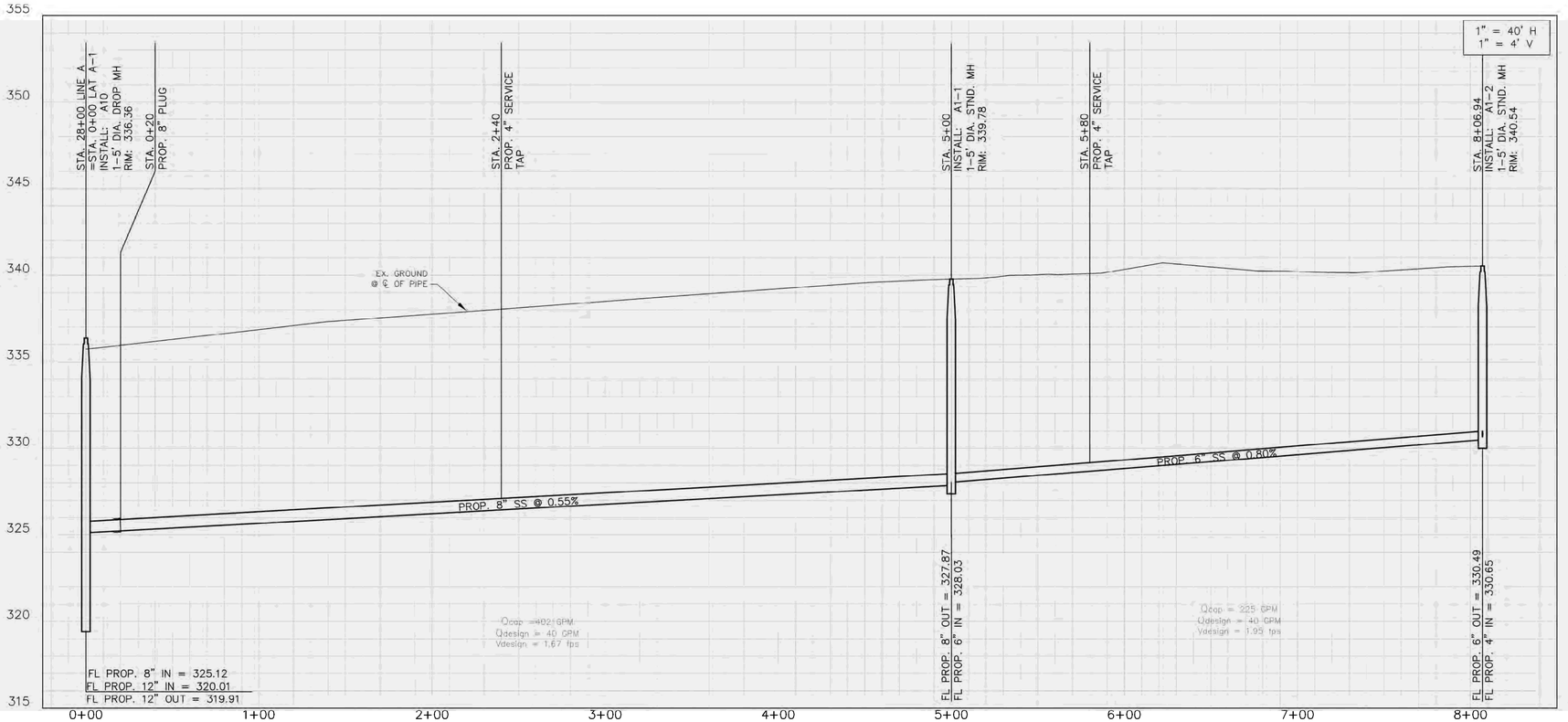

LEGEND

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- EX. EDGE OF PAVEMENT
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No.	REVISIONS	DATE	BY

Kimley»Horn

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WWW.KIMLEY-HORN.COM

STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO END LATERAL A-1

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S7

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Lot A-1 – Begin to End July 17, 2015 02:41:48pm K:\CST_Civil\612716\09-21 SSWR\DWG\Sheet\P&P Line A1.dwg
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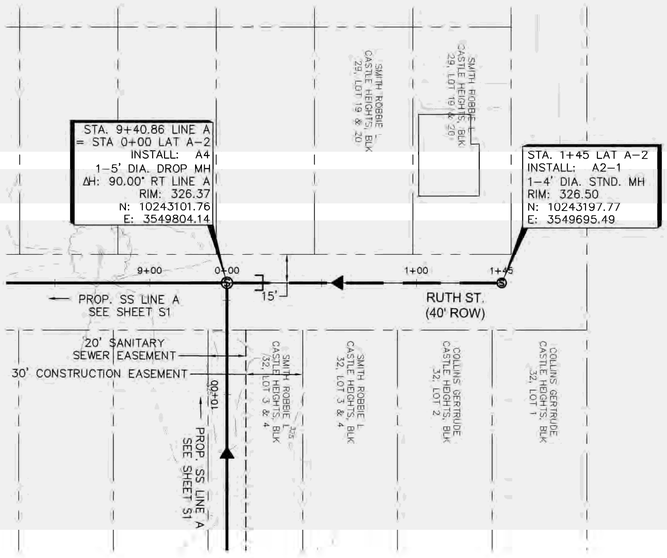
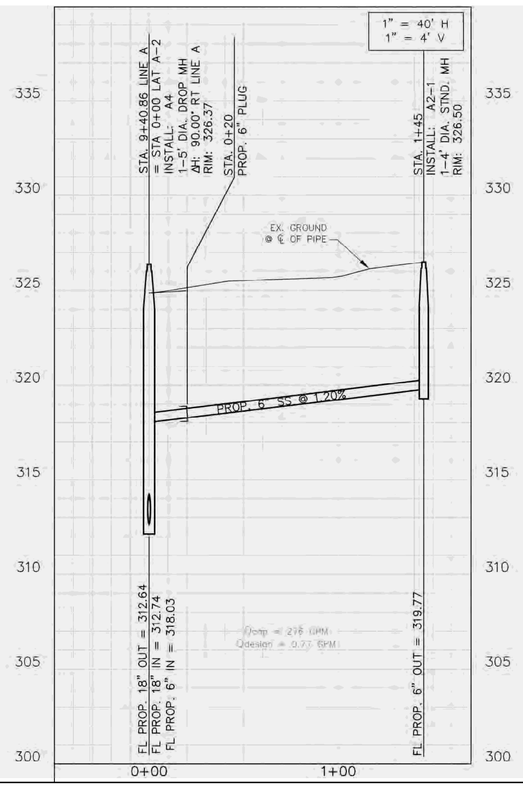


LATERAL A-2: NOT IN CONTRACT



LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

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STATE OF TEXAS
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115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT	061271E09
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO END LATERAL A-2

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S8

Plotted By:Lewis, Tyler Sheet Set:Khs: Layout:Begin to End July 17, 2015 02:43:00pm K:\CST_Civil\61271609-21 SSWR\DWG\Sheet\P&P Line A2.dwg
Xrefs: ...
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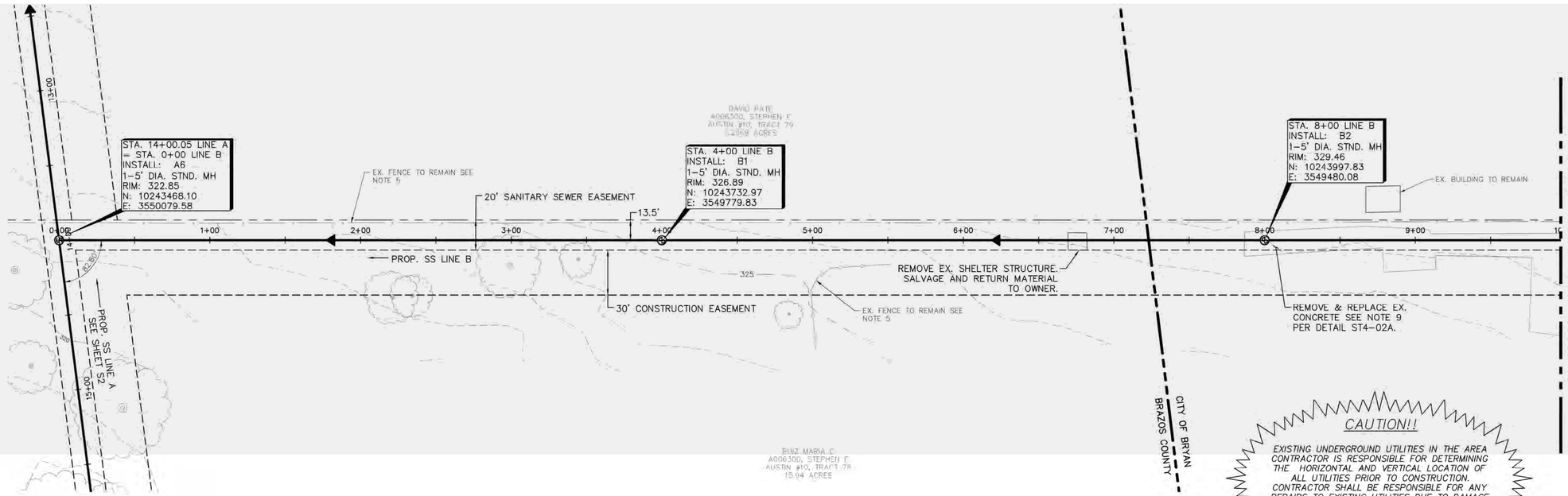

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- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- 380 EX. MAJOR CONTOUR
- 382 EX. MINOR CONTOUR
- SS EX. SANITARY SEWER
- W EX. WATER
- GAS GAS EX. GAS
- OHE EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

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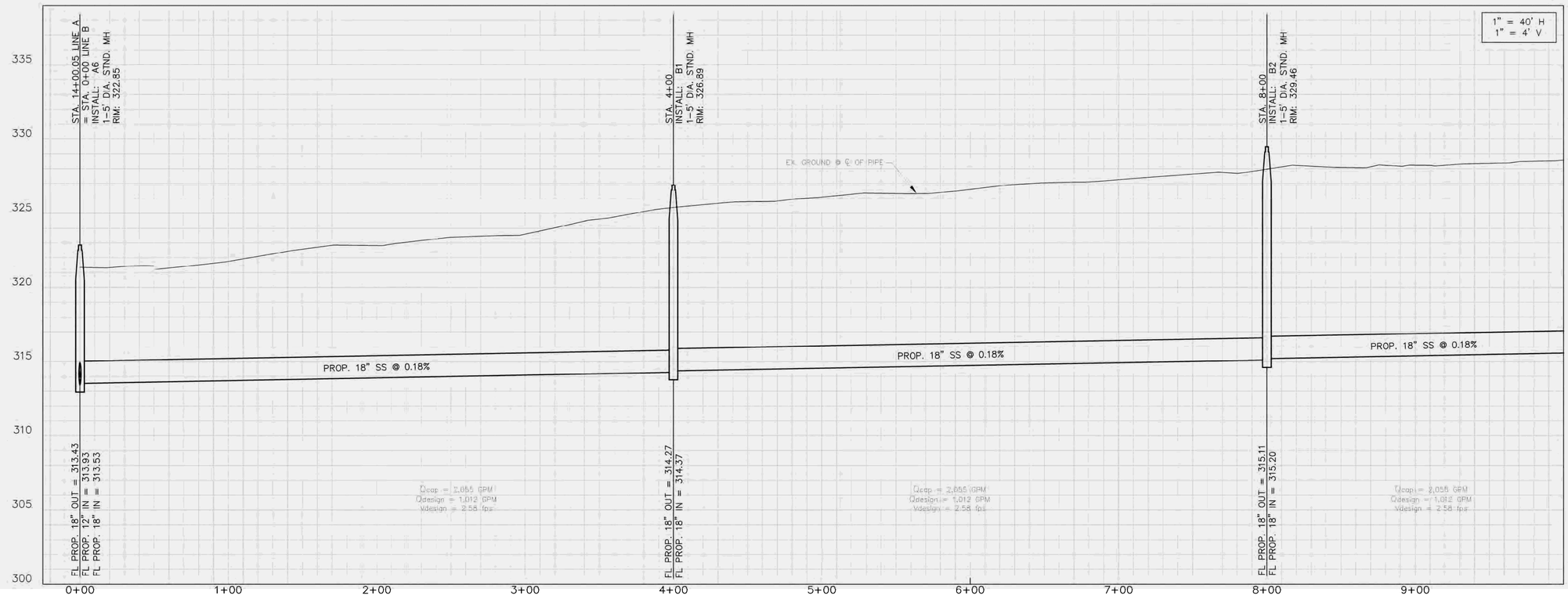

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STATE OF TEXAS
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7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO STA 10+00 LINE B

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S9

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line B – BEGIN to Sta 10+00 July 17, 2015 02:44:11pm K:\CST_Civil\061271609–21 SSWR\DWG\Sheet\P&P Line B.dwg
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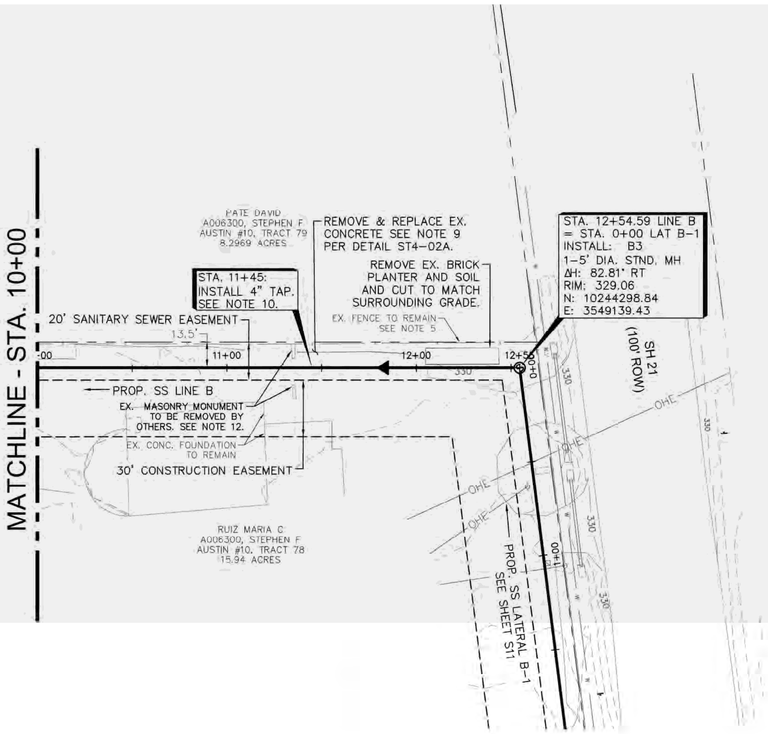

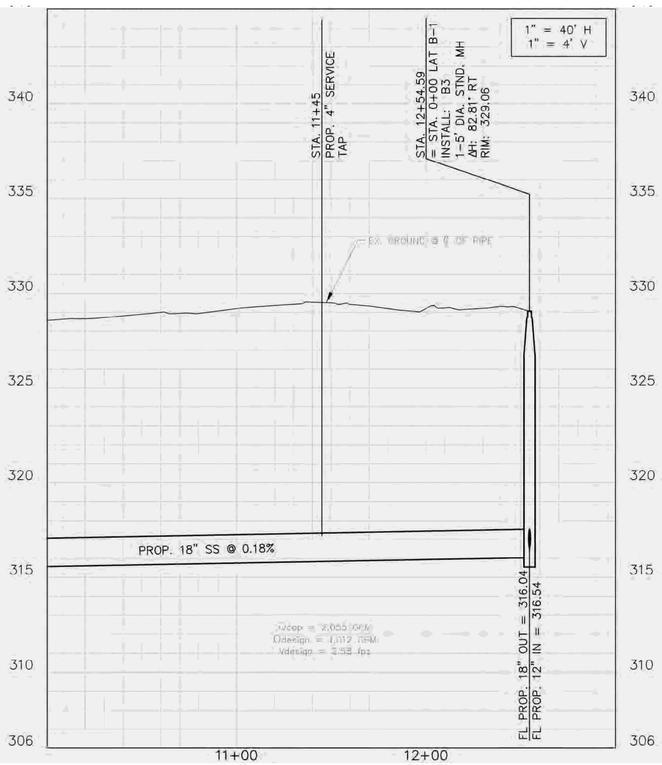

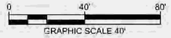

LEGEND

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- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
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STATE OF TEXAS
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7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE STA 10+00 TO END LINE B

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S10

Plotted By:Lewis, Tyler 'Sheet Set:Kha Layout:P&P Line B - 10+00-END July 17, 2015 02:44:40pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line B.dwg
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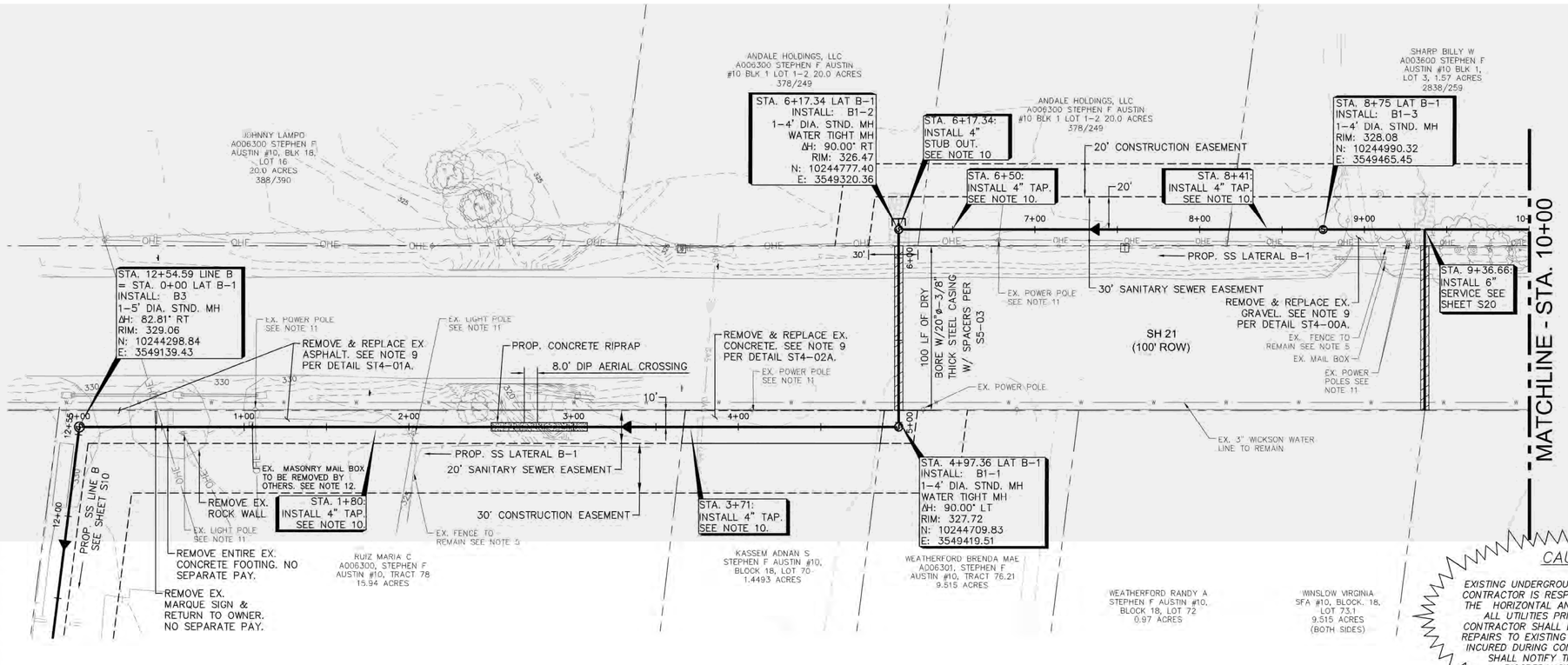

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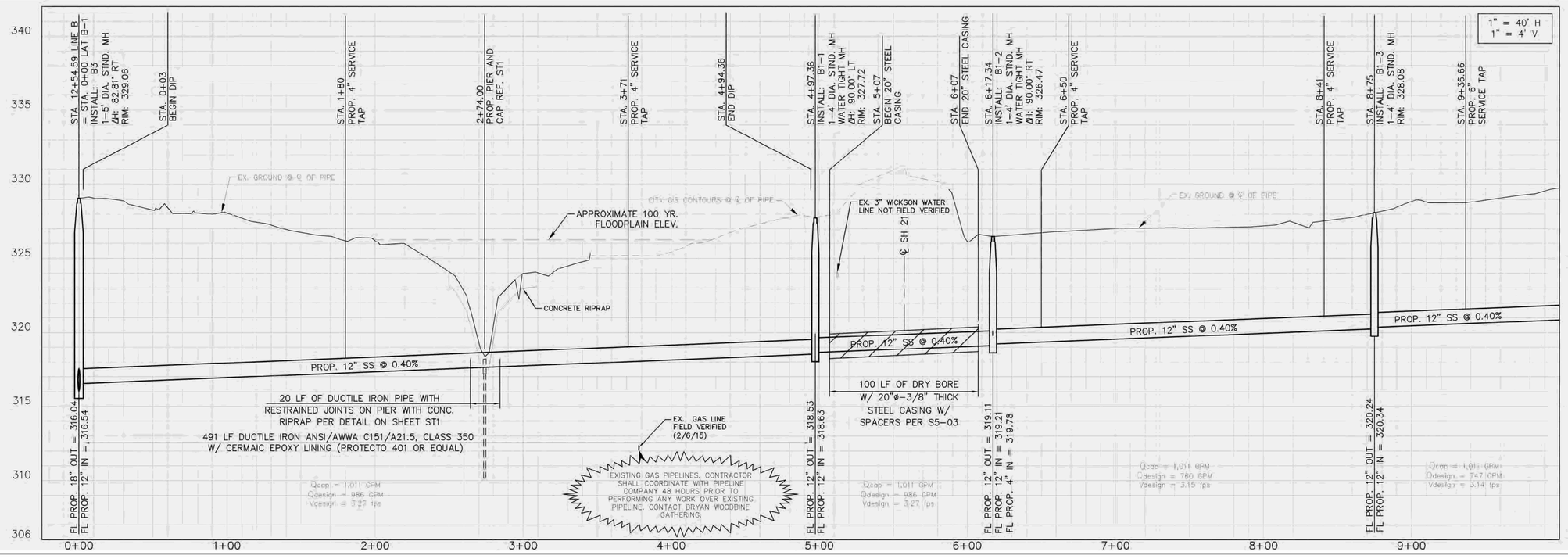

0 40' 80'
GRAPHIC SCALE 40'

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
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SANITARY SEWER PLAN & PROFILE BEGIN TO STA 10+00 LATERAL B-1

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER
S11

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line B1 – 10+00–20+00 July 31, 2015 02:34:29pm K:\CST_Civil\61271609–21 SSWR\DWG\Sheet\P&P Line B1.dwg
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MATCHLINE - STA. 10+00

MATCHLINE - STA. 20+00

SMITH SAMUEL & VIRGINIA A003600 STEPHEN F AUSTIN #10 BLK 1 LOT 4 1.46 ACRES 9894/51

NIEMEYER MICHAEL T. & FRANCES A003600 STEPHEN F AUSTIN #10 BLK 1 LOT 4 1.46 ACRES 7654/227

MCLEWIS SAM ANGELO A003600 STEPHEN F AUSTIN #10 BLK 1 LOT 6 & 6.1 1.46 ACRES 815/463

MACK LARRY & JANET A003600 STEPHEN F AUSTIN #10 BLK 1 LOT 7 1.5 ACRES 2804/105

TEXAS LS INVESTMENTS BLK 1 LOT 8R ACRES 3.98 179/445

CONTRACTOR SHALL MAINTAIN TRAFFIC ACCESS AT ALL TIMES

STA. 10+22: INSTALL 4" TAP. SEE NOTE 10.

EX. POWER POLES SEE NOTE 11

20' CONSTRUCTION EASEMENT

STA. 12+05: INSTALL 4" TAP. SEE NOTE 10.

10' CONSTRUCTION EASEMENT

STA. 13+75 LAT B-1 INSTALL: B1-4 1-5' DIA. DROP MH RIM: 335.52 N: 10245403.50 E: 3549747.03

5' CONSTRUCTION EASEMENT

EX. FENCE TO REMAIN SEE NOTE 5

STA. 17+00.05 LAT B-1 INSTALL: B1-5 1-5' DIA. STND. MH ΔH: 2.86' LT RIM: 341.92 N: 10245672.10 E: 3549930.08

EX. 6" WATER LINE

MARINO RD. (64' ROW)

EX. POWER POLE

STA. 18+00 LAT B-1 INSTALL: B1-6 1-5' DIA. STND. MH ΔH: 2.86' RT RIM: 342.89 N: 10245757.40 E: 3549982.16

EX. 25' WATER AND SEWER EASEMENT

FUTURE WATER LINE BY OTHERS

EX. FENCE TO REMAIN SEE NOTE 5

EX. MARQUE SIGN & MAIL BOX

EX. ASPHALT

REMOVE & REPLACE EX. CONCRETE. SEE NOTE 9 PER DETAIL ST4-02A.

EX. POWER POLES SEE NOTE 11

REMOVE & REPLACE EX. GRAVEL DRIVEWAY. SEE NOTE 9 PER DETAIL ST4-00A.

30' SANITARY SEWER EASEMENT

STA. 12+83.48: INSTALL 6" SERVICE SEE SHEET S20

EX. FENCE TO REMAIN SEE NOTE 5

PROP. SS LATERAL B-1

EX. POWER POLE SEE NOTE 11

REMOVE & REPLACE EX. ASPHALT. SEE NOTE 9 PER DETAIL ST4-01A.

SH 21 (100' ROW)

STA. 14+00: INSTALL 4" TAP. SEE NOTE 10.

EX. 3" WICKSON WATER LINE TO REMAIN

REMOVE & REPLACE EX. ASPHALT. SEE NOTE 9 PER DETAIL ST4-01A.

EX. GATE TO REMAIN

EX. POWER POLE SEE NOTE 11

REMOVE & REPLACE EX. MAIL BOX NO SEPARATE PAY

STA. 15+60: INSTALL 4" TAP. SEE NOTE 10.

EX. POWER POLE SEE NOTE 11

EX. STREET LIGHT

REMOVE & RELOCATE EX. SIGNS. COORDINATE WITH OWNER & CITY.

EX. POWER POLE SEE NOTE 11

REMOVE & REPLACE EX. ASPHALT. SEE NOTE 9 PER DETAIL ST4-01. CONTRACTOR SHALL COORDINATE WITH CITY TO CROSS MARINO RD. AT OFF PEAK HOURS

EX. FENCE TO REMAIN SEE NOTE 5

STA. 18+09: INSTALL 4" TAP. SEE NOTE 10.

MARINO RD. (60' ROW)

10' CONSTRUCTION EASEMENT

STA.17+08, OFF.10.0L 1.5" SERVICE CONNECTION PER DETAIL W2-01

5' CONSTRUCTION EASEMENT

COORDINATE WITH OWNER & RECONNECT EX. WATER SERVICE

COORDINATE WITH OWNER & RECONNECT EX. WATER SERVICE

PROPOSED 1.5" PVC WATER LINE

PROP. SS LATERAL B-1

30' SANITARY SEWER EASEMENT

STA.11+75, OFF.10.0L RELOCATE EX. WATER METER AND RECONNECT SERVICE

STA.12+46, OFF.10.0L RELOCATE EX. WATER METER AND RECONNECT SERVICE

REMOVE EX. 1.5" WICKSON WATERLINE

SH 21 (100' ROW)

CAUTION!!

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NORTH

0 40' 80'

GRAPHIC SCALE 40'

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- W — WATER LINE
- W — FUTURE WATER LINE BY OTHERS
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- 360 — EX. MAJOR CONTOUR
- 360 — EX. MINOR CONTOUR
- SS — EX. SANITARY SEWER
- W — EX. WATER
- GAS — GAS — EX. GAS
- OHE — EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
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   - PVC SDR26–ASTM F679 FOR SIZES > 12"
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11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.

RELOCATED WATER LINE

1" = 40' H
1" = 4' V

STA. 10+22 PROP. 4" SERVICE TAP

STA. 12+05 PROP. 4" SERVICE TAP

STA. 12+83.48 PROP. 6" SERVICE TAP

STA. 13+75 INSTALL: B1-4 1-5' DIA. DROP MH RIM: 335.52

STA. 14+00 PROP. 4" SERVICE TAP

STA. 15+60 PROP. 4" SERVICE TAP

STA. 17+00.05 INSTALL: B1-5 1-5' DIA. STND. MH ΔH: 2.86' LT RIM: 341.92

STA. 17+27.12 BEGIN STRUCTURAL BACKFILL

℄ MARINO

STA. 17+67.70 END STRUCTURAL BACKFILL

STA. 18+00.00 INSTALL: B1-6 1-5' DIA. STND. MH ΔH: 2.86' RT RIM: 342.89

STA. 18+09 PROP. 4" SERVICE TAP

EX. GROUND @ ℄ OF PIPE

EX. 6" WICKSON WATER LINE NOT FIELD VERIFIED

EXISTING GAS PIPELINES: CONTRACTOR SHALL COORDINATE WITH PIPELINE COMPANY 48 HOURS PRIOR TO PERFORMING ANY WORK OVER EXISTING PIPELINE. PIPELINE REPRESENTATIVE SHALL BE PRESENT ON SITE DURING CONSTRUCTION IN THE AREA. CONTACT STEVEN CLEMENTS WITH ETC & BARRY CLOSS WITH ATMOS ENERGY.

EX. ATMOS GAS LINE NOT FIELD VERIFIED ELEV TAKEN FROM POTHOLE 100' SW ON SOUTH SIDE OF SH 21

EX. ETC GAS LINE NOT FIELD VERIFIED ELEV TAKEN FROM POTHOLE 100' SW ON SOUTH SIDE OF SH 21

PROP. 12" SS @ 0.40%

PROP. 12" SS @ 0.80%

PROP. 12" SS @ 0.80%

PROP. 8" SS @ 0.80%

Qcap = 1,011 GPM
Qdesign = 747 GPM
Vdesign = 3.14 fps

FL PROP. 12" IN = 328.41
FL PROP. 12" OUT = 322.34

Qcap = 1,430 GPM
Qdesign = 723 GPM
Vdesign = 4.07 fps

FL PROP. 12" OUT = 331.01
FL PROP. 12" IN = 331.11

Qcap = 1,430 GPM
Qdesign = 391 GPM
Vdesign = 3.46 fps

FL PROP. 12" OUT = 331.91
FL PROP. 8" IN = 352.18

Qcap = 485 GPM
Qdesign = 60 GPM
Vdesign = 2.11 fps

No.	REVISIONS	DATE	BY
1	ADDENDUM 1	7/31/15	TWL

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STATE OF TEXAS
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115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

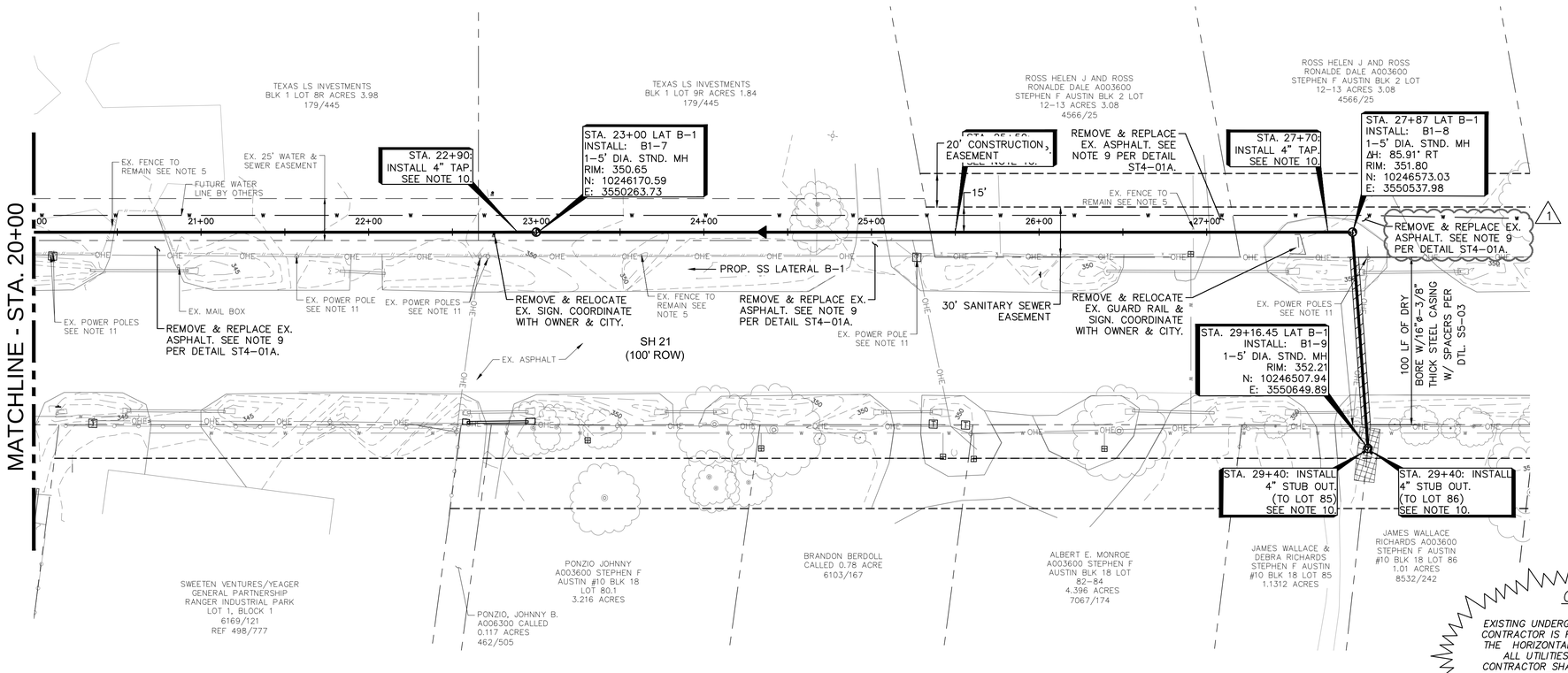
KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE STA 10+00 TO 20+00 LATERAL B-1

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER S12



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- CITY LIMIT
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- EX. EASEMENT
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- W — EX. WATER
- GAS — GAS — EX. GAS
- OHE — EX. OVERHEAD UTILITIES
- EX. FENCE
- PAVEMENT REMOVE AND REPLACE EXTENTS
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

CAUTION!!

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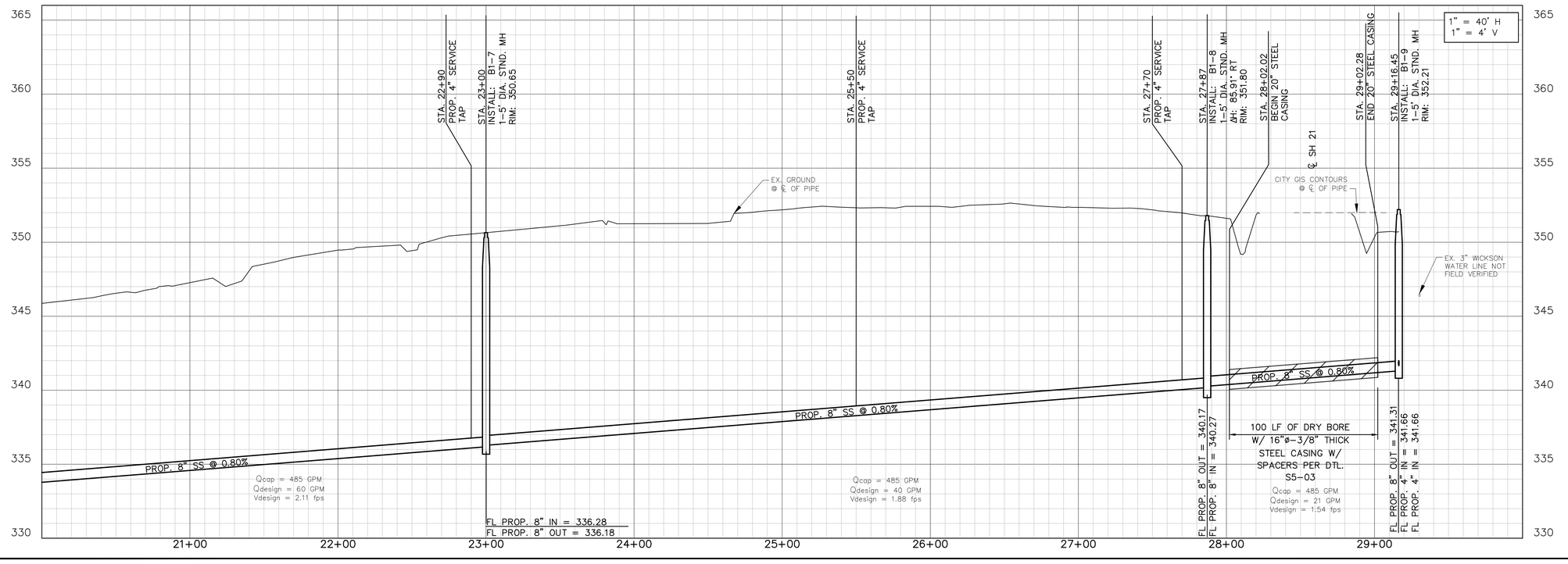

No.	REVISIONS	DATE	BY
1	ADDENDUM 1	7/31/15	TWL

Kimley»Horn

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7-17-15

KHA PROJECT 061271609
DATE 07/17/15
SCALE AS SHOWN
DESIGNED BY TWL
DRAWN BY TWL
CHECKED BY JCH

SANITARY SEWER PLAN & PROFILE STA 20+00 TO END LATERAL B-1

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER
S13

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line B1 – 20+00–END July 31, 2015 02:31:22pm K:\CST_Civil\61271609–21 SSWR\DWG\Sheet\P&P Line B1.dwg
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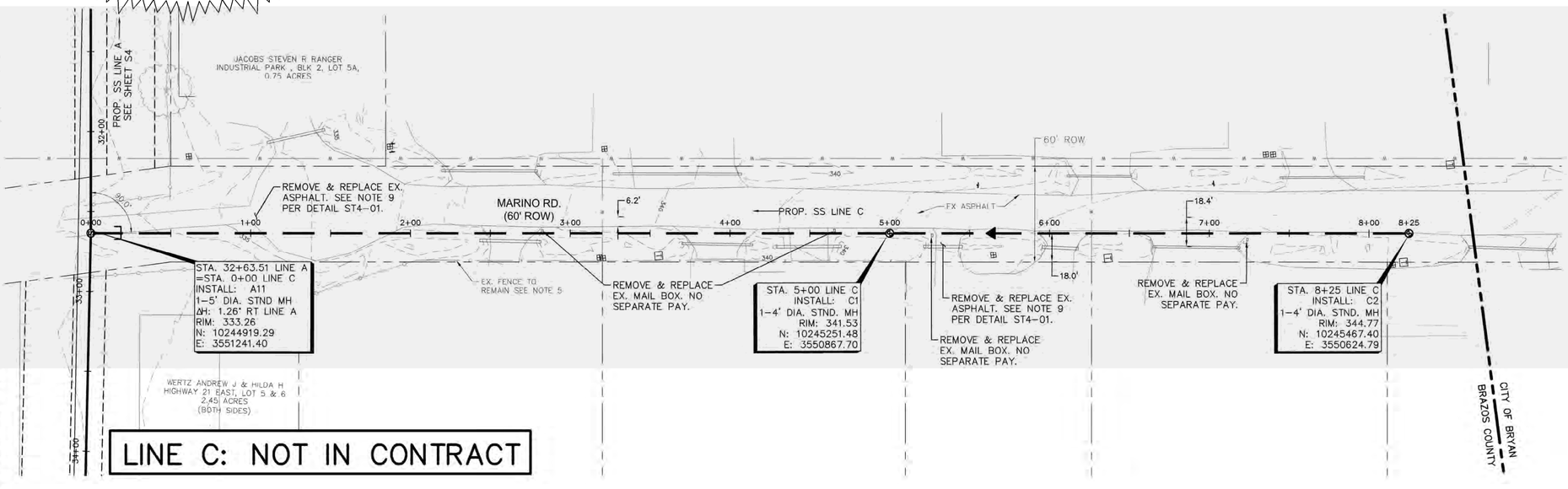
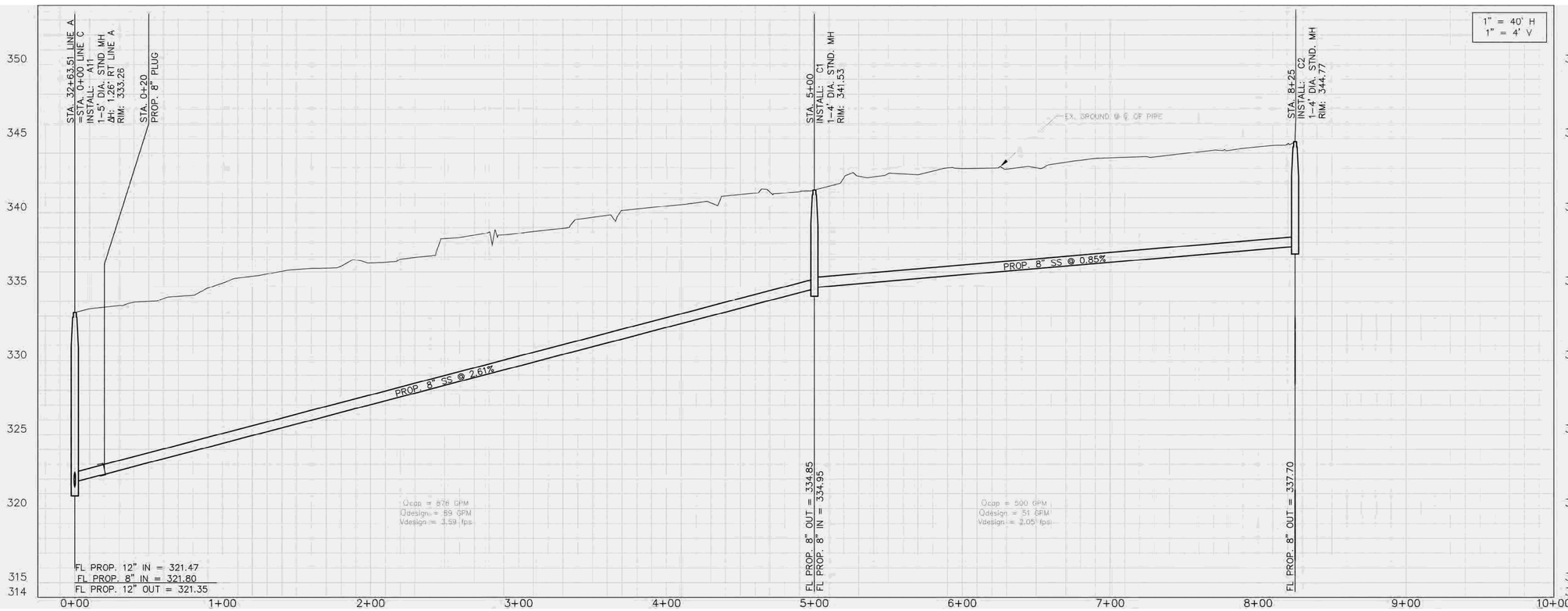
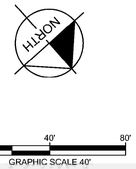


LINE C: NOT IN CONTRACT





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- FUTURE S. SEWER
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No.	REVISIONS	DATE	BY

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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT 061271609	
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO END LINE C

SH 21 SANITARY SEWER IMPROVMENTS
PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER
S14

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line C – BEGIN to END July 17, 2015 02:48:21am K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line C.dwg
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Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line D - Sta 0+00 to Sta 10+00 July 17, 2015 02:49:51pm K:\CST_Civil\61271609-21 SSWR\DWG\Sheet\P&P Line D.dwg
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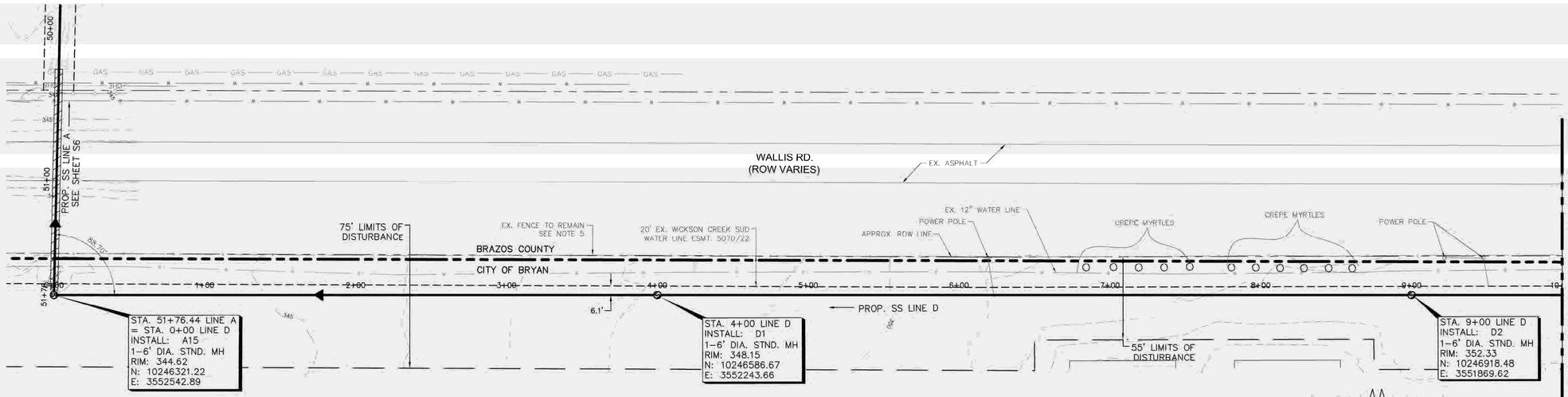

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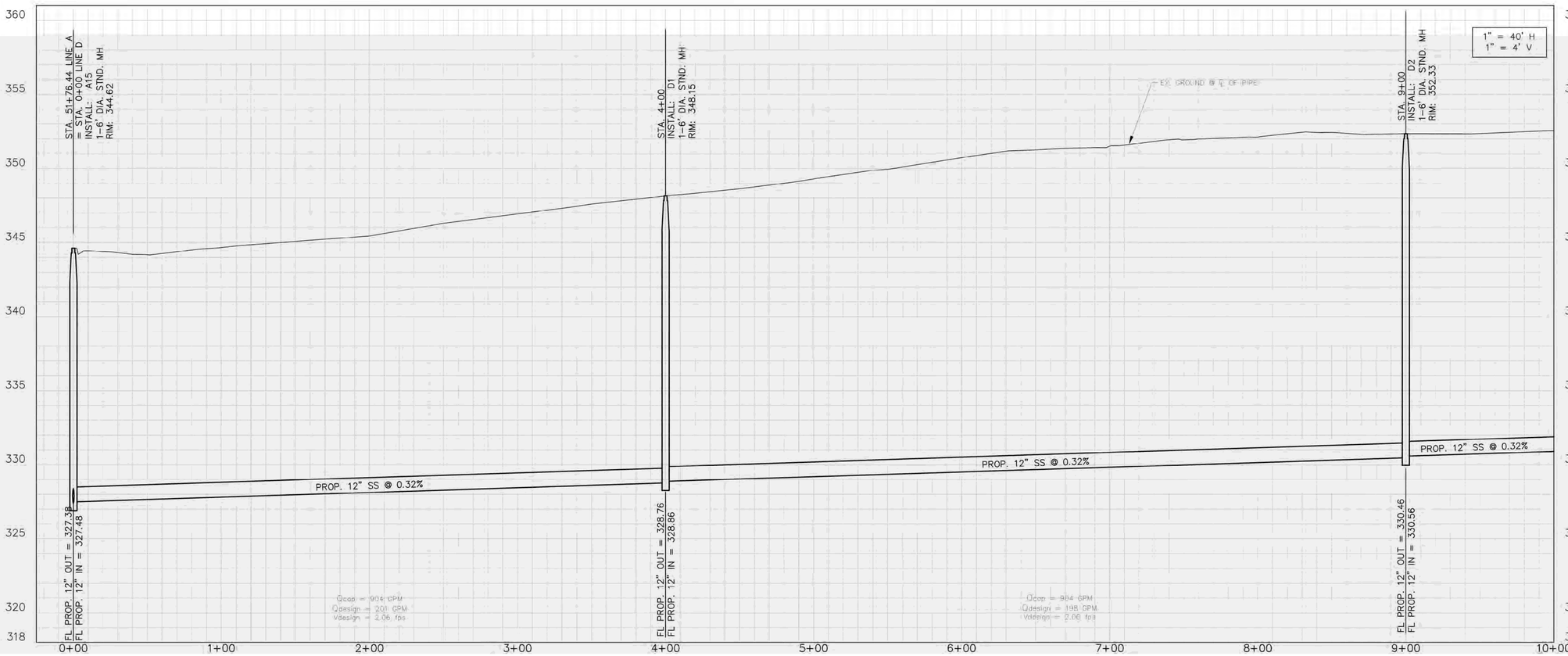

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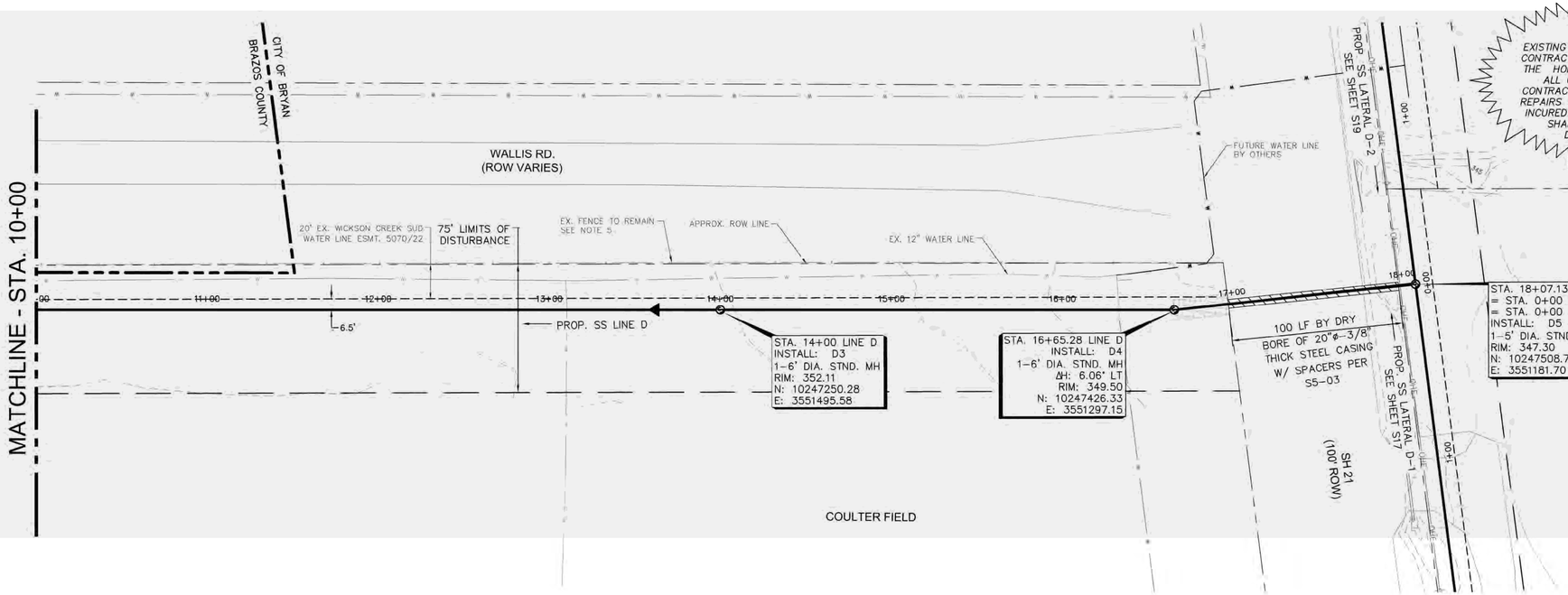
SANITARY SEWER PLAN & PROFILE BEGIN TO STA 10+00 LINE D

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S15



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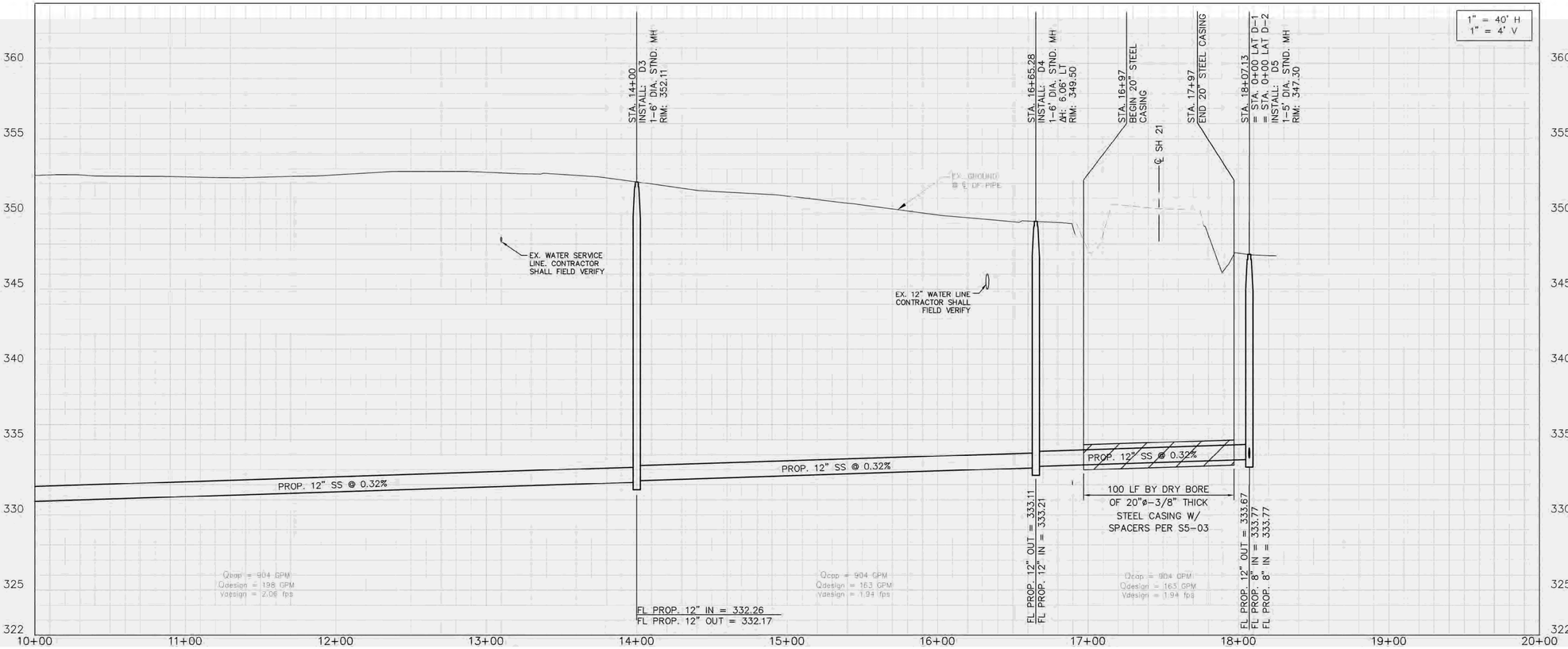

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SH 21 SANITARY SEWER IMPROVMENTS

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TEXAS

SHEET NUMBER
S16

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:F&P Line D - 10+00-20+00 July 17, 2015 02:50:19pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line D.dwg
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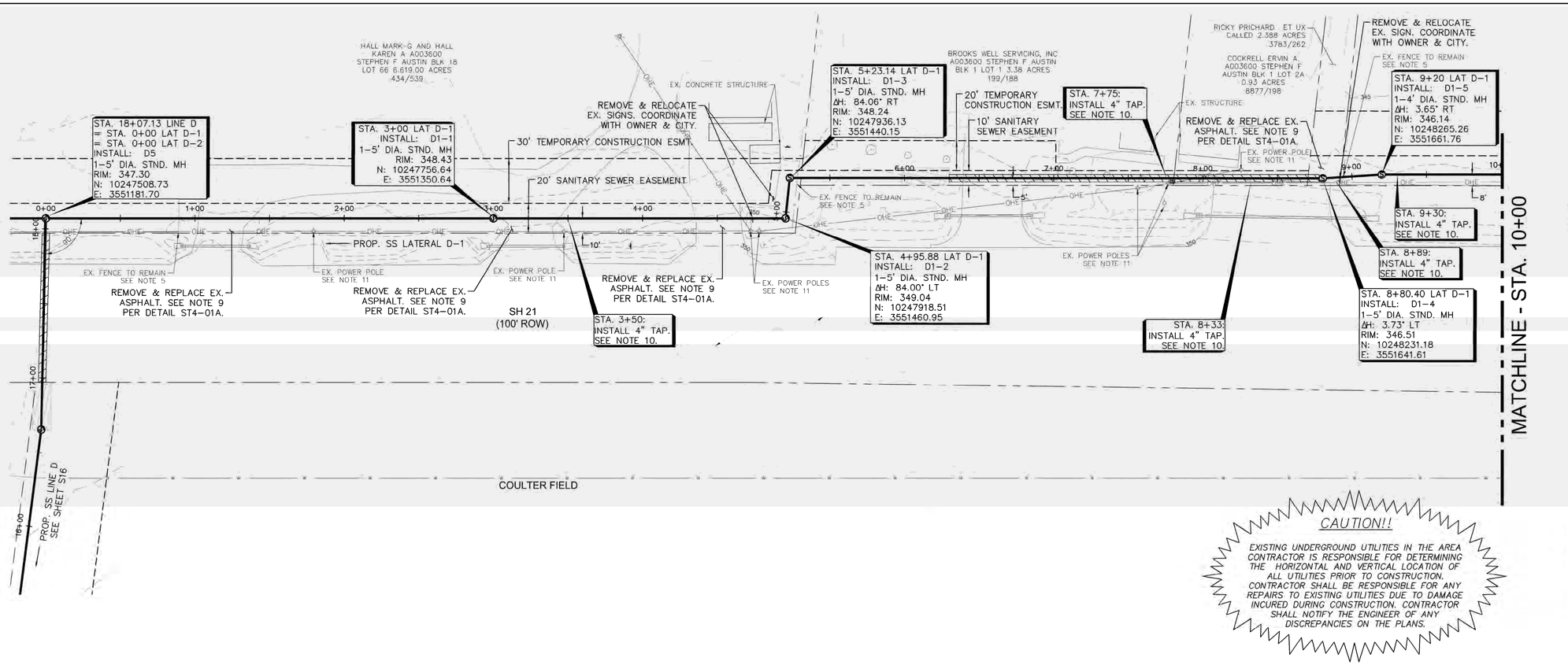


CAUTION!!

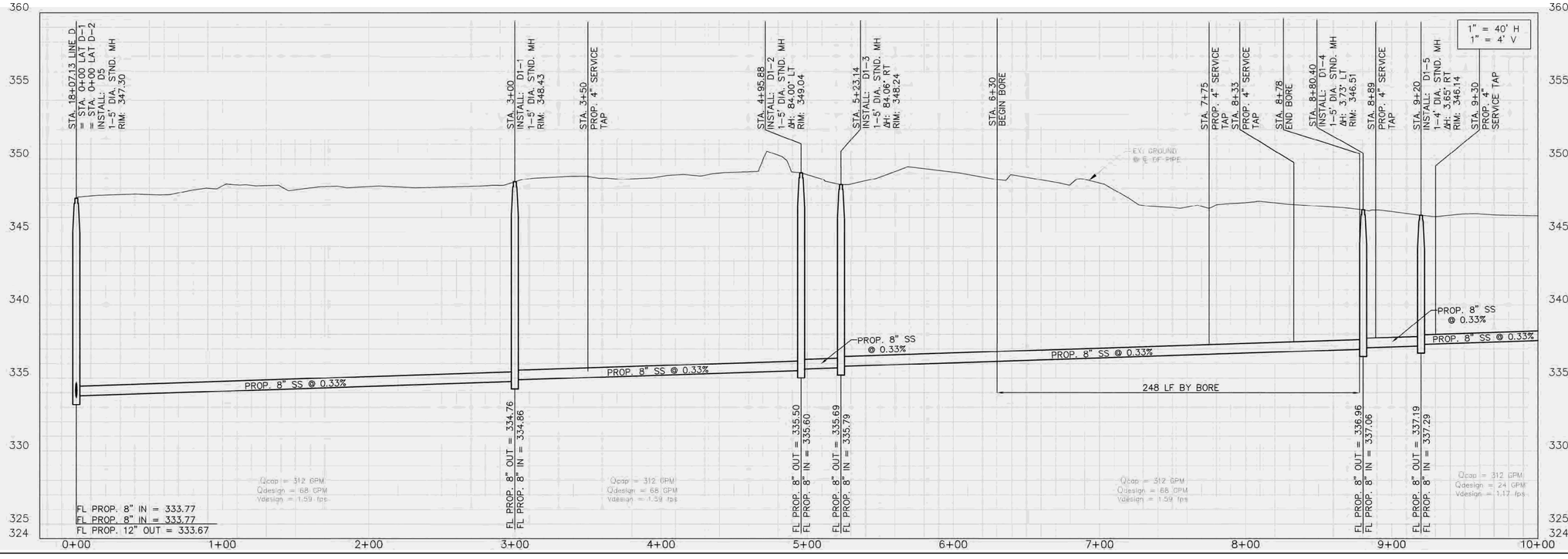
EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES ON THE PLANS.

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   –PVC SDR26–ASTM D3034 FOR SIZES 6"–12"
   –PVC SDR26–ASTM F679 FOR SIZES > 12"
2. ALL MANHOLES SHALL BE PRECAST PER DETAIL S1–00 ON SHT. D1.
3. EMBEDMENT SHALL BE PER DETAILS ON SHEET D1
4. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND COORDINATING WITH OWNERS OF EXISTING UTILITIES IN THE AREA PRIOR TO INITIATING CONSTRUCTION.
5. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT EXISTING FENCES ALONG THE ALIGNMENT. DAMAGED FENCES SHALL BE REPLACED WITH LIKE KIND IN EQUAL OR BETTER CONDITION. IF EXISTING FENCES ARE REQUIRED TO BE REMOVED, CONTRACTOR SHALL COORDINATE WITH THE OWNER AND INSTALL TEMPORARY FENCING UNTIL THE FENCE IS REINSTALLED. EXISTING FENCES IN THE ROW SHALL BE RELOCATED TO THE PROPERTY LINE.
6. WITHIN 14 DAYS OF COMPLETION OF A SEGMENT OF UTILITY INSTALLATION CONTRACTOR SHALL GRADE AND HYDROMULCH DISTURBED AREAS. HYDROMULCHING SHALL COORDINATE WITH CONTRACTOR'S PHASING PLANS.
7. CONTRACTOR SHALL TRENCH AND BACKFILL EACH DAY'S WORK AND PLATE OR FENCE ANY OPEN EXCAVATIONS OUTSIDE OF WORKING HOURS.
8. REFER TO SHEETS TP1 – TP5 FOR EXISTING TREE PROTECTION.
9. EX. PAVEMENT IDENTIFIED IN THE PLAN FOR REMOVAL AND REPLACEMENT SHALL BE NEATLY SAW CUT PER ST4–00A,01A,02A,&01.
10. REF. SHEET G5. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR SERVICE DESIGN & CONNECTION TYPE (SEE DETAIL S6–01 ON SHT. D2).
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.



No.	REVISIONS	DATE	BY

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STATE OF TEXAS
TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO STA 10+00 LATERAL D-1

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR CITY OF BRYAN TEXAS

SHEET NUMBER
S17

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line D1 – Sta 0+00 TO 10+00 July 17, 2015, 02:51:31pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line D1.dwg
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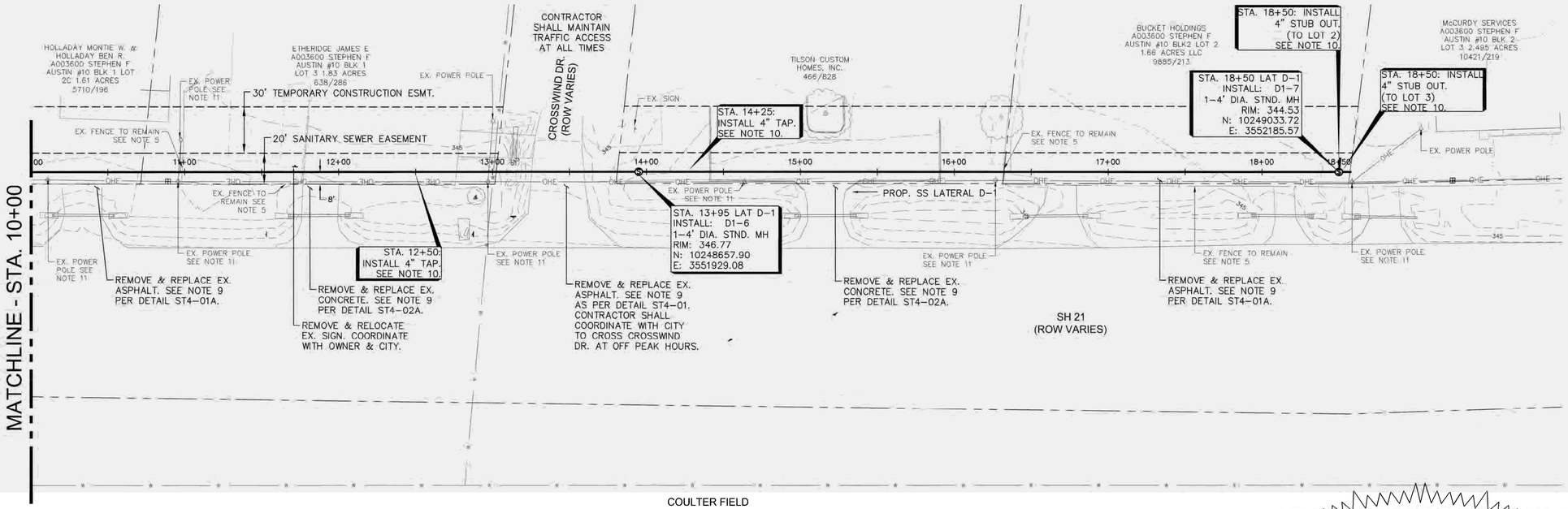

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- FUTURE S. SEWER
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

CAUTION!!

EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURED DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES ON THE PLANS.

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   –PVC SDR26–ASTM D3034 FOR SIZES 6"–12"
   –PVC SDR26–ASTM F679 FOR SIZES > 12"
2. ALL MANHOLES SHALL BE PRECAST PER DETAIL S1–00 ON SHT. D1.
3. EMBEDMENT SHALL BE PER DETAILS ON SHEET D1
4. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND COORDINATING WITH OWNERS OF EXISTING UTILITIES IN THE AREA PRIOR TO INITIATING CONSTRUCTION.
5. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT EXISTING FENCES ALONG THE ALIGNMENT. DAMAGED FENCES SHALL BE REPLACED WITH LIKE KIND IN EQUAL OR BETTER CONDITION. IF EXISTING FENCES ARE REQUIRED TO BE REMOVED, CONTRACTOR SHALL COORDINATE WITH THE OWNER AND INSTALL TEMPORARY FENCING UNTIL THE FENCE IS REINSTALLED. EXISTING FENCES IN THE ROW SHALL BE RELOCATED TO THE PROPERTY LINE.
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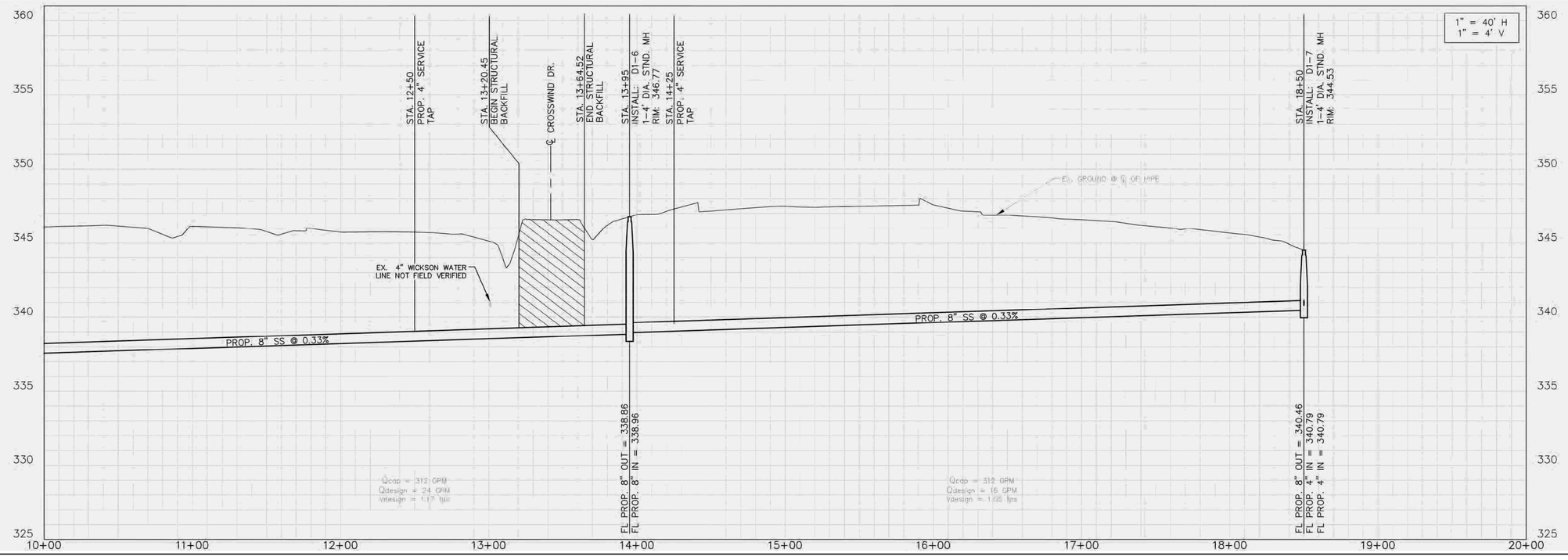
7. CONTRACTOR SHALL TRENCH AND BACKFILL EACH DAY'S WORK AND PLATE OR FENCE ANY OPEN EXCAVATIONS OUTSIDE OF WORKING HOURS.
8. REFER TO SHEETS TP1 – TP5 FOR EXISTING TREE PROTECTION.
9. EX. PAVEMENT IDENTIFIED IN THE PLAN FOR REMOVAL AND REPLACEMENT SHALL BE NEATLY SAW CUT PER ST4–00A,01A,02A,&01.
10. REF. SHEET G5. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR SERVICE DESIGN & CONNECTION TYPE (SEE DETAIL S6–01 ON SHT. D2).
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.



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TYLER W. LEWIS
115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE STA 10+00 TO END LATERAL D-1

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S18

Plotted By:Lewis, Tyler Sheet Set:Kha Layout:P&P Line D1 – 10+00 TO END July 17, 2015 02:52:00pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line D1.dwg
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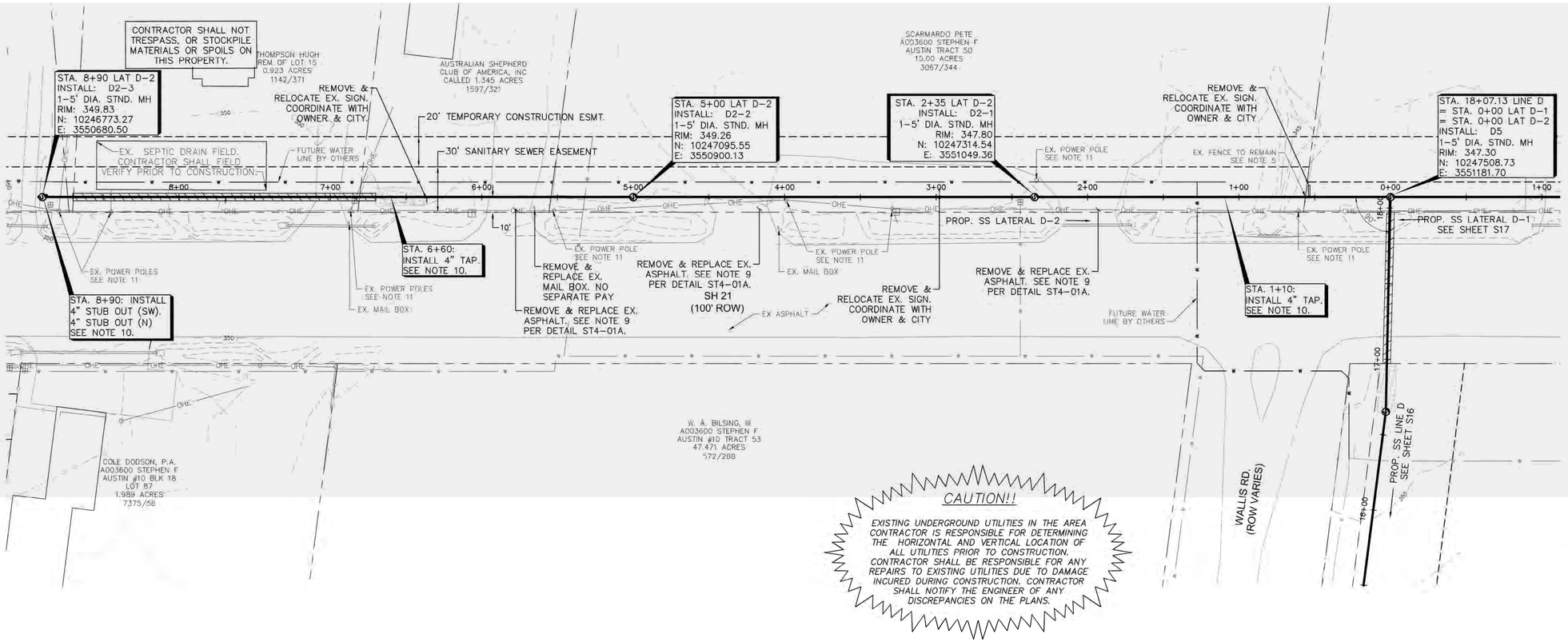

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- W — FUTURE WATER LINE BY OTHERS
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- 380 — EX. MAJOR CONTOUR
- 380 — EX. MINOR CONTOUR
- SS — EX. SANITARY SEWER
- W — EX. WATER
- GAS — GAS — EX. GAS
- OHE — EX. OVERHEAD UTILITIES
- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

1. PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   –PVC SDR26–ASTM D3034 FOR SIZES 6"–12"
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3. EMBEDMENT SHALL BE PER DETAILS ON SHEET D1.
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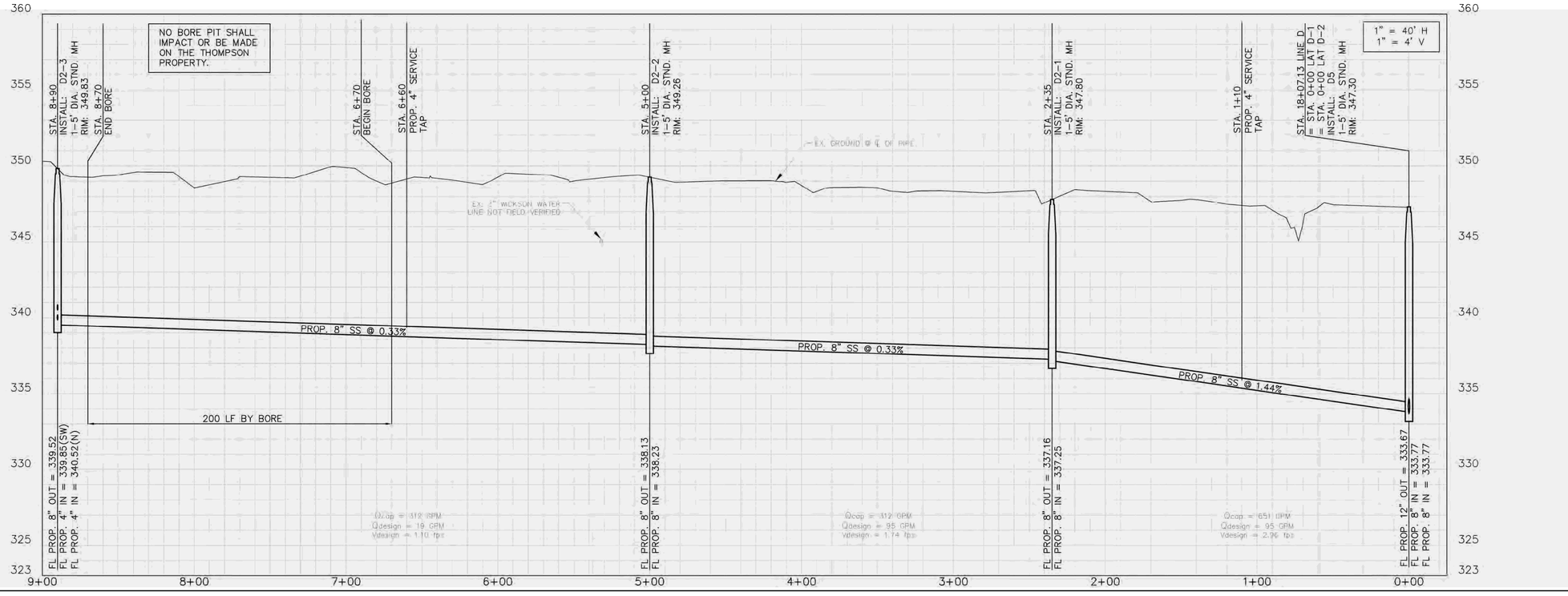
10. REF. SHEET G5. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR SERVICE DESIGN & CONNECTION TYPE (SEE DETAIL S6–01 ON SHT. D2).
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.



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115838
LICENSED PROFESSIONAL ENGINEER
7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE BEGIN TO END LATERAL D-2

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S19

Plotted By:lewis, Tyler Sheet Set:Kha Layout:P&P Line D2 – Sta 0+00 TO END July 17, 2015 02:53:07pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line D2.dwg
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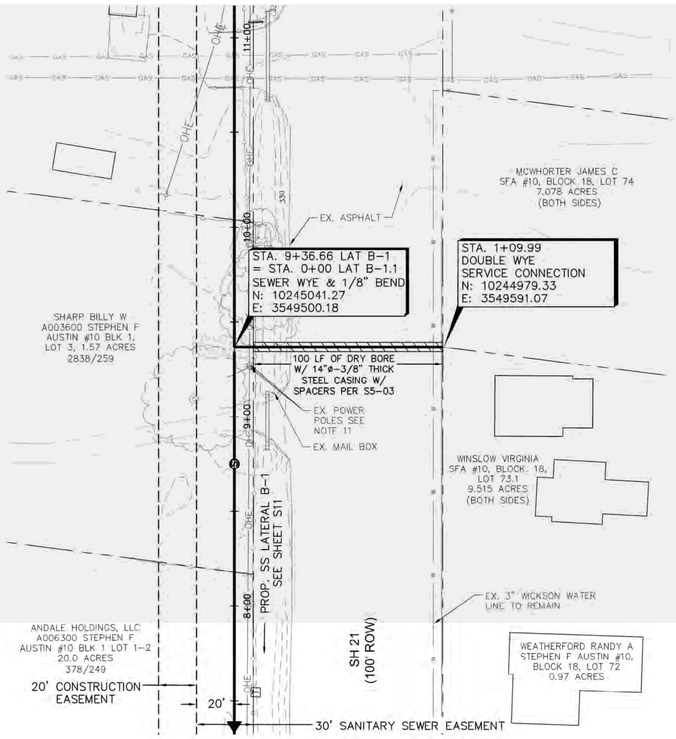

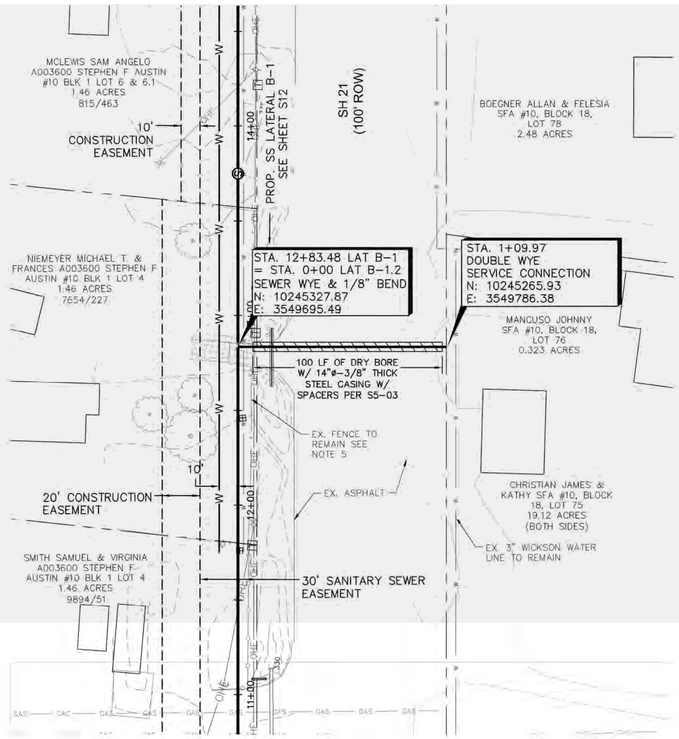

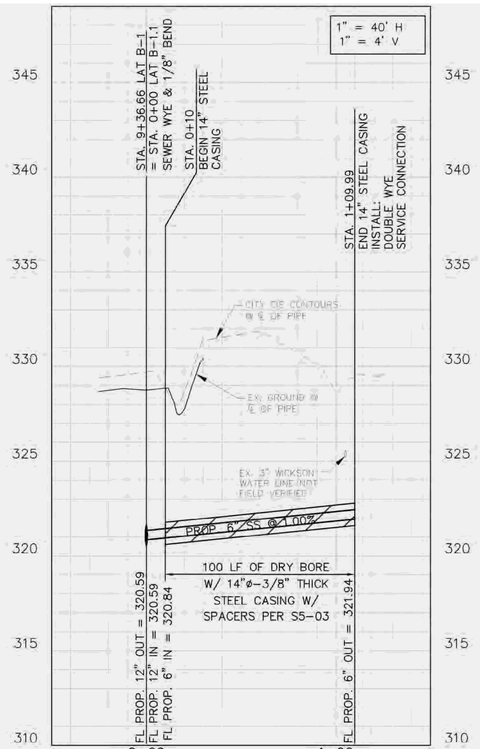

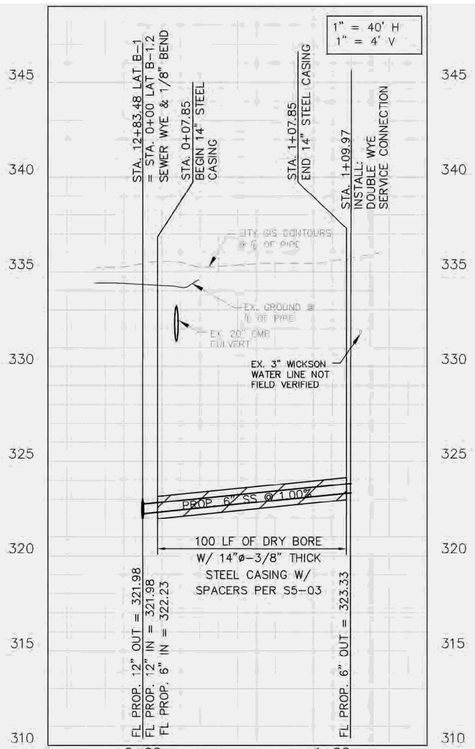

LEGEND

- PROPERTY LINE
- EASEMENT
- SANITARY SEWER
- W — WATER LINE
- W — FUTURE WATER LINE BY OTHERS
- CITY LIMIT
- EX. EDGE OF PAVEMENT
- EX. EASEMENT
- 380 — EX. MAJOR CONTOUR
- 380 — EX. MINOR CONTOUR
- SS — EX. SANITARY SEWER
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- EX. FENCE
- EX. TELE. PEDESTAL
- EX. WATER METER
- PROPOSED BORE PIT

NOTES

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7. TRENCH AND BACKFILL EACH DAY'S WORK AND PLATE OR FENCE ANY OPEN EXCAVATIONS OUTSIDE OF WORKING HOURS.
8. REFER TO SHEETS TP1 — TP5 FOR EXISTING TREE PROTECTION.
9. EX. PAVEMENT IDENTIFIED IN THE PLAN FOR REMOVAL AND REPLACEMENT SHALL BE NEATLY SAW CUT PER ST4—00—ST402.
10. SEE DETAIL S6—01 ON SHT. D2. CONTRACTOR SHALL COORDINATE WITH PLUMBER FOR STANDARD OR DEEP CONNECTION TYPE. CONNECTIONS TO BE INSTALLED AS TAPS ONLY SHALL BE DEEP CONNECTION PROFILE. REF. SHT. G5.
11. CONTRACTOR SHALL COORDINATE WITH POWER POLE OWNER TO BRACE POLE DURING ADJACENT CONSTRUCTION. NO SEPARATE PAY.

No.	REVISIONS	DATE	BY

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7-17-15

KHA PROJECT	061271609
DATE	07/17/15
SCALE	AS SHOWN
DESIGNED BY	TWL
DRAWN BY	TWL
CHECKED BY	JCH

SANITARY SEWER PLAN & PROFILE SH 21 SERVICE CROSSINGS

SH 21 SANITARY SEWER IMPROVMENTS

PREPARED FOR
CITY OF BRYAN
TEXAS

SHEET NUMBER
S20

Plotted By:Lewis, Tyler Sheet Set:Khz Layout:P&P Line B1 — SERVICE LATERALS July 17, 2015 03:33:50pm K:\CST_Civil\061271609-21 SSWR\DWG\Sheet\P&P Line B1 — Laterals.dwg
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