

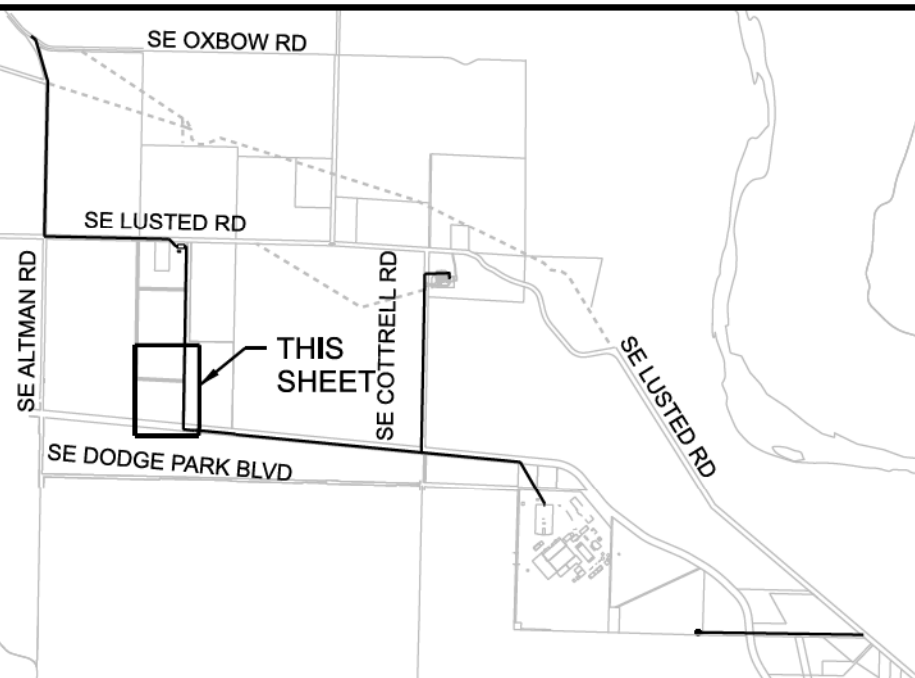
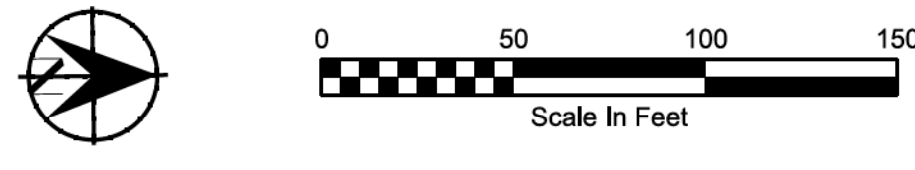
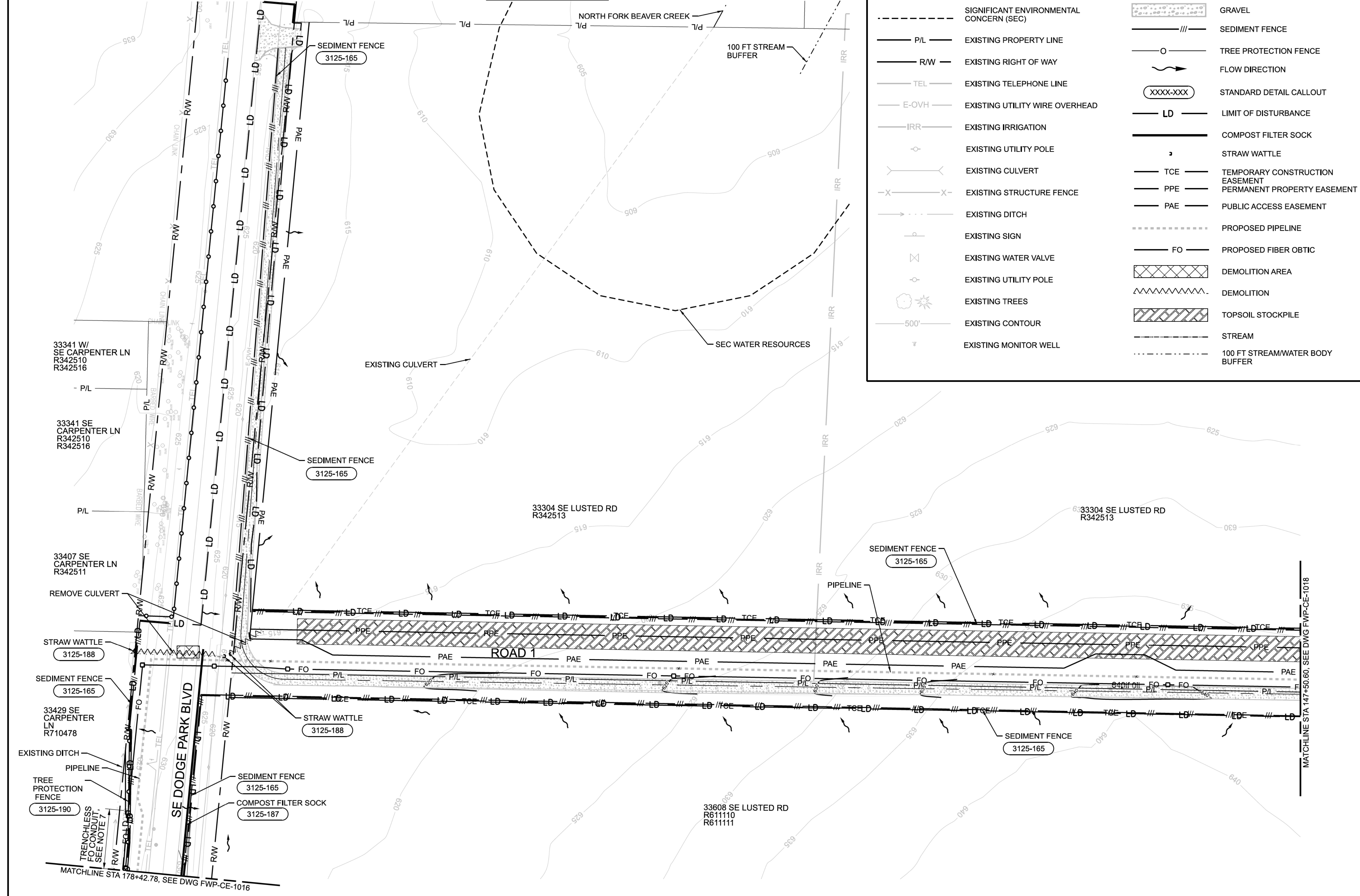
UTILITY WORK

LEGEND

GENERAL SHEET NOTES

--- SEC ---	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)	-----	GRAVEL
— P/L —	EXISTING PROPERTY LINE	— / / / —	SEDIMENT FENCE
— R/W —	EXISTING RIGHT OF WAY	— ○ —	TREE PROTECTION FENCE
— TEL —	EXISTING TELEPHONE LINE	— ~ —	FLOW DIRECTION
— E-OVH —	EXISTING UTILITY WIRE OVERHEAD	(XXXX-XXX)	STANDARD DETAIL CALLOUT
— IRR —	EXISTING IRRIGATION	— LD —	LIMIT OF DISTURBANCE
○	EXISTING UTILITY POLE	— [] —	COMPOST FILTER SOCK
— X —	EXISTING STRUCTURE FENCE	— [] —	STRAW WATTLE
— X —	EXISTING DITCH	— TCE —	TEMPORARY CONSTRUCTION EASEMENT
— P —	EXISTING SIGN	— PPE —	PERMANENT PROPERTY EASEMENT
— V —	EXISTING WATER VALVE	— PAE —	PUBLIC ACCESS EASEMENT
○	EXISTING UTILITY POLE	-----	PROPOSED PIPELINE
— [] —	EXISTING TREES	— FO —	PROPOSED FIBER OPTIC
— 500' —	EXISTING CONTOUR	[X]	DEMOLITION AREA
— [] —	EXISTING MONITOR WELL	[Z]	DEMOLITION
		[H]	TOPSOIL STOCKPILE
		— [] —	STREAM
		-----	100 FT STREAM/WATER BODY BUFFER

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING GRADE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.
- TRENCHLESS FO CONDUIT HAS MINIMUM COVER OF 6FT. NO GROUND DISTURBANCE OR ROOT DISTURBANCE IN THIS AREA.



No	Date	Description	Appd

Designed By	RG
Program Mgr	XXX
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date

CONFIDENTIAL

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE EROSION AND SED CONTROL

UTILITY WORK GRID 8

Exhibit I.102

SAP Project No: W02563

1/4 Section: 3664 / 3764

Sheet No: FWP-CE-1017

29 of 63

27-APR-2023 00:46

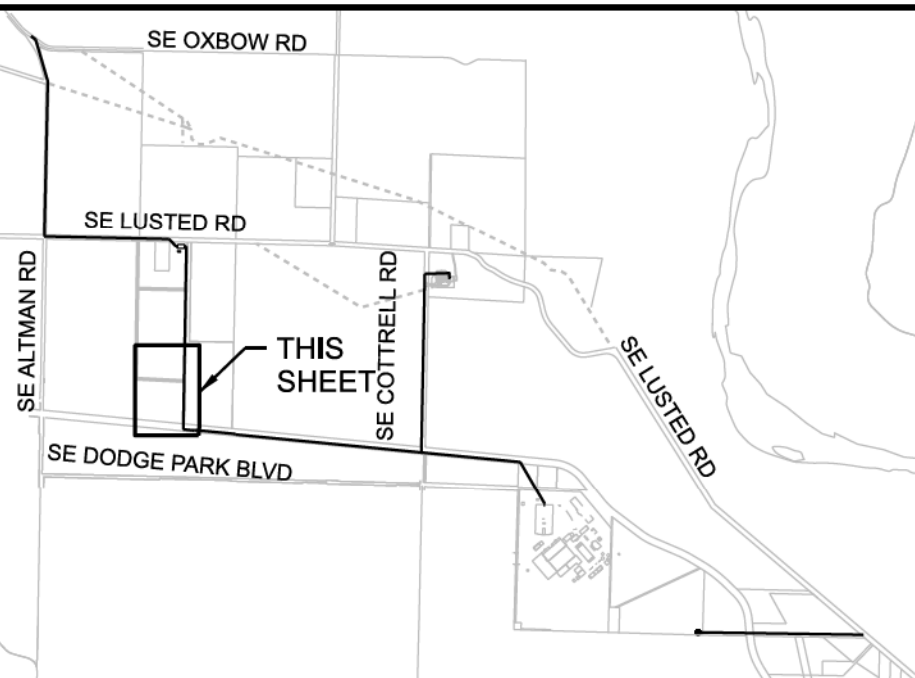
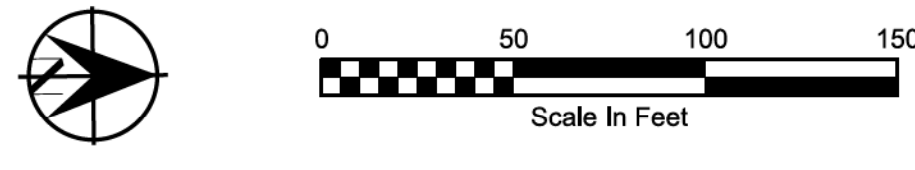
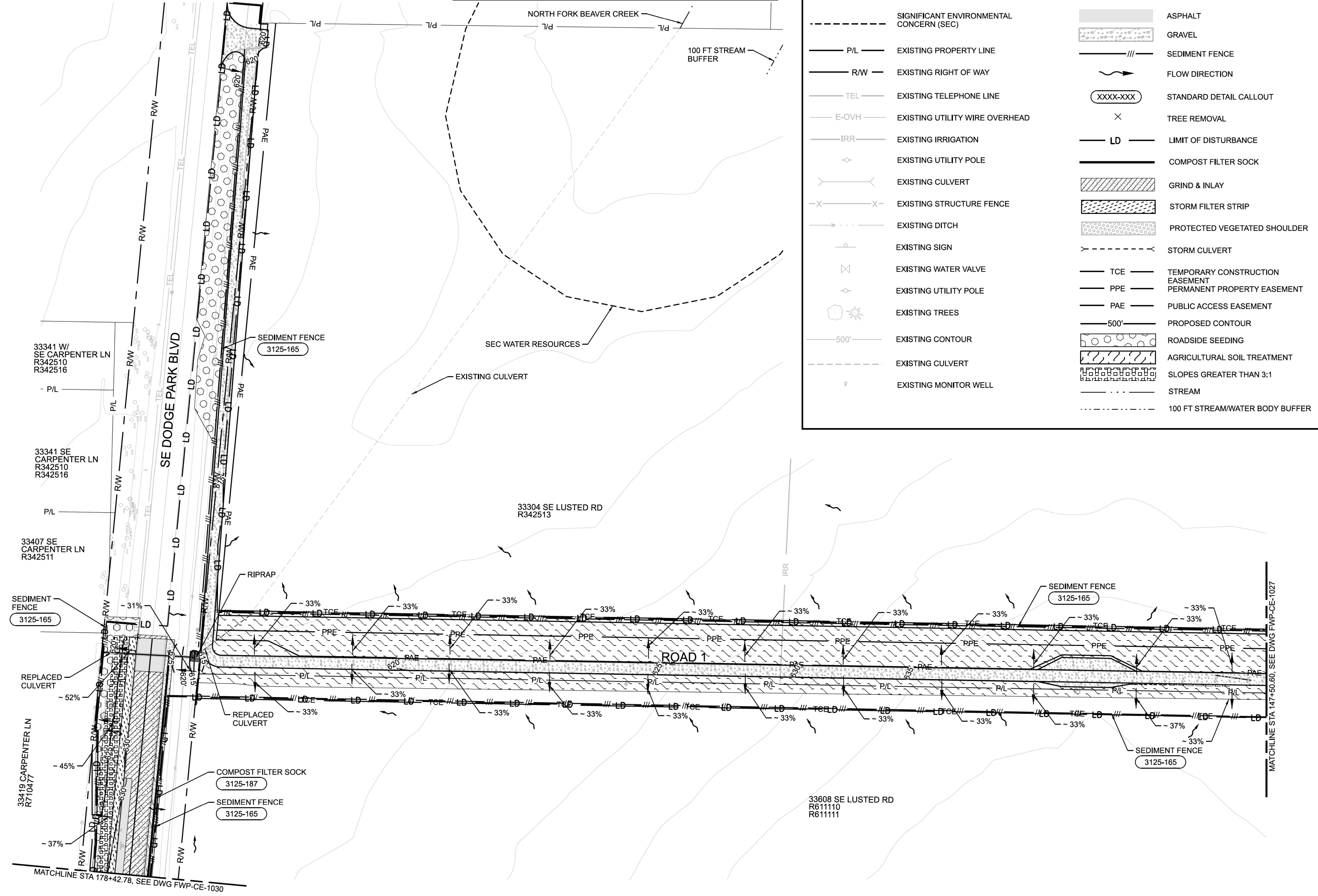
FINAL STABILIZATION AND LANDSCAPE

LEGEND

-----	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)	ASPHALT	
— P/L —	EXISTING PROPERTY LINE	GRAVEL	
— R/W —	EXISTING RIGHT OF WAY	SEDIMENT FENCE	
— TEL —	EXISTING TELEPHONE LINE	FLOW DIRECTION	
— E-OVH —	EXISTING UTILITY WIRE OVERHEAD	XXXX-XXX	STANDARD DETAIL CALLOUT
— IRR —	EXISTING IRRIGATION	X	TREE REMOVAL
○	EXISTING UTILITY POLE	— LD —	LIMIT OF DISTURBANCE
—	EXISTING CULVERT	—	COMPOST FILTER SOCK
—X—X—	EXISTING STRUCTURE FENCE	///	GRIND & INLAY
—>—	EXISTING DITCH	—	STORM FILTER STRIP
—	EXISTING SIGN	—	PROTECTED VEGETATED SHOULDER
—	EXISTING WATER VALVE	—	STORM CULVERT
○	EXISTING UTILITY POLE	— TCE —	TEMPORARY CONSTRUCTION EASEMENT
—	EXISTING TREES	— PPE —	PERMANENT PROPERTY EASEMENT
— 500' —	EXISTING CONTOUR	— PAE —	PUBLIC ACCESS EASEMENT
—	EXISTING CULVERT	— 500' —	PROPOSED CONTOUR
—	EXISTING MONITOR WELL	○	ROADSIDE SEEDING
		—	AGRICULTURAL SOIL TREATMENT
		—	SLOPES GREATER THAN 3:1
		—	STREAM
		—	100 FT STREAMWATER BODY BUFFER

GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.
- REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
- PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.



KEYPLAN

27-APR-2023 00:46

No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale



	Date
	Date



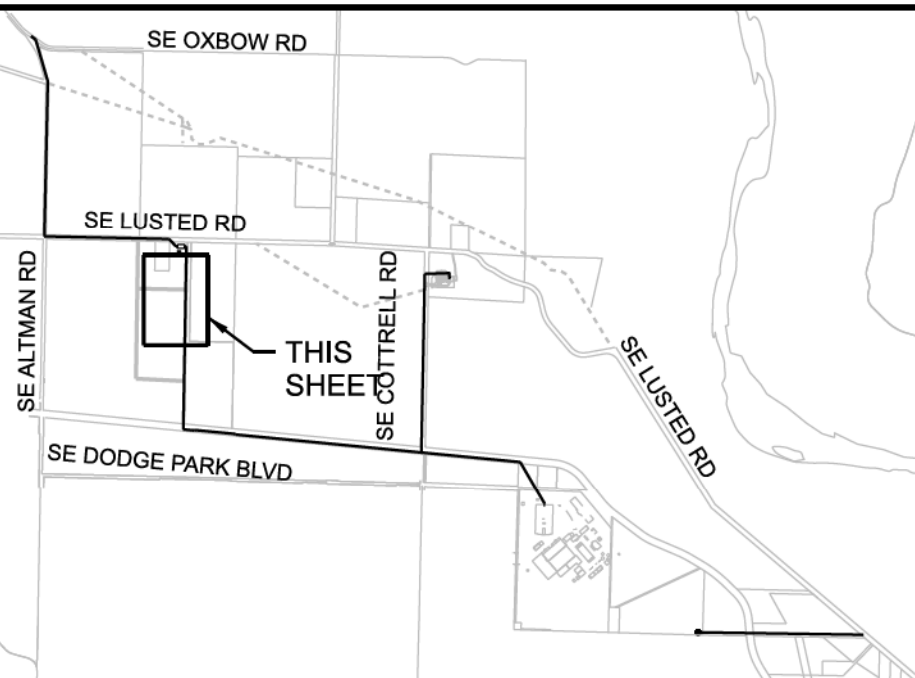
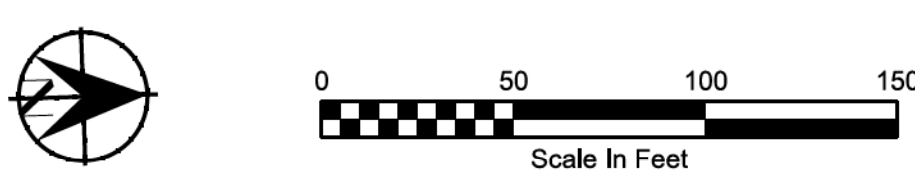
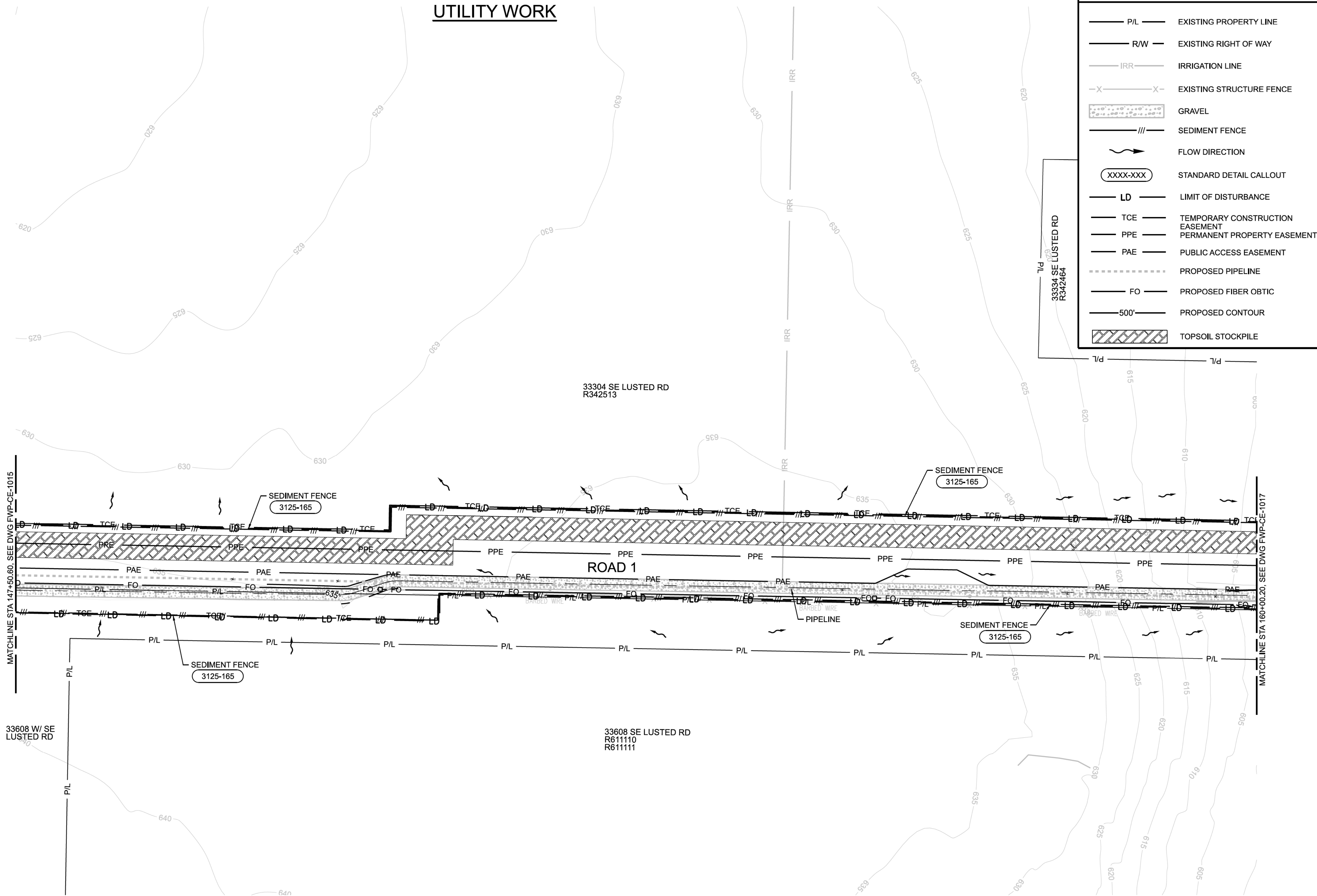
Bull Run Filtration Pipelines
FINISHED WATER PIPELINE
EROSION AND SED CONTROL
 FINAL STABILIZATION AND LANDSCAPE
 GRID 8

SAP Project No	W02563
1/4 Section	3664 / 3764
Sheet No	FWP-CE-1031
	30 of 63

UTILITY WORK

LEGEND	
	P/L EXISTING PROPERTY LINE
	R/W EXISTING RIGHT OF WAY
	IRR IRRIGATION LINE
	EXISTING STRUCTURE FENCE
	GRAVEL
	SEDIMENT FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LD LIMIT OF DISTURBANCE
	TCE TEMPORARY CONSTRUCTION EASEMENT
	PPE PERMANENT PROPERTY EASEMENT
	PAE PUBLIC ACCESS EASEMENT
	PROPOSED PIPELINE
	FO PROPOSED FIBER OPTIC
	500' PROPOSED CONTOUR
	TOPSOIL STOCKPILE

- ### GENERAL SHEET NOTES
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
 - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
 - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
 - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
 - ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
 - CONTOURS DISPLAYED AND LABELED EVERY 5FT.



32.W02563_FWP-CE-1018.dgn

27-APR-2023 22:04

No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____



Bull Run Filtration Pipelines

FINISHED WATER PIPELINE

EROSION AND SED CONTROL

UTILITY WORK
GRID 9

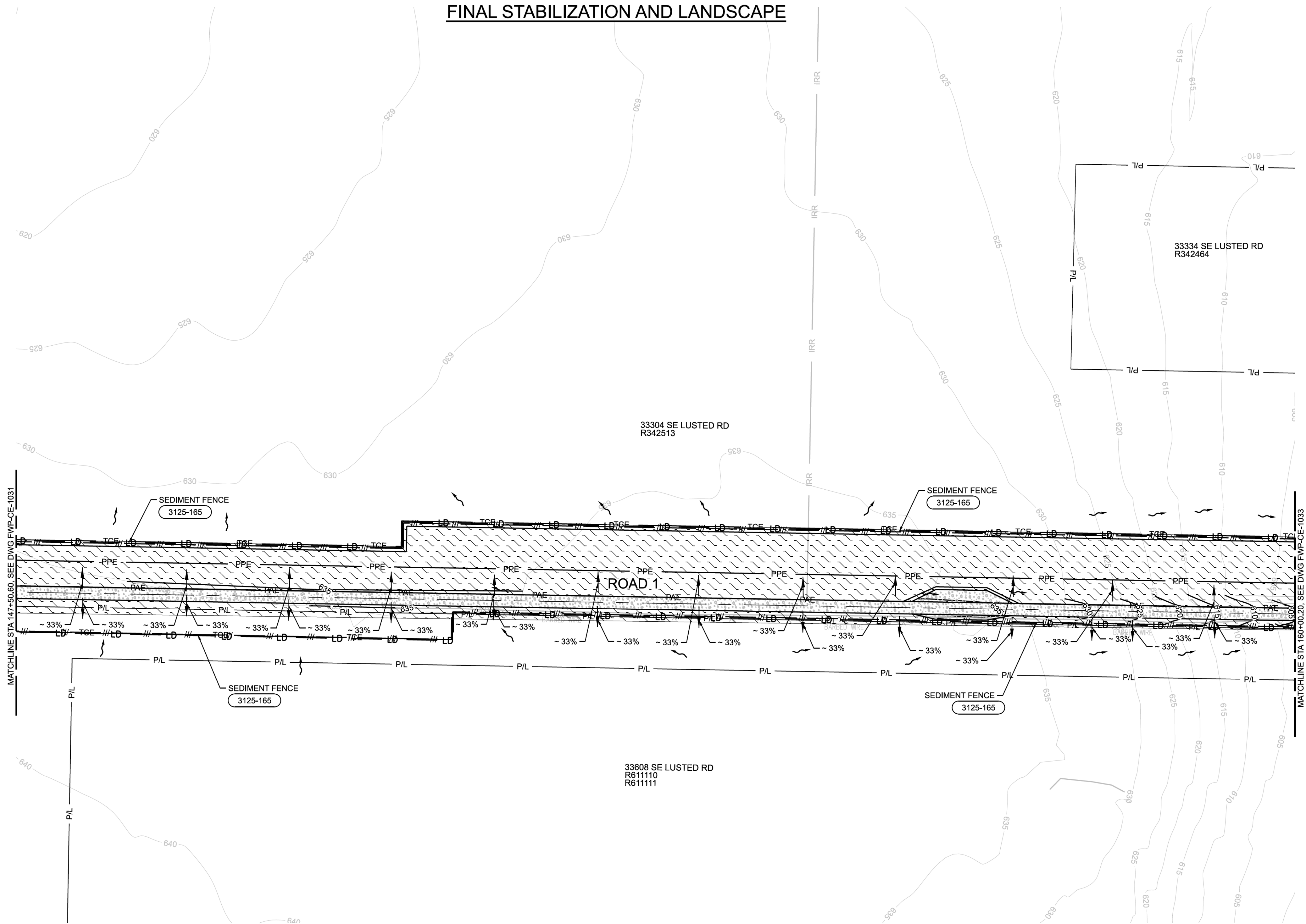
SAP Project No
W02563

1/4 Section
3664 / 3764

Sheet No
FWP-CE-1018

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FINAL STABILIZATION AND LANDSCAPE

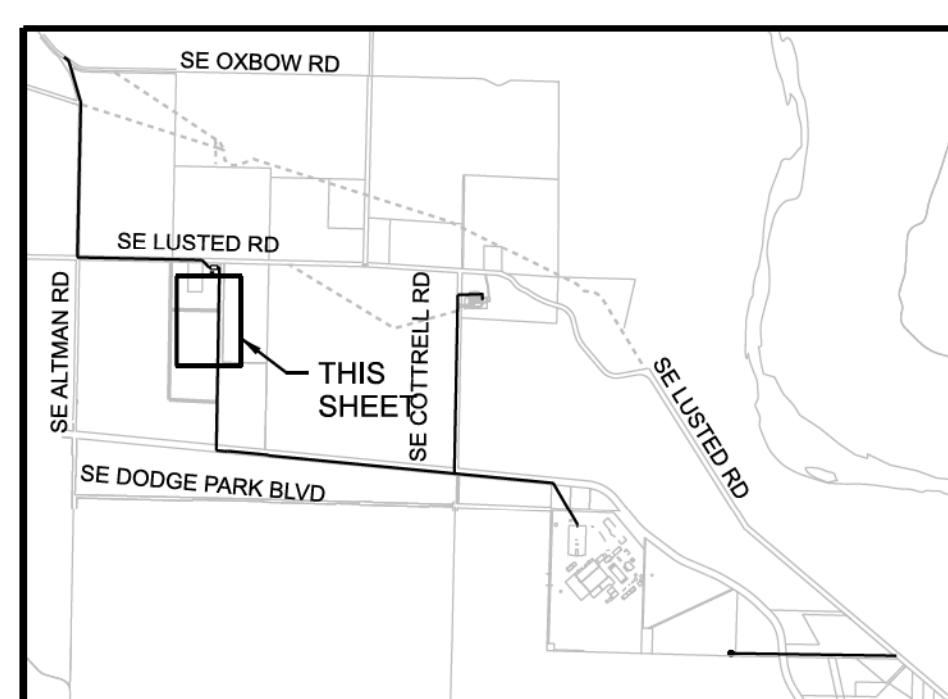
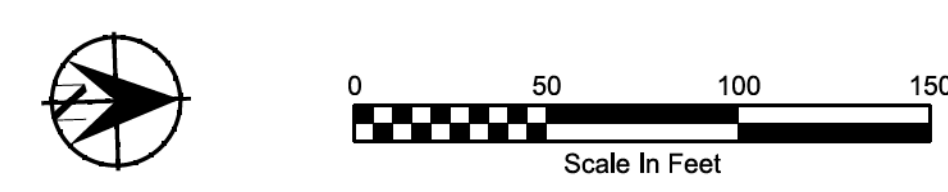


GENERAL SHEET NOTES

1. REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
2. PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
3. REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
4. CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
5. ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
6. UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
7. CONTOURS DISPLAYED AND LABELED EVERY 5FT.
8. REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
9. PERMANENT SEEDING MIXES SHOWN ON ESC-002 AND ESC-004.

LEGEND

- P/L EXISTING PROPERTY LINE
- R/W EXISTING RIGHT OF WAY
- IRR EXISTING IRRIGATION LINE
- X-X EXISTING STRUCTURE FENCE
- GRAVEL
- SEDIMENT FENCE
- FLOW DIRECTION
- STANDARD DETAIL CALLOUT
- LD LIMIT OF DISTURBANCE
- TCE TEMPORARY CONSTRUCTION EASEMENT
- PPE PERMANENT PROPERTY EASEMENT
- PAE PUBLIC ACCESS EASEMENT
- 500' PROPOSED CONTOUR
- AGRICULTURAL SOIL TREATMENT
- SLOPES GREATER THAN 3:1



KEYPLAN

33.W02563_FWP-CE-1032.dgn

27-APR-2023 00:47

No	Date	Description	Appd

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr		Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE

EROSION AND SED CONTROL

FINAL STABILIZATION AND LANDSCAPE

GRID 9

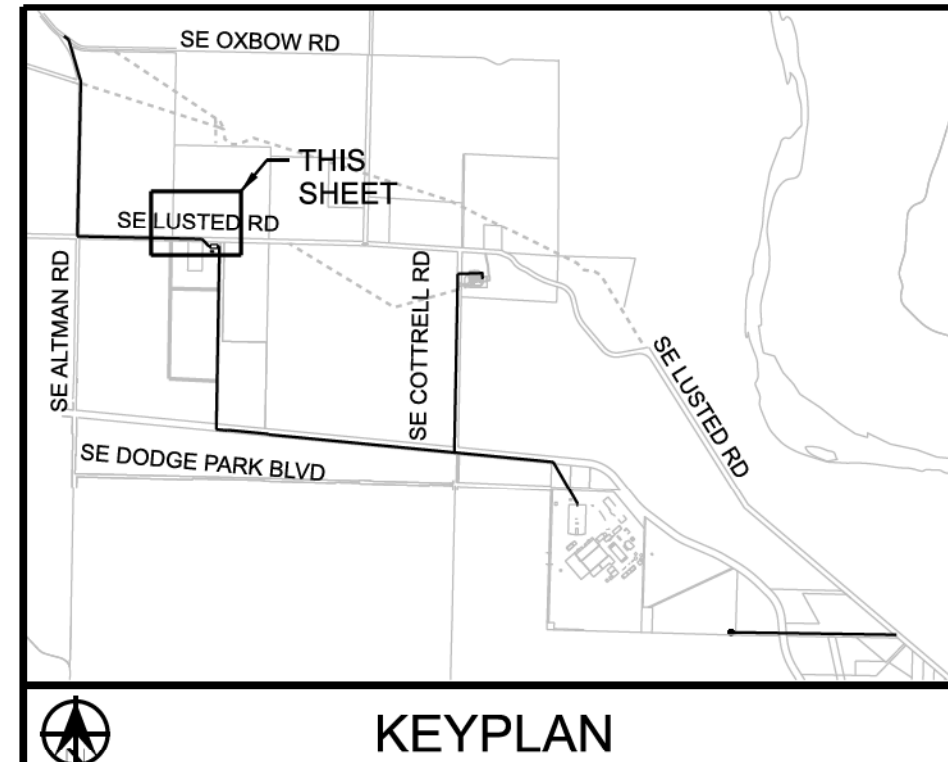
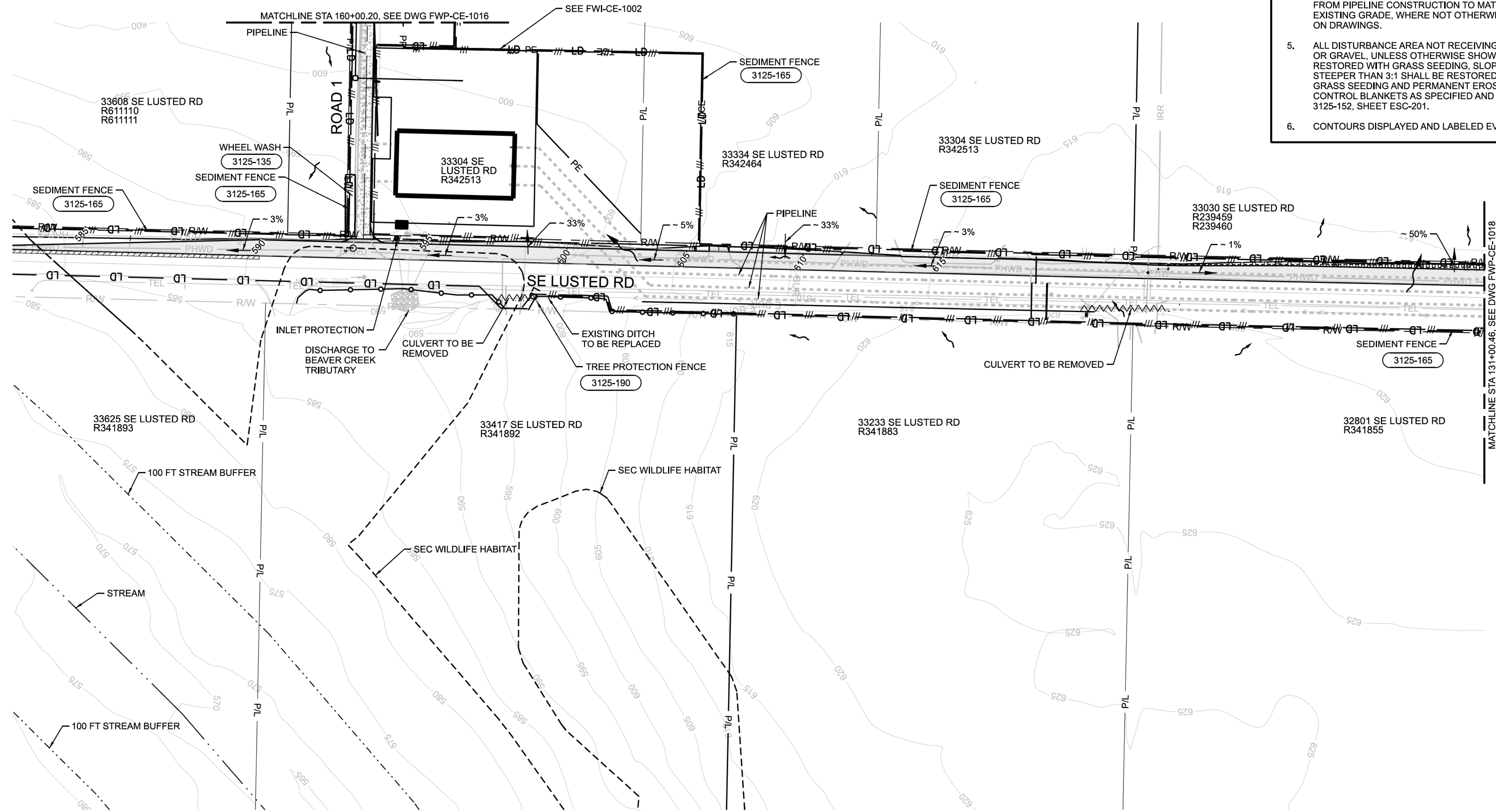
SAP Project No	W02563
1/4 Section	3664 / 3764
Sheet No	FWP-CE-1032
	33 of 63

UTILITY WORK STAGE 1

- GENERAL SHEET NOTES**
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
 - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
 - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
 - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
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 - CONTOURS DISPLAYED AND LABELED EVERY 5FT.

LEGEND

	ASPHALT
	EXISTING RIPRAP
	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	P/L - EXISTING PROPERTY LINE
	R/W - EXISTING RIGHT OF WAY
	PHWD - EXISTING WATER LINE
	IRR - EXISTING IRRIGATION LINE
	TEL - EXISTING TELEPHONE LINE
	EXISTING WATER VALVE
	EXISTING UTILITY POLE
	500' - PROPOSED CONTOUR
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LD - LIMIT OF DISTURBANCE
	GRIND & INLAY
	PROPOSED PIPELINE
	INLET PROTECTION
	DEMOLITION
	TOPSOIL STOCKPILE
	SLOPES GREATER THAN 3:1
	STREAM
	100 FT STREAM/WATER BODY BUFFER
	TCE - TEMPORARY CONSTRUCTION EASEMENT
	PE - PERMANENT EASEMENT
	GRAVEL



35.W02563_FWP-CE-1019.dgn 00:47 27-APR-2023

No.	Date	Description	App'd
Revision			

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr		Date	04/27/2023

WARNING

0 1"

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____

Date _____



Bull Run Filtration Pipelines

FINISHED WATER PIPELINE

EROSION AND SED CONTROL

UTILITY WORK STAGE 1
GRID 10

SAP Project No: **W02563**

1/4 Section: **3664 / 3764**

Sheet No: **FWP-CE-1019**

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REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN ("DOCUMENTS"), AS AN INSTRUMENT OF PROFESSIONAL SERVICE, WAS PREPARED BY JACOBS SOLEY FOR THE PURPOSE OF THIS PROJECT AND DESIGN CRITERIA. JACOBS IS RELEASED FROM ANY AND ALL LIABILITY OF ANY KIND ARISING OUT OF OR RELATING TO THE RE-USE OF THE DOCUMENTS, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT OR EXTENSIONS OF THIS PROJECT.

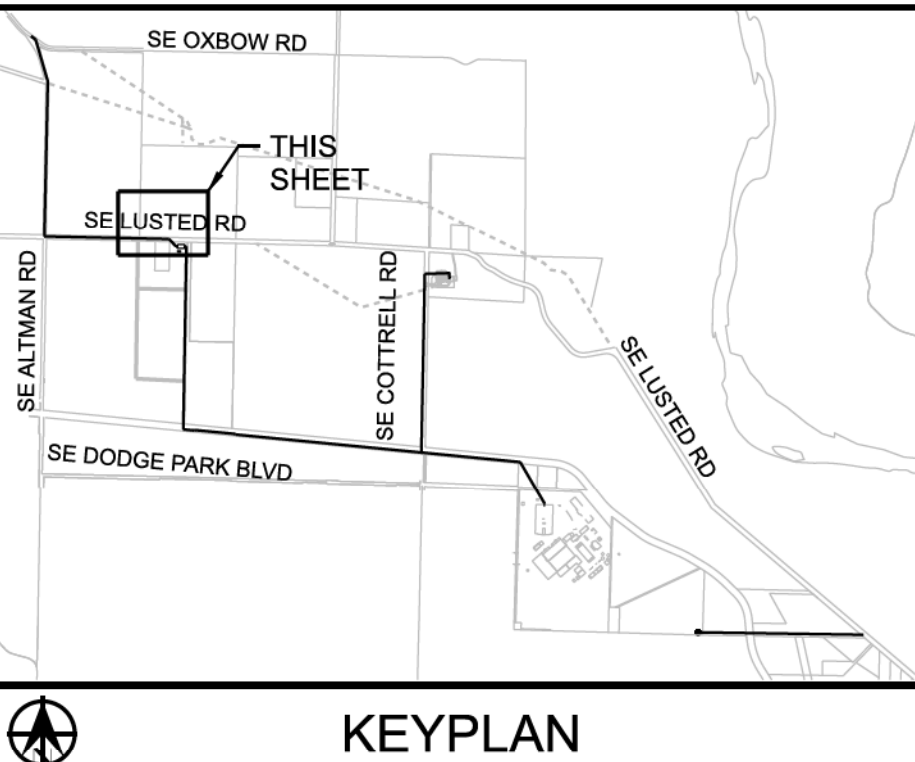
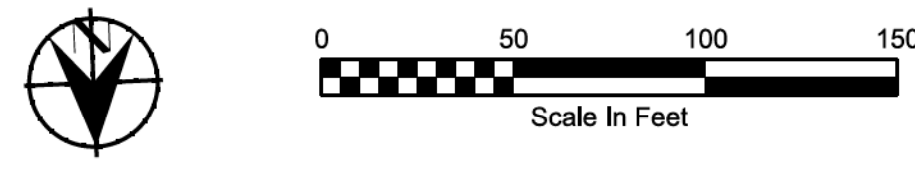
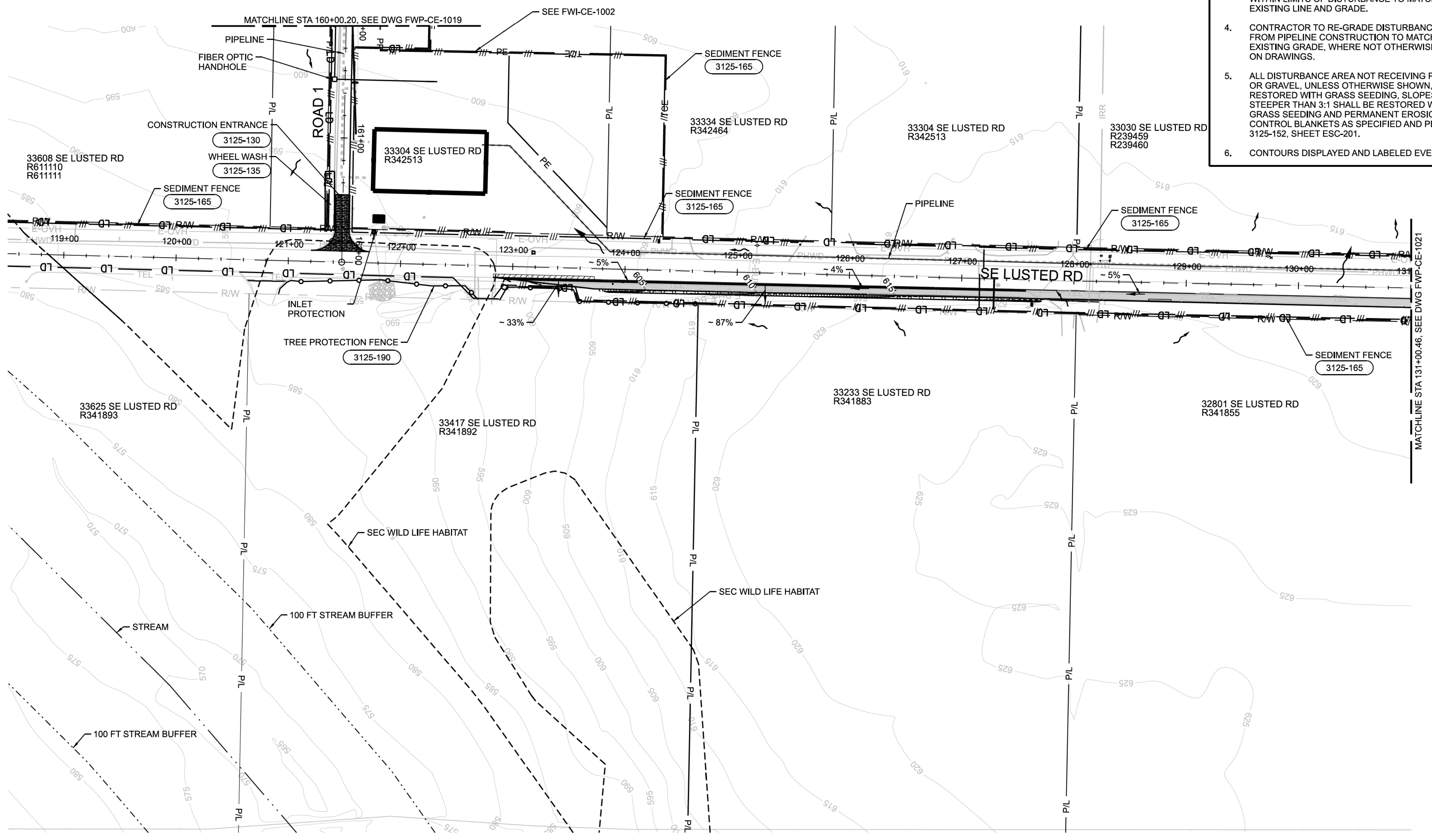
UTILITY WORK STAGE 2

GENERAL SHEET NOTES

1. REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
2. PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
3. REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
4. CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
5. ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
6. CONTOURS DISPLAYED AND LABELED EVERY 5FT.

LEGEND

- ASPHALT
- EXISTING RIPRAP
- SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
- P/L EXISTING PROPERTY LINE
- R/W EXISTING RIGHT OF WAY
- G EXISTING GAS LINE
- TEL EXISTING TELEPHONE LINE
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- CONSTRUCTION ENTRANCE
- SEDIMENT FENCE
- TREE PROTECTION FENCE
- FLOW DIRECTION
- STANDARD DETAIL CALLOUT
- LD LIMIT OF DISTURBANCE
- GRIND & INLAY
- PROPOSED PIPELINE
- INLET PROTECTION
- TOPSOIL STOCKPILE
- SLOPES GREATER THAN 3:1
- STREAM
- 100 FT STREAM/WATER BODY BUFFER
- TCE TEMPORARY CONSTRUCTION EASEMENT
- PPE PERMANENT PROPERTY EASEMENT



27-APR-2023 22:04 36.W02563_FWP-CE-1021.dgn

No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

WARNING

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PORTLAND WATER BUREAU

FROM FOREST TO FAUCET

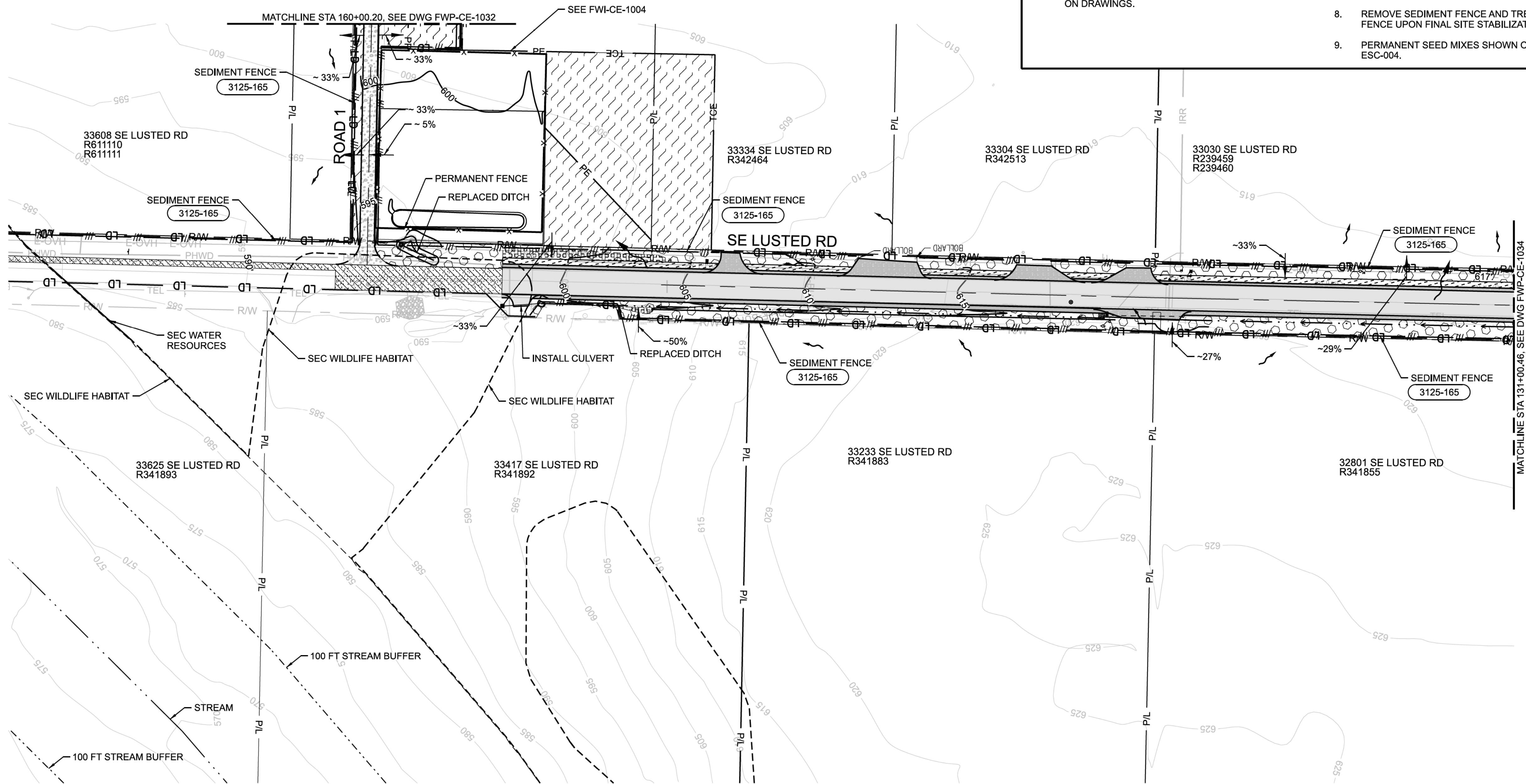
KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424



Bull Run Filtration Pipelines
FINISHED WATER PIPELINE
EROSION AND SED CONTROL
 UTILITY WORK STAGE 2
 GRID 10

SAP Project No
W02563
 1/4 Section
 3664 / 3764
 Sheet No
 FWP-CE-1021
 36 of 63

FINAL STABILIZATION AND LANDSCAPE

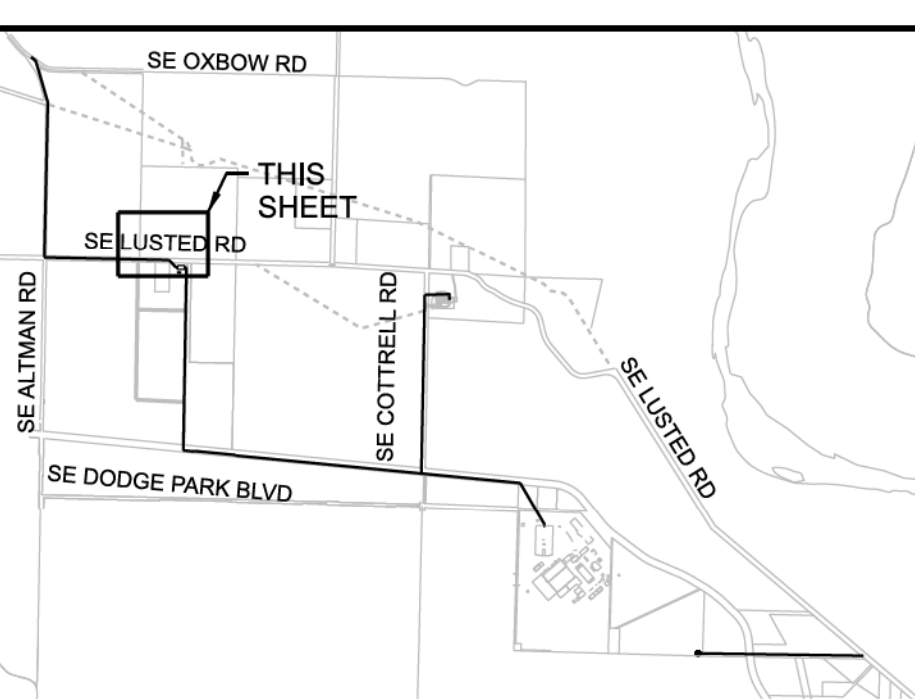
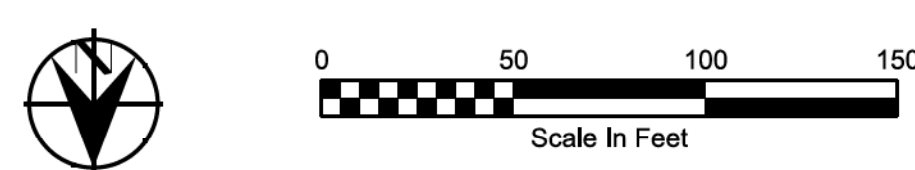


GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.
- REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
- PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.

LEGEND

- ASPHALT
- EXISTING RIPRAP
- SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
- P/L EXISTING PROPERTY LINE
- R/W EXISTING RIGHT OF WAY
- PHWD EXISTING WATER LINE
- TEL EXISTING TELEPHONE LINE
- E-OVH EXISTING UTILITY WIRE OVERHEAD
- IRR EXISTING IRRIGATION LINE
- EXISTING CULVERT
- EXISTING DITCH
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- GRAVEL
- SEDIMENT FENCE
- FLOW DIRECTION
- STANDARD DETAIL CALLOUT
- LD LIMIT OF DISTURBANCE
- GRIND & INLAY
- STORM FILTER STRIP
- PROPOSED DRAINAGE DITCH
- INLET PROTECTION
- PROPOSED CONTOUR
- ROADSIDE SEEDING
- AGRICULTURAL SOIL TREATMENT
- PROPOSED RIPRAP
- SLOPES GREATER THAN 3:1
- STREAM
- 100 FT STREAM/WATER BODY BUFFER
- STORM CULVERT
- TCE TEMPORARY CONSTRUCTION EASEMENT
- PPE PERMANENT PROPERTY EASEMENT



37.W02563_FWP-CE-1033.dgn

27-APR-2023 00:48

No	Date	Description	Appd

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supr	XXX
Project Mgr	XXX	Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____



Bull Run Filtration Pipelines

FINISHED WATER PIPELINE EROSION AND SED CONTROL

FINAL STABILIZATION AND LANDSCAPE GRID 10

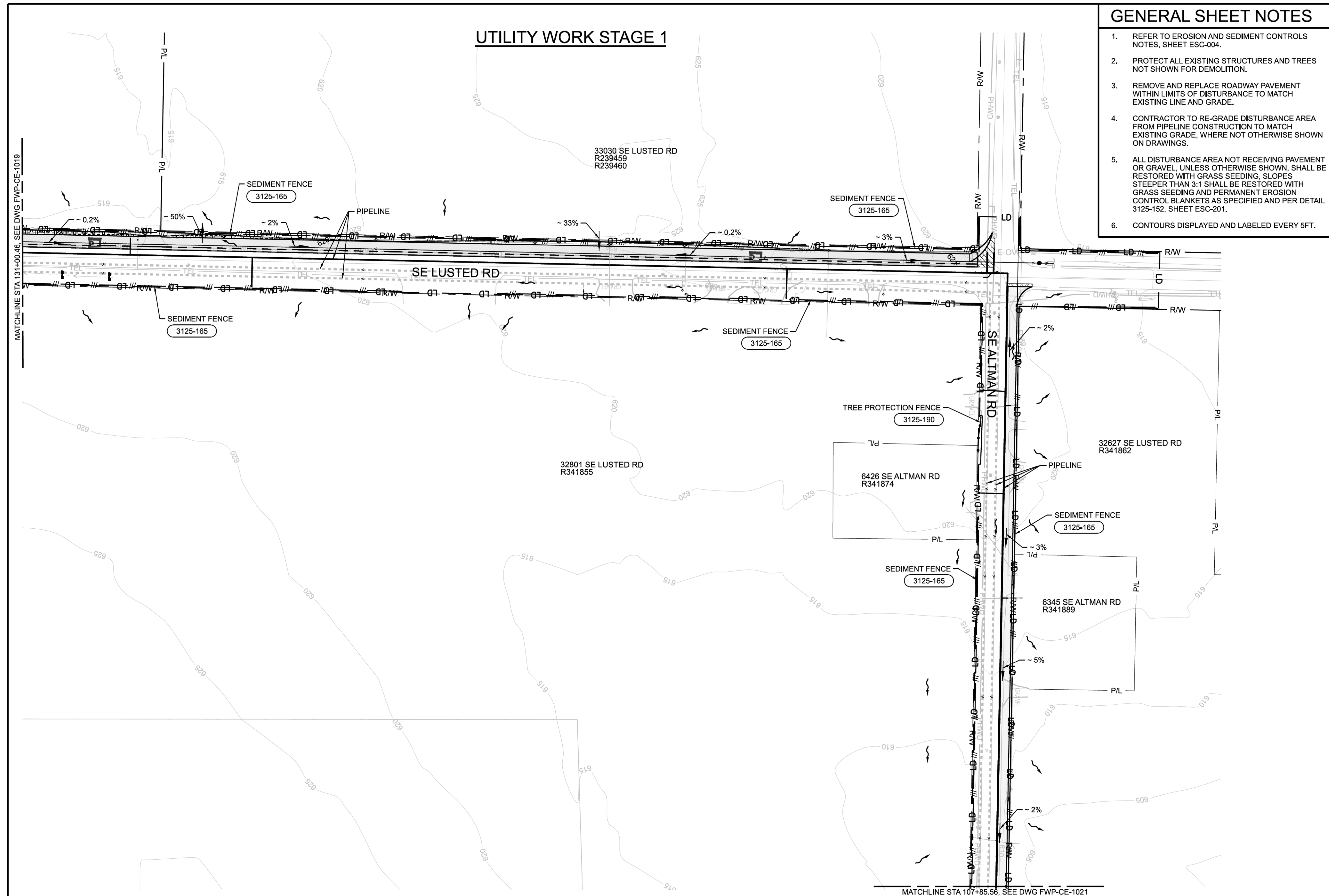
SAP Project No
W02563

1/4 Section
3664 / 3764

Sheet No
FWP-CE-1033

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UTILITY WORK STAGE 1

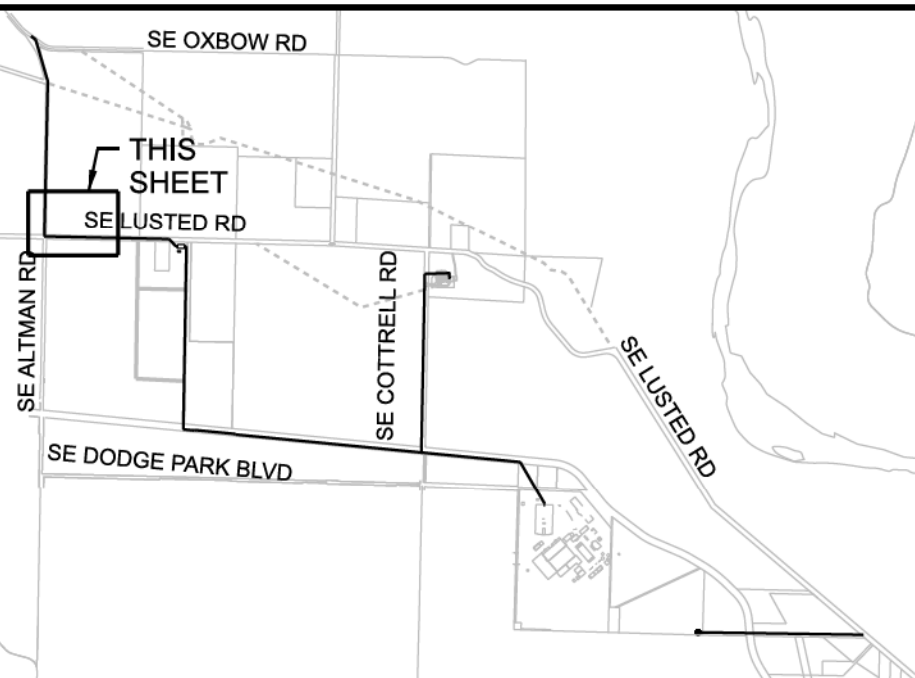
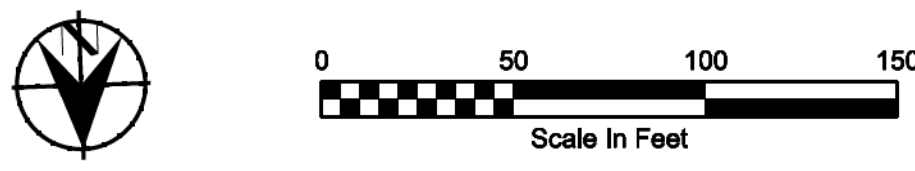


GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
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- CONTOURS DISPLAYED AND LABELED EVERY 5FT.

LEGEND

- ASPHALT
- P/L EXISTING PROPERTY LINE
- R/W EXISTING RIGHT OF WAY
- PHWD EXISTING WATER LINE
- TEL EXISTING TELEPHONE LINE
- E-OVH EXISTING UTILITY WIRE OVERHEAD
- EXISTING UTILITY POLE
- EXISTING DITCH
- EXISTING SIGN
- EXISTING WATER VALVE
- EXISTING MONITOR WELL
- SEDIMENT FENCE
- TREE PROTECTION FENCE
- FLOW DIRECTION
- STANDARD DETAIL CALLOUT
- LD LIMIT OF DISTURBANCE
- GRIND & INLAY
- BMP BIOFILTER BAG
- PROPOSED PIPELINE
- SLOPES GREATER THAN 3:1



27-APR-2023	00:48			
No	Date	Description	Appd	
Revision				
Survey				

Designed By	Program Mgr	XXX
Drawn By	Const Mgr	XXX
Checked By	Const Supr	XXX
Project Mgr	Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU

FROM FOREST TO FAUCET

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____

Date _____

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE

EROSION AND SED CONTROL

UTILITY WORK STAGE 1

GRID 11

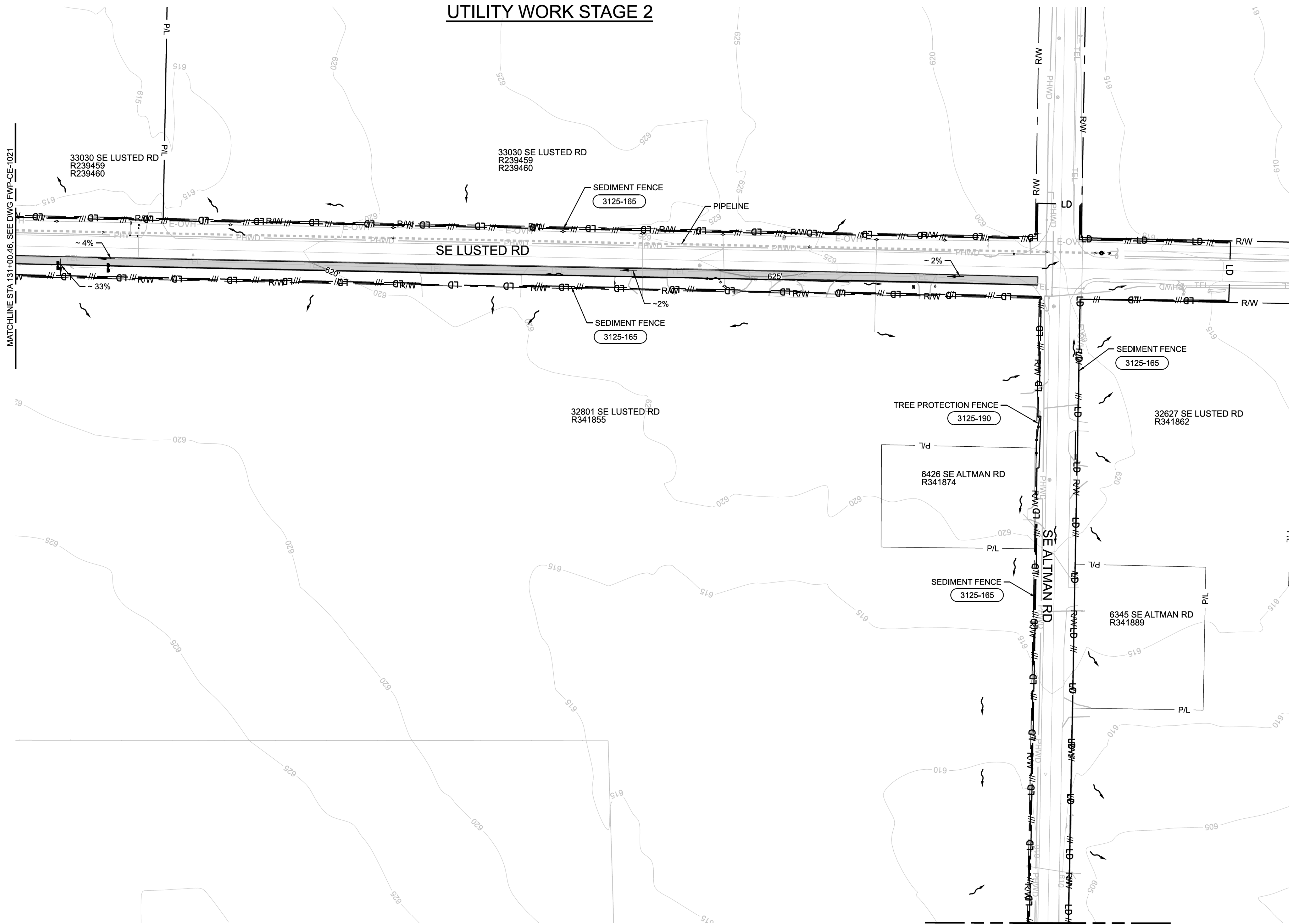
SAP Project No
W02563

1/4 Section
3664 / 3764

Sheet No
FWP-CE-1020

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UTILITY WORK STAGE 2

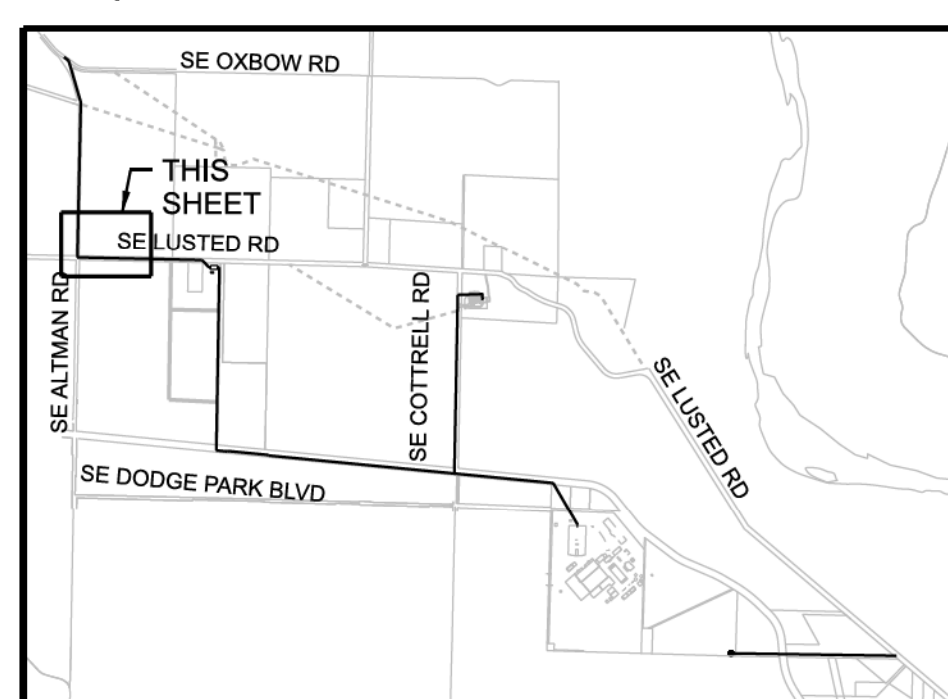


GENERAL SHEET NOTES

1. REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
2. PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
3. REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
4. CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
5. ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
6. CONTOURS DISPLAYED AND LABELED EVERY 5FT.

LEGEND

	ASPHALT
	EXISTING PROPERTY LINE
	EXISTING RIGHT OF WAY
	EXISTING WATER LINE
	EXISTING TELEPHONE LINE
	EXISTING UTILITY WIRE OVERHEAD
	EXISTING UTILITY POLE
	EXISTING DITCH
	EXISTING SIGN
	EXISTING WATER VALVE
	EXISTING MONITOR WELL
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LIMIT OF DISTURBANCE
	BMP BIOFILTER BAG
	PROPOSED PIPELINE
	PROPOSED CONTOUR



40.W02563_FWP-CE-1022.dgn

27-APR-2023 22:04

No	Date	Description	Appd

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr	XXX	Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE
EROSION AND SED CONTROL
UTILITY WORK STAGE 2
GRID 11

SAP Project No
W02563

1/4 Section
3664 / 3764

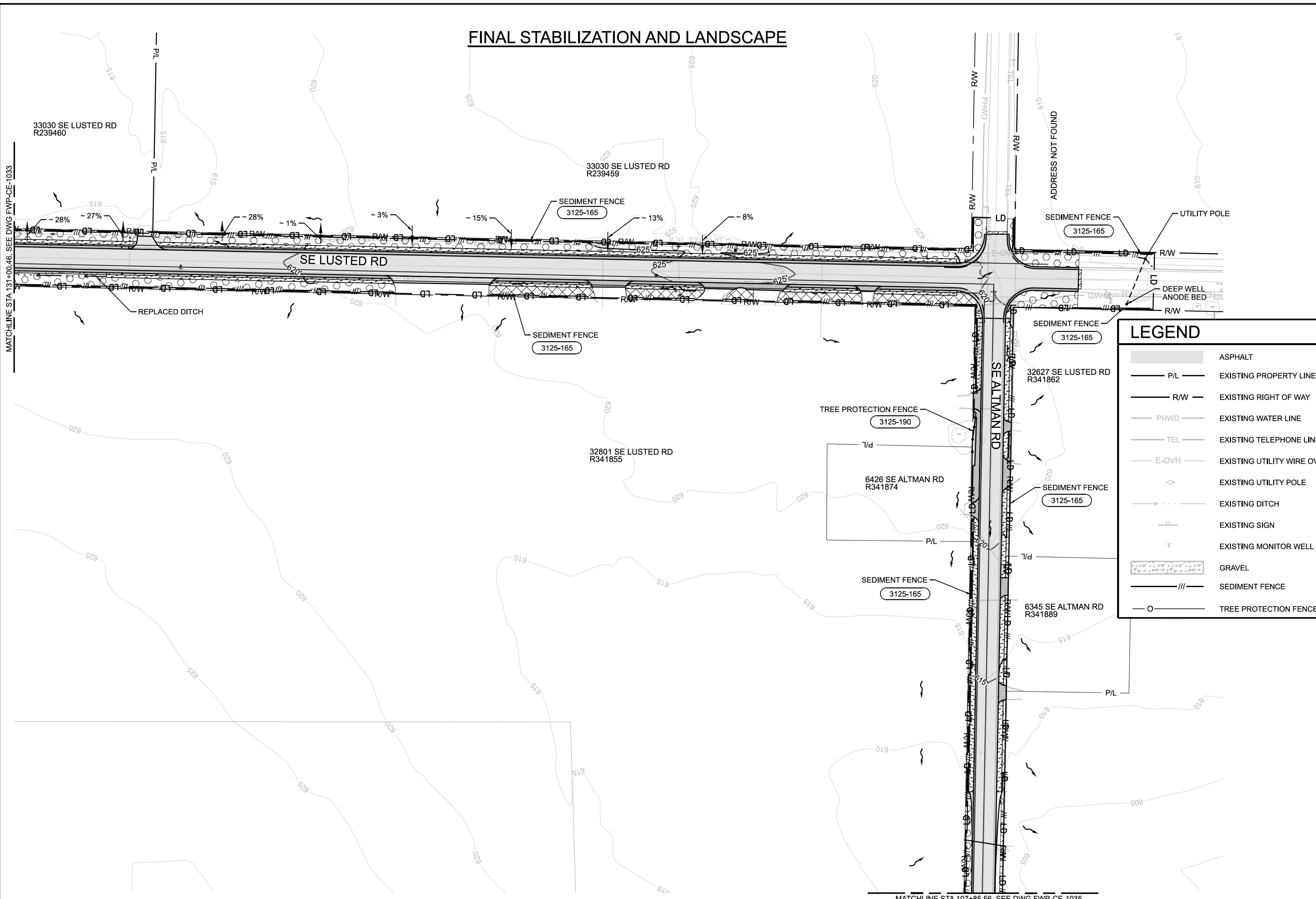
Sheet No
FWP-CE-1022

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FINAL STABILIZATION AND LANDSCAPE

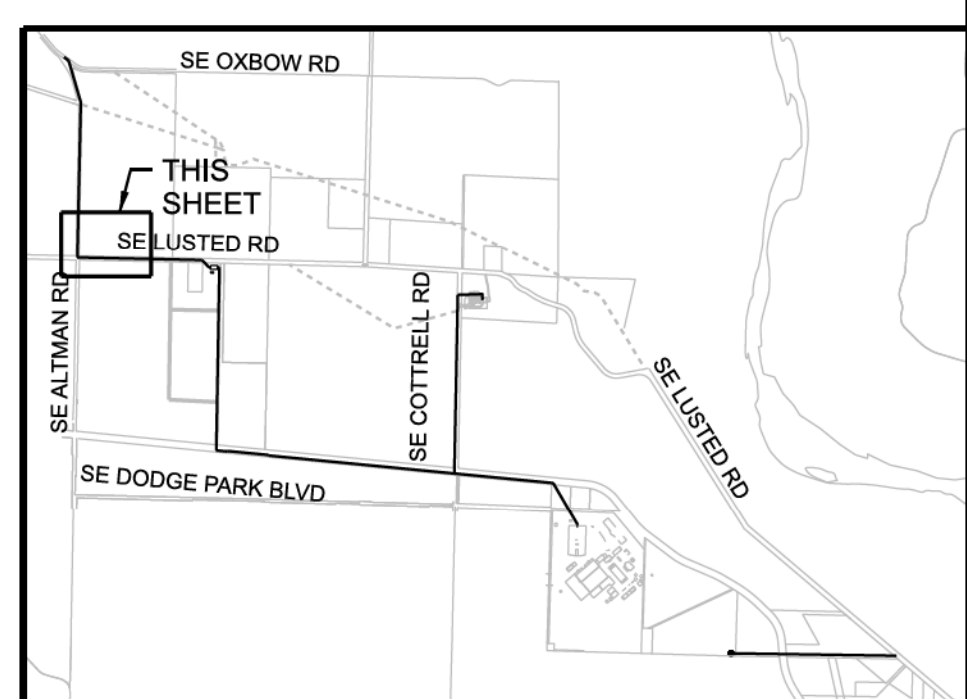
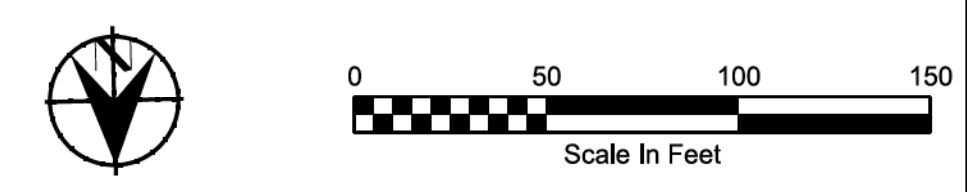
GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.
- REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.



LEGEND

[Symbol]	ASPHALT	[Symbol]	FLOW DIRECTION
[Symbol]	P/L EXISTING PROPERTY LINE	[Symbol]	STANDARD DETAIL CALLOUT
[Symbol]	R/W EXISTING RIGHT OF WAY	[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	PHWD EXISTING WATER LINE	[Symbol]	PROPOSED DRAINAGE DITCH
[Symbol]	TEL EXISTING TELEPHONE LINE	[Symbol]	GRIND & INLAY
[Symbol]	E-OVH EXISTING UTILITY WIRE OVERHEAD	[Symbol]	STORM FILTER STRIP
[Symbol]	EXISTING UTILITY POLE	[Symbol]	PROPOSED CONTOUR
[Symbol]	EXISTING DITCH	[Symbol]	ROADSIDE SEEDING
[Symbol]	EXISTING SIGN	[Symbol]	LAWN SEEDING
[Symbol]	EXISTING MONITOR WELL	[Symbol]	PROPOSED MAILBOX
[Symbol]	GRAVEL	[Symbol]	DEEP WELL ANODE BED
[Symbol]	SEDIMENT FENCE	[Symbol]	ELECTRICAL CONDUIT
[Symbol]	TREE PROTECTION FENCE		



41.W02563_FWP-CE-1034.dgn

27-APR-2023 00:49

No	Date	Description	Appd
Revision			
Survey			

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr		Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date

CITY OF PORTLAND OREGON 1851

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE EROSION AND SED CONTROL

FINAL STABILIZATION AND LANDSCAPE GRID 11

SAP Project No: **W02563**
1/4 Section: 3664 / 3764
Sheet No: FWP-CE-1034
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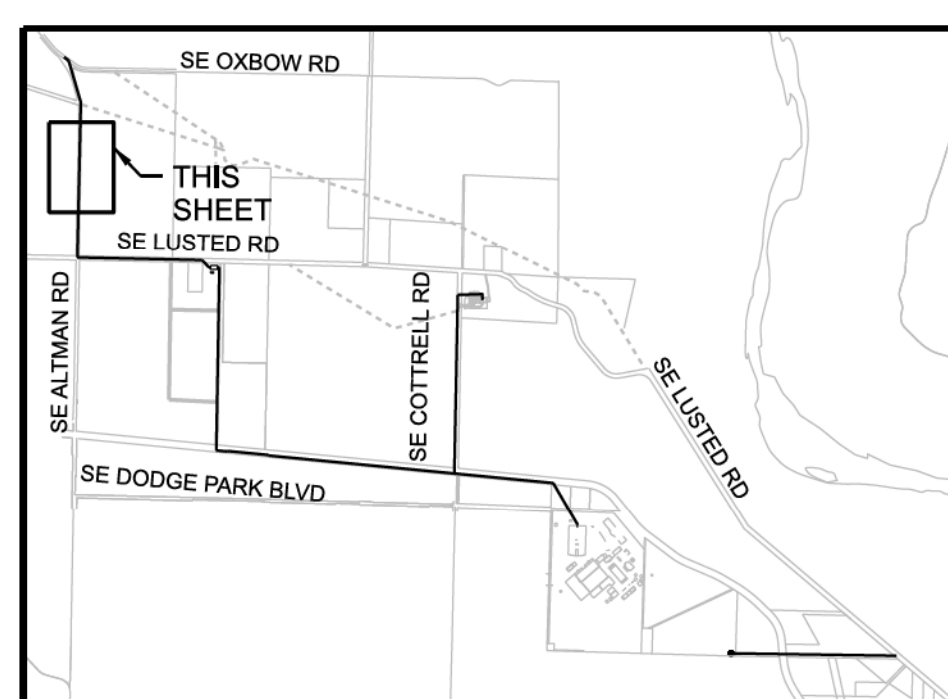
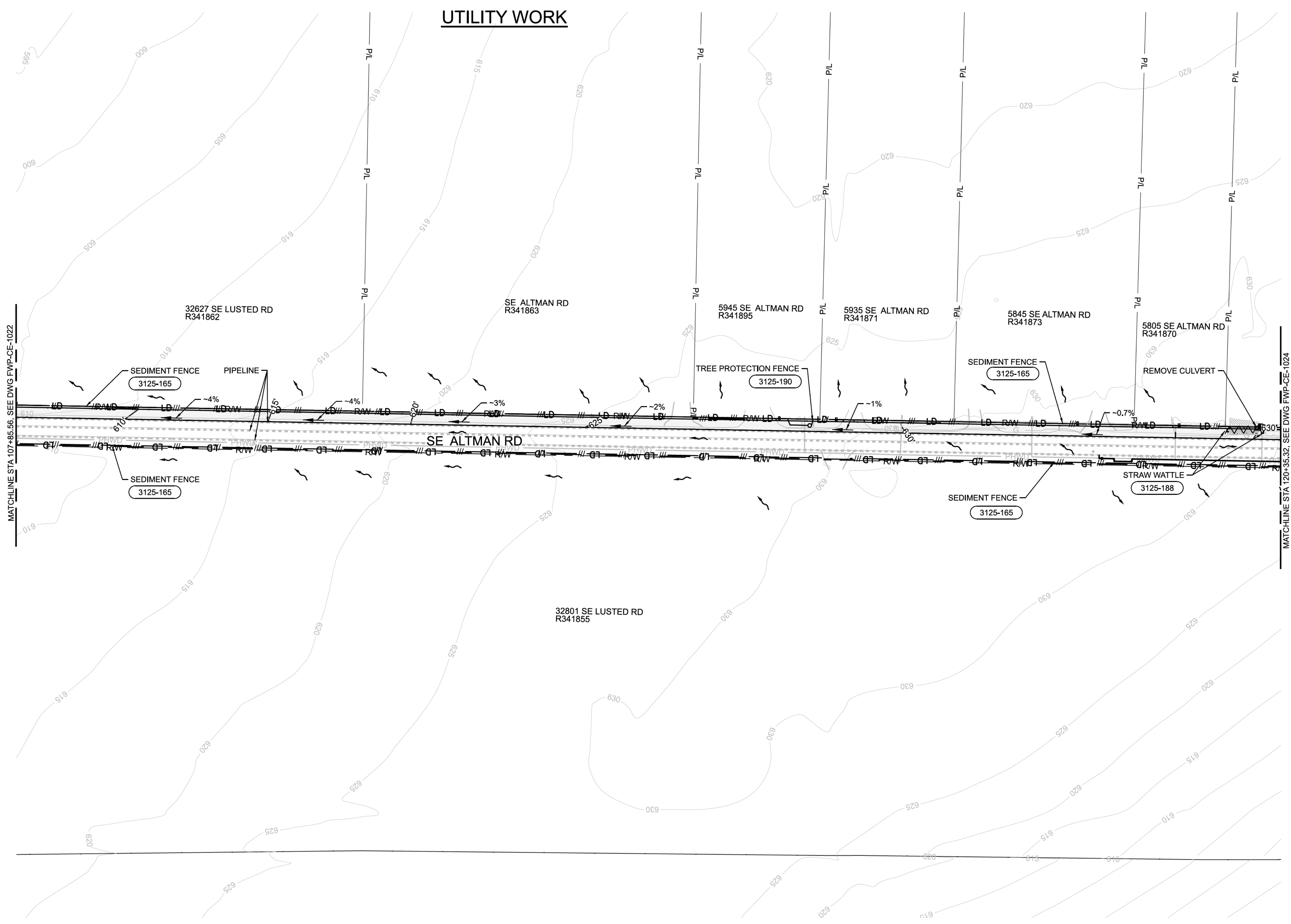
GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.

LEGEND

	ASPHALT
	EXISTING PROPERTY LINE
	EXISTING RIGHT OF WAY
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING UTILITY WIRE OVERHEAD
	EXISTING UTILITY POLE
	EXISTING MONITOR WELL
	EXISTING TREES
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LIMIT OF DISTURBANCE
	PROPOSED CONTOUR
	STRAW WATTLE
	PROPOSED PIPELINE
	DEMOLITION

UTILITY WORK



43.W02563_FWP-CE-1023.dgn

27-APR-2023 00:48

No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424



Bull Run Filtration Pipelines
FINISHED WATER PIPELINE
EROSION AND SED CONTROL
UTILITY WORK
GRID 12

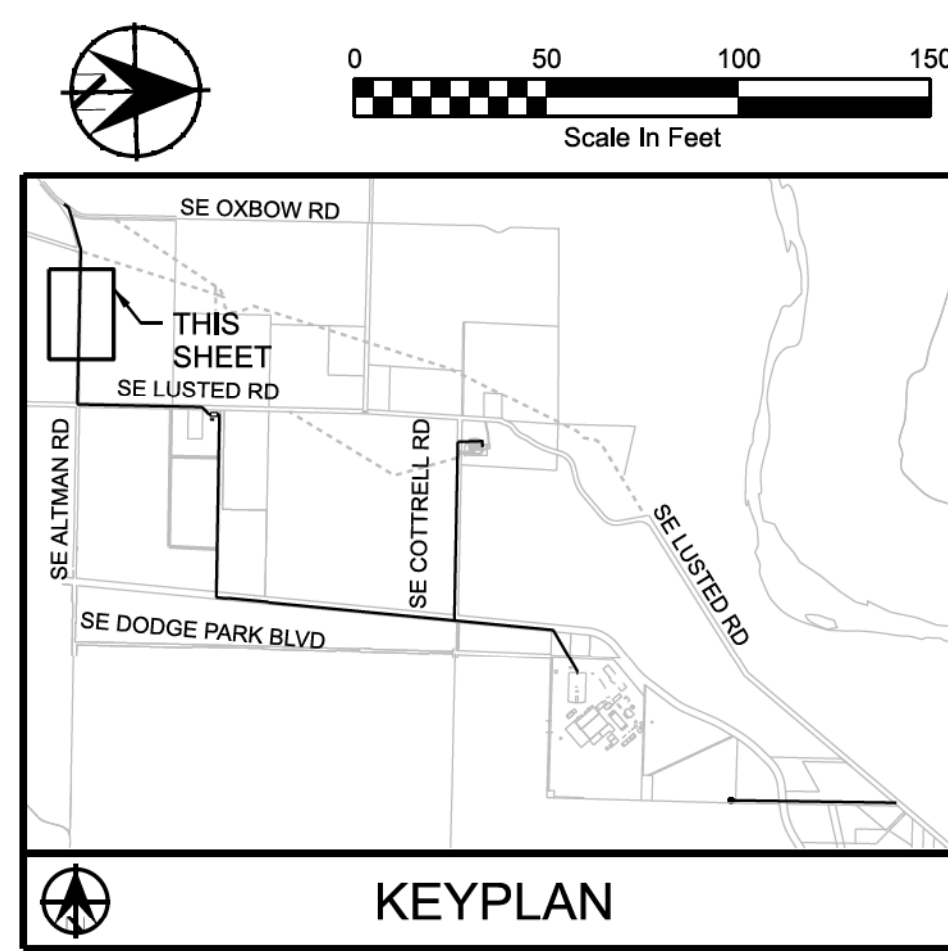
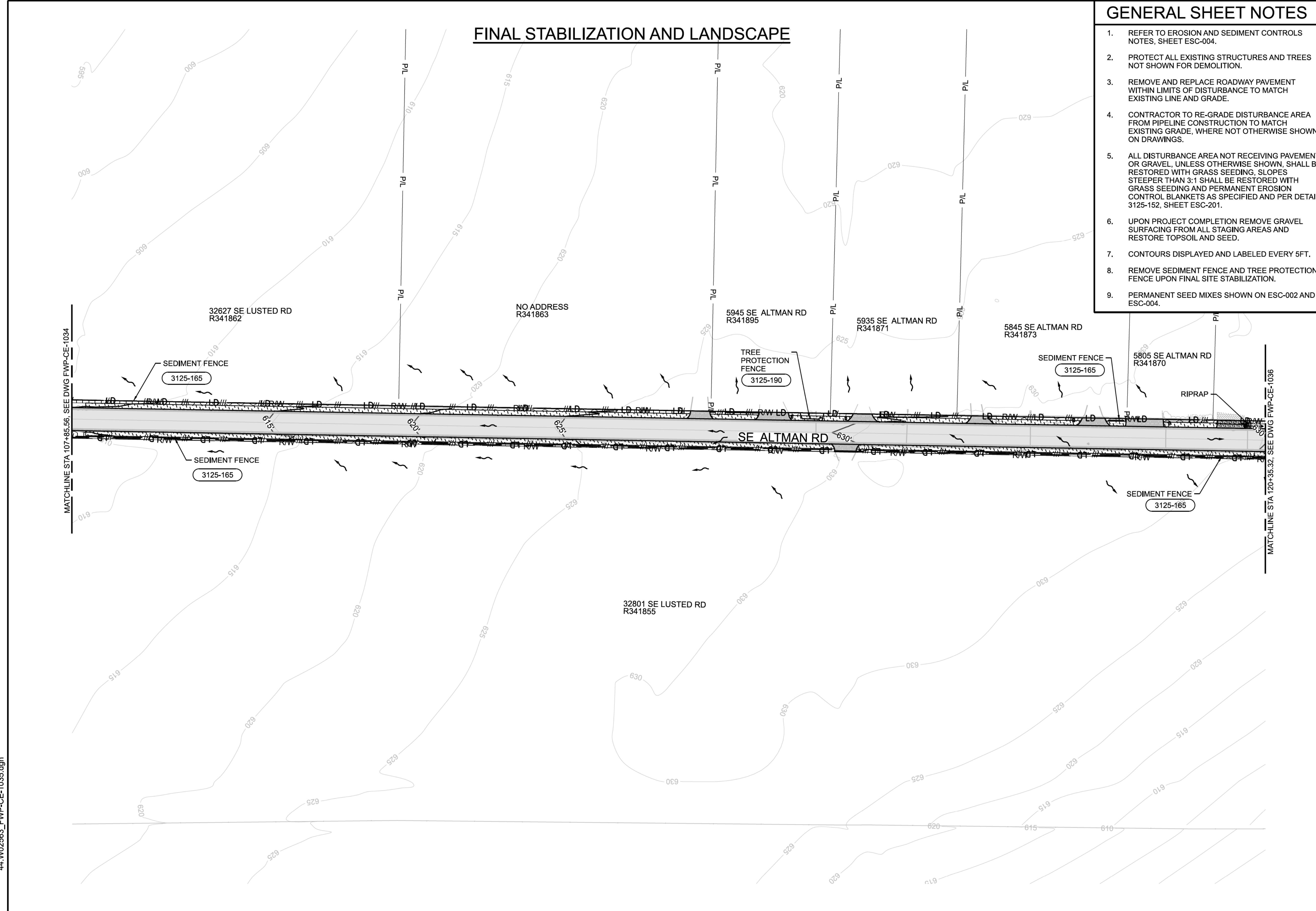
SAP Project No
W02563
1/4 Section
3664 / 3764
Sheet No
FWP-CE-1023
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FINAL STABILIZATION AND LANDSCAPE

- ### GENERAL SHEET NOTES
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
 - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
 - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
 - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
 - ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
 - UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
 - CONTOURS DISPLAYED AND LABELED EVERY 5FT.
 - REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
 - PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.

LEGEND

	ASPHALT
	EXISTING PROPERTY LINE
	EXISTING RIGHT OF WAY
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING UTILITY WIRE OVERHEAD
	EXISTING DITCH
	EXISTING UTILITY POLE
	EXISTING MONITOR WELL
	EXISTING TREES
	GRAVEL
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LIMIT OF DISTURBANCE
	STORM FILTER STRIP
	ROADSIDE SEEDING
	PROPOSED DRAINAGE DITCH
	PROPOSED CONTOUR
	PROPOSED MAILBOX



No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale.

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE EROSION AND SED CONTROL
FINAL STABILIZATION AND LANDSCAPE
GRID 12

SAP Project No: **W02563**
1/4 Section: 3664 / 3764
Sheet No: FWP-CE-1035
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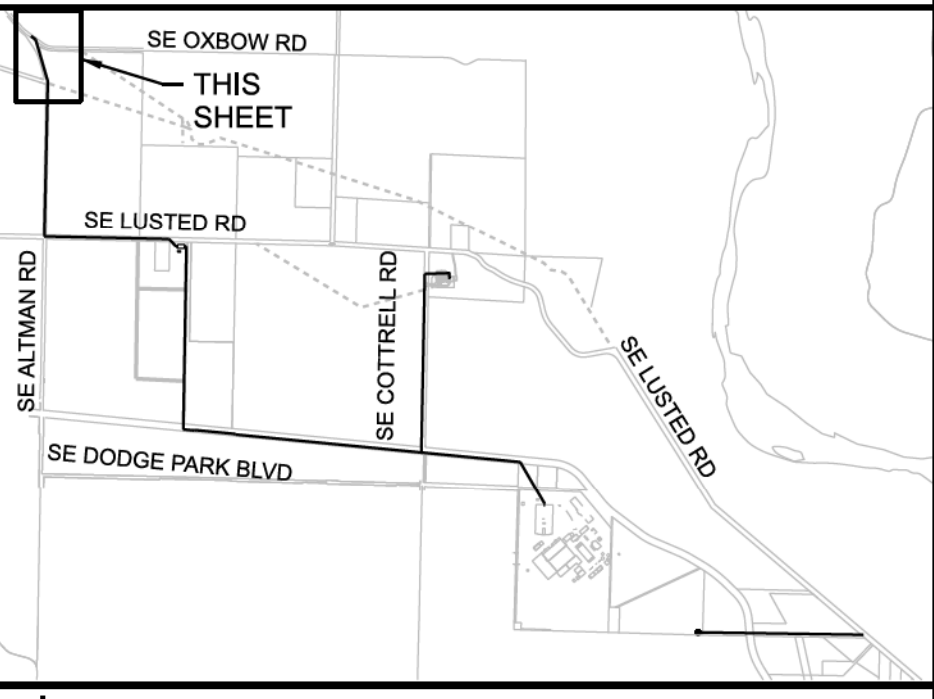
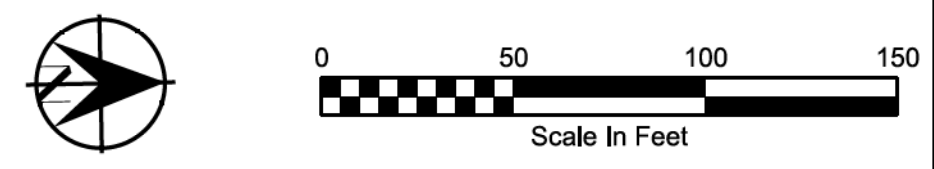
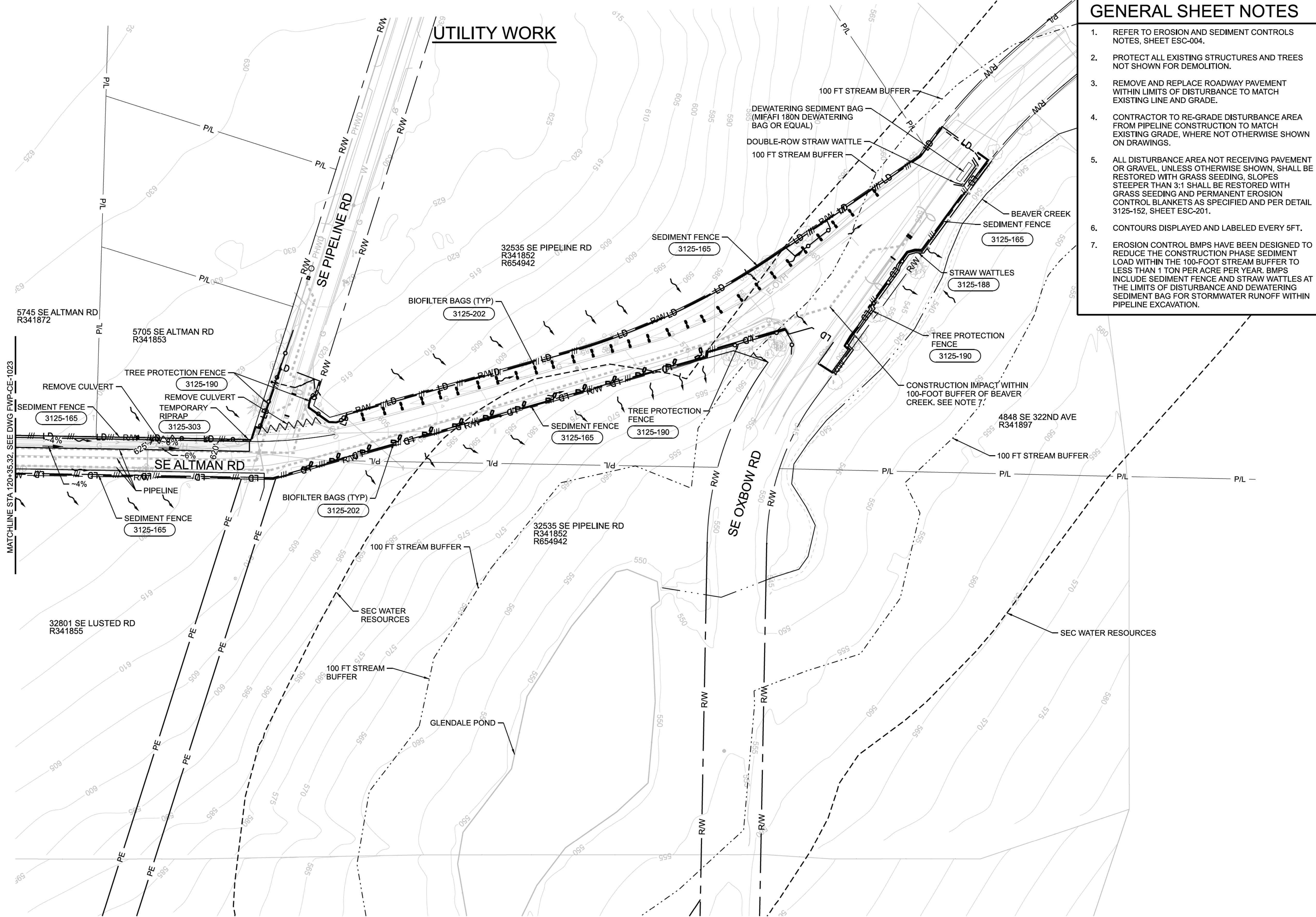
44.W02563_FWP-CE-1035.dgn

UTILITY WORK

- GENERAL SHEET NOTES**
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
 - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
 - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
 - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
 - ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
 - CONTOURS DISPLAYED AND LABELED EVERY 5 FT.
 - EROSION CONTROL BMPs HAVE BEEN DESIGNED TO REDUCE THE CONSTRUCTION PHASE SEDIMENT LOAD WITHIN THE 100-FOOT STREAM BUFFER TO LESS THAN 1 TON PER ACRE PER YEAR. BMPs INCLUDE SEDIMENT FENCE AND STRAW WATTLES AT THE LIMITS OF DISTURBANCE AND DEWATERING SEDIMENT BAG FOR STORMWATER RUNOFF WITHIN PIPELINE EXCAVATION.

LEGEND

- P/L --- EXISTING PROPERTY LINE
- R/W --- EXISTING RIGHT OF WAY
- EL --- EXISTING EASEMENT
- PHWD --- EXISTING WATER LINE
- E-OVH --- EXISTING UTILITY WIRE OVERHEAD
- G --- EXISTING GAS LINE
- ○ --- EXISTING UTILITY POLE
- --- EXISTING CULVERT
- --- EXISTING DITCH
- --- EXISTING SIGN
- --- EXISTING TREES
- --- EXISTING CONTOUR
- --- SEDIMENT FENCE
- ○ --- TREE PROTECTION FENCE
- --- FLOW DIRECTION
- (XXXX-XXX) --- STANDARD DETAIL CALLOUT
- LD --- LIMIT OF DISTURBANCE
- --- BMP BIOFILTER BAG
- --- STRAW WATTLE
- --- PROPOSED PIPELINE
- --- DEMOLITION
- 500' --- PROPOSED CONTOUR
- --- DEEP WELL ANODE BED
- --- ELECTRICAL CONDUIT
- --- STREAM
- --- 100 FT STREAM/WATER BODY BUFFER



46.W02563_FWP-CE-1024.dgn

27-APR-2023 00:49

No	Date	Description	Appd

Designed By	RG	Program Mgr	XXX
Drawn By	DD	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr	XXX	Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale.

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE

EROSION AND SED CONTROL

UTILITY WORK
GRID 13

SAP Project No
W02563

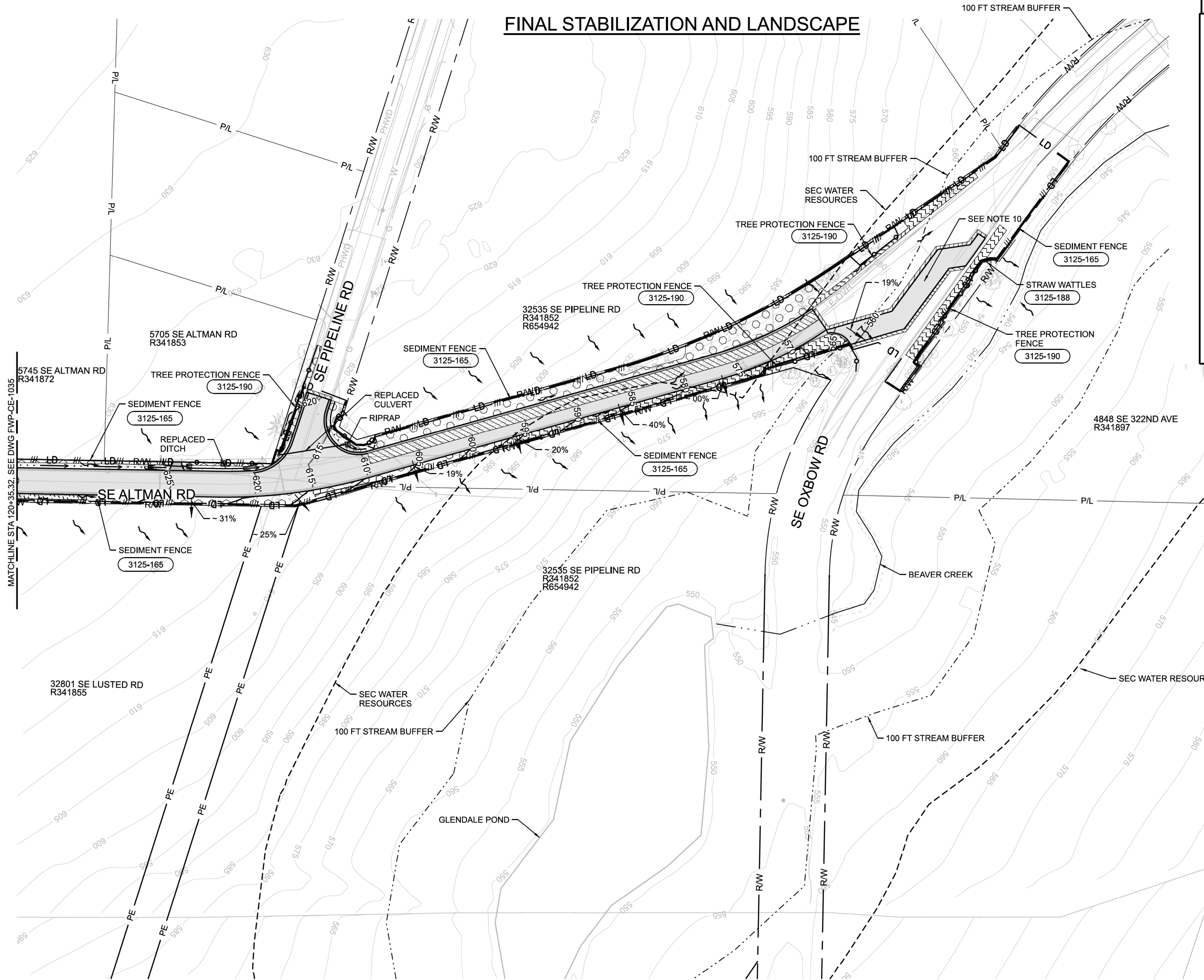
1/4 Section
3664 / 3764

Sheet No
FWP-CE-1024

46 of 63

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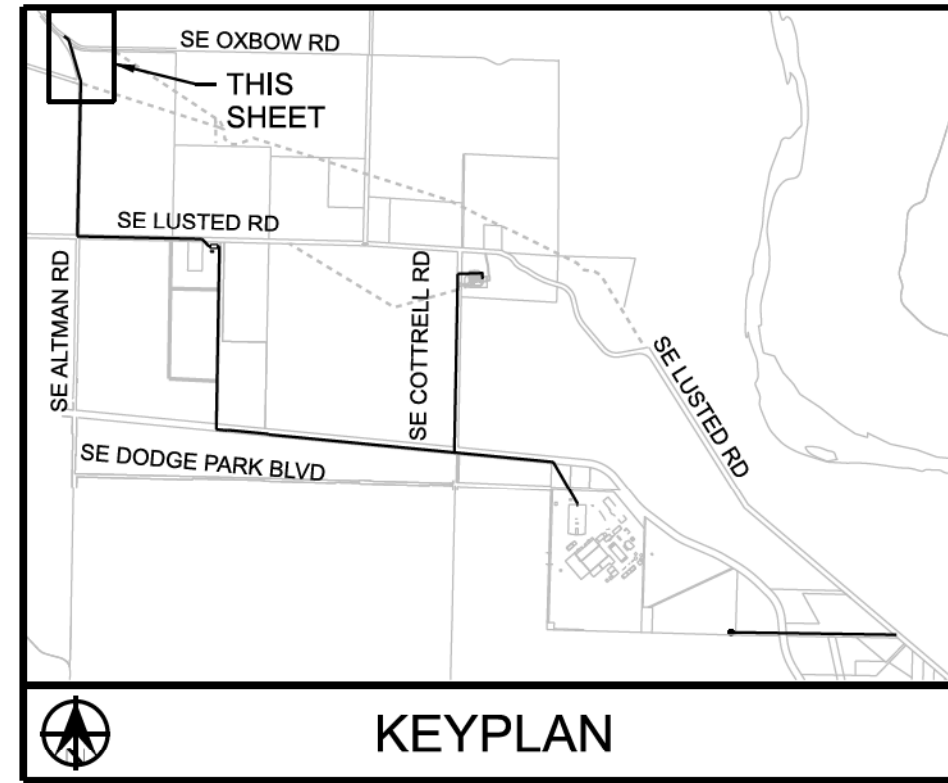
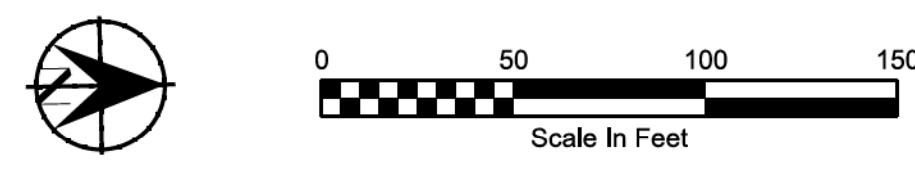
FINAL STABILIZATION AND LANDSCAPE



- ### GENERAL SHEET NOTES
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
 - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
 - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
 - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
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 - UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
 - CONTOURS DISPLAYED AND LABELED EVERY 5 FT.
 - REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
 - PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.
 - CONSTRUCTION RUNOFF CONTAINED AND TREATED WITHIN TRENCHED AREA.

LEGEND

	ASPHALT
	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	P/L EXISTING PROPERTY LINE
	R/W EXISTING RIGHT OF WAY
	EL EXISTING EASEMENT
	PHWD EXISTING WATER LINE
	E-OVH EXISTING UTILITY WIRE OVERHEAD
	G EXISTING GAS LINE
	EXISTING UTILITY POLE
	EXISTING CULVERT
	EXISTING DITCH
	EXISTING SIGN
	EXISTING TREES
	EXISTING CONTOUR
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LD LIMIT OF DISTURBANCE
	500' PROPOSED CONTOUR
	STREAM
	100 FT STREAM/WATER BODY BUFFER
	PROPOSED DRAINAGE DITCH
	STRAW WATTLE
	GRIND & INLAY
	STORM FILTER STRIP
	ROADSIDE SEEDING
	SEC SEEDING
	PROPOSED MAILBOX



47.W02563_FWP-CE-1036.dgn

16:52
28-APR-2023

No	Date	Description	Appd
Revision			
Survey			

Designed By	RG	Program Mgr	XXX
Drawn By	DD	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr		Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

SAP Project No
W02563

1/4 Section
3664 / 3764

Sheet No
FWP-CE-1036

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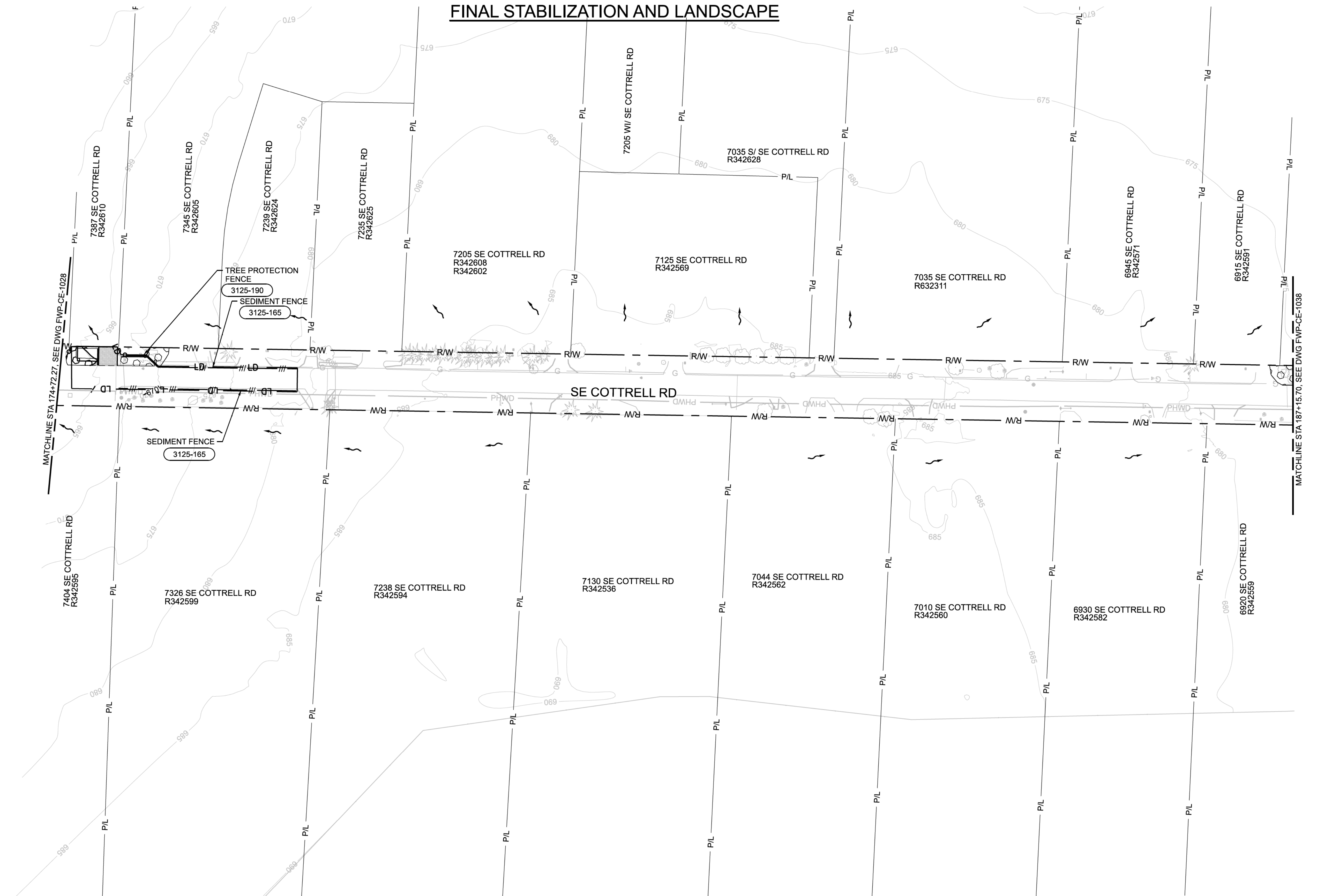
Bull Run Filtration Pipelines

**FINISHED WATER PIPELINE
EROSION AND SED CONTROL**

FINAL STABILIZATION AND LANDSCAPE
GRID 13

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FINAL STABILIZATION AND LANDSCAPE

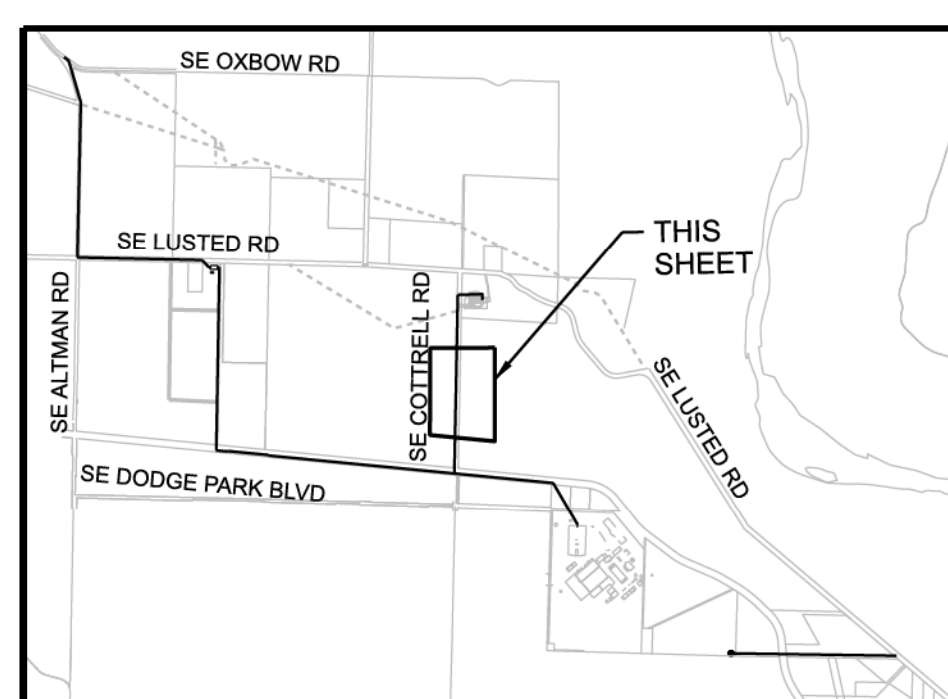


GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
- CONTOURS DISPLAYED AND LABELED EVERY 5 FT.
- REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.

LEGEND

- P/L EXISTING PROPERTY LINE
- R/W EXISTING RIGHT OF WAY
- PHWD EXISTING WATER LINE
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING TREES
- EXISTING CONTOUR
- SEDIMENT FENCE
- TREE PROTECTION FENCE
- FLOW DIRECTION
- XXXX-XXX STANDARD DETAIL CALLOUT
- LD LIMIT OF DISTURBANCE
- ROADSIDE SEEDING
- 500' PROPOSED CONTOUR



KEYPLAN

50.W02563_FWP-CE-1037.dgn

27-APR-2023 00:51

No	Date	Description	App'd

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr	XXX	Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale



		Date	
		Date	



Bull Run Filtration Pipelines
FINISHED WATER PIPELINE
EROSION AND SED CONTROL
 FINAL STABILIZATION AND LANDSCAPE
 GRID 14

SAP Project No	W02563
1/4 Section	3664 / 3764
Sheet No	FWP-CE-1037
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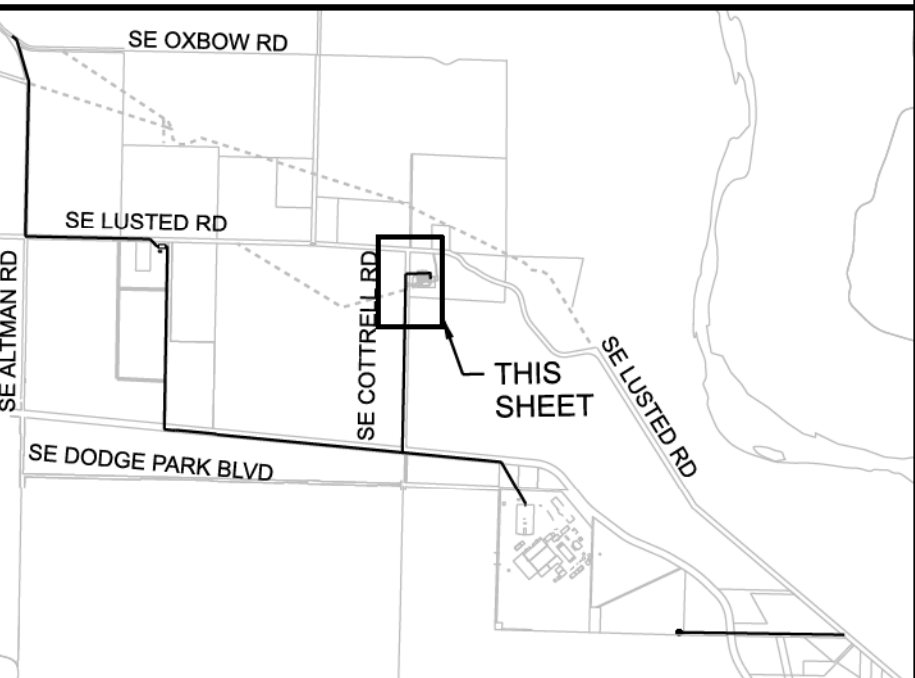
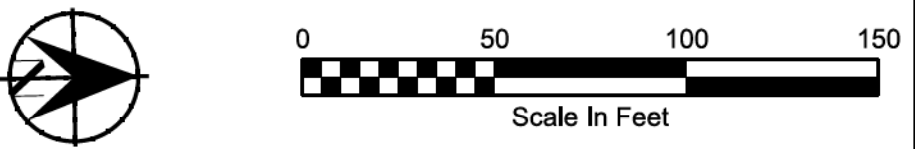
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GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.
- TRENCHLESS PIPES HAVE 16-20FT OF COVER. NO GROUND DISTURBANCE OR ROOT DISTURBANCE IN THIS AREA.

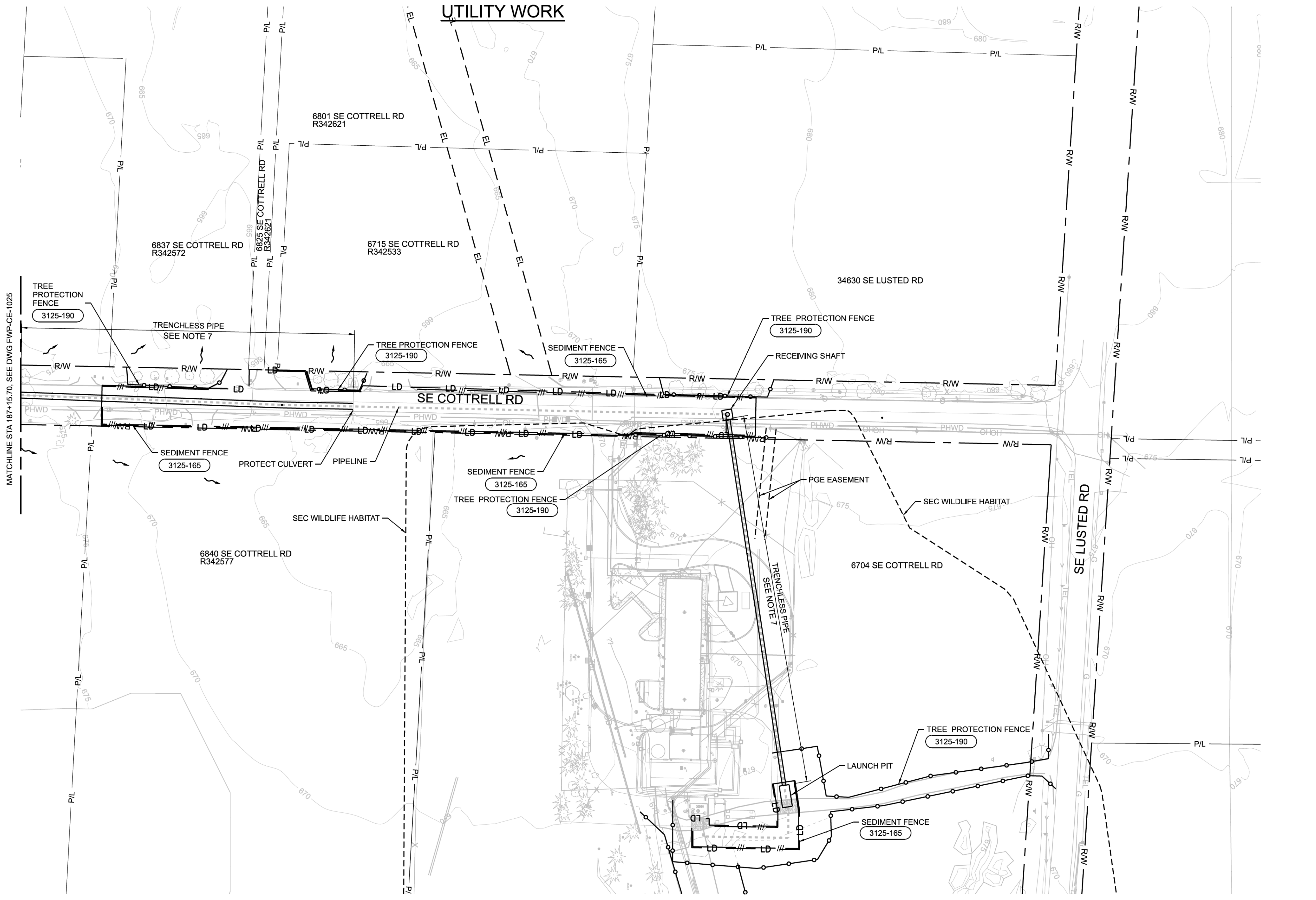
LEGEND

	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	P/L EXISTING PROPERTY LINE
	R/W EXISTING RIGHT OF WAY
	EL EXISTING EASEMENT
	PHWD EXISTING WATER LINE
	G EXISTING GAS LINE
	TEL EXISTING TELEPHONE LINE
	E-OVH EXISTING UTILITY WIRE OVERHEAD
	EXISTING UTILITY POLE
	EXISTING CULVERT
	EXISTING STRUCTURE FENCE
	EXISTING DITCH
	EXISTING TREES
	EXISTING CONTOUR
	EXISTING BUILDING
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LD LIMIT OF DISTURBANCE
	PROPOSED PIPELINE
	TRENCHLESS PIPELINE



KEYPLAN

UTILITY WORK



52.W02563_FWP-CE-1026.dgn

27-APR-2023 22:05

No	Date	Description	Appd

Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr		Date	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Bull Run Filtration Pipelines

FINISHED WATER PIPELINE EROSION AND SED CONTROL

UTILITY WORK
GRID 15

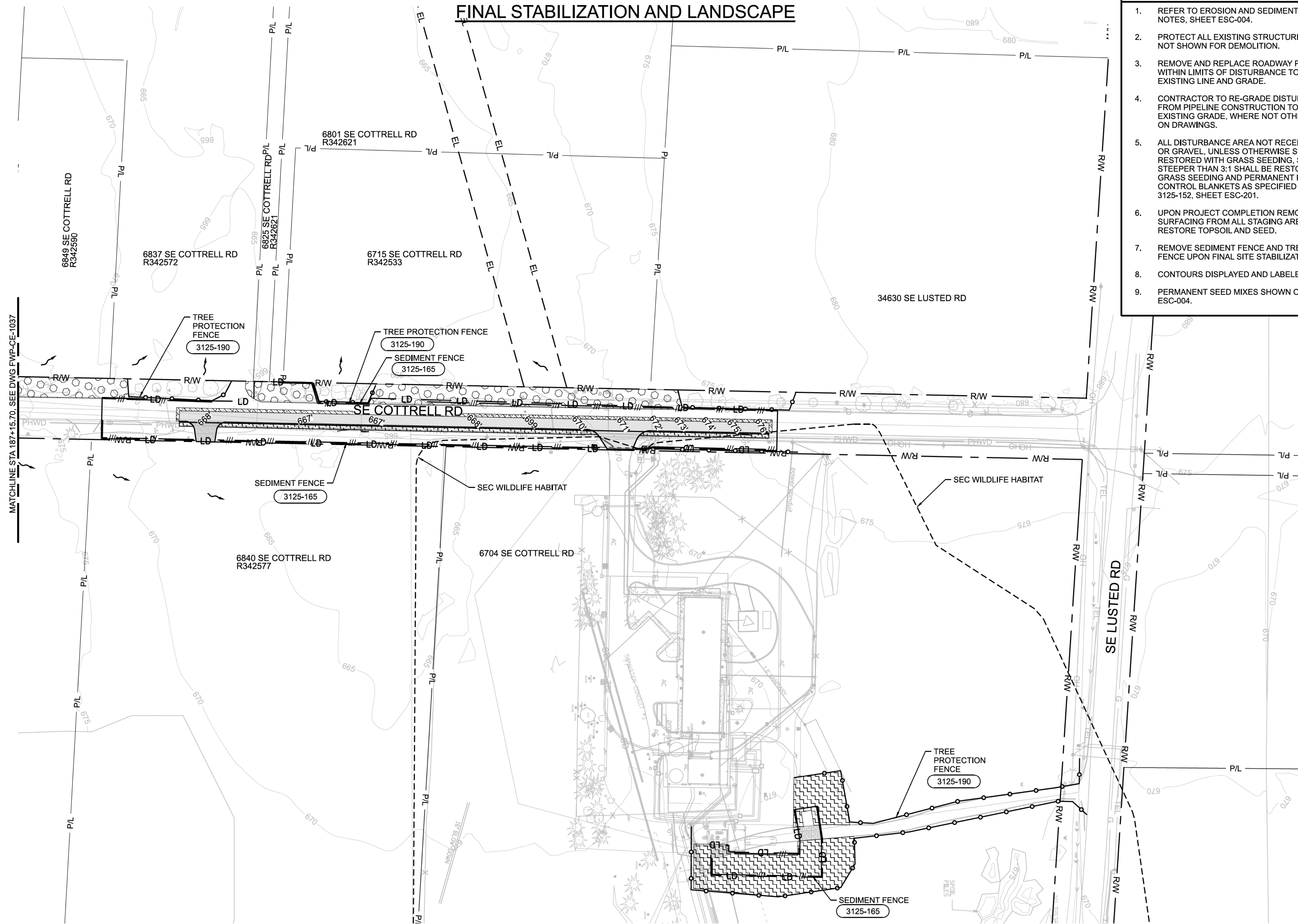
SAP Project No
W02563

1/4 Section
3664 / 3764

Sheet No
FWP-CE-1026

52 of 63

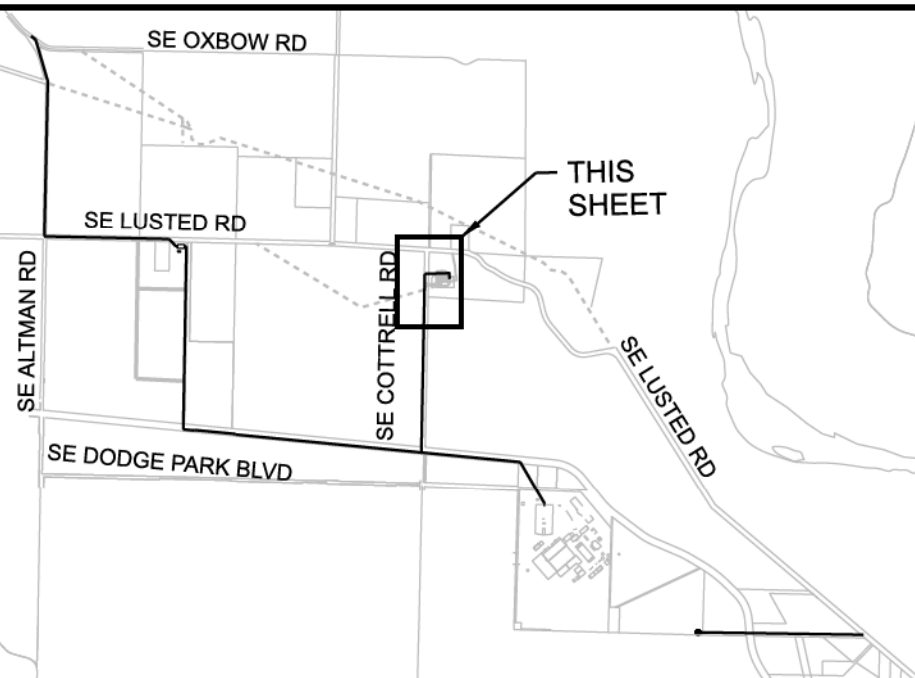
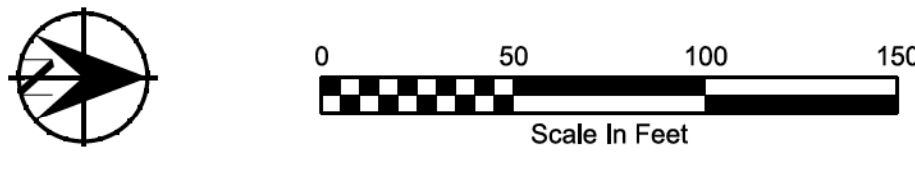
FINAL STABILIZATION AND LANDSCAPE



- ### GENERAL SHEET NOTES
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
 - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
 - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
 - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
 - ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING. SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
 - UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
 - REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
 - CONTOURS DISPLAYED AND LABELED EVERY 5FT.
 - PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.

LEGEND

	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	P/L EXISTING PROPERTY LINE
	R/W EXISTING RIGHT OF WAY
	EL EXISTING EASEMENT
	PHWD EXISTING WATER LINE
	G EXISTING GAS LINE
	TEL EXISTING TELEPHONE LINE
	E-OVH EXISTING UTILITY WIRE OVERHEAD
	EXISTING UTILITY POLE
	EXISTING CULVERT
	EXISTING STRUCTURE FENCE
	EXISTING DITCH
	EXISTING TREES
	EXISTING CONTOUR
	EXISTING BUILDING
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LD LIMIT OF DISTURBANCE
	500' PROPOSED CONTOUR
	GRIND & INLAY
	STORM FILTER STRIP
	ASPHALT
	GRAVEL
	ROADSIDE SEEDING
	SEC SEEDING



KEYPLAN

53.W02563_FWP-CE-1038.dgn

27-APR-2023 00:51

No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supr
Project Mgr	Date
	04/27/2023

WARNING

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____



Bull Run Filtration Pipelines

FINISHED WATER PIPELINE EROSION AND SED CONTROL

FINAL STABILIZATION AND LANDSCAPE
GRID 15

SAP Project No
W02563

1/4 Section
3664 / 3764

Sheet No
FWP-CE-1038

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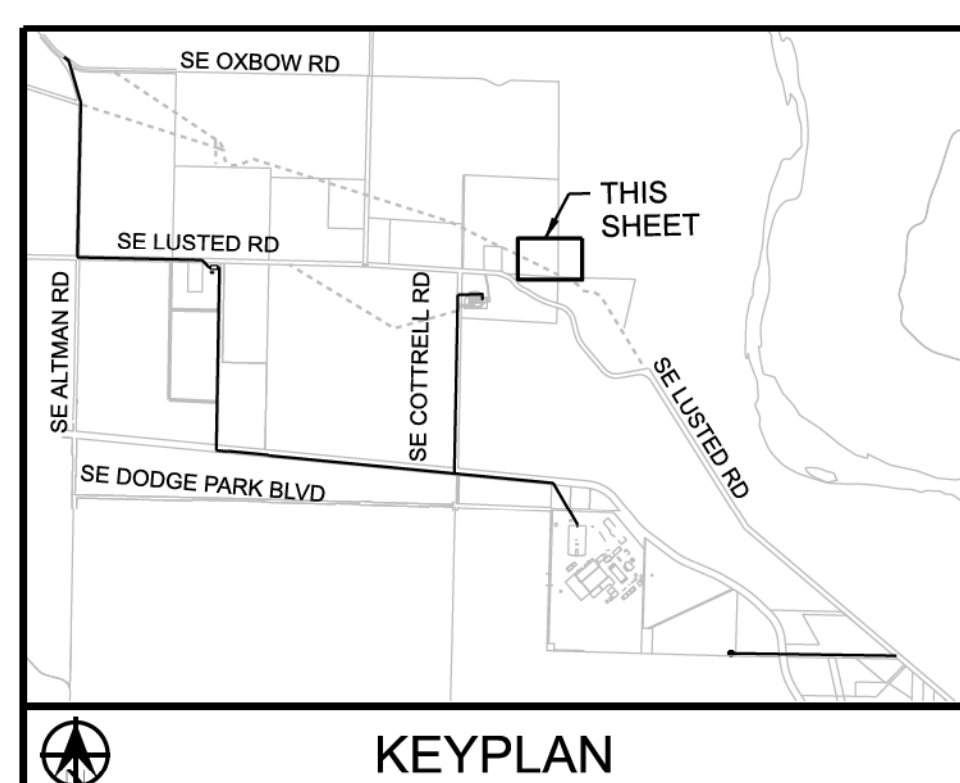
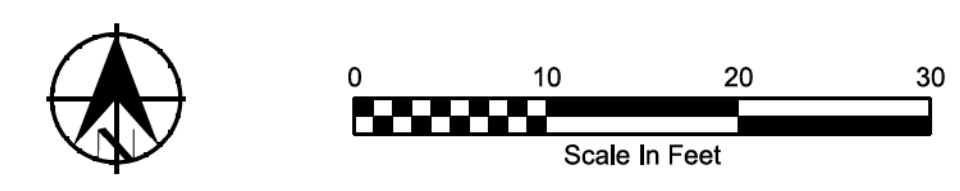
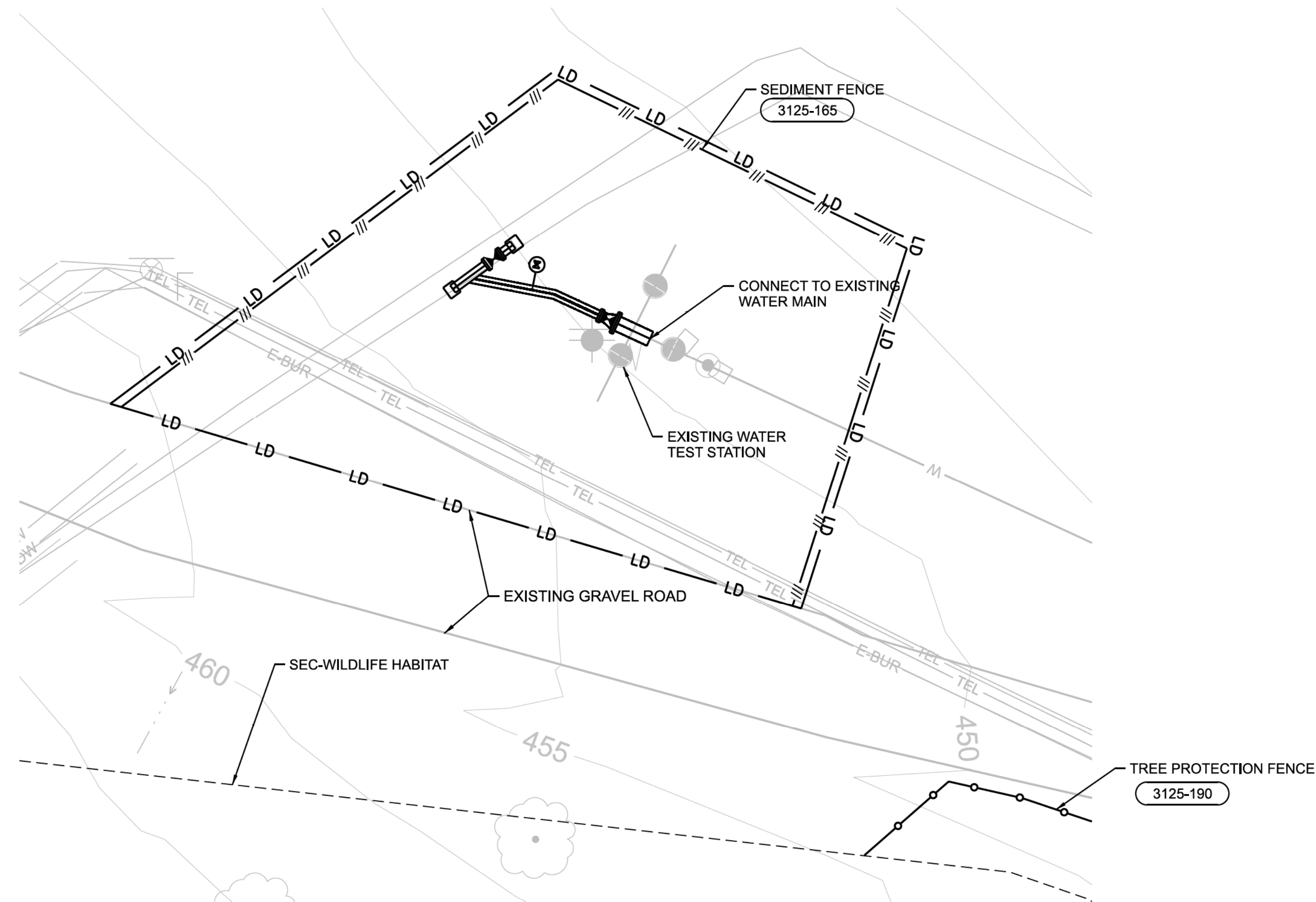
UTILITY WORK

GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
- CONTOURS DISPLAYED AND LABELED EVERY 5FT.

LEGEND

	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	EXISTING WATER LINE
	EXISTING TELEPHONE LINE
	EXISTING BURIED POWER
	EXISTING UTILITY CHEMICAL
	EXISTING CONTOUR
	EXISTING DITCH
	EXISTING TREE
	TREE PROTECTION FENCE
	STANDARD DETAIL CALLOUT



55.W02563_FWP-CE-1040.dgn

27-APR-2023 00:53

No	Date	Description	Appd
Revision			
Survey			

Designed By	Program Mgr	XXXX
Drawn By	Const Mgr	XXXX
Checked By	Const Supvr	XXXX
Project Mgr	Date	04/27/2023

PORTLAND WATER BUREAU

KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424



Bull Run Filtration Pipelines
FINISHED WATER PIPELINES
EROSION AND SED CONTROL
 UTILITY WORK
 GRID 16

SAP Project No	W02563
1/4 Section	3664 / 3764
Sheet No	FWP-CE-1040
	55 of 63

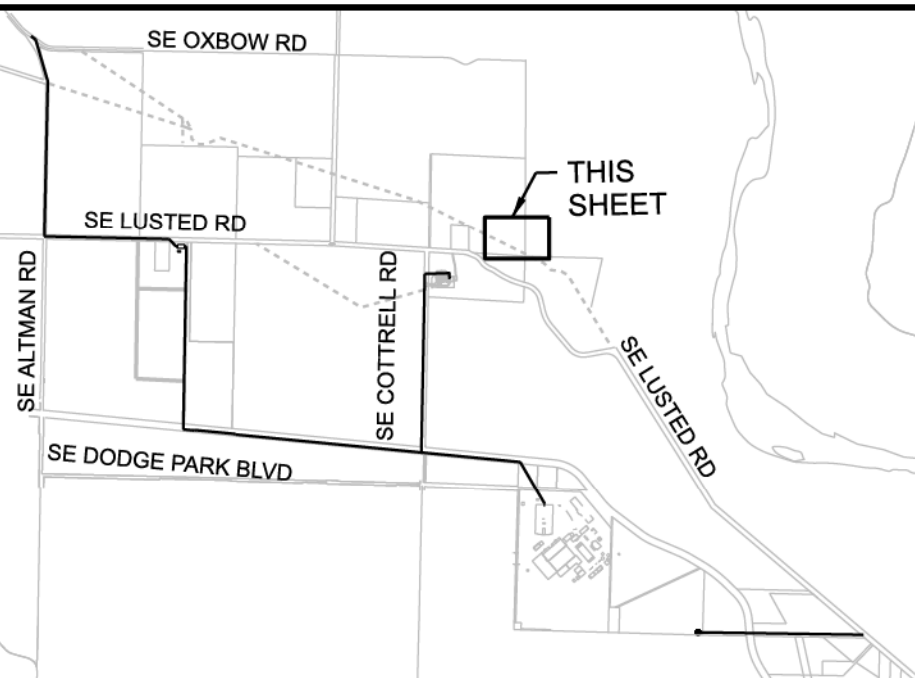
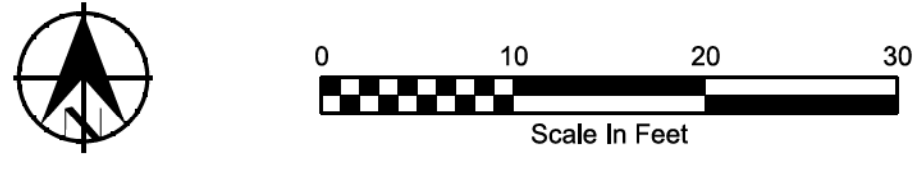
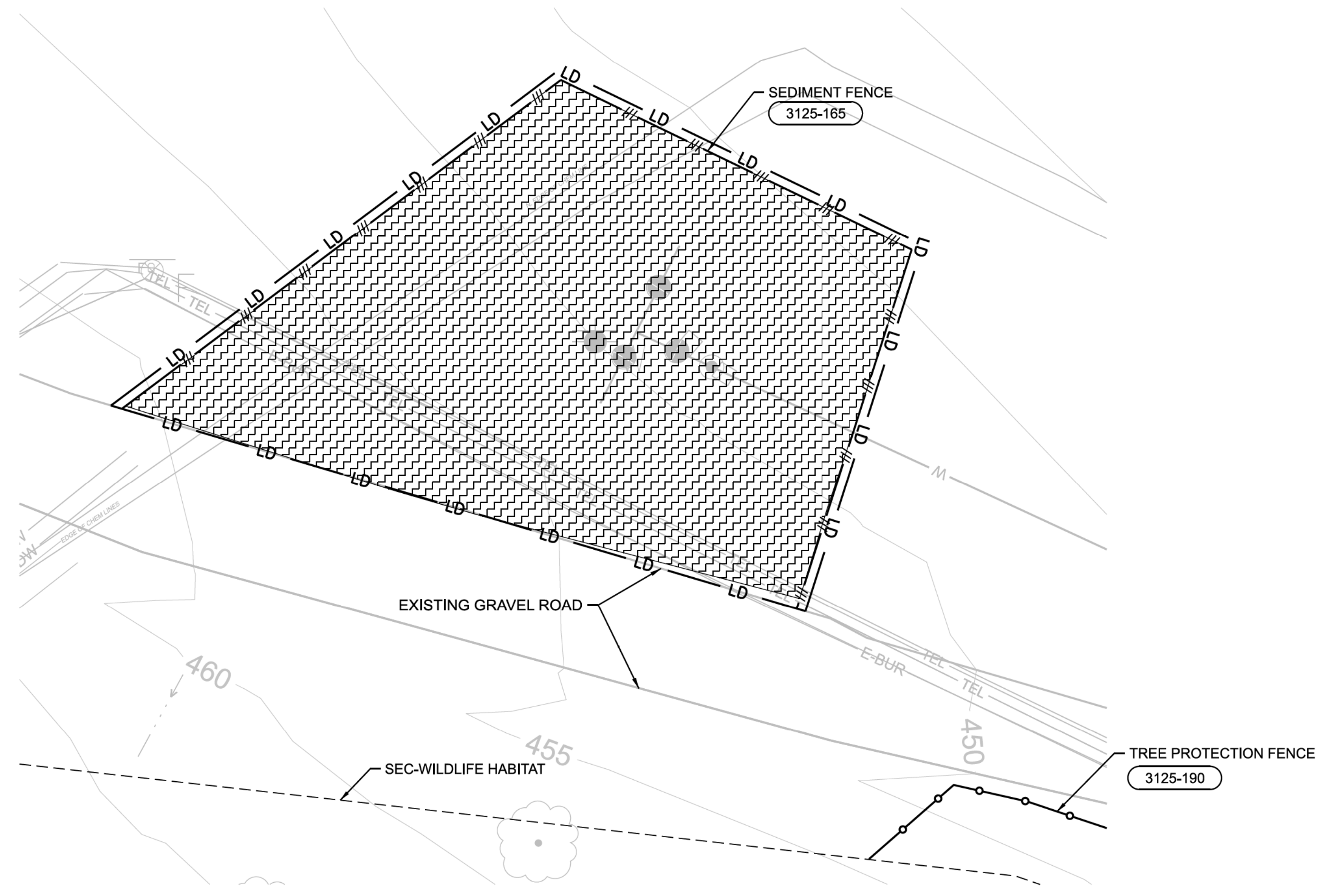
FINAL STABILIZATION

GENERAL SHEET NOTES

- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
- PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
- REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
- CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
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- UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
- REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
- CONTOURS DISPLAYED AND LABELED EVERY 5 FT.
- PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.

LEGEND

-----	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
— W —	EXISTING WATER LINE
— TEL —	EXISTING TELEPHONE LINE
— E-BUR —	EXISTING BURIED POWER
— DW —	EXISTING UTILITY CHEMICAL
— 500' —	EXISTING CONTOUR
→	EXISTING DITCH
○	EXISTING TREE
○	TREE PROTECTION FENCE
XXXX-XXX	STANDARD DETAIL CALLOUT
~~~~~	SEC SEEDING



KEYPLAN

27-APR-2023 00:54 56.W02563_FWP-CE-1041.dgn

No	Date	Description	Appd
Revision			
Survey			

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

**WARNING**

If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU

_____  
Date

_____  
Date



**Bull Run Filtration Pipelines**

**FINISHED WATER PIPELINES**

**EROSION AND SED CONTROL**

FINAL STABILIZATION AND LANDSCAPE

GRID 16

SAP Project No  
**W02563**

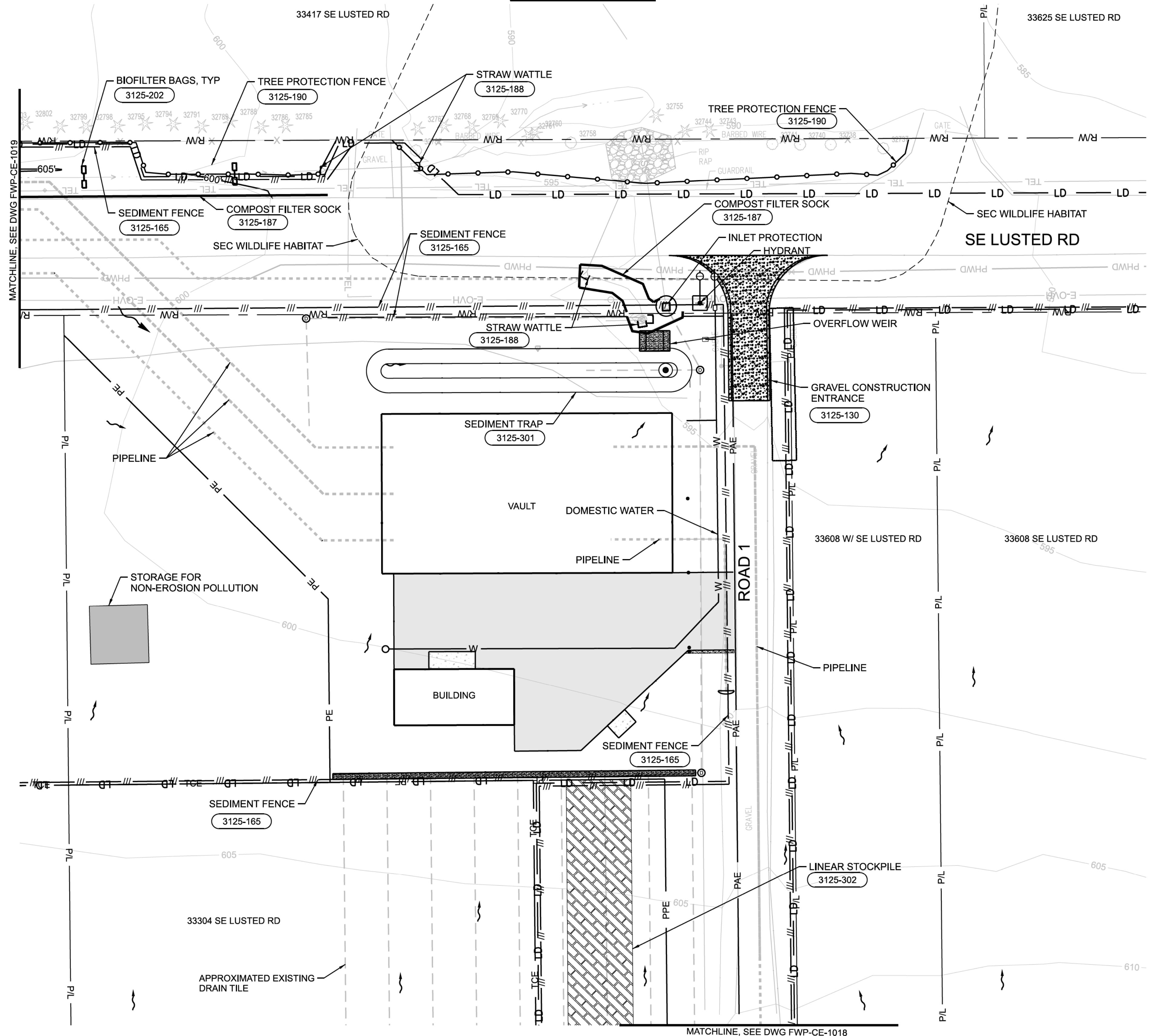
1/4 Section  
3664 / 3764

Sheet No  
FWP-CE-1041

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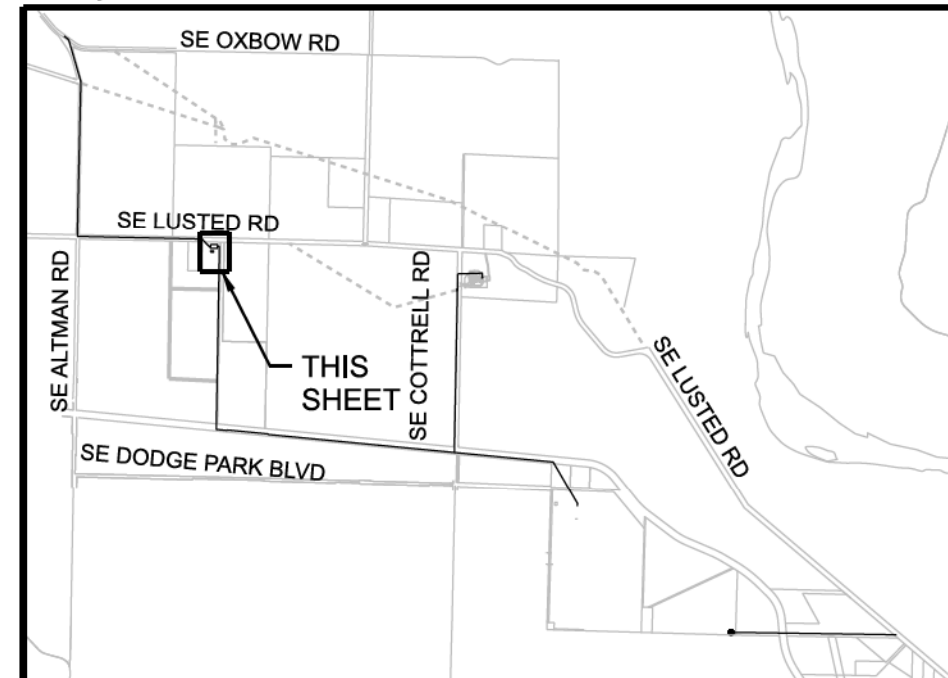
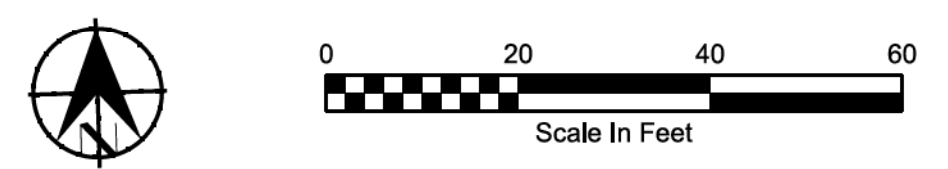
# UTILITY WORK



- ### GENERAL SHEET NOTES
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
  - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
  - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
  - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
  - ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING. SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
  - SEDIMENT TRAP TO BE CLEANED OF SEDIMENT AFTER SITE GRADING IS COMPLETE.
  - CONTOURS DISPLAYED AND LABELED EVERY 5 FT.

### LEGEND

	ASPHALT
	EXISTING RIPRAP
	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	EXISTING PROPERTY LINE
	EXISTING RIGHT OF WAY
	EXISTING WATER LINE
	EXISTING TELEPHONE LINE
	EXISTING UTILITY WIRE OVERHEAD
	EXISTING UTILITY POLE
	EXISTING CULVERT
	EXISTING STRUCTURE FENCE
	EXISTING DITCH
	EXISTING WATER VALVE
	EXISTING TREES
	EXISTING CONTOUR
	SEDIMENT FENCE
	TREE PROTECTION FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LIMIT OF DISTURBANCE
	COMPOST FILTER SOCK
	BMP BIOFILTER BAG
	STRAW WATTLE
	INLET PROTECTION
	CONSTRUCTION ENTRANCE
	PERMANENT EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	PERMANENT PROPERTY EASEMENT
	PROPOSED PIPELINE
	WATER METER
	WATER VALVE
	STORM MANHOLE
	DRAINAGE STRUCTURE
	FIRE HYDRANT
	TOPSOIL STOCKPILE
	PROPOSED CONTOUR



KEYPLAN

CONFIDENTIAL

27-APR-2023 22:05 58.W02563_FWI-CE-1002.dgn

No	Date	Description	Appd

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

**WARNING**

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

Date _____



**Bull Run Filtration Pipelines**

**FINISHED WATER INTERTIE**

**EROSION AND SED CONTROL**

UTILITY WORK

SAP Project No  
**W02563**

1/4 Section

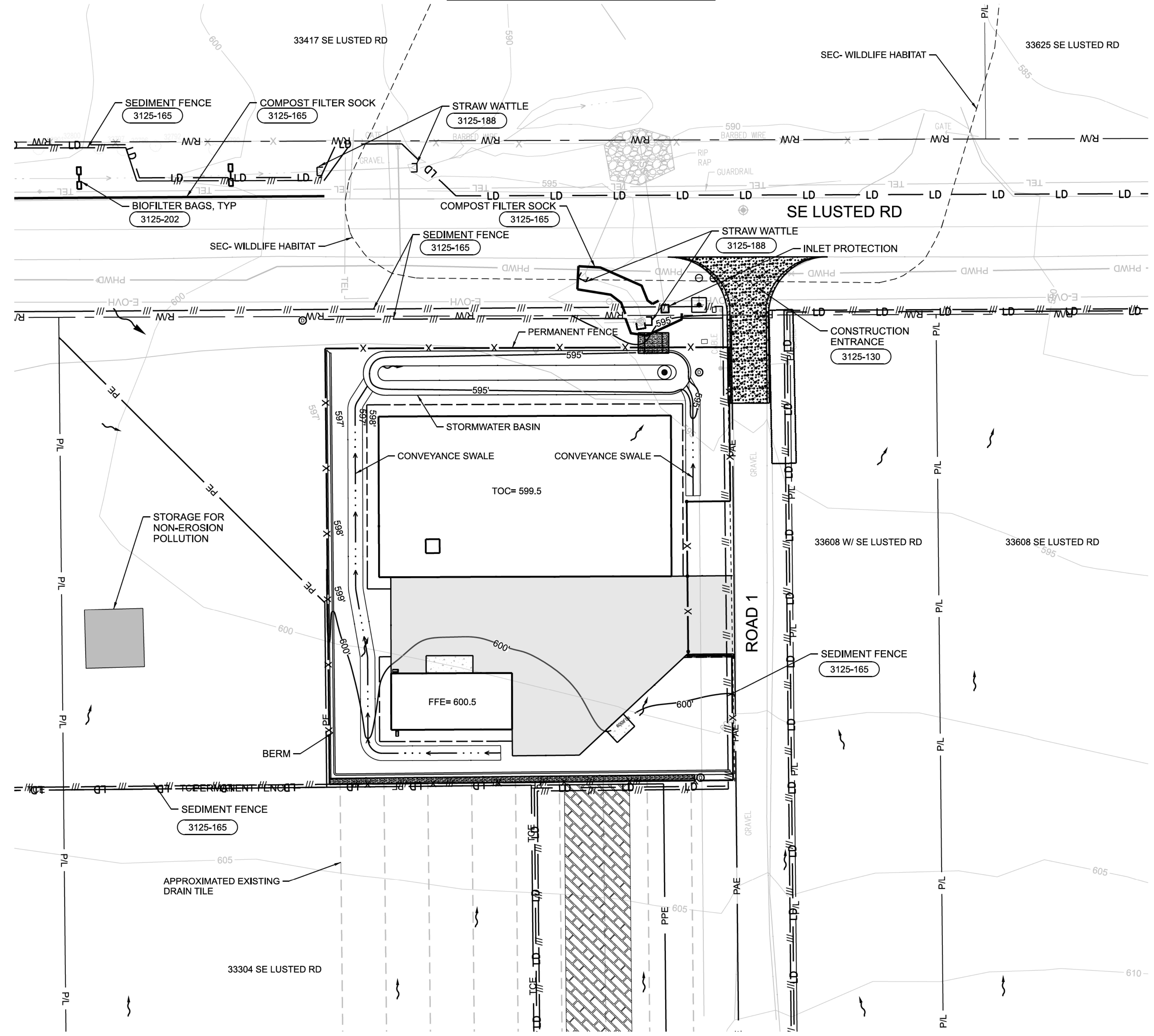
Sheet No  
**FWI-CE-1002**

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REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN ("DOCUMENTS"), AS AN INSTRUMENT OF PROFESSIONAL SERVICE, WAS PREPARED BY JACOBS SOLELY FOR THE PURPOSE OF THIS PROJECT AND DESIGN CRITERIA. JACOBS IS RELEASED FROM ANY AND ALL LIABILITY OF ANY KIND ARISING OUT OF OR RELATING TO THE RE-USE OF THE DOCUMENTS, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT OR EXTENSIONS OF THIS PROJECT.



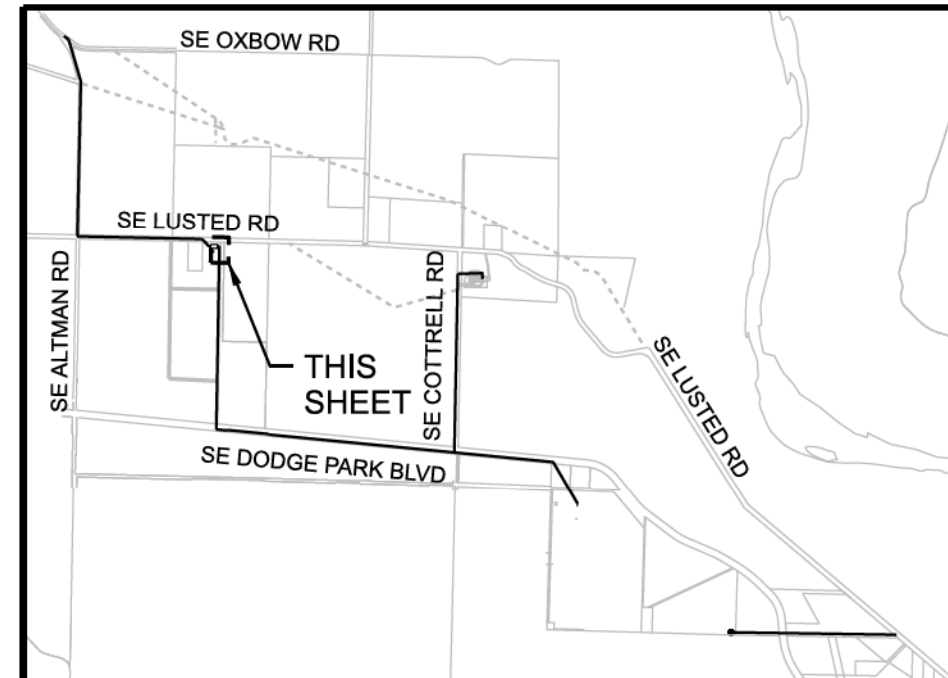
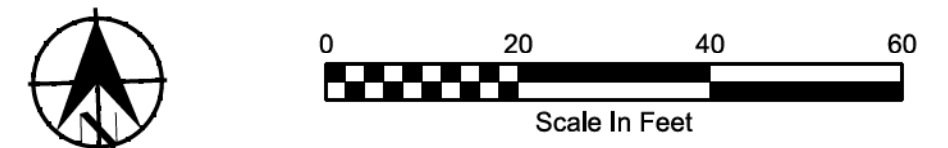
# VERTICAL CONSTRUCTION



- ### GENERAL SHEET NOTES
- REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
  - PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
  - REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
  - CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
  - CONTOURS DISPLAYED AND LABELED EVERY 5 FT.

### LEGEND

	ASPHALT
	EXISTING RIPRAP
	SIGNIFICANT ENVIRONMENTAL CONCERN (SEC)
	EXISTING PROPERTY LINE
	EXISTING RIGHT OF WAY
	EXISTING WATER LINE
	EXISTING UTILITY WIRE OVERHEAD
	EXISTING CONTOUR
	CONSTRUCTION ENTRANCE
	GRAVEL
	SEDIMENT FENCE
	FLOW DIRECTION
	STANDARD DETAIL CALLOUT
	LIMIT OF DISTURBANCE
	COMPOST FILTER SOCK
	BMP BIOFILTER BAG
	STRAW WATTLE
	PERMANENT EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	PERMANENT PROPERTY EASEMENT
	PUBLIC ACCESS EASEMENT
	DRAIN TILES
	PROPOSED CONVEYANCE SWALE
	PROPOSED FENCE
	TOPSOIL STOCKPILE
	PROPOSED CONTOUR



59_W02563_FWI-CE-1003.dgn

27-APR-2023 00:53

No	Date	Description	Appd



Designed By	RG	Program Mgr	XXX
Drawn By	JL	Const Mgr	XXX
Checked By	RG	Const Supvr	XXX
Project Mgr		Date	04/27/2023

**WARNING**  
  
 If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424



**Bull Run Filtration Pipelines**  
**FINISHED WATER INTERTIE**  
**EROSION AND SED CONTROL**  
 VERTICAL CONSTRUCTION

SAP Project No	W02563
1/4 Section	
Sheet No	FWI-CE-1003
59 of 63	

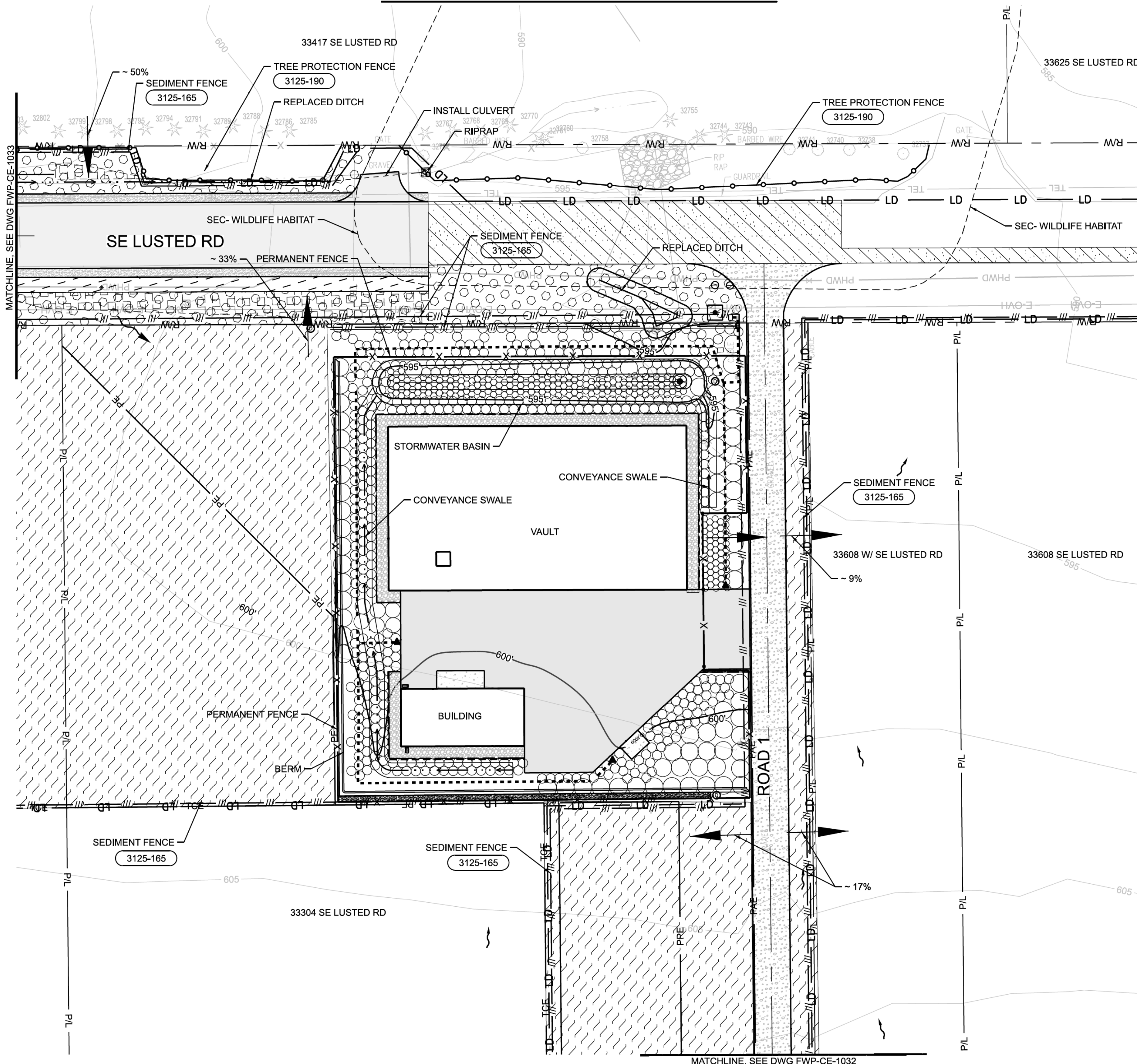
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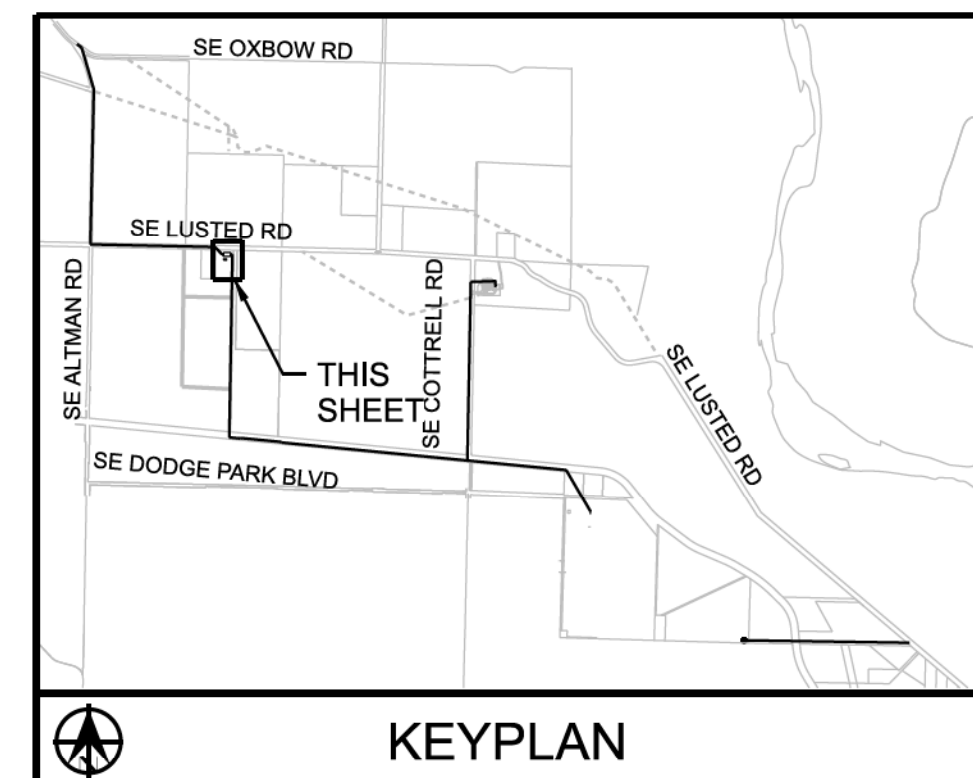
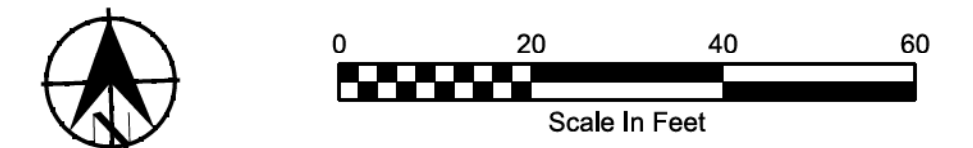
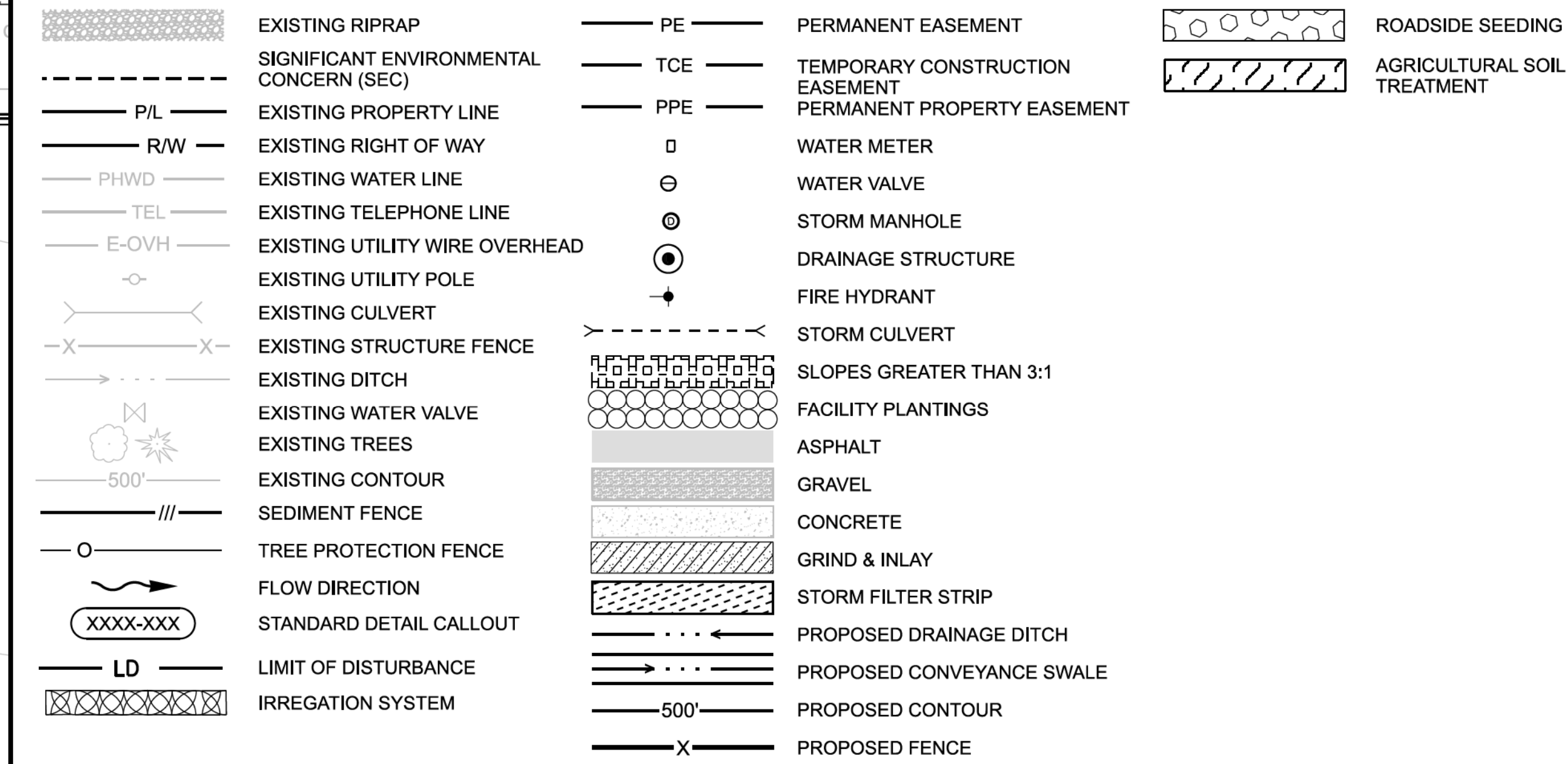
# FINAL STABILIZATION AND LANDSCAPE

## GENERAL SHEET NOTES

1. REFER TO EROSION AND SEDIMENT CONTROLS NOTES, SHEET ESC-004.
2. PROTECT ALL EXISTING STRUCTURES AND TREES NOT SHOWN FOR DEMOLITION.
3. REMOVE AND REPLACE ROADWAY PAVEMENT WITHIN LIMITS OF DISTURBANCE TO MATCH EXISTING LINE AND GRADE.
4. CONTRACTOR TO RE-GRADE DISTURBANCE AREA FROM PIPELINE CONSTRUCTION TO MATCH EXISTING GRADE, WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
5. ALL DISTURBANCE AREA NOT RECEIVING PAVEMENT OR GRAVEL, UNLESS OTHERWISE SHOWN, SHALL BE RESTORED WITH GRASS SEEDING, SLOPES STEEPER THAN 3:1 SHALL BE RESTORED WITH GRASS SEEDING AND PERMANENT EROSION CONTROL BLANKETS AS SPECIFIED AND PER DETAIL 3125-152, SHEET ESC-201.
6. UPON PROJECT COMPLETION REMOVE GRAVEL SURFACING FROM ALL STAGING AREAS AND RESTORE TOPSOIL AND SEED.
7. CONTOURS DISPLAYED AND LABELED EVERY 5FT.
8. REMOVE SEDIMENT FENCE AND TREE PROTECTION FENCE UPON FINAL SITE STABILIZATION.
9. PERMANENT SEED MIXES SHOWN ON ESC-002 AND ESC-004.



## LEGEND

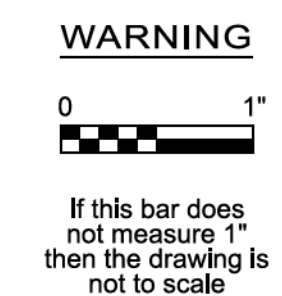


CONFIDENTIAL

27-APR-2023 22:05 60.W02563_FWI-CE-1004.dgn

No	Date	Description	Appd
Revision			
Survey			

Designed By	Program Mgr		
Drawn By	Const Mgr		
Checked By	Const Supvr		
Project Mgr	Date	04/27/2023	



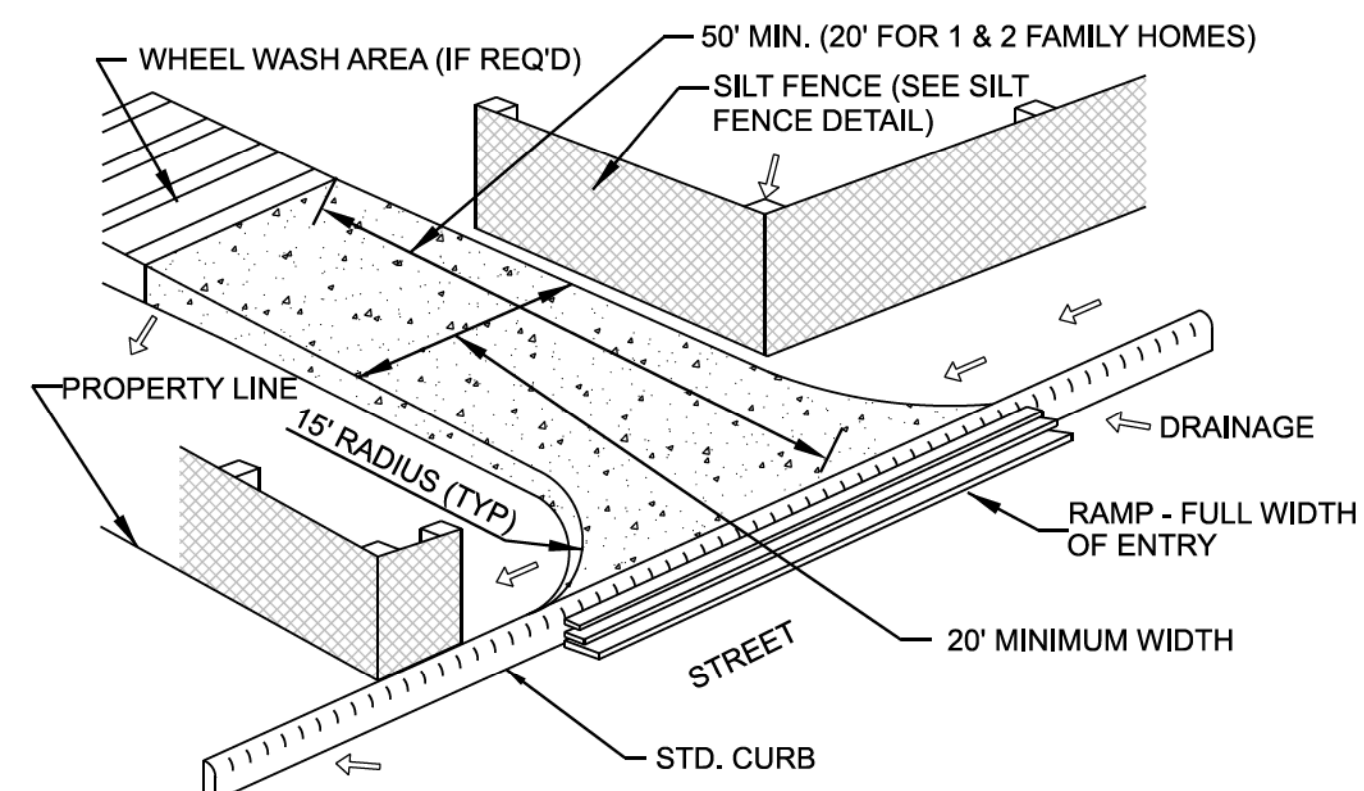
KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424



**Bull Run Filtration Pipelines**  
**FINISHED WATER INTERTIE**  
**EROSION AND SED CONTROL**  
 FINAL STABILIZATION AND LANDSCAPE

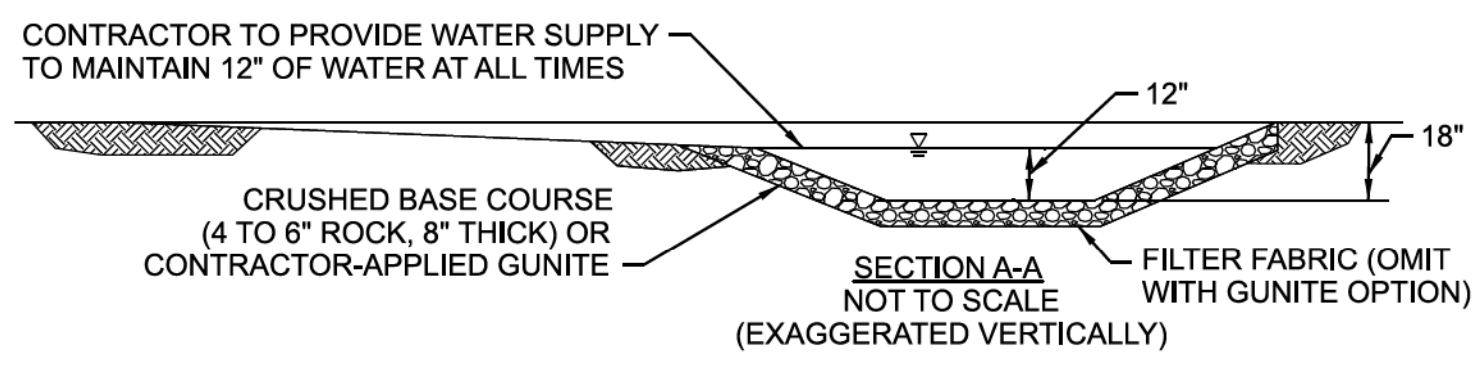
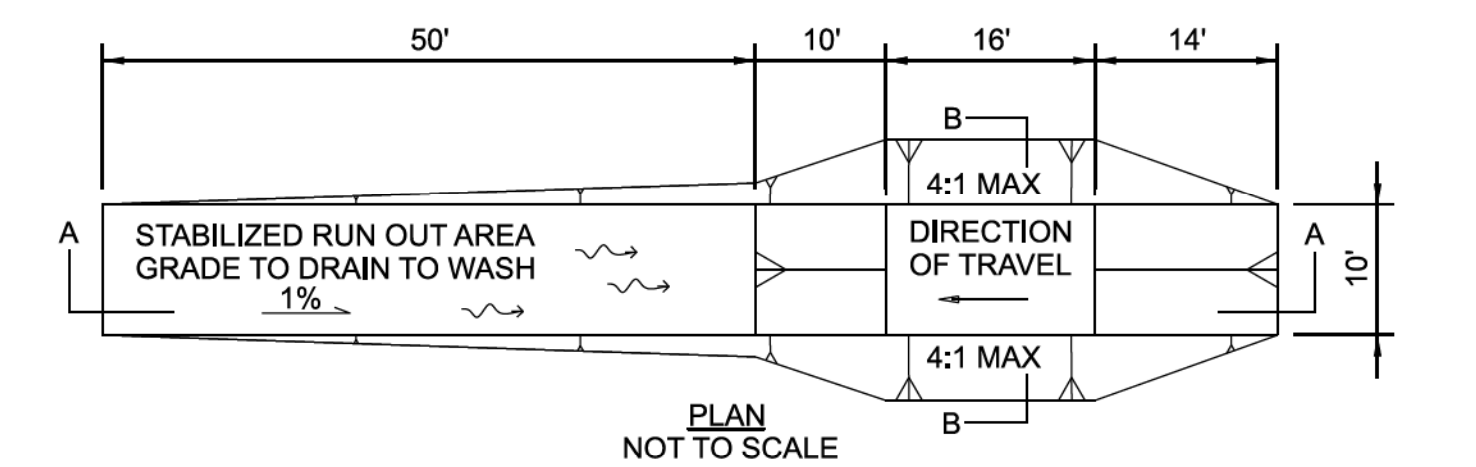
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**W02563**  
 1/4 Section  
 Sheet No  
 FWI-CE-1004  
 60 of 63





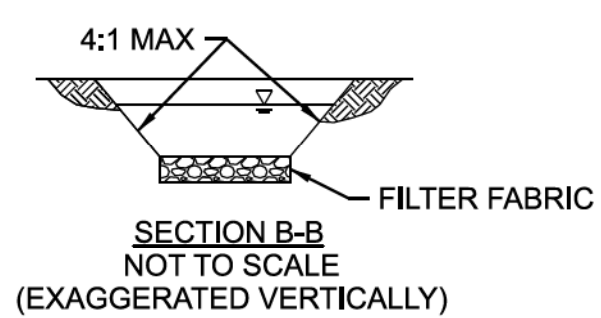
**GRAVEL CONSTRUCTION ENTRANCE**  
NTS

3125-130



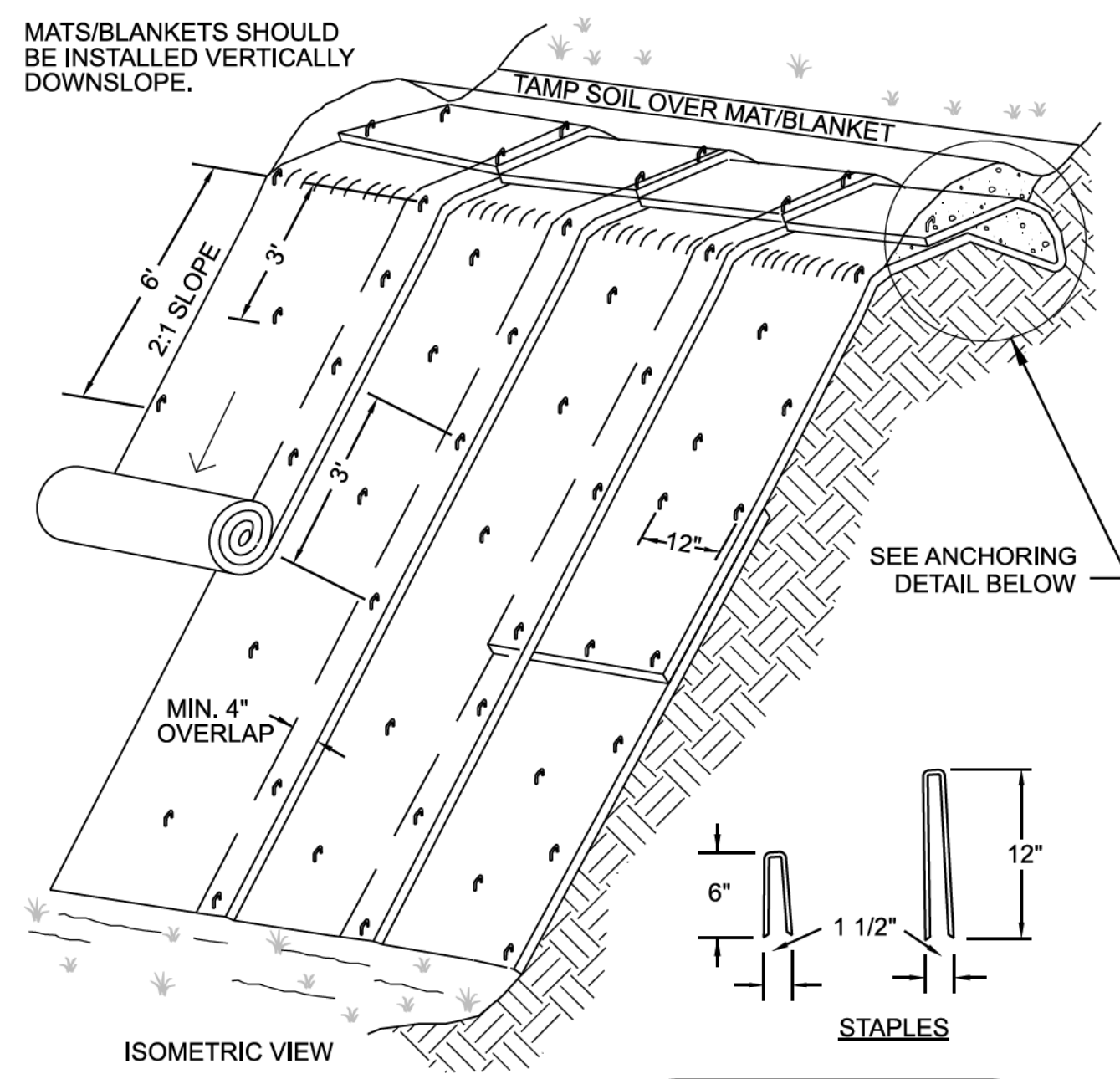
**NOTE:**  
1. CONTRACTOR TO REMOVE ACCUMULATED SEDIMENT FROM WHEEL WASH; MAY BE PIPED TO AN APPROVED SEDIMENT TRAP.

**REFERENCE:**  
USE GEOTEXTILE FABRIC WITH AGGREGATE FOR A TEMPORARY TIRE WASH



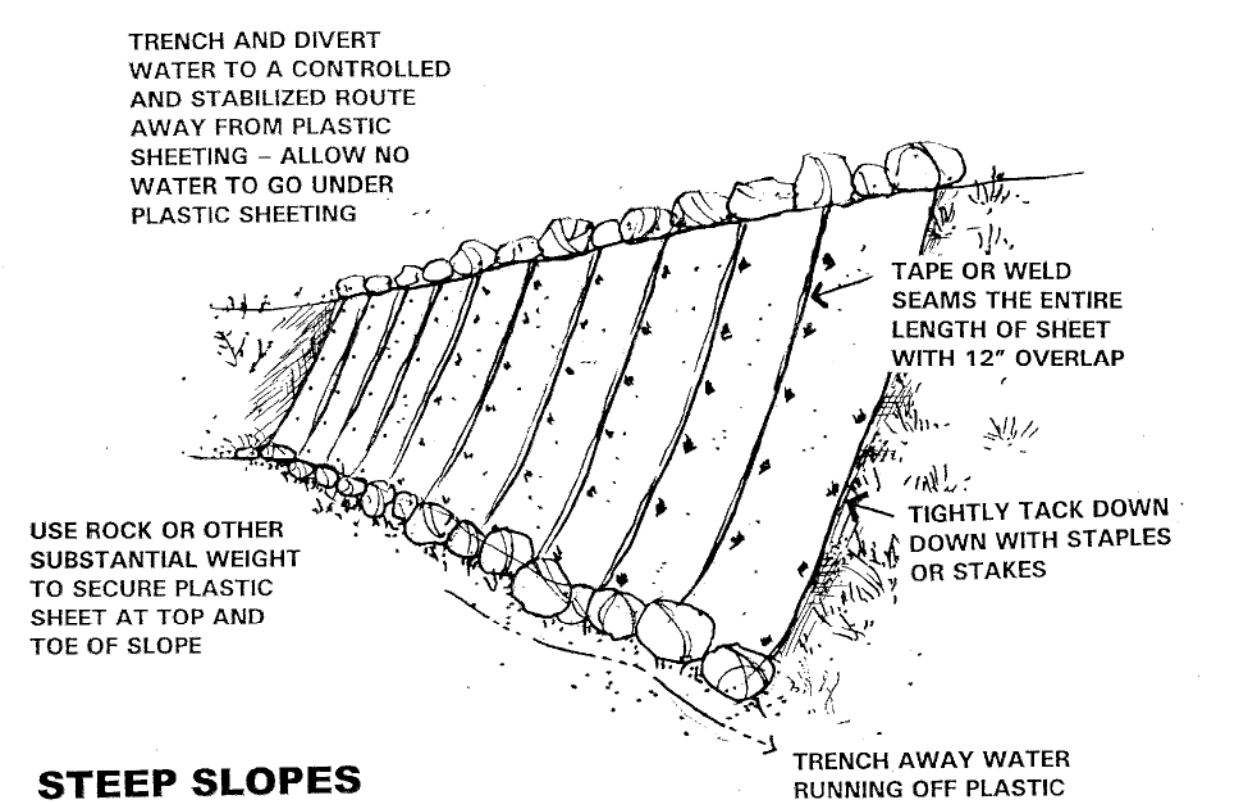
**WHEEL WASH**  
NTS

3125-135



**SLOPE STABILIZATION**  
NTS

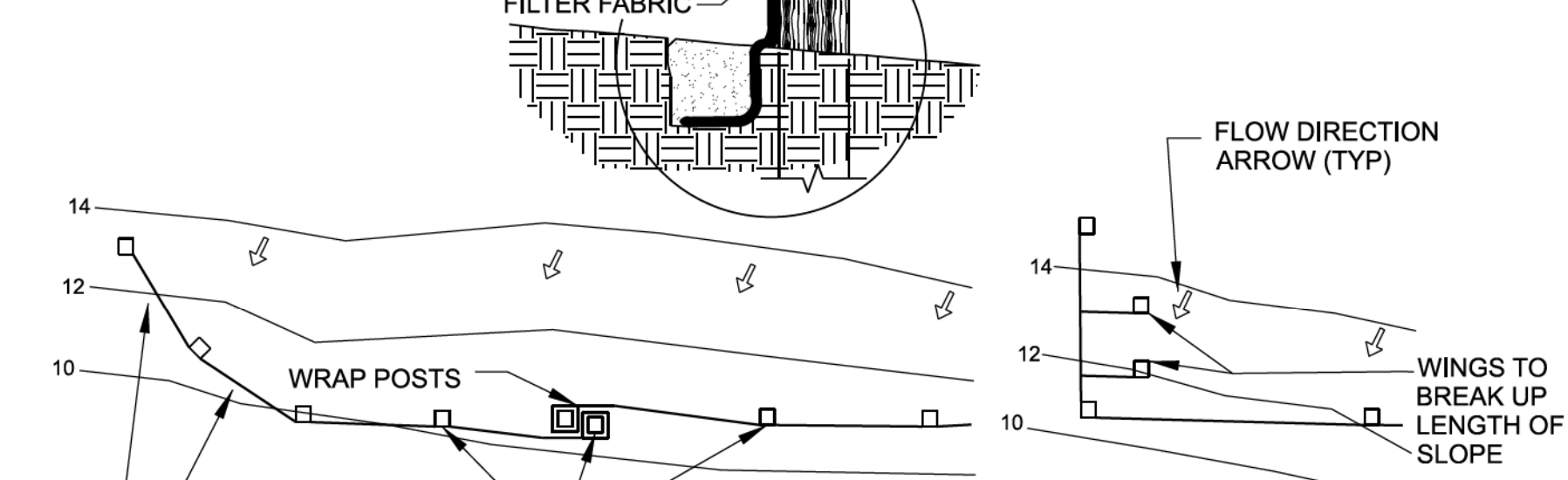
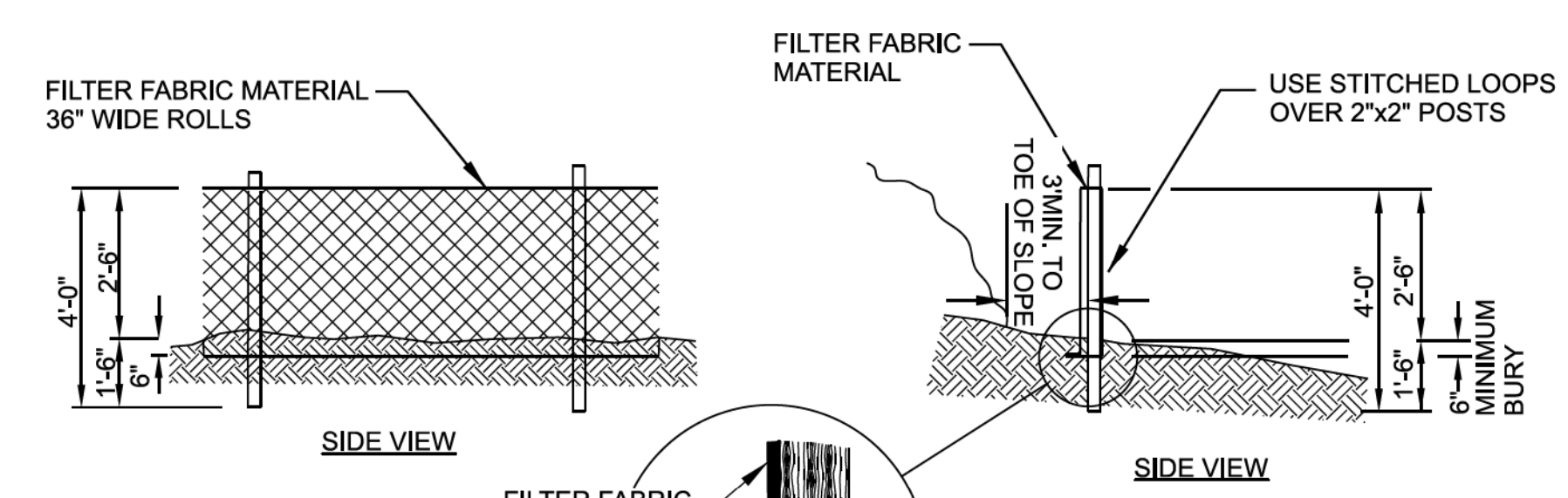
3125-152



**STEEP SLOPES**

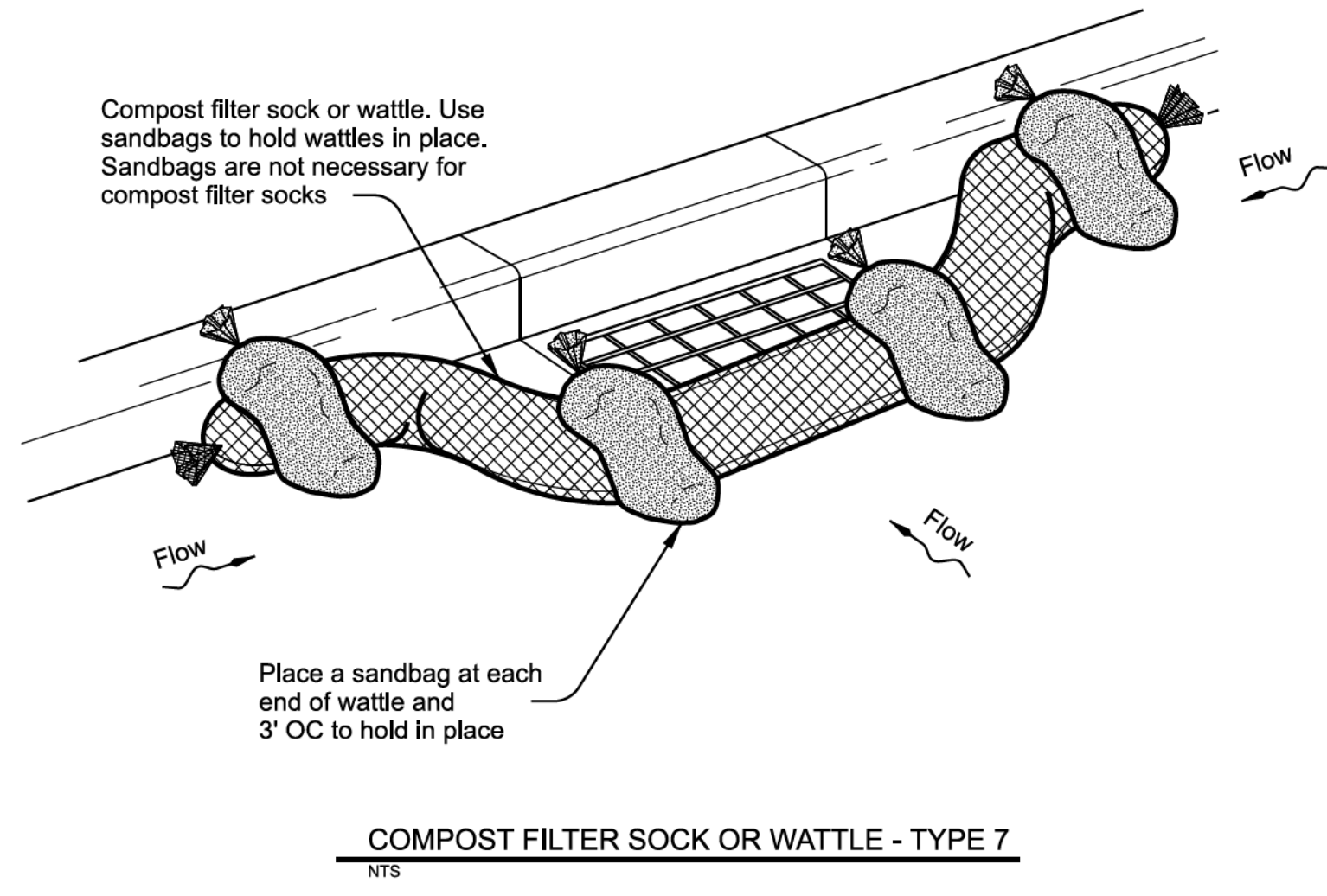
**TEMPORARY SLOPE PROTECTION**  
NTS

3125-153



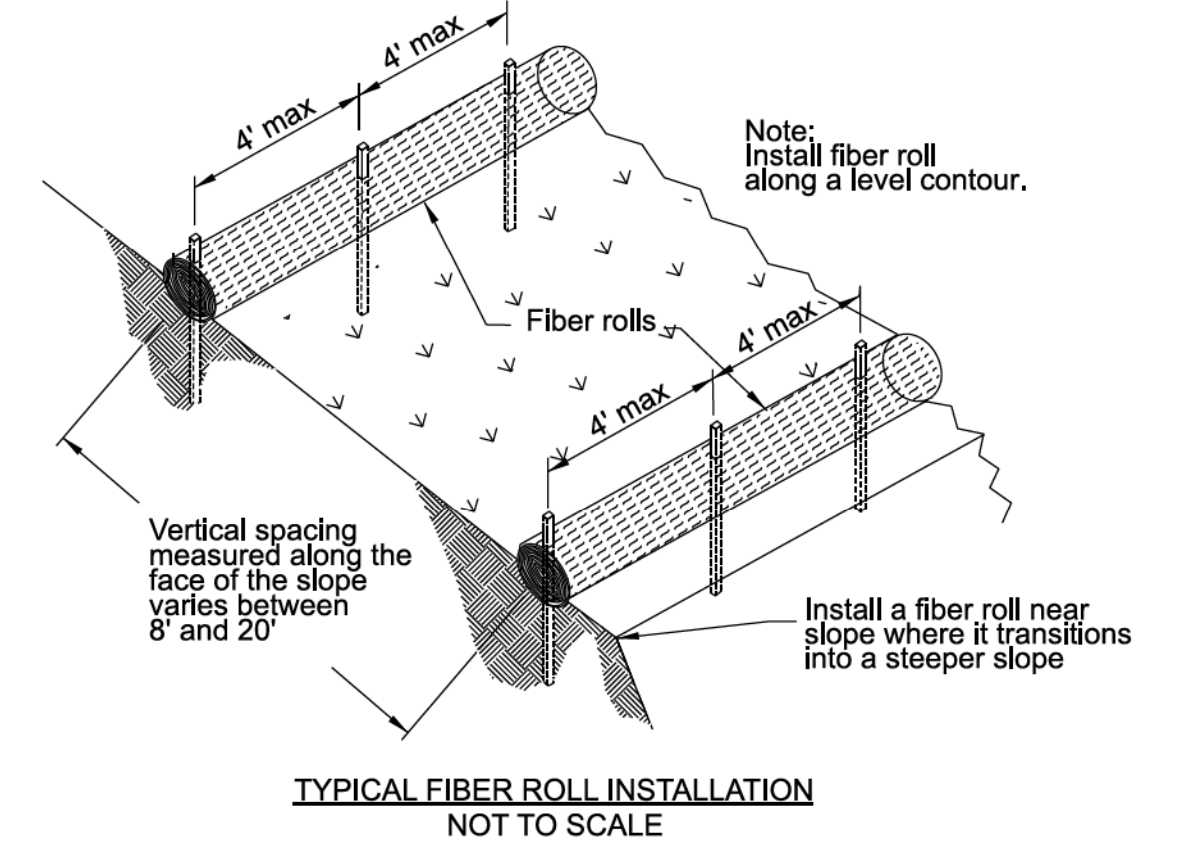
**TEMPORARY SILT FENCE**  
NTS

3125-165

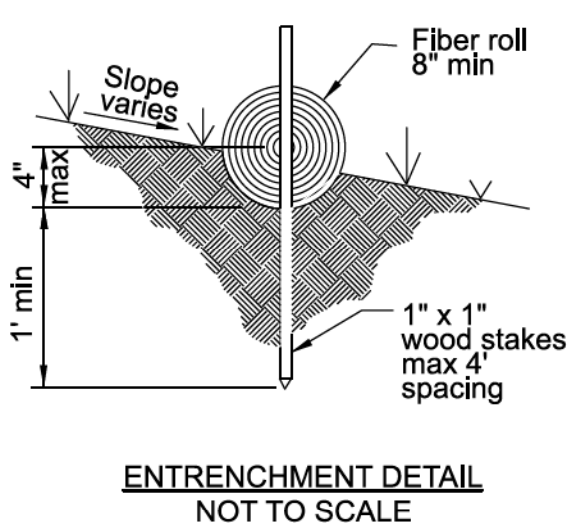


**COMPOST FILTER SOCK OR WATTLE - TYPE 7**  
NTS

3125-187



**TYPICAL FIBER ROLL INSTALLATION**  
NOT TO SCALE



**COMPOST FILTER SOCK OR WATTLE - TYPE 8**  
NTS

3125-188

W02563_ESC-201.dgn 00:54 27-APR-2023

No	Date	Description	Appd


Designed By	Program Mgr	
Drawn By	Const Mgr	
Checked By	Const Supr	
Project Mgr	Date	04/27/2023



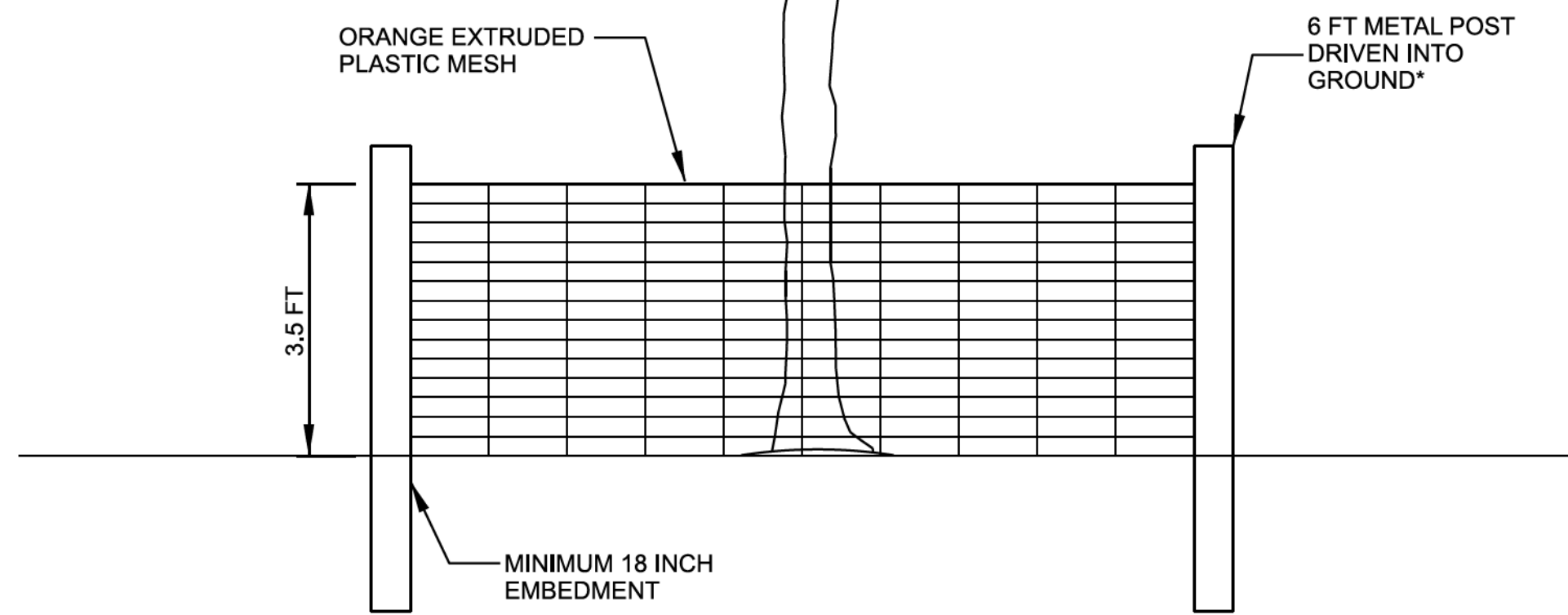
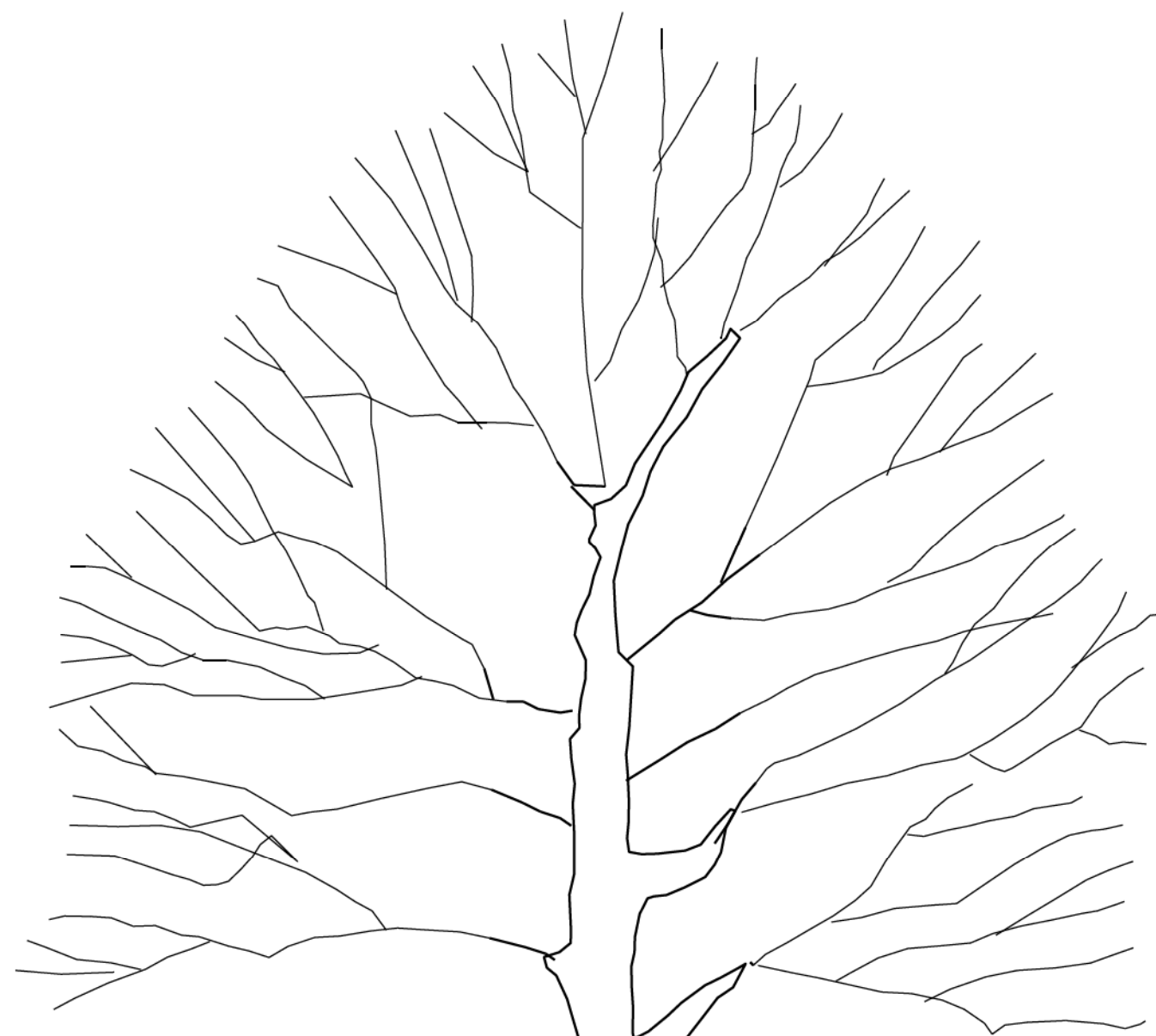
**Bull Run Filtration Pipelines  
STANDARD DETAILS**

SAP Project No <b>W02563</b>
1/4 Section
Sheet No <b>ESC-201</b>
61 of 63



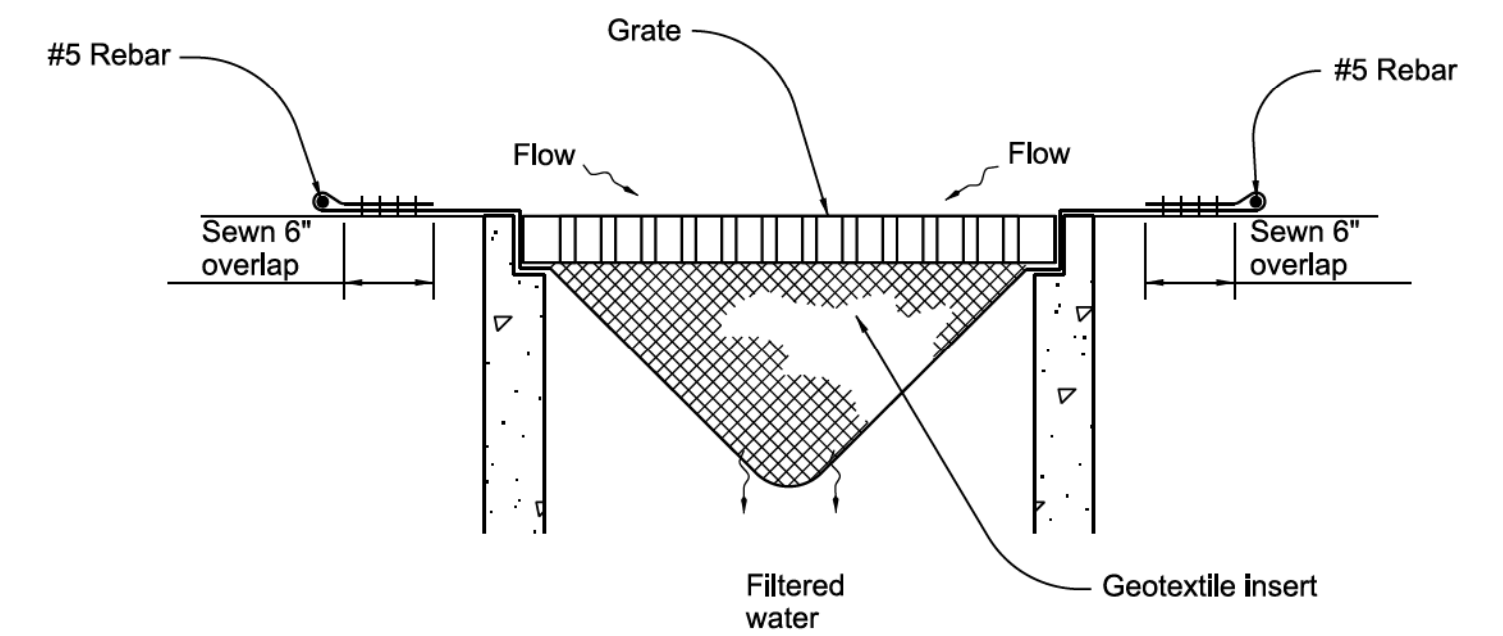
**TREE PROTECTION NOTES**

1. INSTALL TREE PROTECTION FENCING (TPF) PRIOR TO ANY GROUND DISTURBING ACTIVITY. INSPECTION AND APPROVAL OF FENCING BY THE URBAN FORESTRY TREE INSPECTOR IS REQUIRED PRIOR TO COMMENCEMENT OF WORK, INCLUDING EQUIPMENT AND MATERIALS STAGING AND MOBILIZATION
2. CALL 823-TREE (8733) TO SCHEDULE THE TREE PROTECTION INSPECTION ONCE TPF IS INSTALLED
3. NO ENTRY IS ALLOWED INTO TREE PROTECTION AREAS FOR THE DURATION OF THE PROJECT UNLESS PERMITTED BY THE URBAN FORESTRY TREE INSPECTOR
4. TREE PROTECTION FENCING SHALL NOT BE MOVED, ALTERED OR REMOVED THROUGHOUT THE DURATION OF THE PROJECT
5. WHERE TREE ROOTS ARE ENCOUNTERED OR ANTICIPATED, EXCAVATION SHALL BE COMPLETED WITH HAND TOOLS CAREFULLY WITHOUT DAMAGE (I.E. VAC TRUCK, AIR SPADE, ETC)
6. TREE ROOTS OVER 2-INCH DIAMETER MAY NOT BE CUT OR DAMAGED WITHOUT A ROOT PRUNING INSPECTION AND PERMIT ISSUED BY THE URBAN FORESTRY TREE INSPECTOR. CALL THE ASSIGNED TREE INSPECTOR OR 823-TREE (8733) FOR ROOT INSPECTION PERMITTING SPECIFIC TO THIS PROJECT
  - A. INSPECTION AND ISSUANCE OF A PERMIT MAY TAKE UP TO 48 HOURS
  - B. IF APPROVED, ROOTS MUST BE PROPERLY PRUNED USING APPROVED ARBORICULTURAL TECHNIQUES
7. FIELD ADJUSTMENTS OR ALTERNATIVE METHODS MAY BE NEEDED IF LARGE ROOTS ARE ENCOUNTERED. CONTACT THE ASSIGNED TREE INSPECTOR TO DISCUSS
8. TREES WITHIN THE LIMITS OF DISTURBANCE DESIGNATED TO BE PROTECTED WILL NOT BE REMOVED. CONTRACTOR IS DIRECTED TO COMPLETE CUT AND FILL OPERATIONS WITH CARE NEXT TO THESE TREES
9. MAINTAIN FENCING THROUGHOUT THE ENTIRE PROJECT. NO ACCESS IS PERMITTED WITHIN FENCED AREAS THROUGH THE DURATION OF THE PROJECT UNLESS OTHERWISE STATED IN THE TREE PROTECTION PLAN
10. THE ORANGE PLASTIC FENCE CAN BE USED AS CONSTRUCTION FENCE IN LIEU OF SILT FENCE IF GRADE IS MODERATE.



*MAXIMUM 10 FEET SEPARATION BETWEEN METAL POSTS

**TREE PROTECTION FENCE**  
NTS



**PREFABRICATED FILTER INSERT - TYPE 3**  
NTS

3125-201

BARRIER SPACING		
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	% SLOPE	MAXIMUM SPACING ON SLOPE
10% Flatter	1:10 or Flatter	300'
10 > % ≥ 15	10 > X ≥ 7.5	150'
15 > % ≥ 20	7.5 > X ≥ 5	100'
20 > % ≥ 30	5 > X ≥ 3	50'
Steeper than 30%	Steeper than 1:3	25'

PLAN

SECTION A-A

2" x 2" x 36" stakes  
Countersink 3"  
2 stakes per bag (Type 2 only)

- NOTES:**
1. For Type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12". Omit stakes if bags are placed on paved surface.
  2. For Type 2 and Type 4 barriers, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".
- Type 2 - Biofilter bags  
Type 3 - Wattles  
Type 4 - Sand bags

**BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4**  
NTS

3125-202

27-APR-2023 00:56 W02563_ESC-202.dgn

No	Date	Description	Appd
Revision			
Survey			

Designed By	Program Mgr
Drawn By	Const Mgr
Checked By	Const Supvr
Project Mgr	Date
	04/27/2023

**WARNING**

If this bar does not measure 1" then the drawing is not to scale



KENNETH M. ACKERMAN, PRINCIPAL ENGINEER, PE #19424

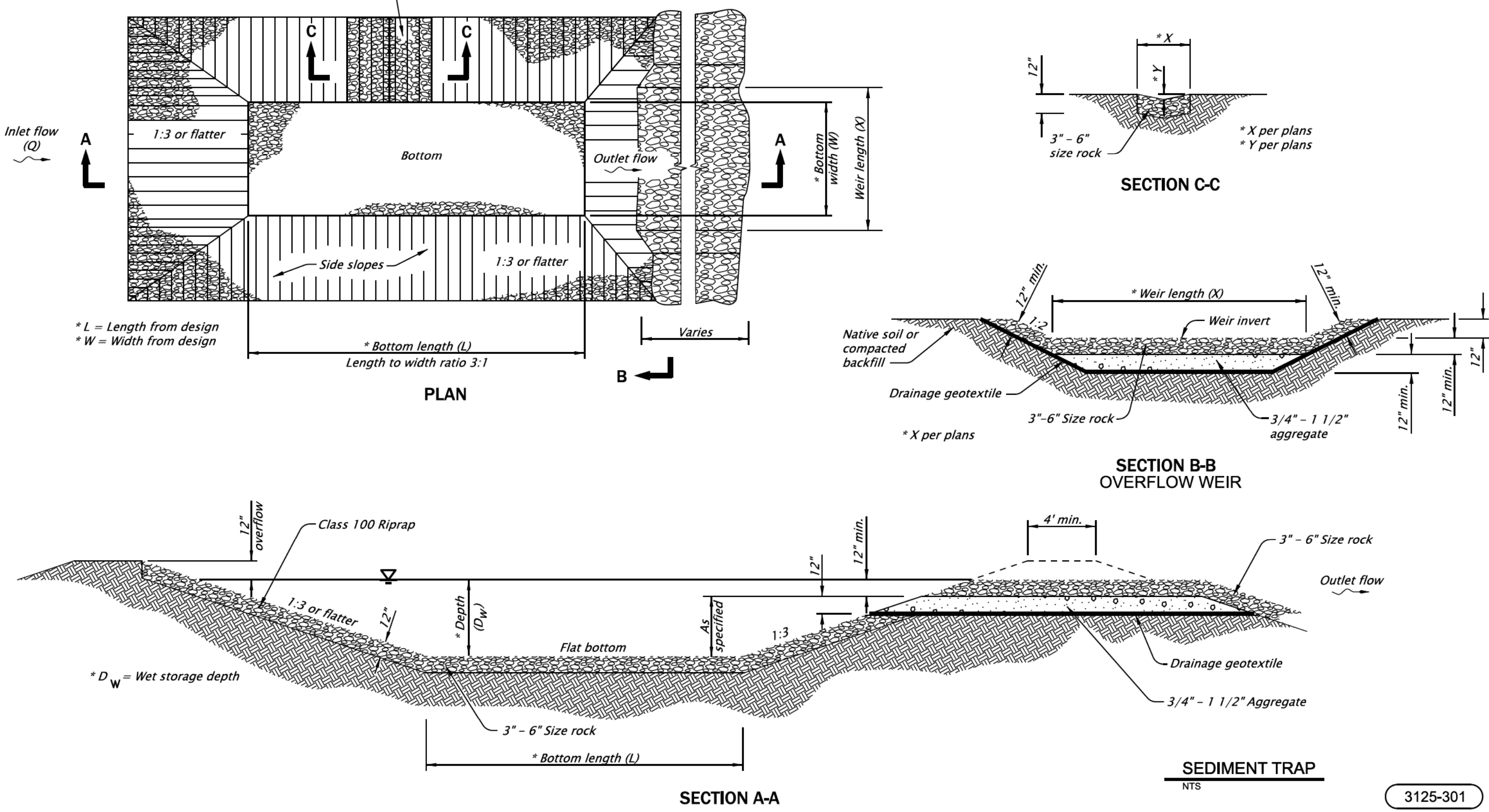


**Bull Run Filtration Pipelines**  
**STANDARD DETAILS**

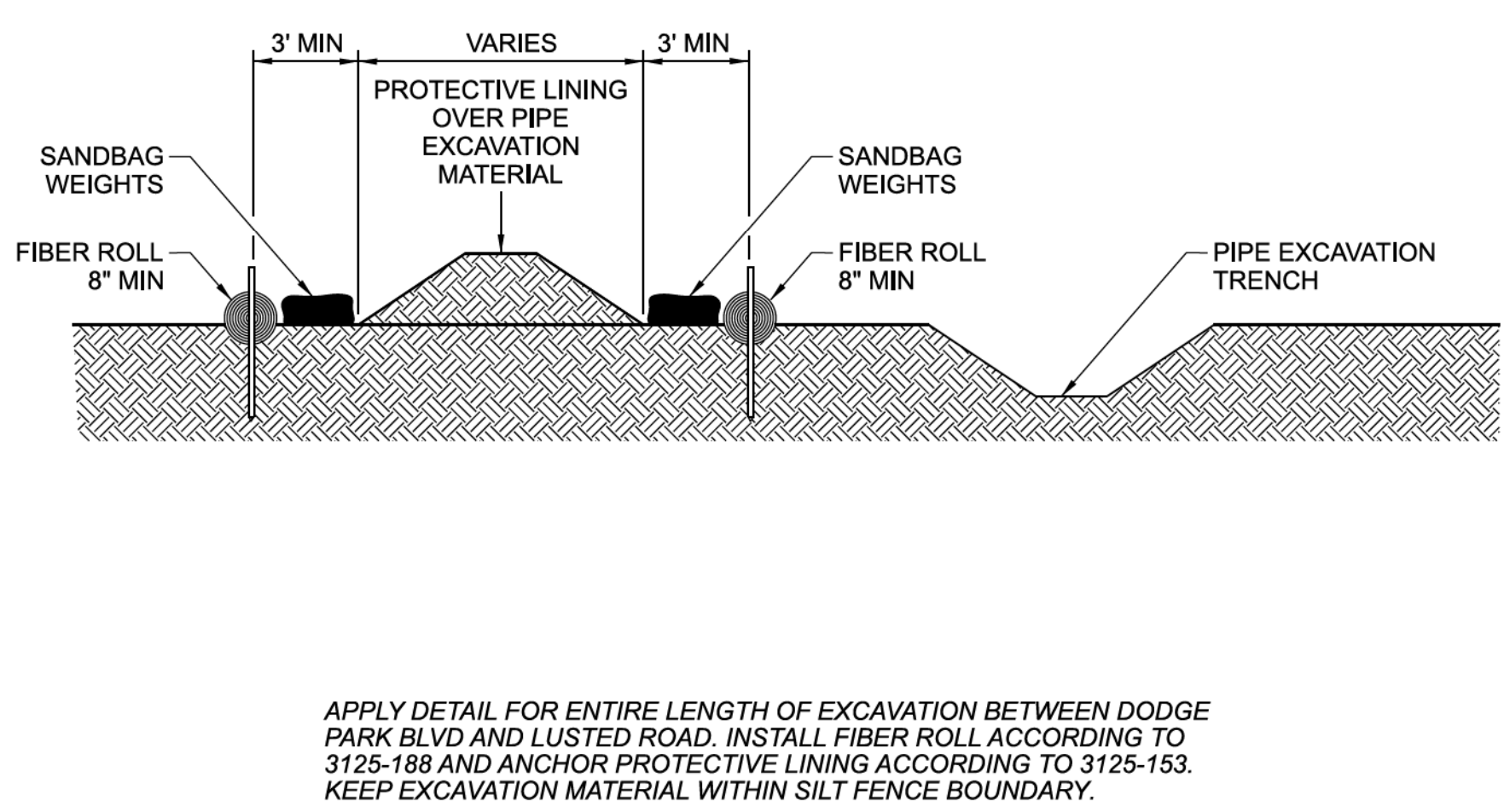
SAP Project No	W02563
1/4 Section	
Sheet No	ESC-202
62 of 63	



NOTE:  
Trap may be formed by berm or by partial or complete excavation.

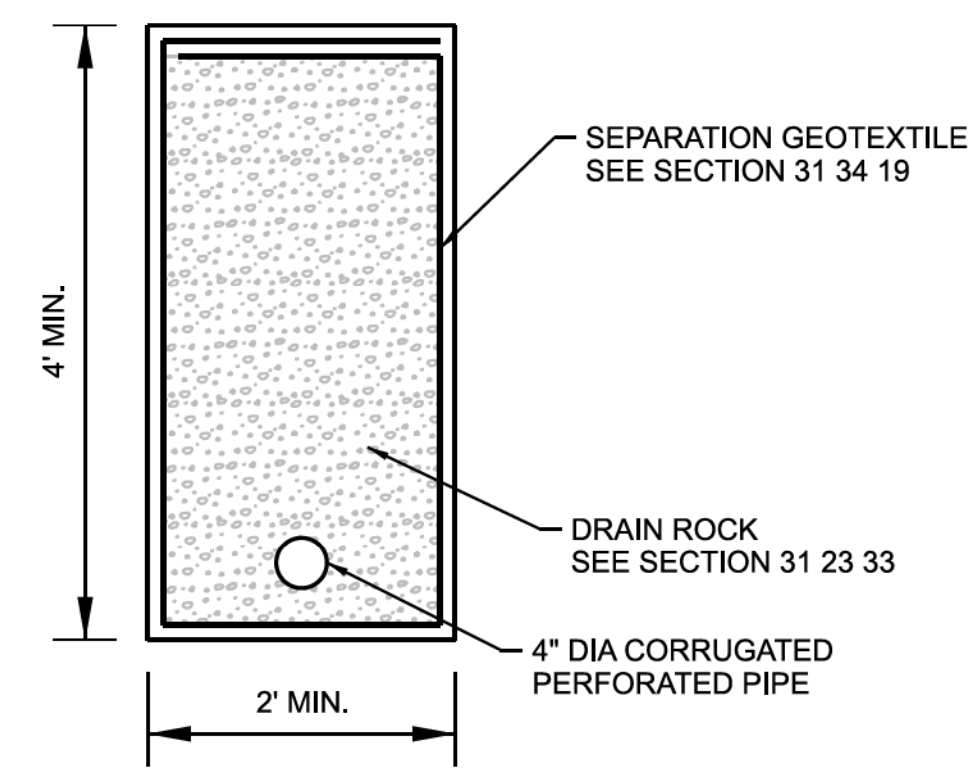


3125-301

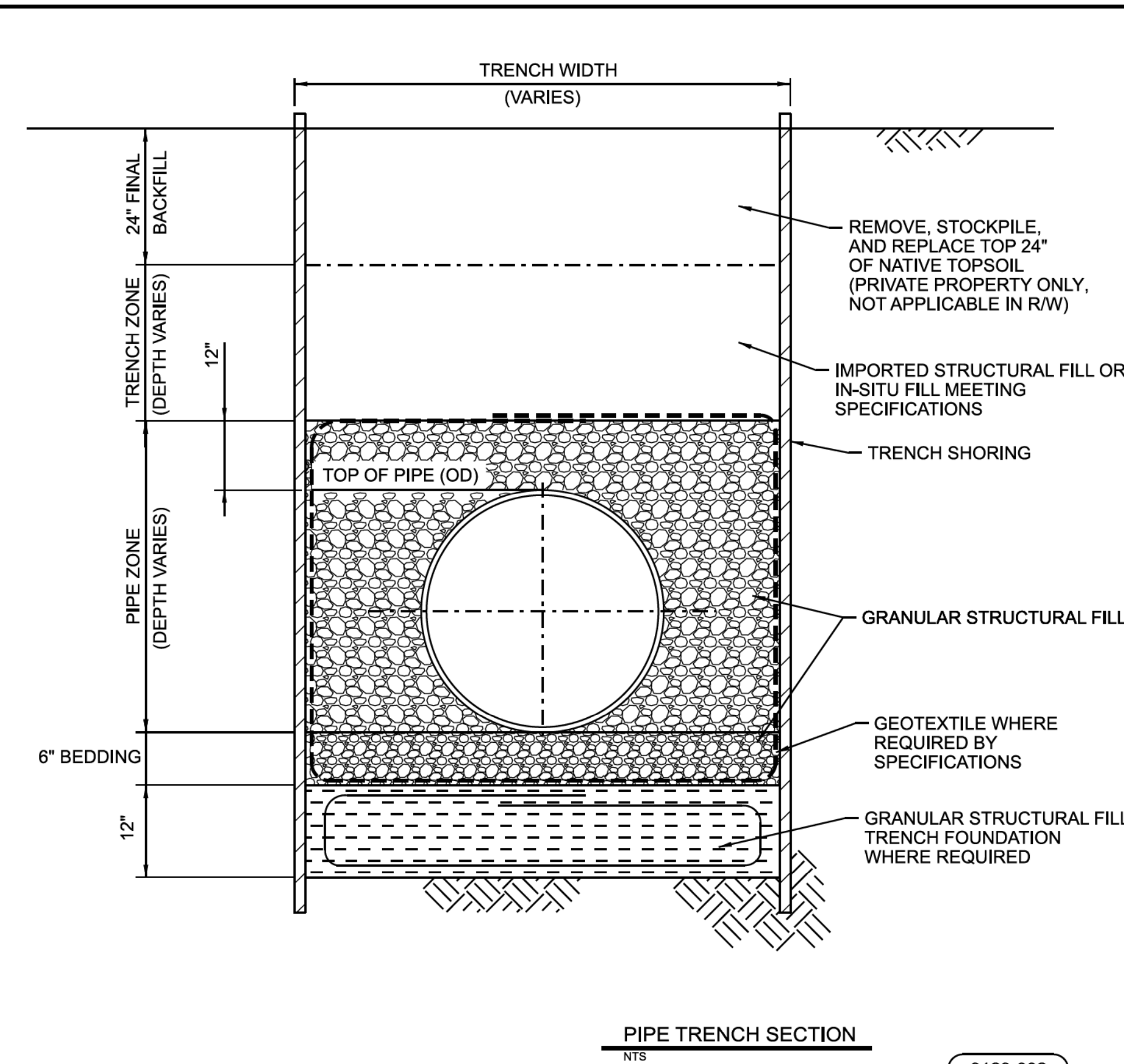


APPLY DETAIL FOR ENTIRE LENGTH OF EXCAVATION BETWEEN DODGE PARK BLVD AND LUSTED ROAD. INSTALL FIBER ROLL ACCORDING TO 3125-188 AND ANCHOR PROTECTIVE LINING ACCORDING TO 3125-153. KEEP EXCAVATION MATERIAL WITHIN SILT FENCE BOUNDARY.

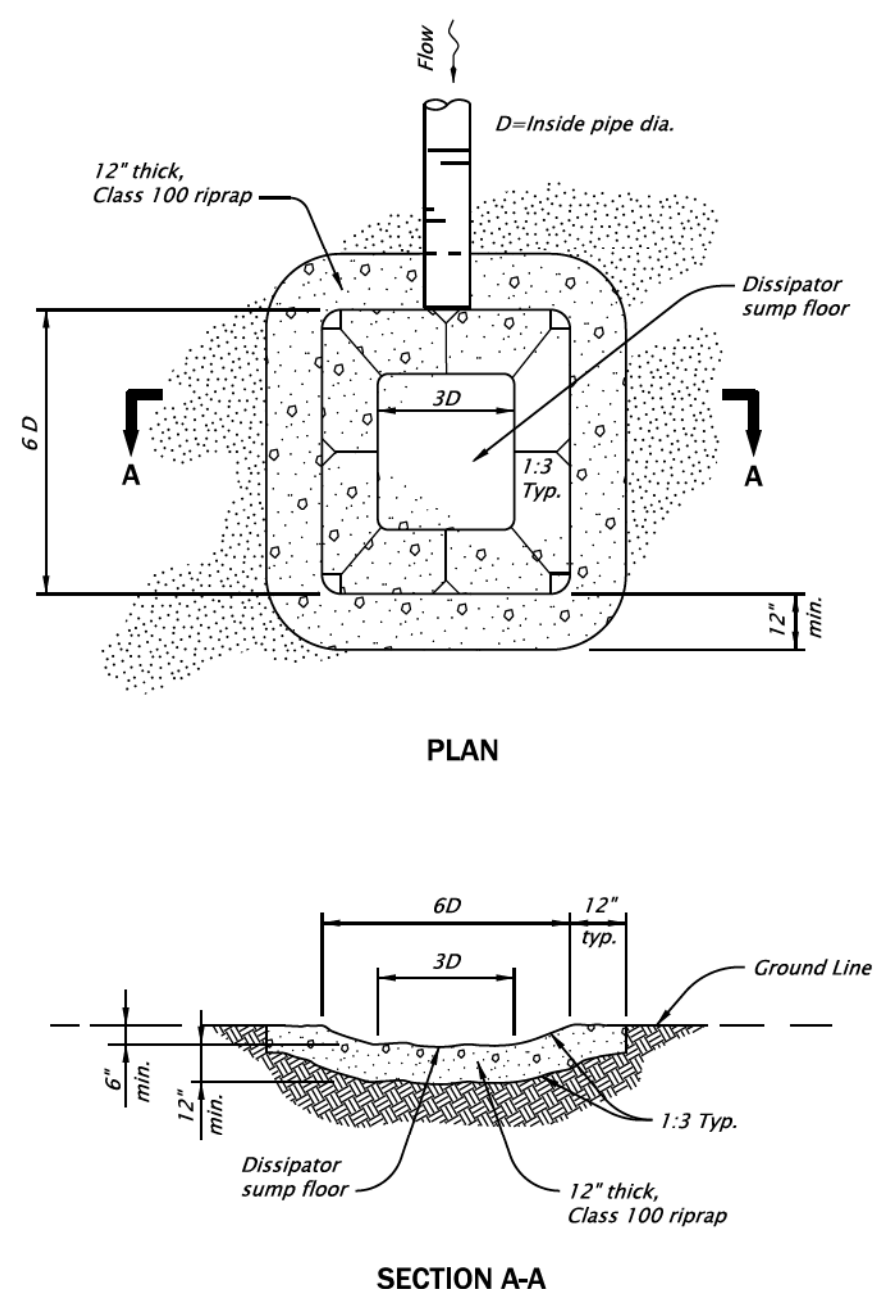
3125-302



3340-101

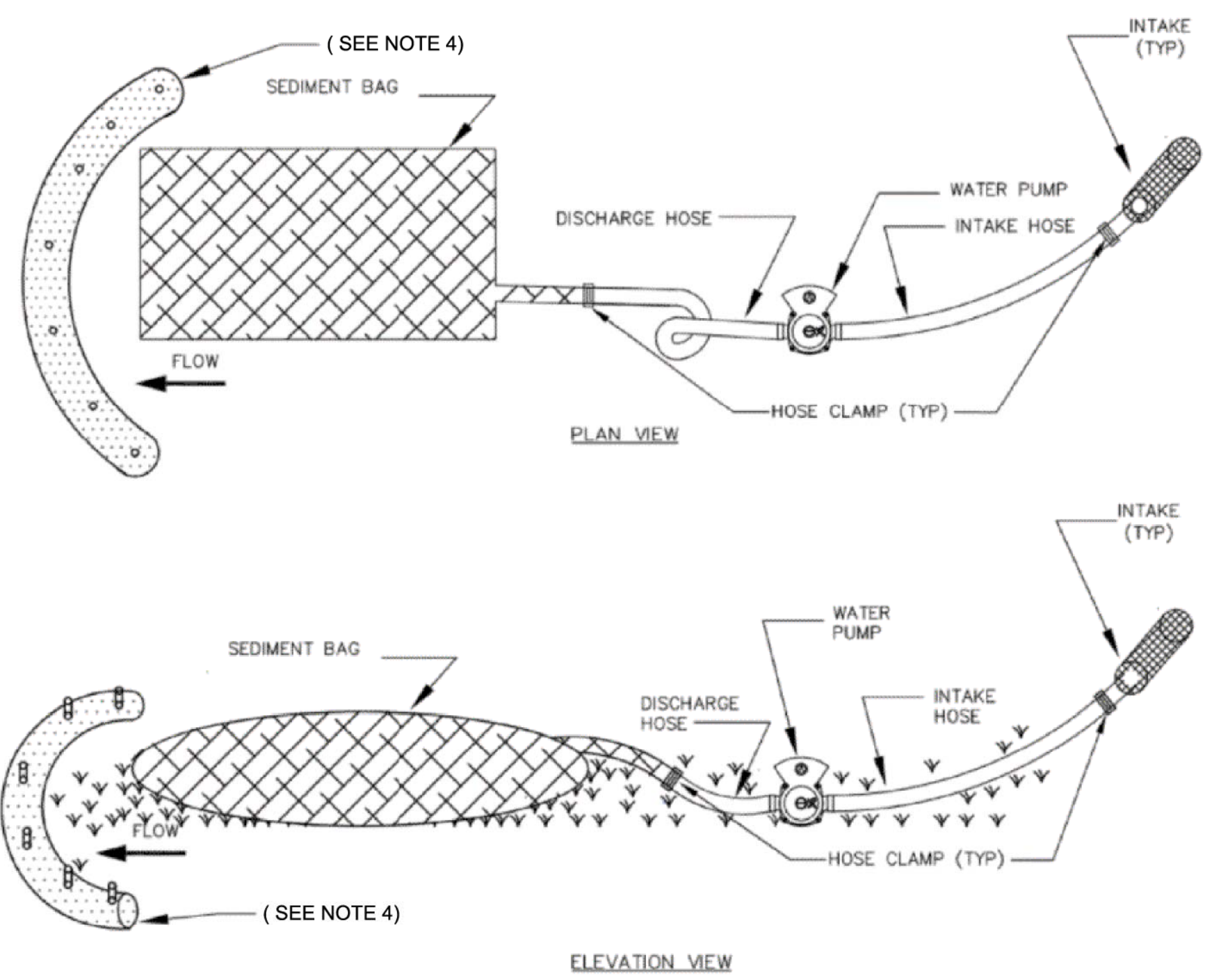


3123-002



NOTES:  
1. All dimensions not indicated will be as directed.  
2. Install level spreader, sediment barrier(s), check dam(s) or other appropriate BMP(s) to address volume, velocity and turbidity of discharge water.

3125-305



- NOTES:**
1. PROVIDE SEDIMENT BAG MANUFACTURED USING POLYPROPYLENE 8 OZ. NON-WOVEN GEOTEXTILE SEWN INTO A BAG WITH DOUBLE-NEEDLE USING HIGH STRENGTH THREAD, MIRAFI 180N DEWATERING BAG OR EQUAL.
  2. PROVIDE FILLING CONNECTION INTO SEDIMENT BAG FOR 4 INCH OR LARGER DISCHARGE HOSE WITH STRAPS TO SECURE HOSE TO BAG.
  3. SECURE SEDIMENT BAG TO GROUND WITH STRAPS AND STAKES SUCH THAT BAG IS IMMOVABLE WHEN FILLED.
  4. PROVIDE TWO ROWS OF STRAW WADDLE DOWNSTREAM OF SEDIMENT BAG WITH ENDS OF WADDLE WRAPPED UPHILL AROUND SEDIMENT BAG TO CAPTURE DISCHARGE FROM BAG. 3125-188
  5. SEDIMENT BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A RATE LESS THAN 50% OF THE MANUFACTURER'S DESIGNED FLOW RATE. WHEN FULL, DISPOSE OF SEDIMENT BAG IN ACCORDANCE WITH APPROVED SOLID WASTE DISPOSAL PLANS AS APPROVED BY OWNER'S REPRESENTATIVE.
  6. DURING ACTIVE DEWATERING AND PUMPING INTO SEDIMENT BAG, MONITOR DEWATERING BAG AND DISCONTINUE USE IF BAG IS DAMAGED OR FULL.

3125-306

27-APR-2023 00:54

No	Date	Description	Appd

Designed By	Program Mgr	RG	XXX
Drawn By	Const Mgr	USJ	XXX
Checked By	Const Supvr	RG	XXX
Project Mgr	Date		04/27/2023

**WARNING**

0 1"

If this bar does not measure 1" then the drawing is not to scale

**PORTLAND WATER BUREAU**

FROM FOREST TO FAUCET

Kenneth M. Ackerman, Principal Engineer, PE #19424

Date _____



**Bull Run Filtration Pipelines**

**STANDARD DETAILS**

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1/4 Section	
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