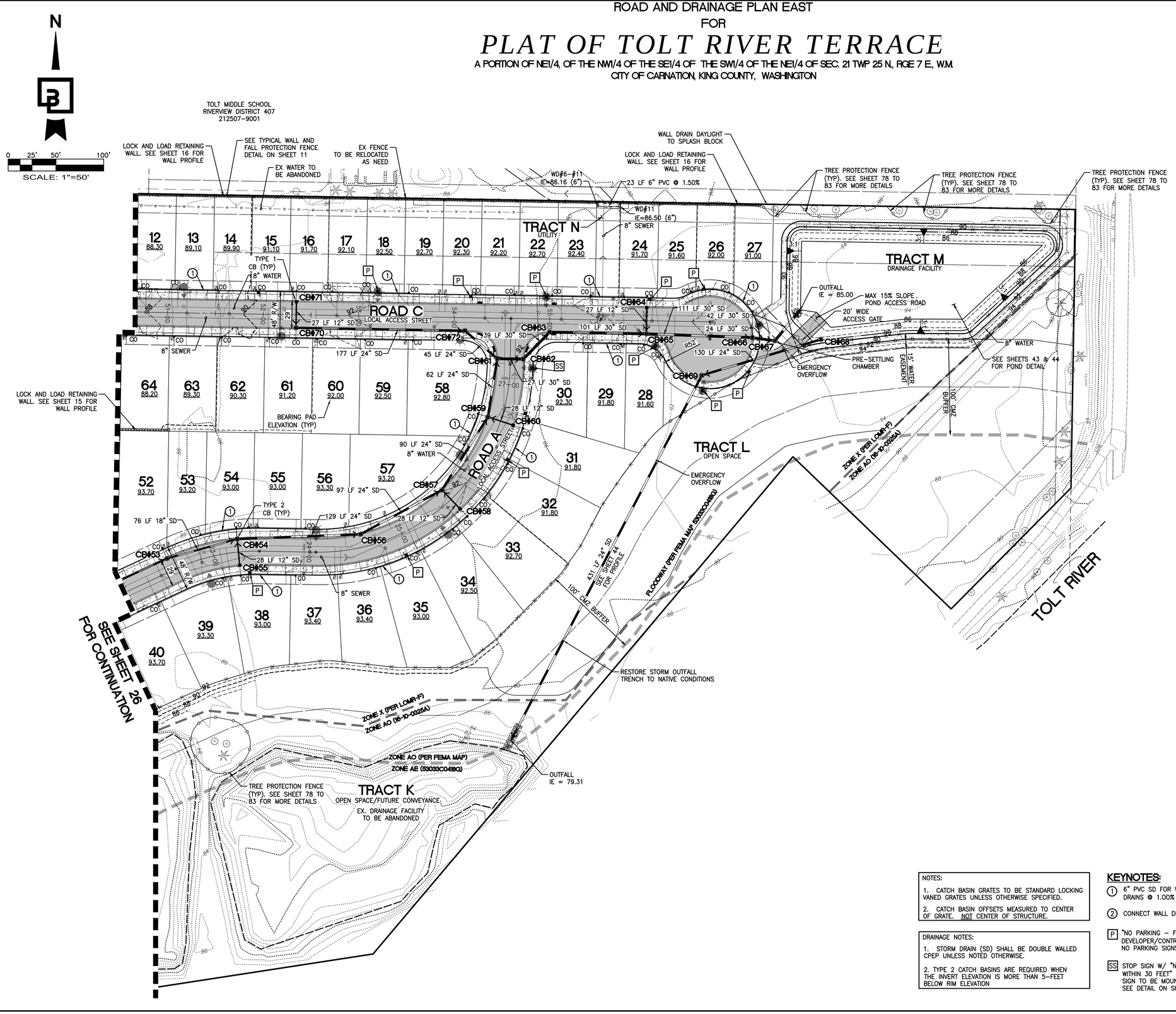
ROAD AND DRAINAGE PLAN EAST

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



STORM STUB TABLE	
LOT #	INVERT ELEVATION
12	IE = 85.30 (6")
13	IE = 86.10 (6")
14	IE = 86.90 (6")
15	IE = 88.10 (6")
16	IE = 88.70 (6")
17	IE = 89.10 (6")
18	IE = 89.50 (6")
19	IE = 89.70 (6")
20*	IE = 89.80 (6")
21*	IE = 89.70 (6")
22	IE = 89.70 (6")
23	IE = 89.40 (6")
24	IE = 88.70 (6")
25	IE = 88.60 (6")
26	IE = 89.00 (6")
27	IE = 88.00 (6")
28	IE = 88.60 (6")
29	IE = 88.80 (6")
30	IE = 89.30 (6")
31	IE = 88.80 (6")
32	IE = 88.80 (6")
33	IE = 89.70 (6")
34	IE = 89.50 (6")
35	IE = 90.00 (6")
36	IE = 90.40 (6")
37	IE = 90.40 (6")
38	IE = 90.00 (6")
39	IE = 90.30 (6")
40	IE = 90.70 (6")
52	IE = 90.70 (6")
53	IE = 90.20 (6")
54	IE = 90.00 (6")
55	IE = 90.00 (6")
56*	IE = 90.80 (6")
57	IE = 90.20 (6")
58	IE = 89.80 (6")
59	IE = 89.50 (6")
60	IE = 89.00 (6")
61	IE = 88.20 (6")
62	IE = 87.30 (6")
63	IE = 86.30 (6")
64	IE = 85.20 (6")

STORM STUB NOTE:
STORM STUB INVERTS ARE 3' BELOW LOT BEARING PADS. LOTS INDICATED WITH A "*" HAVE A INVERT 2.5' BELOW BEARING PAD.

NOTES:
1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:
1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION

KEYNOTES:

(1) 6" PVC SD FOR WALL, ROOF AND FOOTING DRAINS @ 1.00% MIN (TYP.)

(2) CONNECT WALL DRAIN TO STORM SYSTEM

[P] "NO PARKING – FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

[SS] STOP SIGN W/ "NO PARKING WITHIN 30 FEET" SIGN. STREET SIGN TO BE MOUNTED ON TOP. SEE DETAIL ON SHEET 72

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PLAN EAST

FOR

TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 50' Vertical N/A

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057

Sheet 27 of 83

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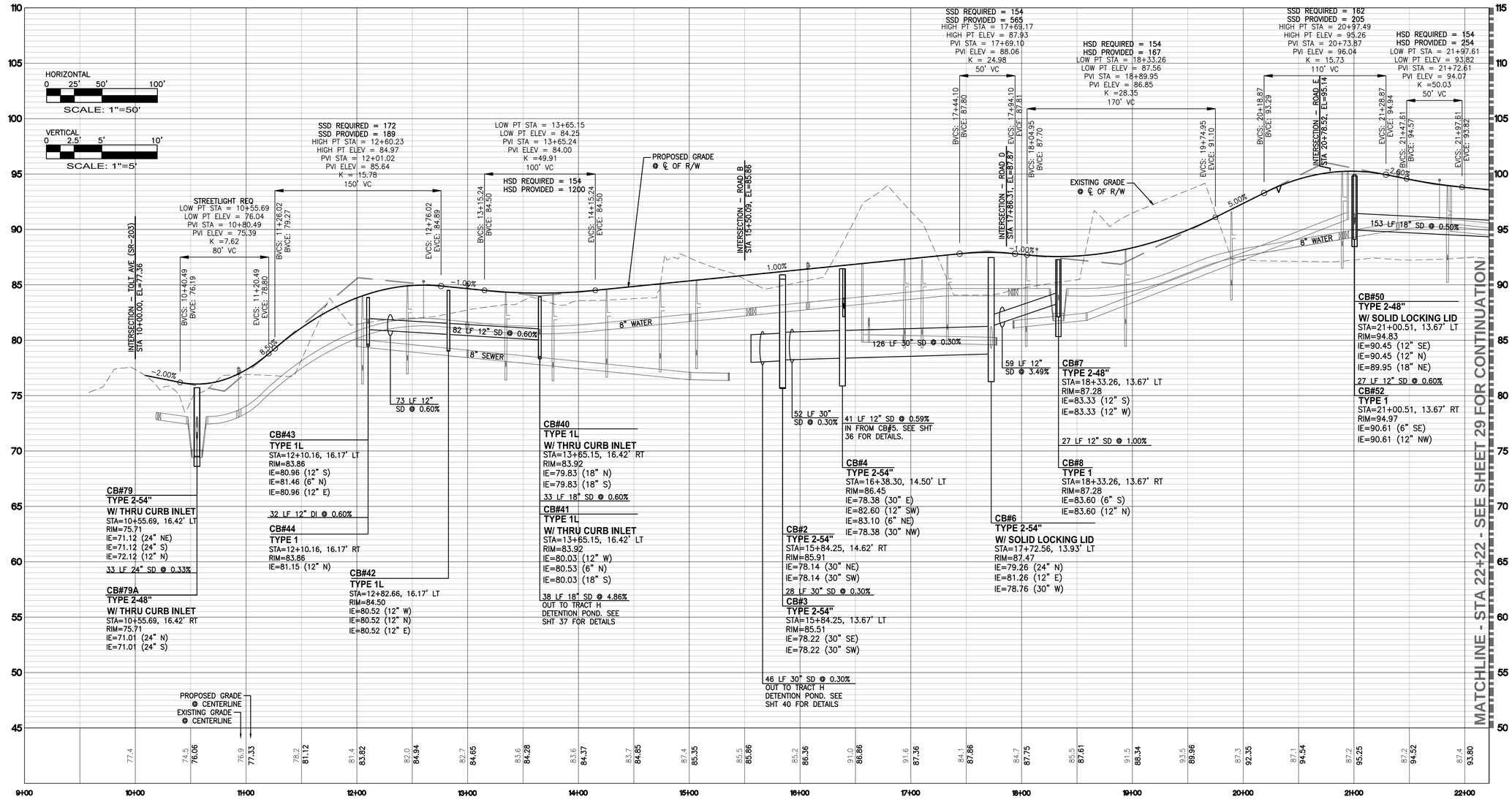
ROAD AND DRAINAGE PROFILE

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



ROAD A

1"=50' HORIZ.
1"=5' VERT.

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PROFILE

FOR

TOLT RIVER TERRACE

For:
MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
41423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 50'; Vertical 1" = 5'

Designed RK | Drawn RK | Checked BJT | Approved BJT | Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

Sheet 28 of 83

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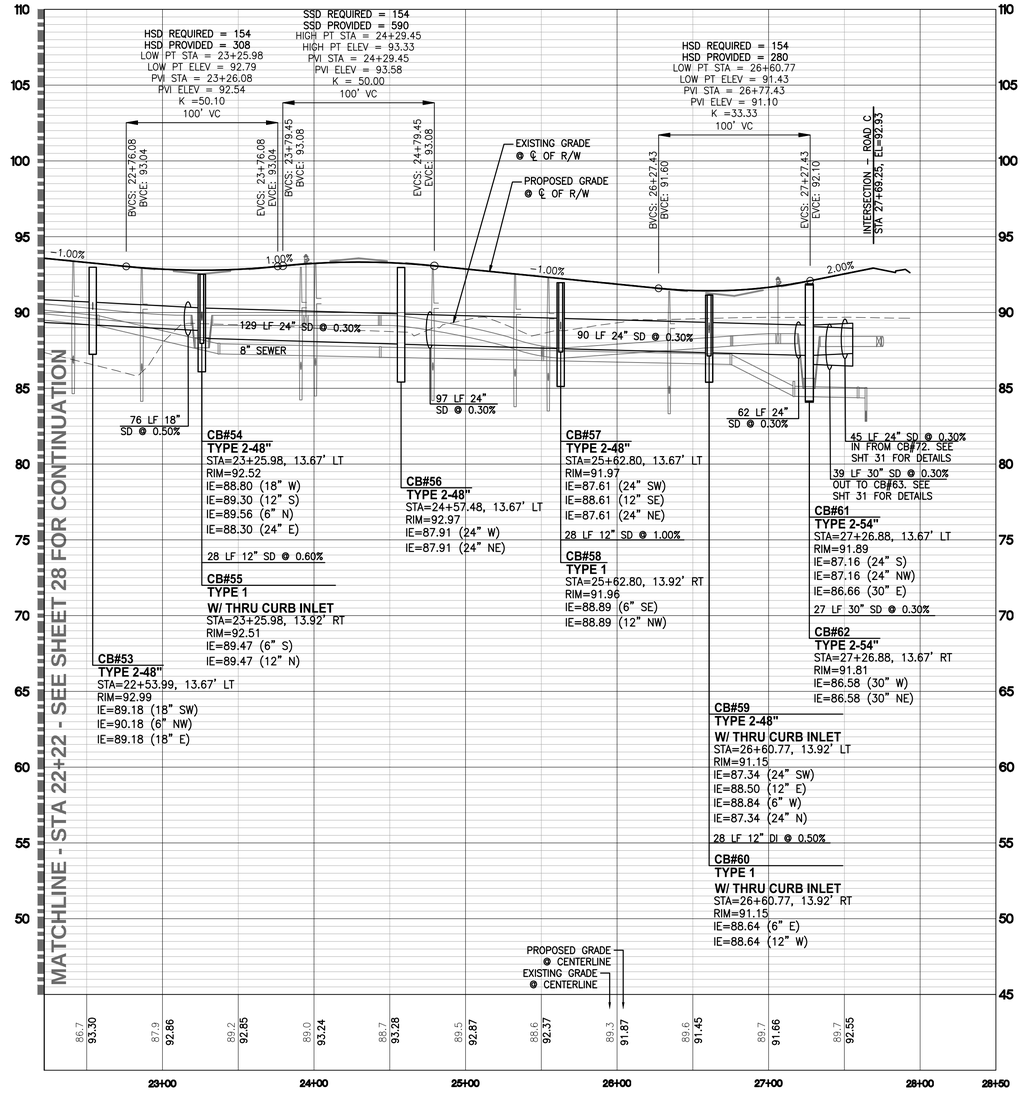
ROAD AND DRAINAGE PROFILE
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

HORIZONTAL
0 25' 50' 100'
SCALE: 1"=50'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'

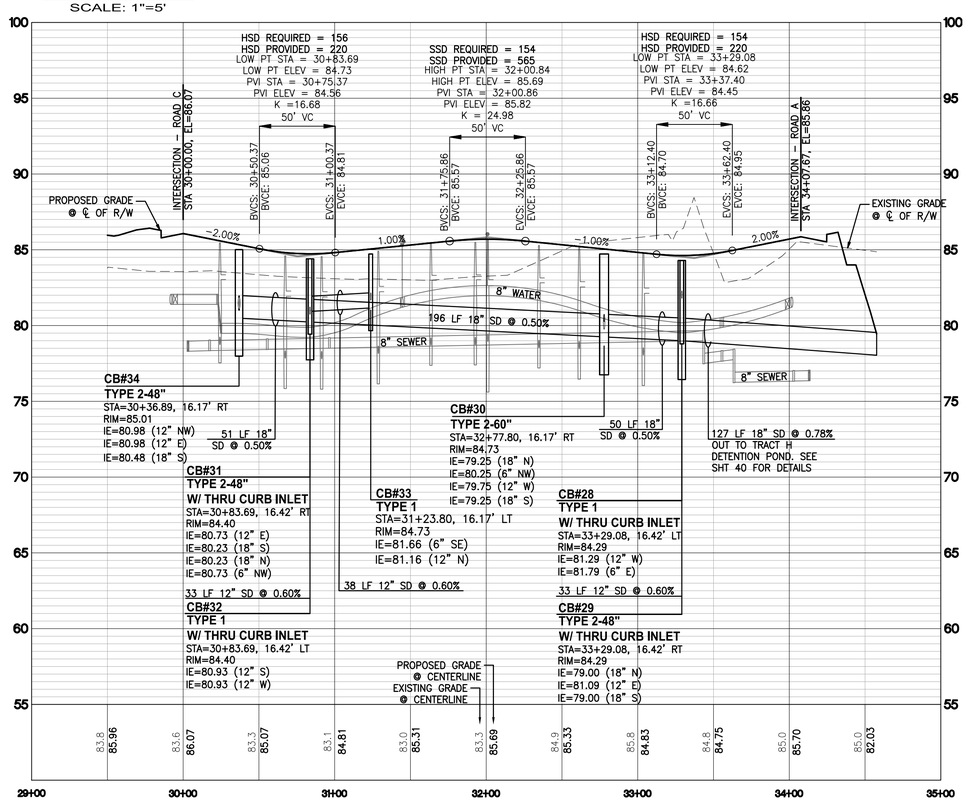


ROAD A

1"=50' HORIZ.
1"=5' VERT.

HORIZONTAL
0 25' 50' 100'
SCALE: 1"=50'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'



ROAD B

1"=50' HORIZ.
1"=5' VERT.

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Appr.	Revision
3	12/01/21	RK	TJS	BJT REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PROFILE
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

STATE OF WASHINGTON
BARRY J. TALKINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/14/22

Scale: Horizontal 1" = 50' Vertical 1" = 5'
Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057
Sheet 29 of 83

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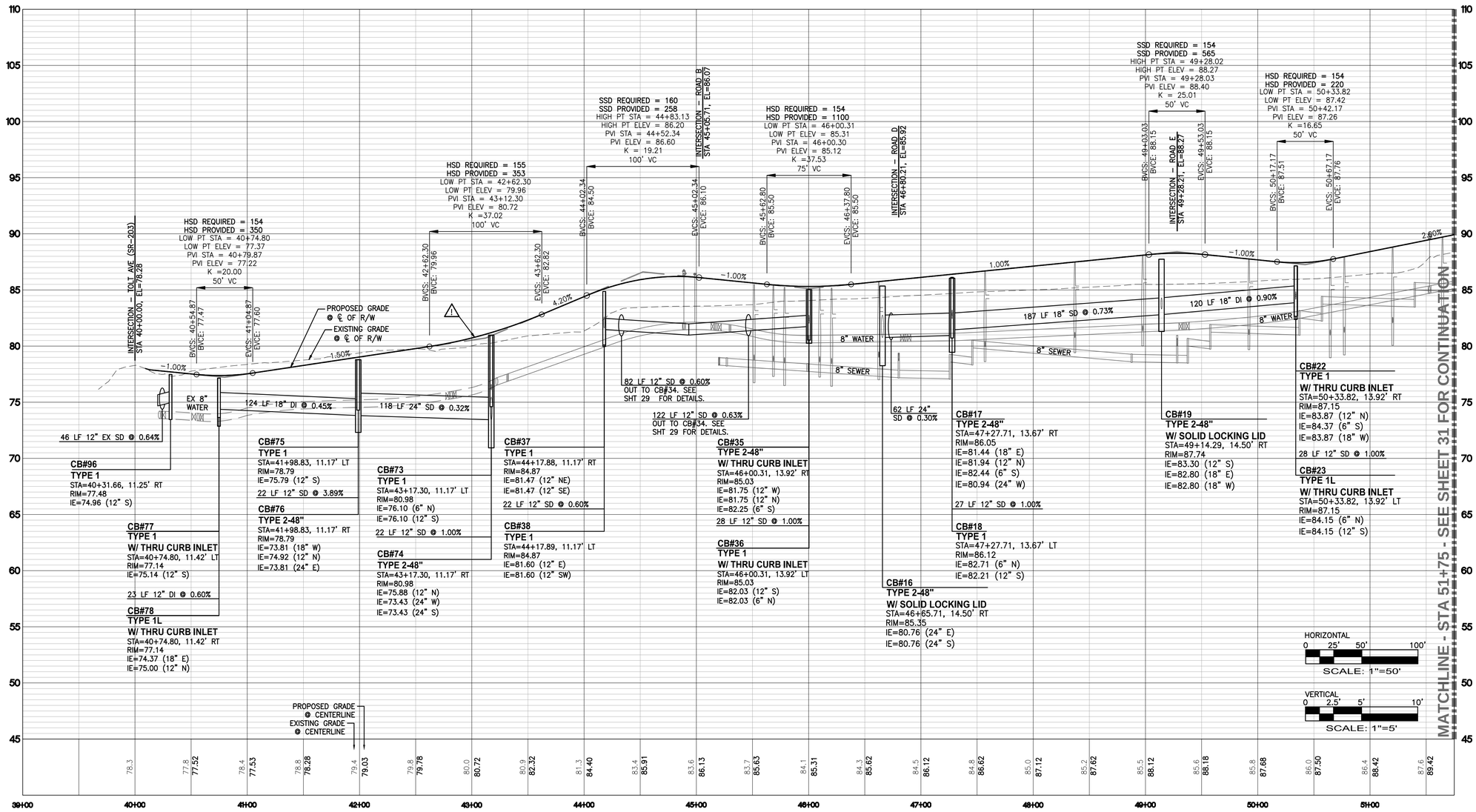
ROAD AND DRAINAGE PROFILE
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



ROAD C

1"=50' HORIZ.
1"=5' VERT.

KEYNOTE

⚠1 CONTRACTOR SHALL POTHOLE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY EXACT ELEVATION. CONTACT ENGINEER IF CONFLICT EXISTS.

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:

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No.	Date	By	Ckd.	Appr.	Revision
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4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PROFILE
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 50' Vertical 1" = 5'

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057
Sheet 30 of 83

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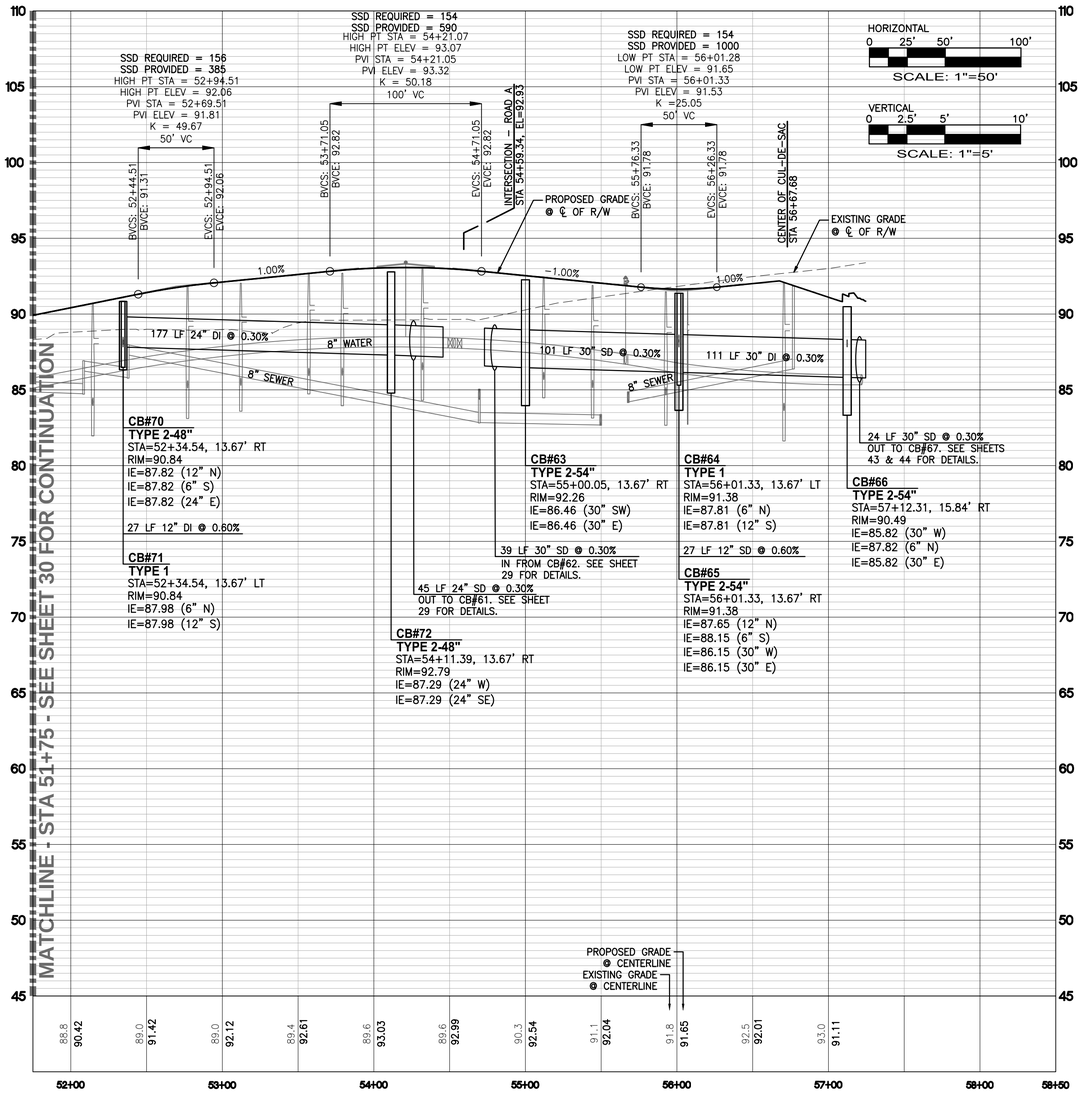
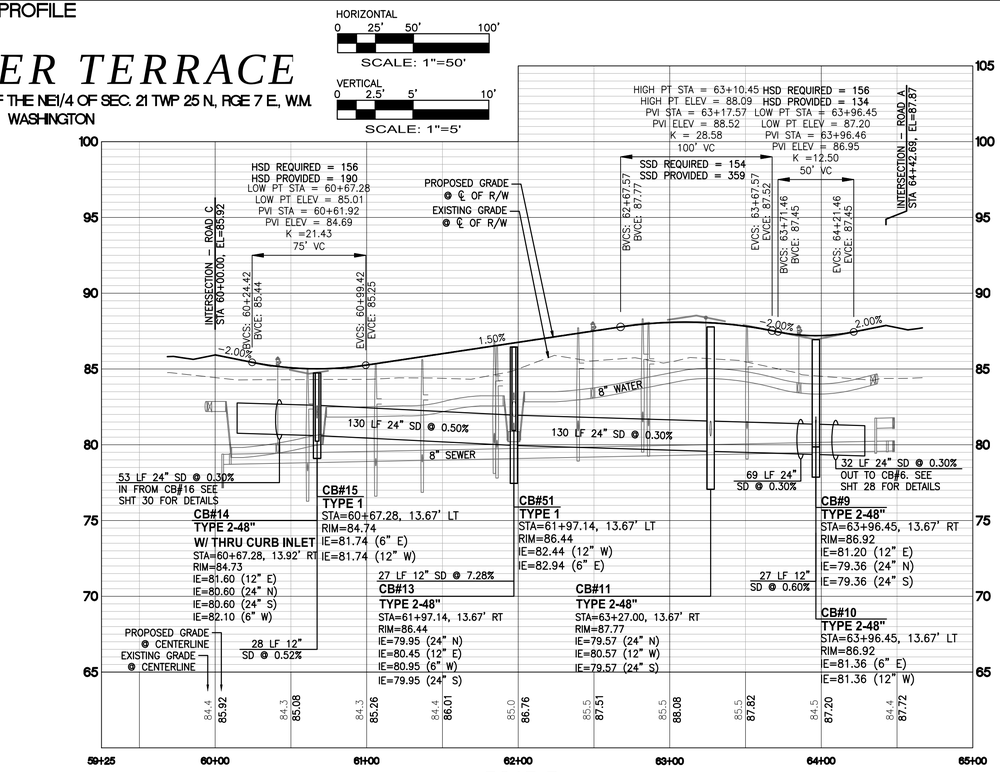
ROAD AND DRAINAGE PROFILE
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



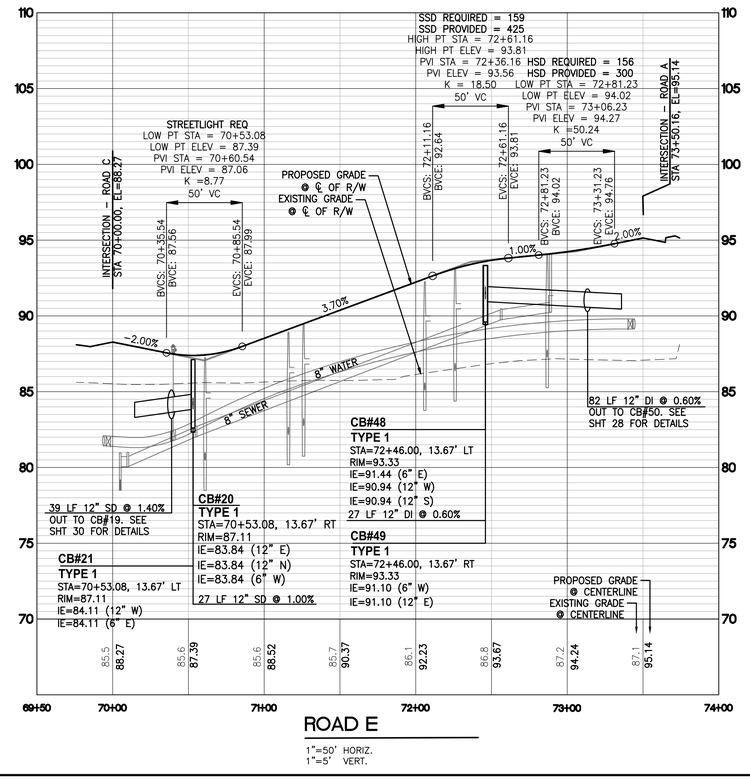
ROAD C

1"=50' HORIZ.
1"=5' VERT.



ROAD D

1"=50' HORIZ.
1"=5' VERT.



ROAD E

1"=50' HORIZ.
1"=5' VERT.

HORIZONTAL
0 25' 50' 100'
SCALE: 1"=50'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
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No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PROFILE
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
41423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale:		Designed	RK
Horizontal	1" = 50'	Drawn	RK
Vertical	1" = 5'	Checked	BJT
		Approved	BJT
		Date	2/19/22

Barghausen
Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057
Sheet 31 of 83

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ROAD AND DRAINAGE PLAN AND PROFILE - TRACT B

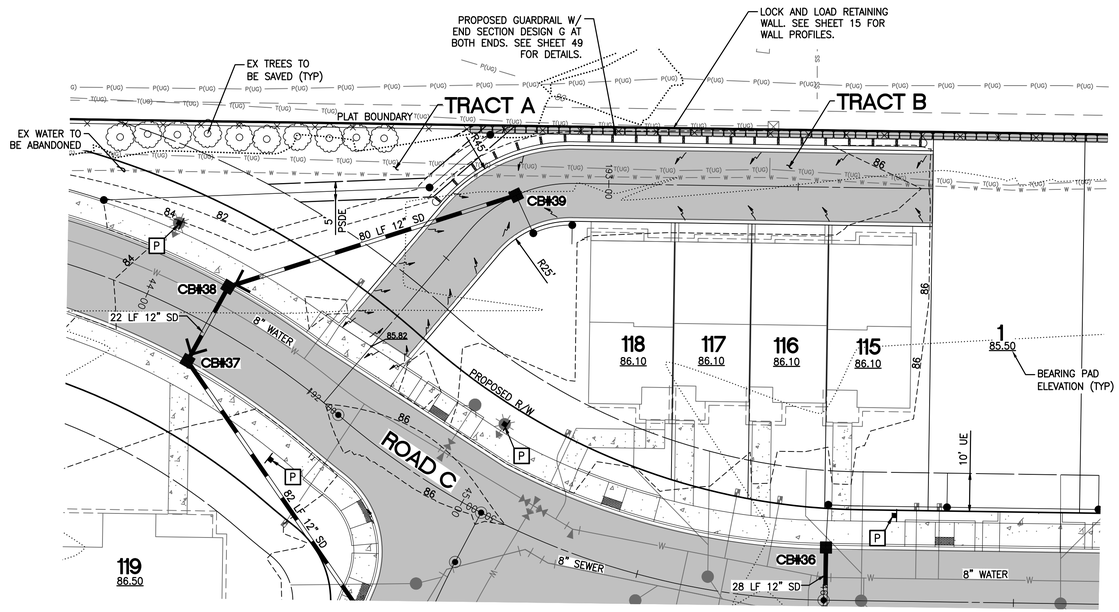
FOR

PLAT OF TOLT RIVER TERRACE

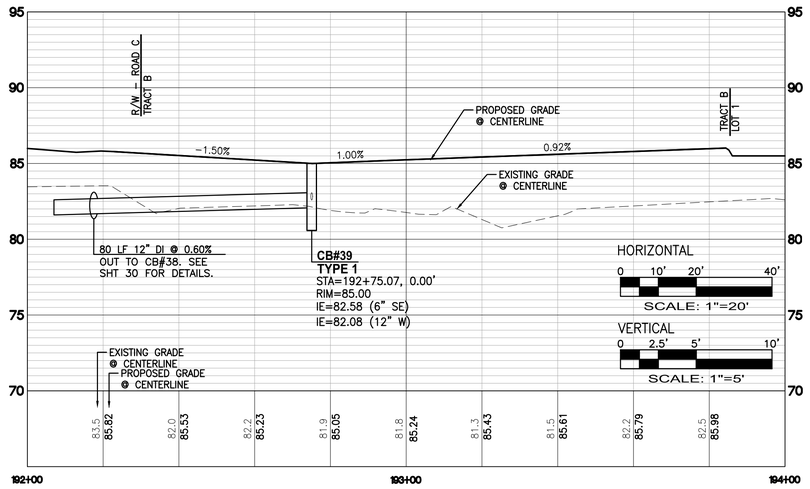
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

N

0 10' 20' 40'
SCALE: 1"=20'



TRACT B



TRACT B - STA. 191+80 TO 194+00

SCALE: 1"=20' H, 1"=5' V

HORIZONTAL
0 10' 20' 40'
SCALE: 1"=20'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

KEYNOTES:

[P] "NO PARKING - FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

ABBREVIATIONS:

PSDE PRIVATE STORM DRAINAGE EASEMENT

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PLAN AND PROFILE - TRACT B FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 20' Vertical 1" = 5'

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057

Sheet 32 of 83

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ROAD AND DRAINAGE PLAN - TRACT E

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

KEYNOTES:

[P] "NO PARKING – FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

[SS] STOP SIGN W/ "NO PARKING WITHIN 30 FEET" SIGN. STREET SIGN TO BE MOUNTED ON TOP. SEE DETAIL ON SHEET 72

NOTES:

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2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

N

0 10' 20' 40'

SCALE: 1"=20'

ZONE X (PER FEMA MAP)

ZONE AO (53033C0418G)

TRACT D

TRACT E

ZONE X (PER FEMA MAP 53033C0418G)

ZONE X (PER LOMR-F 16-10-0325A)

ROAD C

ROAD B

PROPOSED R/W

6' HIGH SOLID WOOD FENCE. SEE DETAIL ON SHEET 47.

PROPOSED GUARDRAIL W/ END SECTION DESIGN G AT BOTH ENDS. SEE SHEET 49 FOR DETAILS.

327 LF 24" SD SEE PROFILE ON SHEET 39

177 LF 24" SD SEE PROFILE ON SHEET 39

80 LF 24" SD SEE PROFILE ON SHEET 39

33 LF 12" SD SEE PROFILE ON SHEET 39

57 LF 12" SD SEE PROFILE ON SHEET 34

76 LF 12" SD SEE PROFILE ON SHEET 34

104 LF 12" SD SEE PROFILE ON SHEET 34

31 LF 12" SD SEE PROFILE ON SHEET 34

63 LF 12" SD SEE PROFILE ON SHEET 34

73 LF 12" SD

82 LF 12" SD

142 LF 12" SD SEE PROFILE ON SHEET 34

62 LF 12" SD

122 LF 12" SD

51 LF 18" SD

33 LF 12" SD

38 LF 12" SD

196 LF 18" SD

50 LF 18" SD

33 LF 12" SD

127 LF 18" SD

8" WATER

8" SEWER

10' UE

BEARING PAD ELEVATION (TYP)

CB#30 CB#31 CB#32 CB#33 CB#34 CB#37 CB#80 CB#81 CB#82 CB#93 CB#94 CB#145 CB#146 CB#147 CB#195 CB#141 CB#142 CB#143 CB#28 CB#29

Lot	Elevation
119	86.50
120	86.50
121	85.90
122	85.90
123	86.00
124	86.00
125	86.10
126	86.10
127	85.50
128	85.50
129	85.50
130	85.50
131	85.50
132	85.20
133	85.20
134	85.20
135	85.20
136	85.20
137	85.40
138	85.40
139	85.40
140	85.40

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PLAN - TRACT E FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
41423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 20' Vertical N/A

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057

Sheet 33 of 83

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ROAD AND DRAINAGE PROFILE - TRACT E

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.

CITY OF CARNATION, KING COUNTY, WASHINGTON

HORIZONTAL

0 10' 20' 40'

SCALE: 1"=20'

VERTICAL

0 2.5' 5' 10'

SCALE: 1"=5'

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.

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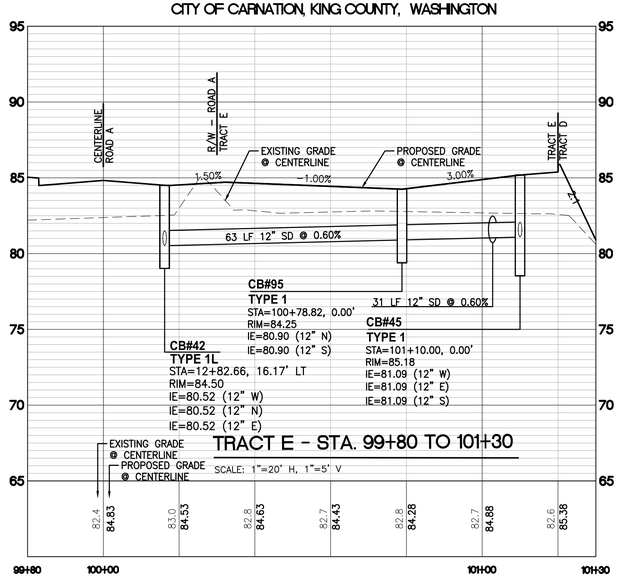
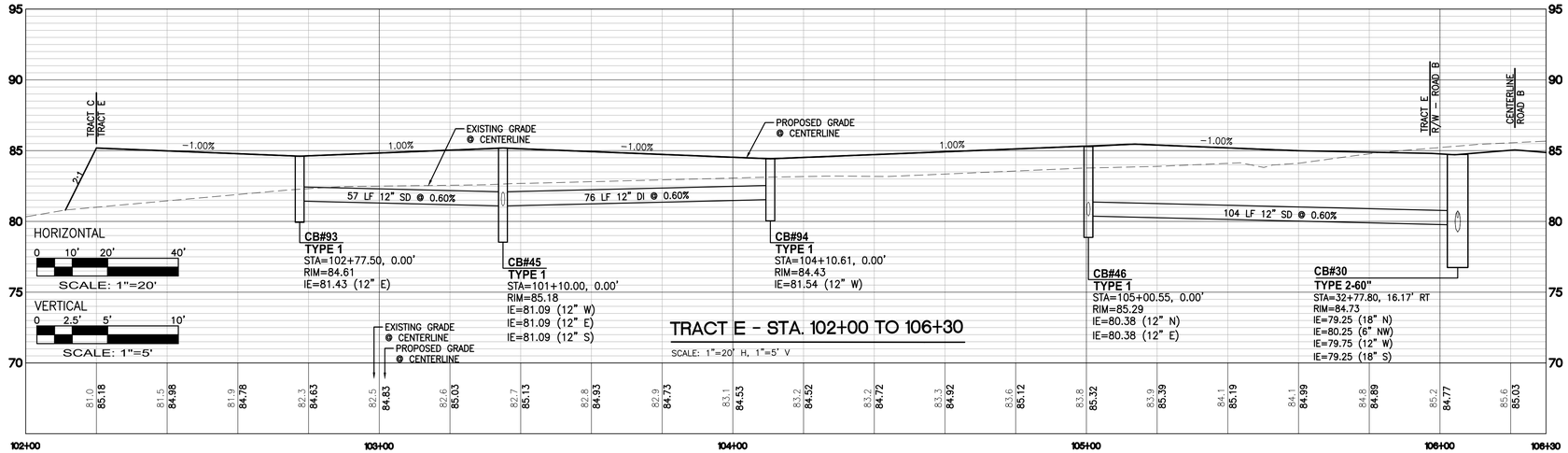
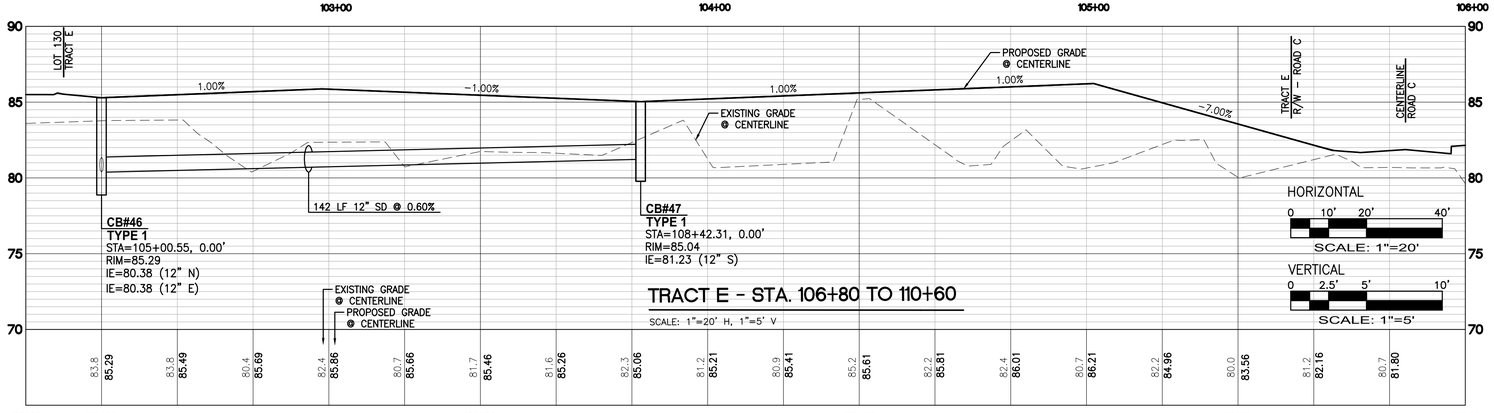
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.







CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PROFILE - TRACT E FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J TALKINGTON
STATE OF WASHINGTON
#1423
REGISTERED
PROFESSIONAL ENGINEER
2/14/22

Scale:		Designed	RK	Job Number	18057
Horizontal	1" = 20'	Drawn	RK	Sheet	34 of 83
Vertical	1" = 5'	Checked	BJT		
		Approved	BJT		
		Date	2/19/22		

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

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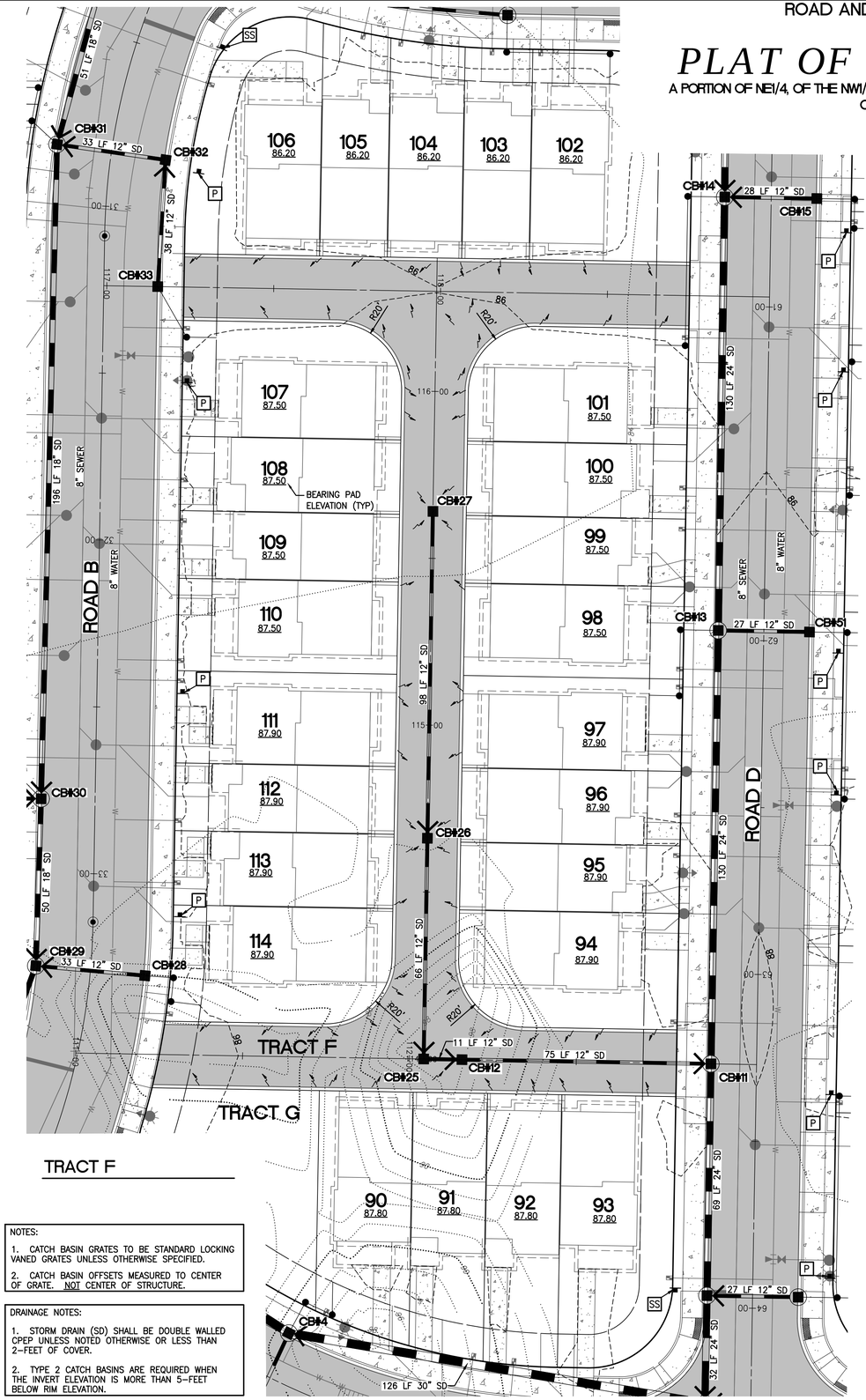
ROAD AND DRAINAGE PLAN AND PROFILE - TRACT F

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



TRACT F

N

0 10' 20' 40'
SCALE: 1"=20'

KEYNOTES:

P "NO PARKING - FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

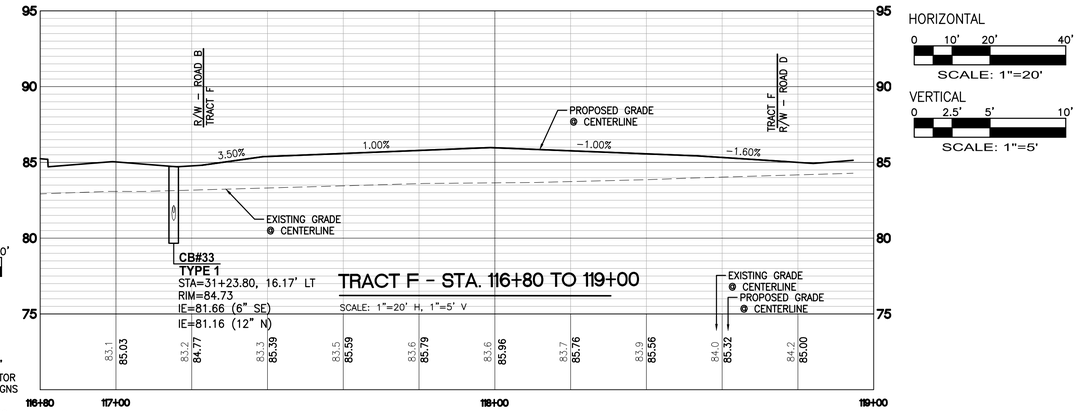
SS STOP SIGN W/ "NO PARKING WITHIN 30 FEET" SIGN. STREET SIGN TO BE MOUNTED ON TOP. SEE DETAIL ON SHEET 72

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

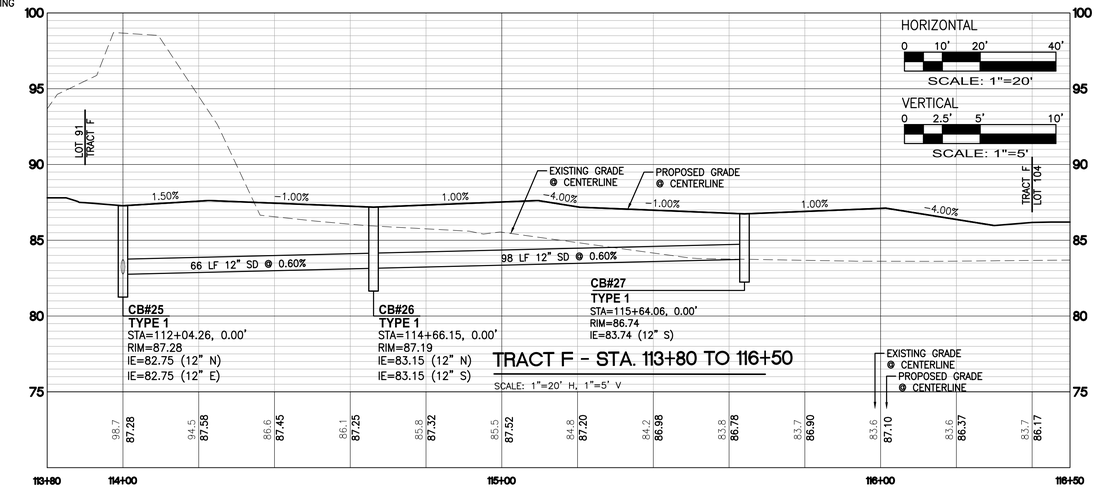
DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.



HORIZONTAL
0 10' 20' 40'
SCALE: 1"=20'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'



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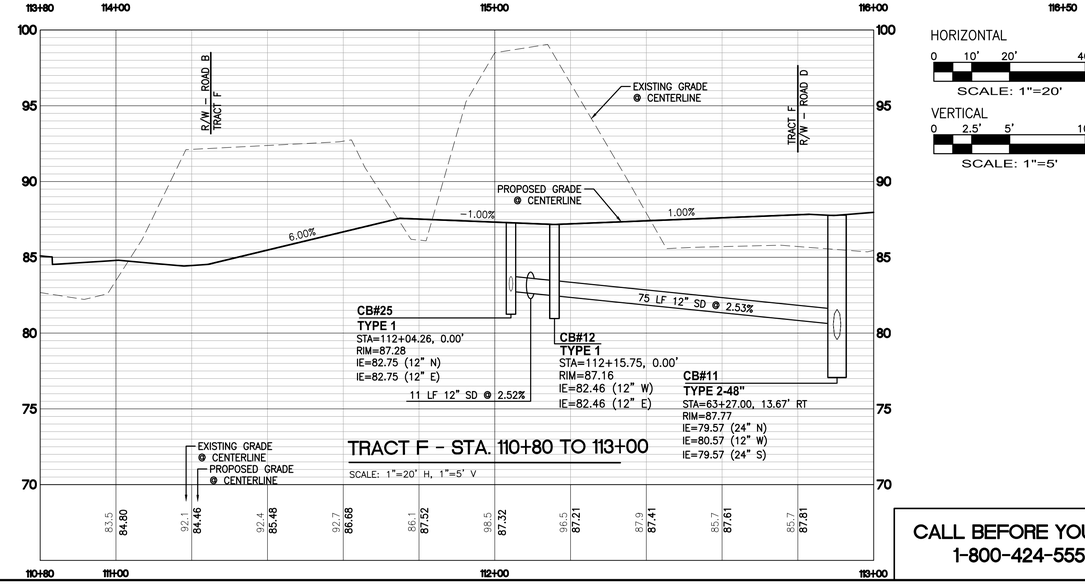
SCALE: 1"=20'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'



HORIZONTAL
0 10' 20' 40'
SCALE: 1"=20'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
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4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PLAN AND PROFILE - TRACT F

FOR

TOLT RIVER TERRACE

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
41423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 20' Vertical 1" = 5'

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

Sheet 35 of 83

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ROAD AND DRAINAGE PLAN AND PROFILE - TRACT I

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

N

0 10' 20' 40'
SCALE: 1"=20'

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

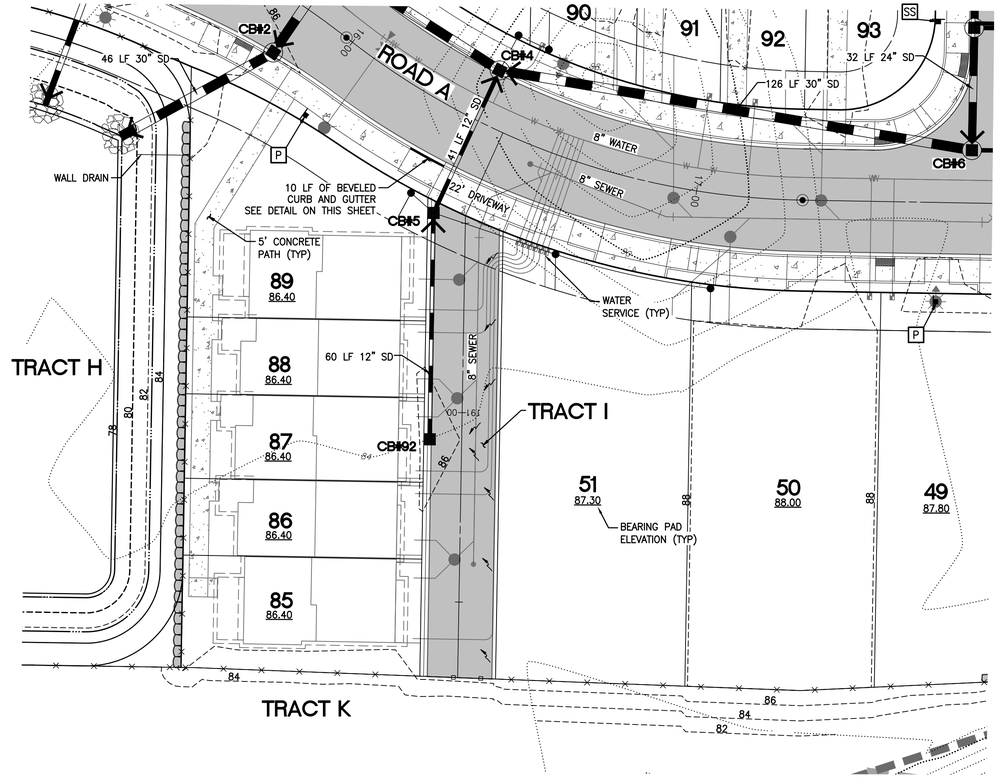
DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

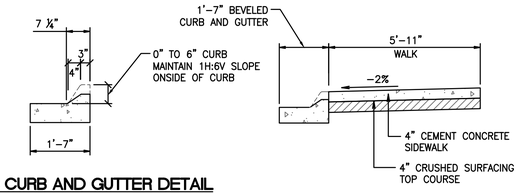
KEYNOTES:

[P] "NO PARKING - FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

[SS] STOP SIGN W/ "NO PARKING WITHIN 30 FEET" SIGN. STREET SIGN TO BE MOUNTED ON TOP. SEE DETAIL ON SHEET 72

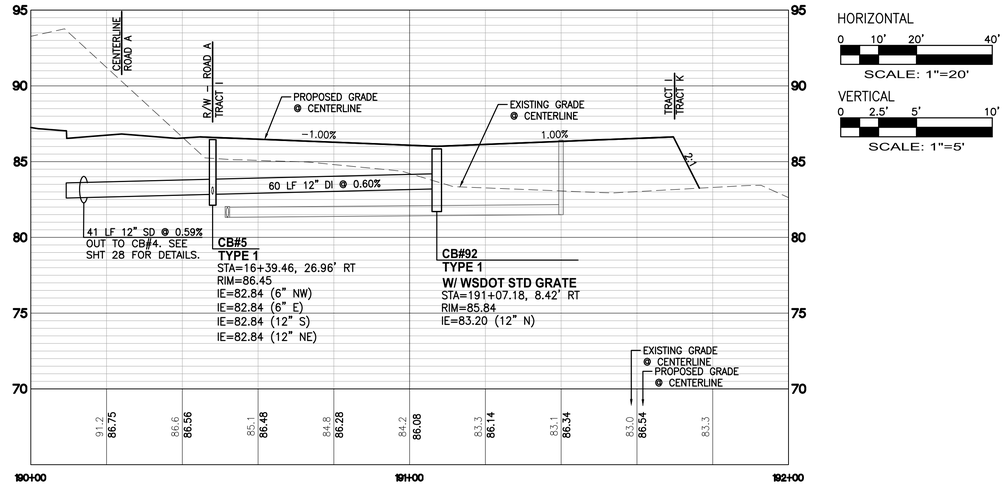


TRACT I



BEVELED CURB AND GUTTER DETAIL

BEVELED RAMP SECTION



TRACT I - STA. 190+00 TO 192+00

SCALE: 1"=20' H, 1"=5' V

HORIZONTAL
0 10' 20' 40'
SCALE: 1"=20'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: ROAD AND DRAINAGE PLAN AND PROFILE - TRACT I

FOR

TOLT RIVER TERRACE

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 20' Vertical 1" = 5'

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

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Sheet 36 of 83

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FRONTAGE DRAINAGE PLAN AND PROFILE - TOLT AVE

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

SCALE: 1"=20'

UTILITY CROSSINGS

1. STA 107+78.65, 17.33' RT
   IE 12" SD = 73.19
   T/P 12" W= 72.19
2. STA 106+46.87, 21.00' RT
   IE 24" SD = 70.71
   T/P 12" W = 69.71

KEYNOTES:

P "NO PARKING – FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

SS STOP SIGN W/ "NO PARKING WITHIN 30 FEET" SIGN. STREET SIGN TO BE MOUNTED ON TOP. SEE DETAIL ON SHEET 72

NOTE:

SEE SHEETS 71 AND 72 FOR CHANNELIZATION AND SIGNAGE DETAILS.

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

No.	Date	By	Appr.	Revision
3	12/01/21	RK	TJS	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: FRONTAGE DRAINAGE PLAN AND PROFILE - TOLT AVE FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J TALKINGTON — STATE OF WASHINGTON — 41423 — REGISTERED PROFESSIONAL ENGINEER — 2/19/22

Scale: Horizontal 1" = 20' Vertical 1" = 5'

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

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18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

Sheet 37 of 83

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TOLT AVE (SR-203)

SCALE: HORIZ. 1"=20' – VERT. 1"=5'

FRONTAGE DRAINAGE PLAN - TOLT AVE + ROAD C

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

N

0 10' 20' 40'

SCALE: 1"=20'

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

KEYNOTE

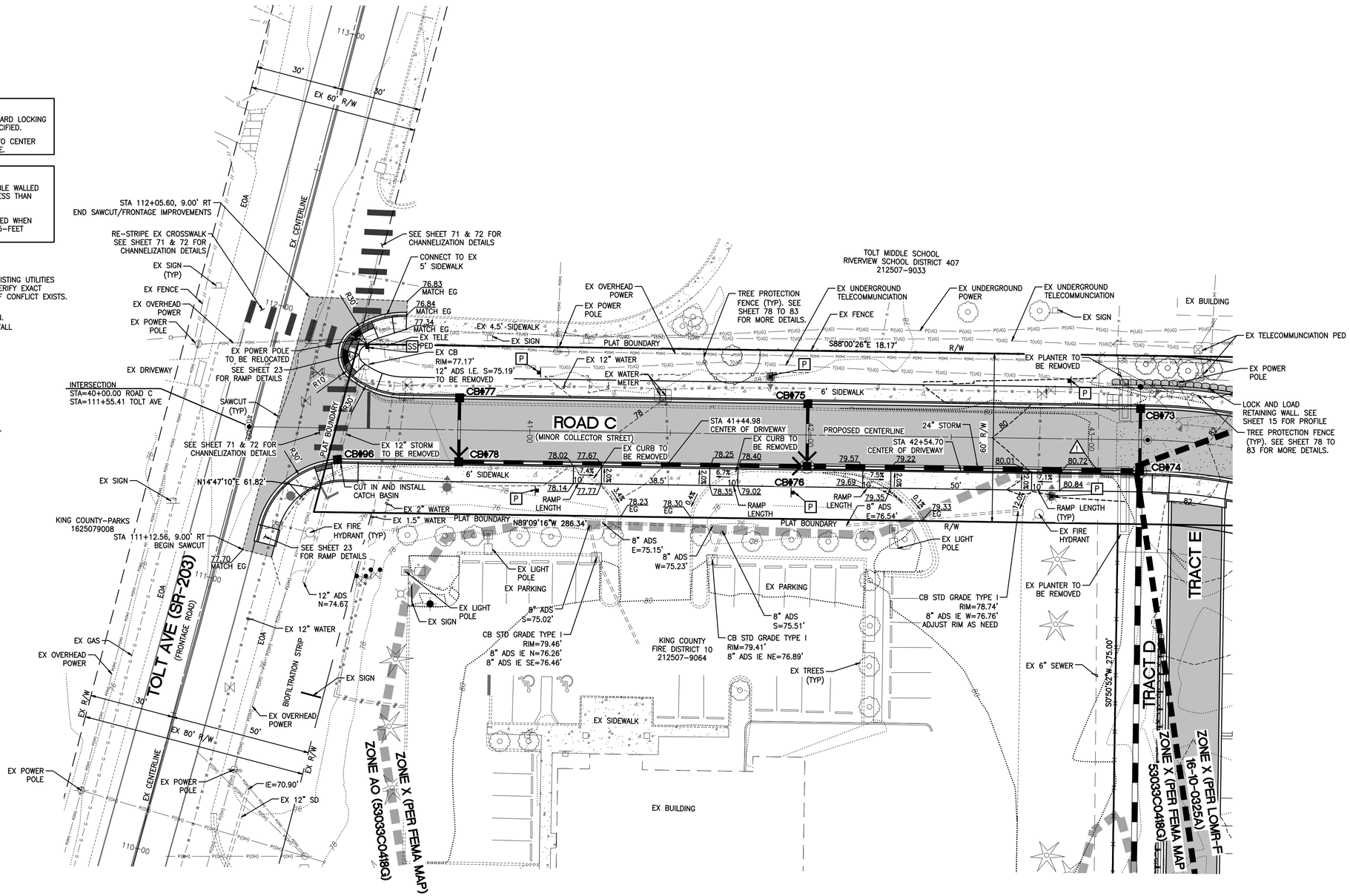
⚠ CONTRACTOR SHALL POTHOLE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY EXACT ELEVATION. CONTACT ENGINEER IF CONFLICT EXISTS.

(P) "NO PARKING - FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

(SS) STOP SIGN W/ "NO PARKING WITHIN 30 FEET" SIGN. STREET SIGN TO BE MOUNTED ON TOP. SEE DETAIL ON SHEET 72

NOTE:

SEE SHEETS 71 AND 72 FOR CHANNELIZATION AND SIGNAGE DETAILS.



CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: FRONTAGE DRAINAGE PLAN - TOLT AVE + ROAD C FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/21/22

Scale: Horizontal 1" = 20' Vertical N/A

Designed RK Drawn RK Checked BJT Approved BJT Date 2/21/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

Sheet 38 of 83

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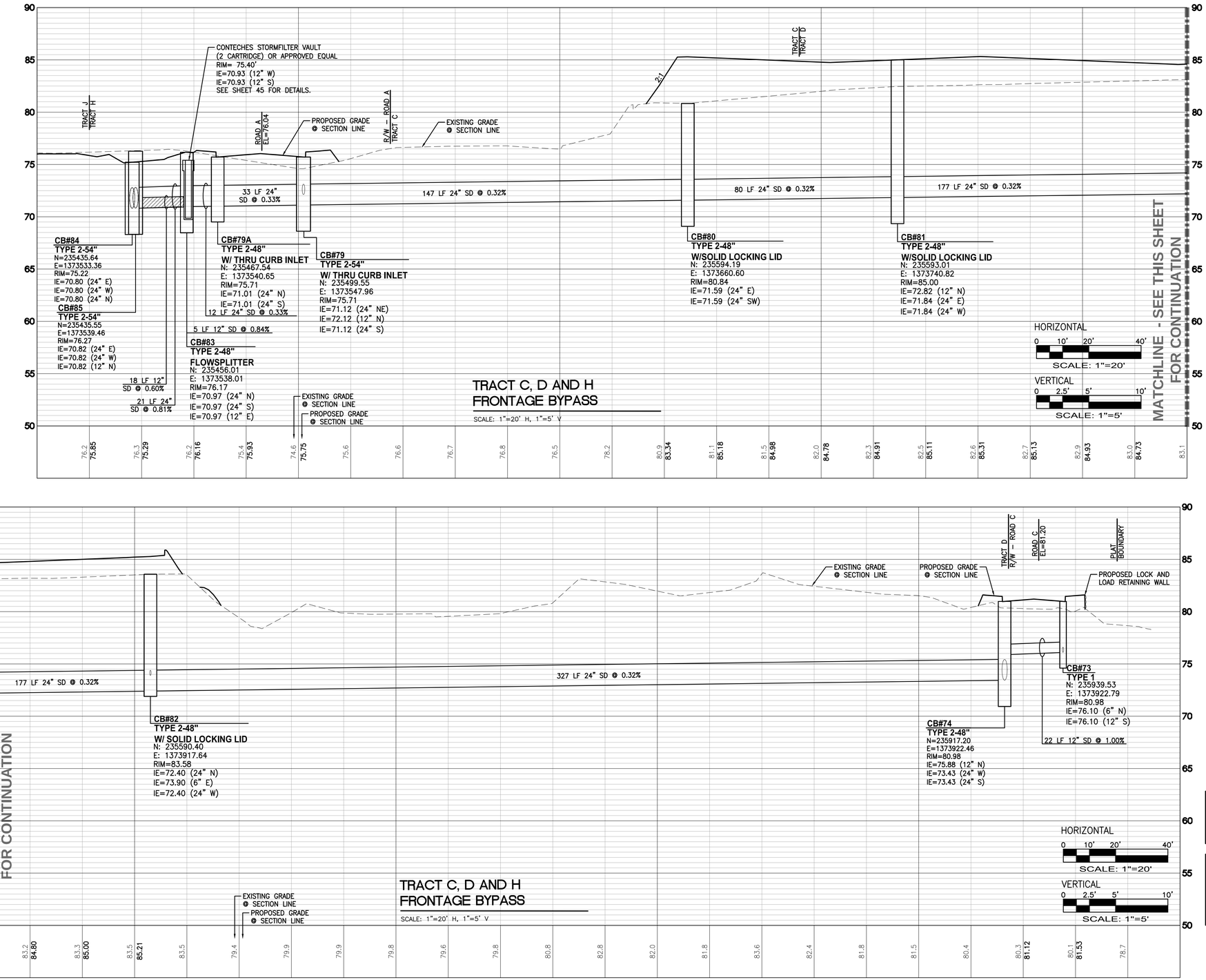
FRONTAGE OUTFALL PROFILE - TRACT C, D AND H
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



TRACT C, D AND H
FRONTAGE BYPASS
SCALE: 1"=20' H, 1"=5' V

TRACT C, D AND H
FRONTAGE BYPASS
SCALE: 1"=20' H, 1"=5' V

NOTES:
1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:
1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

CALL BEFORE YOU DIG: 1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: FRONTAGE OUTFALL PROFILE - TRACT C, D AND H FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

STATE OF WASHINGTON
BARRY J TALKINGTON
#1423
REGISTERED
PROFESSIONAL ENGINEER
2/14/22

Scale: Horizontal 1" = 20' Vertical 1" = 5'

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057 Sheet 39 of 83

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TRACT H DETENTION POND PLAN
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

N

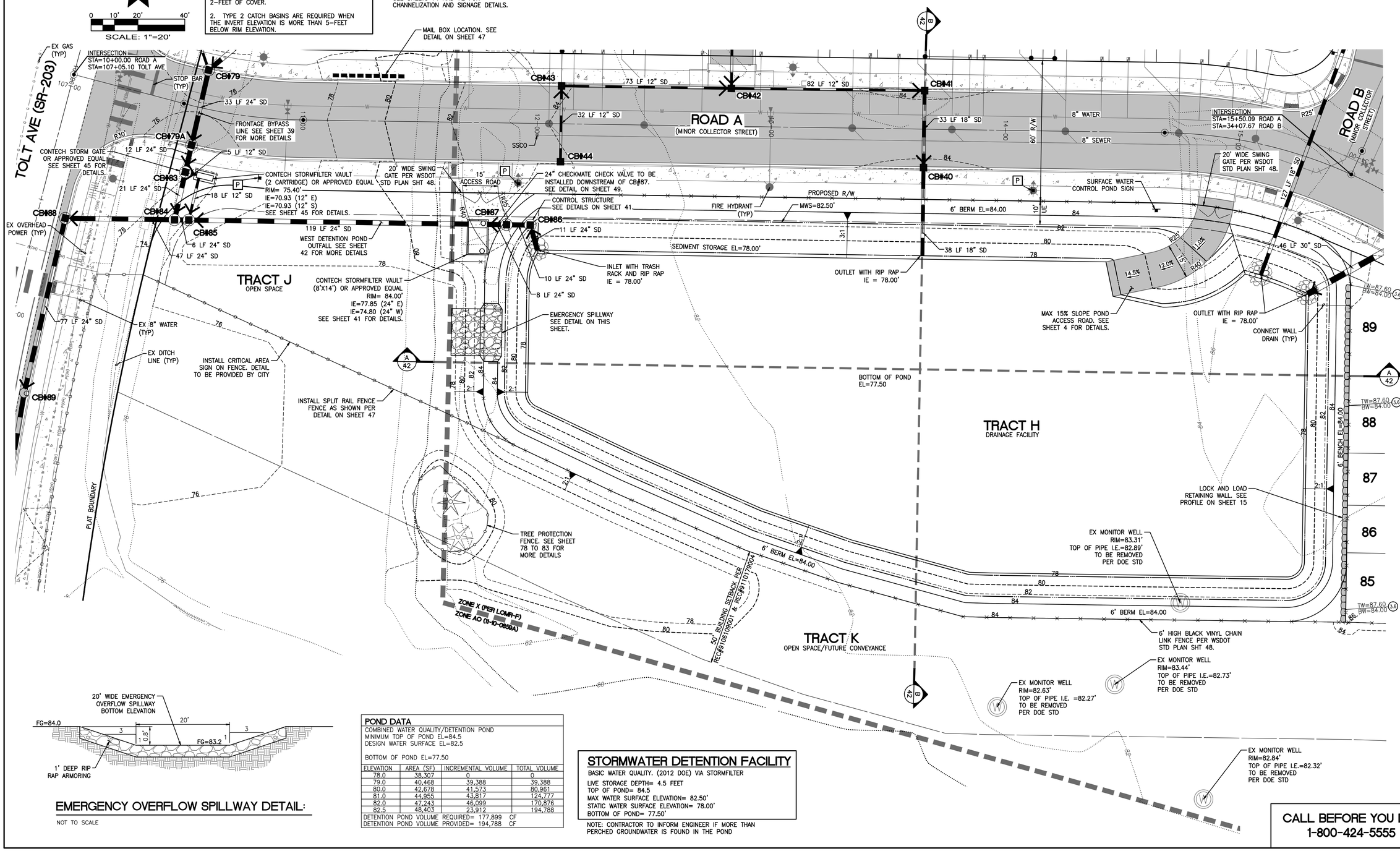
0 10' 20' 40'
SCALE: 1"=20'

NOTES:
1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:
1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

KEYNOTES:
(P) "NO PARKING – FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS

NOTE:
SEE SHEETS 71 AND 72 FOR CHANNELIZATION AND SIGNAGE DETAILS.



EMERGENCY OVERFLOW SPILLWAY DETAIL:
NOT TO SCALE

POND DATA
COMBINED WATER QUALITY/DETENTION POND
MINIMUM TOP OF POND EL=84.5
DESIGN WATER SURFACE EL=82.5

BOTTOM OF POND EL=77.50

ELEVATION	AREA (SF)	INCREMENTAL VOLUME	TOTAL VOLUME
78.0	38,307	0	0
79.0	40,468	39,388	39,388
80.0	42,678	41,573	80,961
81.0	44,955	43,817	124,777
82.0	47,243	46,099	170,876
82.5	48,403	23,912	194,788

DETENTION POND VOLUME REQUIRED= 177,899 CF
DETENTION POND VOLUME PROVIDED= 194,788 CF

STORMWATER DETENTION FACILITY
BASIC WATER QUALITY. (2012 DOE) VIA STORMFILTER
LIVE STORAGE DEPTH= 4.5 FEET
TOP OF POND= 84.5
MAX WATER SURFACE ELEVATION= 82.50'
STATIC WATER SURFACE ELEVATION= 78.00'
BOTTOM OF POND= 77.50'

NOTE: CONTRACTOR TO INFORM ENGINEER IF MORE THAN PERCHED GROUNDWATER IS FOUND IN THE POND

CALL BEFORE YOU DIG: 1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: TRACT H DETENTION POND PLAN
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J TALKINGTON
STATE OF WASHINGTON
41423
REGISTERED
PROFESSIONAL ENGINEER
2/14/22

Scale: Horizontal 1" = 20' Vertical N/A
Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057
Sheet 40 of 83

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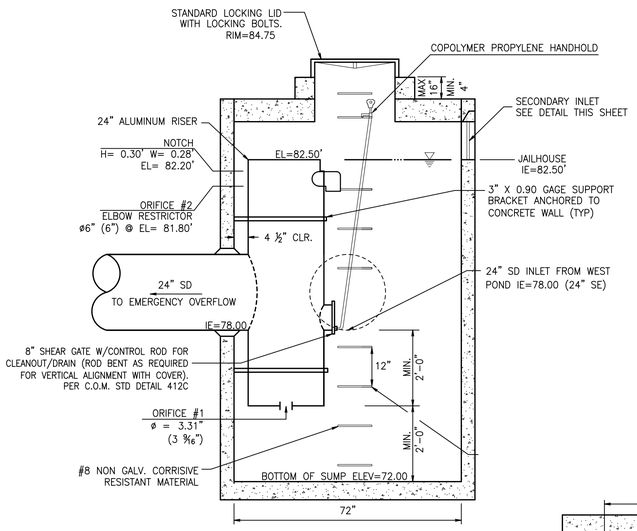
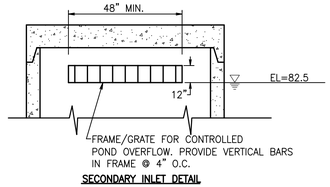
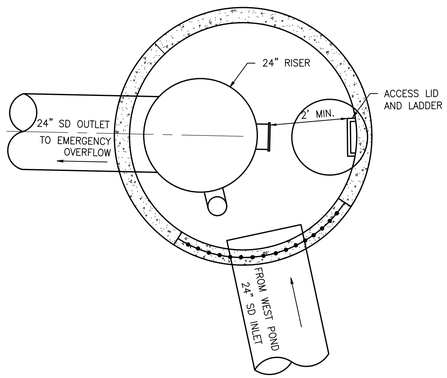
TRACT H DETENTION POND DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



CB#86
TYPE II-72"
1"=2'



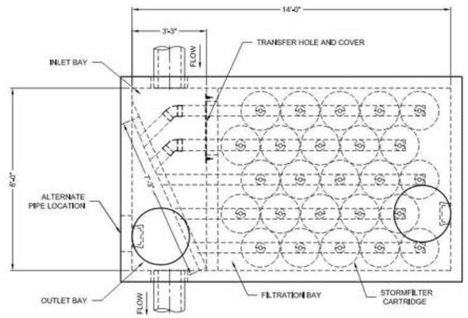
SECONDARY INLET DETAIL



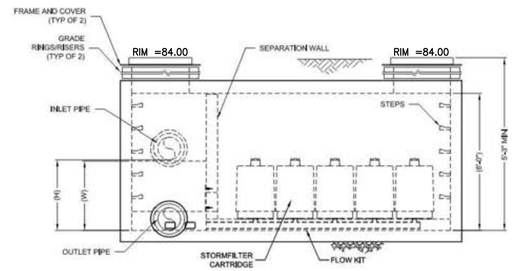
PLAN VIEW
CB#86 TYPE II-72" CONTROL STRUCTURE
1"=2'

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 72" DIAMETER TYPE 2 CATCH BASIN
2. OUTLET CAPACITY: 100-YEAR DEVELOPED PEAK FLOW
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS ONLY
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP.
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
   C. FRAME IS CLEAR OF CURB
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE: OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4".
6. PROVIDE AT LEAST ONE 3" X .090 GAGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL. (MAXIMUM 3'-0" VERTICAL SPACING)
7. LOCATE ELBOW RESTRICTOR(S) AS NECESSARY TO PROVIDE MINIMUM CLEARANCE AS SHOWN.
8. LOCATE ADDITIONAL LADDER RUNGS IN STRUCTURES USED AS ACCESS TO TANKS AND VAULTS TO ALLOW ACCESS WHEN CATCH BASIN IS FILLED WITH WATER
9. TEE SHALL BE CONSTRUCTED OF ALUMINUM CMP OR ALUMINIZED STEEL MEETING WSDOT/APWA STANDARDS.



PLAN



ELEVATION

STORMFILTER DESIGN NOTES

- THE 8' x 14' PEAK DIVERSION STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.
- THE PEAK DIVERSION STORMFILTER IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR RIGHT INLET CONFIGURATION.
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"			18"			LOW DROP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			1.8'		
HEIGHT OF WEIR (W)	3.00'			2.25'			1.75'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	10	8.35	5

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	SF#1
WATER QUALITY FLOW RATE (cfs)	0.79
PEAK FLOW RATE (cfs)	9.98
RETURN PERIOD OF PEAK FLOW (yrs)	100 YR
# OF CARTRIDGES REQUIRED	PVC
CARTRIDGE FLOW RATE	--
MEDIA TYPE (PERLITE, ZPG, PSORB)	PSORB

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE	77.85	PVC	24-INCH
OUTLET PIPE	74.80	PVC	24-INCH

INLET BAY RIM ELEVATION	84.00
FILTER BAY RIM ELEVATION	84.00

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

PERFORMANCE SPECIFICATION
FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. **RADIAL MEDIA DEPTH SHALL BE 7-INCHES.** FILTER MEDIA CONTACT TIME SHALL BE AT LEAST **38 SECONDS.** SPECIFIC FLOW RATE SHALL BE **1, 1.67 OR 2 GPM/SF (MAXIMUM).** SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE **6 GPM/CF OF MEDIA (MAXIMUM).**

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS, ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE, www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES, MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
F. CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

8'x14' PEAK DIVERSION STORMFILTER STD

No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: **TRACT H DETENTION POND DETAILS**
FOR
TOLT RIVER TERRACE

For: **MAINVUE WA LLC**
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON — STATE OF WASHINGTON — 21423 — REGISTERED PROFESSIONAL ENGINEER — 2/19/22

Scale:		Designed	RK
Horizontal	N/A	Drawn	RK
Vertical	N/A	Checked	BJT
		Approved	BJT
		Date	2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 **barghausen.com**

Job Number 18057
Sheet 41 of 83

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1-800-424-5555

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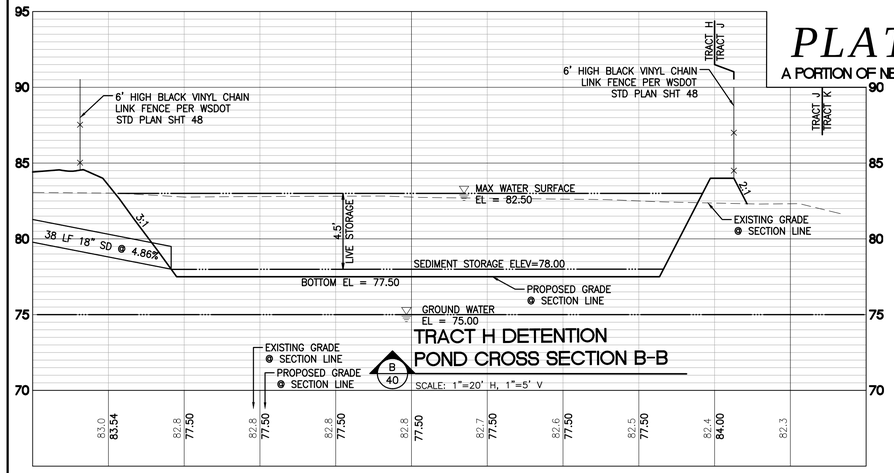
TRACT H DETENTION POND PROFILES
FOR
PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



HORIZONTAL
0 10' 20' 40'
SCALE: 1"=20'

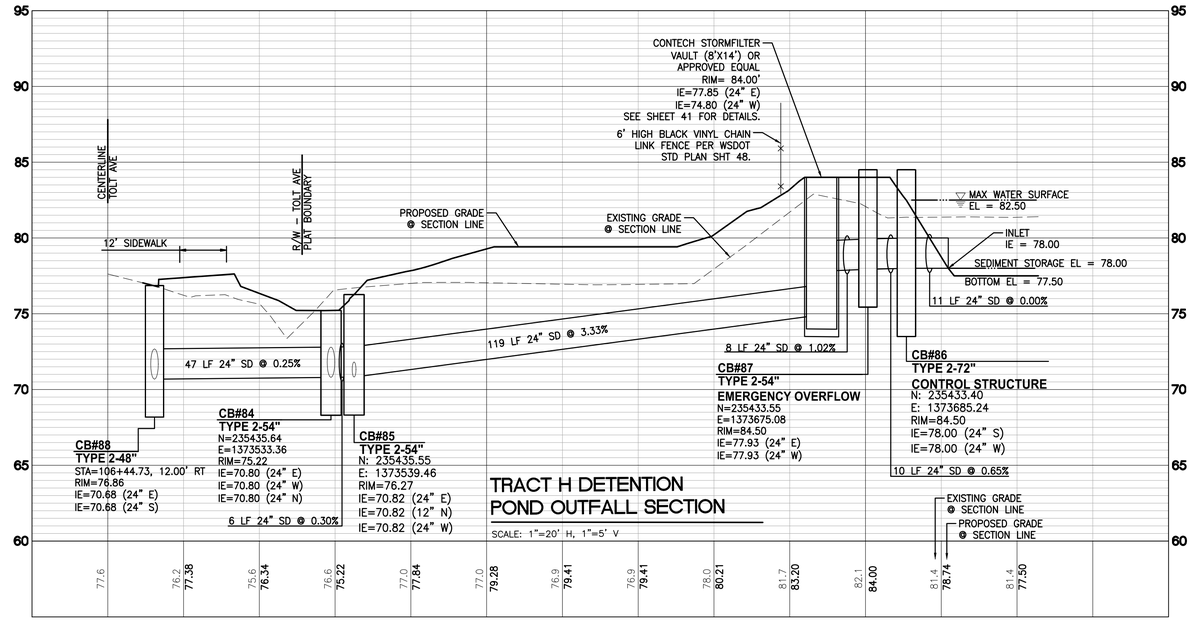
VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'

NOTES:

1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

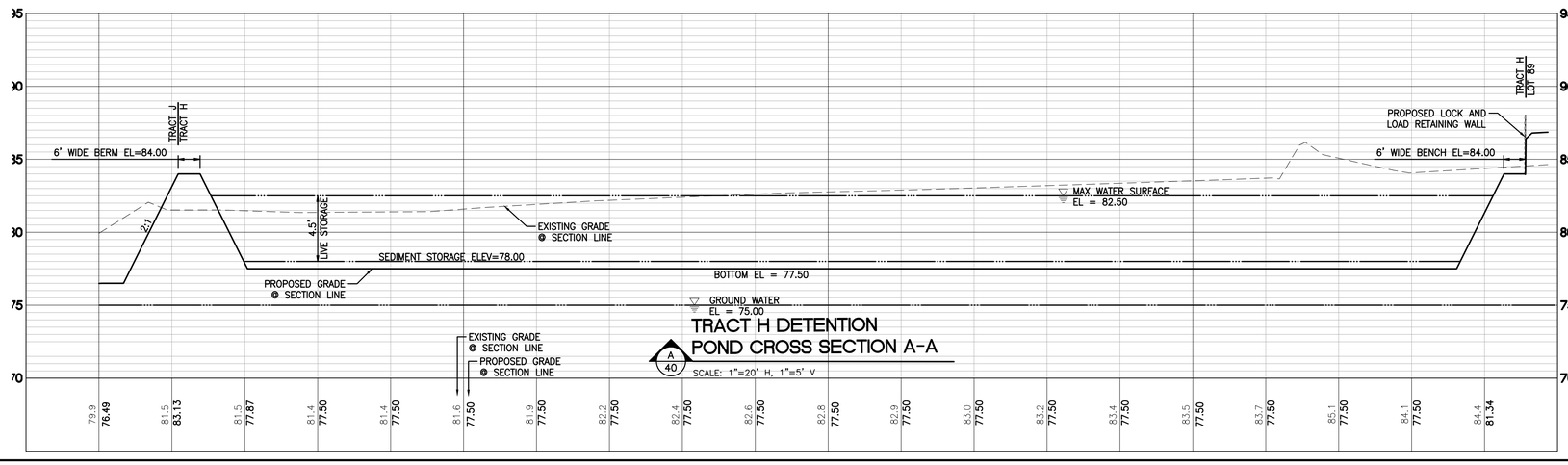
DRAINAGE NOTES:

1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.



HORIZONTAL
0 10' 20' 40'
SCALE: 1"=20'

VERTICAL
0 2.5' 5' 10'
SCALE: 1"=5'



HORIZONTAL
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SCALE: 1"=20'

VERTICAL
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SCALE: 1"=5'

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title:
TRACT H DETENTION POND PROFILES
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale:
Horizontal 1" = 20'
Vertical 1" = 5'

Designed RK
Drawn RK
Checked BJT
Approved BJT
Date 2/19/22

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18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

TSKODA

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Job Number 18057
Sheet 42 of 83

TRACT M INFILTRATION POND PLAN
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

N

0 10' 20' 40'
SCALE: 1"=20'

STORMWATER INFILTRATION FACILITY

BASIC WATER QUALITY PROVIDED VIA INFILTRATION
PRECEEDED BY PRETREATMENT SYSTEM. (2012 DOE)
LIVE STORAGE DEPTH= 4 FEET
TOP OF POND= 90.0
MAX WATER SURFACE ELEVATION= 89.0
BOTTOM OF POND= 85.0
MIN BOTTOM AREA REQUIRED= 12,996 SF
BOTTOM AREA PROVIDED= 17,080 SF

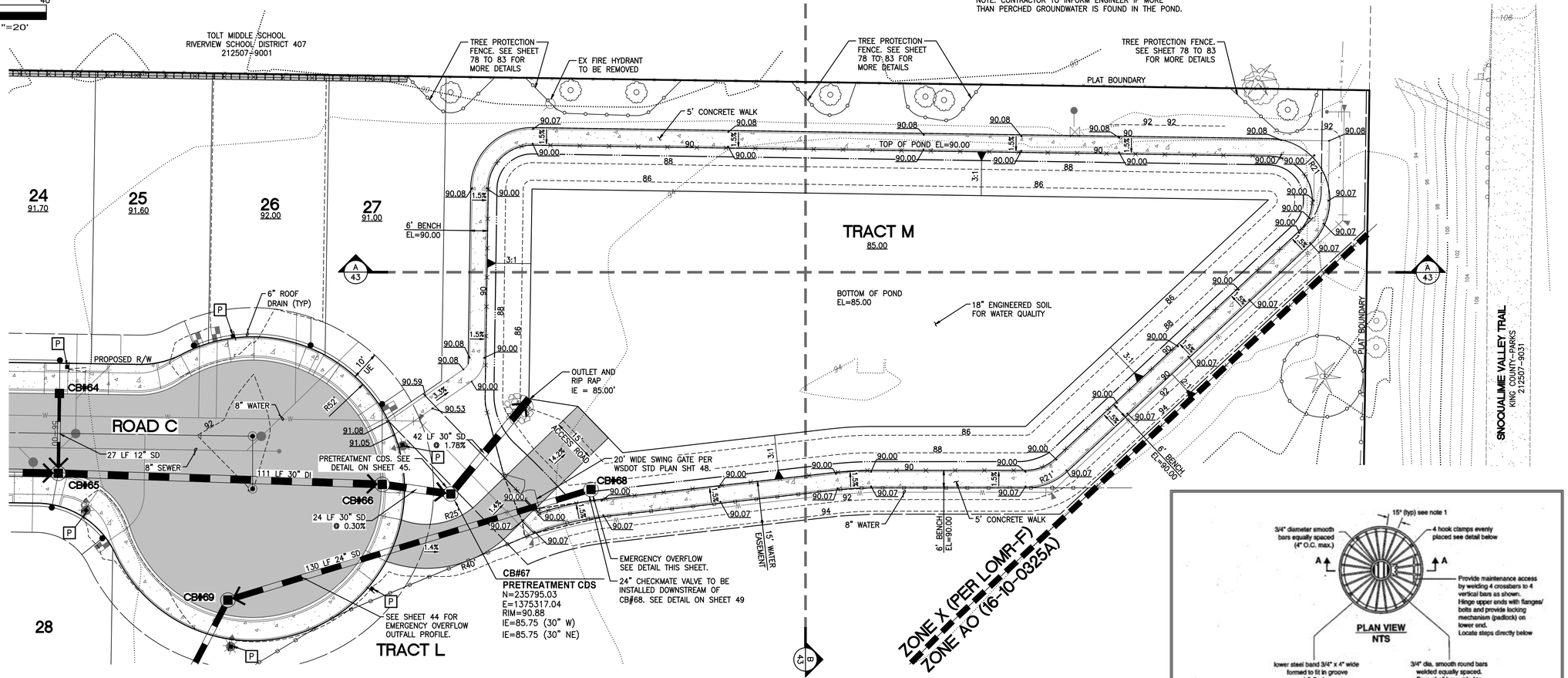
NOTE: CONTRACTOR TO INFORM ENGINEER IF MORE THAN PERCHED GROUNDWATER IS FOUND IN THE POND.

TRACT E POND DATA
COMBINED WATER QUALITY/DETENTION POND
MINIMUM TOP OF POND EL=90.0
DESIGN WATER SURFACE EL=89.0

BOTTOM OF POND EL=85.0

ELEVATION	AREA (SF)	INCREMENTAL VOLUME	TOTAL VOLUME
85.0	17,081		
86.0	19,062	18,071	18,071
87.0	21,096	20,079	38,150
88.0	23,188	22,142	60,292
89.0	25,349	24,268	84,560

DETENTION POND VOLUME REQUIRED= 70,000 CF
DETENTION POND VOLUME PROVIDED= 84,560 CF



ORGANIC SOIL LAYER

ORGANIC SOIL TREATMENT LAYER PER 2009 KCSWDM, THE SOIL LAYER MAY CONSIST OF A MIXTURE OF TOPSOIL AND UNDERLYING NATIVE SOIL ON-SITE. REFER TO THE GEOTECHNICAL RECOMMENDATIONS LETTER REGARDING THIS ORGANIC SOIL LAYER SUBMITTED UNDER SEPARATE COVER BY RILEY GROUP; DESIGN INFILTRATE SHALL BE A MINIMUM 6 IN/HR. THE CONTRACTOR SHALL OBTAIN SOIL TEST REPORTS THAT SHOW THE SOIL MEETS ALL OF THE REQUIREMENTS OF AN ORGANIC SOIL LAYER, INCLUDED (RIGHT)

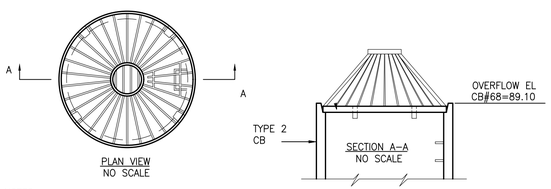
1. A TWO-FOOT THICK LAYER OF SOIL WITH A MINIMUM ORGANIC MATTER (OM) CONTENT OF 1.0% AND A MINIMUM CATION EXCHANGE CAPACITY (CEC) OF 8 MILLIEQUIVALENTS PER 100 GRAMS (MEQ/100G) CAN BE USED AS A TREATMENT LAYER BENEATH A WATER QUALITY OR DETENTION FACILITY. IF THE SOIL IS AMMENDED OR IMPORTED, THE TOP 8 INCHES MUST HAVE A MINIMUM CATION EXCHANGE CAPACITY OF 10 MEQ/100G AND THE REMAINDER OF THE DEPTH NO LESS THAN 8 MEQ/100G. AN 18-INCH LAYER WITH THE SAME CEC AND OM PROFILE WILL SUFFICE FOR DITCH CONVEYANCES, BASED ON UNSATURATED FLOW AS A RESULT OF ALTERNATING WET-DRY PERIODS.
2. TO DEMONSTRATE THAT IN-PLACE SOILS MEET THE ABOVE CRITERIA, ONE SAMPLE PER 1,000 SQUARE FEET OF FACILITY AREA, OR 500 LINEAL FEET OF DITCH, AND NO FEWER THAN THREE SAMPLES SHALL BE TESTED. EACH SAMPLE SHALL BE A COMPOSITE OF EQUALLY SPACED SUBSAMPLES TAKEN THROUGHOUT THE FULL EXTENT OF THE TREATMENT LAYER DEPTH (USUALLY TWO TO SIX FEET BELOW THE EXPECTED FACILITY INVERT FOR FACILITIES), EXCEPT STRATIFIED COMPOSITE SAMPLING IS REQUIRED WHERE THE TOP 8 INCHES ARE REQUIRED TO MEET A HIGHER CEC LEVEL (COMPOSITE OF TOP EIGHT INCHES AND SEPARATE COMPOSITE OF THE REMAINER BELOW).
3. ORGANIC CONTENT SHALL BE MEASURED ON A DRY WEIGHT BASIS USING ASTM D2974.
4. CATION EXCHANGE CAPACITY (CEC) SHALL BE TESTED ACCORING TO REFERENCE 12-A, MEASURING CATION EXCHANGE CAPACITY.
5. CERTIFICATION BY A SOILS TESTING LABORATORY THAT IMPORTED SOIL MEETS THE ORGANIC CONTENT AND CEC CRITERIA ABOVE SHALL BE PROVIDED TO THE LOCAL APPROVAL AUTHORITY.
6. SOIL AMENDMENT MAY ONLY BE COMPOST MEETING THE REQUIREMENTS OF REFERENCE 11-C.
7. IF A TREATMENT LINER WILL BE BELOW THE SEASONAL HIGH WATER LEVEL, THE POLLUTANT REMOVAL PERFORMANCE OF THE LINER MUST BE EVALUATED BY A GEOTECHNICAL OR GROUND WATER SPECIALISTAND FOUND TO BE AS PROTECTIVE AS IF THE LINER WERE ABOVE THE LEVEL OF THE GROUND WATER.

NOTES:
1. CATCH BASIN GRATES TO BE STANDARD LOCKING VANED GRATES UNLESS OTHERWISE SPECIFIED.
2. CATCH BASIN OFFSETS MEASURED TO CENTER OF GRATE. NOT CENTER OF STRUCTURE.

DRAINAGE NOTES:
1. STORM DRAIN (SD) SHALL BE DOUBLE WALLED CPEP UNLESS NOTED OTHERWISE OR LESS THAN 2-FEET OF COVER.
2. TYPE 2 CATCH BASINS ARE REQUIRED WHEN THE INVERT ELEVATION IS MORE THAN 5-FEET BELOW RIM ELEVATION.

KEYNOTES:

P "NO PARKING - FIRE LANE" SIGN. DEVELOPER/CONTRACTOR TO INSTALL NO PARKING SIGNS



NOTES:
1. REFER TO 2012 DOE STD FIG. 3.2.3

CB#68
EMERGENCY OVERFLOW SPILLWAY
NOT TO SCALE

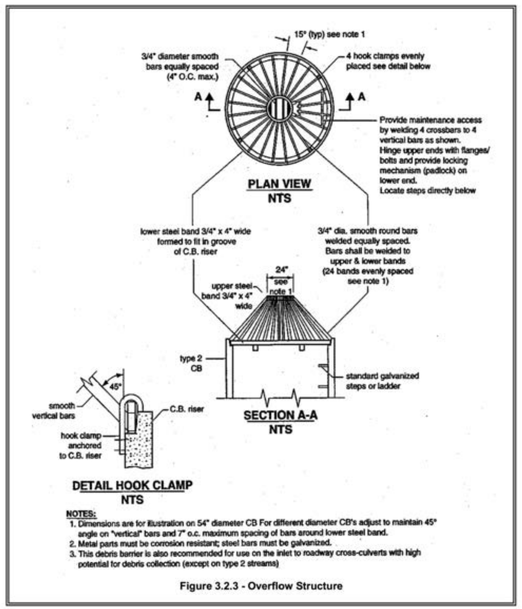


Figure 3.2.3 - Overflow Structure

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No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: TRACT M INFILTRATION POND PLAN
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 20' Vertical N/A
Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057
Sheet 43 of 83

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TRACT M AND L INFILTRATION POND PROFILE

FOR

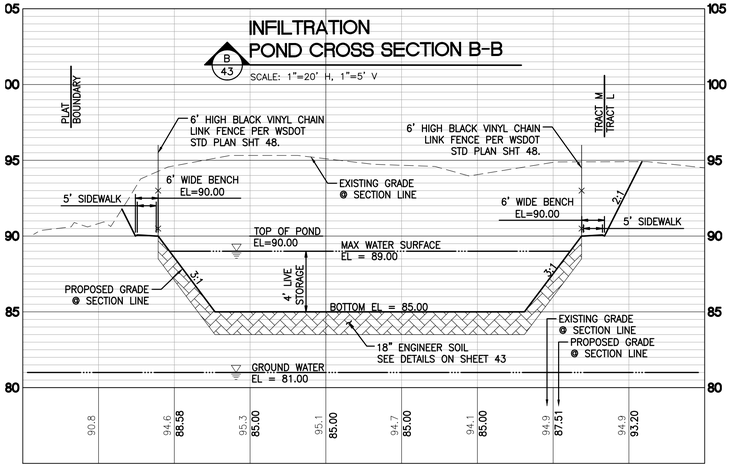
PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

INFILTRATION POND CROSS SECTION B-B

B / 43

SCALE: 1"=20' H, 1"=5' V



HORIZONTAL

0 10' 20' 40'

SCALE: 1"=20'

VERTICAL

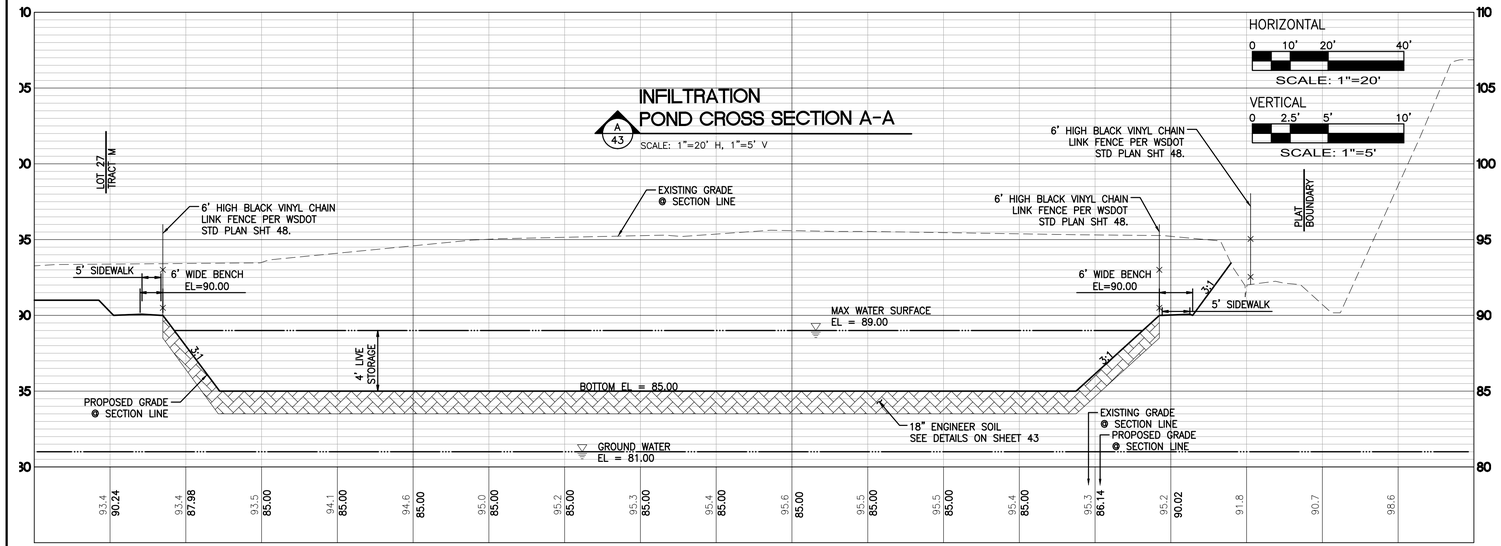
0 2.5' 5' 10'

SCALE: 1"=5'

INFILTRATION POND CROSS SECTION A-A

A / 43

SCALE: 1"=20' H, 1"=5' V



HORIZONTAL

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SCALE: 1"=20'

VERTICAL

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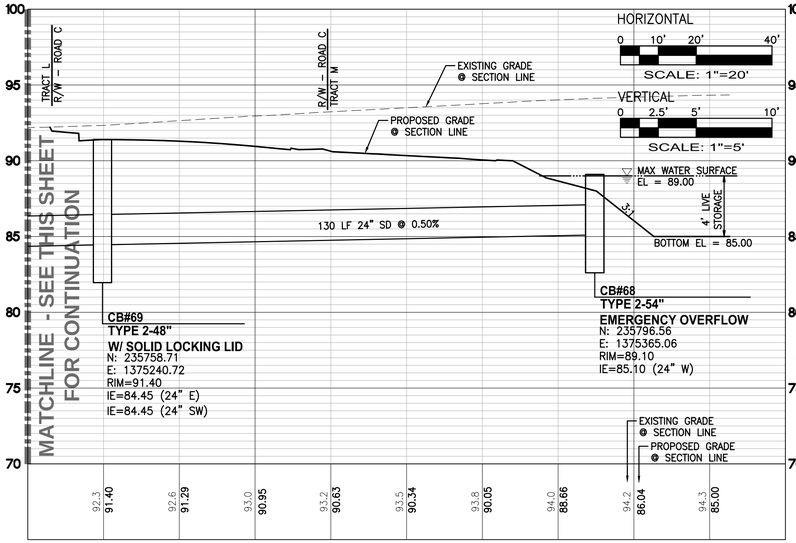
SCALE: 1"=5'



HORIZONTAL

0 10' 20' 40'

SCALE: 1"=20'

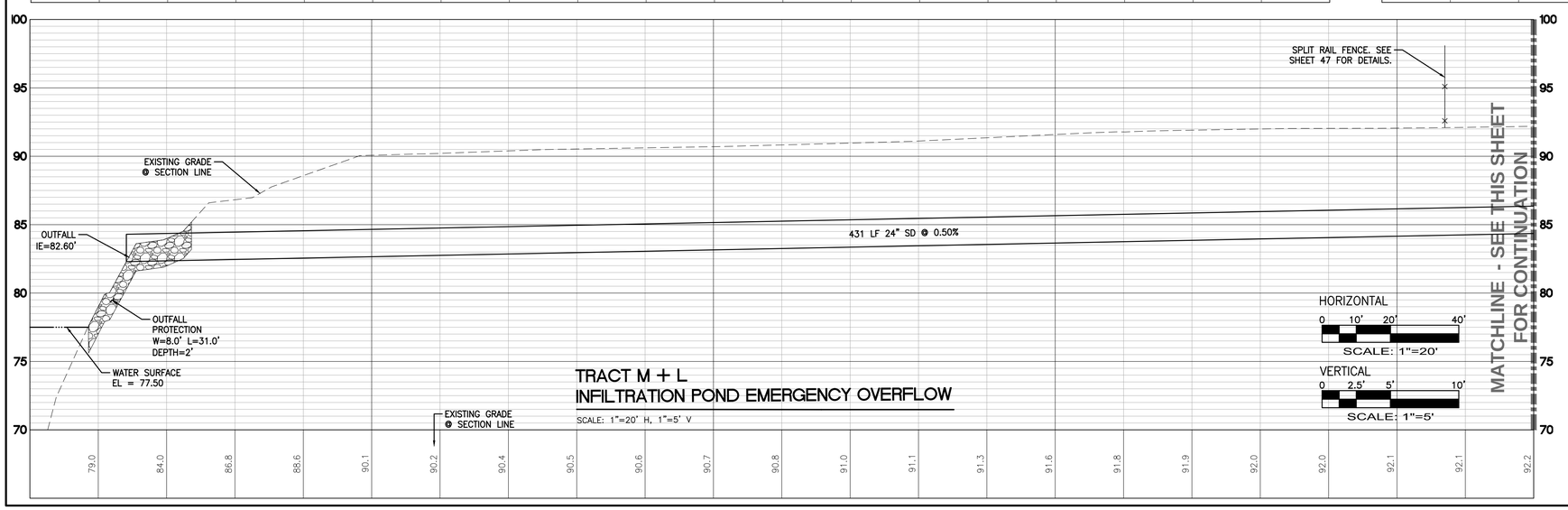
VERTICAL

0 2.5' 5' 10'

SCALE: 1"=5'

TRACT M + L CONTINUATION
INFILTRATION POND EMERGENCY OVERFLOW

SCALE: 1"=20' H, 1"=5' V



HORIZONTAL

0 10' 20' 40'

SCALE: 1"=20'

VERTICAL

0 2.5' 5' 10'

SCALE: 1"=5'

TRACT M + L
INFILTRATION POND EMERGENCY OVERFLOW

SCALE: 1"=20' H, 1"=5' V

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/15/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title:
TRACT M AND L
INFILTRATION POND PROFILE
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal 1" = 20' Vertical 1" = 5'

Designed RK
Drawn RK
Checked BJT
Approved BJT
Date 2/19/22

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18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057

Sheet 44 of 83

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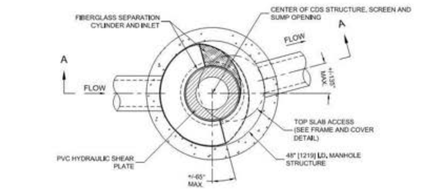
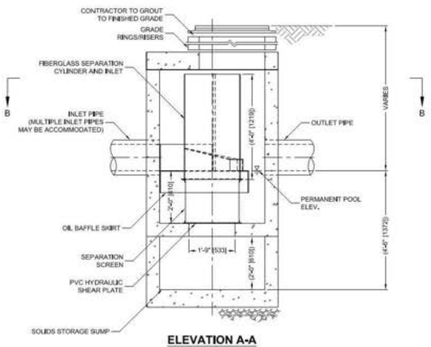
TRACT J AND M DRAINAGE DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

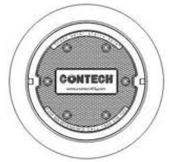


PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.

CDS2015-4-C DESIGN NOTES
CDS2015-4-C RATED TREATMENT CAPACITY IS 0.7 CFS (19.8 L/s), OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS (283 L/s). IF THE SITE CONDITIONS EXCEED 10.0 (283 L/s) CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.
THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.
CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

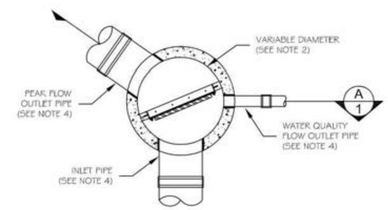
STRUCTURE ID			CB#67
WATER QUALITY FLOW RATE (CFS)			0.62
PEAK FLOW RATE (CFS)			4.1
RETURN PERIOD OF PEAK FLOW (YRS)			100YR
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	85.75'	CPEP	30-INCH
INLET PIPE 2	-	-	-
OUTLET PIPE	85.75'	CPEP	30-INCH
RIM ELEVATION			90.82'
ANTI-FLOTATION BALLAST	WIDTH		HEIGHT
	*		*
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE, www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO H20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION, ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

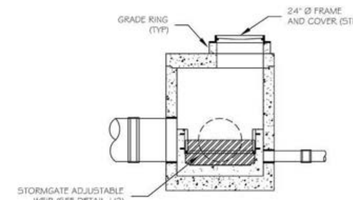
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS2015-4-C
ONLINE CDS
STANDARD DETAIL



STORMGATE MANHOLE - PLAN VIEW (1/1)



STORMGATE MANHOLE - SECTION VIEW (A 1)

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STORMGATE MANHOLE HIGH FLOW BYPASS
PLAN AND SECTION VIEWS
STANDARD DETAIL

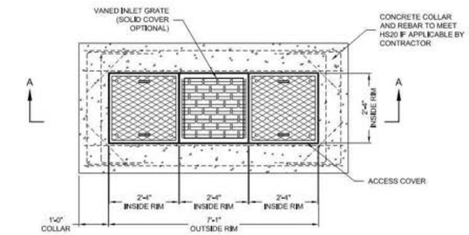
DRAWING 1 1/2
DATE: 04/04/06 | SCALE: NONE | FILE NAME: SG-MH-DTL | DRAWN: MJW | CHECKED: ARG

STORMFILTER STEEL CATCHBASIN DESIGN NOTES									
STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 2 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF TWO CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.									
CARTRIDGE SELECTION	27"			18"			18" DEEP		
CARTRIDGE HEIGHT	3.0'			2.3'					
RECOMMENDED HYDRAULIC DROP (H)	3.05'								
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

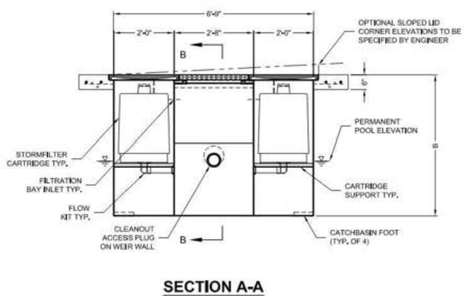
* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB™ (PSORB) MEDIA ONLY

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE, WWW.CONTECHES.COM
3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
5. MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
6. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
7. STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
8. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
9. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

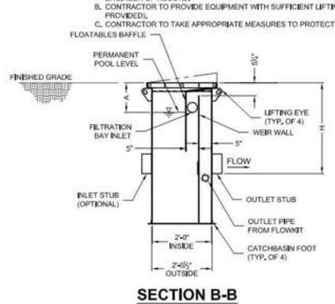
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



PLAN VIEW



SECTION A-A



SECTION B-B

2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA

STRUCTURE ID		SF#2
WATER QUALITY FLOW RATE (cfs)		0.07
PEAK FLOW RATE (<1.8 cfs)		1.0
RETURN PERIOD OF PEAK FLOW (yrs)		100 YR
CARTRIDGE FLOW RATE (gpm)		---
MEDIA TYPE (PERLITE, ZPG, PSORB)		PSORB
RIM ELEVATION		75.60
PIPE DATA:	I.E.	DIAMETER
INLET STUB	70.93	12-INCH
OUTLET STUB	70.93	12-INCH

CONFIGURATIONS: OUTLET / INLET; OUTLET / INLET; OUTLET / INLET; INLET / INLET

SLOPED LID	YES	NO
SOLID COVER	YES	NO
NOTES/SPECIAL REQUIREMENTS:		

2 CARTRIDGE CATCHBASIN STORMFILTER STD

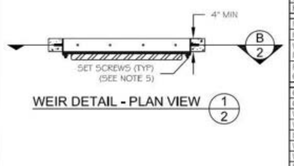
GENERAL NOTES
1) STORMGATE BY CONTECH STORMWATER SOLUTIONS; PORTLAND, OR (800) 548-4667; SCARBOROUGH, ME (877) 907-6676; LINTHICUM, MD (866) 740-3318.
2) PRECAST MANHOLE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478. DETAIL DRAWING REFLECTS DESIGN INTENT ONLY. ACTUAL DIMENSIONS AND CONFIGURATION OF STRUCTURE WILL BE SHOWN ON PRODUCTION SHOP DRAWING.
3) STRUCTURE AND ACCESS COVERS TO MEET AASHTO H-20 LOAD RATING.
4) INLET AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR. PRECAST STORMGATE MANHOLE EQUIPPED WITH EITHER CORED OPENINGS OR KNOCKOUTS AT INLET AND OUTLET LOCATIONS.
5) CONTRACTOR TO ADJUST WEIR TO DESIGN ELEVATION SPECIFIED IN DATA TABLE BELOW. DO NOT EXCEED 5.0 FT-LBS TORQUE WHEN TIGHTENING SCREWS ON WEIR FRAME. SEAL WEIR TO FRAME WITH RTV SILICONE SEALANT AFTER FINAL ADJUSTMENT.

STORMGATE MANHOLE DATA

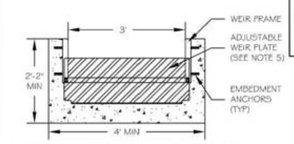
STRUCTURE ID				CB#83
WATER QUALITY FLOW RATE (cfs)				0.07
PEAK FLOW RATE, Qpeak (cfs)				2.3
MANHOLE DIAMETER (48", 60", 72")				48-INCH
RIM ELEVATION				76.17
PIPE DATA:	I.E.	ORIENTATION	MATERIAL	DIAMETER
INLET PIPE	70.97	XX°	PVC	24-INCH
WATER QUALITY FLOW OUTLET PIPE	70.97	XX°	PVC	24-INCH
PEAK FLOW OUTLET PIPE	70.97	XX°	PVC	12-INCH
ORIFICE TYPE (PIPE, CAP, PLATE)				XXXXX
ORIFICE DIAMETER (in)				XX"
WEIR CREST ELEVATION				XXX.XX
WEIR WALL ELEVATION				71.25
HEAD OVER WEIR, H (ft)				X.XX
WSE at Qpeak				XXX.XX
WEIR ORIENTATION				XX°
FLOOR ELEVATION				70.88

NOTES/SPECIAL REQUIREMENTS:

PIPE ORIENTATION KEY: 90° / 180° / 0° / 270°



WEIR DETAIL - PLAN VIEW (1/2)



WEIR DETAIL - SECTION VIEW (B 2)

STORMGATE MANHOLE- TOP VIEW (2/2)

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STORMGATE MANHOLE HIGH FLOW BYPASS
TOP VIEW, WEIR DETAIL, DATA AND NOTES
STANDARD DETAIL

DRAWING 2 2/2
DATE: 04/04/06 | SCALE: NONE | FILE NAME: SG-MH-DTL | DRAWN: MJW | CHECKED: ARG

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title:
TRACT J AND M DRAINAGE DETAILS
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON — STATE OF WASHINGTON — 41423 — REGISTERED PROFESSIONAL ENGINEER — 2/19/22

Designed	RK	Scale:	
Drawn	RK	Horizontal	N/A
Checked	BJT	Vertical	N/A
Approved	BJT		
Date	2/19/22		

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057
Sheet 45 of 83

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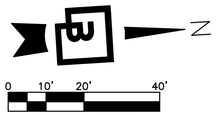
PEDESTRIAN BRIDGE PLAN AND PROFILE

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



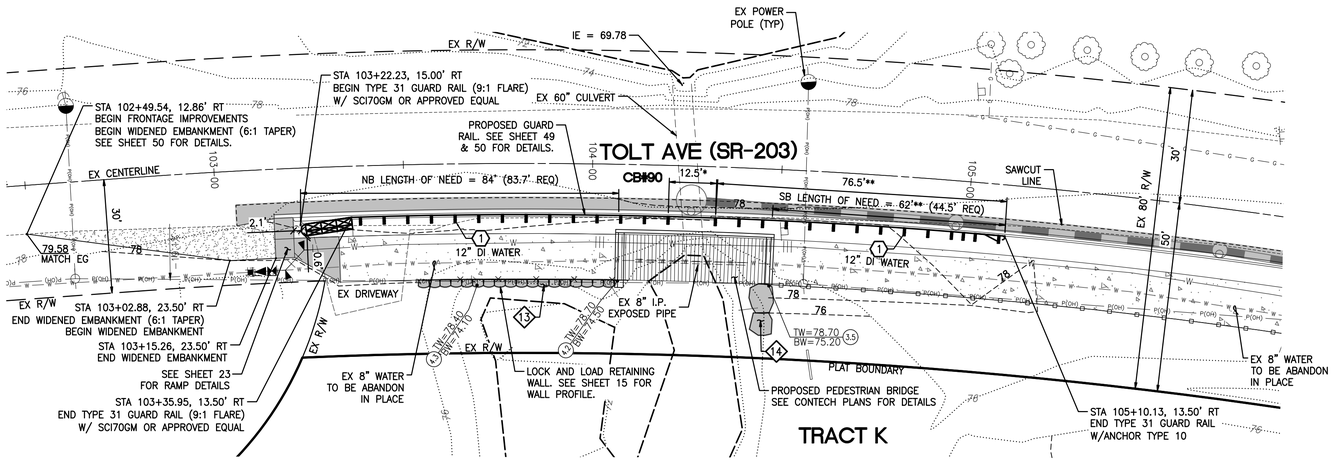
NOTES:
PEDESTRIAN BRIDGE AND RETAINING WALL TO BE PERMITTED SEPARATELY.

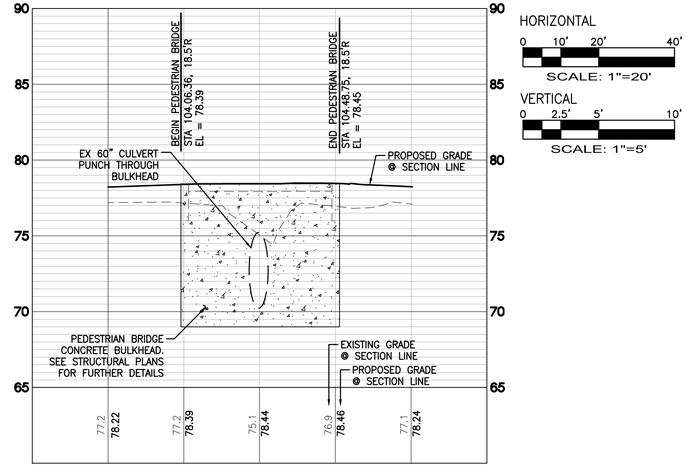
GUARD RAIL NOTE:
STATION AND OFFSET OF GUARD RAIL ARE ALONG THE FACE OF RAIL.

(1) GUARD RAIL POST ALONG TOLT AVE SHALL BE 8 FEET LONG PER WSDOT EXHIBIT 1610-9.

* OMIT ONE POST OVER EXISTING 60" CULVERT @ STA 104+26.59, 13.5' RT PER WSDOT STD C-20.40-08. SEE SHEET 50 FOR DETAILS.

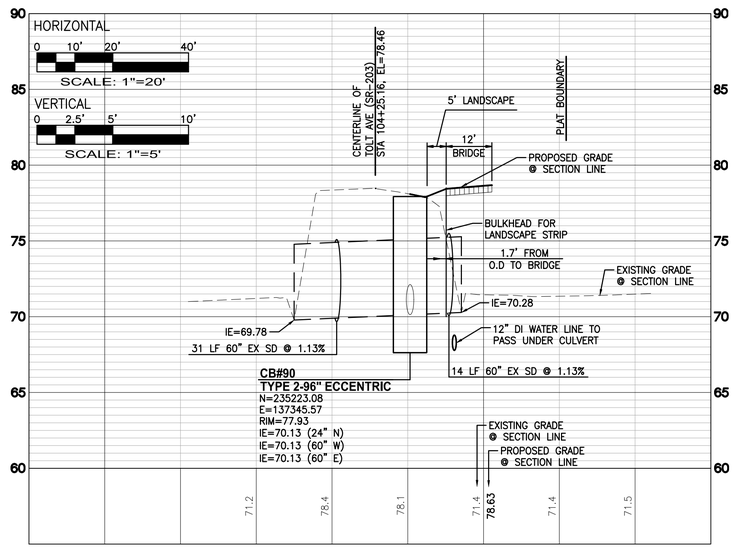
** MINIMUM OF 75' FROM OMITED POST TO ANCHORAGE POST.





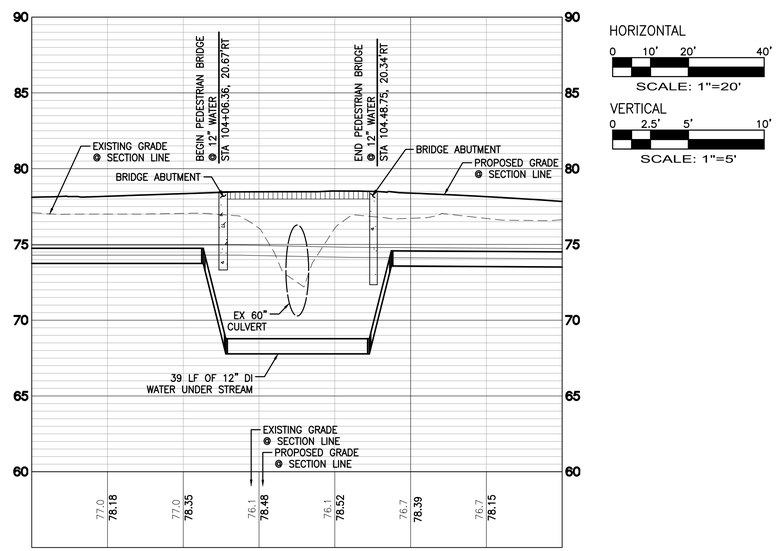
BRIDGE CROSSING 18.5'R FROM CENTERLINE

H: 1"=20' V: 1"=5'



EX 60" CULVERT

H: 1"=20' V: 1"=5'



BRIDGE CROSSING AT 12" WATER LINE

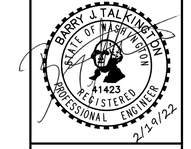
H: 1"=20' V: 1"=5'

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: PEDESTRIAN BRIDGE PLAN AND PROFILE FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004



Scale:	Horizontal	1" = 20'	Vertical	1" = 5'
Designed	RK	Drawn	RK	
Checked	BJT	Approved	BJT	
Date	2/19/22			

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

Sheet 46 of 83

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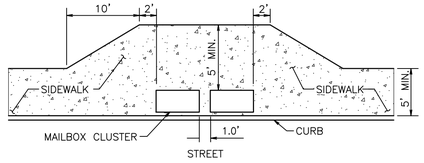
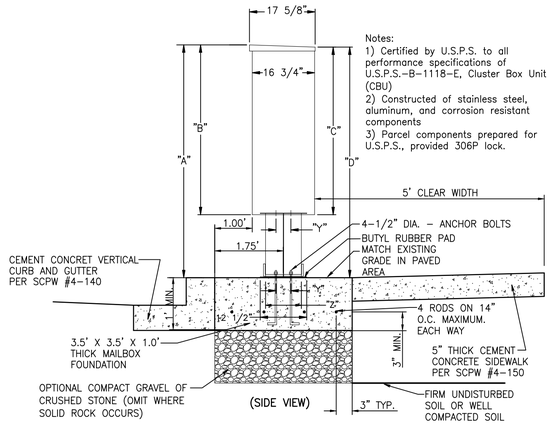
GENERAL NOTES AND DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

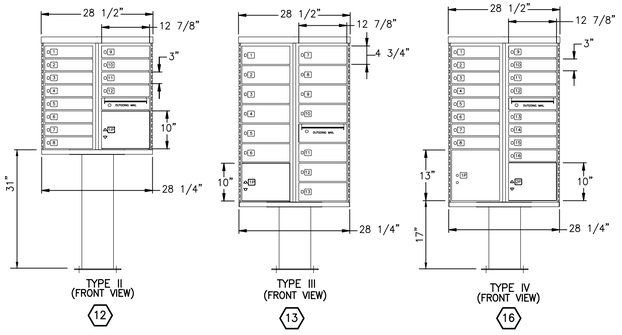


(PLAN VIEW)



Notes:
1) Certified by U.S.P.S. to all performance specifications of U.S.P.S.–B–1118–E, Cluster Box Unit (CBU)
2) Constructed of stainless steel, aluminum, and corrosion resistant components
3) Parcel components prepared for U.S.P.S., provided 306P lock.

GENERAL NOTES:
1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, CONTAIN 4% MIN. – 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3 1/2" – 4 1/2" SLUMP IN ACCORDANCE WITH ACI 301.
2. REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615. GRADE 40.
3. ANCHOR BOLTS SHALL CONFORM TO ASTM A193. B8M (316) STAINLESS STEEL.
4. SEE SHEET 15 AND 16 FOR LOCATIONS

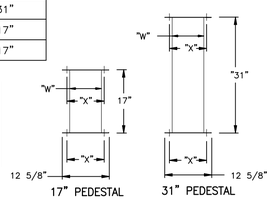


UNIT TYPES

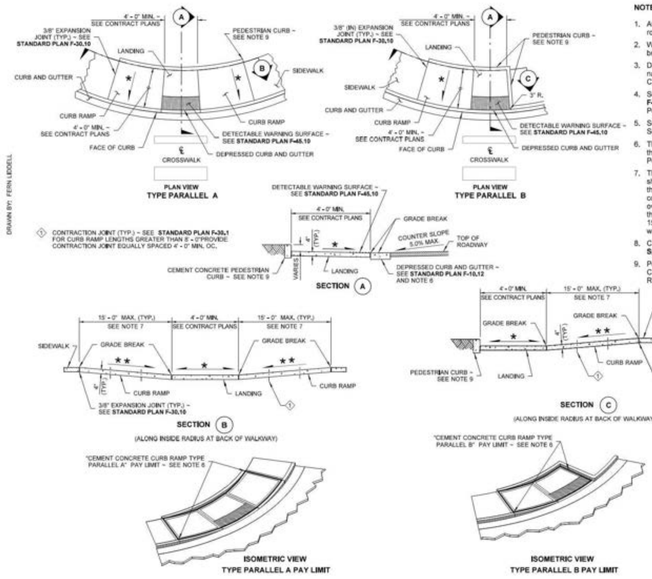
TYPE	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	PEDESTAL
TYPE I	62 1/2"	31 1/2"	30 7/8"	62"	31"
TYPE II	62 1/2"	31 1/2"	30 7/8"	62"	31"
TYPE III	62 1/2"	45 9/16"	45"	62"	17"
TYPE IV	62 1/2"	45 9/16"	45"	62"	17"

H.D. PEDESTAL

TYPE	DIM. "W"	DIM. "X" (CTR TO CTR) HOLE LOC.	DIM. "Y" (CTR TO CTR) HOLE LOC.	DIM. "Z"
17"	8 1/2"	10"	4"	9 5/8"
31"	8 1/2"	10"	4"	9 5/8"



COLLECTION BOX UNIT (CBU) DETAIL
NOT TO SCALE

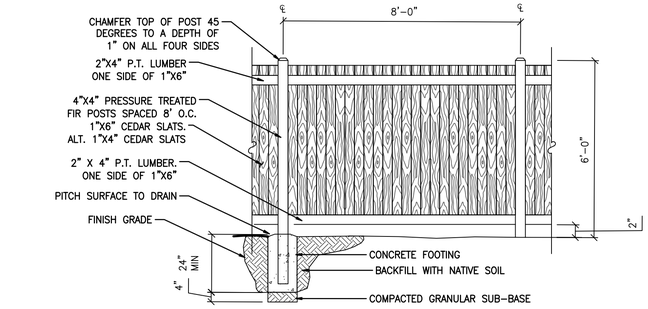


NOTES
1. At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

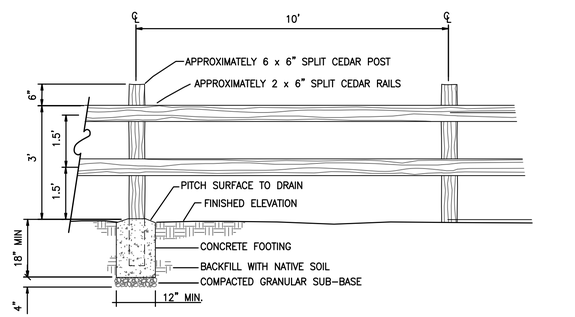
LEGEND
* SLOPE IN EITHER DIRECTION
1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) – SEE NOTE 7

R. SCOTT ZELLER STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
Zeller, Scott
Jan 24 2016 7:19 AM

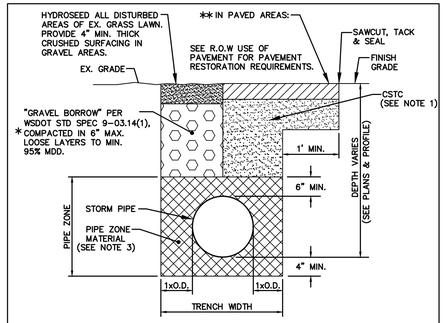
PARALLEL CURB RAMP
STANDARD PLAN F-40.12-03
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jan 29 2016 2:27 PM
Washington State Department of Transportation



SOLID BOARD WOOD FENCE
NOT TO SCALE



36" HT SPLIT RAIL FENCE
NOT TO SCALE



NOTE:
1. PERPENDICULAR, OPEN CUT TRENCH CROSSINGS WITHIN THE RIGHT–OF–WAY SHALL BE BACKFILLED WITH 100% CRUSHED SURFACING TOP COURSE (CSTC) PER WSDOT 9–03.9 (3).
2. MINIMUM COVER FOR STORM PIPE SHALL BE 3'
3. PIPE ZONE MATERIAL PER WSDOT 9–03.12(3).
4. COMPACTION SHALL BE,AT LEAST 95% OF MAXIMUM DENSITY,PER WSDOT STANDARD SPECIFICATION SECTION 2–03.3(14)D.

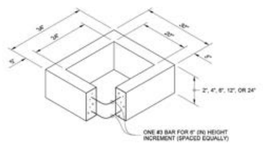
* BACKFILL COMPACTION ON PRIVATE EASEMENTS WHICH ARE NOT USED FOR DRIVING PURPOSES SHALL BE MINIMUM 90% MAX. DRY DENSITY (MDD).

** IN R.O.W MATCH EXISTING PAVEMENT SECTION PLUS 1", BUT NOT LESS THAN 4" ACP CLASS ½" PG.64–22 OVER 6" CSTC (COMPACTED THICKNESS), TACK & SEAL NEAT LINES.

LOCHNER (425)-454-3160

TYPICAL TRENCH DETAIL
11/2018
DWG NO. D-4

FRAME AND VANED GRATE

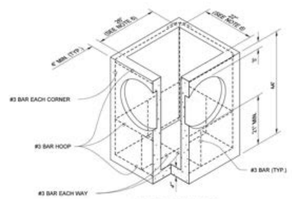


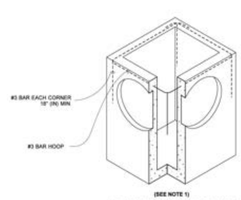
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP ★ (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

★ CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES
1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE **PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3.**
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the **Precast Base Section.**
7. All pickup holes shall be grouted full after the basin has been placed.





R. SCOTT ZELLER STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
Zeller, Scott
Jan 25 2017 2:55 PM

CATCH BASIN TYPE 1
STANDARD PLAN B-5.20-02
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jan 26 2017 11:46 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: GENERAL NOTES AND DETAILS
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON STATE OF WASHINGTON 41423 REGISTERED PROFESSIONAL ENGINEER
2/19/22

Scale: Horizontal N/A Vertical N/A

Designed RK
Drawn RK
Checked BJT
Approved BJT
Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057
Sheet 47 of 83

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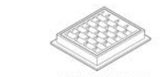
GENERAL NOTES AND DETAILS

FOR

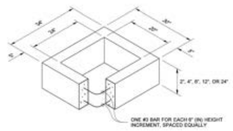
PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.

CITY OF CARNATION, KING COUNTY, WASHINGTON



FRAME AND VANED GRATE



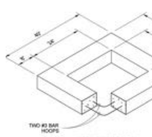
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	18"
ALL METAL PIPE	21"
CPSSP ★ (STD. SPEC. SECT. 9-05.20)	18"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	21"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	21"

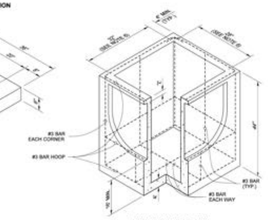
★ CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

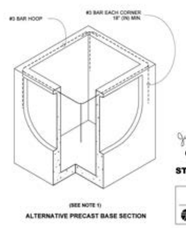
1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot, shall be used with the minimum required rebar shown in the ALTERNATIVE **PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout shall not be greater than 26" (in), in any direction. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the Precast Base Section.
7. All pickup holes shall be grouted full after the basin has been placed.



REDUCING SECTION

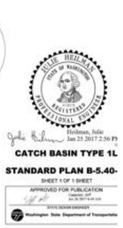


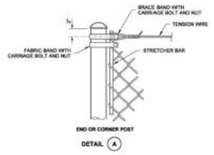
PRECAST BASE SECTION



(SEE NOTE 1)

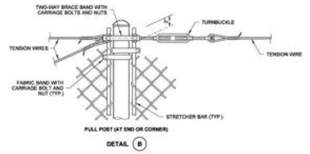
ALTERNATIVE PRECAST BASE SECTION





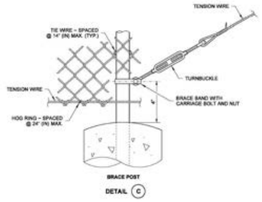
END OR CORNER POST

DETAIL (A)



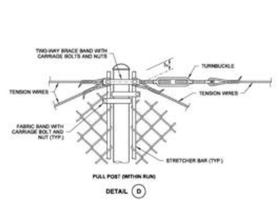
PULL POST (AT END OR CORNER)

DETAIL (B)



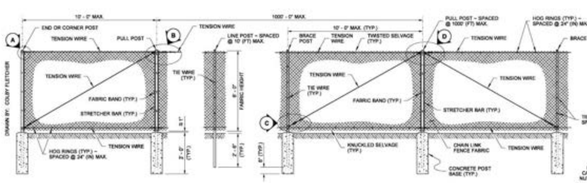
BRACE POST

DETAIL (C)



PULL POST (WITHIN RUN)

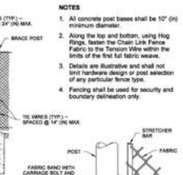
DETAIL (D)



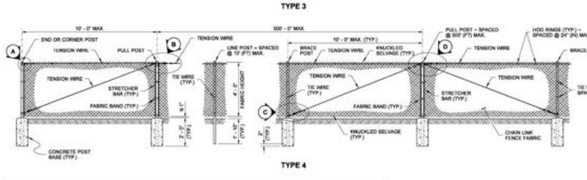
TYPE 3

NOTES

1. All concrete post bases shall be 10" (in) minimum diameter.
2. Along the top and bottom, using Hog Rings, fasten the Chain Link Fence Fabric to the Tension Wire within the limits of the first full fabric weave.
3. Details are illustrative and shall not limit hardware design or post selection of any particular fence type.
4. Fencing shall be used for security and boundary delineation only.

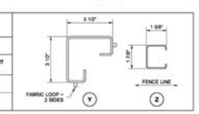


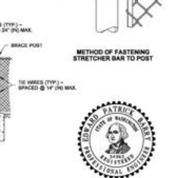
METHOD OF FASTENING STRETCHER BAR TO POST

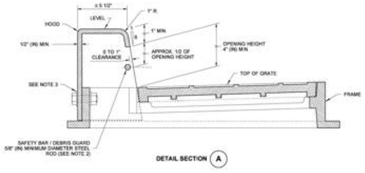


TYPE 4

POST AND RAIL SPECIFICATIONS			
POST	PIPE	ROLL FORMED	
	NOM. SIZE (SCH. 40) I.D.	SECTION	WEIGHT (lb/ft)
END, CORNER, OR PULL POST	2 1/2" DIAM.	Y	5.10
LINE OR BRACE POST	2" DIAM.	Z	1.65



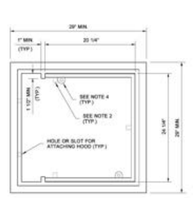




DETAIL SECTION (A)

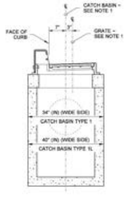
NOTES

1. This inlet requires the precast catch basin unit to be rotated 90 degrees so that the narrow side is parallel to the curb line. When calculating offsets from curb to centerline (CL) of the precast catch basin, please note that the CL of the grate is not the CL of the precast catch basin. See **Section A**.
2. The dimensions of the frame and hood may vary slightly among different manufacturers. The Frame may have cast features intended to support a debris guard. Hood units may be mounted inside or outside of the frame. The methods for fastening the safety bar / debris guard rod to the hood may vary. The hood may include casting lugs. The top of the hood may be cast with a pattern.
3. Attach the hood to the frame with two 3/4" (in) + 2" (in) hex head bolts, nuts, and oversize washers. The washers shall have diameters adequate to ensure full bearing across the slots.
4. Bolt-down capability is required on all frames, grates and covers, unless specified otherwise in the Contract. Provide two holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC + 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer. See **BOLT-DOWN DETAIL, Standard Plan B-30.10.**
5. Only ductile iron Vaned Grates shall be used. See **Standard Plans B-30.30 and B-30.40** for grate details. Refer to **Standard Specification Section 9-05.15(3)** for additional requirements.
6. This plan is intended to show the installation details of a manufactured product. This plan is not intended to show the specific details necessary to fabricate the castings depicted in this drawing.

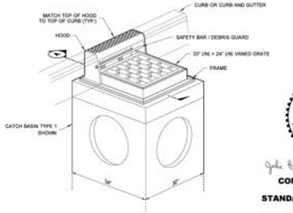


TOP VIEW

FRAME DETAIL



SECTION (A)



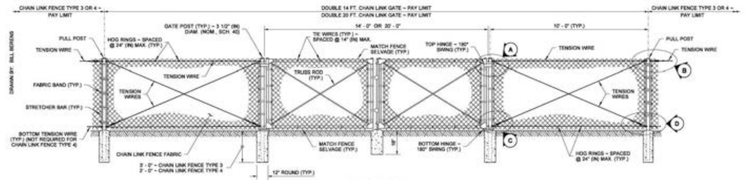
ISOMETRIC VIEW

COMBINATION INLET

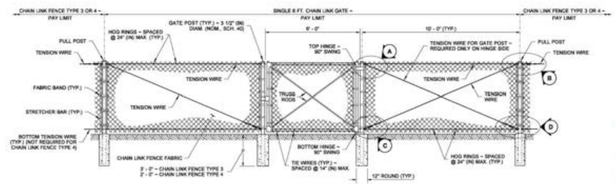
FRAME, HOOD, AND VANED GRATE

NOTES

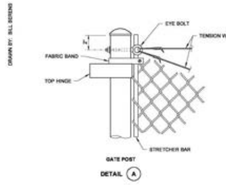
1. Materials shall meet the requirements of **Standard Specification 9-18**.



DOUBLE GATE

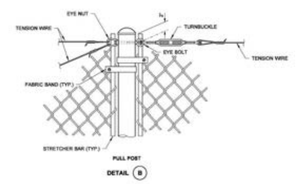


SINGLE GATE



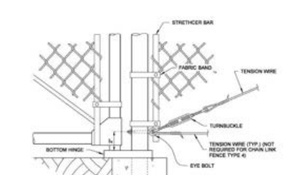
GATE POST

DETAIL (A)



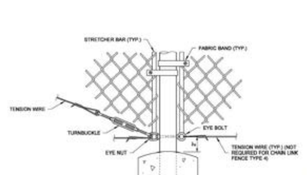
PULL POST

DETAIL (B)



GATE POST

DETAIL (C)



PULL POST

DETAIL (D)

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: GENERAL NOTES AND DETAILS

FOR

TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
#1423
REGISTERED
PROFESSIONAL ENGINEER
2/14/22

Designed	RK	Scale:	Horizontal	N/A
Drawn	RK			
Checked	BJT		Vertical	N/A
Approved	BJT	Date	2/19/22	

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

Sheet 48 of 83

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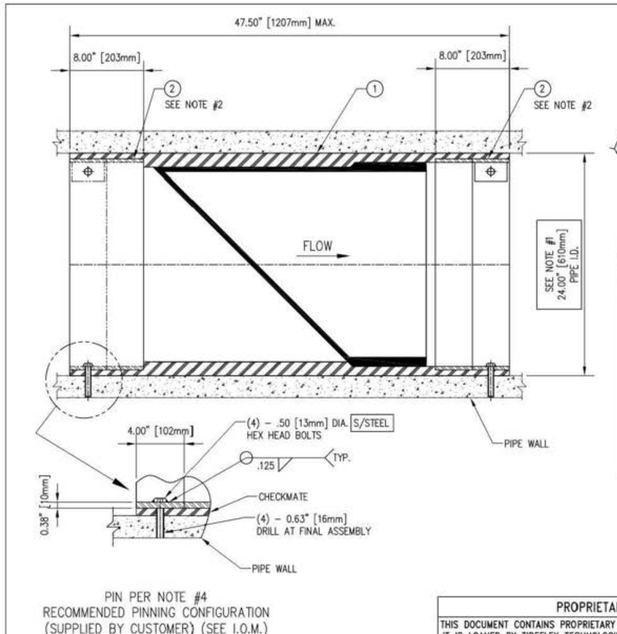
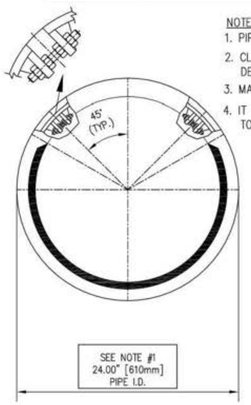
GENERAL NOTES AND DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



PIN PER NOTE #4
RECOMMENDED PINNING CONFIGURATION
(SUPPLIED BY CUSTOMER) (SEE I.O.M.)
NOT TO SCALE



ITEM	QTY.	DESCRIPTION	MAT'L
1	1	CHECKMATE CHECK VALVE	MUST BE SUPPLIED
2	2	CLAMP	MUST BE SUPPLIED

NOTES:
1. PIPE INSIDE DIAMETER – MUST BE SUPPLIED
2. CLAMPS INSTALLED IN UPSTREAM OR DOWNSTREAM CUFF DEPENDING ON INSTALLATION ORIENTATION
3. MAXIMUM ALLOWABLE BACK PRESSURE – 20.0 FEET
4. IT IS RECOMMENDED TO BOLT OR PIN TIDEFLEX TO PIPE AS SHOWN, 4 PLACES 90° APART

PRELIMINARY DRAWING
NOT FOR APPROVAL PURPOSES

SALES ORDER No:TXX–XXXX

CUSTOMER: XXX
ORDER No: XXX

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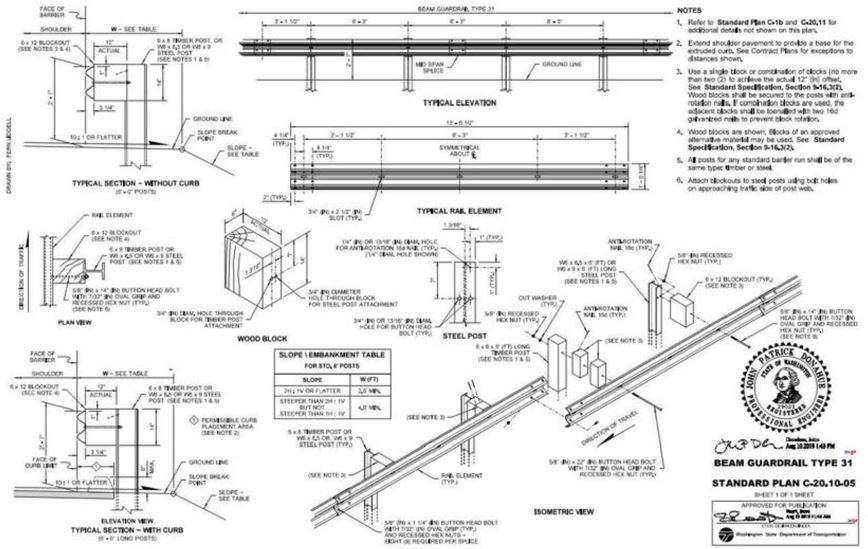
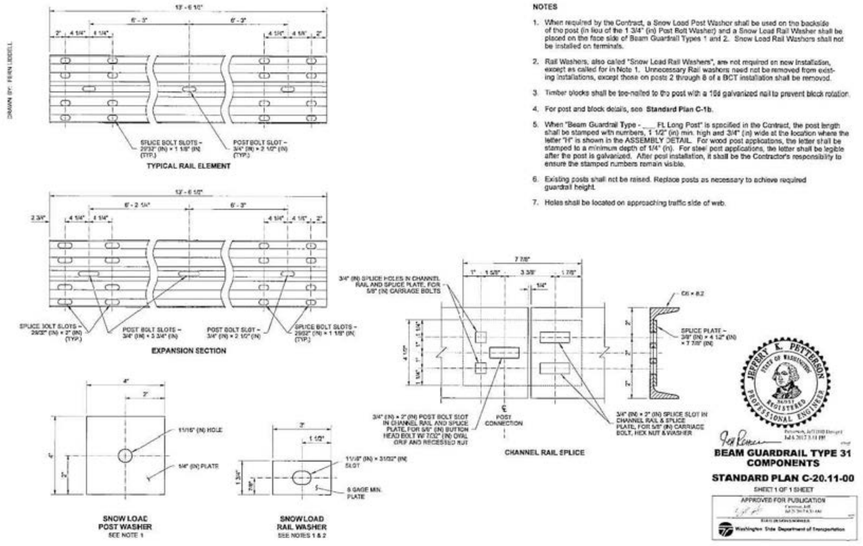
412.279.0044
fax 412.279.5410

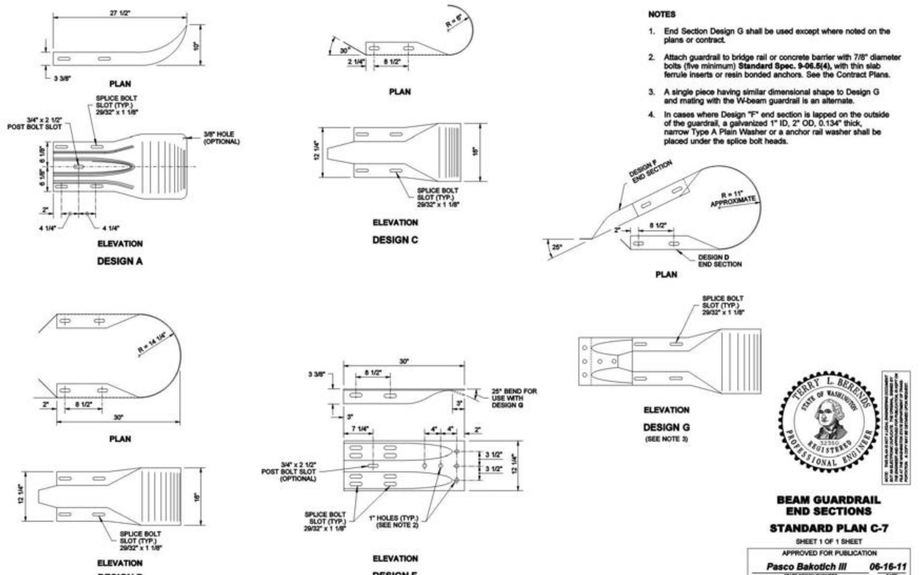
TT PRODUCT: 24" CHECKMATE CHECK VALVE
TT PART No: CMCB–240–APPROVAL
DR. BY: CJG DATE: 5–12–10 CHKD. BY: DATE:
CAD SCALE: FULL
PLOT SCALE: NTS
DWG No:TTS–DWG REV





NOTES
1. When required by the Contract, a Snow Load Post Washer shall be used on the backside of the post (in lieu of the 1 3/4" (in) Post Bolt Washer) and a Snow Load Rail Washer shall be placed on the face side of Beam Guardrail Types 1 and 2. Snow Load Rail Washers shall not be installed on terminals.
2. Rail Washers, also called "Snow Load Rail Washers", are not required on new installation, except as called for in Note 1. Unnecessary Rail washers need not be removed from existing installations, except those on posts 2 through 8 of a BCT installation shall be removed.
3. Timber blocks shall be toe-nailed to the post with a 16d galvanized nail to prevent block rotation.
4. For post and block details, see Standard Plan C-1b.
5. When "Beam Guardrail Type – ___ Ft Long Post" is specified in the Contract, the post length shall be stamped with numbers, 1 1/2" (in) min. high and 3/4" (in) wide at the location where the letter "H" is shown in the ASSEMBLY DETAIL. For wood post applications, the letter shall be stamped to a minimum depth of 1/4" (in). For steel post applications, the letter shall be legible after the post is galvanized. After post installation, it shall be the Contractor's responsibility to ensure the stamped numbers remain visible.
6. Existing posts shall not be raised. Replace posts as necessary to achieve required guardrail height.
7. Holes shall be located on approaching traffic side of web.

BEAM GUARDRAIL TYPE 31 COMPONENTS
STANDARD PLAN C-20.11-00
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Washington State Department of Transportation



NOTES
1. End Section Design G shall be used except where noted on the plans or contract.
2. Attach guardrail to bridge rail or concrete barrier with 7/8" diameter bolts (five minimum) Standard Spec. 9-06.5(4), with thin slab ferrule inserts or resin bonded anchors. See the Contract Plans.
3. A single piece having similar dimensional shape to Design G and mating with the W-beam guardrail is an alternate.
4. In cases where Design "F" end section is lapped on the outside of the guardrail, a galvanized 1" ID, 2" OD, 0.134" thick, narrow Type A Plain Washer or a anchor rail washer shall be placed under the splice bolt heads.

BEAM GUARDRAIL END SECTIONS
STANDARD PLAN C-7
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Pasco Bakotich III 06-16-11
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

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No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: GENERAL NOTES AND DETAILS
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON — STATE OF WASHINGTON — 21423 — REGISTERED PROFESSIONAL ENGINEER — 2/14/22

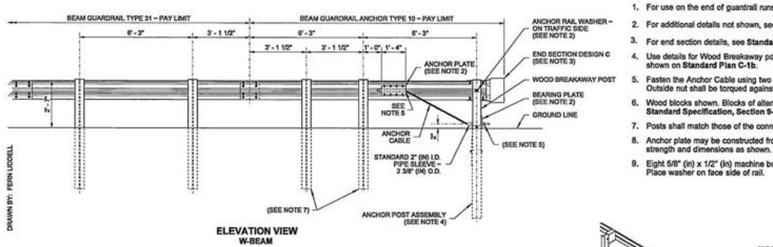
Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Designed RK | Drawn — RK | Checked BJT | Approved BJT | Date 2/19/22
Scale: Horizontal N/A | Vertical N/A

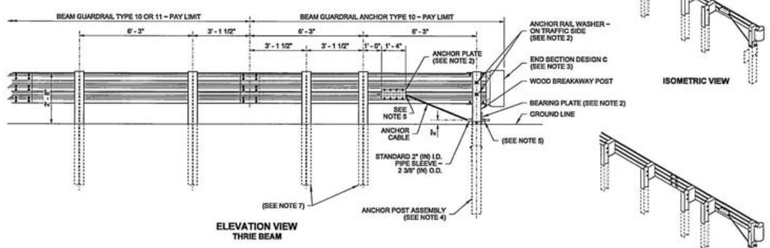
Job Number 18057
Sheet 49 of 83

P:\18000s\18057\engineering\18057-md3.dwg 12/2/2021 10:37 AM TSKODA

GENERAL NOTES AND DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

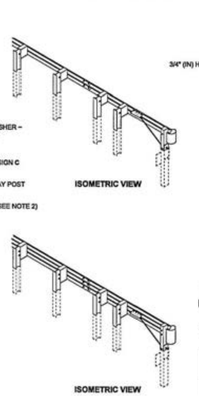


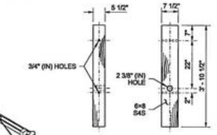
ELEVATION VIEW
W-BEAM



ELEVATION VIEW
THRIE BEAM

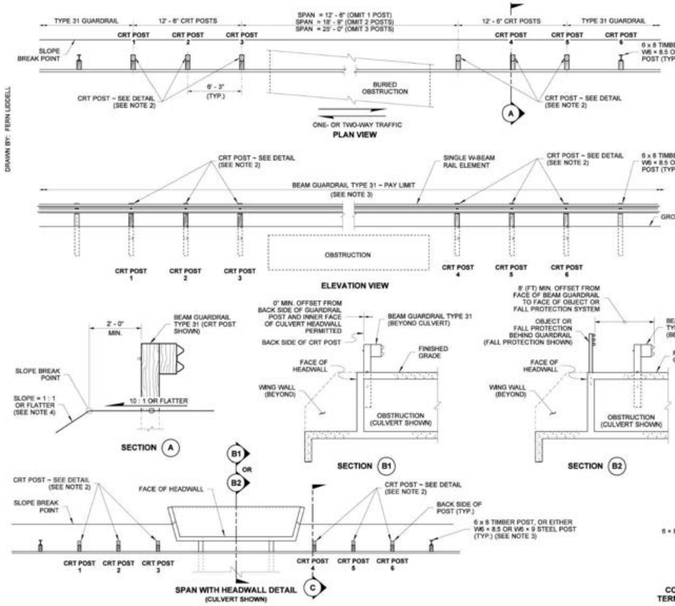
NOTES
1. For use on the end of guardrail runs when a crashworthy terminal is not required.
2. For additional details not shown, see **Sheet 2** of this Plan.
3. For end section details, see **Standard Plans C-7** and **C-7a.**
4. Use details for Wood Breakaway post shown on this plan and components shown on **Standard Plan C-1b.**
5. Fasten the Anchor Cable using two 1" (in) nuts and washer, at both ends of cable. Outside nut shall be torqued against inside nut a minimum of 100 ft.-lbs.
6. Wood blocks shown. Blocks of alternate material may be used. See **Standard Specification, Section 9-16.3(2).**
7. Posts shall match those of the connecting run: timber or steel.
8. Anchor plate may be constructed from 1/4" (in) plates welded to equal strength and dimensions as shown.
9. Eight 5/8" (in) x 1/2" (in) machine bolts with hex nut and washer. Place washer on face side of rail.



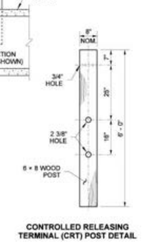


WOOD BREAKAWAY POST DETAIL

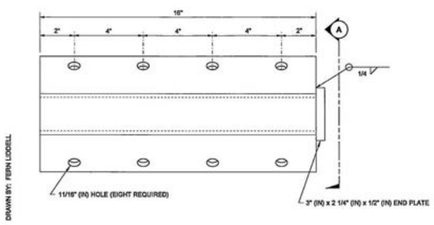
Jeffery E. Petterson, State of Washington, 36833, Registered Professional Engineer
Petterson, Jeff (HQ Design)
Jul 6 2017 3:13 PM
BEAM GUARDRAIL (TYPE 31) ANCHOR TYPE 10
STANDARD PLAN C-23.60-04
SHEET 1 OF 2 SHEETS
APPROVED FOR PUBLICATION
Washington State Department of Transportation



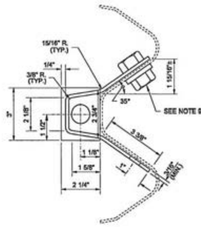
NOTES
1. For additional details not shown on this plan, refer to **Standard Plan C-20.10** and **C-1b.**
2. CRT post to be wood.
3. Install at least **62' - 6"** (ft) (10 post spacings) of Type 31 guardrail upstream and downstream from CRT posts **1** thru **6.**
4. Grading requirements for spans without headwalls must begin at least **43.75'** (ft) (7 posts spacings) before CRT post **3**, extend thru the obstruction area, and end at least **43.75'** (ft) (7 post spacings) after CRT post **4.**
5. Grading requirements for spans w/ headwalls must extend **43.75'** (ft) (7 post spacings) minimum up stream and down-stream from CRT posts **3** and **4.**



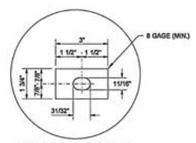
John Patrick Donahue, State of Washington, 29023, Registered Professional Engineer
Aug 17, 2021
BEAM GUARDRAIL TYPE 31 PLACEMENT 12'- 6", 18' - 9", OR 25' - 0" SPAN
STANDARD PLAN C-20.40-08
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Aug 20, 2021
Washington State Department of Transportation



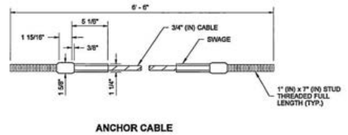
ELEVATION
ANCHOR PLATE
(SEE NOTE 8)



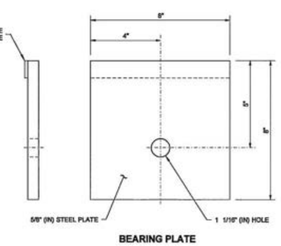
SECTION A



ANCHOR RAIL WASHER

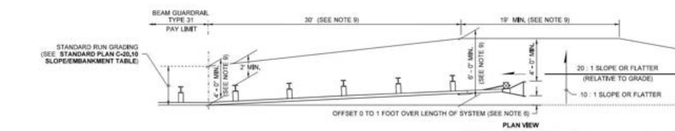


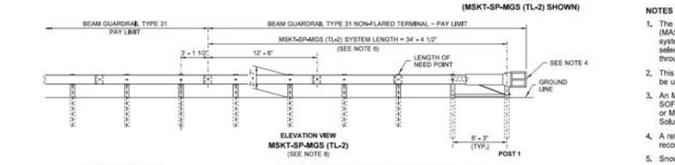
ANCHOR CABLE

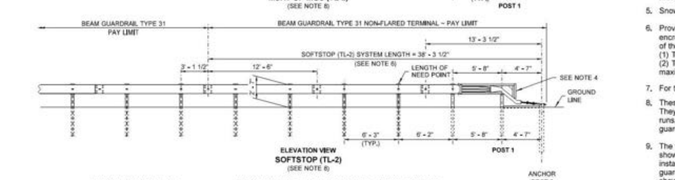


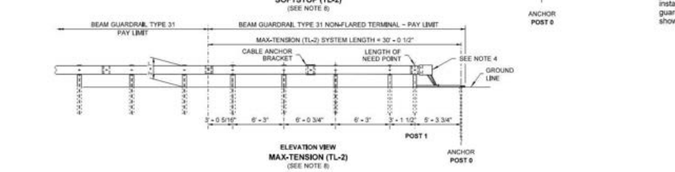
BEARING PLATE

Jeffery E. Petterson, State of Washington, 36833, Registered Professional Engineer
Petterson, Jeff (HQ Design)
Jul 6 2017 3:13 PM
BEAM GUARDRAIL (TYPE 31) ANCHOR TYPE 10
STANDARD PLAN C-23.60-04
SHEET 2 OF 2 SHEETS
APPROVED FOR PUBLICATION
Washington State Department of Transportation









NOTES
1. The Implementation of the Manual for Assessment of Safety Hardware (MASH) criteria may result in the acceptance of guardrail terminal systems currently not shown on this plan. Non-Flared terminals shall be selected from the WSDOT Qualified Products List (QPL) or approved through the WSDOT Request for Approval of Materials (RAM) process.
2. This terminal is MASH compliant at Test Level Two (TL-2) and may be used in applications with posted speed of 45 mph or less.
3. An MSKT-SP-MGS (TL-2) as manufactured by Road Systems, Inc, SOFTSTOP (TL-2) as manufactured by Trinity Highway Products, LLC, or MAX-TENSION (TL-2) as manufactured by Lindsay Transportation Solutions, shall be installed according to manufacturer's recommendations.
4. A reflectorized object marker shall be installed according to manufacturer's recommendations.
5. Snow load rail washers shall not be installed within the terminal limits.
6. Provide an offset between 0 to 1 foot so that the impact head does not encroach onto the paved shoulder. The offset is provided over the length of the terminal system from the center of the last post splice to either: (1) The face of the impact head at its leading edge (MSKT-SP-MGS), or (2) The center of anchor **Post 0** (Softstop or Max-Tension). Provide the maximum offset where practicable.
7. For terminal details, see WSDOT approved manufacturer's drawings.
8. These terminals are supplied with steel posts only. They can be used with beam guardrail Type 31 runs, composed of steel or wood guardrail posts.
9. The widened embankment dimensions shown on this plan will satisfy the installation requirements of all 3 guardrail terminal systems shown on this plan.

John Patrick Donahue, State of Washington, 29023, Registered Professional Engineer
2020.08.27 09:47:19 -07'00'
BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL (POSTED SPEED 45 MPH AND BELOW)
STANDARD PLAN C-22.45-05
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Date: 2020.09.16 09:54:40 -07'00'
Washington State Department of Transportation

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No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: GENERAL NOTES AND DETAILS
FOR
TOLT RIVER TERRACE

For:
MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

Barry J Talkington, State of Washington, 41423, Registered Professional Engineer
2/19/22

Scale: Horizontal N/A; Vertical N/A
Designed RK — Drawn RK — Checked BJT — Approved BJT — Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057
Sheet 50 of 83

P:\18000s\18057\engineering\18057-md4.dwg 12/2/2021 10:37 AM TSKODA

WATER PLAN - WEST SIDE
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON

N

0 25' 50' 100'
SCALE: 1"=50'

NOTE:
WATER METER SIZE TBD BASED ON FIRE SPRINKLER REQUIREMENTS. REQUIRED FIRE SPRINKLER INSTALLATIONS TBD WITH BUILDING PERMIT REVIEW.

CONNECT TO EX 8" WATER. IF EX LINE IS NOT DUCTILE IRON, NOTIFY ENGINEER, EXISTING WATER SHALL BE REPLACED TO 8" DI.

EX 8" WATER
EX 12" WATER
EX 6" SEWER
EX WATER TO BE ABANDONED
TOLT MIDDLE SCHOOL
RIVERVIEW SCHOOL DISTRICT 407
212507-9033
KING COUNTY FIRE DISTRICT 10
212507-9064
PLAT BOUNDARY
IRRIGATION SERVICE
IRRIGATION SERVICE W/ BFPD (TYP)
1" WATER SERVICE (TYP.)
8" WATER
PROPOSED WATER CONNECTION
EX 8" WATER TO BE ABANDONED IN PLACED
PROPOSED SEWER (TYP)
PROPOSED STORM (TYP)
BEARING PAD ELEVATION (TYP)
SEE SHEETS 71 AND 72 FOR SIGNAGE DETAILS

TRACT A OPEN SPACE
TRACT B ACCESS TRACT
TRACT C OPEN SPACE
TRACT D OPEN SPACE
TRACT E ACCESS TRACT
TRACT F ACCESS TRACT
TRACT G OPEN SPACE
TRACT H DRAINAGE FACILITY 77.50
TRACT I ACCESS TRACT
TRACT J OPEN SPACE
TRACT K OPEN SPACE/FUTURE CONVEYANCE

ROAD A (MINOR COLLECTOR STREET)
ROAD B (MINOR COLLECTOR STREET)
ROAD C (MINOR COLLECTOR STREET)
ROAD C (LOCAL ACCESS STREET)
ROAD D (LOCAL ACCESS STREET)
ROAD E (LOCAL ACCESS STREET)
TOLT AVE (SR-203) (FRONTAGE ROAD)

SEE SHEET 52 FOR CONTINUATION

1 STA 10+24.24, 6.00' LT
1-8" CUT-IN TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

2 STA 10+93.26, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

2A STA 12+60.23, 6.00' LT
1-2" BLOW-OFF

3 STA 12+99.55, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

4 STA 15+00.75, 7.67' LT
1-8" 22 1/2° BEND (MJ)
CONC. THRUST BLOCKING

5 STA 15+55.92, 6.00' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

6 STA 16+07.11, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

7 STA 17+92.31, 6.00' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

6A STA 18+13.81, 6.00' LT
1-2" AIR/VACUUM VALVE

8 STA 20+90.74, 6.00' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

8A STA 21+77.23, 6.00' LT
1-2" BLOW-OFF

9 STA 21+39.54, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

10 STA 43+22.20, 15.51' LT
1-8" 45° BEND (MJ)
CONC. THRUST BLOCKING

11 STA 43+31.90, 6.00' LT
1-8" 45° BEND (MJ)
CONC. THRUST BLOCKING

12 STA 44+88.88, 8.87' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

12A STA 44+98.61, 8.92' LT
1-2" BLOW-OFF

13 STA 45+17.45, 7.74' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

14 STA 45+29.91, 6.00' LT
1-8" 22 1/2° BEND (MJ)
CONC. THRUST BLOCKING

15 STA 45+99.89, 6.00' LT
1-8" 22 1/2° BEND (MJ)
CONC. THRUST BLOCKING

16 STA 46+86.21, 6.00' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

17 STA 49+34.21, 6.00' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

18 STA 31+44.60, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

18A STA 32+00.84, 6.00' LT
1-2" BLOW-OFF

19 STA 33+55.56, 10.43' LT
1-8" 22 1/2° BEND (MJ)
CONC. THRUST BLOCKING

20 STA 60+41.35, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

21 STA 62+49.21, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (FLXMJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

22A STA 63+23.87, 6.00' LT
1-2" BLOW-OFF

22 STA 63+85.24, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

23 STA 70+40.10, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Chkd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: WATER PLAN - WEST SIDE FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
41423
REGISTERED
PROFESSIONAL ENGINEER
2/18/22

Designed RK | Drawn RK | Checked BJT | Approved BJT | Date 2/19/22
Scale: Horizontal 1" = 50' | Vertical N/A

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Job Number 18057
Sheet 51 of 83

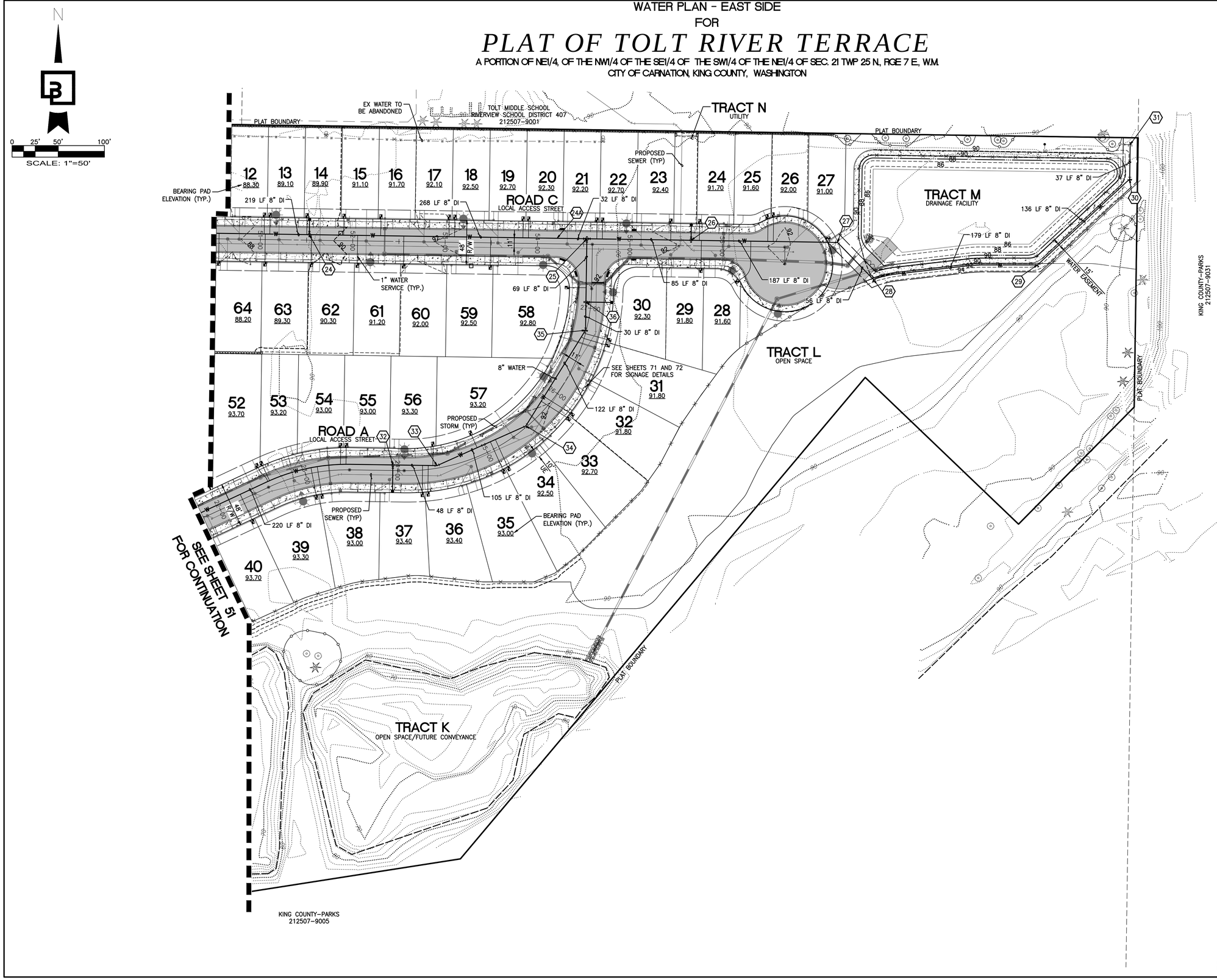
P:\18000s\18057\engineering\18057-w1.dwg 2/18/2022 1:34 PM TSKODA

WATER PLAN - EAST SIDE

FOR

PLAT OF TOLT RIVER TERRACE

A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, W.M.
CITY OF CARNATION, KING COUNTY, WASHINGTON



NOTE:

WATER METER SIZE TBD BASED ON FIRE SPRINKLER REQUIREMENTS. REQUIRED FIRE SPRINKLER INSTALLATIONS TBD WITH BUILDING PERMIT REVIEW.

(24) STA 51+52.96, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

(24A) STA 54+21.07, 6.00' LT
1-2" BLOW-OFF

(25) STA 54+53.34, 6.00' LT
1-8" TEE (FL)
3-8" GATE VALVES (FLxMJ)
CONC. THRUST BLOCKING

(26) STA 55+66.13, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (FLXMJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

(27) N:235819.94
E:1375306.22
1-8" GATE VALVE (MJXFL)
1-8" 45° BEND (MJXFL)
CONC. THRUST BLOCKING

(28) N:235779.75
E:1375345.18
1-WATER SAMPLING STATION
1-8" 45° BEND (MJ)
CONC. THRUST BLOCKING

(29) N:235795.60
E:1375522.72
1-8" 45° BEND (MJ)
CONC. THRUST BLOCKING

(30) N:235888.59
E:1375622.45
1-8" 45° BEND (MJ)
CONC. THRUST BLOCKING

(31) N:235925.78
E:1375622.96
1-8" CAP (FL)
1-2" BLOW-OFF
CONC. THRUST BLOCKING

(32) STA 23+94.73, 6.00' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

(33) STA 24+43.31, 2.77' LT
1-8" 22 1/2° BEND (MJ)
CONC.THRUST BLOCKING

(34) STA 25+50.82, 1.19' LT
1-8" 22 1/2° BEND (MJ)
CONC. THRUST BLOCKING

(35) STA 26+75.63, 0.84' LT
1-8" 22 1/2° BEND (MJ)
CONC. THRUST BLOCKING

(36) STA 27+06.23, 5.45' LT
1-8"X6" TEE (MJXFL)
1-6" GATE VALVE (MJ)
1-FIRE HYDRANT ASSEMBLY
CONC. THRUST BLOCKING

CALL BEFORE YOU DIG:
1-800-424-5555

No.	Date	By	Ckd.	Appr.	Revision
3	12/01/21	RK	TJS	BJT	REVISED PER 1ST L&L BP REVIEW DATED 10/24/21
4	2/19/22	RK	TJS	BJT	REVISED PER 3RD REVIEW COMMENTS DATED 2/15/22

Title: WATER PLAN - EAST SIDE FOR *TOLT RIVER TERRACE*

For: MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004

BARRY J. TALKINGTON
STATE OF WASHINGTON
21423
REGISTERED
PROFESSIONAL ENGINEER
2/14/22

Scale: Horizontal 1" = 50' Vertical N/A

Designed RK Drawn RK Checked BJT Approved BJT Date 2/19/22

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number 18057

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