CITY OF TILLAMOOK

SEWER REHABILITATION PROJECT #1

TILLAMOOK, OREGON

CDBG PROJECT NO. P12020

SEPTEMBER 2015 - BID DOCUMENTS

WORK UNDER THIS CONTRACT WILL BE FUNDED IN ITS ENTIRETY WITH FEDERAL GRANT FUNDS FROM THE OREGON COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM.

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20	C15	SANITARY SEWER PLAN AND PROFILE, MAPLE LN. STA. 168+50-STA. 172+50
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37	C32	SANITARY SEWER PLAN AND PROFILE, PINE AVE. STA. 180+00-STA. 183+50
38	C33	SANITARY SEWER PLAN AND PROFILE, ALDER LN. STA. 189+50-STA. 192+50
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40	C35	SANITARY SEWER PLAN AND PROFILE, ALDER LN. STA. 200+00-STA. 204+00
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54	D03	CITY STANDARD DETAILS
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59	PS04	BUILDING DEMOLITION NOTES
60	PS05	BUILDING DEMOLITION PLAN
61	PS06	EXISTING PLAN VIEW - DRY AND WET SIDES
62	PS07	EXISTING SOUTH ELEVATION - DRY AND WET SIDES
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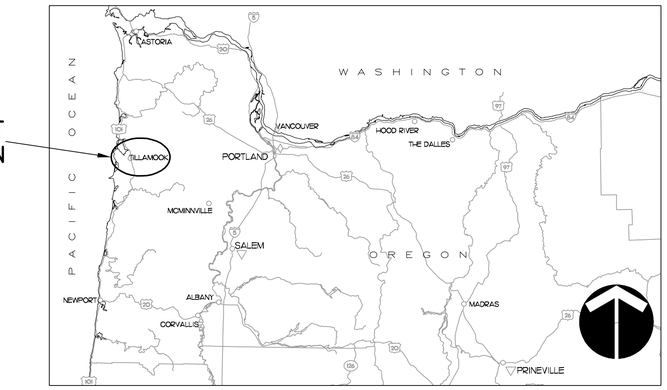
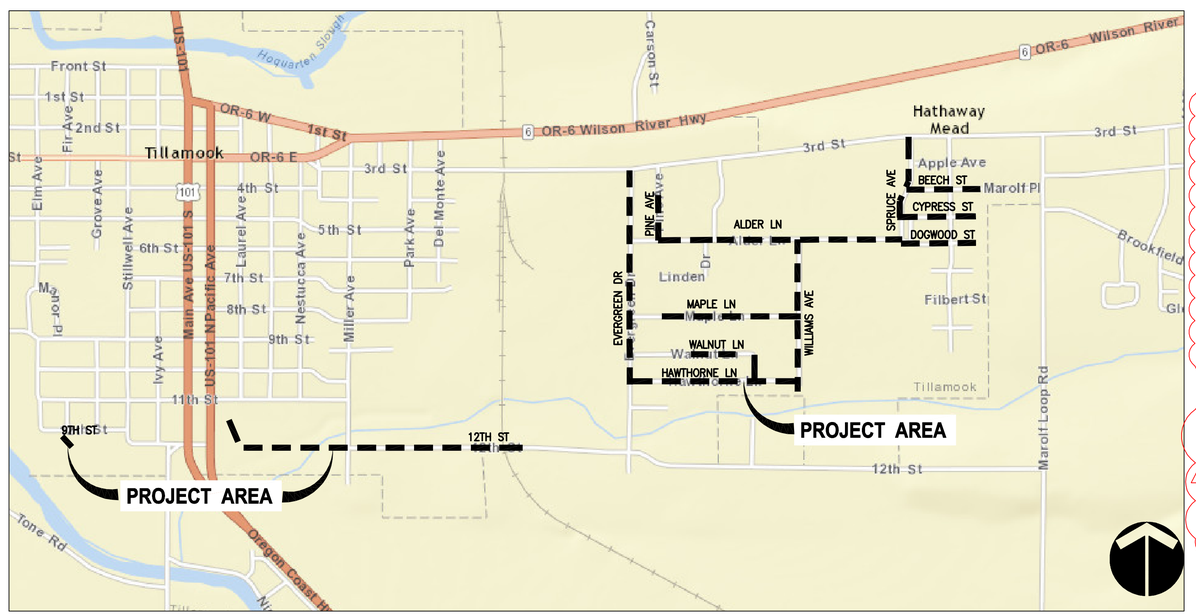
70	PS15	ELECTRICAL PLAN FOR PUMP STATION
71	PS16	K / J POWER CONDUITS (INFO ONLY)
72	PS17	K / J POWER CONDUITS (INFO ONLY)
73	PS18	K / J POWER CONDUITS (INFO ONLY)
74	PS19	K / J POWER CONDUITS (INFO ONLY)

PROJECT LOCATION



REGIONAL MAP

N.T.S.



VICINITY MAP

N.T.S.

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SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
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1 OTAK SURVEY 9-9-2016

OTAK INSPECTOR (JODY SOUTH) DATE VARIES

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G01

Sheet No. 1 of 74

LOCATION	SHEETS	PIPE SIZE*	BID SCHEDULE
12th STREET PS	PS01–PS19	–	BASE BID
12th ST. TRUNK	C01–C06	18–INCH	BASE BID
EVERGREEN DR. – SOUTH	C08–C09	10–INCH	BASE BID
MAPLE LN.	C13–C16	10–INCH	BASE BID
NORTH WILLIAMS AVE.	C19–C20	10–INCH	BASE BID
EVERGREEN DR. – NORTH OPEN CUT	C09–C12	8–INCH	ALTERNATE A
EVERGREEN DR. – NORTH CIPP	(C43–C46)	8–INCH	ALTERNATE B
FM DISCHARGE	C07	18–INCH	BID ADDITIVE #1
EAST ALDER LN.	C21–C23	10–INCH	BID ADDITIVE #1
SPRUCE AVE.	C24–C25	8 & 10–INCH	BID ADDITIVE #2
HAWTHORNE LN.	C26–C29	8–INCH	BID ADDITIVE #3
WALNUT LN.	C30–C31	8–INCH	BID ADDITIVE #3
SOUTH WILLIAMS AVE.	C17–C18	8–INCH	BID ADDITIVE #3
PINE AVE.	C32	8–INCH	BID ADDITIVE #3
WEST ALDER LN.	C33–C36	8–INCH	BID ADDITIVE #3
BEECH ST.	C37–C38	8–INCH	BID ADDITIVE #3
CYPRESS ST.	C39–C40	8–INCH	BID ADDITIVE #3
DOGWOOD ST.	C41–C42	8–INCH	BID ADDITIVE #3

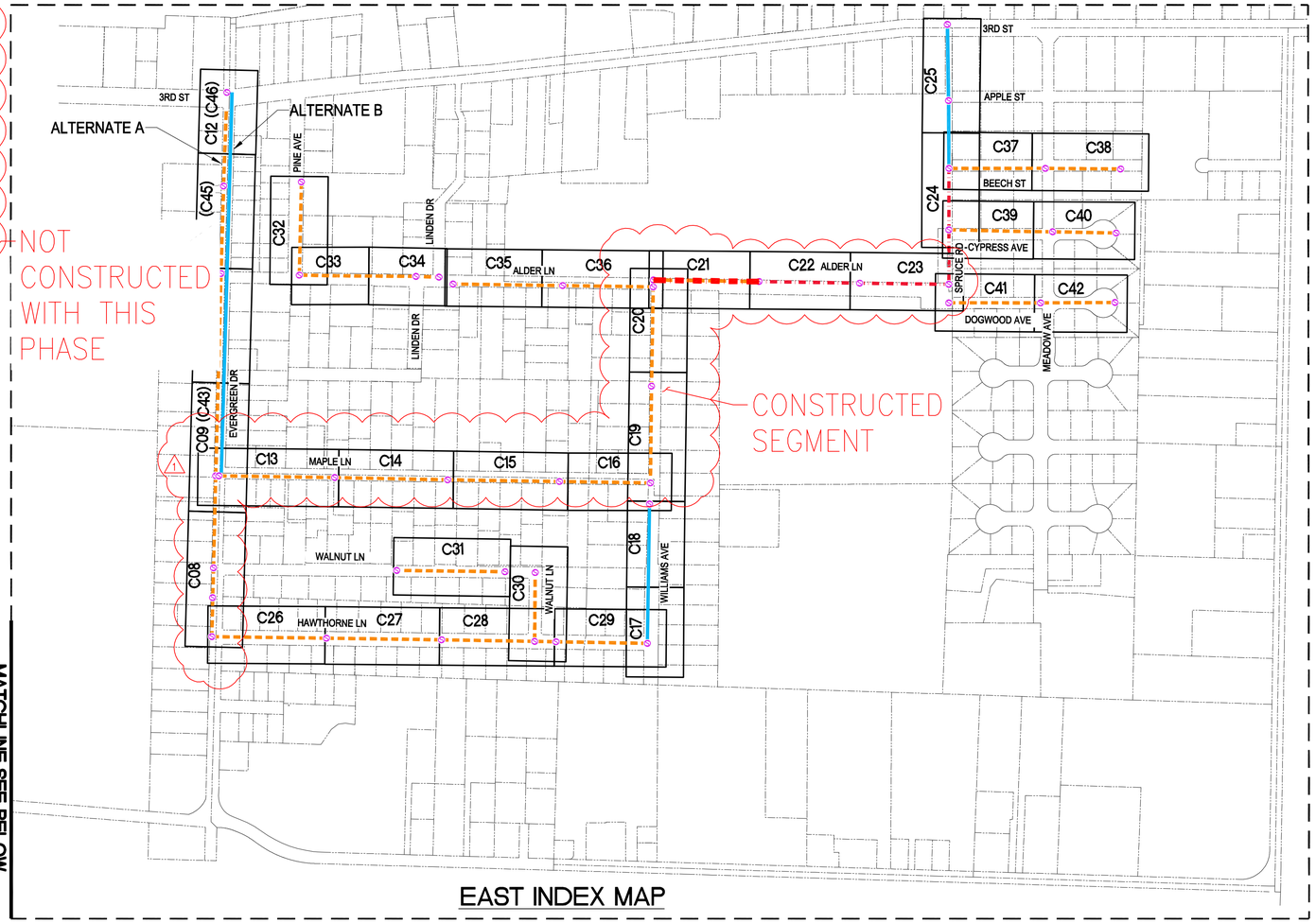
*PROPOSED DIAM. FOR OPEN–CUT AND PIPE BURST, EX. DIAM. FOR CIPP

1 AS–BUILT REDLINES BY OTAK

NOT CONSTRUCTED WITH THIS PHASE

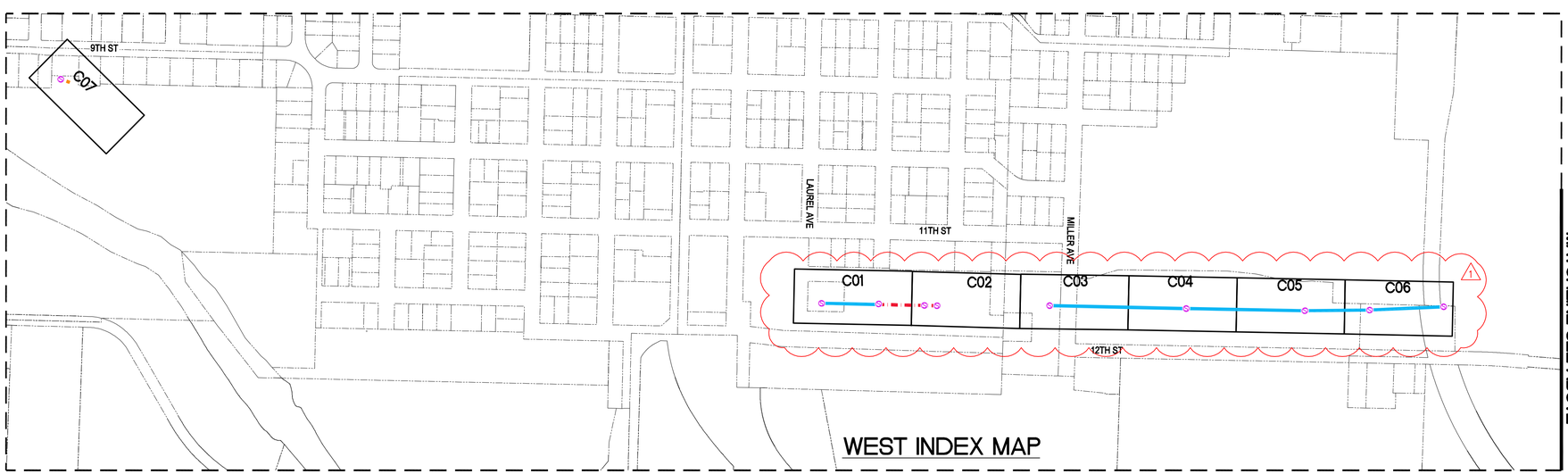
NOT CONSTRUCTED WITH THIS PHASE

CONSTRUCTED SEGMENT



EAST INDEX MAP

MATCHLINE SEE BELOW



WEST INDEX MAP

MATCHLINE SEE ABOVE

LEGEND

- OPEN CUT– SEWER PIPE REPLACEMENT
- PIPE BURSTING– SEWER PIPE REPLACEMENT
- CIPP– SEWER PIPE REHABILITATION
- EXISTING SEWER MANHOLE

250 0 250 500 HORIZ

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SEPTEMBER, 2016
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G03

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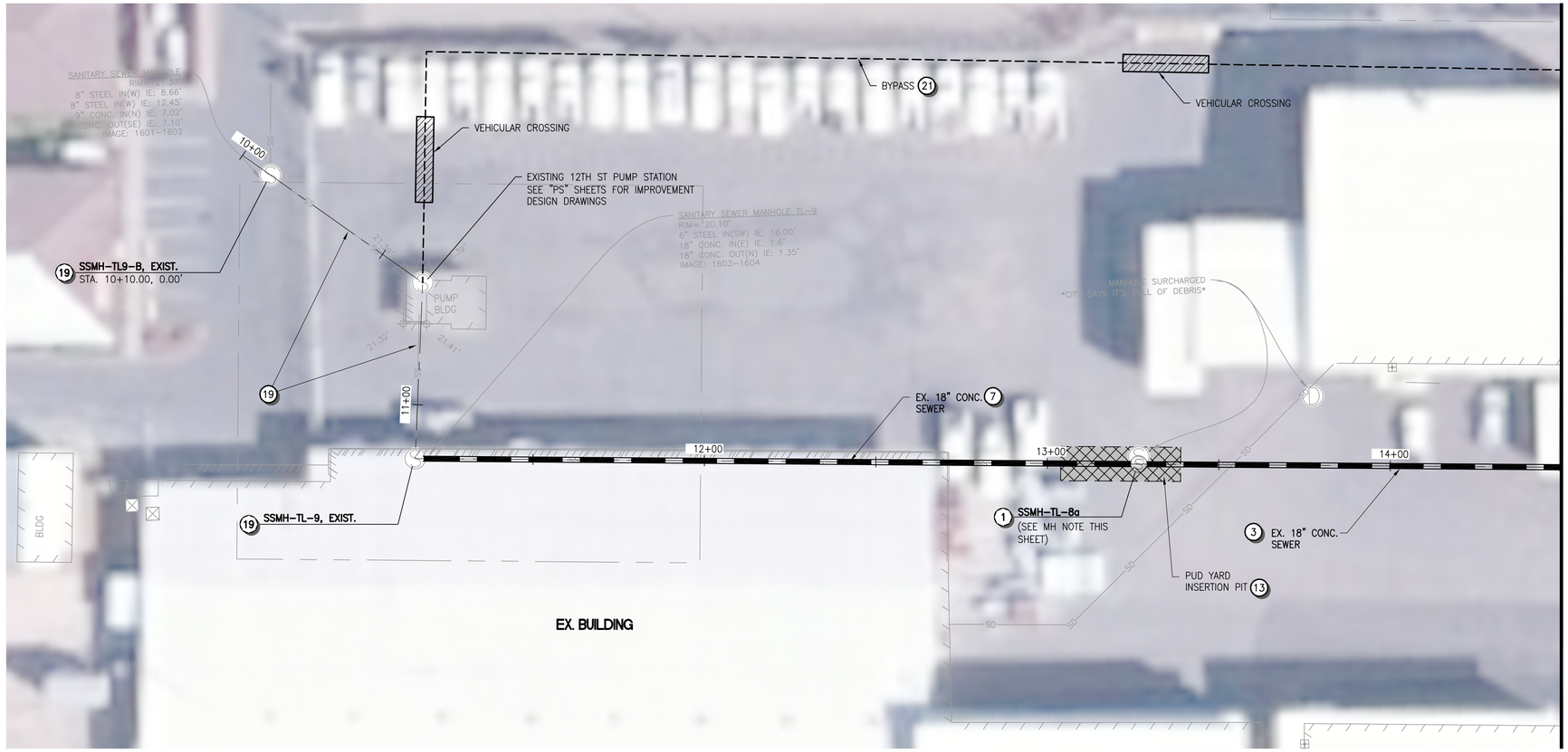
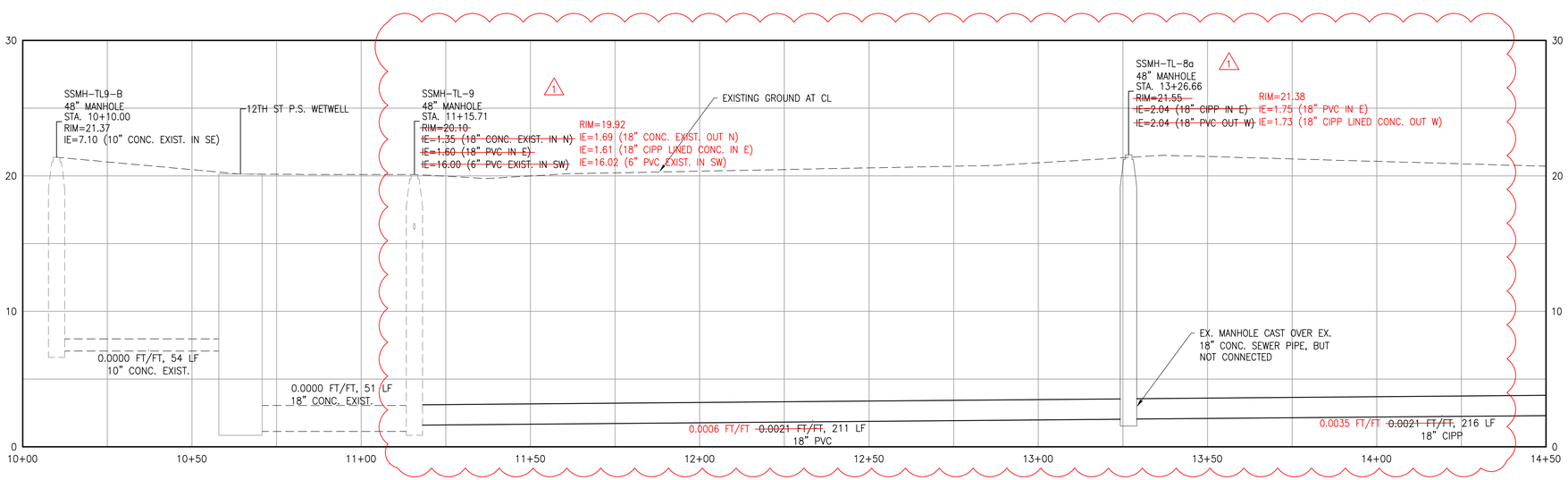


PLAN



PROFILE

GENERAL NOTES

1 SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL

2 LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

1 INSTALL SEWER MANHOLE PER COT STD DWG 010 ON SHEET D01

3 EXISTING PIPE TO BE REPLACED BY PIPE BURSTING. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE

7 REHABILITATE EXIST PIPE BY CIPP

13 ANTICIPATED LOCATION OF PIPE BURST PIT. CONTRACTOR TO FIELD VERITY. SAWCUT REQUIRED FOR PITS LOCATED IN PAVEMENT AREAS. BACKFILL MATERIAL AND COMPACTION REQUIREMENTS PER COT STD DWG 590. RESURFACING TO MATCH EXISTING CONDITIONS UNLESS OTHERWISE SPECIFIED.

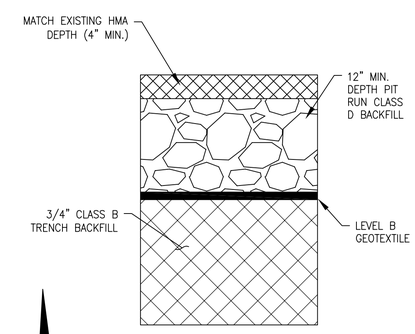
19 EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

21 SEWER BYPASS CONFIGURATION REQUIRED BY TPUD. SEE SECTION 490.40 OF SPECIAL PROVISIONS FOR ADDITIONAL TPUD REQUIREMENTS.

1 AS-BUILT REDLINES BY OTAK

MH NOTE

REMOVE EX. MANHOLE AND INSTALL NEW 48" SEWER MANHOLE FOLLOWING PIPE BURSTING OPERATIONS. USE 18" SPOOLS AND COUPLINGS TO CONNECT NEW MANHOLE TO 18" SEWER PIPES.



TPUD TRENCH/PIT RESTORATION SECTION

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APPROVED: R. BILLEN
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Project No. 67522
C01
Sheet No. 6 of 74

Sep 28, 2016 - 9:59am
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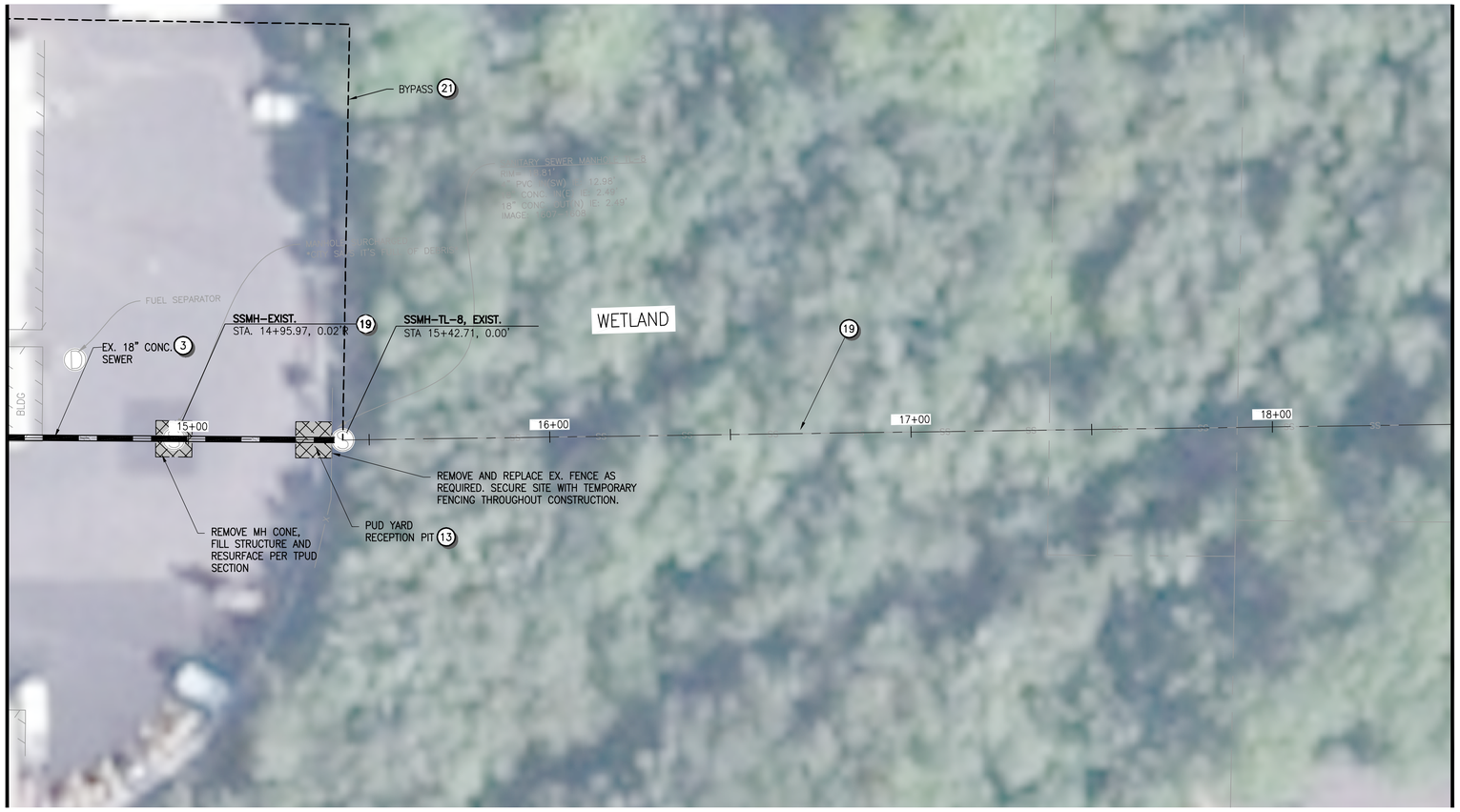
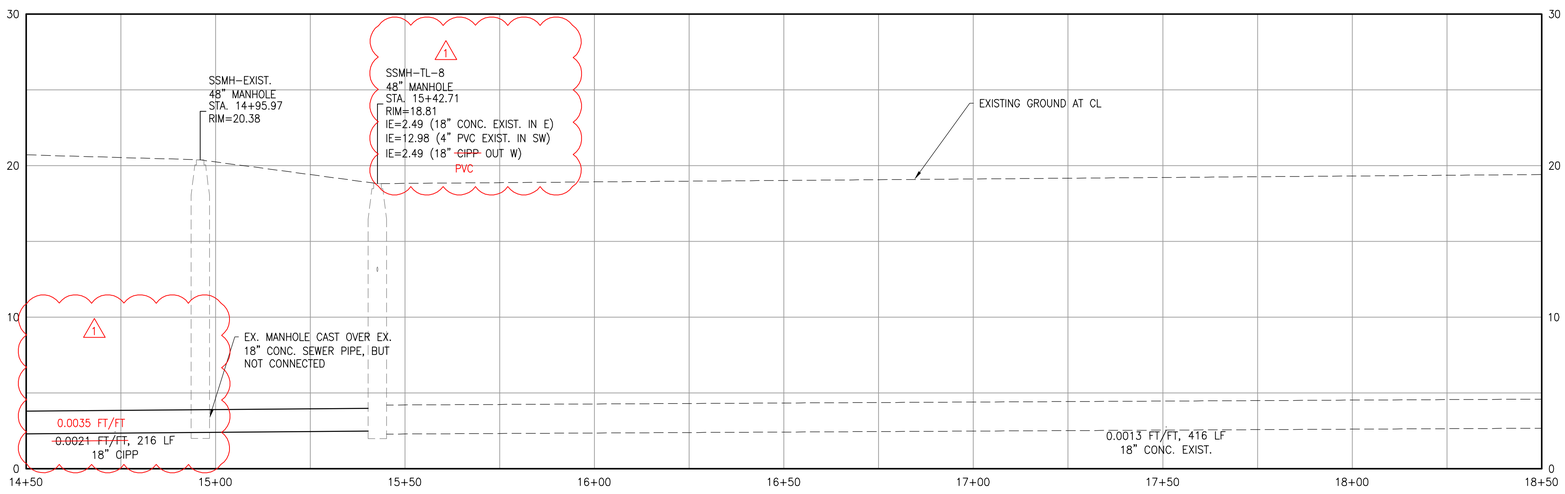
MATCHLINE STA. 14+50 SEE SHEET C01



MATCHLINE STA. 18+50 SEE SHEET C03

PLAN



PROFILE

GENERAL NOTES

1 SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL

2 LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

3 EXISTING PIPE TO BE REPLACED BY PIPE BURSTING. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE

13 ANTICIPATED LOCATION OF PIPE BURST PIT. CONTRACTOR TO FIELD VERITY. SAWCUT REQUIRED FOR PITS LOCATED IN PAVEMENT AREAS. BACKFILL MATERIAL AND COMPACTION REQUIREMENTS PER COT STD DWG 590. RESURFACING TO MATCH EXISTING CONDITIONS UNLESS OTHERWISE SPECIFIED.

19 EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

21 SEWER BYPASS CONFIGURATION REQUIRED BY TPUD. SEE SECTION 490.40 OF SPECIAL PROVISIONS FOR ADDITIONAL TPUD REQUIREMENTS.

1 AS-BUILT REDLINES BY OTAK

** WETLAND PROTECTION NOTE **

EXISTING WETLAND TO BE PROTECTED PER ENVIRONMENTAL PERMIT REQUIREMENTS.

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5 0 5 10 VERT
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APPROVED: R. BILLEN
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C02

Sheet No. 7 of 74

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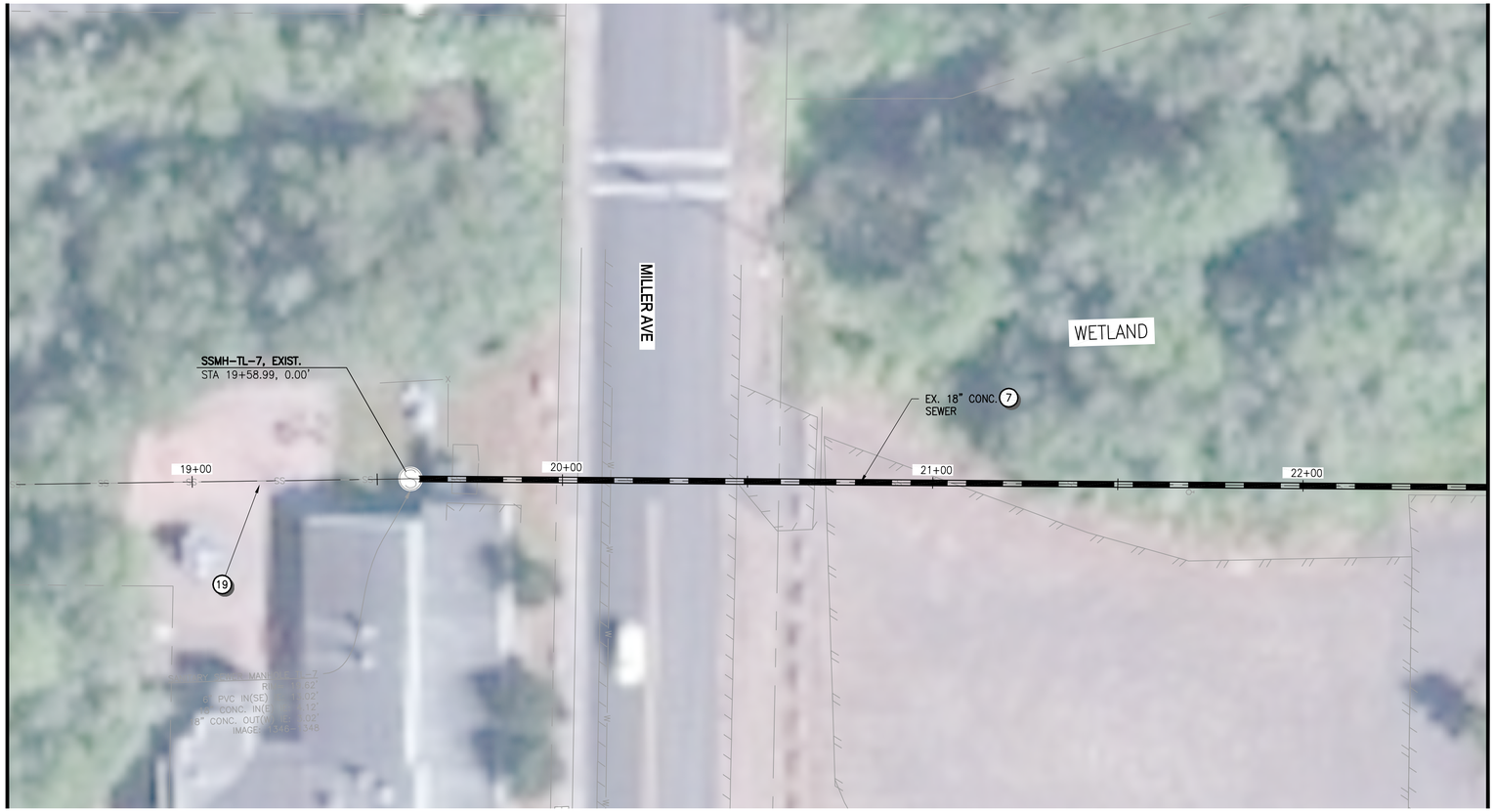
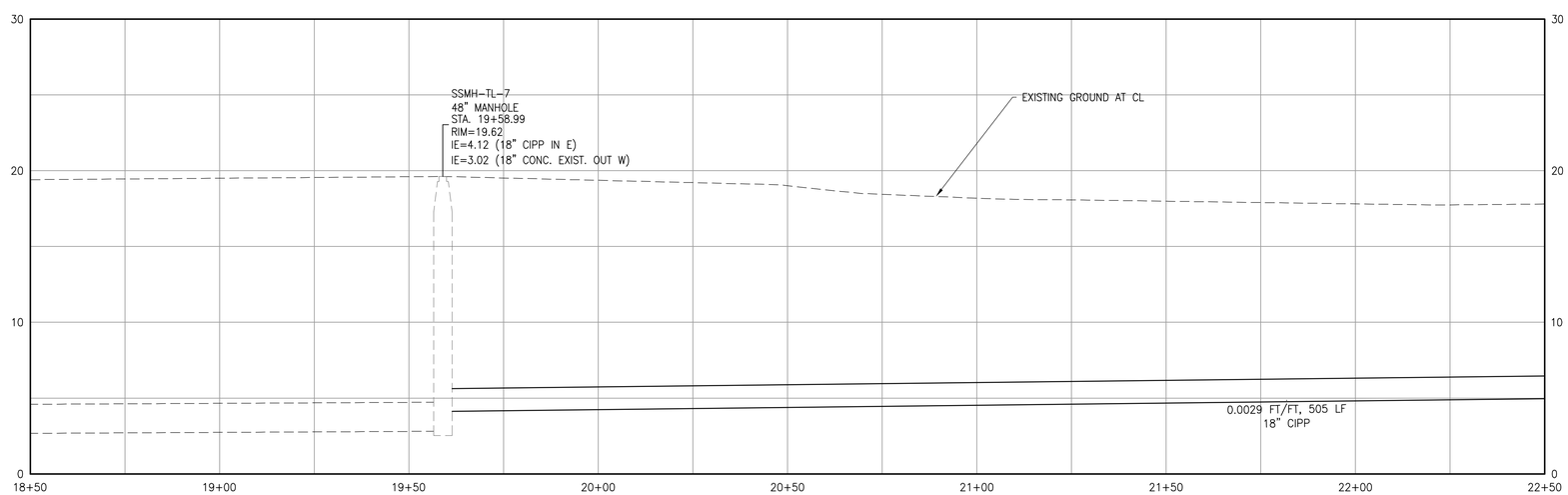
MATCHLINE STA. 18+50 SEE SHEET C02



MATCHLINE STA. 22+50 SEE SHEET C04

PLAN



PROFILE

GENERAL NOTES

1. SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL
2. LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1. INLET PROTECTION PER STD DWG RD1015 ON SHEET D04
2. SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

7. REHABILITATE EXIST PIPE BY CIPP
19. EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

** WETLAND PROTECTION NOTE **

EXISTING WETLAND TO BE PROTECTED PER ENVIRONMENTAL PERMIT REQUIREMENTS.

SCALE IN FEET: 20 0 20 40 HORIZ; 5 0 5 10 VERT

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C03
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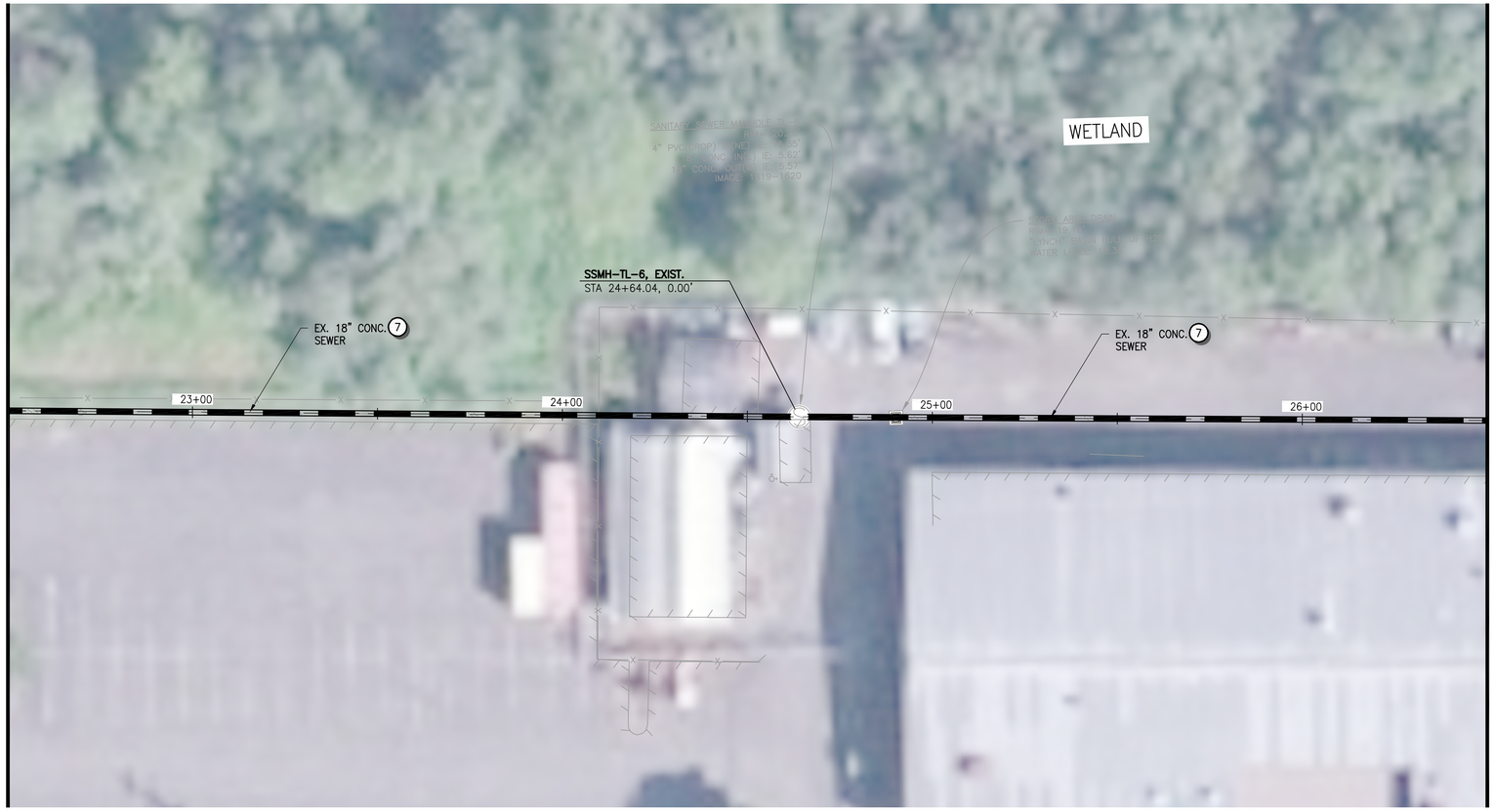
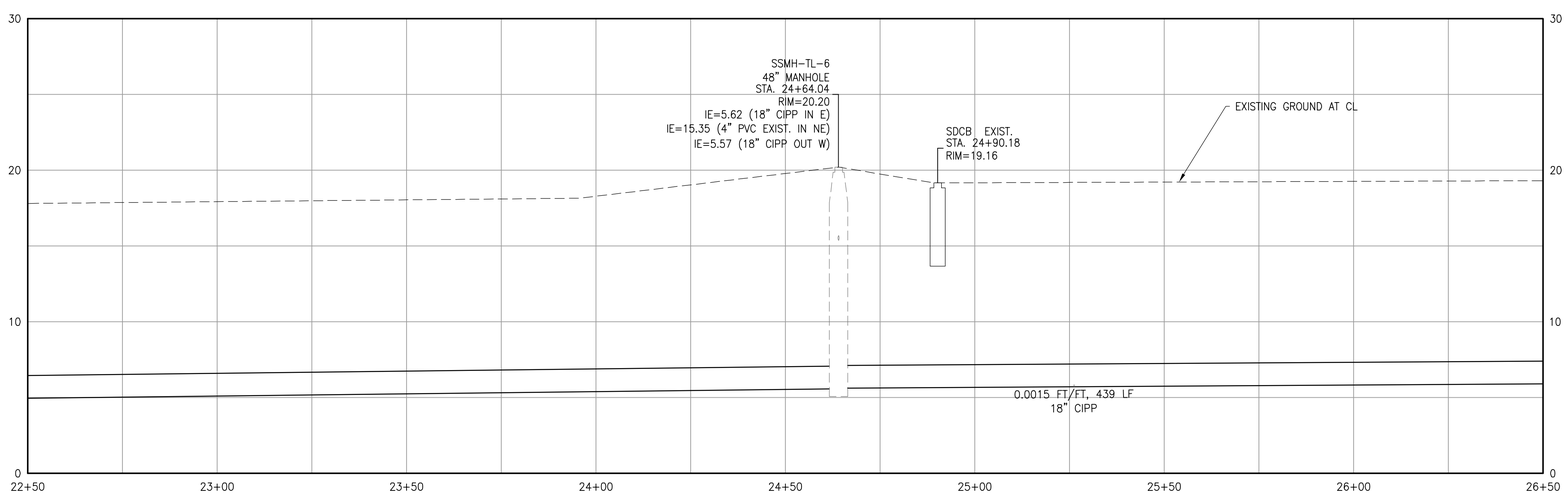
MATCHLINE STA. 22+50 SEE SHEET C03



MATCHLINE STA. 26+50 SEE SHEET C05

PLAN



PROFILE

GENERAL NOTES

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1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

7 REHABILITATE EXIST PIPE BY CIPP

** WETLAND PROTECTION NOTE **

EXISTING WETLAND TO BE PROTECTED PER ENVIRONMENTAL PERMIT REQUIREMENTS.

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C04

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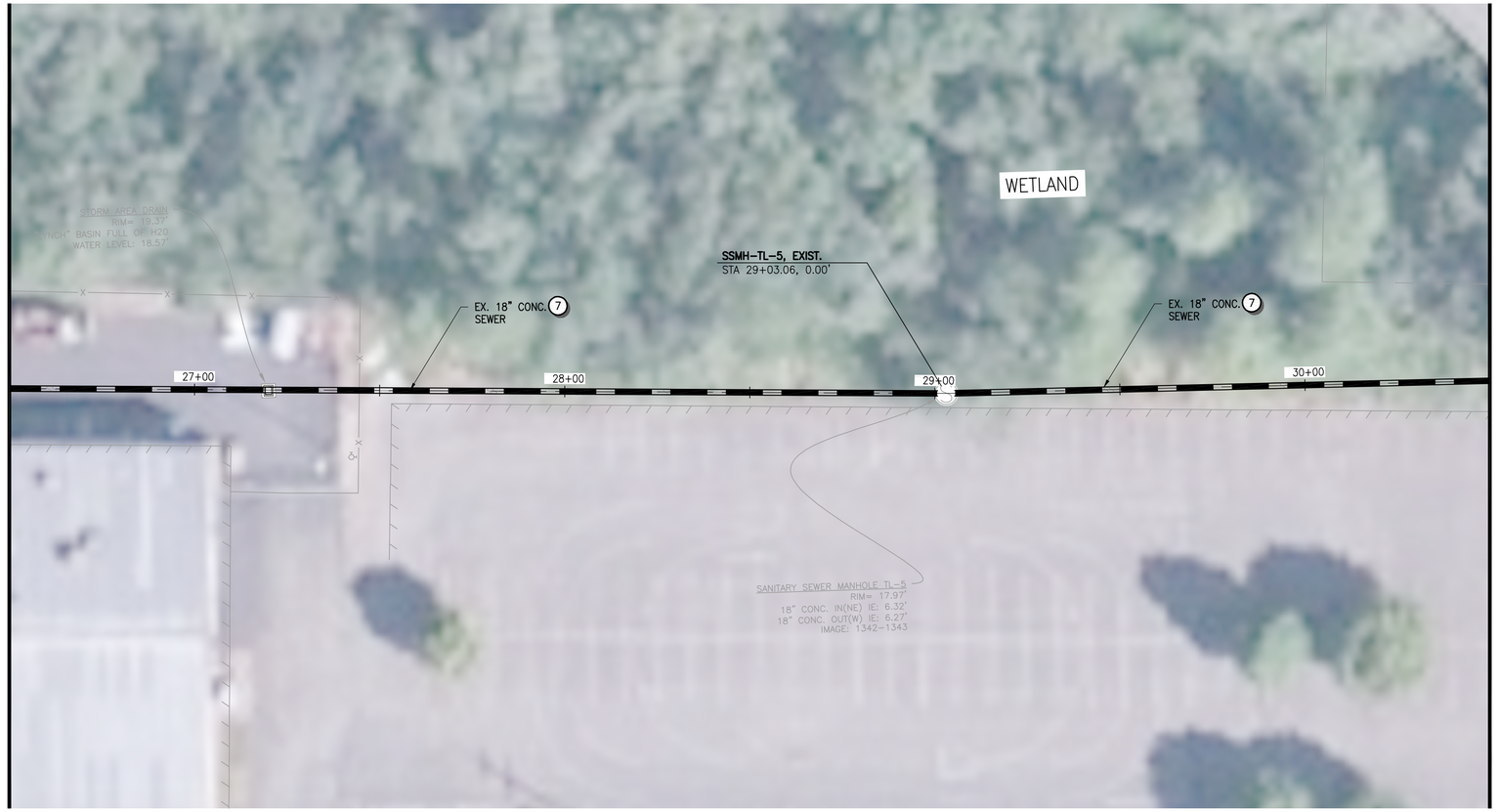
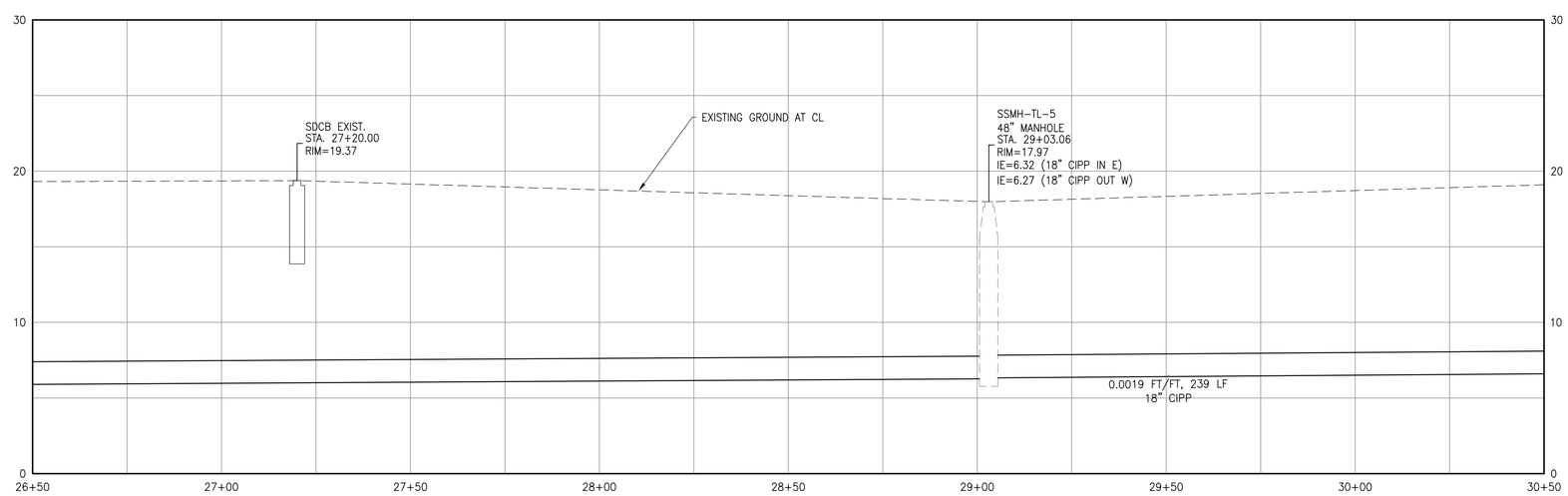
MATCHLINE STA. 26+50 SEE SHEET C04



MATCHLINE STA. 30+50 SEE SHEET C06

PLAN



PROFILE

GENERAL NOTES

1. SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL
2. LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1. INLET PROTECTION PER STD DWG RD1015 ON SHEET D04
2. SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

7. REHABILITATE EXIST PIPE BY CIPP

** WETLAND PROTECTION NOTE **

EXISTING WETLAND TO BE PROTECTED PER ENVIRONMENTAL PERMIT REQUIREMENTS.

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C05

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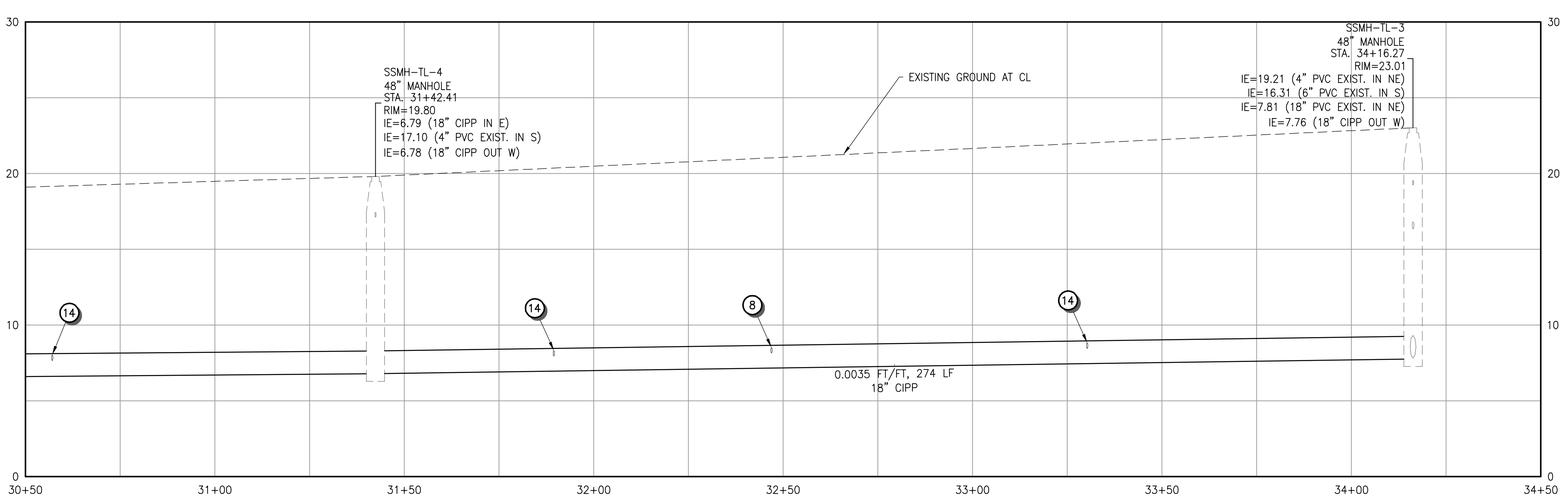
MATCHLINE STA. 30+50 SEE SHEET C05

PLAN



PROFILE

GENERAL NOTES

1. SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL
2. LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1. INLET PROTECTION PER STD DWG RD1015 ON SHEET D04
2. SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

7. REHABILITATE EXIST PIPE BY CIPP
8. EXISTING LATERAL IS CAPPED AND SHALL NOT BE RECONNECTED TO REHABILITATED SEWER MAIN.
14. AFTER MAINLINE CIPP WORK IS ACCEPTED, RECONNECT SERVICE LINE AND INSTALL CURED-IN-PLACE LATERAL LINER ASSEMBLY. LINER ASSEMBLY SHALL EXTEND 3FT MIN. INTO LATERAL. EXISTING LATERAL SIZE AND MATERIAL TYPE SHALL BE VERIFIED BY VIDEO INSPECTION PRIOR TO CIPP WORK.

** WETLAND PROTECTION NOTE **

EXISTING WETLAND TO BE PROTECTED PER ENVIRONMENTAL PERMIT REQUIREMENTS.

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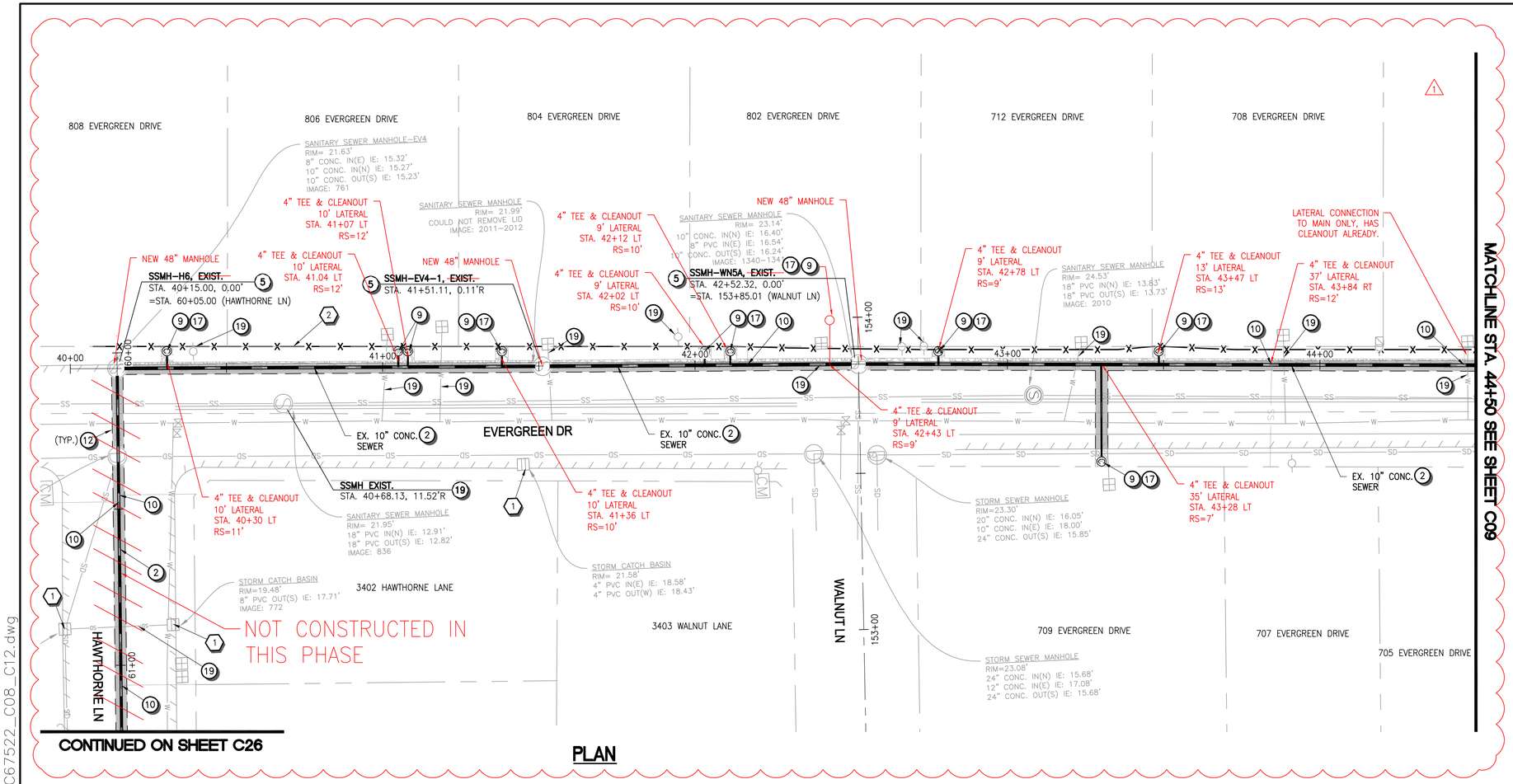

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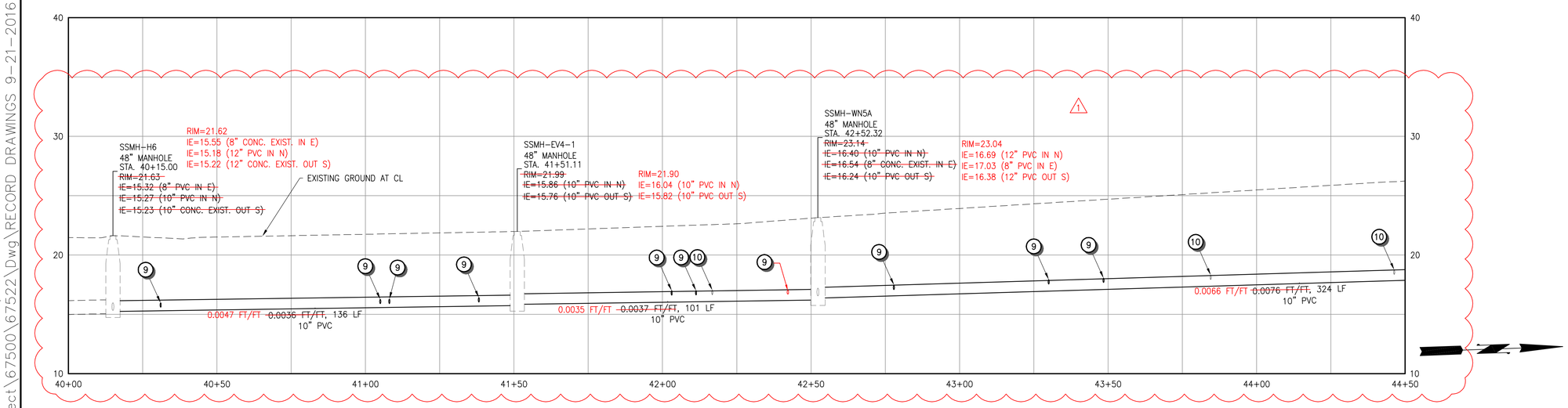

PROFILE

GENERAL NOTES

1 SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL

2 LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

2 REMOVE EXISTING CONCRETE PIPE AND REPLACE WITH GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE

5 CONNECT PIPE TO EX. MANHOLE USING KOR-N-SEAL BOOT; VERIFY INVERT ELEVATION PRIOR TO CONSTRUCTION. CORE AND RECHANNEL EXIST MANHOLE BASE AS NECESSARY

9 INSTALL TEE, REMOVE EXISTING LATERAL AND REPLACE WITH 4" PVC PIPE FROM REHABILITATED SEWER MAIN TO RIGHT-OF-WAY LINE, PER COT STD DWGS 520 AND 590 ON SHEET D02. INSTALL SANITARY SEWER CLEANOUT AT RIGHT-OF-WAY LINE PER DETAIL 500 ON SHEET D02 AND CONNECT TO EXIST LATERAL.

10 INSTALL TEE AND CONNECT EX. SEWER LATERAL TO REHABILITATED SEWER MAIN PER COT STD DWG 520 ON SHEET D02.

12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

17 RESURFACE DISTURBED LANDSCAPE AND/OR HARDSCAPE FEATURES TO MATCH EXISTING CONDITIONS. SEE COT STD DWG 590 ON SHEET D02 FOR LANDSCAPE BACKFILL REQUIREMENTS OUTSIDE OF THE RIGHT-OF-WAY.

19 EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

1 AS-BUILT REDLINES BY OTAK

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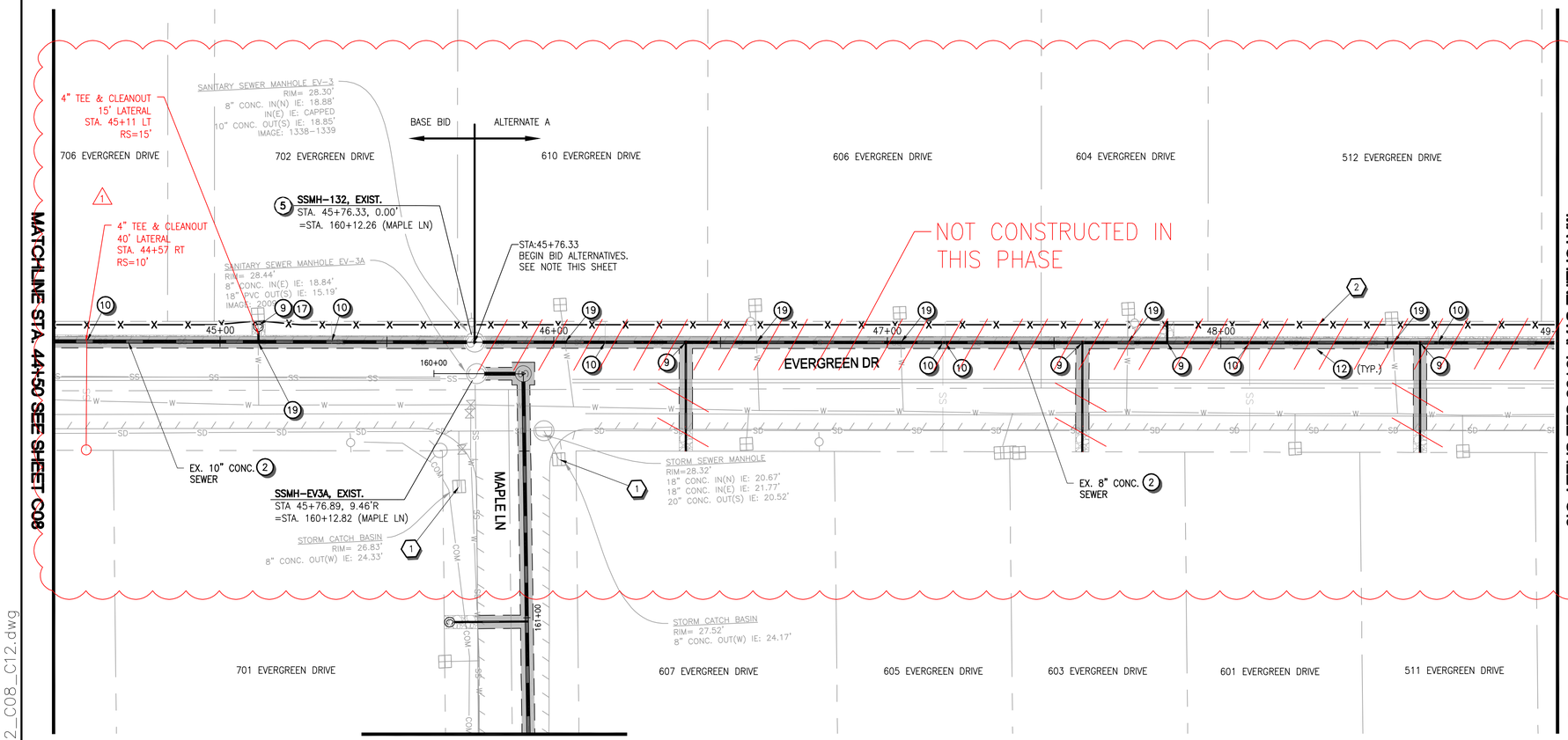

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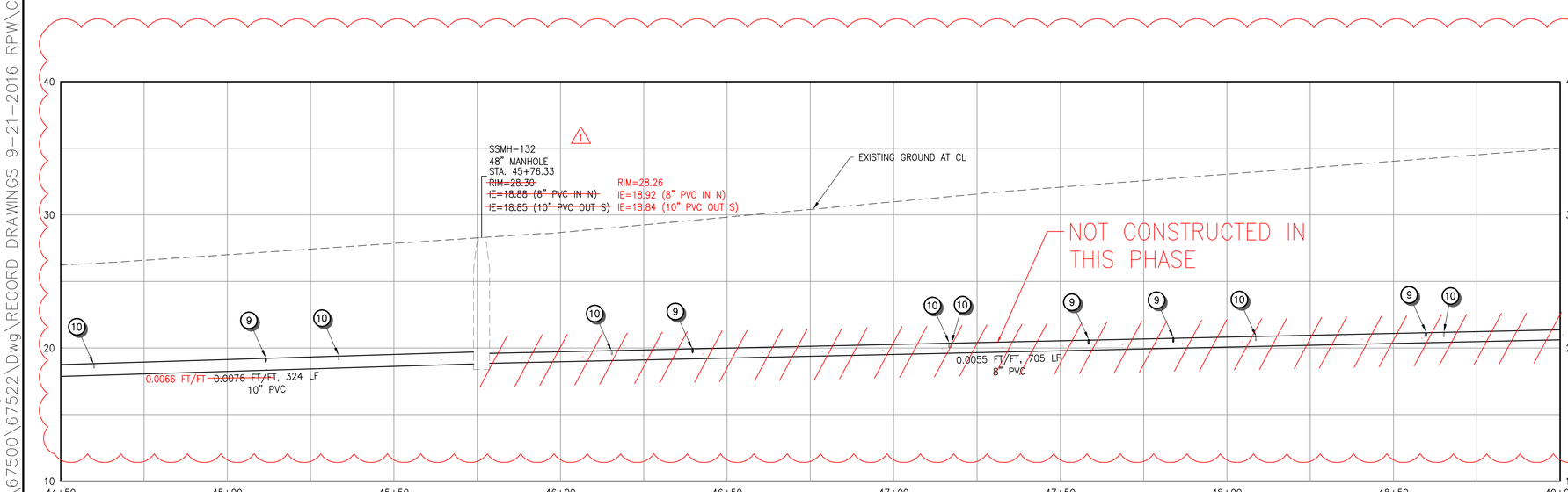

PROFILE

AS-BUILT REDLINES BY OTAK

GENERAL NOTES

1 SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL

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EROSION CONTROL NOTES

1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

2 REMOVE EXISTING CONCRETE PIPE AND REPLACE WITH GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE

5 CONNECT PIPE TO EX. MANHOLE USING KOR-N-SEAL BOOT; VERIFY INVERT ELEVATION PRIOR TO CONSTRUCTION. CORE AND RECHANNEL EXIST MANHOLE BASE AS NECESSARY

9 INSTALL TEE, REMOVE EXISTING LATERAL AND REPLACE WITH 4" PVC PIPE FROM REHABILITATED SEWER MAIN TO RIGHT-OF-WAY LINE, PER COT STD DWGS 520 AND 590 ON SHEET D02. INSTALL SANITARY SEWER CLEANOUT AT RIGHT-OF-WAY LINE PER DETAIL 500 ON SHEET D02 AND CONNECT TO EXIST LATERAL.

10 INSTALL TEE AND CONNECT EX. SEWER LATERAL TO REHABILITATED SEWER MAIN PER COT STD DWG 520 ON SHEET D02.

12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

17 RESURFACE DISTURBED LANDSCAPE AND/OR HARDSCAPE FEATURES TO MATCH EXISTING CONDITIONS. SEE COT STD DWG 590 ON SHEET D02 FOR LANDSCAPE BACKFILL REQUIREMENTS OUTSIDE OF THE RIGHT-OF-WAY.

19 EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

** BID ALTERNATE NOTES **

BID ALTERNATE A (EVERGREEN DR. NORTH – OPEN CUT) SHOWN. SEE SHEETS C43 TO C46 FOR BID ALTERNATE B (EVERGREEN DR. NORTH – CIPP) PLAN AND PROFILE. LATERAL PLACEMENT LOCATIONS AND QUANTITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.

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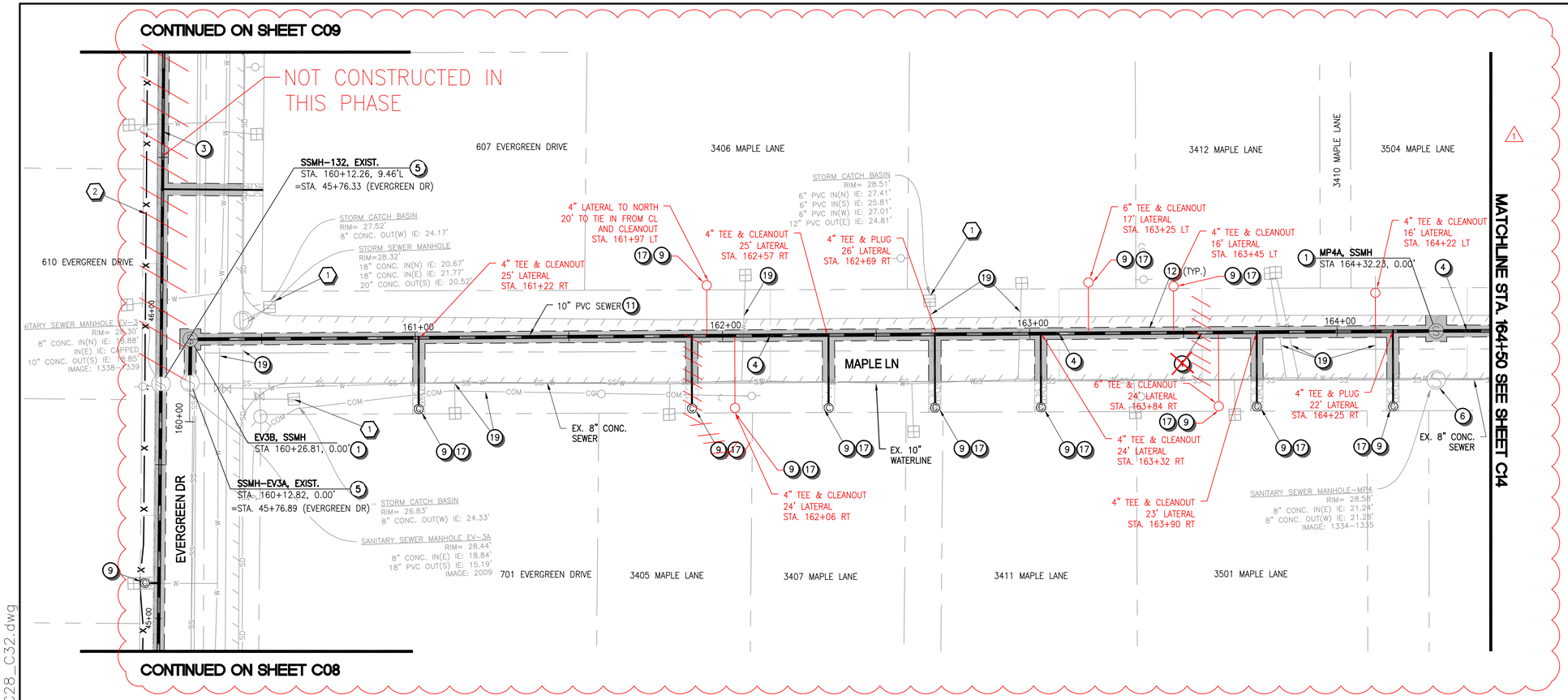

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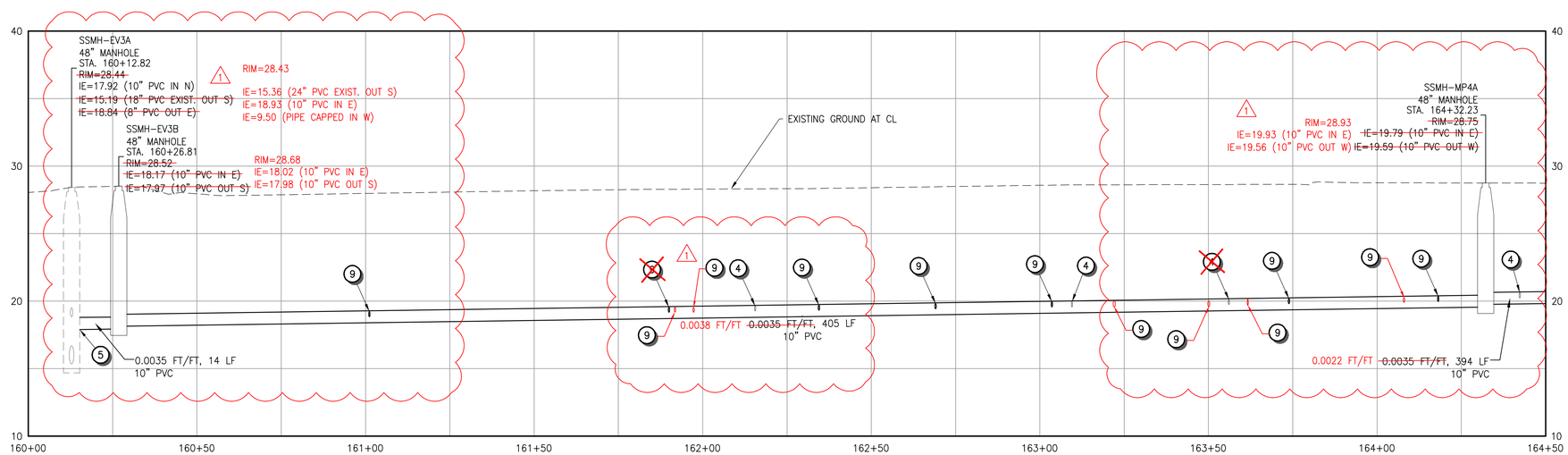

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GENERAL NOTES

1. SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL
2. LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1. INLET PROTECTION PER STD DWG RD1015 ON SHEET D04
2. SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

1. INSTALL SEWER MANHOLE PER COT STD DWG 010 ON SHEET D01
3. EXISTING PIPE TO BE REPLACED BY PIPE BURSTING. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE
4. INSTALL TEE AND CONNECT EX. SEWER LATERAL TO NEW SEWER MAIN PER COT STD DWG 520 ON SHEET D02. PLUG EXISTING LATERAL DOWNSTREAM OF CONNECTION POINT.
5. CONNECT PIPE TO EX. MANHOLE USING KOR-N-SEAL BOOT; VERIFY INVERT ELEVATION PRIOR TO CONSTRUCTION. CORE AND RECHANNEL EXIST MANHOLE BASE AS NECESSARY
6. FILL AND ABANDON EXISTING MANHOLE AND ABANDON EXISTING GRAVITY SEWER PIPES IN PLACE FOLLOWING ACCEPTANCE OF NEW GRAVITY SEWER.
9. INSTALL TEE, REMOVE EXISTING LATERAL AND REPLACE WITH 4" PVC PIPE FROM REHABILITATED SEWER MAIN TO RIGHT-OF-WAY LINE, PER COT STD DWGS 520 AND 590 ON SHEET D02. INSTALL SANITARY SEWER CLEANOUT AT RIGHT-OF-WAY LINE PER DETAIL 500 ON SHEET D02 AND CONNECT TO EXIST LATERAL.
11. CONSTRUCT NEW GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE.
12. SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.
17. RESURFACE DISTURBED LANDSCAPE AND/OR HARDSCAPE FEATURES TO MATCH EXISTING CONDITIONS. SEE COT STD DWG 590 ON SHEET D02 FOR LANDSCAPE BACKFILL REQUIREMENTS OUTSIDE OF THE RIGHT-OF-WAY.
19. EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

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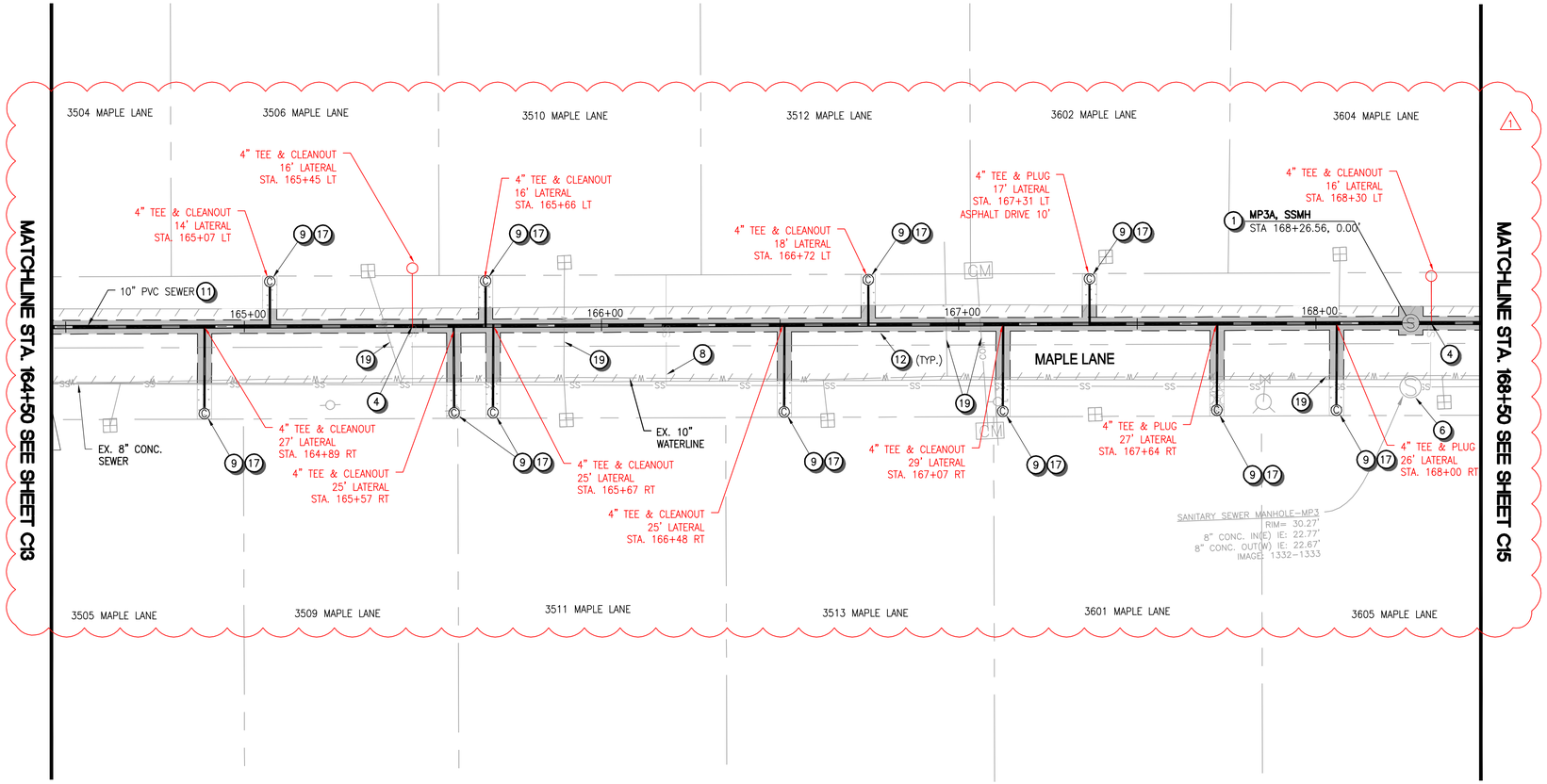

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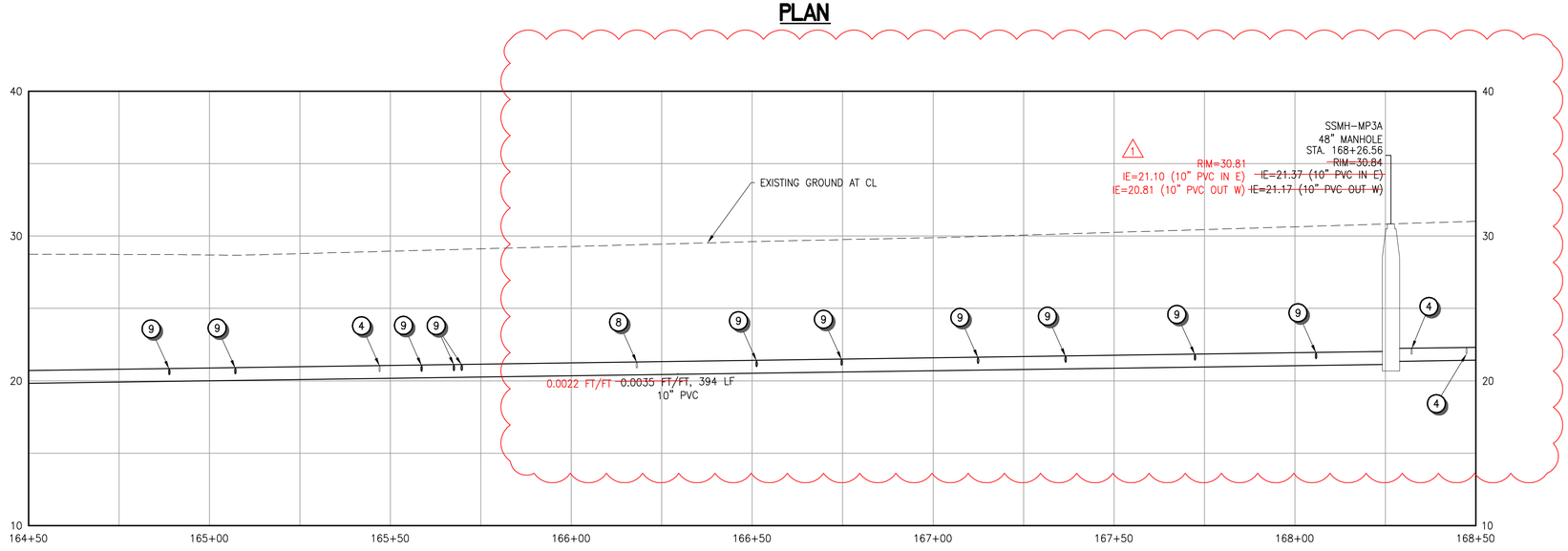

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GENERAL NOTES

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EROSION CONTROL NOTES

1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

1 INSTALL SEWER MANHOLE PER COT STD DWG 010 ON SHEET D01

4 INSTALL TEE AND CONNECT EX. SEWER LATERAL TO NEW SEWER MAIN PER COT STD DWG 520 ON SHEET D02. PLUG EXISTING LATERAL DOWNSTREAM OF CONNECTION POINT.

6 FILL AND ABANDON EXISTING MANHOLE AND ABANDON EXISTING GRAVITY SEWER PIPES IN PLACE FOLLOWING ACCEPTANCE OF NEW GRAVITY SEWER.

8 EXISTING LATERAL IS CAPPED AND SHALL NOT BE RECONNECTED TO REHABILITATED SEWER MAIN.

9 INSTALL TEE, REMOVE EXISTING LATERAL AND REPLACE WITH 4" PVC PIPE FROM REHABILITATED SEWER MAIN TO RIGHT-OF-WAY LINE, PER COT STD DWGS 520 AND 590 ON SHEET D02. INSTALL SANITARY SEWER CLEANOUT AT RIGHT-OF-WAY LINE PER DETAIL 500 ON SHEET D02 AND CONNECT TO EXIST LATERAL.

11 CONSTRUCT NEW GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE.

12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

17 RESURFACE DISTURBED LANDSCAPE AND/OR HARDSCAPE FEATURES TO MATCH EXISTING CONDITIONS. SEE COT STD DWG 590 ON SHEET D02 FOR LANDSCAPE BACKFILL REQUIREMENTS OUTSIDE OF THE RIGHT-OF-WAY.

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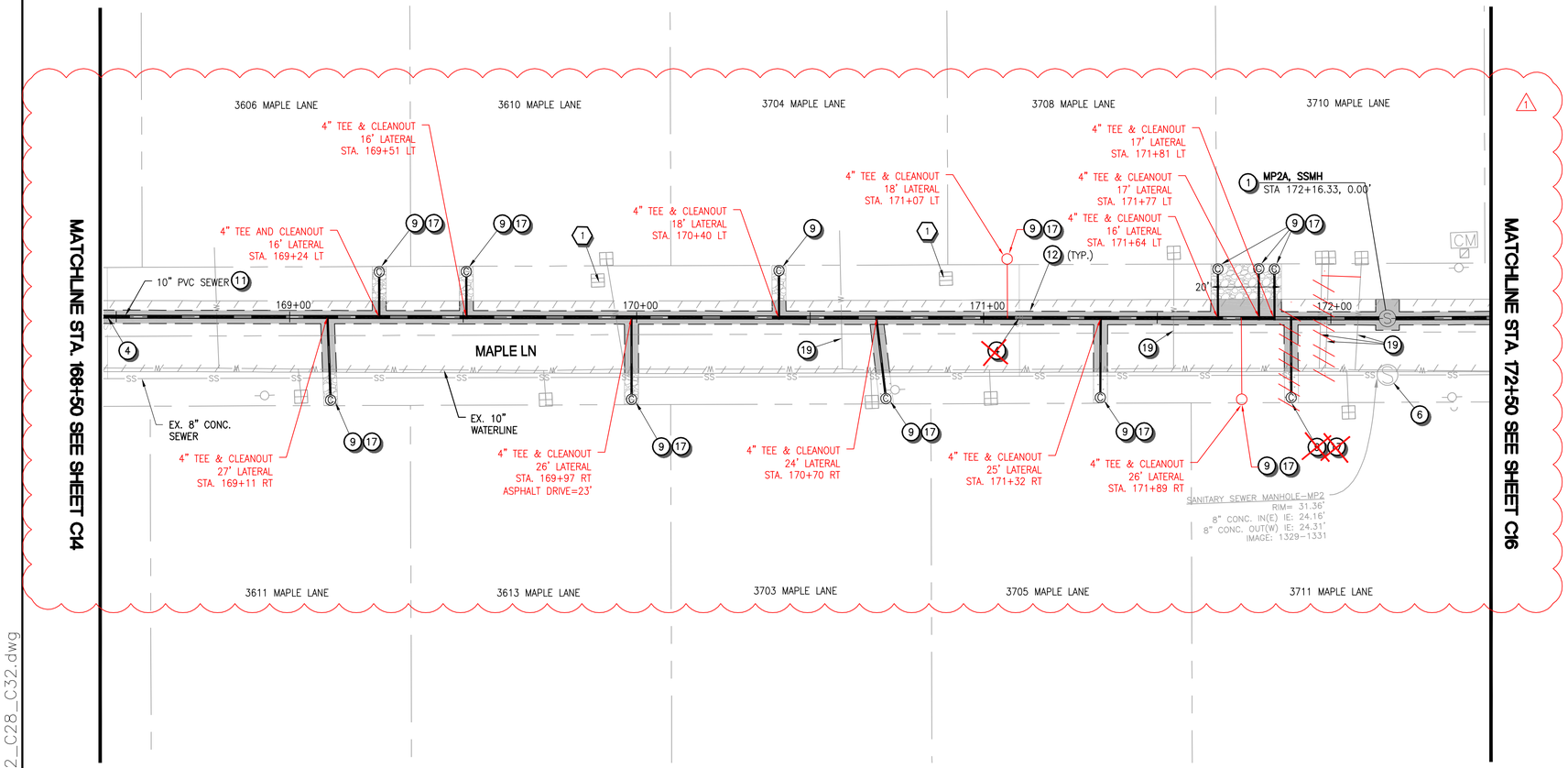

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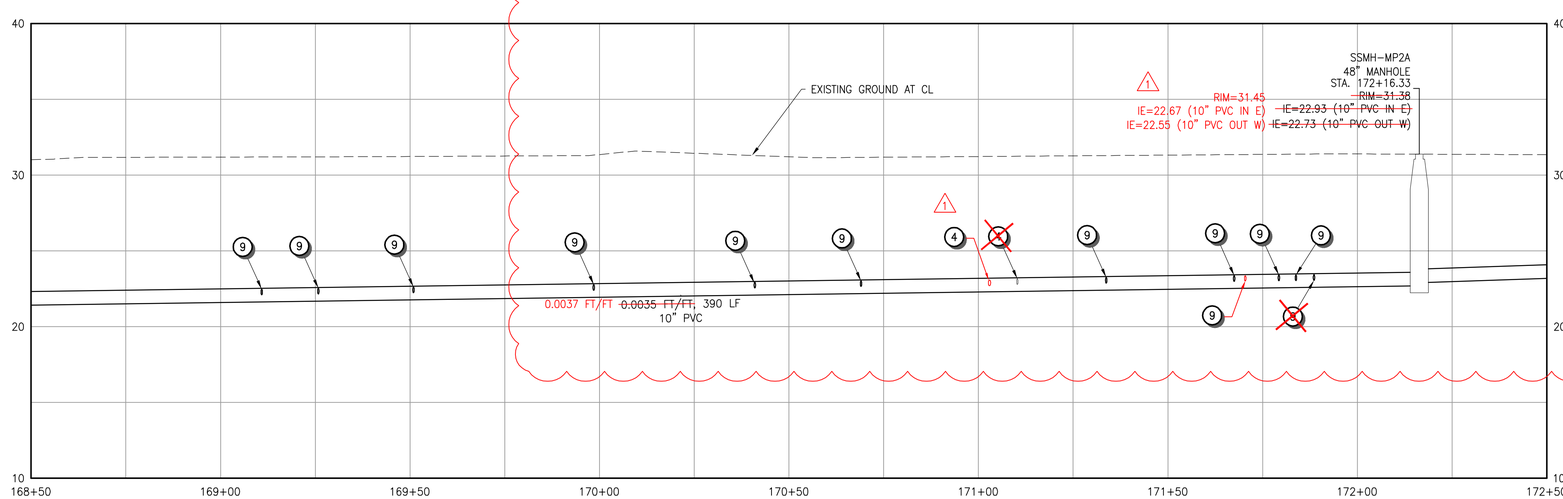

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2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

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12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

17 RESURFACE DISTURBED LANDSCAPE AND/OR HARDSCAPE FEATURES TO MATCH EXISTING CONDITIONS. SEE COT STD DWG 590 ON SHEET D02 FOR LANDSCAPE BACKFILL REQUIREMENTS OUTSIDE OF THE RIGHT-OF-WAY.

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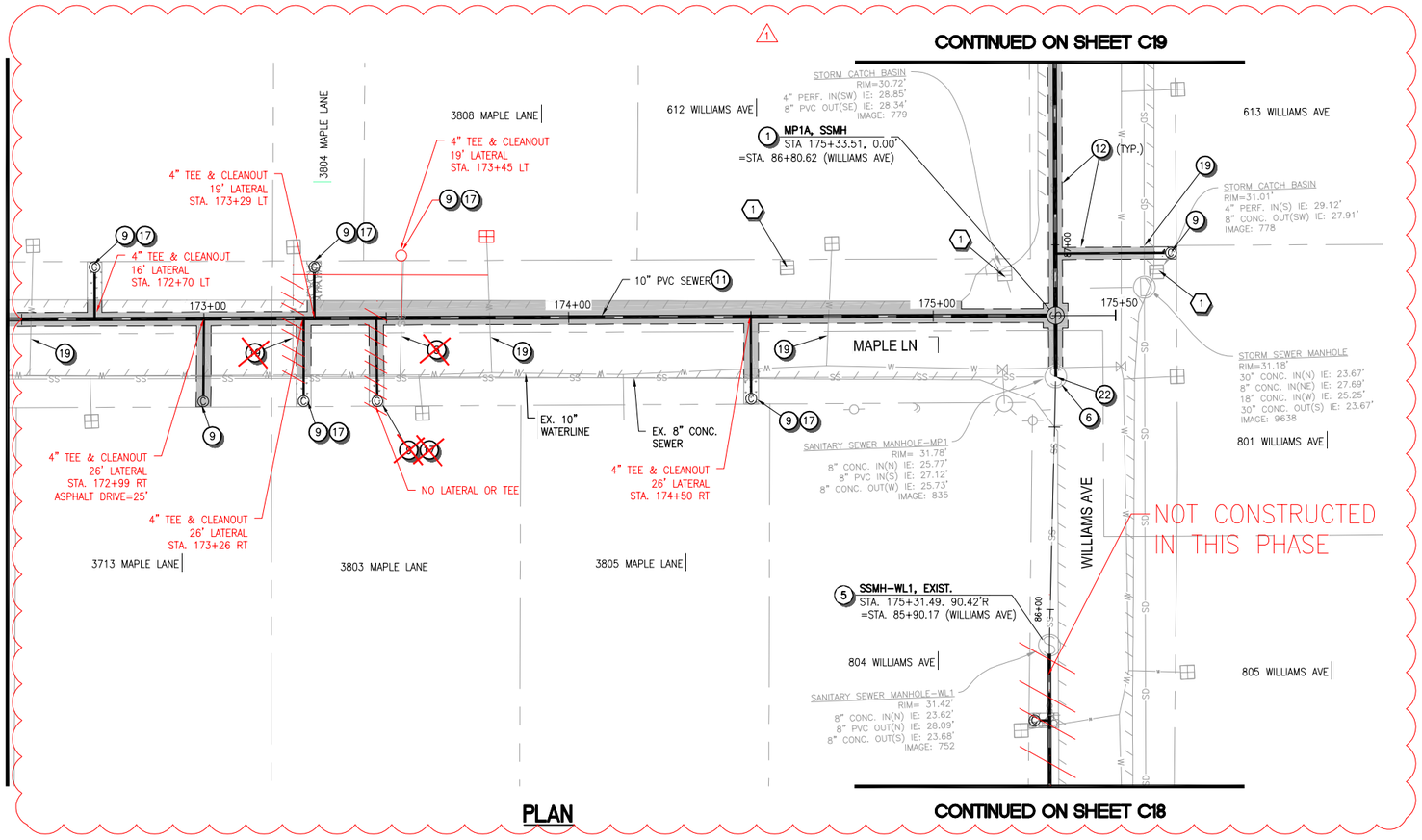

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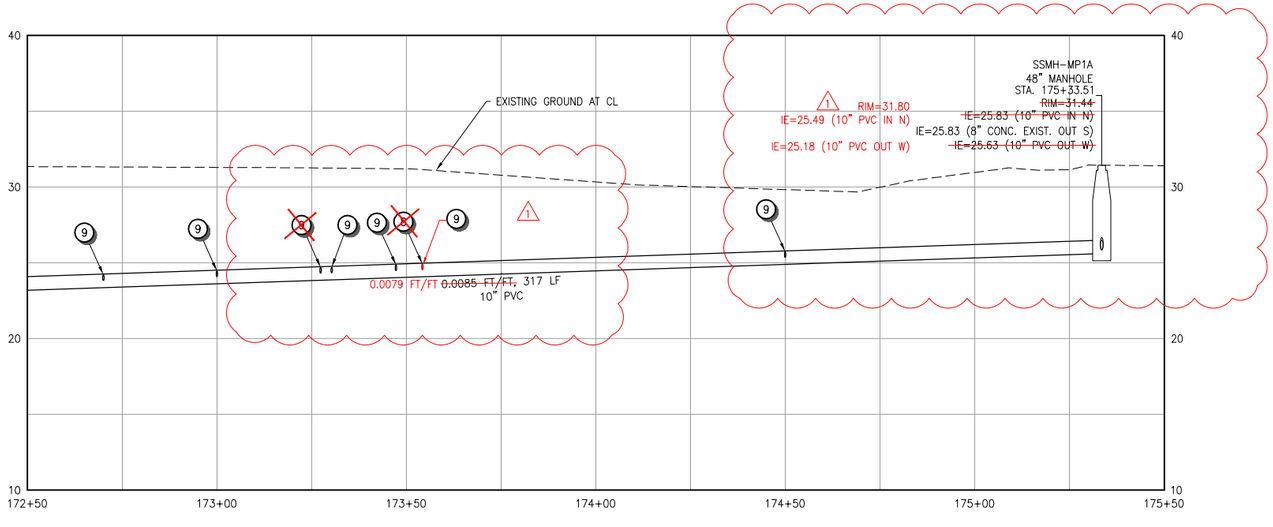

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KEY NOTES

1. INSTALL SEWER MANHOLE PER COT STD DWG 010 ON SHEET D01
5. CONNECT PIPE TO EX. MANHOLE USING KOR-N-SEAL BOOT; VERIFY INVERT ELEVATION PRIOR TO CONSTRUCTION. CORE AND RECHANNEL EXIST MANHOLE BASE AS NECESSARY
6. FILL AND ABANDON EXISTING MANHOLE AND ABANDON EXISTING GRAVITY SEWER PIPES IN PLACE FOLLOWING ACCEPTANCE OF NEW GRAVITY SEWER.
8. EXISTING LATERAL IS CAPPED AND SHALL NOT BE RECONNECTED TO REHABILITATED SEWER MAIN.
9. INSTALL TEE, REMOVE EXISTING LATERAL AND REPLACE WITH 4" PVC PIPE FROM REHABILITATED SEWER MAIN TO RIGHT-OF-WAY LINE, PER COT STD DWGS 520 AND 590 ON SHEET D02. INSTALL SANITARY SEWER CLEANOUT AT RIGHT-OF-WAY LINE PER DETAIL 500 ON SHEET D02 AND CONNECT TO EXIST LATERAL.
11. CONSTRUCT NEW GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE.
12. SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.
17. RESURFACE DISTURBED LANDSCAPE AND/OR HARDSCAPE FEATURES TO MATCH EXISTING CONDITIONS. SEE COT STD DWG 590 ON SHEET D02 FOR LANDSCAPE BACKFILL REQUIREMENTS OUTSIDE OF THE RIGHT-OF-WAY.
19. EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION
22. CONNECT TO EXISTING OVERFLOW PIPE AT ELEVATION 27.12

1 AS-BUILT REDLINES BY OTAK

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BY: R. WIGGINS
APPROVED: R. BILLEN
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SANITARY SEWER PLAN AND PROFILE,
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C16
Sheet No. 21 of 74

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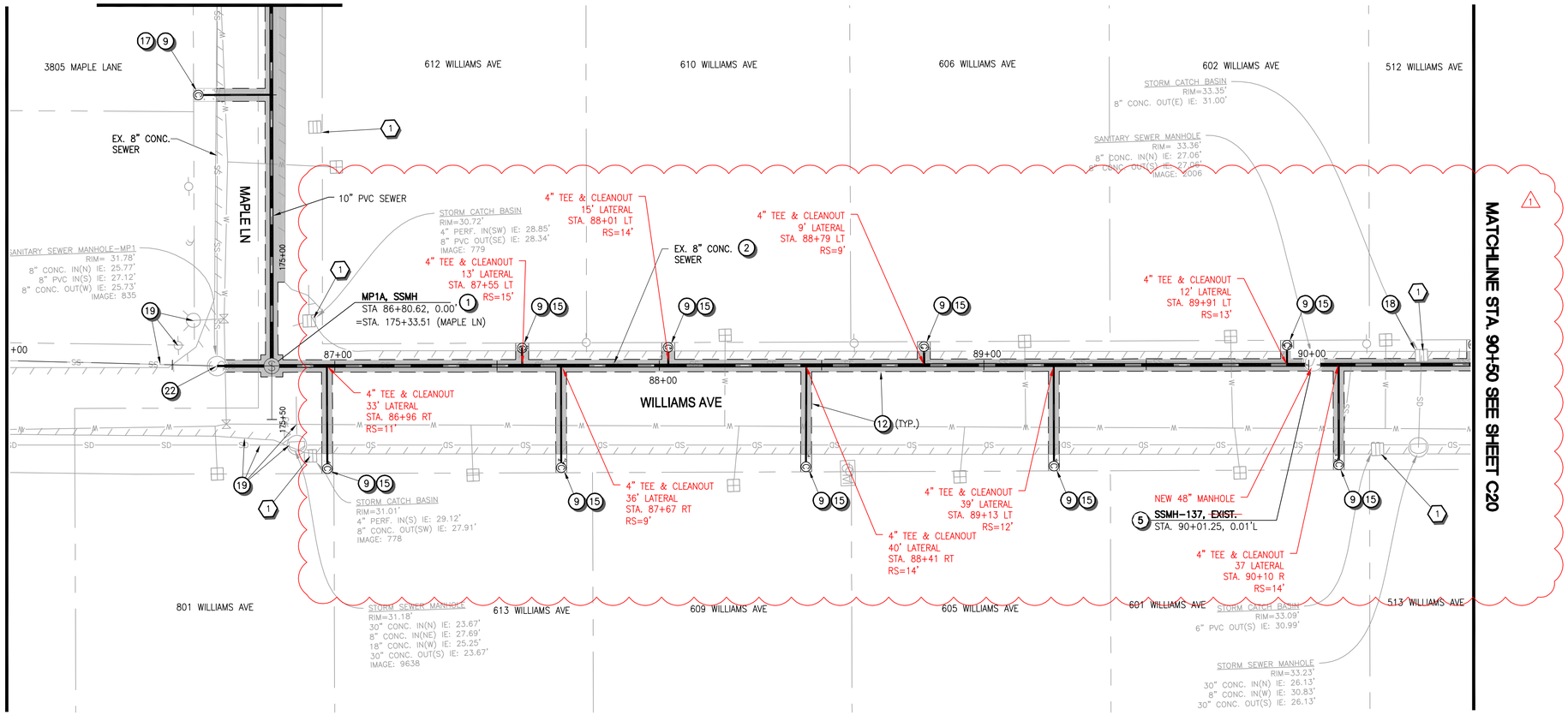

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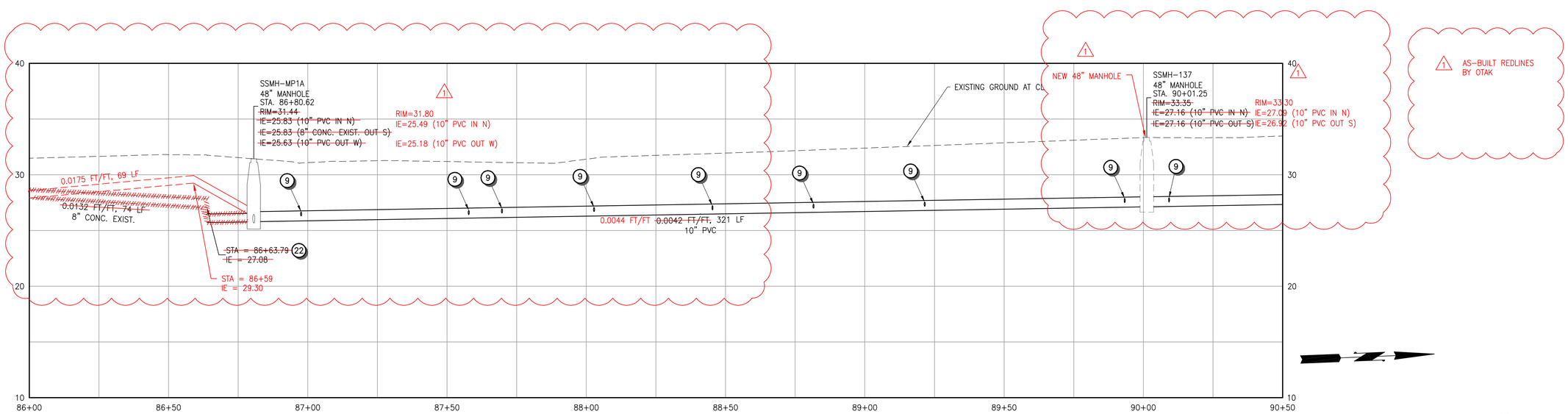

PROFILE

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GENERAL NOTES

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2. LOCATIONS OF LATERALS ARE APPROXIMATE AND ARE BASED ON MEASUREMENTS REPORTED IN TV INSPECTION VIDEOS

EROSION CONTROL NOTES

1. INLET PROTECTION PER STD DWG RD1015 ON SHEET D04
2. SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

1. INSTALL SEWER MANHOLE PER COT STD DWG 010 ON SHEET D01
2. REMOVE EXISTING CONCRETE PIPE AND REPLACE WITH GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE
5. CONNECT PIPE TO EX. MANHOLE USING KOR-N-SEAL BOOT; VERIFY INVERT ELEVATION PRIOR TO CONSTRUCTION. CORE AND RECHANNEL EXIST MANHOLE BASE AS NECESSARY
9. INSTALL TEE, REMOVE EXISTING LATERAL AND REPLACE WITH 4" PVC PIPE FROM REHABILITATED SEWER MAIN TO RIGHT-OF-WAY LINE, PER COT STD DWGS 520 AND 590 ON SHEET D02. INSTALL SANITARY SEWER CLEANOUT AT RIGHT-OF-WAY LINE PER DETAIL 500 ON SHEET D02 AND CONNECT TO EXIST LATERAL.
10. INSTALL TEE AND CONNECT EX. SEWER LATERAL TO REHABILITATED SEWER MAIN PER COT STD DWG 520 ON SHEET D02.
12. SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.
15. REMOVE AND REPLACE EXISTING CURB AND SIDEWALK PER COT STD DWG 2110-ST ON SHEET D03, LIMITS PER PLAN
18. EXISTING STRUCTURE TO REMAIN. CONTRACTOR TO REMOVE, PROTECT, AND REPLACE STRUCTURE AS REQUIRED FOR INSTALLATION OF SANITARY SEWER IMPROVEMENTS
19. EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION
22. CONNECT TO EXISTING OVERFLOW PIPE AT ELEVATION 27.12

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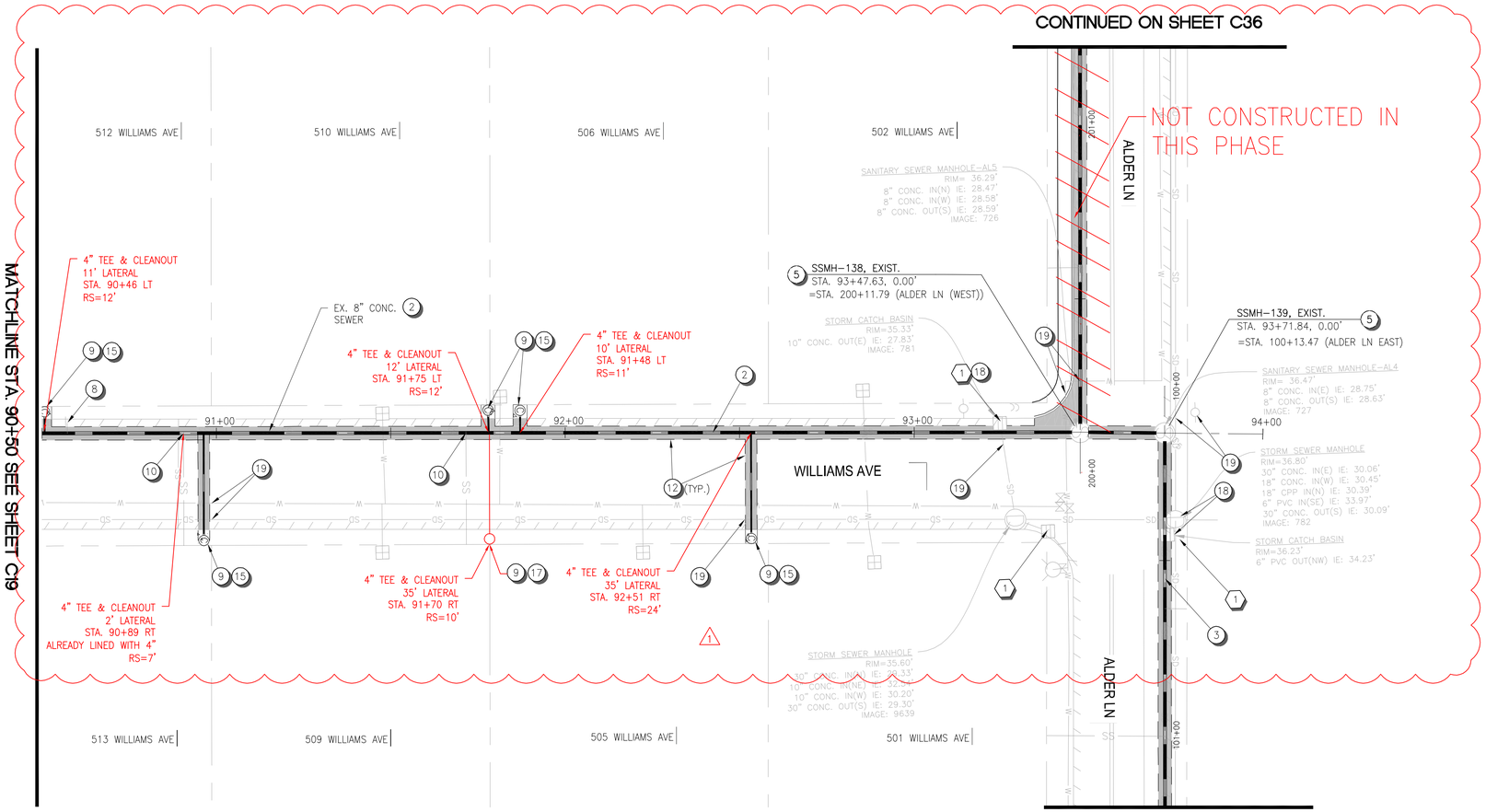

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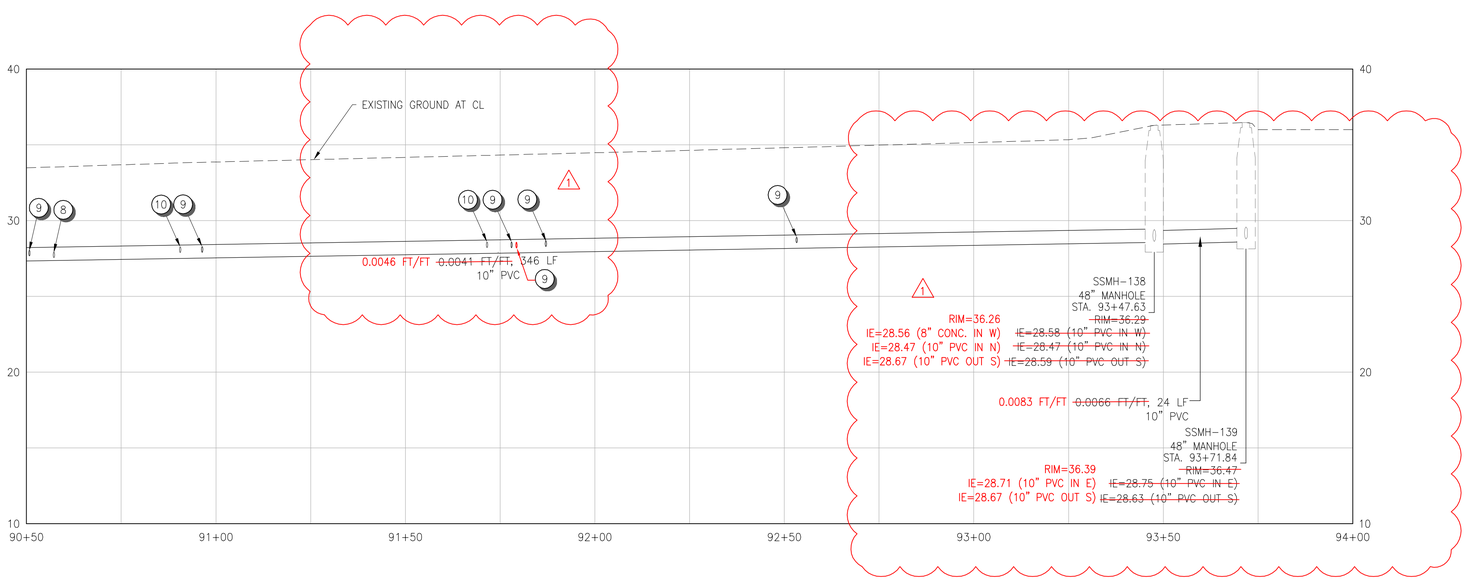

PROFILE

GENERAL NOTES

1 SEE SURVEY CONTROL PLANS ("SC" SHEETS) FOR DEFINITION OF CONSTRUCTION BASELINE STATIONING AND VERTICAL CONTROL

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EROSION CONTROL NOTES

1 INLET PROTECTION PER STD DWG RD1015 ON SHEET D04

2 SEDIMENT FENCE PER STD DWG RD1040 ON SHEET D04

KEY NOTES

2 REMOVE EXISTING CONCRETE PIPE AND REPLACE WITH GRAVITY SEWER BY OPEN CUT CONSTRUCTION METHODS PER COT STD DWG 590 ON SHEET D02. SEE PROFILE FOR PROPOSED PIPE SIZE AND MATERIAL TYPE

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10 INSTALL TEE AND CONNECT EX. SEWER LATERAL TO REHABILITATED SEWER MAIN PER COT STD DWG 520 ON SHEET D02.

12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

15 REMOVE AND REPLACE EXISTING CURB AND SIDEWALK PER COT STD DWG 2110-ST ON SHEET D03, LIMITS PER PLAN

18 EXISTING STRUCTURE TO REMAIN. CONTRACTOR TO REMOVE, PROTECT, AND REPLACE STRUCTURE AS REQUIRED FOR INSTALLATION OF SANITARY SEWER IMPROVEMENTS

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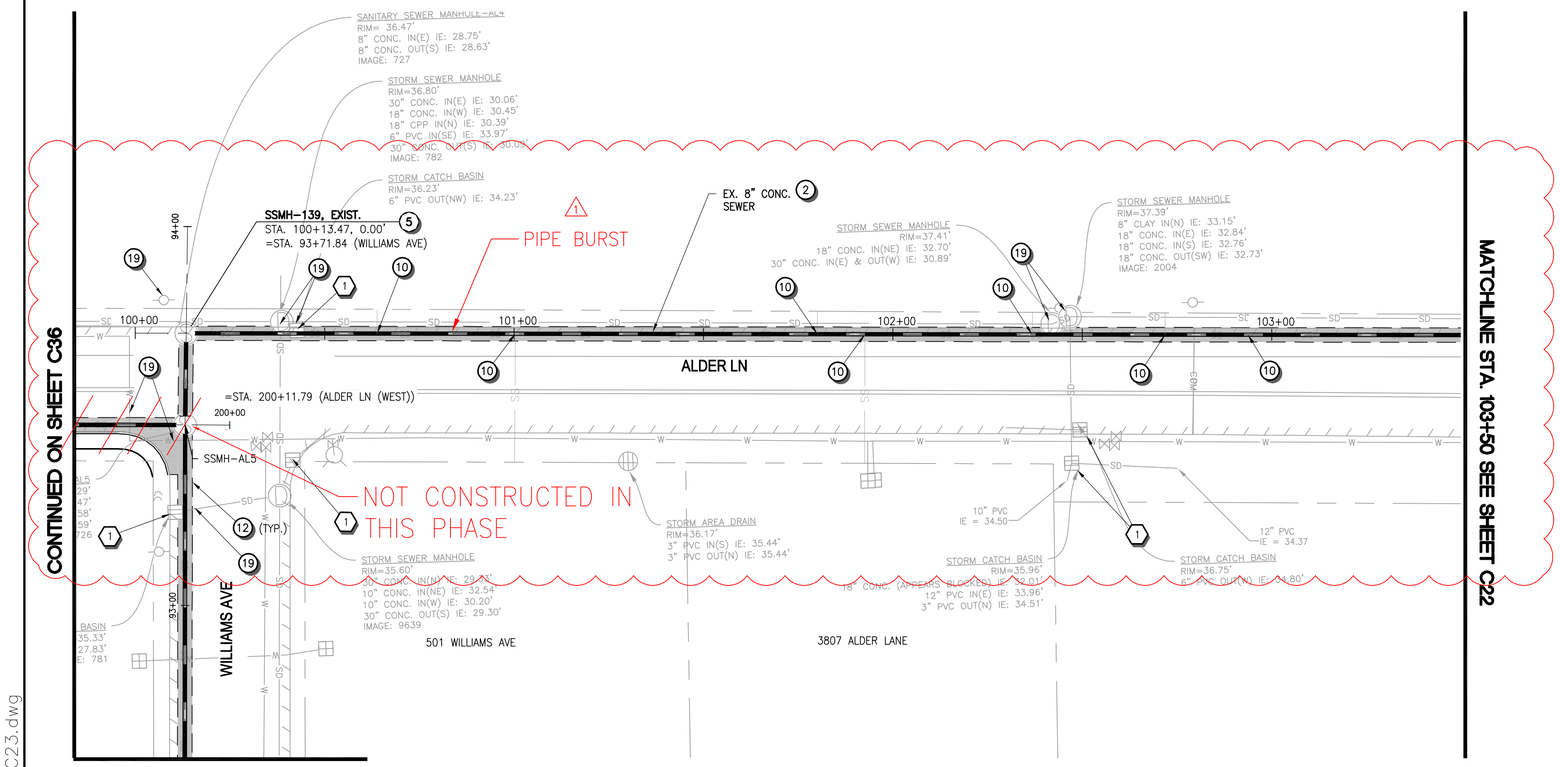

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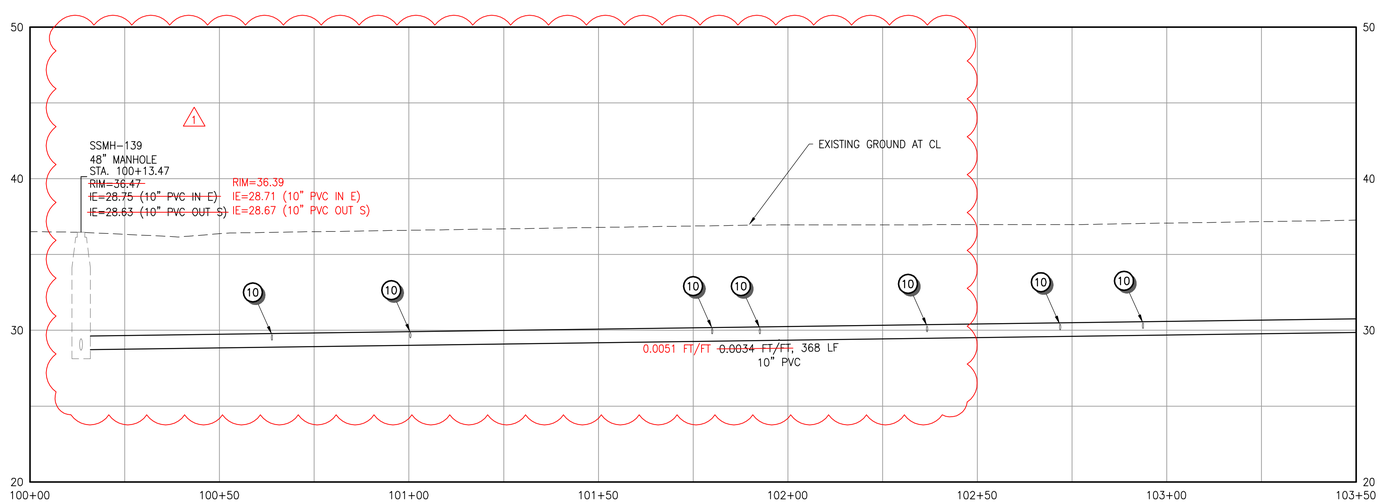

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12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

19 EXISTING UTILITY TO REMAIN. CONTRACTOR TO PROTECT AND SUPPORT DURING CONSTRUCTION

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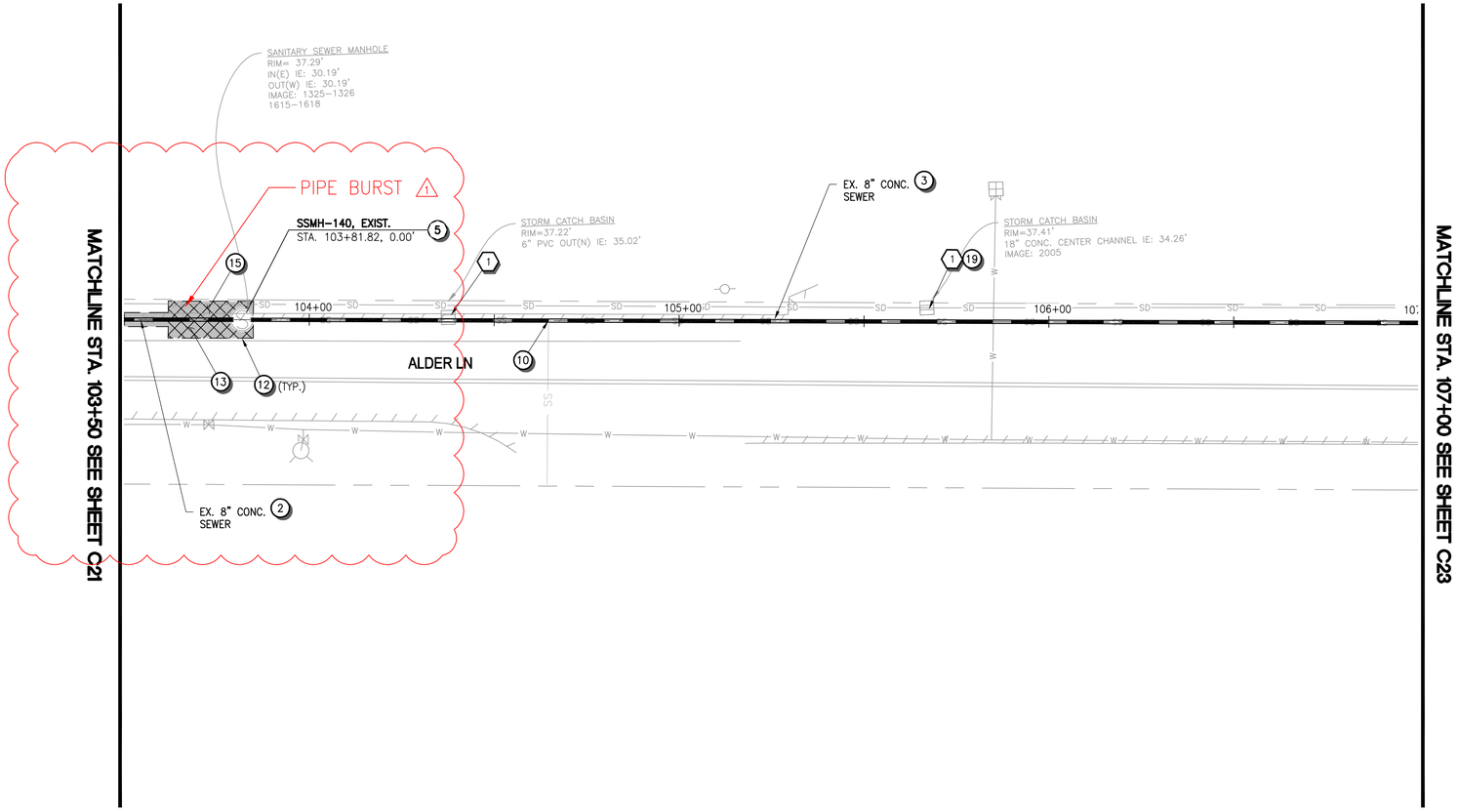

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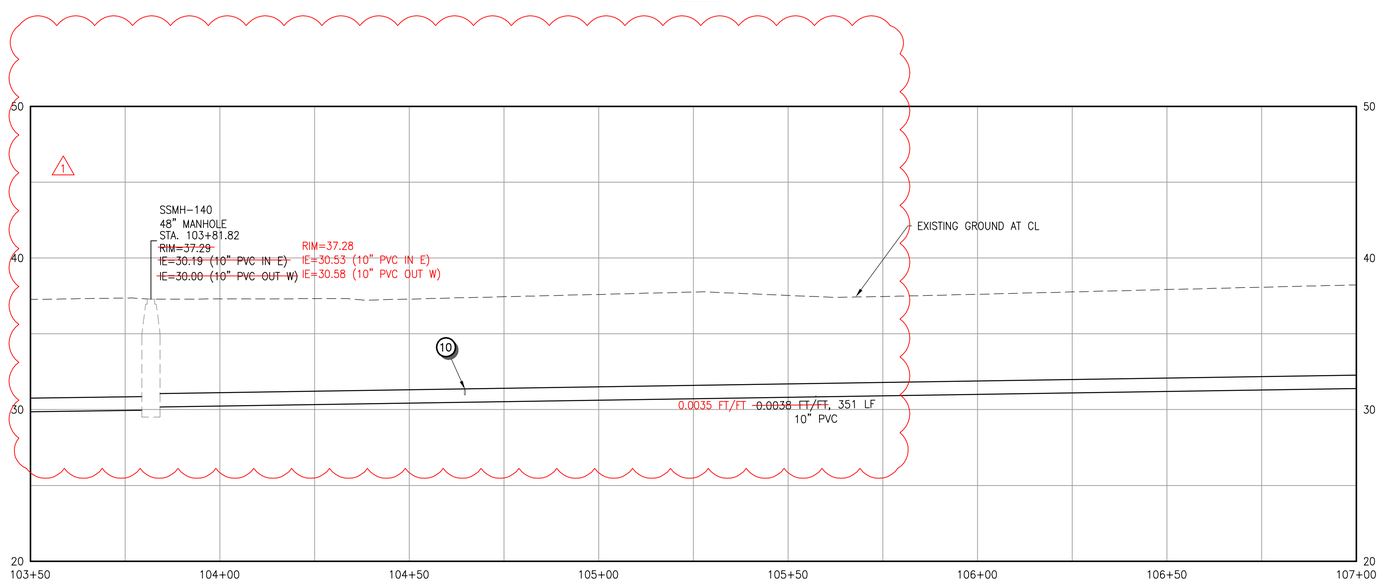

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12 SAWCUT EXISTING ASPHALT PAVEMENT FOR TRENCHING AND RESTORATION. RESURFACE PER COT STD DWG 600 ON SHEET D02.

13 ANTICIPATED LOCATION OF PIPE BURST PIT. CONTRACTOR TO FIELD VERITY. SAWCUT REQUIRED FOR PITS LOCATED IN PAVEMENT AREAS. BACKFILL MATERIAL AND COMPACTION REQUIREMENTS PER COT STD DWG 590. RESURFACING TO MATCH EXISTING CONDITIONS UNLESS OTHERWISE SPECIFIED.

15 REMOVE AND REPLACE EXISTING CURB AND SIDEWALK PER COT STD DWG 2110-ST ON SHEET D03, LIMITS PER PLAN

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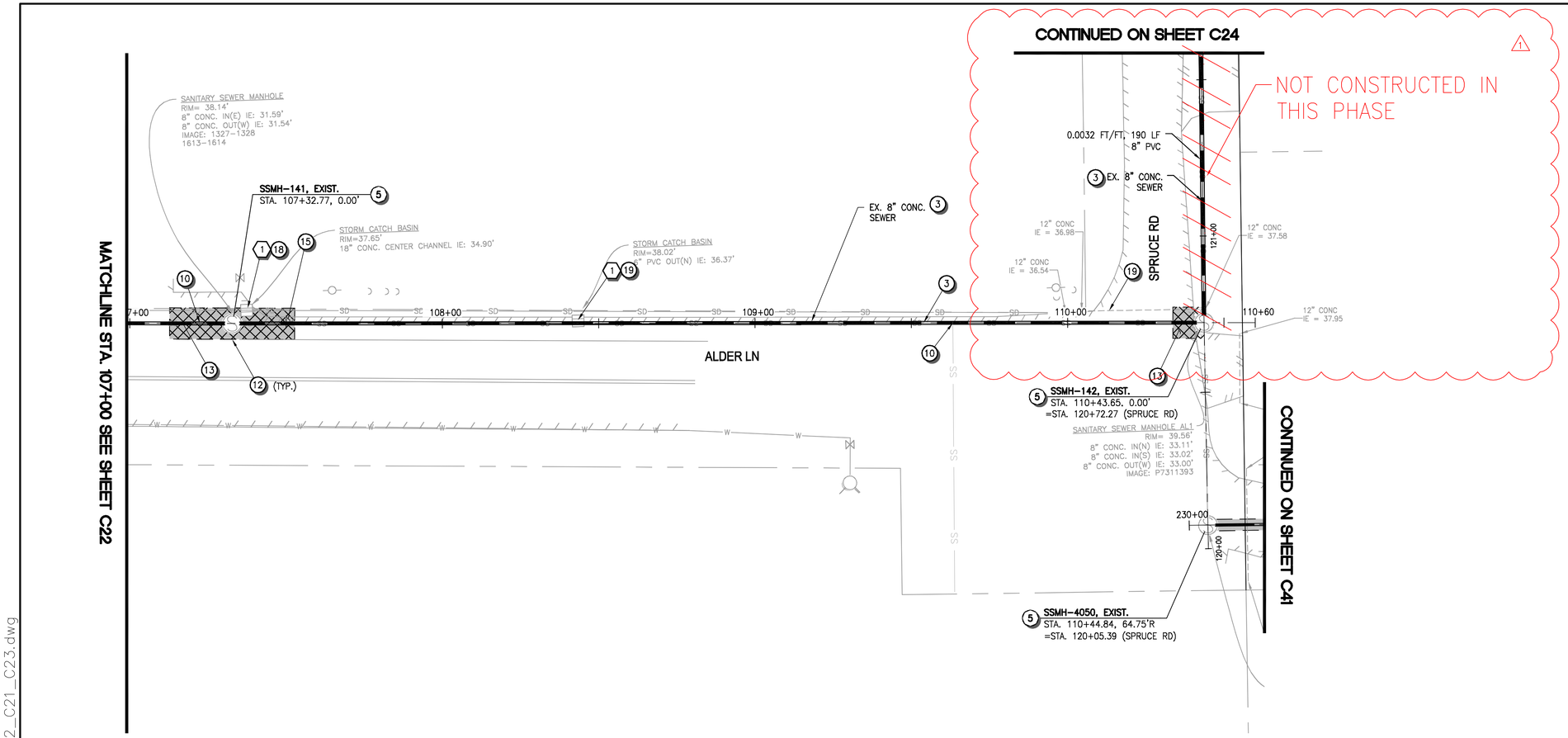

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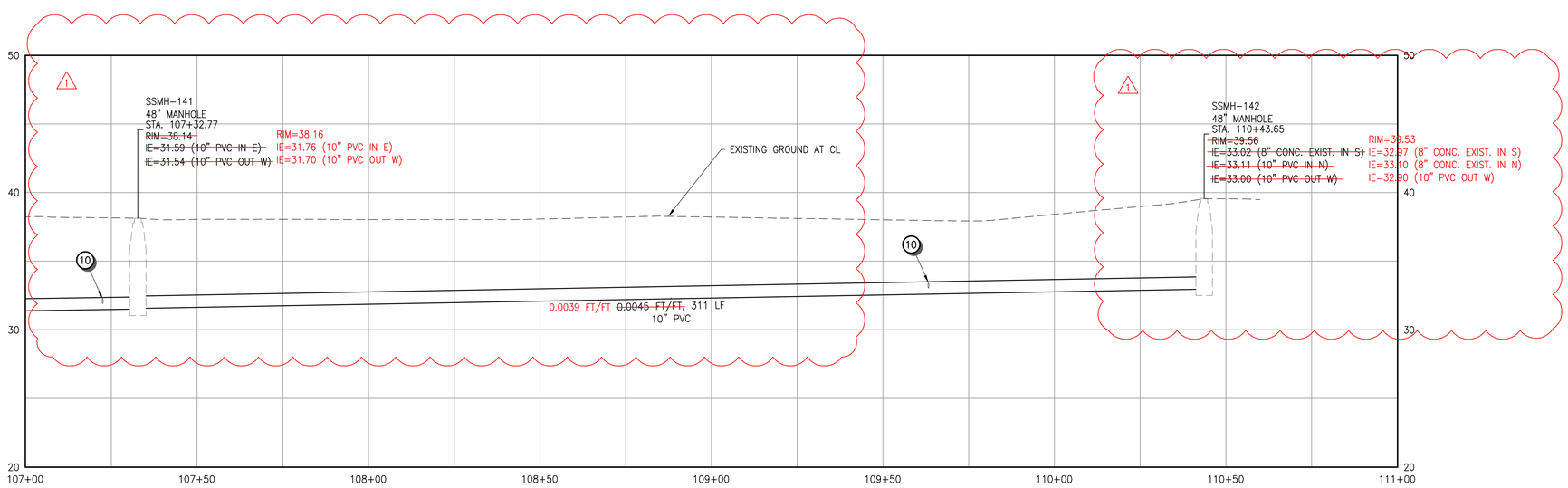

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KEY NOTES

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12TH ST PUMP STATION -IMPROVEMENT PROJECT
TILLAMOOK, OREGON

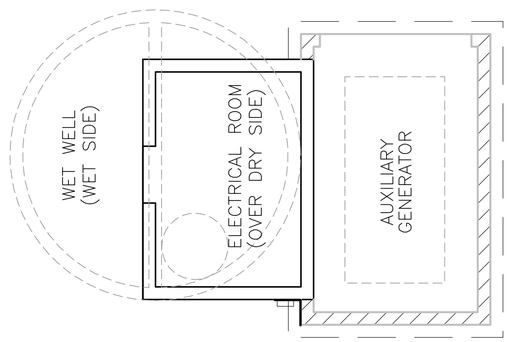
CDBG PROJECT #P12020

PROJECT TEAM

OWNER: CITY OF TILLAMOOK
210 LAUREL AVENUE
TILLAMOOK, OR 97141
PAUL WYNTERGREEN, CITY MGR
(503)842-2472 EXT. 3460

CIVIL ENGINEER: TIM KRAFT, P.E.
OTAK, INC.
700 WASHINGTON STREET
SUITE 401
VANCOUVER, WA 98660
(360)906-6793

SURVEYOR: DALE BARRETT, P.L.S.
OTAK, INC.
4253-A HWY 101 N.
SEASIDE, OR 97138
(503) 738-3425



PUMP STATION SCHEMATIC LAYOUT
SCALE 1"=4'-0"

TILLAMOOK VICINITY MAP
NOT TO SCALE

PROJECT BENCHMARK

THE VERTICAL DATUM IS NAVD88:
A MAG NAIL SET FLUSH IN ASPHALT NORTH 35' OF EXISTING PUMP HOUSE HAS AN ORTHOMETRIC ELEVATION OF 21.29'

SCOPE OF PROJECT

2 – 20HP XYLEM NT 3153 LT 3~413 OR APPROVED EQUAL
2 – VFD PUMP CONTROLS – XYLEM SMART RUN SR311 OR APPROVED EQUAL
1 – DEMOLITION OF AUXILIARY GEN. BLDG.
1 – ELECTRICAL REVISIONS – PLANS

PROJECT DATUM

THE BASIS OF BEARING FOR THIS PROJECT IS GRID NORTH. THE HORIZONTAL DATUM IS NAD83(CORS 11) EPOCH 2010.00, PROJECTED ONTO OREGON NORTH ZONE (3601) STATE PLANE (GRID) COORDINATES IN INTERNATIONAL FEET. BEARINGS SHOWN HERE ARE ON GRID.

THE VERTICAL DATUM IS NAVD88(GEOID 12), HOLDING NGS BENCH MARK "C 223" (PID: RD1010) PUBLISHED ORTHOMETRIC ELEVATION OF 55.45'

SHEET INDEX

SHEET	DWG	DESCRIPTION
56	PS01	COVER SHEET
57	PS02	PUMP STATION DESCRIPTION AND DATA
58	PS03	CONSTRUCTION NOTES
59	PS04	BUILDING DEMOLITION PLAN
60	PS05	BUILDING DEMOLITION NOTES
61	PS06	EXISTING WET-DRY PLAN VIEW
62	PS07	EXISTING WET-DRY PROFILE VIEW SOUTH
63	PS08	EXISTING FORCE MAIN ELEVATIONS SOUTH
64	PS09	EXISTING DRY SIDE PROFILE VIEW WEST
65	PS10	WET-DRY PLAN VIEW
66	PS11	WET-DRY PROFILE VIEW
67	PS12	DRY SIDE PROFILE VIEW
68	PS13	PUMP CURVES
69	PS14	PROPOSED POWER SCHEMATIC
70	PS15	PUMP STATION OPERATIONAL NOTES
71	PS16	K/J POWER CONDUITS (INFO ONLY)
72	PS17	K/J POWER CONDUITS (INFO ONLY)
73	PS18	K/J POWER CONDUITS (INFO ONLY)
74	PS19	K/J POWER CONDUITS (INFO ONLY)

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  (877) 668-4001 (ADMINISTRATIVE)

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  TILLAMOOK, OREGON 97141
  (503) 374-1826 (OFFICE)
  (503) 812-8802 (CELL)

- ELECTRICITY

  TILLAMOOK PEOPLE'S UTILITY DISTRICT
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  1115 PACIFIC AVE, TILLAMOOK, OR 97141
  (503) 842-2535 (OFFICE)
  (503) 815-8629 (ENGINEERING DIRECT)
  (800) 422-2535 (TOLL FREE)
  (800) 842-2122 (EMERGENCY)

- TELEPHONE

  CENTURYLINK
  SCOTT SCHIMINESKY
  PACIFIC CITY, OR 97141
  (503) 965-9918

- CABLE TELEVISION

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OTAK, INC

CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
WET-DRY PROFILE VIEW
TILLAMOOK, TILLAMOOK COUNTY, OR

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Project No. 67522

PS01

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PUMP STATION DESCRIPTION

DESIGN

THE FOLLOWING DESCRIPTIVE INFORMATION IS INTENDED TO PROVIDE DESIGN CRITERIA BACKGROUND. THERE ARE NO ANTICIPATED CHANGES TO THE FORCE MAIN FLOW AT THIS STATION:

PUMPING SYSTEM

THIS PUMP STATION WAS INSTALLED IN 1957, AND HAS BEEN IN CONTINUOUS OPERATION FOR 58 YEARS. THIS STATION IS AN EPA, DRY-WELL/WET-WELL STATION OF CONCRETE CONSTRUCTION.

THE 2001 UP-GRADE CONSISTS OF REPLACING THE PUMP IMPELLERS. IN 2004, ANOTHER UPGRADE INVOLVED REPLACING THE LEVEL CONTROL WITH A NEW BUBBLER SYSTEM.

THE PUMP AND SYSTEM CURVE FOUND IN THE WWTP FACILITIES PLAN (2005) ALONG WITH THE INFORMATION GIVEN IN SECTION 4.5.1 REGARDING THE 12TH ST PUMP STATION FLOWS, INDICATES THAT DESIGN CONDITIONS REQUIRE APPROXIMATELY 58 FEET OF TDH @ 2400 GPM FOR ONE PUMP. THIS INFORMATION FROM THE PUMP CURVE AND FACILITES PLAN IS INACCURATE AND SHOULD NOT BE RELIED UPON.

THROUGH RESEARCH, OTAK HAS LOCATED THE CORRECT PUMP CURVE FOR THIS STATION, TAKEN PRESSURE READINGS AT THE PUMP, CALCULATED THE FORCE MAIN CONDITIONS, AND DONE WIRE-TO-WATER CALCULATIONS. OUR CURRENT CALCULATIONS (2015) INDICATE THAT THE PUMPS ARE OPERATING AT 37 FEET OF TDH @ 1200 GPM. THIS INFORMATION FITS THE CORRECT PUMP CURVE. GIVEN THE CAPABILITIES OF NEW VARIABLE FREQUENCY DRIVES, WE ARE ABLE TO MEET THE 1200 GPM AT 1755 RPM.

WITH THIS PUMP STATION UPGRADE, THE GRAVITY FLOWS INTO THE PUMP STATION FROM 2 SOURCES WILL BE MONITORED. FURTHER, FLOW MONITORING WILL BE ADDED TO THE FORCE MAIN PIPING. THIS WILL GIVE THE CITY REAL-TIME INFORMATION FOR ACTUAL FLOWS INTO AND OUT OF THE STATION, WITH TOTALIZATION. ACTUAL FLOWS CAN BE RECORDED AND THE VFDS ADJUSTED IF NECESSARY. BOTH CORRECT PUMP CURVE AND THE PROPOSED CURVE ARE INCLUDED IN THESE PLANS.

PUMP INTAKE

THE PUMP INTAKE (SUCTION) IS 8" DIAMETER IN THE WET-WELL, REDUCED TO 6" DIAMETER AT THE PUMP. THE SUCTION PIPE TYPE IS FLANGED DUCTILE IRON. THE PUMP INTAKE CONDITIONS SHALL REMAIN THE SAME.

WET-WELL

THE DRY-WELL/WET-WELL WAS CONSTRUCTED IN 1957, AS THE BELOW GROUND PART OF THE STATION. IT IS A CIRCULAR SHAPE, 14.0' DIAMETER WITH PUMP INTAKES THROUGH THE SEPARATION WALL, INTO THE DRY-WELL. A CONCRETE FILLET WAS PLACED BELOW THE SEWER MAIN INFLOW LOCATION, SLOPING DOWNWARD TO THE PUMP INTAKES.

EXISTING FORCE MAIN - SIZE/ALIGNMENT

NO IMPROVEMENTS WERE MADE NOR ARE PLANNED TO THE EXISTING FORCE MAIN.

OUR RECORDS INDICATE THAT THE ORIGINAL (1957) FORCE MAIN IS CONSTRUCTED OF 12" DIAMETER AC TRANSITE PIPE FOR 277 FT. EXTENDING THE FORCE MAIN, A NEW SECTION, 2,570 FT OF 12" DUCTILE IRON PIPE WAS ADDED (1975). TOTAL FORCE MAIN LENGTH IS NOW 2,847 FT. THE RECEIVING MANHOLE IS IN A FIELD, WHERE THE INFLUENT THEN TRAVELS BY GRAVITY TO THE WASTEWATER TREATMENT PLANT. NO ORIGINAL PROFILE EXISTS FOR THIS FORCE MAIN. AN APPROXIMATE FORCE MAIN PROFILE IS NOW SHOWN IN THESE PLANS. SEE SHEET PS09.

OVERFLOW POINT

THE OVERFLOW POINT APPEARS TO BE THE DISCHARGE MANHOLE IN THE FIELD. THIS MH HAS A RIM ELEVATION OF ±20.54'. NO UPGRADES WERE INCORPORATED HERE.

STANDBY POWER

THE PUMP STATION, WHILE OWNED AND OPERATED BY THE CITY OF TILLAMOOK, IS LOCATED IN THE TILLAMOOK PEOPLE'S UTILITY DISTRICT YARD (TPUD). THE CITY HAS AN OLDER CONSOLIDATED ALLIS CHAMBERS MILITARY SURPLUS MODEL GENERATOR LOCATED IN THE EAST SIDE OF THE PUMP STATION BUILDING. WITH THIS UPGRADE, DE-COMMISSION AND REMOVE THE OLD STANDBY GENERATOR AND PROVIDE STANDBY POWER FROM THE NEW TPUD CATERPILLAR LARGE STATIONARY GENERATOR LOCATED IN AN ADJACENT BLOCK BUILDING.

FURTHER STANDBY POWER MAY COME FROM CITY INSTALLED MOBILE GENERATOR PLUG AT PUMP STATION.

INSPECTION OF PUMP STATION UPGRADE

THE CONSTRUCTION OF THE NEW PUMPS, VALVES AND CONTROLS FOR THE STATION SHALL BE INSPECTED PER OAR 340-52-015(1) (E). DURING THE INSPECTION AND INITIAL START-UP AND ACCEPTANCE TESTING, INTERIM CONTROL LEVELS SHALL BE ESTABLISHED BY THE CITY AND RECORDED WITH CITY STAFF PRESENT AND DOCUMENTED.

REVIEW BY AGENCIES WITH ADMINISTRATIVE AUTHORITY

THE CITY OF TILLAMOOK, THROUGH TIM LYDA (PUBLIC WORKS DIRECTOR) ALONG WITH OTHER COLLECTION SYSTEM PERSONNEL WILL MAKE PERIODIC SITE VISITS, AND OBSERVE THE STATION OPERATION. THEY WILL ALSO REVIEW THE UPGRADE DOCUMENTS. WITH THE EXCEPTION OF OREGON DEQ, THERE HAVE BEEN NO OTHER AGENCIES IDENTIFIED WITH ADMINISTRATIVE AUTHORITY REGARDING THIS PUMP STATION.

DESIGN DATA (EXISTING ORIGINAL EQUIPMENT)

(SOURCE: 2005 WWTP FACILITIES PLAN BY KENNEDY-JENKS)

PUMP STATION	LOCATION • TPUD YARD, TILLAMOOK, OREGON
TYPE	DUPLEX – VERTICAL COUPLED
PUMP TYPE	PEERLESS, 1957 VINTAGE, VERTICAL CENTRIFUGAL, NON-CLOG
CAPACITY ONE PUMP	1,200 GPM @ 65 FT TOTAL DYNAMIC HEAD
PUMP HP (EACH)	20.0 HP
LEVEL CONTROL TYPE	BUBBLER
DISCHARGE MH	IN FIELD SOUTH OF ELM AVENUE, WEST OF 10TH STREET. MANHOLE SHOWS NO SIGN OF CORROSION.
AVG. TIME TO OVERFLOW	WWTP FAC. PLAN 3 HRS
ALARM TELEMETRY TYPE	SCADA AUTO DIALER – VISUAL AND AUDIBLE ALARM AT STATION
ALARMS ON STATION	HIGH WATER LEVEL, LOSS OF POWER, THERMAL OVERLOAD
EPA RELIABILITY CLASS	CLASS 1 WITH STATIONARY AND MOBILE GENERATORS

GENERATOR

TYPE	CONSOLIDATED AC – TO BE REPLACED BY TPUD CATERPILLAR, PLUS MOBILE IF NEEDED
SIZE	3 PHASE
FUEL	UNKNOWN
TANK CAPACITY	UNKNOWN
RUN TIME	UNLIMITED WHEN SWITCHED TO NEW TPUD OR MOBILE
MOBILITY	TRAILER MOUNTED GENERATORS AVAILABLE IF STATIONARY INOPERABLE
TRANSFER SWITCH	MANUAL, MOUNTED INSIDE PS BUILDING, EXISTING, THIS WILL CHANGE TO TPUD BUILDING IN FUTURE. FURTHER, THE CITY WILL HAVE THE CAPABILITY TO PLUG IN A MOBILE GENERATOR AT THE STATION, SHOULD TPUD GO DOWN.

FORCE MAIN

MATERIAL	12" DIAMETER AC TRANSITE AND DUCTILE IRON
LENGTH	2,847 LINEAL FEET, EXISTING
PROFILE	GRADUALLY DESCENDING TO DISCHARGE MH
AIR RELEASE VALVES	NONE
SULFIDE CONTROL SYSTEM	NONE

DESIGN DATA (NEW EQUIPMENT)

PUMP STATION

TYPE	DUPLEX – VERTICAL COUPLED
PUMP TYPE	XYLEM, WITH SMART DRIVE, VFD
CAPACITY	1,300 GPM @ 40 FT TOTAL DYNAMIC HEAD
PUMP HP	20.0 HP
LEVEL CONTROL TYPE	TRANSDUCER, FLOAT OVER-RIDE
ALARM TELEMETRY TYPE	SCADA (EXISTING)
EPA RELIABILITY CLASS	CLASS 1 WITH GENERATOR

FORCE MAIN — EXISTING - NO CHANGES

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CONSTRUCTION NOTES FOR TILLAMOOK - 12TH ST. PUMP STATION

SAFETY FIRST

1. CONTRACTOR SHALL HAVE AN APPROVED SAFETY PLAN AND TRAINED PERSONNEL. ALL WASTEWATER OPERATION AND MAINTENANCE WORK MUST CONFORM TO THE "CONFINED SPACE REGULATION" (OSHA STANDARD 29 CFR 1910.146) WHICH WERE ADOPTED BY THE STATE OF OREGON IN JANUARY 1993. A RESCUE PLAN MUST ACCOMPANY THE APPROVED SAFETY PLAN. THE CITY CANNOT BE RESPONSIBLE FOR CONTRACTOR OR CONTRACTOR PERSONNEL SAFETY.
2. CONTRACTOR SHALL RE-CONNECT FRESH AIR SUPPLY DUCTING ON DRY SIDE WITH FLEXIBLE BOOTS OR REMOVABLE SECTION.
3. WASTEWATER IS INHERENTLY DANGEROUS. CONTRACTOR SHALL KEEP WORK AREA CLEAN.
4. THIS EQUIPMENT CONTAINS ELECTRICAL AND MECHANICAL HAZARDS WHICH MAY CAUSE INJURY OR DEATH IF OPERATED WITHOUT SYSTEM KNOWLEDGE OR CARELESSNESS.
5. IT IS CRITICAL THAT LOCK-OUT/TAG-OUT PROCEDURES BE ESTABLISHED AND FOLLOWED DURING EQUIPMENT UP-GRADE.

GENERAL NOTES

1. THIS IS A KEY PUMP STATION REQUIRED TO OPERATE CONTINUALLY. CONTRACTOR SHALL COORDINATE ANY PUMP-AROUND INSTALLATION WITH THE CITY OF TILLAMOOK PUBLIC WORKS DEPARTMENT.
2. THIS PUMP STATION IS LOCATED IN THE TILLAMOOK PUBLIC UTILITIES (TPUD) TRUCK YARD. ACCESS AND WORK AT STATION MUST FOLLOW TPUD REQUIREMENTS AS SET FORTH IN THE SPECIAL PROVISIONS.
3. CONTRACTOR MUST COORDINATE ALL ACTIVITIES, SEQUENCING, AND PRODUCT INSTALLATION WITH THE CITY OF TILLAMOOK PUBLIC WORKS DEPARTMENT.
4. CONTRACTOR RECORD DRAWINGS SHALL BE PROVIDED TO ENGINEER AT COMPLETION OF PS UP-GRADES.
5. PUMPS, CONTROLS, PADS, PIPING, SCHEDULES, REQUIRE SUBMITTALS FOR ENGINEER AND CITY APPROVAL.
6. MOTORS, PIPING, VALVES SHALL HAVE A LIFTING EYE OR APPARATUS ATTACHED TO EACH, TO FACILITATE REMOVAL AND INSTALLATION.
7. ANY UNDERGROUND IMPROVEMENTS MUST BE DOCUMENTED AS TO LOCATION BY CONTRACTOR'S SURVEYOR AND IN FORMAT ACCEPTABLE TO CITY.

SEQUENCING NOTES

1. IF A PUMP-AROUND IS NOT ESTABLISHED – ONLY ONE PUMP ASSEMBLY AND EXISTING PIPING MAY BE REMOVED AND REPLACED.
2. THE NEW PUMP AND PIPING ASSEMBLY MUST HAVE THE ELECTRICAL EQUIPMENT INSTALLED AND OPERABLE, SUCH THAT THE NEW PUMP CAN OPERATE INDEPENDENTLY OF THE OTHER PUMP. (BY CORRECT SEQUENCING, A PUMP AROUND SYSTEM MAY NOT NEED TO BE INSTALLED.)

PUMP/MOTOR INSTALLATION NOTES

1. AFTER INSTALLATION, VIBRATION TESTING AT SHUT-OFF, DESIGN, AND RUN-OUT SHALL BE REQUIRED. RESULTS SHALL ACCOMPANY PUMP/CONTROL LITERATURE, AND BE INCORPORATED INTO THE O&M MANUAL PER DEQ.
2. ALL PIPING MUST BE FLANGED DUCTILE IRON PIPE INSIDE THE DRY WELL SIDE. NO PVC OR OTHER MATERIALS WITHOUT ENGINEER'S APPROVAL.
3. FITTINGS MUST BE EQUAL TO ADJACENT PIPE, OR TYLER CLASS 350, WHICHEVER IS MORE STRINGENT.
4. PRIOR TO NEW EQUIPMENT INSTALLATION, THE DRY SIDE OF THE PUMP STATION MUST BE PRESSURE CLEANED AND DRY BEFORE INSTALLATION OF ANY CONCRETE HOUSEKEEPING PADS. CONTRACTOR ADVISED THIS MAY REQUIRE SPECIAL EQUIPMENT.
5. EMERGENCY FLOAT SYSTEM IN WET-WELL MUST CONTINUE TO OPERATE THROUGHOUT THE PUMP, CONTROLS, AND PIPING CHANGEOVER.
6. HOUSEKEEPING PADS SHALL BE REPLACED. REPLACEMENT OF REINFORCED CONCRETE PADS AND FLOOR ANCHORING, OR REBAR SHALL BE CLEAN, DRY AND TIGHT.
7. HANGING TRANSDUCER(S) MUST BE SET APPROXIMATELY 1.0' ABOVE FLOOR OF WET SIDE OF WET-WELL. LEVEL TO BE ADJUSTED THROUGH THE VFD OR HMI ONLY. EXISTING BUBBLER LEVEL CONTROL SHALL NOT BE REMOVED UNTIL ELECTRONIC LEVEL CONTROL IS INSTALLED AND OPERATING CORRECTLY FOR EACH NEW PUMP AND CONTROLS.
8. REDUNDANCY IS CRITICAL AT THIS STATION. SINCE INDEPENDENT OPERATION OF PUMPS IS REQUIRED, EACH VFD OR SMART DRIVE SHALL OPERATE OFF OF A DEDICATED TRANSDUCER.
9. EXISTING SEAL WATER IS TO BE REMOVED FROM PUMPING AREA AND CAPPED IN THE ELECTRICAL BUILDING.
10. ELECTRICAL CONNECTIONS TO SCADA AND OR AUTO-DIAL ALARM SYSTEM MUST BE COORDINATED WITH THE CITY.
11. CONTRACTOR SHALL BUDGET A MINIMUM OF 8 HOURS TRAINING TIME, IN TWO 4 HOUR SESSIONS FOR PUBLIC WORKS STAFF TRAINING IN PUMP, VFD OPERATION.

SPECIFICATION REFERENCES

1. PROJECT SPECIFICATIONS SHALL TAKE PRECEDENCE. WHERE THESE SPECIFICATIONS ARE SILENT, THE MOST CURRENT EDITION OF ODOT APWA SPECIFICATIONS SHALL BE USED.
2. PUMP TESTING BY VENDOR SHALL RE REQUIRED AT THE END OF THE PROJECT. RESULTS SHALL BE INCORPORATED INTO THE VENDOR SUPPLIED O&M MANUALS AS A BASELINE FOR FUTURE TESTING.
3. UPON COMPLETION OF PROJECT – PUMP/CONTROL VENDOR SHALL PROVIDE THE OWNER WITH FOUR (4) COPIES OF THE OPERATIONS AND MAINTENANCE MANUALS. ONE (1) COPY TO ENGINEER.

ORS AND TECHNICAL NOTES

1. ATTENTION CONTRACTORS: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1897 OR 1-800-332-2344). AT LEAST TWO (2) BUSINESS DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OREGON UTILITY NOTIFICATION CENTER OF THE DATE AND LOCATION OF THE PROPOSED CONSTRUCTION, AND THE TYPE OF WORK TO BE PERFORMED
2. ALL EXISTING FACILITIES TO BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR TO LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE ENGINEER.
3. IN ACCORDANCE WITH O.R.S.290.140, IF THE CONTRACTOR FINDS IT NECESSARY TO INTERFERE WITH OR PAVE OVER ANY ESTABLISHED PUBLIC LAND SURVEY CORNER OR ITS ACCESSORIES, WITHIN THE PROJECT LIMITS, THE CONTRACTOR SHALL NOTIFY THE COUNTY SURVEYOR PRIOR TO DOING SO.
4. IN ACCORDANCE WITH O.R.S.290.150, CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL SURVEY MONUMENTS DISTURBED OR DESTROYED DURING CONSTRUCTION. REPLACING THE SURVEY MONUMENTS SHALL BE DONE BY A REGISTERED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
5. EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTACT UTILITY COMPANIES FOR PREMARKING. POTHOLE ALL UTILITY CROSSINGS BEFORE CONSTRUCTION TO PREVENT GRADE AND ALIGNMENT CONFLICTS.
6. TECHNICAL SPECIFICATIONS FOR CONSTRUCTION ARE TO FOLLOW THE MOST CURRENT EDITION OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) SPECIFICATIONS. SEE SPEC'S FOR CONSTRUCTION METHODS AND OTHER NOTES PERTINENT TO THIS PROJECT.
7. ALL FINAL DESIGNS AND SPECIFICATIONS TO BE APPROVED BY DEQ, LOCAL AGENCY AND OTHER ASSOCIATED UTILITIES PRIOR TO ANY CONSTRUCTION.
8. UPON COMPLETION OF CONSTRUCTION OF THE PROJECT, CONTRACTOR TO SUBMIT RECORD DRAWINGS TO THE ENGINEER OR CITY.

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SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
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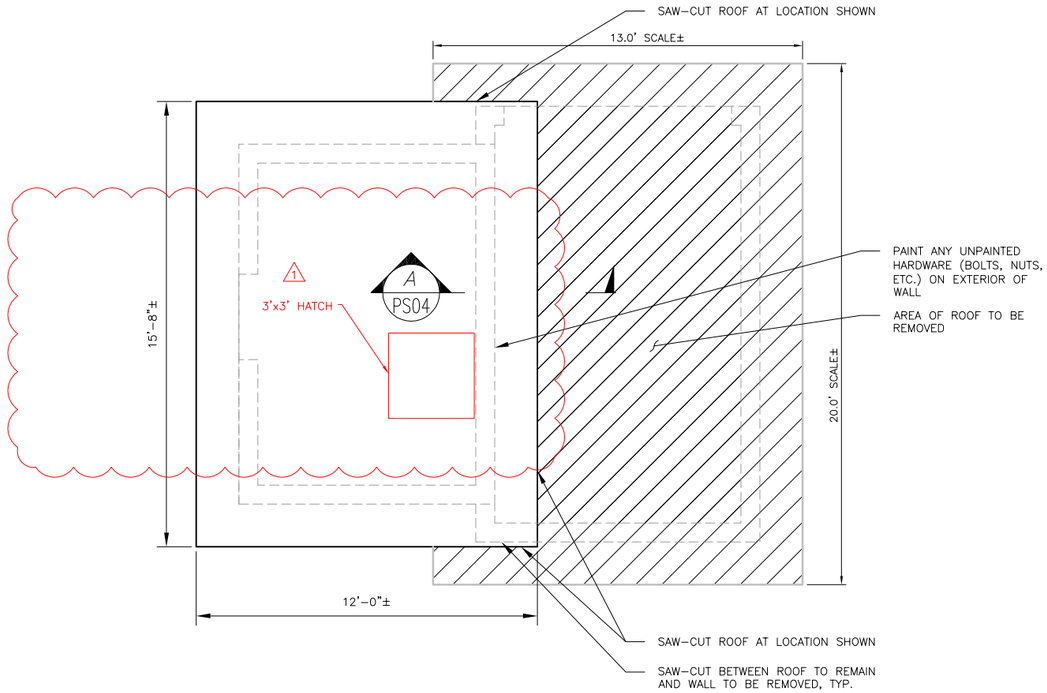
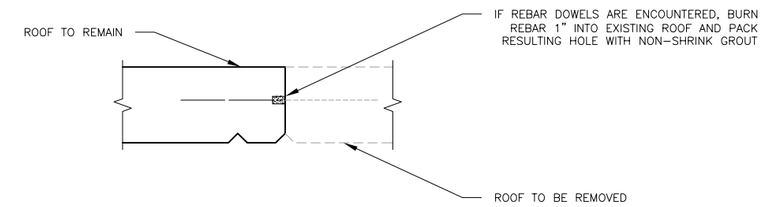


PUMP HOUSE DEMOLITION ROOF PLAN VIEW

SCALE 3/8"=1'-0"

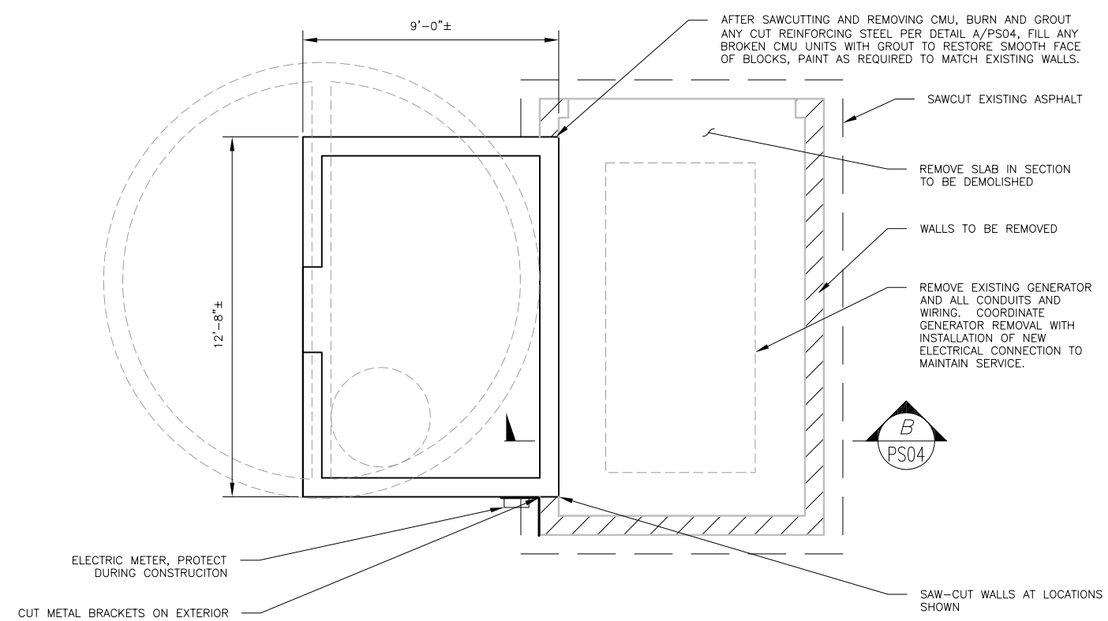
DEMOLITION NOTES:

1. THE DESIGN AND CONSTRUCTION OF THIS PROJECT IS GOVERENED BY THE 2013 OREGON STRUCTURAL SPECIALTY CODE (OSSC) BASED ON THE 2012 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS.
2. THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK USE DETAILS MARKED "TYPICAL" WHEREVER THEY APPLY.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DETAILS AND ACCURACY OF THE WORK; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR TECHNIQUES OF DEMOLITION; AND FOR PERFORMING WORK IN A SAFE AND SECURE MANNER.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND REQUIREMENTS FOR EXECUTING IT PROPERLY.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. CONFLICTS BETWEEN THE DRAWINGS AND THE ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. CONTRACTOR SHALL PATCH ALL HOLES IN CMU WALL WITH GROUT, INCLUDING BUT NOT LIMITED TO HOLES EXPOSED BY REMOVING CMU AND HOLES EXPOSED AND CREATED BY REMOVING CONDUIT.
8. GENERATOR DISCONNECT SHALL BE INCLUDED IN POWER CONDUCTOR RE-CONFIGURATION PLAN BY STATE OF OREGON, ELECTRICAL ENGINEER. THIS REMOVAL AND DISCONNECT ALSO INCLUDES THE EXISTING TRANSFER SWITCH INSIDE CONTROL (PS) BUILDING.



A PS05 PUMP HOUSE ROOF CUTTING SECTION

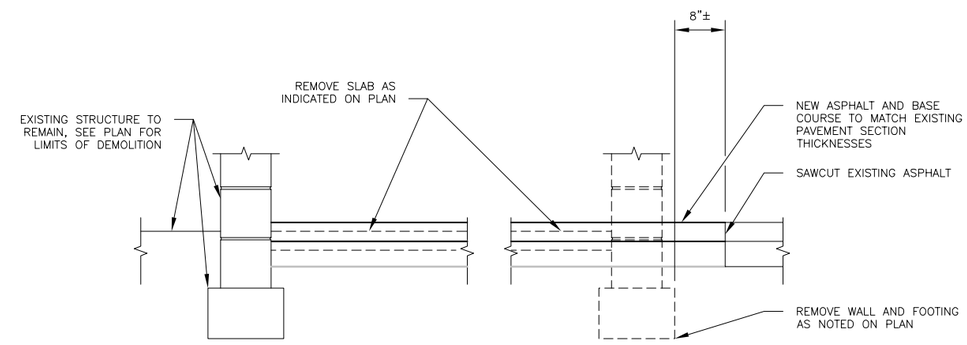
SCALE 1/2"=1'-0"



PUMP HOUSE DEMOLITION PLAN VIEW

SCALE 3/8"=1'-0"

1 AS-BUILT REDLINES BY OTAK



B PS04 PUMP HOUSE FOUNDATION DETAIL

SCALE 1"=1'-0"

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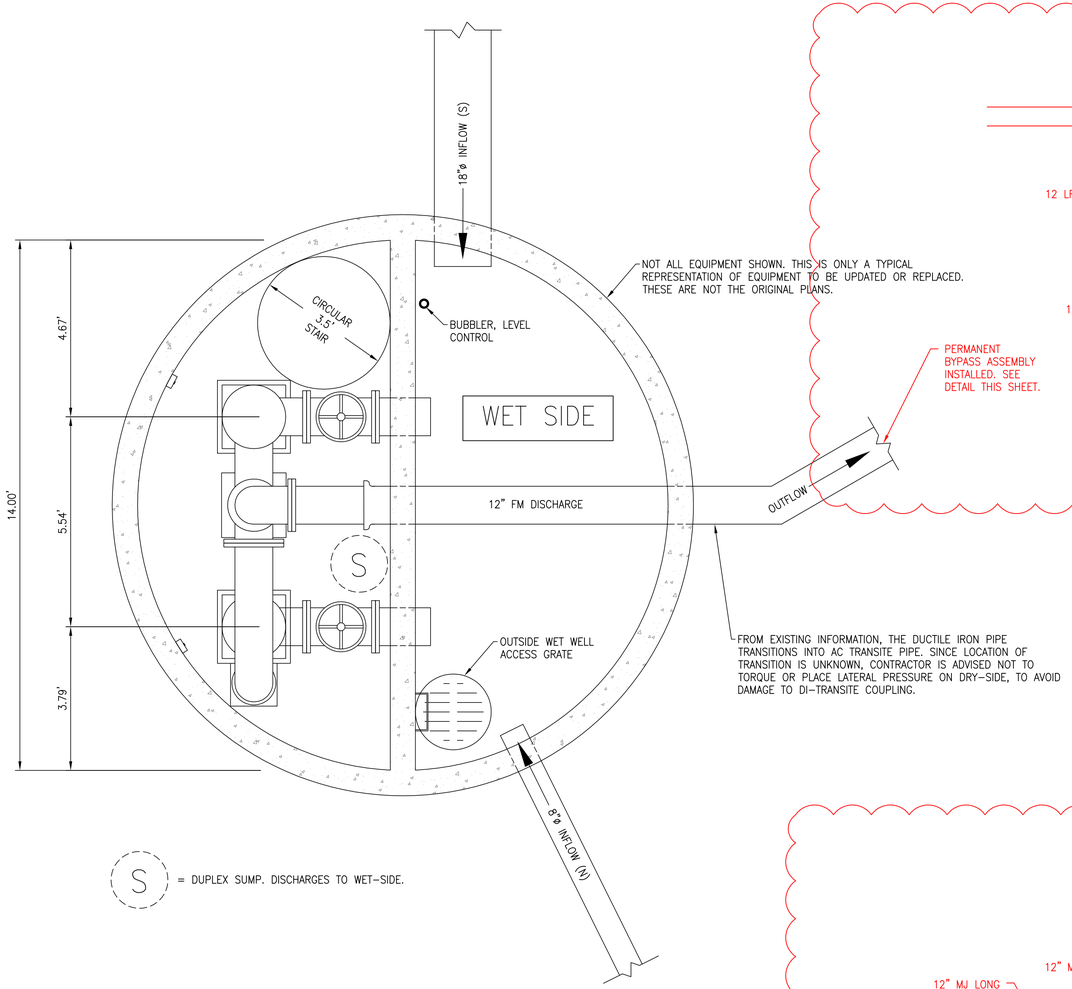
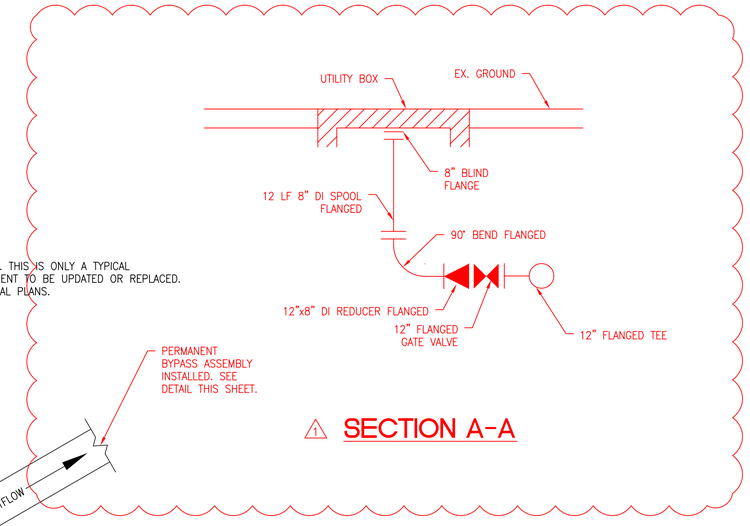


NOT ALL EQUIPMENT SHOWN. THIS IS ONLY A TYPICAL REPRESENTATION OF EQUIPMENT TO BE UPDATED OR REPLACED. THESE ARE NOT THE ORIGINAL PLANS.

FROM EXISTING INFORMATION, THE DUCTILE IRON PIPE TRANSITIONS INTO AC TRANSITE PIPE. SINCE LOCATION OF TRANSITION IS UNKNOWN, CONTRACTOR IS ADVISED NOT TO TORQUE OR PLACE LATERAL PRESSURE ON DRY-SIDE, TO AVOID DAMAGE TO DI-TRANSITE COUPLING.

EXISTING WET-DRY PLAN VIEW

SCALE 1" = 2'



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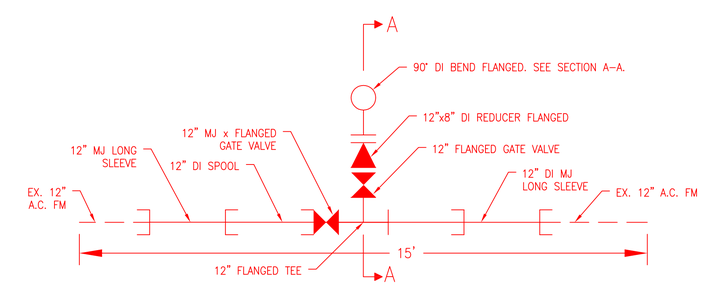

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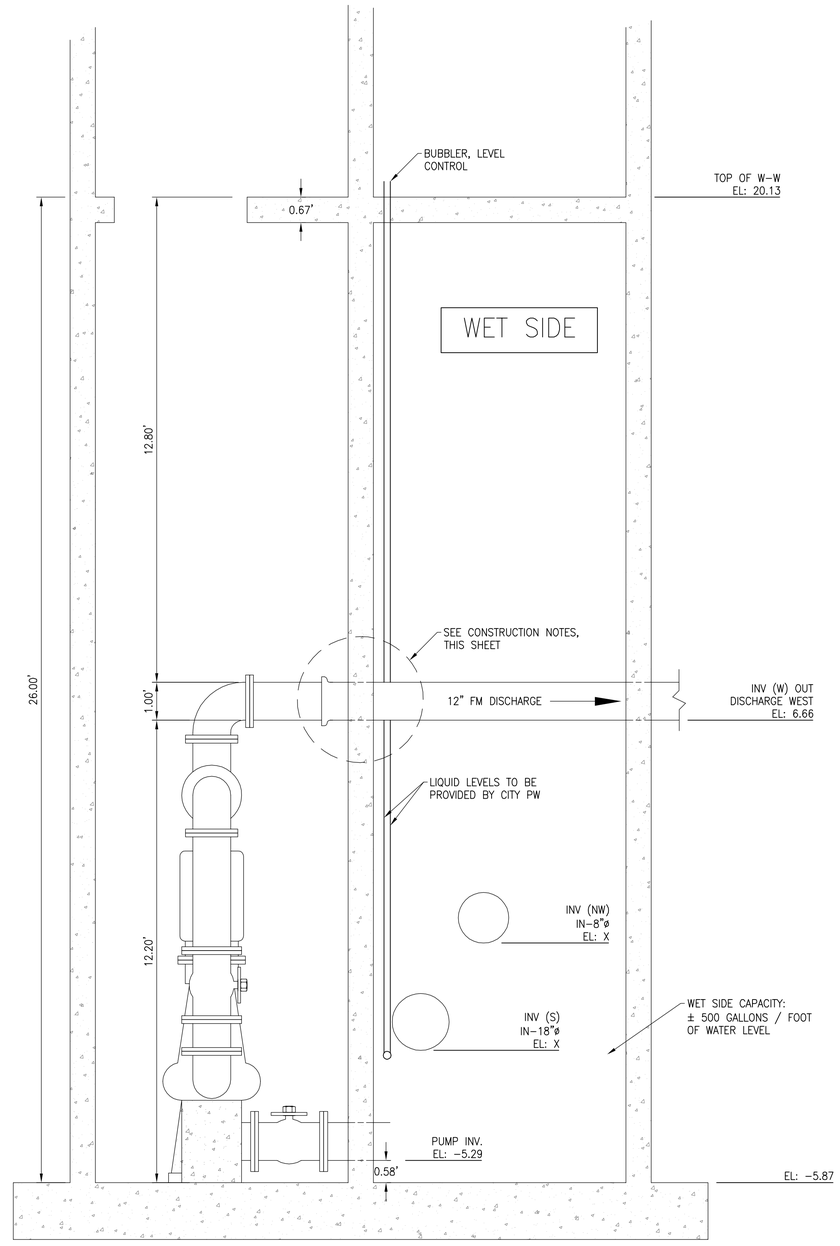

EXISTING WET-DRY SIDE PROFILE VIEW - SOUTH ELEVATION

SCALE 1" = 2'

CONSTRUCTION NOTES:

1. NOT ALL EQUIPMENT SHOWN. THIS IS ONLY A TYPICAL REPRESENTATION OF EQUIPMENT TO BE UPDATED OR REPLACED. THESE ARE NOT THE ORIGINAL PLANS.
2. THE 12"ø DI FORCE MAIN AS SHOWN IS FROM OBSERVATION. OUTSIDE OF THE WET-WELL, IT APPEARS TO TRANSITION FROM DI TO AC TRANSITE PIPE. CONTRACTOR IS ADVISED NOT TO TORQUE OR PLACE LATERAL PRESSURE ON DRY SIDE TO AVOID DAMAGE TO DI-TRANSITE COUPLING.
3. IT IS CRITICAL THAT LOCK-OUT-TAG OUT PROCEDURES BE ESTABLISHED AND FOLLOWED DURING EQUIPMENT UPGRADE.
4. INVERTS "IN" TO WET WELL TO BE MEASURED AND RECORDED DURING MAINTENANCE OR CLEANING.

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EXISTING WET-DRY PROFILE VIEW SOUTH
TILLAMOOK, TILLAMOOK COUNTY, OR

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Project No. 67522
PS07
Sheet No. 62 of 74

Sep 28, 2016 - 1:07pm
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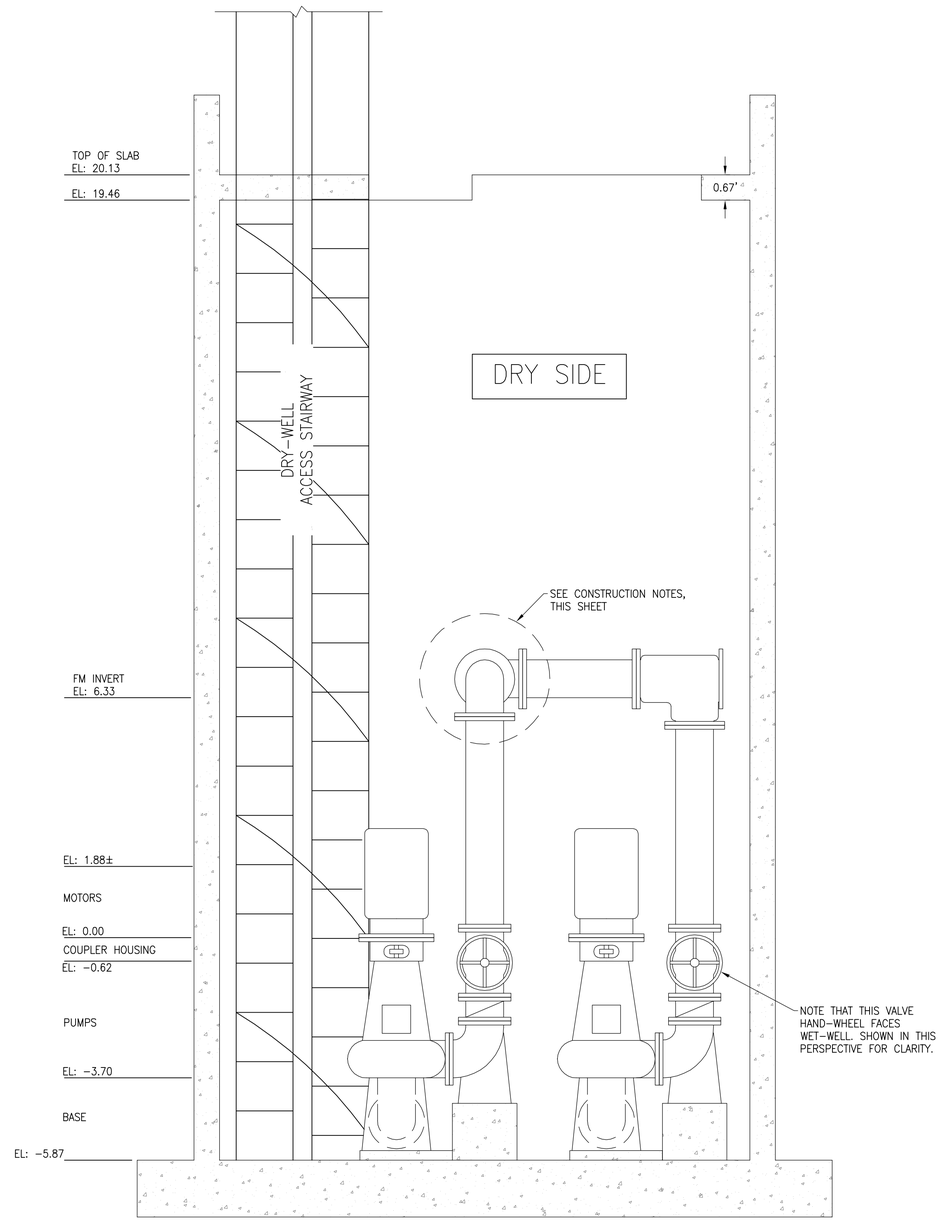

EXISTING DRY SIDE PROFILE VIEW - WEST ELEVATION

SCALE 1" = 2'

CONSTRUCTION NOTES:

1. NOT ALL EQUIPMENT SHOWN. THIS IS ONLY A TYPICAL REPRESENTATION OF EQUIPMENT TO BE UPDATED OR REPLACED. THESE ARE NOT THE ORIGINAL PLANS.
2. THE 12"ø DI FORCE MAIN AS SHOWN IS FROM OBSERVATION. OUTSIDE OF THE WET-WELL, IT APPEARS TO TRANSITION FROM DI TO AC TRANSITE PIPE. CONTRACTOR IS ADVISED NOT TO TORQUE OR PLACE LATERAL PRESSURE ON DRY SIDE TO AVOID DAMAGE TO DI-TRANSITE COUPLING.
3. IT IS CRITICAL THAT LOCK-OUT-TAG OUT PROCEDURES BE ESTABLISHED AND FOLLOWED DURING EQUIPMENT UPGRADE.
4. INVERTS "IN" TO WET WELL TO BE MEASURED AND RECORDED DURING MAINTENANCE OR CLEANING.

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1	9/2016	RPW	RJB	RECORD DRAWINGS

RECORD DRAWINGS
SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
OTAK, INC

CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
EXISTING WEST DRY SIDE PROFILE VIEW
TILLAMOOK, TILLAMOOK COUNTY, OR

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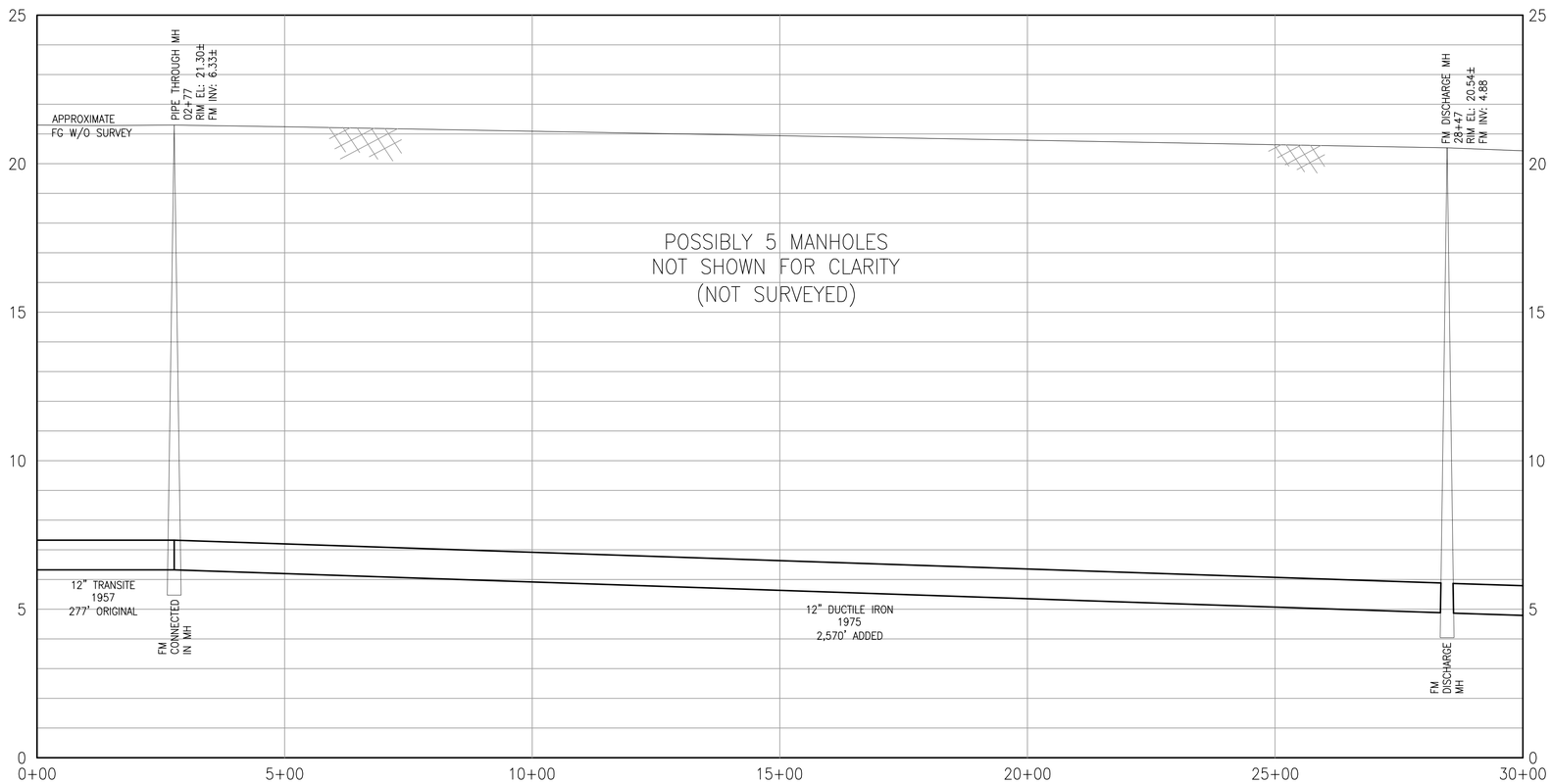
THIS FORCE MAIN PROFILE SHEET IS SHOWN FOR INFORMATIONAL PURPOSES ONLY



APPROXIMATE FORCE MAIN PROFILE ±2,847 L.F. (NO CHANGES)

SCALE (H) 1" = 150'
SCALE (V) 1" = 2.5'

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RECORD DRAWINGS
SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
OTAK, INC

CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
FORCE MAIN ELEVATION SOUTH EXISTING FM
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Sheet No. 64 of 74

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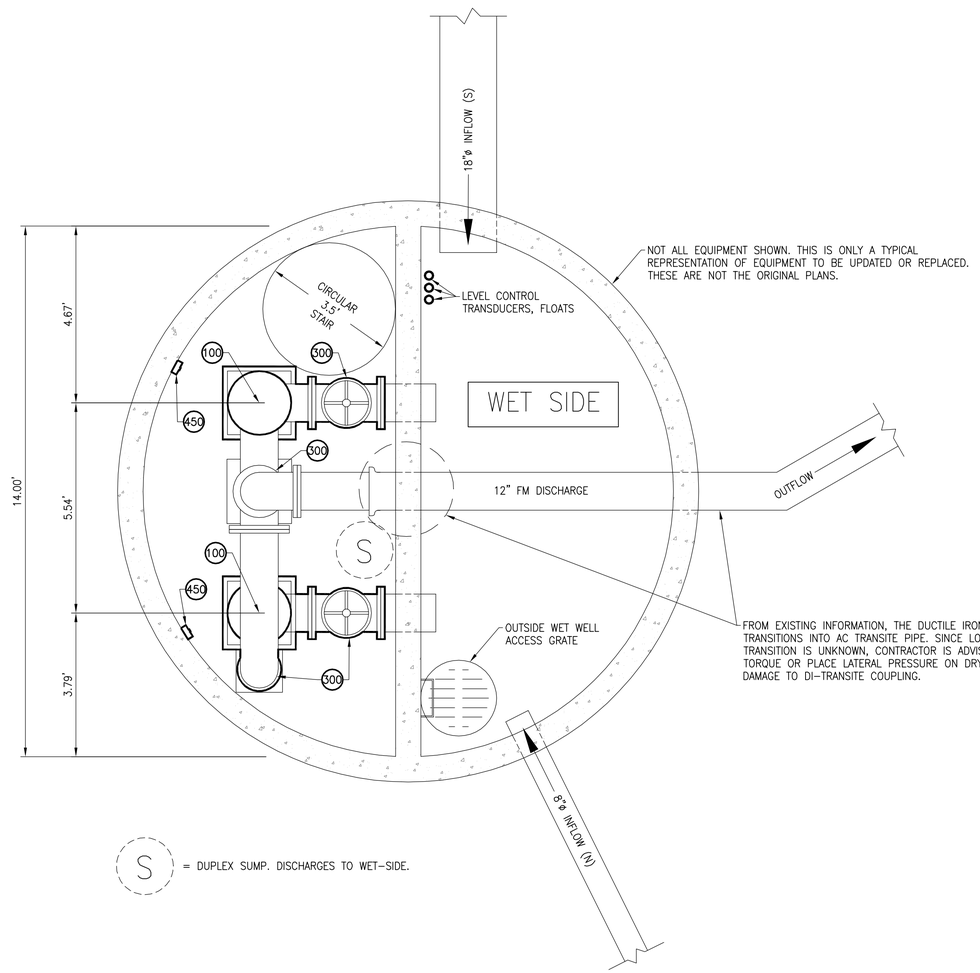

WET-DRY PLAN VIEW - UPGRADE

SCALE 1" = 2'

CONSTRUCTION NOTES:

100 REPLACE EXISTING MOTORS/PUMPS WITH XYLEM MODEL #NT 3153 LT 3~413 OR EQUAL

150 INSTALL ELECTRICAL PUMP DISCONNECTS NEAR PUMPS, ONE FOR EACH PUMP

200 REPLACE ELECTRICAL CONTROLS – VFDS WITH XYLEM MODEL #SR311, SMART RUN OR EQUAL

250 REPLACE LEVEL CONTROLS – WITH TRANSDUCERS, XYLEM OR EQUAL

300 REPLACE GATE/CHECK VALVES

350 REMOVE AND REPLACE CONCRETE HOUSEKEEPING PADS PER PLANS, CLEAN DRY, EPOXY MATING SURFACES, TYP. 4 PLACES, RE-INFORCING #4 EPOXY ANCHORED INTO CONCRETE FLOOR.

400 IF SO EQUIPPED, INSTALL BEARING LUBE KIT TO PUMPS. DO NOT MOUNT ON WALL SURFACE

450 ELECTRICAL PUMP DISCONNECTS ACCESSIBLE AT PUMPS SEE ELECTRICAL PLANS ON SHEETS PS16-PS19

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OTAK, INC

CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
WET-DRY PLAN VIEW
TILLAMOOK, TILLAMOOK COUNTY, OR

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Project No. 67522
PS10
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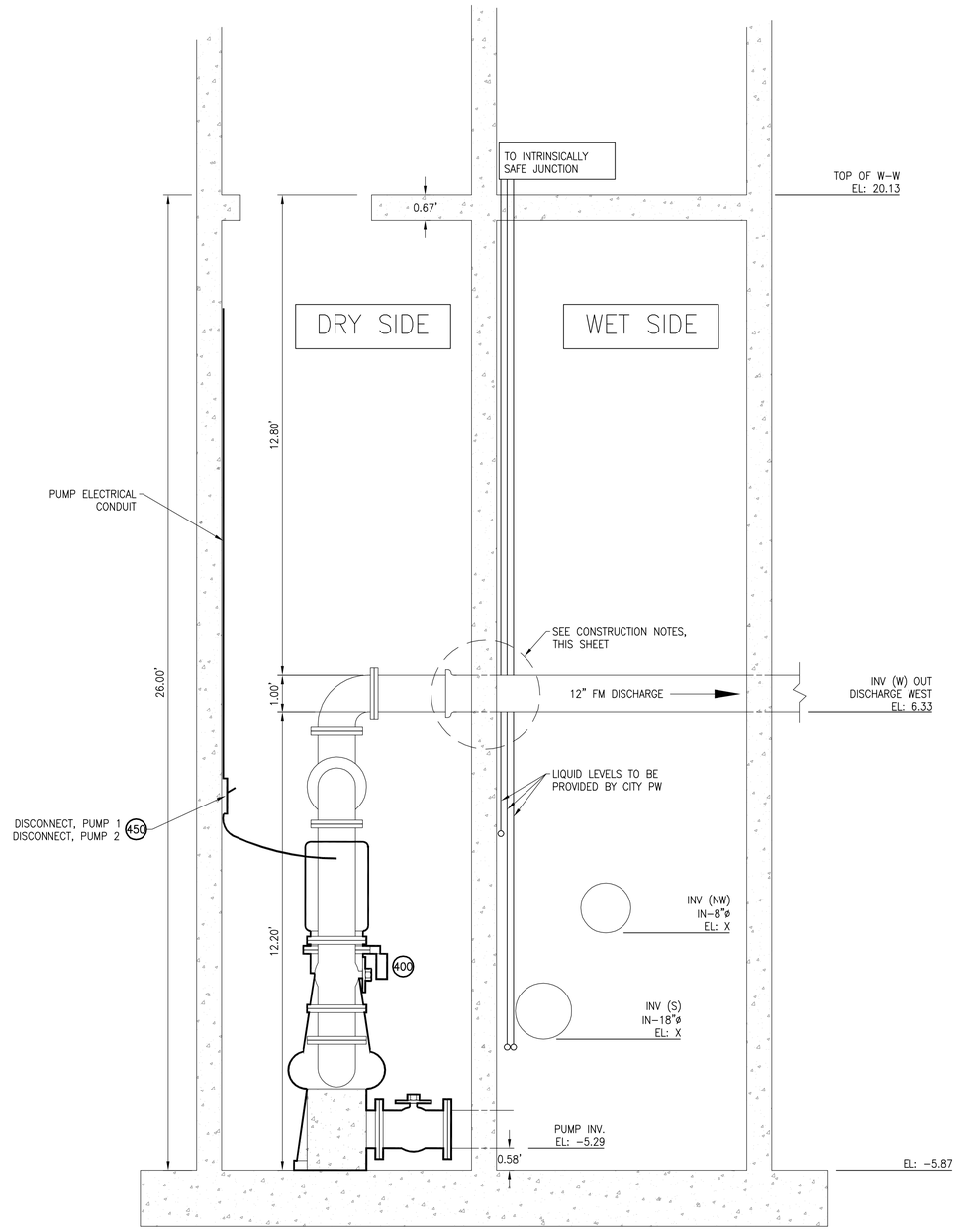

WET-DRY SIDE PROFILE VIEW - SOUTH ELEVATION - UPGRADE

SCALE 1" = 2'

CONSTRUCTION NOTES:

1. NOT ALL EQUIPMENT SHOWN. THIS IS ONLY A TYPICAL REPRESENTATION OF EQUIPMENT TO BE UPDATED OR REPLACED. THESE ARE NOT THE ORIGINAL PLANS.
2. THE 12"ø DI FORCE MAIN AS SHOWN IS FROM OBSERVATION. OUTSIDE OF THE WET-WELL, IT APPEARS TO TRANSITION FROM DI TO AC TRANSITE PIPE. CONTRACTOR IS ADVISED NOT TO TORQUE OR PLACE LATERAL PRESSURE ON DRY SIDE TO AVOID DAMAGE TO DI-TRANSITE COUPLING.
3. IT IS CRITICAL THAT LOCK-OUT-TAG OUT PROCEDURES BE ESTABLISHED AND FOLLOWED DURING EQUIPMENT UPGRADE.
4. INVERTS "IN" TO WET WELL TO BE MEASURED AND RECORDED DURING MAINTENANCE OR CLEANING.

400 IF SO EQUIPPED, INSTALL BEARING LUBE KIT TO PUMPS. DO NOT MOUNT ON WALL SURFACE

450 ELECTRICAL PUMP DISCONNECTS ACCESSIBLE AT PUMPS SEE ELECTRICAL PLANS

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CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
WET-DRY PROFILE VIEW
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PS11

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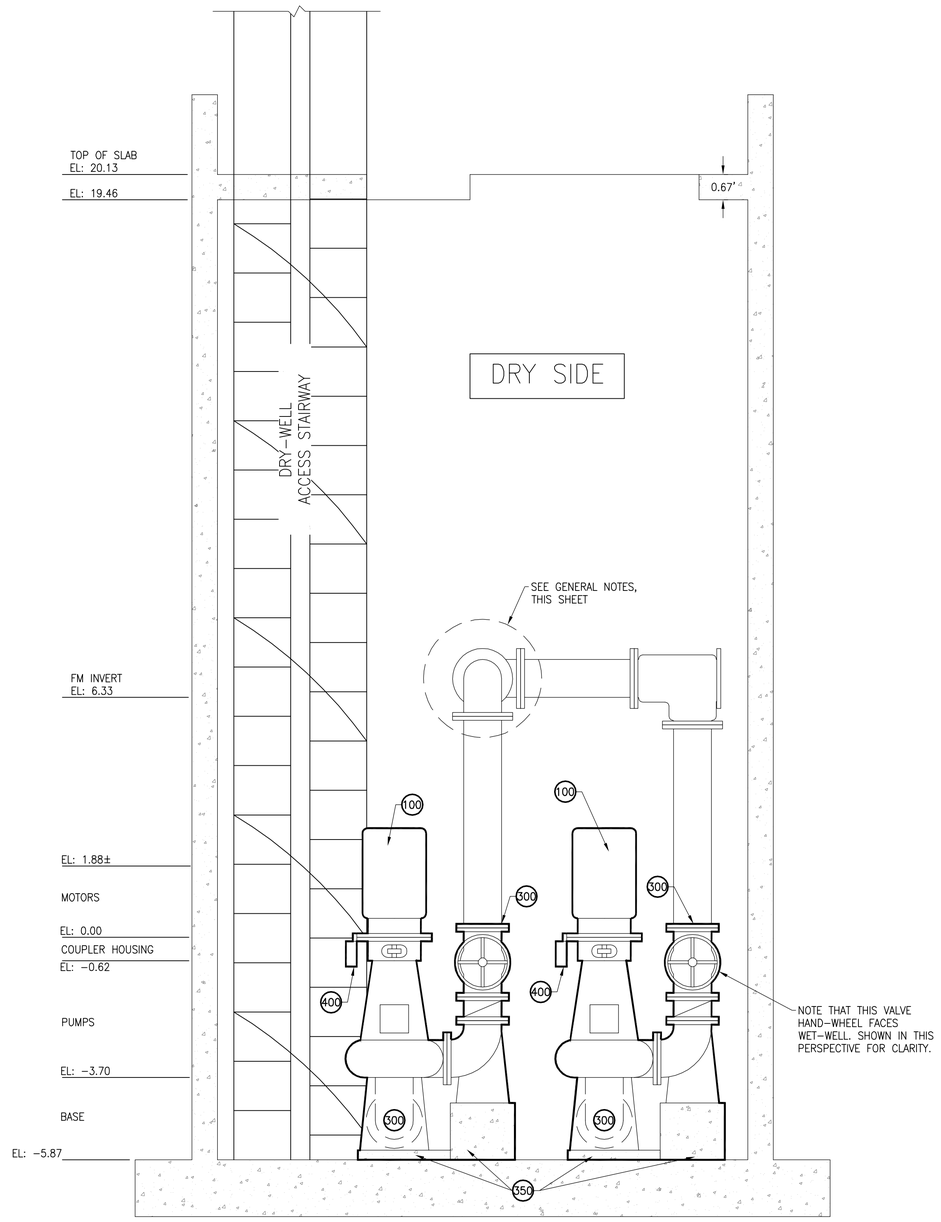

DRY SIDE PROFILE VIEW - WEST ELEVATION - UPGRADE

SCALE 1" = 2'

GENERAL NOTES:

1. NOT ALL EQUIPMENT SHOWN. THIS IS ONLY A TYPICAL REPRESENTATION OF EQUIPMENT TO BE UPDATED OR REPLACED. THESE ARE NOT THE ORIGINAL PLANS.
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150 INSTALL ELECTRICAL PUMP DISCONNECTS NEAR PUMPS, ONE FOR EACH PUMP

200 REPLACE ELECTRICAL CONTROLS – VFDS WITH XYLEM MODEL #SR311, SMART RUN OR EQUAL

250 REPLACE LEVEL CONTROLS – WITH TRANSDUCERS, XYLEM MODEL OR EQUAL

300 REPLACE OR REPAIR GATE/CHECK VALVES AS DIRECTED BY CITY

350 REMOVE AND REPLACE CONCRETE HOUSEKEEPING PADS PER PLANS, CLEAN DRY, EPOXY MATING SURFACES, TYP. 4 PLACES, RE-INFORCING #4 EPOXY ANCHORED INTO CONCRETE FLOOR.

400 IF SO EQUIPPED, INSTALL BEARING LUBE KIT TO PUMPS. DO NOT MOUNT ON WALL SURFACE

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RECORD DRAWINGS
SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
OTAK, INC

CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
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DRY SIDE PROFILE VIEW
TILLAMOOK, TILLAMOOK COUNTY, OR

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PS12

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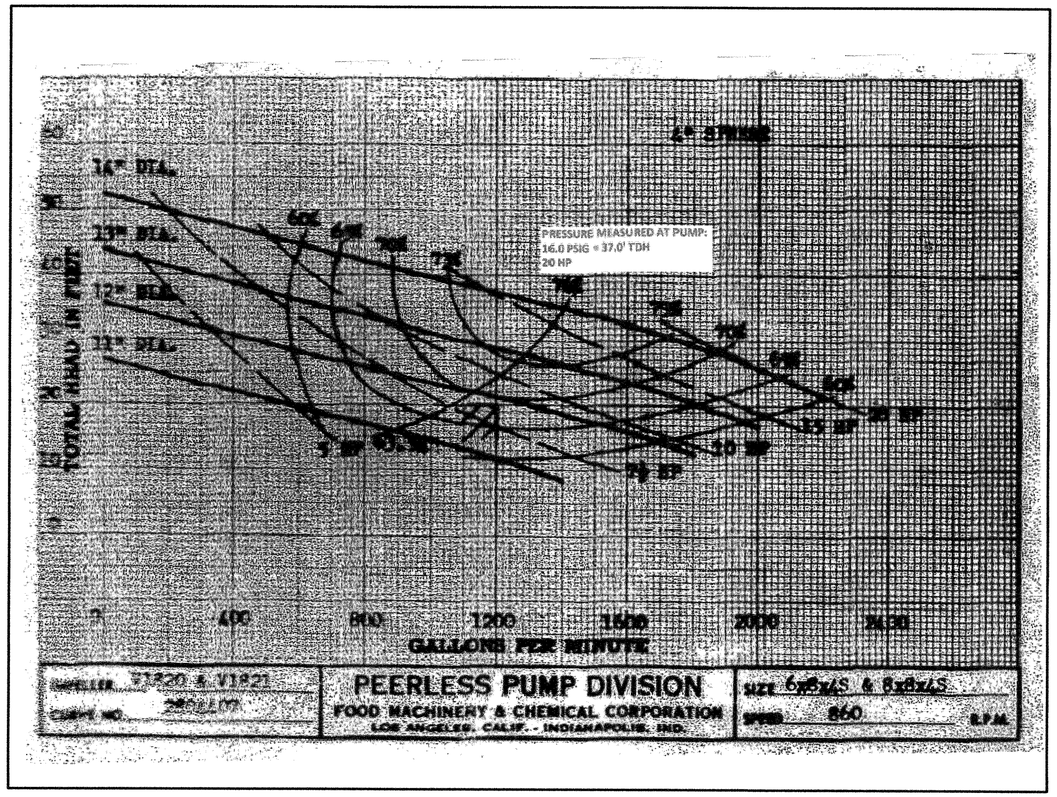
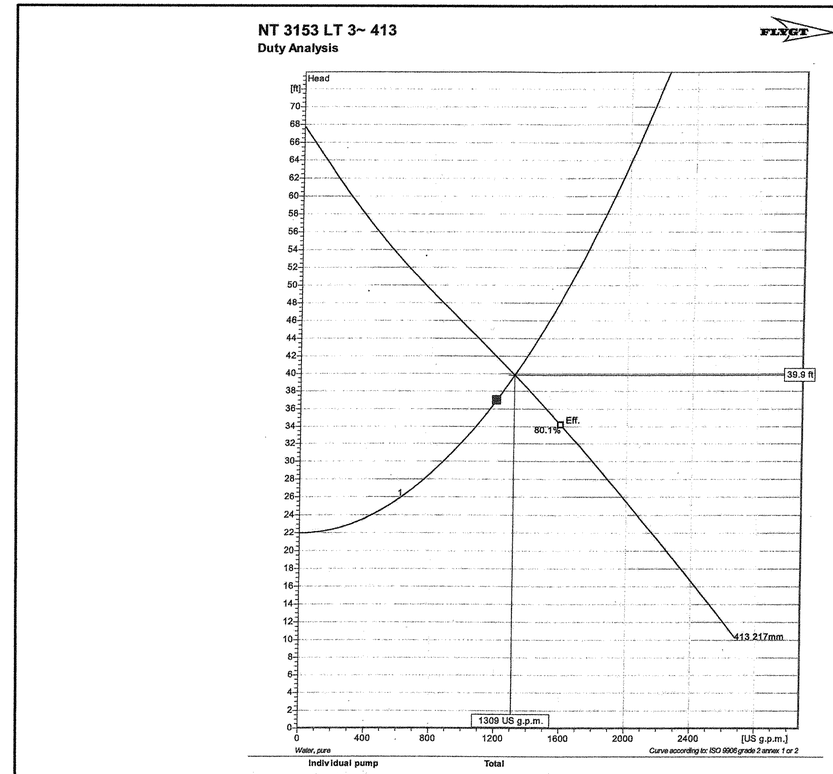


EXISTING PEERLESS



NEW XYLEM

NO.	DATE	BY	Checked & Approval
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RECORD DRAWINGS

RECORD DRAWINGS
SEPTEMBER, 2016

BY: R. WIGGINS
APPROVED: R. BILLEN
OTAK, INC

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TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
PUMP CURVES
TILLAMOOK, TILLAMOOK COUNTY, OR

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Project No. 67522

PS13

Sheet No. 68 of 74

Sep 02, 2015 - 2:22pm
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NOTE:

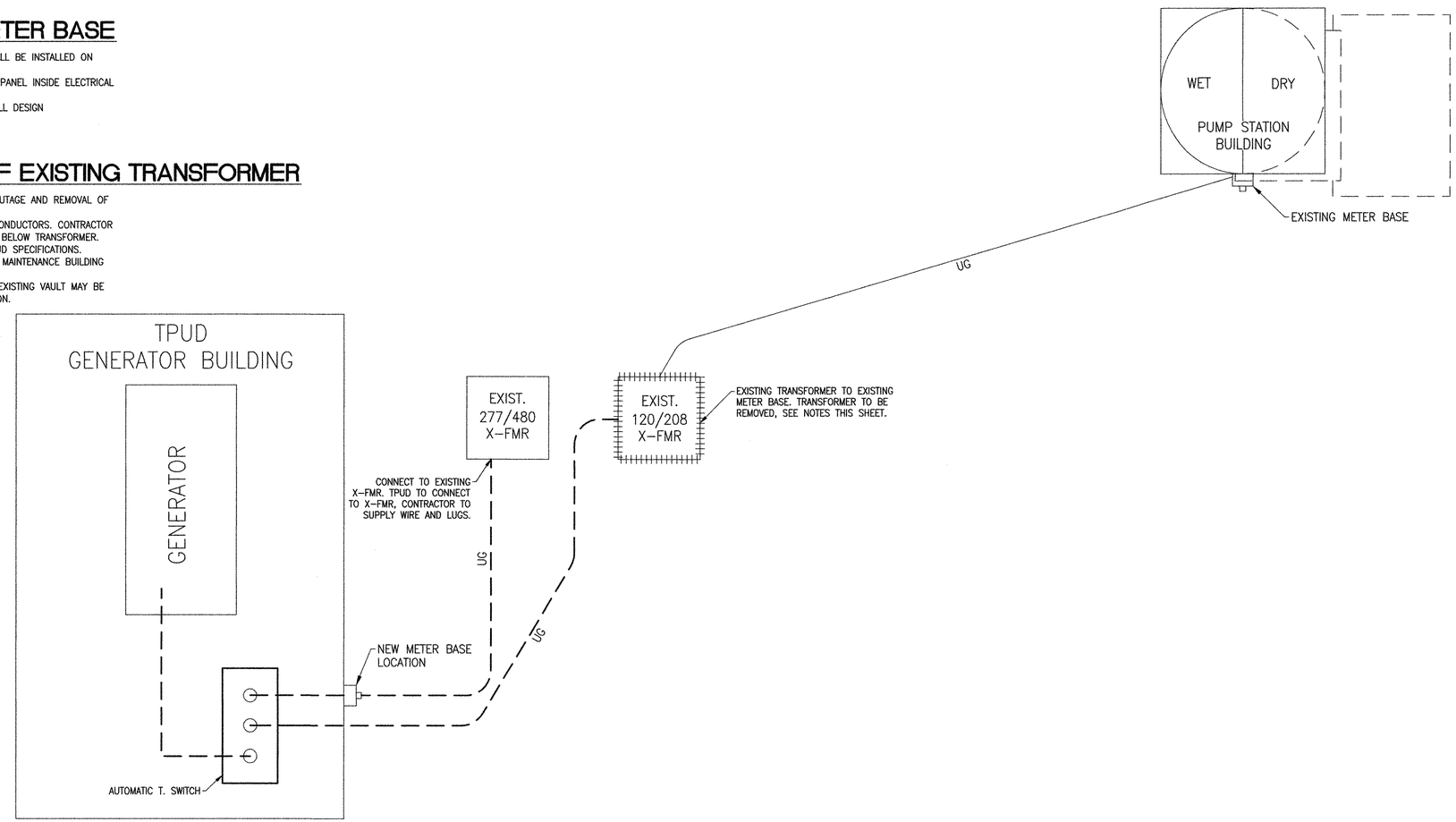
AT A FUTURE DATE – CITY MAY WISH TO FLAT-TOP WET-WELL AND REMOVE BUILDING COMPLETELY. THIS WILL REQUIRE MOVING CONTROLS, VFDs, ACCESSORIES TO TPUD GENERATOR BUILDING, ALONG WITH THE ADDITION OF MORE CONDUITS AND CONDUCTORS BETWEEN PS AND TPUD GENERATOR BUILDING.

NOTES FOR EXISTING METER BASE

1. DURING UP-GRADE, NEW STAINLESS STEEL METER BASE SHALL BE INSTALLED ON SOUTH-EAST SIDE OF GENERATOR BUILDING.
2. UG POWER TO BE RE-CONNECTED TO POWER DISTRIBUTION PANEL INSIDE ELECTRICAL BUILDING.
3. ELECTRICAL ENGINEER, LICENSED BY STATE OF OREGON SHALL DESIGN RE-CONNECTION AND SCHEDULE.

NOTES FOR REMOVAL OF EXISTING TRANSFORMER

1. CONTRACTOR SHALL COORDINATE WITH TPUD FOR SERVICE OUTAGE AND REMOVAL OF EXISTING GENERATOR.
2. TPUD WILL SALVAGE EXISTING TRANSFORMER AND REMOVE CONDUCTORS. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONCRETE LID ON VAULT BELOW TRANSFORMER. LID SHALL HAVE GALVANIZED STEEL HATCH AND BE PER TPUD SPECIFICATIONS.
3. EXISTING WIRE AND CONDUIT FROM TRANSFORMER VAULT TO MAINTENANCE BUILDING SHALL BE REMOVED/ABANDONED.
4. ONCE TRANSFORMER IS REMOVED AND NEW LID INSTALLED, EXISTING VAULT MAY BE USED AS PULL BOX FOR EXISTING CONDUIT TO PUMP STATION.



THIS SKETCH AND RELATED NOTES ARE FUNCTIONAL IN NATURE TO SHOW DESIGN INTENT. THE ACTUAL CONFIGURATION SHALL BE DESIGNED BY A STATE OF OREGON LICENSED ELECTRICAL ENGINEER AND APPROVED BY CITY OF TILLAMOOK AND THE TILLAMOOK PEOPLE'S UTILITY DISTRICT (TPUD).

UG = EXISTING UNDERGROUND

UG = PROPOSED UNDERGROUND

= DEMO

PROPOSED POWER SCHEMATIC BEFORE EXISTING GENERATOR REMOVAL

NTS

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RECORD DRAWINGS
SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
OTAK, INC

CITY OF TILLAMOOK
TILLAMOOK SEWER REHABILITATION PROJECT
12TH STREET PUMP STATION
WET-DRY PROFILE VIEW
TILLAMOOK, TILLAMOOK COUNTY, OR

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Project No. 67522

PS14

Sheet No. 69 of 74

Sep 03, 2015 – 10:21am
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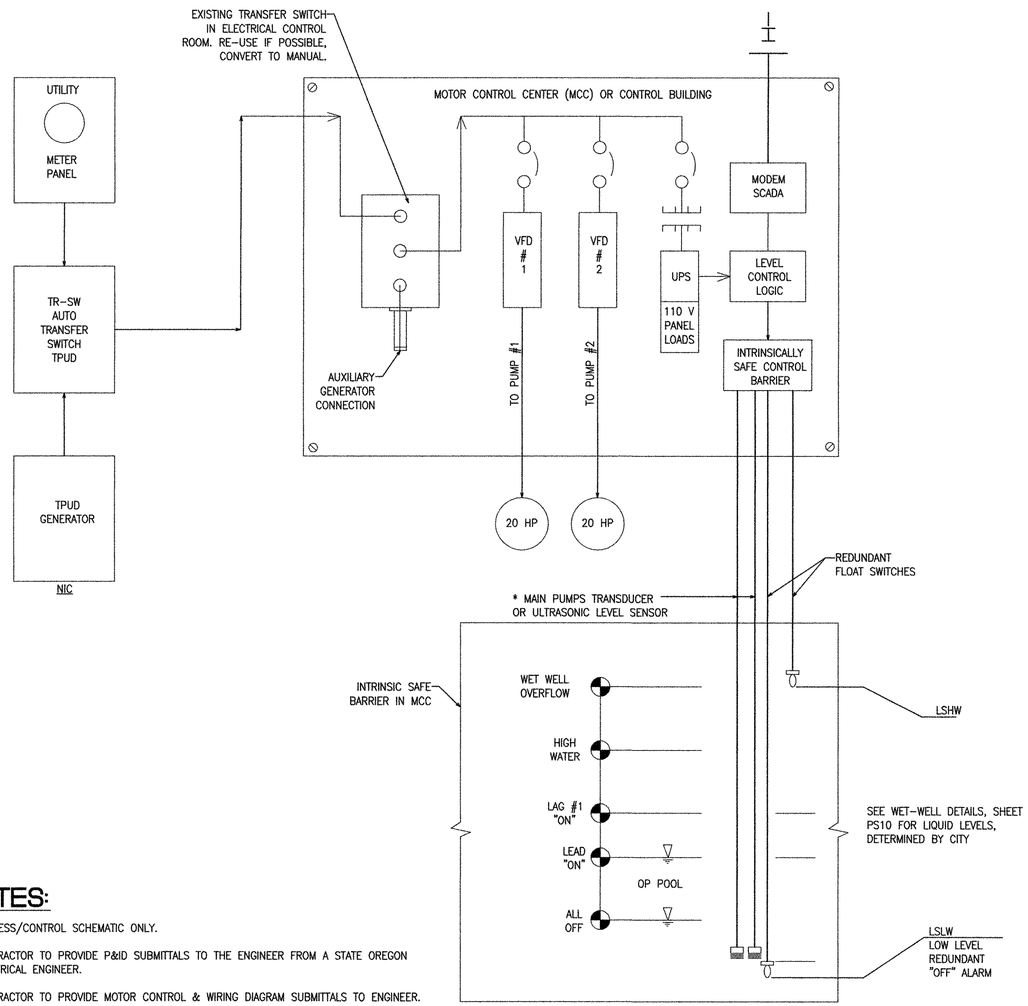
THIS DRAWING AND RELATED NOTES ARE FUNCTIONAL IN NATURE TO SHOW DESIGN INTENT. THE ACTUAL CONFIGURATION, ENCLOSURES, EQUIPMENT MAY VARY DEPENDING ON VENDOR AND EQUIPMENT SUPPLIED THROUGHOUT THE SUBMITTAL PROCESS.



* ALTERNATE LEVEL CONTROL MAY BE PRESSURE TRANSDUCER PRODUCING 4-20 M.A. SIGNAL L.I.T.

NOTES:

1. PROCESS/CONTROL SCHEMATIC ONLY.
2. CONTRACTOR TO PROVIDE P&ID SUBMITTALS TO THE ENGINEER FROM A STATE OREGON ELECTRICAL ENGINEER.
3. CONTRACTOR TO PROVIDE MOTOR CONTROL & WIRING DIAGRAM SUBMITTALS TO ENGINEER.
4. CONTRACTOR TO PROVIDE RECORD DRAWINGS OF COMPLETE INSTALLATION FROM A STATE OF OREGON ELECTRICAL ENGINEER.
5. CONTROL PANEL TO CONTAIN FULLY FUNCTIONAL COOLING FANS(S), HEATER, THERMOSTATICALLY CONTROLLED, ETM METERS, ALARM LIGHTS, HOA W/ VFD BY-PASS, FULL PUMP LOCKOUTS, DEAD FRONT.
6. NOT ALL ELECTRICAL CONTROLS, CONDUITS SHOWN ON THIS PLAN.
7. PUMP AROUND DESIGNED BY OTHERS (IF NECESSARY)
8. BUBBLER LEVEL CONTROL REMOVED
9. CONTRACTOR MAY ELECT SINGULAR PUMP REPLACEMENT RATHER THAN A PUMP-AROUND ARRANGEMENT.

LEGEND

1. MCC/PLC – DENOTES PUMP STATION MOTOR CONTROL CENTER AND PROGRAMMABLE LOGIC CONTROLLER, (A DISCREET NEMA PANEL). ADDITION OF PLC DEPENDS ON CITY REQUIREMENTS.
2. TR-SW – DENOTES AUTO ELECTRICAL TRANSFER SWITCH, TO OPERATE PUMP STATION AND CONTROLLERS FROM MAIN ELECTRICAL POWER GRID OR THROUGH ON-SITE AUXILARY POWER GENERATOR. AUTO TRANSFER SWITCH SHALL BE RE-USED BY CONTRACTOR, IF POSSIBLE. IN COORDINATION WITH EXISTING LOCAL JURISDICTION REQUIREMENTS, TILLAMOOK PUBIC UTILITIES AND LOCAL CODES.
3. VFD – DENOTES VARIABLE FREQUENCY DRIVE FOR INDIVIDUAL PUMP CONTROL.
4. LIT – DENOTES LEVEL INDICATOR TRANSMITTER. PUMP VFDS ARE LEVEL CONTROLLED, BASED ON OPERATING LEVELS WITHIN THE PUMP STATION WET WELL TO BE INPUT INTO PLC. A 4-20 mA SIGNAL SHALL BE PROVIDED TO MCC/PLC, OR DRIVES & PUMP CONTROL PANEL.
5. LSHW – DENOTES REDUNDANT OVERRIDE LEVEL SWITCH FOR HIGH WATER. THIS LEVEL SWITCH (FLOAT) SHALL ONLY BE USED FOR A BACK-UP OR ALARM SYSTEM.
6. LSLW – DENOTES REDUNDANT OVERRIDE LEVEL SWITCH FOR LOW WATER. THIS LEVEL SWITCH (FLOAT) SHALL ONLY BE USED FOR A BACK-UP OR ALARM SYSTEM

AC. POWER	SIGNAL OR
480 OR 110 V	4-20 MA
3Ø 1Ø	

GENERAL SYSTEM OPERATIONAL NOTES

1. THIS SCHEMATIC DIAGRAM IS PROVIDED TO SHOW GENERAL LAYOUT FOR PROCESS AND CONTROL ONLY. CONTRACTOR SHALL SUBMIT ACTUAL PIPING AND INSTRUMENTATION DIAGRAM (P&ID) TO THE PROJECT ENGINEER AND ELECTRICAL ENGINEER FOR APPROVAL.
2. CONTRACTOR SHALL SUBMIT A LOAD SCHEDULE, SINGLE LINE DIAGRAM, MOTOR CONTROL AND WIRING DIAGRAMS, P&ID SCHEMATIC LAYOUT SHOWING INTERFACE LOGIC BETWEEN PUMP STATION AND CONTROL UNIT, AND SHALL RECEIVE PROJECT ENGINEERS APPROVAL OF SAME BEFORE ANY PROJECT WORK IS STARTED.
3. CONTROLS SHALL BE DESIGNED BY THE CONTRACTOR. A SEPARATE VFD SHALL BE INSTALLED ON EACH PUMP. CONTROLS SHALL BE NEMA DESIGN AND MOUNTED INSIDE THE NEMA 4X CONTROL PANEL OR CONTROL BUILDING, WITH CIRCUIT BREAKERS, MAGNETIC MOTOR STARTERS, OVERLOAD PROTECTION IN ALL THREE LEGS, INDICATION LIGHTS, RUN TIME METERS AND TIMED START COUNTERS FOR ALL PUMPS, AND H.O.A. SELECTOR SWITCHES. ALL PUMPING OPERATIONS, LEVEL CONTROLS, AND POWER SUPPLIES SHALL BE AUTOMATIC OPERATION, WITH MANUAL STOP SWITCHES AND MANUAL OVERRIDES, INCLUDING VFD BY-PASS OPERATION.
4. ALL CRITICAL CONTROLS, SUCH AS PUMP ON, PUMP SPEED, PUMP FAILURE, WATER LEVELS IN PUMP STATION, POWER SUPPLY, EMERGENCY STOP, SHALL BE HARDWIRED.
5. COMMUNICATION BETWEEN WASTEWATER PUMPS AND PLC UNIT SHALL BE DUAL REDUNDANT USING ETHERNET TCP/IP FOR SCADA SYSTEM. LANGUAGE SHALL BE MODBUS. CONTRACTOR SHALL SUBMIT A COMMUNICATION/CONTROL NETWORK DIAGRAM FOR APPROVAL BY THE PROJECT ENGINEER AND CITY BEFORE PURCHASING OR INSTALLING SAME. PROTOCOLS THAT ARE PROPRIETARY WILL NOT BE ALLOWED. THE TELEMTRY SYSTEM MUST BE ABLE TO SIMULTANEOUSLY SUPPORT MULTIPLE COMMUNICATION PROTOCOLS.
6. BOTH MAIN PUMPS IN PUMPING STATION SHALL BE SEQUENCED AND ALTERNATING OPERATION, THE FIRST "ON" BEING THE LEAD PUMP, SECOND "ON" BEING LAG #1. ALTERNATE PUMP SEQUENCING ON SUBSEQUENT STARTS.
7. PUMP STATION WETWELL SHALL BE LEVEL-CONTROLLED VIA LEVEL TRANSMITTER MOUNTED WITHIN THE WETWELL. PUMP STATION WETWELL LEVEL SHALL DICTATE HOW MANY PUMPS OPERATE DURING ANY ONE PUMPING PERIOD.
8. NUMBER OF PUMP STARTS PER HOUR AND FREQUENCIES AT WHICH PUMPS ARE ALLOWED TO RUN SHALL BE DETERMINED BY PUMP VENDOR AND APPROVED BY PROJECT ENGINEER.
9. CONTROL PANEL SHALL CONTAIN FULLY FUNCTIONAL COOLING FANS, THERMOSTATICALLY CONTROLLED HEATER, ELAPSED TIME METER FOR EACH INDIVIDUAL PUMP, ELAPSED TIME METER FOR ALL PUMPS ON, TIMED NUMBER OF STARTS, ALARM LIGHTS, H-O-A SWITCHES WITH VFD BY-PASS, FULL PUMP LOCKOUTS, DEAD FRONT.
10. ALL ALARMS SHALL BE INDICATED ON BOTH THE TELEMETRY SYSTEM AND MCC/PLC PANEL. BOTH POWER SOURCES (GRID AND AUXILARY), SHALL BE CAPABLE OF OPERATING BOTH THE PUMPING EQUIPMENT AND THE CONTROLS. CLEARING OF THE ALARMS SHALL ONLY BE ACCOMPLISHED MANUALLY (NOT REMOTELY) AND SHALL TAKE PLACE AT THE PUMP STATION CONTROL PANEL.
11. ALARMS ON PUMP VFD SYSTEM SHALL INCLUDE AS A MINIMUM, PUMPING FAILURE DURING A PUMP CALL, PHASE LOSS MONITORING, LOSS OF PHASE, HARMONICS ABOVE VENDOR PRE-SET LIMITS, SURGE ALARM, CONTINUANCE OF PUMP OPERATION AFTER STOP SIGNAL, HIGH TEMPERATURE ALARM (SET BY MANUFACTURER).
12. ALARMS ON PLC SHALL INCLUDE AS A MINIMUM, GRID POWER FAILURE, OPERATIONS SYSTEM MONITORING, PUMP/VALVE/CONTROL SEQUENCING, LOSS OF CONNECTION WITH PUMP SYSTEM MOTOR CONTROL CENTER.
13. CONTRACTOR SHALL PROVIDE:
    a. FULL START UP AND OPERATIONAL TESTING OF PUMPING AND CONTROL SYSTEM, COORDINATED WITH VENDOR
    b. RECORD DRAWINGS OF COMPLETE INSTALLATION,
    c. OPERATING AND MAINTENANCE MANUALS FOR PUMPING EQUIPMENT AND CONTROLS.
14. ADDITIONAL SPECIFICATIONS FOUND IN SPECIAL PROVISIONS.

NO.	DATE	BY	REVISIONS	Checked & Approval	RUB	RECORD DRAWINGS
1	9/2016	RPW				

RECORD DRAWINGS
SEPTEMBER, 2016
BY: R. WIGGINS
APPROVED: R. BILLEN
OTAK, INC

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