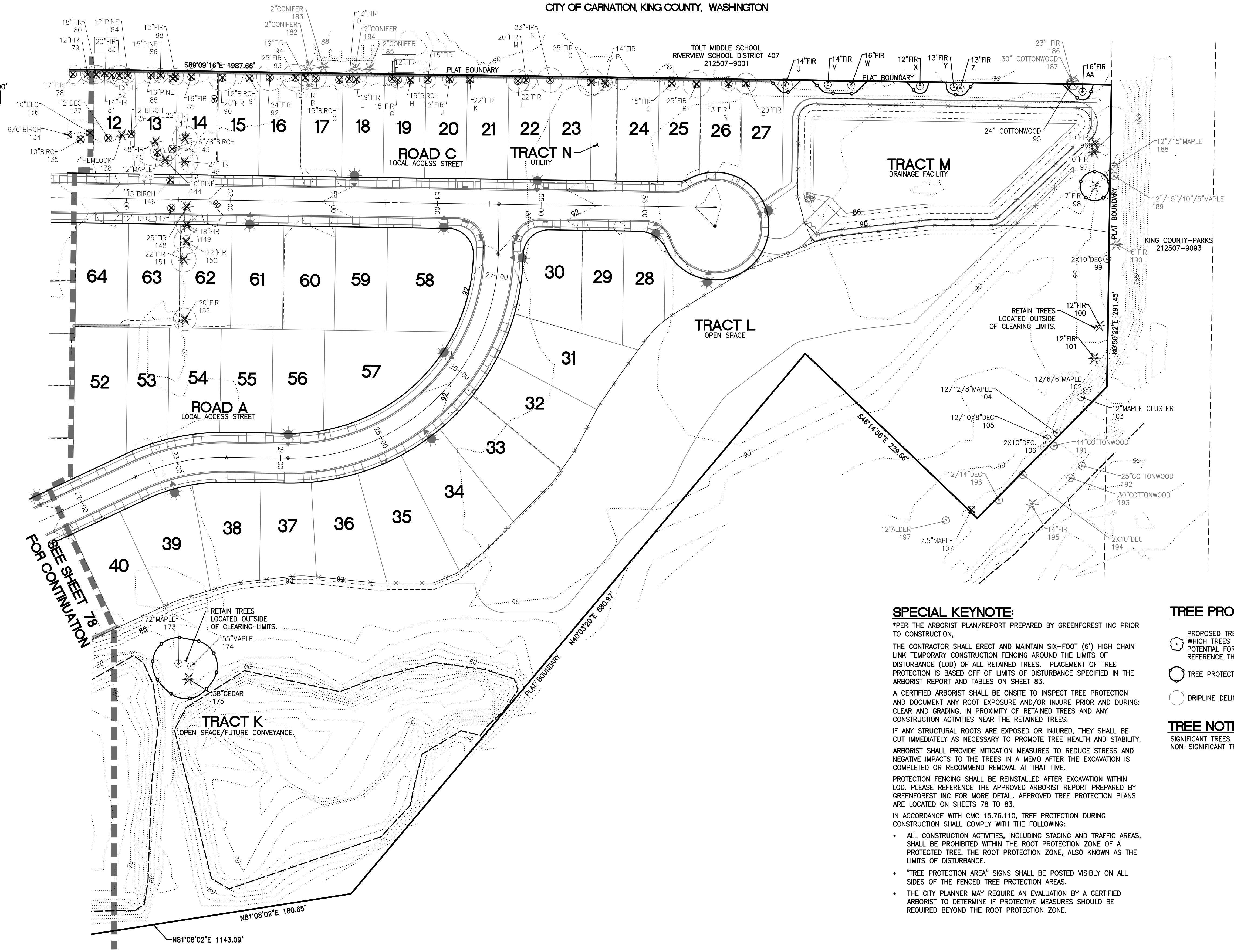
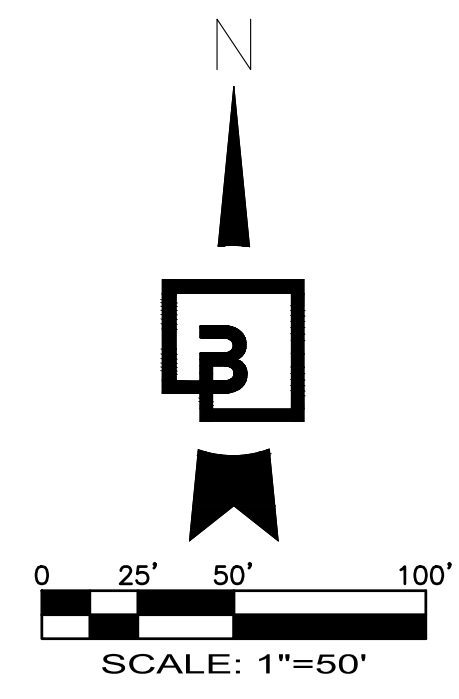


TREE RETENTION PLAN EAST
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



SEE SHEET 78
FOR CONTINUATION

SPECIAL KEYNOTE:
*PER THE ARBORIST PLAN/REPORT PREPARED BY GREENFOREST INC PRIOR TO CONSTRUCTION.
THE CONTRACTOR SHALL ERECT AND MAINTAIN SIX-FOOT (6') HIGH CHAIN LINK TEMPORARY CONSTRUCTION FENCING AROUND THE LIMITS OF DISTURBANCE (LOD) OF ALL RETAINED TREES. PLACEMENT OF TREE PROTECTION IS BASED OFF OF LIMITS OF DISTURBANCE SPECIFIED IN THE ARBORIST REPORT AND TABLES ON SHEET 83.
A CERTIFIED ARBORIST SHALL BE ONSITE TO INSPECT TREE PROTECTION AND DOCUMENT ANY ROOT EXPOSURE AND/OR INJURE PRIOR AND DURING CLEAR AND GRADING, IN PROXIMITY OF RETAINED TREES AND ANY CONSTRUCTION ACTIVITIES NEAR THE RETAINED TREES.
IF ANY STRUCTURAL ROOTS ARE EXPOSED OR INJURED, THEY SHALL BE CUT IMMEDIATELY AS NECESSARY TO PROMOTE TREE HEALTH AND STABILITY. ARBORIST SHALL PROVIDE MITIGATION MEASURES TO REDUCE STRESS AND NEGATIVE IMPACTS TO THE TREES IN A MEMO AFTER THE EXCAVATION IS COMPLETED OR RECOMMEND REMOVAL AT THAT TIME.
PROTECTION FENCING SHALL BE REINSTALLED AFTER EXCAVATION WITHIN LOD. PLEASE REFERENCE THE APPROVED ARBORIST REPORT PREPARED BY GREENFOREST INC FOR MORE DETAIL. APPROVED TREE PROTECTION PLANS ARE LOCATED ON SHEETS 78 TO 83.
IN ACCORDANCE WITH CMC 15.76.110, TREE PROTECTION DURING CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:

- ALL CONSTRUCTION ACTIVITIES, INCLUDING STAGING AND TRAFFIC AREAS, SHALL BE PROHIBITED WITHIN THE ROOT PROTECTION ZONE OF A PROTECTED TREE. THE ROOT PROTECTION ZONE, ALSO KNOWN AS THE LIMITS OF DISTURBANCE.
- "TREE PROTECTION AREA" SIGNS SHALL BE POSTED VISIBLY ON ALL SIDES OF THE FENCED TREE PROTECTION AREAS.
- THE CITY PLANNER MAY REQUIRE AN EVALUATION BY A CERTIFIED ARBORIST TO DETERMINE IF PROTECTIVE MEASURES SHOULD BE REQUIRED BEYOND THE ROOT PROTECTION ZONE.

TREE PROTECTION KEYNOTE:

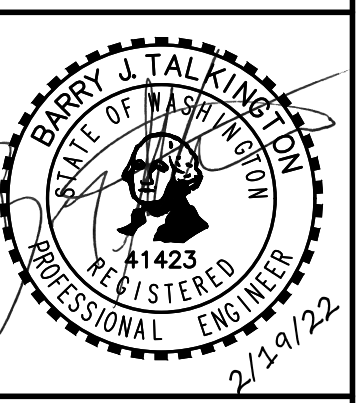
- PROPOSED TREE TO BE SAVED. FOR EXACT DETAIL AS TO WHICH TREES ARE BEING COUNTED AND THOSE WITH POTENTIAL FOR SAVING AND NOT BEING COUNTED PLEASE REFERENCE THE TREE RETENTION PLAN ON SHEET 78 TO 83.
- TREE PROTECTION FENCE*
- DRIPLINE DELINEATED

TREE NOTES:
SIGNIFICANT TREES TO BE RETAINED = 28
NON-SIGNIFICANT TREES TO BE RETAINED = 13

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

Title: **TREE RETENTION PLAN EAST FOR TOLT RIVER TERRACE**

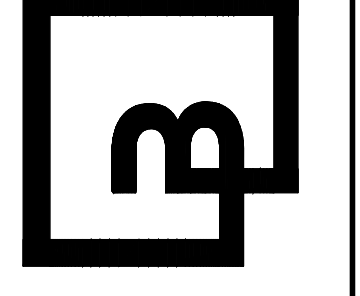
For: **MAINVUE WA LLC
110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004**



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

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

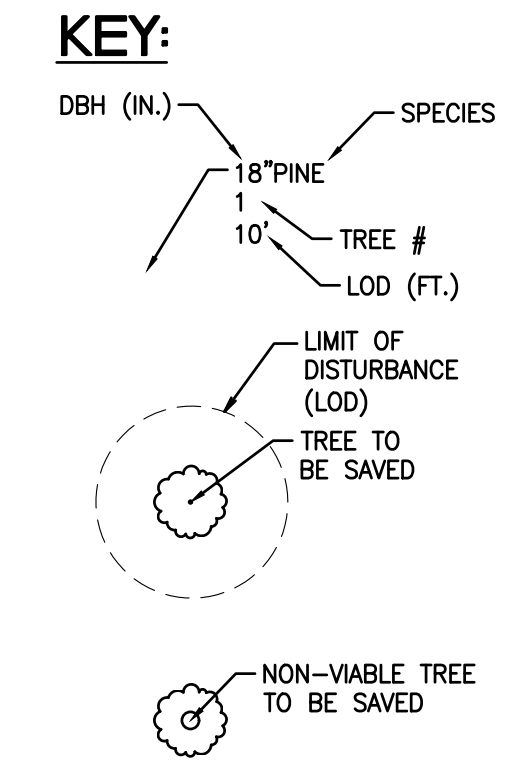
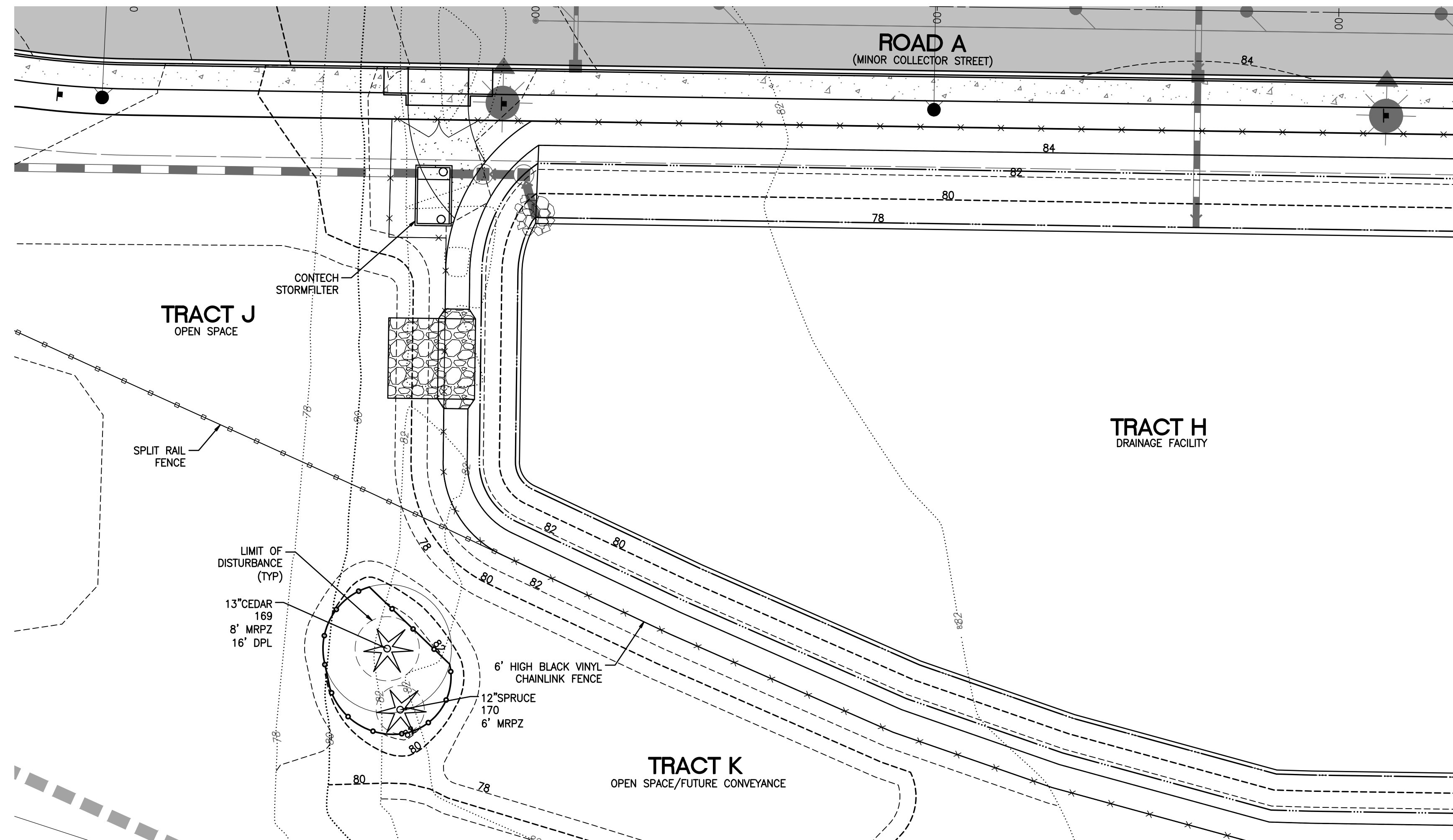
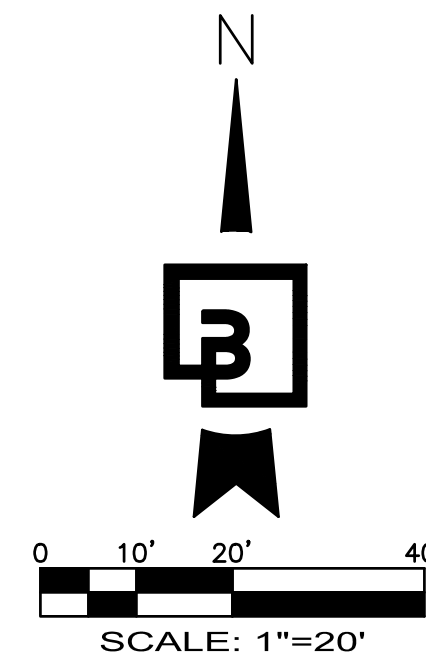
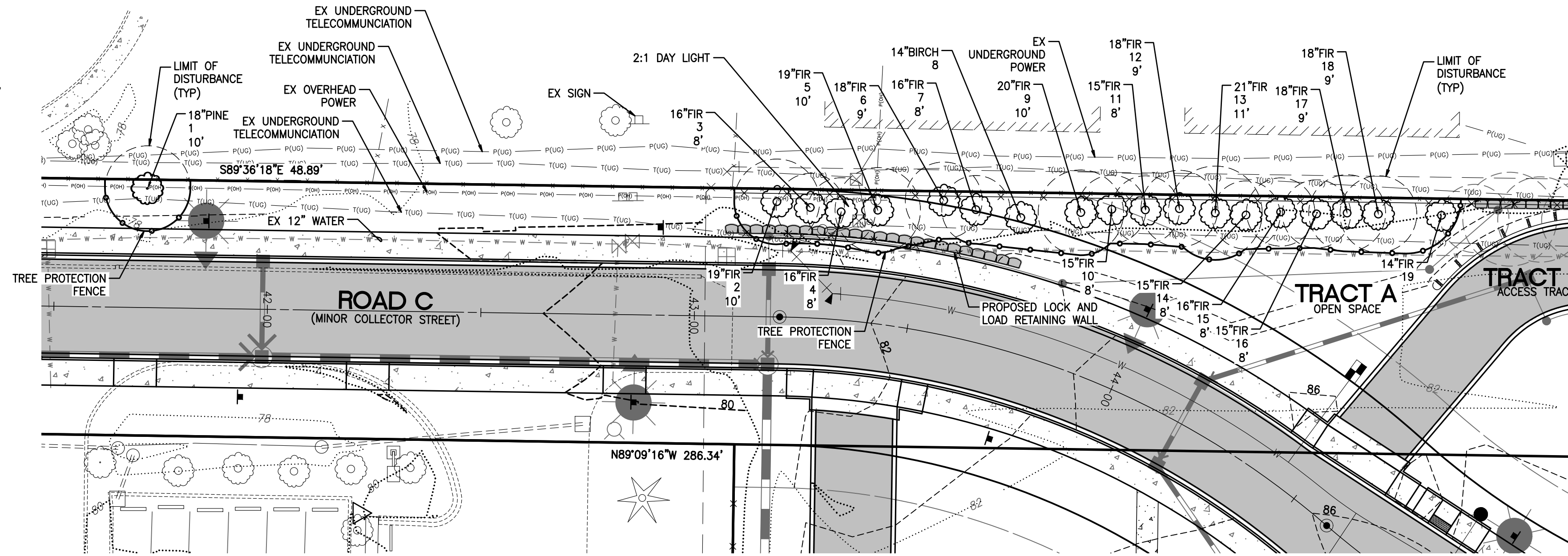
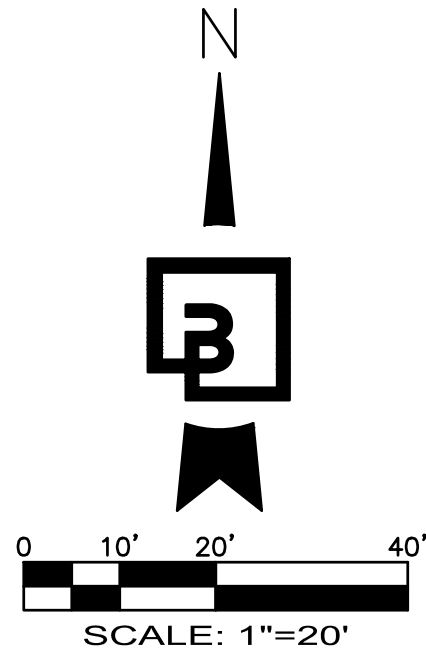
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Kent, WA 98032
425.251.6222 barghausen.com



Job Number: **18057**
Sheet: **79 of 83**

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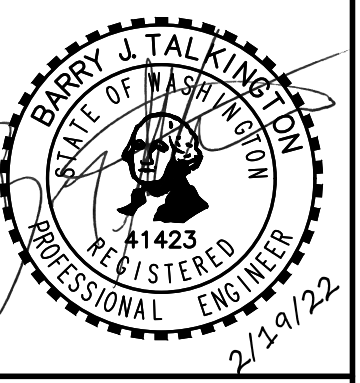
TREE RETENTION TRACT A, B AND H
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



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

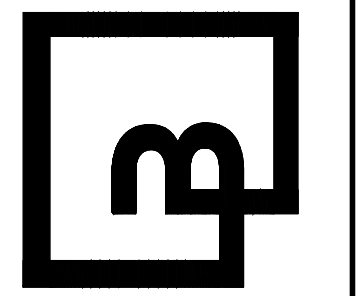
Title: TREE RETENTION TRACT A, B AND H
FOR TOLT RIVER TERRACE

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



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

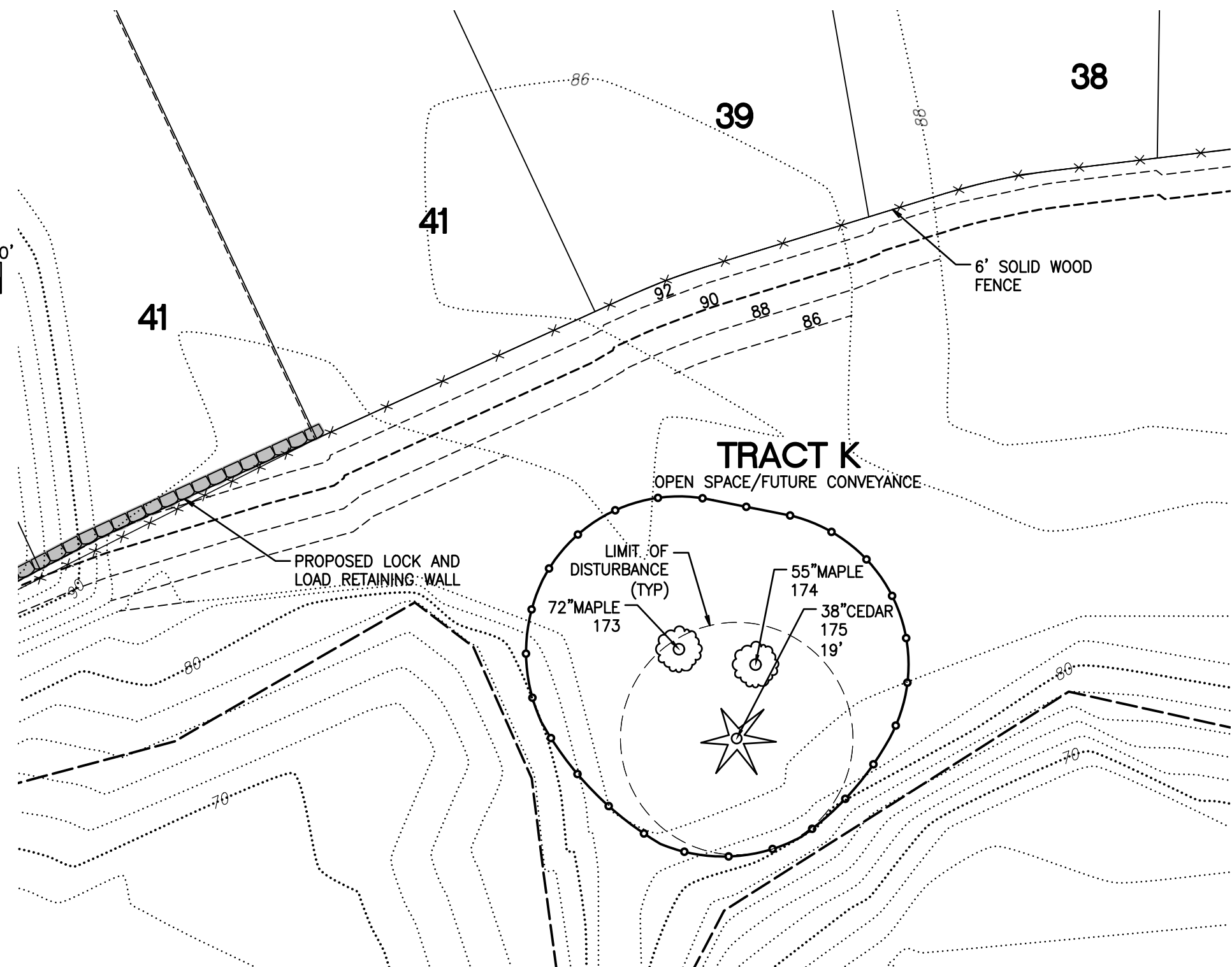
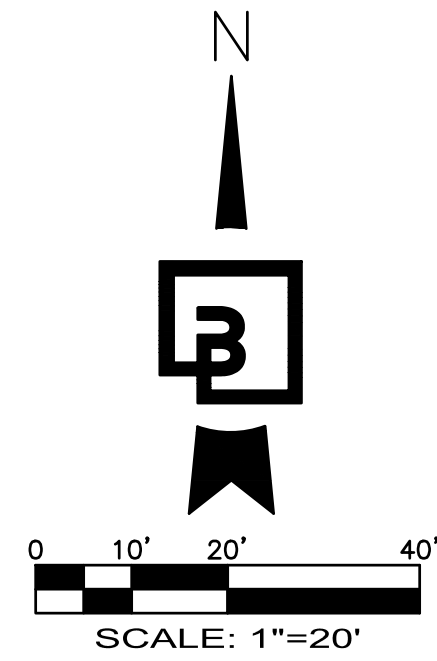
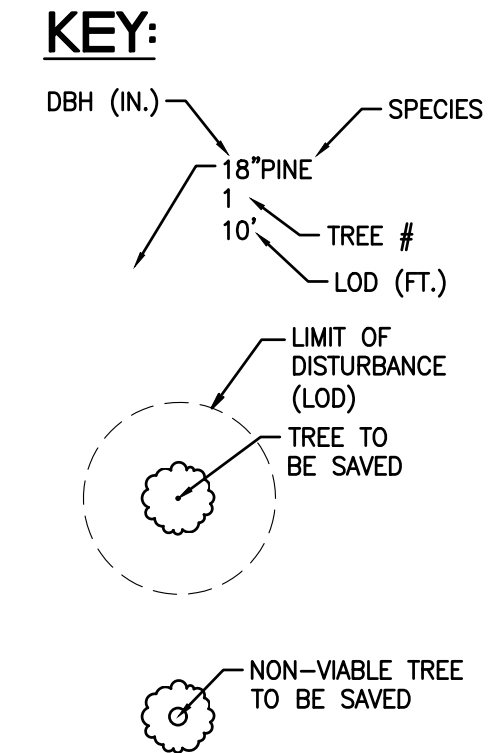
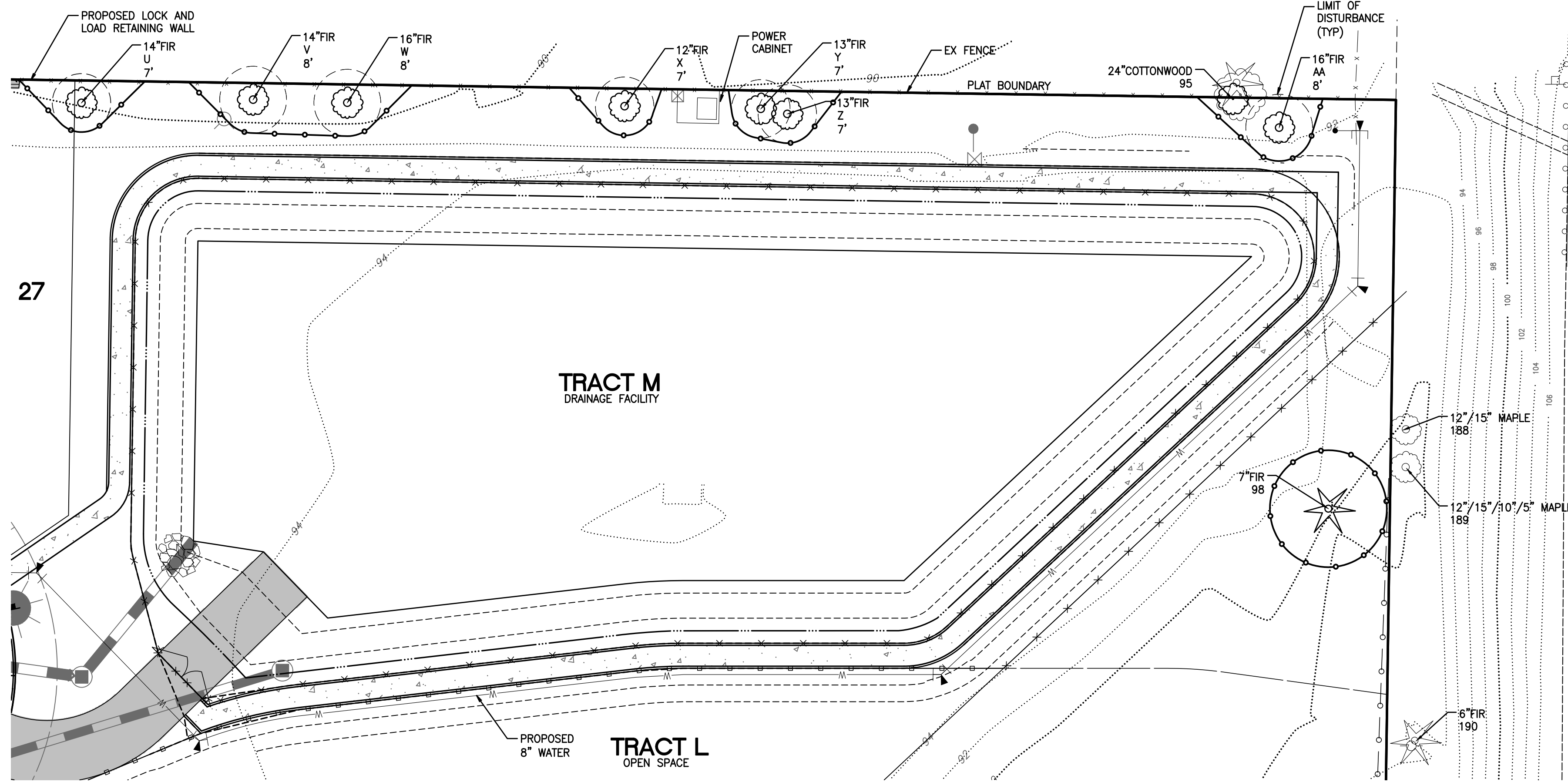
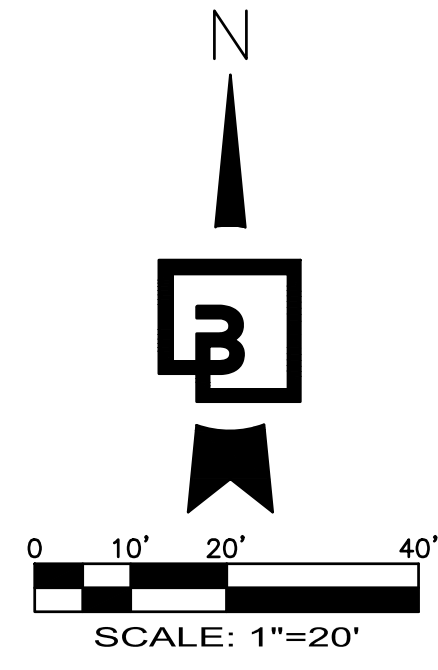
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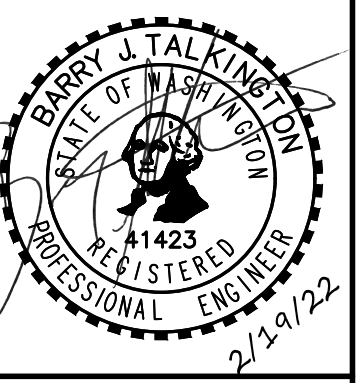
TREE RETENTION TRACT M, L AND K
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



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

Title: TREE RETENTION TRACT M, L AND K FOR TOLT RIVER TERRACE

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



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

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

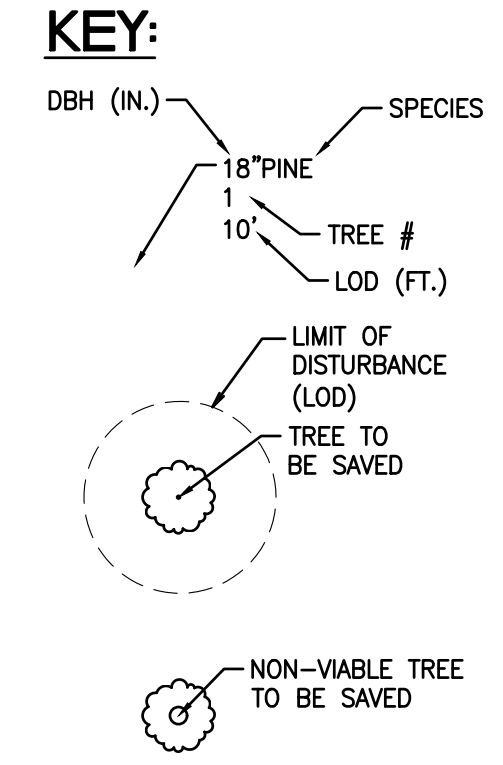
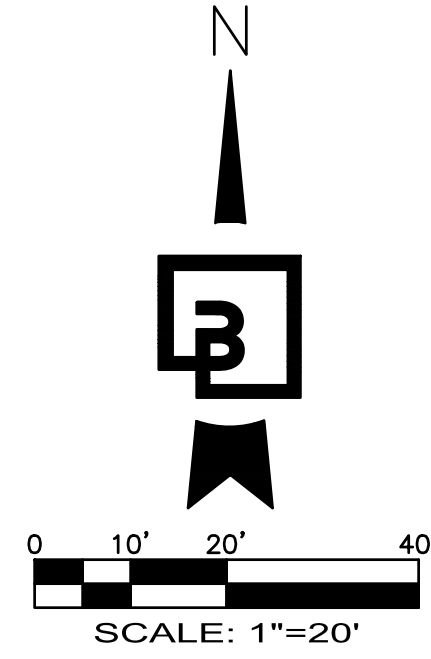
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Job Number: 18057
Sheet: 81 of 83

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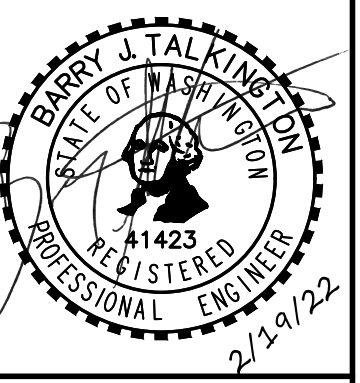
TREE RETENTION TRACT K
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



No.	Date	By	Chk.	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:
TREE RETENTION TRACT K FOR TOLT RIVER TERRACE

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



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

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Job Number: 18057
Sheet: 82 of 83

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TREE RETENTION 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, WM
 CITY OF CARNATION, KING COUNTY, WASHINGTON

Regulated Category	Significant Tree Count	Tree Number	DBH	LOD (ft)	Species	Drip-line (ft)	Health	Structure	Comments on Condition
Significant	1	1	18"	10'	Black pine	20'	2	2	Asymmetric canopy, suppressed from laurel hedge
Significant	2	2	19"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	3	3	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	4	4	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	5	5	19"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	6	6	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	7	7	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	8	14"	7"		European birch	14'	3	3	Bronze birch borer infestation
Significant	9	9	20"	10'	Douglas-fir	14'	1	2	Asymmetric, hedgerow
Significant	10	10	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	11	11	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	12	12	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	13	13	21"	11'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	14	14	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	15	15	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	16	16	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	17	17	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	18	19	14"	8'	Douglas-fir	22'	3	3	Double leader, included bark, canker, double leader, included bark, canker
Significant	19	19	15"	8'	Black pine	16'	1	2	Double leader, asymmetric, hedgerow
Significant	20	20	22"	11'	Douglas-fir	16'	1	2	Asymmetric, hedgerow
Significant	21	21	18"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	22	22	16"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	23	23	17"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	24	25	13"	8'	European birch	14'	3	3	Bronze birch borer infestation
Non-viable	25	26	14"	8'	European birch	16'	3	3	Bronze birch borer infestation
Significant	26	26	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	27	27	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	28	28	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	29	29	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	30	30	17"	9'	Black pine	16'	1	2	Asymmetric, hedgerow, multiple leaders
Significant	31	31	15"	8'	Black pine	14'	1	2	Asymmetric, hedgerow
Significant	32	32	13"	7'	Black pine	14'	1	2	Asymmetric, hedgerow
Significant	33	33	15"	8'	Douglas-fir	16'	1	2	Asymmetric, hedgerow
Significant	34	34	22"	11'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	35	35	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow, double leader
Significant	36	36	13"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	37	37	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	38	38	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	39	39	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	40	40	19"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	41	41	16"	8'	Black pine	16'	1	2	Asymmetric, hedgerow
Non-viable	42	46	13"	7'	Black pine	16'	2	3	Asymmetric, hedgerow, double leader
Significant	43	43	13"	7'	Douglas-fir	14'	1	2	Asymmetric, hedgerow, double leader
Significant	44	44	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	45	45	17"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	46	46	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	47	47	12"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	48	48	14"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	49	49	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	50	50	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow, double leader
Significant	51	51	12"	7'	Black pine	14'	1	2	Asymmetric, hedgerow
Significant	52	52	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	53	53	20"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	54	54	20"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow, double leader
Significant	55	55	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow

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Regulated Category	Significant Tree Count	Tree Number	DBH	LOD (ft)	Species	Drip-line (ft)	Health	Structure	Comments on Condition
Significant	55	60	21"	11'	Douglas-fir	22'	1	2	Asymmetric, hedgerow, double leader
Significant	56	61	14"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	57	62	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	58	63	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	59	64	16"	8'	Black pine	14'	1	2	Asymmetric, hedgerow
Significant	60	65	17"	9'	Douglas-fir	14'	1	2	Asymmetric, hedgerow, dogleg in trunk
Significant	61	66	17"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	62	67	19"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	63	68	13"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	64	69	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	65	70	16"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	66	71	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	67	72	14"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	68	73	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	69	74	14"	7'	Black pine	14'	1	2	Asymmetric, hedgerow, double leader
Significant	70	75	12"	7'	Douglas-fir	14'	1	2	Asymmetric, hedgerow, double leader
Significant	71	76	17"	9'	Douglas-fir	14'	1	2	Asymmetric, hedgerow
Significant	72	77	14"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	73	78	17"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	74	79	12"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	75	80	18"	9'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	76	81	14"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	77	82	13"	7'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	78	83	20"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	79	84	12"	7'	Black pine	14'	1	2	Asymmetric, hedgerow, multiple leaders
Significant	80	85	16"	8'	Black pine	16'	1	2	Asymmetric, hedgerow
Significant	81	86	15"	7'	Black pine	22'	1	2	Asymmetric, hedgerow
Non-viable	87	12,12"	7'		European birch	16'	3	3	Bronze birch borer infestation
Significant	82	88	12"	8'	Douglas-fir	16'	1	2	Asymmetric, hedgerow
Significant	83	89	16"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	84	90	26"	13'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	91	12,12"	10'		European birch	16'	3	3	Bronze birch borer infestation
Significant	85	92	24"	13'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	86	93	25"	13'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	87	94	19"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	88	100	12"	7'	Douglas-fir	16'	1	1	
Significant	89	101	12"	7'	Douglas-fir	16'	1	1	
Non-viable	103	(3)12"	12'		Bigleaf maple	20'	1	3	Stumpsprout
Significant	90	117	20"	11'	Leyland cypress	25'	1	2	Asymmetric, hedgerow
Significant	91	118	18"	10'	Leyland cypress	25'	1	2	Asymmetric, hedgerow
Significant	92	119	16"	9'	Leyland cypress	25'	1	2	Asymmetric, hedgerow
Significant	93	120	20"	11'	Leyland cypress	25'	1	2	Asymmetric, hedgerow
Significant	94	121	16"	9'	Sycamore	22'	1	2	Ivy
Significant	95	124	14"	7'	Sycamore	21'	1	2	Ivy
Significant	96	128	17"	9'	Sycamore	25'	1	2	Ivy
Significant	97	140	48"	24'	Douglas-fir	25'	1	1	
Significant	98	141	22"	12'	Douglas-fir	20'	1	1	
Significant	99	142	12"	7'	Red maple	18'	1	2	Asymmetric
Significant	100	144	12"	7'	Deodar cedar	16'	1	2	Asymmetric
Significant	101	145	24"	13'	Douglas-fir	18'	1	1	
Non-viable	146	15"	8'		European birch	10'	3	3	Bronze birch borer infestation
Non-viable	148	25"	13'		Douglas-fir	20'	1	3	Buttress root disturbance/injury
Significant	102	149	18"	10'	Douglas-fir	20'	1	1	
Significant	103	150	22"	12'	Douglas-fir	20'	1	1	
Significant	104	151	22"	12'	Douglas-fir	20'	1	1	
Significant	105	152	20"	11'	Douglas-fir	20'	1	2	Ivy
Significant	106	153	14"	8'	Atlas cedar	16'	2	2	Needle cast fungus disease, sapsucker
Significant	107	154	12"	7'	Atlas cedar	16'	2	2	Needle cast, sapsucker
Significant	108	159	14"	8'	Atlas cedar	16'	2	2	Needle cast, sapsucker
Significant	109	162	14"	8'	Atlas cedar	16'	2	2	Needle cast, sapsucker
Significant	110	166	12"	7'	Atlas cedar	16'	2	2	Needle cast, sapsucker
Significant	111	167	12"	7'	Atlas cedar	16'	2	2	Needle cast, sapsucker
Significant	112	169	13"	8'	Atlas cedar	16'	2	2	Needle cast, sapsucker
Non-viable	173	72"	30'		Bigleaf maple	40'	2	3	Decline, decay, Kretzschmaria fungal infection
Non-viable	174	55"	24'		Bigleaf maple	30'	2	3	Decline, deadwood, decay
Significant	113	175	38"	19'	Western red-cedar	25'	2	1	Deadwood, sapsucker injury

Greenforest Registered Consulting Arborist

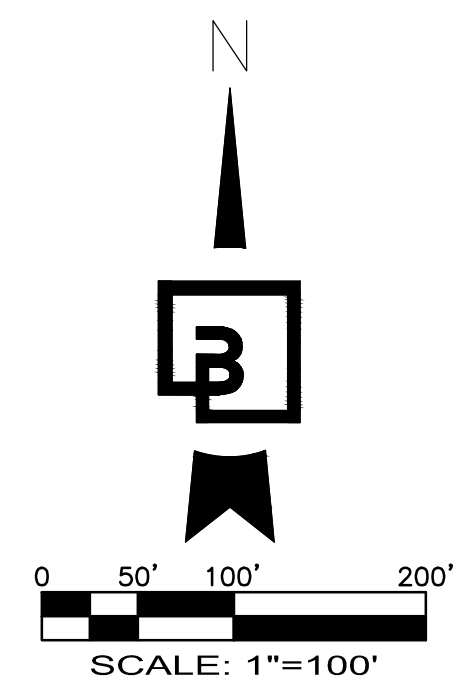
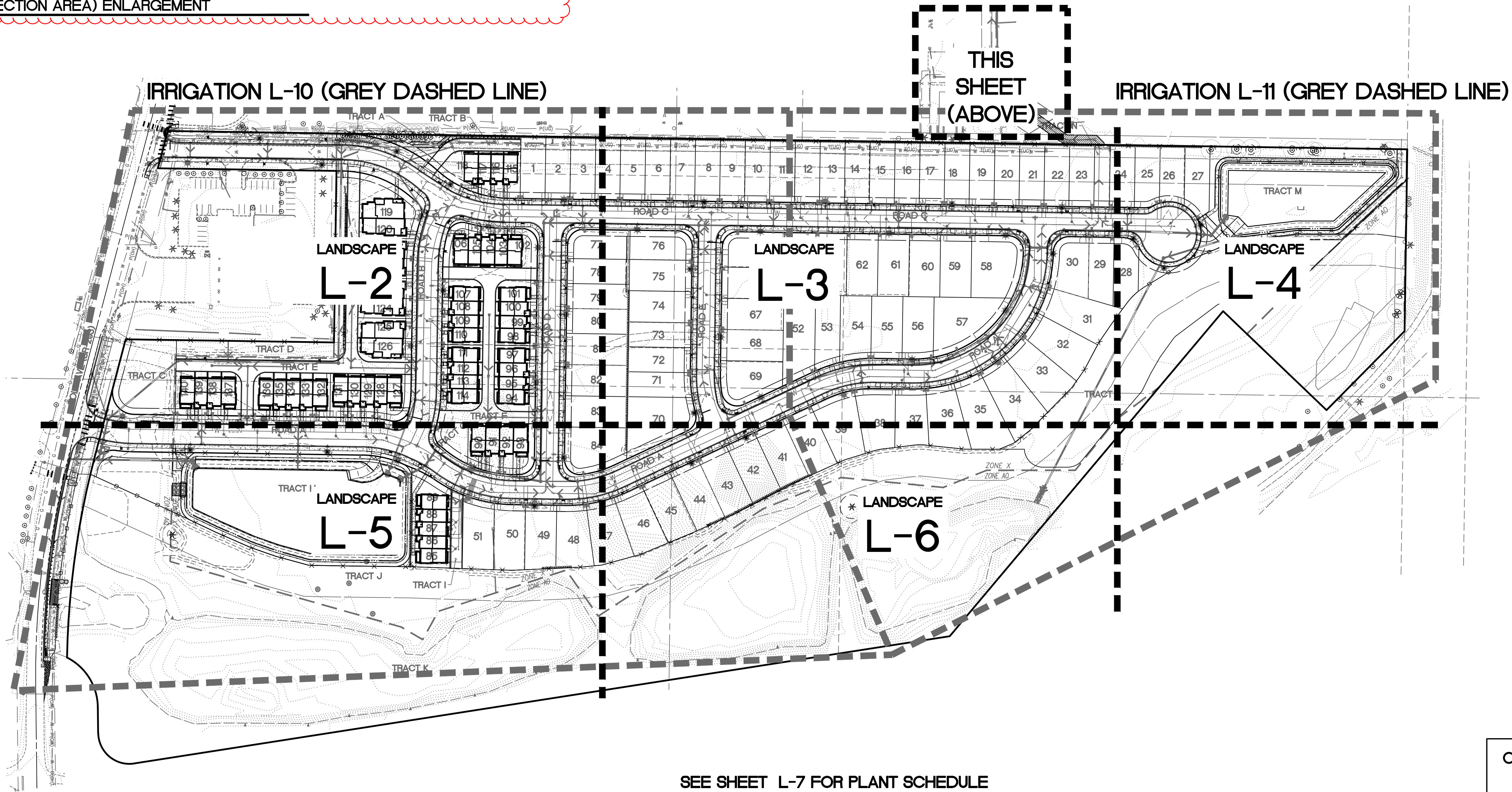
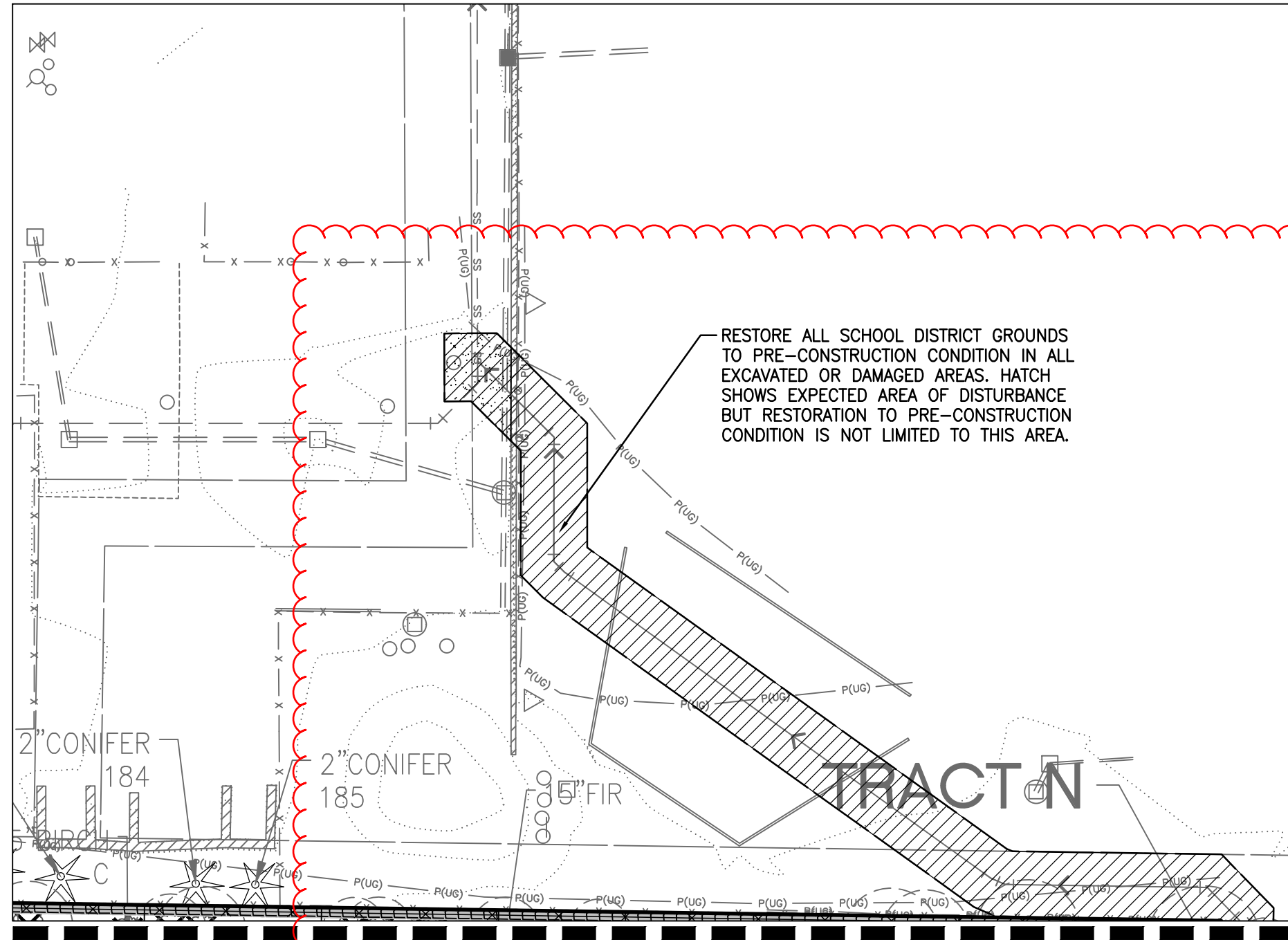
Regulated Category	Significant Tree Count	Tree Number	DBH	LOD (ft)	Species	Drip-line (ft)	Health	Structure	Comments on Condition
Significant	114	B	12"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	C	15"	7"		European birch	14'	3	3	Bronze birch borer infestation
Significant	115	D	13"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	116	E	19"	10'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	117	F	12"	7"	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	118	G	15"	8'	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	H	15"	8"		European birch	14'	3	3	Bronze birch borer infestation
Significant	119	I	15"	8"	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Significant	120	J	12"	7"	Douglas-fir	22'	1	2	Asymmetric, hedgerow
Non-viable	K	22"	11'		Douglas-fir	22'	1	3	Asymmetric, hedgerow, roots cut for utility
Significant	121	L	22"	11'	Douglas-fir	20'	1	2	Asymmetric, hedgerow
Significant	122	M	20"	10'	Douglas-fir	18'	1	2	Asymmetric, hedgerow
Significant	123	N	23"	12'	Douglas-fir	20'	1	2	Asymmetric, hedgerow
Significant	124	O	25"	13'	Douglas-fir	20'	1	2	Asymmetric, hedgerow
Significant	125	P	14"	7"	Douglas-fir	16'	1	2	Asymmetric, hedgerow
Significant	126	Q	15"	7"	Douglas-fir	16'	1	2	Asymmetric, hedgerow
Significant	127	R	25"	13'	Douglas-fir	20'	1	2	Asymmetric, hedgerow
Significant	128	S	13"	7"	Douglas-fir	14'	1	2	Asymmetric, hedgerow
Significant	129	T	20"	10'	Douglas-fir	18'	1	2	Asymmetric, hedgerow
Significant	130	U	14"	7"	Douglas-fir	16'	1	2	Asymmetric, hedgerow
Significant	131	V	14"	8"	Douglas-fir	16'	1	1	
Significant	132	W	16"	8"	Douglas-fir	16'	1	1	
Significant	133	X	12"	7"	Douglas-fir	14'	1	1	
Significant	134	Y	13"	7"	Douglas-fir	14'	1	1	
Significant	135	Z	13"	7"	Douglas-fir	14'	1	1	
Significant	136	AA	16"	8"	Douglas-fir	18'	1	1	
Non-viable	BB	20"	11'		Black pine	17'	1	3	Topped for OHPL
Non-viable	CC	16"	9"		Black pine	18'	1	3	Topped for OHPL
Non-Sig.	170	11"	8"		Atlas cedar	16'	2	2	Needle cast, sapsucker

Significant Trees 136
 Non-Significant Trees 1
 Non-viable Trees 19

LANDSCAPE PLAN INDEX
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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



SEE SHEET L-7 FOR PLANT SCHEDULE

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

No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TCR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

Title: **LANDSCAPE PLAN INDEX FOR TOLT RIVER TERRACE**

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



Scale:	Horizontal	Vertical
	1" = 100'	N/A
Designed TOR:	Drawn TOR:	Checked JMV:
		Approved JMV:
		Date 2/18/22

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

Job Number: **18057**
Sheet: **L-1** of **16**

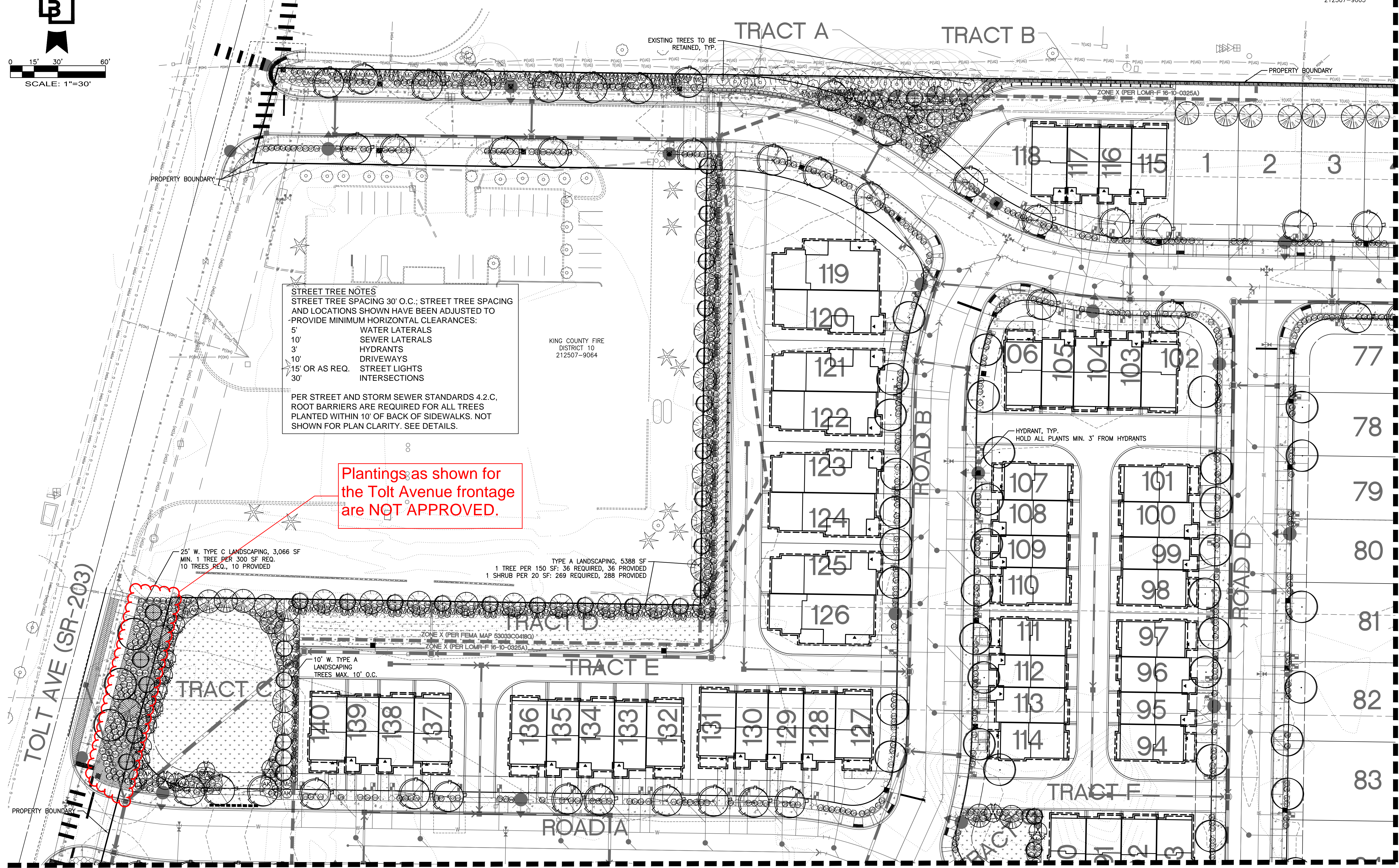
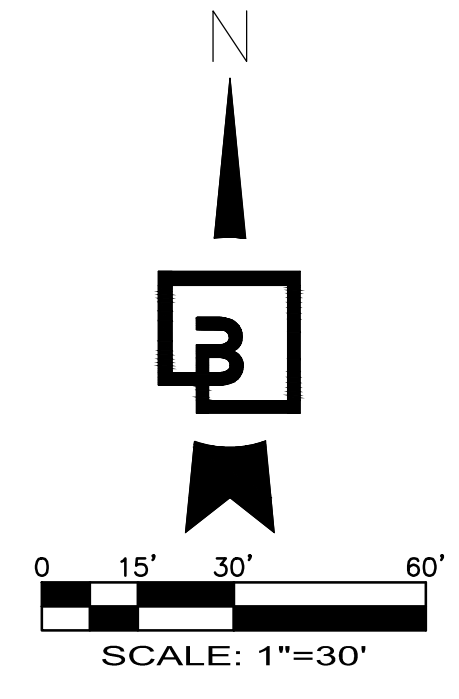
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LANDSCAPE PLAN NW
FOR

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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

TOLT MIDDLE SCHOOL
RIVERVIEW SCHOOL DISTRICT 407
212507-9003



STREET TREE NOTES
STREET TREE SPACING 30' O.C.; STREET TREE SPACING AND LOCATIONS SHOWN HAVE BEEN ADJUSTED TO PROVIDE MINIMUM HORIZONTAL CLEARANCES:
5' WATER LATERALS
10' SEWER LATERALS
3' HYDRANTS
10' DRIVEWAYS
15' OR AS REQ. STREET LIGHTS
30' INTERSECTIONS

PER STREET AND STORM SEWER STANDARDS 4.2.C, ROOT BARRIERS ARE REQUIRED FOR ALL TREES PLANTED WITHIN 10' OF BACK OF SIDEWALKS. NOT SHOWN FOR PLAN CLARITY. SEE DETAILS.

KING COUNTY FIRE
DISTRICT 10
212507-9064

Plantings as shown for the Tolt Avenue frontage are NOT APPROVED.

25' W. TYPE C LANDSCAPING, 3,066 SF
MIN. 1 TREE PER 300 SF REQ.
10 TREES REQ., 10 PROVIDED

TYPE A LANDSCAPING, 5388 SF
1 TREE PER 150 SF; 36 REQUIRED, 36 PROVIDED
1 SHRUB PER 20 SF; 269 REQUIRED, 268 PROVIDED

10' W. TYPE A LANDSCAPING
TREES MAX. 10' O.C.

HYDRANT, TYP.
HOLD ALL PLANTS MIN. 3' FROM HYDRANTS

SEE SHEET L-5 FOR CONTINUATION

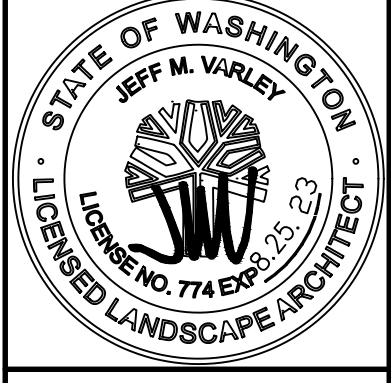
SEE SHEET L-7 FOR PLANT SCHEDULE

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

No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

Title:
**LANDSCAPE PLAN NW
FOR
TOLT RIVER TERRACE**

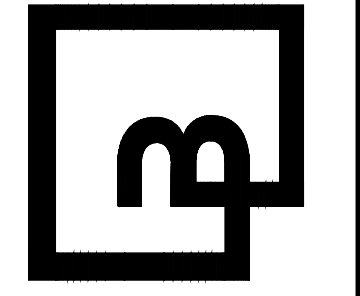
For:
**MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004**



Scale:
Horizontal 1" = 30'
Vertical N/A

Designed TOR
Drawn TOR
Checked JMV
Approved JMV
Date 2/18/22

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



Job Number
18057

Sheet
L-2 of **16**

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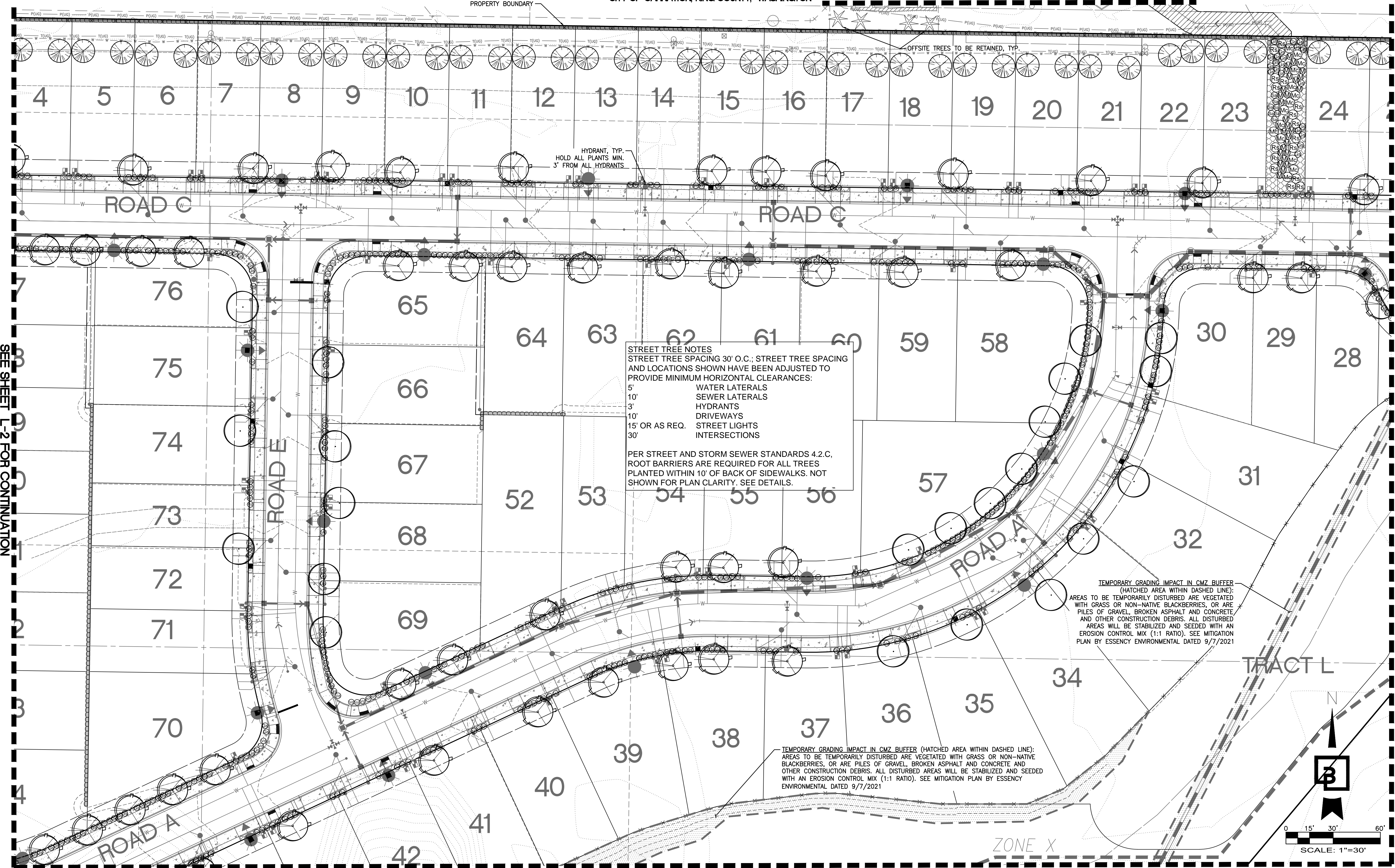
LANDSCAPE PLAN N
FOR

PLAT OF TOLT RIVER TERRACE

TOLT MIDDLE SCHOOL
RIVERVIEW SCHOOL DISTRICT 407
212507-9003

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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

SEE SHEET L-1 FOR CONTINUATION



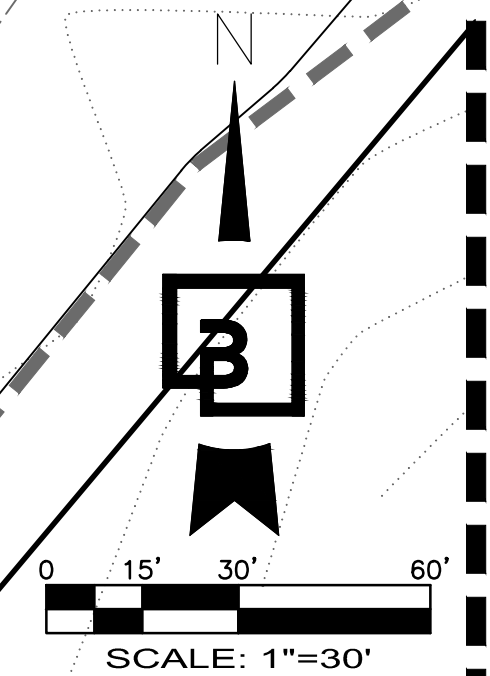
HYDRANT, TYP.
HOLD ALL PLANTS MIN.
3' FROM ALL HYDRANTS.

STREET TREE NOTES
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PER STREET AND STORM SEWER STANDARDS 4.2.C, ROOT BARRIERS ARE REQUIRED FOR ALL TREES PLANTED WITHIN 10' OF BACK OF SIDEWALKS. NOT SHOWN FOR PLAN CLARITY. SEE DETAILS.

TEMPORARY GRADING IMPACT IN CMZ BUFFER
(HATCHED AREA WITHIN DASHED LINE):
AREAS TO BE TEMPORARILY DISTURBED ARE VEGETATED WITH GRASS OR NON-NATIVE BLACKBERRIES, OR ARE PILES OF GRAVEL, BROKEN ASPHALT AND CONCRETE AND OTHER CONSTRUCTION DEBRIS. ALL DISTURBED AREAS WILL BE STABILIZED AND SEEDED WITH AN EROSION CONTROL MIX (1:1 RATIO). SEE MITIGATION PLAN BY ESSENCY ENVIRONMENTAL DATED 9/7/2021

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SEE SHEET L-2 FOR CONTINUATION

SEE SHEET L-4 FOR CONTINUATION

SEE SHEET L-6 FOR CONTINUATION

SEE SHEET L-7 FOR PLANT SCHEDULE

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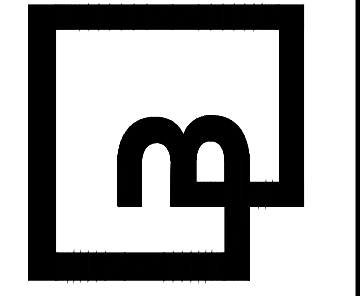
Title:
**LANDSCAPE PLAN N
FOR
TOLT RIVER TERRACE**

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



Scale:	Horizontal	Vertical
	1" = 30'	N/A
Designed TOR	Drawn TOR	Checked JMV
		Approved JMV
Date	2/18/22	

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Kent, WA 98032
425.251.6222
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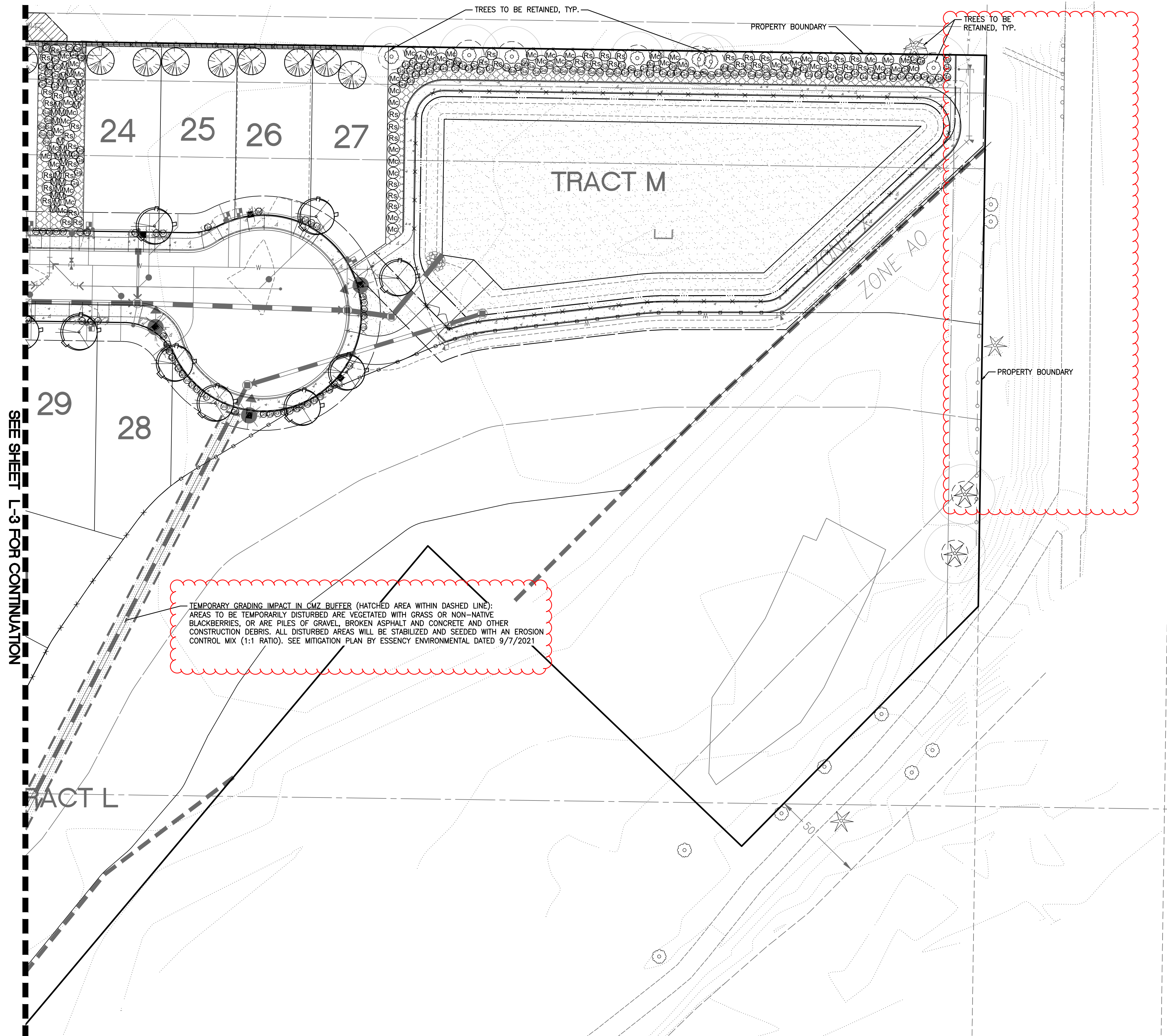
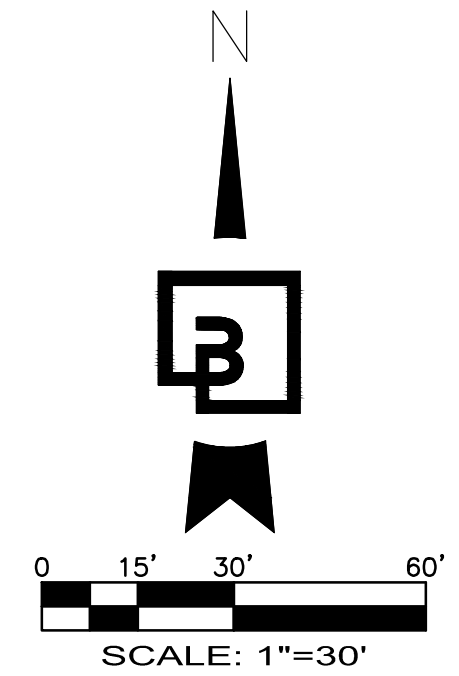
Job Number
18057
Sheet
L-3 of **16**

LANDSCAPE PLAN NE
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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

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- 15' OR AS REQ. STREET LIGHTS
- 30' INTERSECTIONS

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SEE SHEET L-3 FOR CONTINUATION

SEE SHEET L-7 FOR PLANT SCHEDULE

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No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TCR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

Title:
**LANDSCAPE PLAN NE
FOR
TOLT RIVER TERRACE**

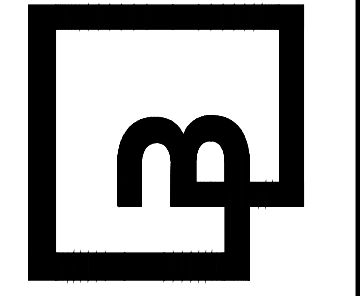
For:
**MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004**



Scale:
Horizontal 1" = 30'
Vertical N/A

Designed TOR
Drawn TOR
Checked JMV
Approved JMV
Date 2/18/22

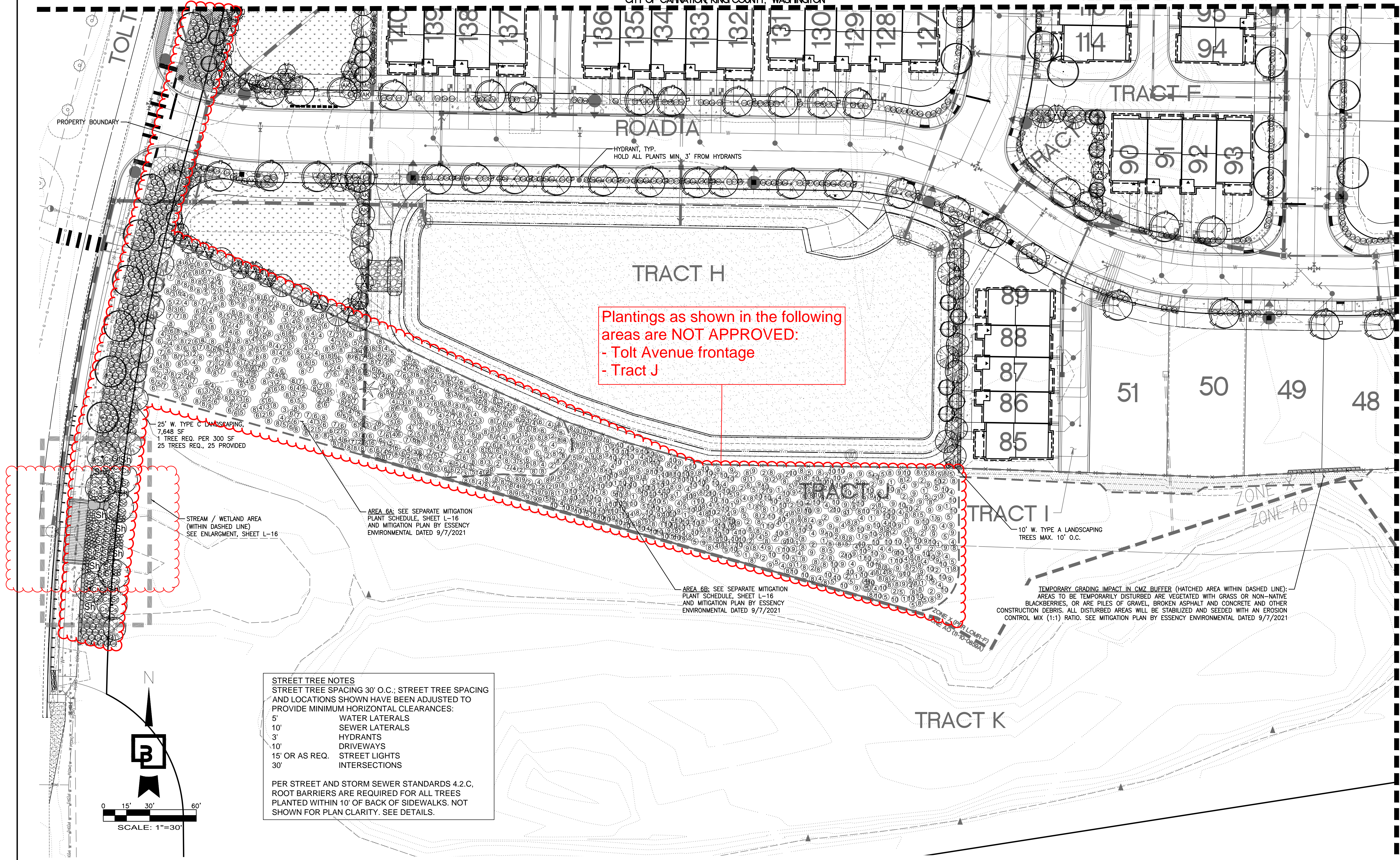
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Kent, WA 98032
425.251.6222 barghausen.com



Job Number: 18057
Sheet: L-4 of 16

LANDSCAPE PLAN SW
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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

SEE SHEET L-2 FOR CONTINUATION



Plantings as shown in the following areas are NOT APPROVED:
- Tolt Avenue frontage
- Tract J

STREET TREE NOTES
STREET TREE SPACING 30' O.C.; STREET TREE SPACING AND LOCATIONS SHOWN HAVE BEEN ADJUSTED TO PROVIDE MINIMUM HORIZONTAL CLEARANCES:
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30' INTERSECTIONS

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No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

Title: **LANDSCAPE PLAN SW FOR TOLT RIVER TERRACE**

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



Scale: Horizontal 1" = 30', Vertical N/A
Designed: TR, Drawn: TR, Checked: JMV, Approved: JMV, Date: 2/18/22

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Kent, WA 98032
425.251.6222 barghausen.com

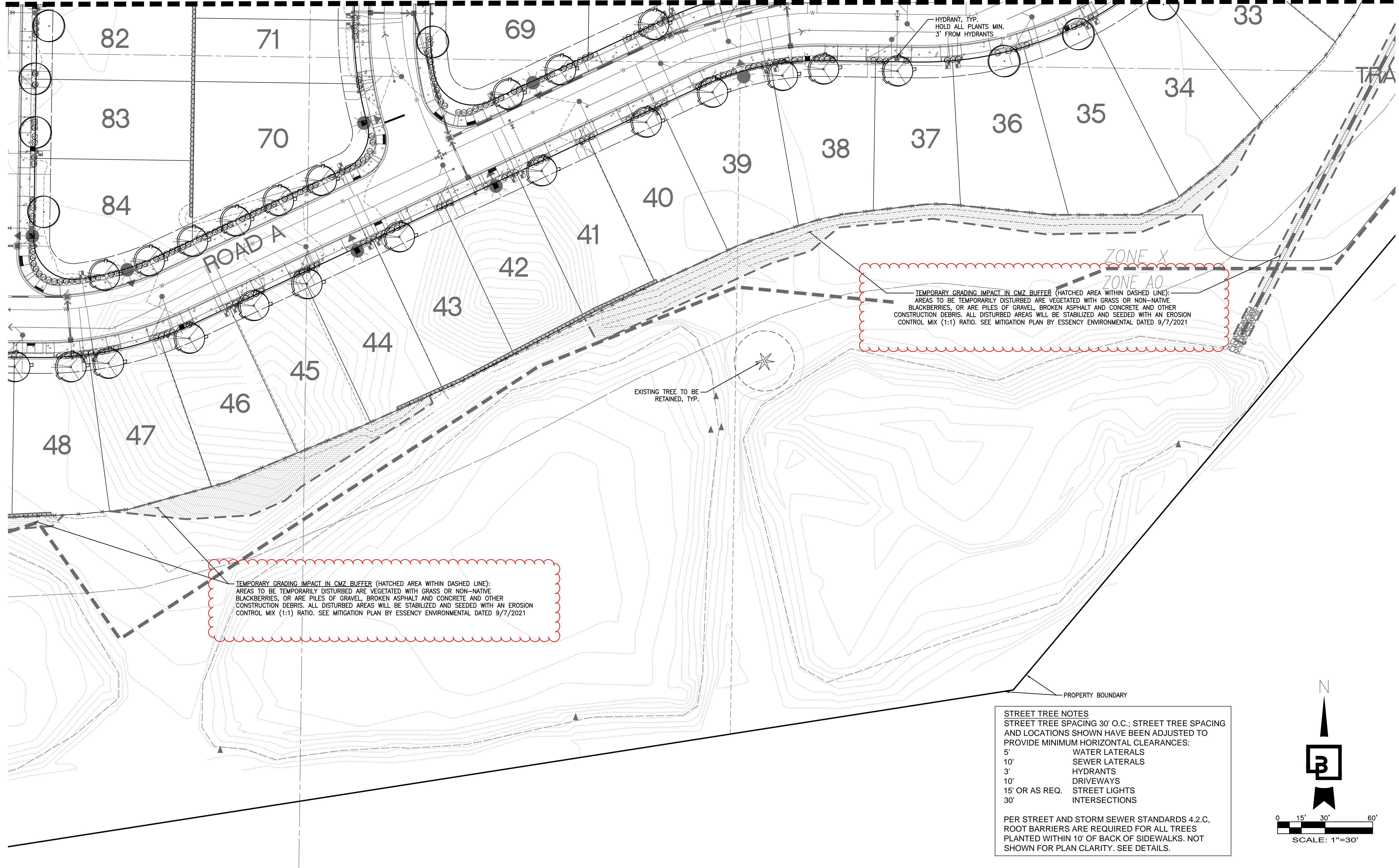
Job Number: **18057**
Sheet: **L-5, 16**

SEE SHEET L-7 FOR PLANT SCHEDULE

CALL BEFORE YOU DIG:
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LANDSCAPE PLAN S
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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

SEE SHEET L-3 FOR CONTINUATION



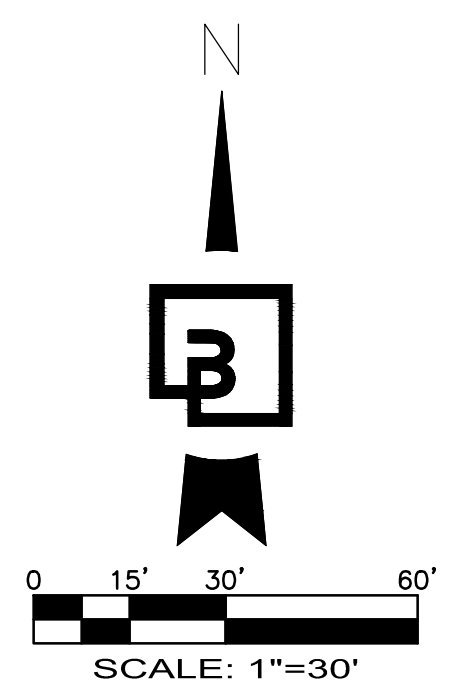
TEMPORARY GRADING IMPACT IN CMZ BUFFER (HATCHED AREA WITHIN DASHED LINE):
AREAS TO BE TEMPORARILY DISTURBED ARE VEGETATED WITH GRASS OR NON-NATIVE BLACKBERRIES, OR ARE PILES OF GRAVEL, BROKEN ASPHALT AND CONCRETE AND OTHER CONSTRUCTION DEBRIS. ALL DISTURBED AREAS WILL BE STABILIZED AND SEEDED WITH AN EROSION CONTROL MIX (1:1) RATIO. SEE MITIGATION PLAN BY ESSENCY ENVIRONMENTAL DATED 9/7/2021

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30'	INTERSECTIONS

PER STREET AND STORM SEWER STANDARDS 4.2.C, ROOT BARRIERS ARE REQUIRED FOR ALL TREES PLANTED WITHIN 10' OF BACK OF SIDEWALKS. NOT SHOWN FOR PLAN CLARITY. SEE DETAILS.



SEE SHEET L-7 FOR PLANT SCHEDULE

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No.	Date	By	Appr.	Revision
2	2/18/22	TCR	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22
		JMV	JMV	

Title:
**LANDSCAPE PLAN S
FOR
TOLT RIVER TERRACE**

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



Scale:	Horizontal	Vertical
	1" = 30'	N/A
Designed	TCR	
Drawn	JMV	
Checked	JMV	
Approved	JMV	
Date	2/18/22	

Barghausen Consulting Engineers, Inc.
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















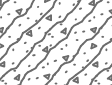
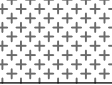
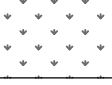
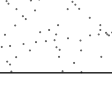
Job Number
18057

Sheet
L-6 of **16**

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PLANT SCHEDULE
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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

PLANT SCHEDULE

DECIDUOUS TREES	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	ACER CIRCINATUM / VINE MAPLE NURSERY GROWN, FULL AND MATCHING. STAKE AND GUY ONE GROWING SEASON.	B & B	2" CAL OR 3" TOTAL MULTISTEM	LOW	NATIVE	DECIDUOUS	37	15'-20' x 5'-10'
EVERGREEN TREES	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	PINUS CONTORTA CONTORTA / SHORE PINE NURSERY GROWN, UNCUT LEADER. STAKE AND GUY ONE GROWING SEASON.	B & B	6" MIN. HT.	LOW	NATIVE	EVERGREEN	110	40'-50' x 20'-25'
	THUJA PLICATA 'EXCELSA' / WESTERN RED CEDAR NURSERY GROWN, UNCUT LEADER. STAKE AND GUY ONE GROWING SEASON.	B & B	6" MIN. HT.	LOW	NATIVE	EVERGREEN	45	35' x 15'
STREET TREES	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	ACER RUBRUM 'FRANKSRED' TM / RED SUNSET RED MAPLE FULL AND MATCHING. NURSERY GROWN FOR STREET TREE USE, BRANCHING AT 5'. STAKE AND GUY ONE GROWING SEASON.	B & B	2" CAL. MIN.	LOW	ADAPTIVE	DECIDUOUS	67	40' x 30'
	QUERCUS FRAINETTO 'SCHMIDT' / FOREST GREEN OAK FULL AND MATCHING. NURSERY GROWN FOR STREET TREE USE, BRANCHING AT 5'. STAKE AND GUY ONE GROWING SEASON.	B & B	2" CAL. MIN.	LOW	ADAPTIVE	DECIDUOUS	121	50' x 30'
WETLAND TREES	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	TAXODIUM DISTICHUM / BALD CYPRESS NURSERY GROWN, UNCUT LEADER. STAKE AND GUY ONE GROWING SEASON. DO NOT SUBSTITUTE 'CASCADE FALLS' OR OTHER GRAFTED CV.	B & B	6" MIN. HT.	WET/STANDING	ADAPTIVE	DECIDUOUS CONIF.	7	50' x 30'
SHRUBS	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	GAULTHERIA SHALLON / SALAL	2 GAL., 16" MIN. HT.	MEDIUM	MEDIUM	NATIVE	EVERGREEN	1 PER 20 SF	932
	MAHONIA AQUIFOLIUM / OREGON GRAPE	2 GAL., 16" MIN. HT.	LOW	LOW	NATIVE	EVERGREEN	1 PER 20 SF	187
	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	2 GAL., 16" MIN. HT.	LOW	LOW	NATIVE	EVERGREEN	1 PER 20 SF	93
	MAHONIA NERVOSA / OREGON GRAPE	2 GAL., 16" MIN. HT.	LOW	LOW	NATIVE	EVERGREEN	1 PER 20 SF	70
	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	2 GAL., 16" MIN. HT.	LOW	LOW	NATIVE	EVERGREEN	1 PER 20 SF	78
	RHODODENDRON X 'ANAH KRUSCHKE' / RHODODENDRON	2 GAL., 16" MIN. HT.	MEDIUM	MEDIUM	ADAPTIVE	EVERGREEN	AS SHOWN	12
	RIBES SANGUINEUM / RED FLOWERING CURRANT	2 GAL., 16" MIN. HT.	LOW	LOW	NATIVE	DECIDUOUS	1 PER 20 SF	50
	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	2 GAL., 16" MIN. HT.	LOW	LOW	NATIVE	DECIDUOUS	1 PER 20 SF	392
	VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	2 GAL., 16" MIN. HT.	MEDIUM	MEDIUM	NATIVE	EVERGREEN	1 PER 20 SF	25
	VIBURNUM DAVIDII / DAVID VIBURNUM	2 GAL., 16" MIN. HT.	LOW	LOW	ADAPTIVE	EVERGREEN	AS SHOWN	283
FERNS AND GRASSES	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	2 GAL.	LOW	LOW	ADAPTIVE	GRASS/GRASS-LIKE	AS SHOWN	290
WETLAND PLANTS	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	CAREX OBNUPTA / SLOUGH SEDGE	1 GAL.	WET/STANDING	WET/STANDING	NATIVE	GRASS/GRASS-LIKE	1 PER 20 SF	25
	CORNUS SERICEA / RED TWIG DOGWOOD	2 GAL., 16" MIN. HT.	MEDIUM	MEDIUM	NATIVE	DECIDUOUS	1 PER 20 SF	20
	JUNCUS EFFUSUS VAR. PACIFICUS / SOFT RUSH	1 GAL.	WET/STANDING	WET/STANDING	NATIVE	GRASS/GRASS-LIKE	1 PER 20 SF	52
	SALIX HOOKERIANA / HOOKER'S WILLOW	2 GAL., 16" MIN. HT.	MEDIUM	MEDIUM	NATIVE	DECIDUOUS	1 PER 20 SF	9
	SCIRPUS ACUTUS / HARDSTEM BULRUSH	1 GAL.	WET/STANDING	WET/STANDING	NATIVE	GRASS/GRASS-LIKE	1 PER 20 SF	25
	SPIRAEA DOUGLASII / WESTERN SPIREA	2 GAL., 16" MIN. HT.	WET/STANDING	WET/STANDING	NATIVE	DECIDUOUS	1 PER 20 SF	32
GROUND COVERS	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	ARCTOSTAPHYLOS UVA-URSI 'MASSACHUSETTS' / KINNIKINNICK	1 GAL.	LOW	LOW	NATIVE	EVERGREEN	24" o.c.	3,449
	FRAGARIA CHILOENSIS / BEACH STRAWBERRY	1 GAL.	MEDIUM	MEDIUM	NATIVE	EVERGREEN	24" o.c.	1,026
	MAHONIA REPENS / CREEPING OREGON GRAPE	1 GAL.	LOW	LOW	NATIVE	EVERGREEN	24" o.c.	1,598
	RUBUS CALYCINOIDES 'EMERALD CARPET' / CREEPING RASPBERRY	1 GAL.	LOW	LOW	ADAPTIVE	EVERGREEN	24" o.c.	1,246
	TURFGRASS LAWN, SOD OR HYDROSEED COUNTRY GREEN PREMIUM SOD SEED MIX OAE, 5-6 LBS. PER 1,000 SF						22,250 SF	
	PACIFIC NW NATIVE EROSION-CONTROL HYDROSEED DIRECT SEED SALES NATIVE EROSION CONTROL MIX OAE, APPLY PER MANUFACTURER INSTRUCTIONS						86,251 SF	

TOTAL TREES = 388
NATIVE TREES = 194 (50.0%)

TOTAL SHRUBS = 2,519
NATIVE SHRUBS = 2,249 (89.3%)

TREE RETENTION AND REPLACEMENT

TOTAL SIGNIFICANT ONSITE TREES:	139
TOTAL SIGNIFICANT ONSITE TREES TO BE RETAINED:	28
REPLACEMENT TREES REQUIRED, 1:1 RATIO:	111
REPLACEMENT TREES PROVIDED:	376

No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TCR	JMV	JMV	REVISED PER JRD REVIEW COMMENTS DATED 02/15/22

PLANT SCHEDULE
FOR
TOLT RIVER TERRACE

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



Scale: Horizontal N/A, Vertical N/A

Designed: TOR, Drawn: TOR, Checked: JMV, Approved: JMV, Date: 2/18/22

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

Job Number: **18057**
Sheet: **L-7** of **16**

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1-800-424-5555

LANDSCAPE 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, WM CITY OF CARNATION, KING COUNTY, WASHINGTON

LANDSCAPE PLANTING NOTES AND MATERIALS

FURNISH ALL MATERIALS, LABOR, EQUIPMENT AND RELATED ITEMS NECESSARY TO ACCOMPLISH TOPSOIL, TREATMENT AND PREPARATION OF SOIL, FINISH GRADING, PLACEMENT OF SPECIFIED PLANT MATERIALS, FERTILIZER, STAKING, MULCH, CLEAN-UP, DEBRIS REMOVAL, AND 90-DAY MAINTENANCE.

QUALIFICATIONS:

LANDSCAPE CONTRACTOR TO BE SKILLED AND KNOWLEDGEABLE IN THE FIELD OF WORK AND HAVE A MINIMUM OF FIVE (5) YEAR'S EXPERIENCE INSTALLING SIMILAR WORK. CONTRACTOR TO BE LICENSED TO PERFORM THE WORK SPECIFIED WITHIN THE PRESIDING JURISDICTION.

JOB CONDITIONS:

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SITE AND REPORT ANY DISCREPANCIES TO THE OWNER OR THE OWNER'S REPRESENTATIVES. ALL PLANT MATERIAL AND FINISH GRADES ARE SUBJECT TO APPROVAL BY THE OWNER.

PROTECTION:

SAVE AND PROTECT ALL EXISTING PLANTINGS SHOWN TO REMAIN. DO NOT PLANT UNTIL OTHER CONSTRUCTION OPERATIONS WHICH CONFLICT HAVE BEEN COMPLETED. IF AN IRRIGATION SYSTEM IS TO BE INSTALLED DO NOT PLANT UNTIL THE SYSTEM HAS BEEN INSTALLED, TESTED, AND APPROVED BY THE OWNER. HANDLE PLANTS WITH CARE - DO NOT DAMAGE OR BREAK ROOT SYSTEM, BARK, OR BRANCHES. REPAIR AND/OR REPLACE ITEMS DAMAGED AS A RESULT OF WORK, OR WORK NOT IN COMPLIANCE WITH PLANS AND SPECIFICATIONS, AS DIRECTED BY OWNER AT NO ADDITIONAL COST TO THE OWNER.

REPAIR OF EXISTING PLANTINGS:

DURING THE COURSE OF WORK, REPAIR ALL EXISTING PLANTING AREAS BY PRUNING DEAD GROWTH, RE-ESTABLISHING FINISH GRADE AND RE-MULCHING TO SPECIFIED DEPTH.

REPAIR OF IRRIGATION SYSTEM:

DURING THE COURSE OF WORK, REPAIR ANY DAMAGE TO THE IRRIGATION SYSTEM TO MATCH CONDITIONS PRIOR TO THE DAMAGE.

GUARANTEE:

GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THE JOB BY OWNER.

60-DAY MAINTENANCE:

CONTRACTOR TO PROVIDE OWNER WITH A SCOPE OF WORK AT TIME OF INITIAL PROJECT BID TO PROVIDE LANDSCAPE AND IRRIGATION MAINTENANCE FOR 60 DAYS FOLLOWING STORE OPENING. WORK TO INCLUDE MAINTENANCE AS DESCRIBED BELOW, IN PLANTING AND IRRIGATION MAINTENANCE.

SUBMITTALS:

SUBMIT THE FOLLOWING TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO THE START OF ANY WORK:

- DOCUMENTATION THAT ALL PLANT MATERIAL HAS BEEN ORDERED.
- TOPSOIL ANALYSIS AND RECOMMENDED AMENDMENTS.
- TREE STAKING AND GUYING MATERIALS.
- ONE (1) QUART SIZE OF TOPSOIL AND MULCH.
- PLANTING SCHEDULE INCLUDING DATES AND TIMES.
- MAINTENANCE INSTRUCTIONS FOR ONE (1) FULL YEAR.

MATERIALS:

PLANT MATERIALS:

PLANT MATERIALS TO BE GRADE NO. 1, SIZED IN ACCORDANCE WITH (AAN) AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1-2004). PRUNE PLANTS RECEIVED FROM THE NURSERY ONLY UPON AUTHORIZATION BY THE LANDSCAPE ARCHITECT. "B & B" INDICATES BALLED AND BURLAPPED; "CONT." INDICATES CONTAINER; "BR" INDICATES BARE ROOT; "CAL" INDICATES CALIPER AT 6" ABOVE SOIL LINE; "GAL" INDICATES GALLON.

- SPECIFIED PLANT CANOPY SIZE OR CALIPER IS THE MINIMUM ACCEPTABLE CONTAINER OR BALL SIZE AND ESTABLISHES MINIMUM PLANT CONDITION TO BE PROVIDED.
- QUALITY:

PLANT MATERIAL TO COMPLY WITH STATE AND FEDERAL LAWS FOR DISEASE INSPECTION. PLANTS TO BE FULLY LIVE, VIGOROUS, WELL FORMED, WITH WELL DEVELOPED FIBROUS ROOT SYSTEMS. ROOT BALLS OF PLANTS TO BE SOLID AND FIRMLY HELD TOGETHER, SECURELY CONTAINED AND PROTECTED FROM INJURY AND DESICCATION. PLANTS DETERMINED BY LANDSCAPE ARCHITECT TO HAVE BEEN DAMAGED, HAVE DEFORMITIES OF STEM, BRANCHES, OR ROOTS; LACK SYMMETRY, HAVE MULTIPLE LEADERS OR "Y" CROTCHES LESS THAN 30 DEGREES IN TREES, OR DO NOT MEET SIZE OR ANSI STANDARDS WILL BE REJECTED. PLANT MATERIAL TO BE FROM A SINGLE NURSERY SOURCE FOR EACH SPECIFIED SPECIES/HYBRID. NURSERY SOURCES TO BE THOSE LOCATED IN THE SAME REGION AS THE JOB SITE.

- SUBSTITUTION: NO SUBSTITUTION OF PLANT MATERIAL, SPECIES OR VARIETY, WILL BE PERMITTED UNLESS WRITTEN EVIDENCE IS SUBMITTED TO THE OWNER FROM TWO QUALIFIED PLANT BROKERAGE OFFICES. SUBSTITUTIONS WHICH ARE PERMITTED TO BE IN WRITING FROM THE OWNER AND LANDSCAPE ARCHITECT. THE SPECIFIED SIZE, SPECIES AND NEAREST VARIETY, AS APPROVED, TO BE FURNISHED. SUBSTITUTIONS MAY REQUIRE SUBMITTAL TO REVIEW PLANS TO CITY FOR APPROVAL.
- LABEL AT LEAST ONE (1) TREE, SHRUB, AND GROUND COVER OF EACH VARIETY WITH A SECURELY ATTACHED WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF BOTANICAL AND COMMON NAMES.

- DELIVER PLANT MATERIAL AFTER PREPARATION OF PLANTING AREAS HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX (6) HOURS AFTER DELIVERY, SET MATERIAL IN SHADE, PROTECT FOR WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOT BALLS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.

SOIL PREPARATION:

TOPSOIL, AMENDMENT, AND BACKFILL ARE GENERAL REQUIREMENTS FOR ALL LANDSCAPE AREAS, UNLESS NOTED OTHERWISE ON THE PLANS. SOIL AMENDMENTS AND FERTILIZER NOTED BELOW ARE TO BE USED FOR BID PRICE BASIS ONLY. SPECIFIC AMENDMENTS AND FERTILIZERS WILL BE MADE AFTER SOIL SAMPLES ARE LABORATORY TESTED BY THE CONTRACTOR. PROVIDE CHANGE ORDER FOR ADDITIONAL OR REDUCTION OF MATERIALS REQUIRED OR NOT REQUIRED BY THE SOILS REPORT.

SOIL FERTILITY AND AGRICULTURAL SUITABILITY ANALYSIS:

AFTER ROUGH GRADING AND PRIOR TO SOIL PREPARATION, CONTRACTOR TO OBTAIN TWO REPRESENTATIVE SOIL SAMPLES, FROM LOCATIONS AS DIRECTED BY THE LANDSCAPE ARCHITECT, TO AN ACCREDITED SOIL TESTING LABORATORY FOR TESTING. SUBMIT RESULTS TO LANDSCAPE ARCHITECT FOR REVIEW. TESTS TO INCLUDE FERTILITY AND SUITABILITY ANALYSIS WITH WRITTEN RECOMMENDATIONS FOR SOIL AMENDMENT, FERTILIZER, CONDITIONERS, APPLICATION RATES, AND POST-CONSTRUCTION MAINTENANCE PROGRAM. TESTS TO BE CONTRACTED WITH AND PAID FOR BY THE CONTRACTOR.

A) TOPSOIL:

CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL TOPSOIL AND FOR DETERMINING THE VOLUME OF TOPSOIL REQUIRED PER THE INFORMATION ON PLANS AND NOTED HERE-IN. CONTRACTOR IS RESPONSIBLE FOR ANY NECESSARY WEED CONTROL RESULTING FROM CONTAMINATED OFF SITE SOURCES.

- TOPSOIL TO CONSIST OF WINTER MIX AS PRODUCED AND REMIXED BY PACIFIC TOPSOILS, INC. WINTER MIX TO CONSIST OF 1/3 BY VOLUME SANDY LOAM, 1/3 BY VOLUME COMPOSTED GARDEN MULCH, AND 1/3 BY VOLUME COARSE WASHED SAND OR EQUIVALENT. AT MINIMUM, TOPSOIL PRODUCTS BROUGHT ON SITE TO CONTAIN AMENDMENTS AS LISTED IN 'C'.

C) TOPSOIL TO INCLUDE THE FOLLOWING AMENDMENTS AS NECESSARY:

- THE FOLLOWING AMOUNT PER 1,000 SQUARE FEET:
- 6-CUBIC YARDS ORGANIC COMPOST. COMPOST TO BE FREE OR NON-FARM ANIMAL SOURCES, NOR TO BE FROM SOURCES CONTAINING REDWOOD OF CEDAR PRODUCTS.
 - 30-POUNDS NITROFORM (38-0-0)
 - 5-POUNDS AMMONIUM SULFATE
 - 40-POUNDS CALCIUM CARBONATE LIMESTONE
 - 40-POUNDS DOLOMITE LIMESTONE
 - 5-OUNES BORON (AS BORAX)

ALL AMENDMENTS TO BE THOROUGHLY MIXED PRIOR TO INCORPORATION INTO TOPSOIL.

D) PLANTING BACKFILL FOR ALL TREES, SHRUBS, AND GROUNDCOVERS:

- 0.6-CUBIC YARDS PER VOLUME TOPSOIL
- 0.4-CUBIC YARDS ORGANIC COMPOST.
- 3-POUNDS NITROFORM (38-0-0)
- 1-POUNDS AMMONIUM SULFATE
- 2-POUNDS CALCIUM CARBONATE LIMESTONE
- 2-POUNDS DOLOMITE LIMESTONE

E) TOPSOIL PREPARATION AND INSTALLATION:

- VERIFY SUBGRADES TO -5 INCHES IN SOD OR SEED LAWN AREAS AND -8 INCHES IN LANDSCAPE AREAS, OR AS INDICATED ON THE PLANS. THIS ACCOMMODATES 4 INCHES OF IMPORTED TOPSOIL IN LAWN AREAS AND 6 INCHES OF IMPORTED TOPSOIL AND 2 INCHES OF MULCH IN LANDSCAPE AREAS.
- ERADICATE ANY SURFACE VEGETATION ROOTED IN THE SUB-GRADE PRIOR TO SUB-GRADE PREPARATION.
- THOROUGHLY SCARIFY AND RIP ALL LANDSCAPE SUB-GRADES WHICH HAVE BECOME COMPACTED TO A DEPTH OF 12 INCHES WITH MULTIPLE PASSES, 90 DEGREES TO EACH OTHER. SCARIFY AREAS INACCESSIBLE TO MECHANIZED EQUIPMENT AND AROUND EXISTING PLANTINGS NOTED TO REMAIN WITH HAND TOOLS.
- REMOVE SOIL LUMPS, ROCK, VEGETATION AND/OR DEBRIS LARGER THAN 2 INCHES FROM ALL SUB-GRADE PRIOR TO PLACEMENT OF SPECIFIED TOPSOIL.
- REMOVE ANY ASPHALT EXTENDING BEYOND 6 INCHES FROM CURBS INTO ADJACENT LANDSCAPE AREAS.

F) TOPSOIL PLACEMENT:

- PROVIDE A TOTAL FINISH COURSE OF 4 INCHES OF TOPSOIL FOR LANDSCAPE AREAS.
- IN ALL LANDSCAPE AREAS, PLACE 2 INCHES OF TOPSOIL MIX WITH AMENDMENTS OVER THE PREPARED SUB-GRADE AND THOROUGHLY ROTOTILL WITH MULTIPLE PASSES INTO THE TOP 6 INCHES OF SUB-GRADE FOR A TOTAL DEPTH OF 8 INCHES IN LANDSCAPE AREAS.
- PLACE AN ADDITIONAL 2 INCH LIFT OF TOPSOIL, IN ALL LANDSCAPE AREAS, FOR THE FINAL TOPSOIL DEPTH OF 4 INCHES IN LANDSCAPE AREAS.
- PLACE ADDITIONAL TOPSOIL AND SOIL MIX AS REQUIRED TO MEET FINISH ELEVATIONS.

ORGANIC MULCH (TOPDRESSING):

ONE-HALF-INCH (1/2") SIZE, TO ONE-QUARTER (1/4"), HEMLOCK/FIR BARK. FINE TEXTURED AND DARK BROWN IN COLOR.

STAKES:

2-INCH DIAMETER BY 8-FOOT MINIMUM LODGEPOLE PINE STAKES.

GUY MATERIAL:

1-INCH WIDE POLYETHYLENE CHAIN LOCK TYPE TIES, OR, 3/8" DIAMETER RUBBER, NO WIRE.

LAWN:

COMMERCIAL SEED.

HERBICIDE:

HERBICIDE IS NOT RECOMMENDED FOR THE FIRST YEAR AFTER INSTALLATION.

ANTI-DESICCANT:

"WILT-PROOF," 48 HOURS PRIOR TO SHIPMENT TO SITE FROM JUNE 1 THROUGH SEPTEMBER. THOROUGHLY ROOT WATER PLANTS PRIOR TO DELIVERY. PLANT MATERIAL DELIVERED TO SITE TO BE KEPT CONTINUALLY MOIST THROUGH INSTALLATION.

EXECUTION:

CONTAMINANTS:

VERIFY THAT ALL SOIL CONTAMINANTS (E.G., PAINT, SEALANTS, SOLVENTS, OILS, GREASES, CONCRETE/ASPHALT SPOILS, ETC.) HAVE BEEN SATISFACTORY REMOVED FROM ALL PLANTING AREAS. DO NOT BEGIN WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

FINISH GRADES:

FINE GRADE AND REMOVE ROCKS, DEBRIS, AND FOREIGN OBJECTS OVER 2 INCHES DIAMETER FROM TOP SURFACE OF PREPARED LANDSCAPE AREAS. FINISH ELEVATIONS TO BE DEFINED AS 3 INCHES BELOW CURBS, WALKS AND/OR OTHER ADJACENT HARDSCAPE FOR ALL PLANTING BED AREAS AND 1-INCH BELOW CURBS, WALKS AND/OR OTHER ADJACENT HARDSCAPE FOR ALL LAWN AREAS. FINISH GRADE REFER TO GRADES PRIOR TO INSTALLATION OF MULCH OR LAWN. ALL FINISH GRADES TO BE SMOOTH EVEN GRADES, LIGHTLY COMPACTED, AS SHOWN ON THE PLAN AND DETAILED. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND STRUCTURES. SITE CIVIL DRAWINGS IDENTIFY FINAL ELEVATIONS. MOISTEN PREPARED AREAS BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.

TREES AND SHRUBS:

ARRANGE TREES AND SHRUBS ON SITE IN PROPOSED LOCATIONS PER DRAWINGS. EXCAVATE PIT, PLANT AND STAKE OR GUY, AS CALLED OUT AND DETAILED. ALL TREES, SHRUBS, AND SUPPORTS TO STAND VERTICAL. BACKFILL SHALL BE PIT SPOILS. SETTLE BACKFILL USING WATER ONLY. NO MECHANICAL COMPACTION.

GROUNDCOVERS:

EXCAVATE PITS TO A MINIMUM OF 3 INCHES BELOW, AND TWICE THE ROOT BALL DIAMETER. WATER THOROUGHLY AND TAKE CARE TO ENSURE THAT ROOT CROWN IS AT PROPER GRADE, AS DETAILED.

MULCH:

MULCH ALL LANDSCAPE AREAS NOT COVERED BY LAWN AND/OR SEED. APPLY SUFFICIENT QUANTITY TO PROVIDE A 2-INCH DEPTH.

UTILITY CLEARANCES:

FIELD ADJUST PLANT LOCATIONS FOR 8-FOOT SEPARATION OF TREES/SHRUBS AND 2-FOOT SEPARATION FOR GROUND COVER FROM FIRE HYDRANTS AND UTILITY VAULTS.

CLEANUP AND PROTECTION:

DURING LANDSCAPE WORK, KEEP ALL PAVEMENT CLEAN AND WORK AREAS IN AN ORDERLY CONDITION. PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIOD. TREAT, REPAIR, OR REPLACE DAMAGE LANDSCAPE WORK AS DIRECTED BY THE OWNER.

PLANTING MAINTENANCE:

PROVIDE FULL MAINTENANCE BY SKILLED EMPLOYEES OF LANDSCAPE INSTALLERS. CONTRACTOR TO MAINTAIN PLANTINGS THROUGH COMPLETED INSTALLATION, AND UNTIL ACCEPTANCE OF LANDSCAPE INSTALLATION. PLANTING MAINTENANCE TO INCLUDE WATERING, WEEDING, CULTIVATING, TIGHTENING AND REPAIRING OF TREE GUYS; RESETTling PLANTS TO PROPER GRADES OR POSITION, RE-ESTABLISHING SETTLED GRADES; AND MOWING LAWNS WEEKLY AFTER LAWN ESTABLISHMENT. HERBICIDE IS NOT RECOMMENDED FOR ONE YEAR FOLLOWING LANDSCAPE INSTALLATION. INCLUDED IS REPLACEMENT OF DEAD PLANTS AND PLANTS SHOWING LOSS OF 40 PERCENT OR MORE OF CANOPY.

IRRIGATION MAINTENANCE:

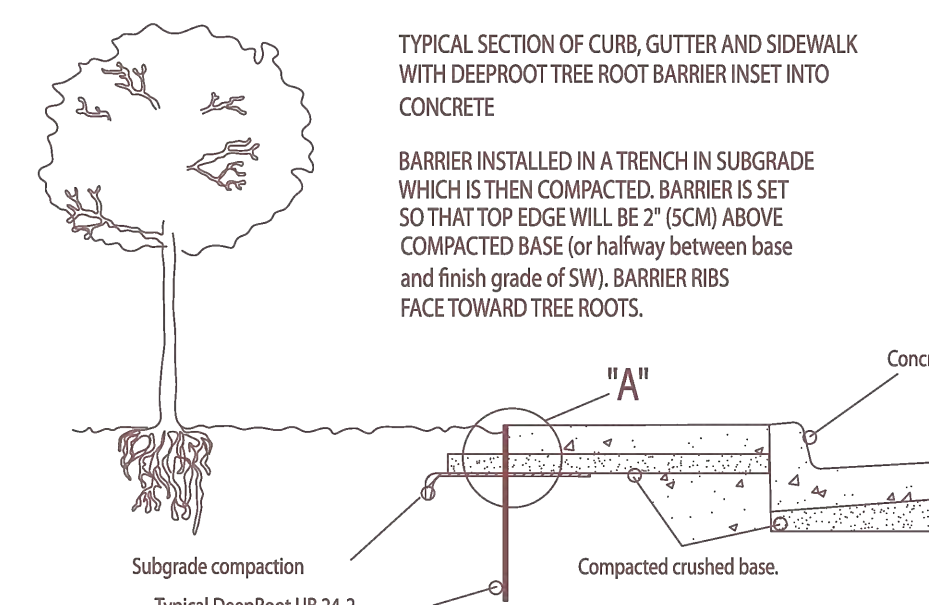
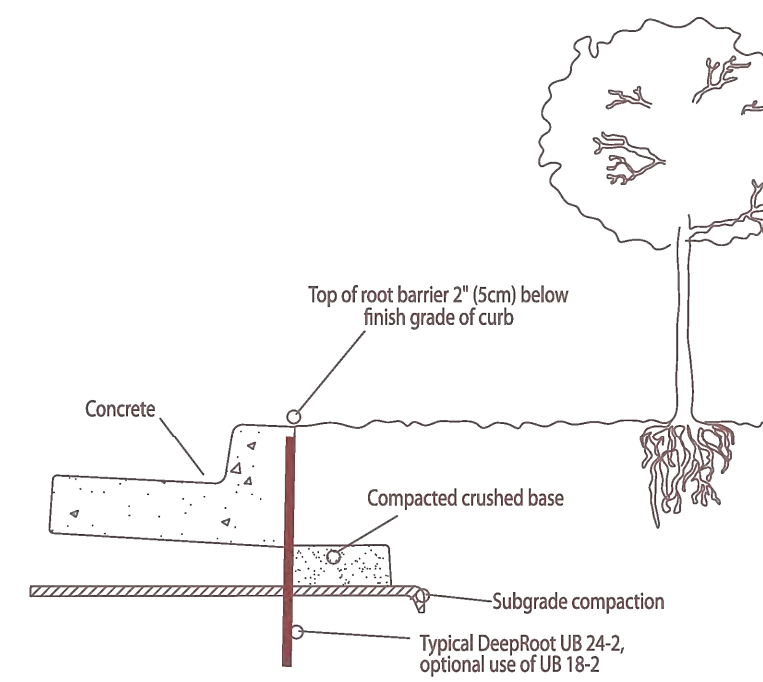
THE IRRIGATION SYSTEM TO BE MAINTAINED INCLUDING ADJUSTMENTS FOR BALANCED WATER DISTRIBUTION AND PRECIPITATION. FAILED OR MALFUNCTIONING IRRIGATION EQUIPMENT SHALL BE REPLACED AND/OR CORRECTED. PLANTING AND IRRIGATION MAINTENANCE TO INCLUDE THOSE OPERATIONS NECESSARY TO THE PROPER GROWTH AND SURVIVAL OF ALL PLANT MATERIALS. CONTRACTOR TO PROVIDE THIS WORK IN ADDITION TO SPECIFIC WARRANTY/GUARANTEES.

Linear Application of DeepRoot Tree Root Barriers at Time of Installing Concrete Sidewalks and Curbs

TYPICAL SECTION OF CURB AND GUTTER WITH DEEPROOT TREE ROOT BARRIER INSET INTO CONCRETE. BARRIER INSTALLED IN A TRENCH IN SUBGRADE WHICH IS THEN COMPACTED. BARRIER IS SET SO THAT TOP EDGE WILL BE 2" (5CM) BELOW FINISH GRADE OF CURB, AND SET FLUSH WITH EDGE OF CURB. BARRIER RIBS FACE TOWARD TREE ROOTS.

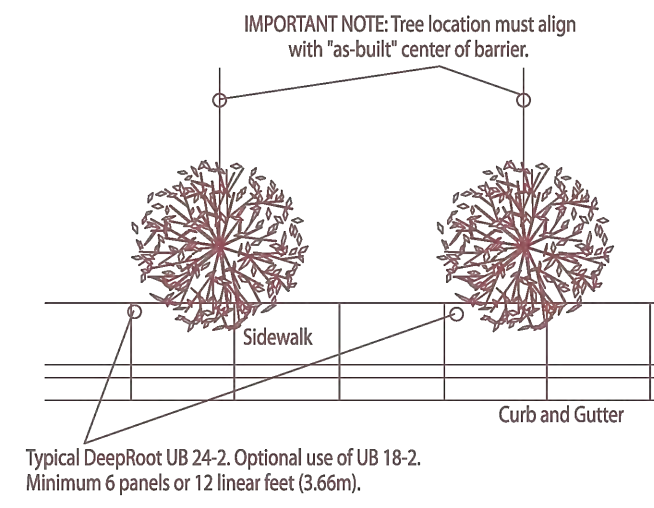
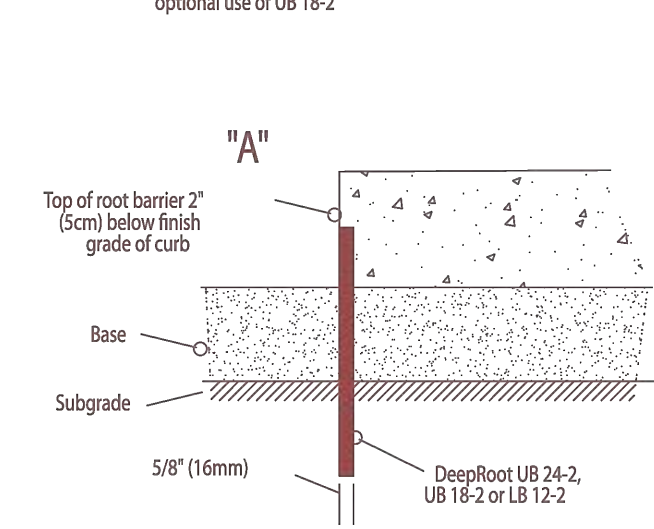
INSTALLATION SEQUENCE:

- Prepare base and subgrade
- Trench to appropriate depth for installation of root barrier so that top of barrier is 2" (5cm) below finish grade of top of curb.
- Place root barrier in trench, vertical ribs must face toward tree roots.
- Backfill and compact to requirements.
- Place form material against barrier (It may be nailed from the outside of the form)



INSTALLATION SEQUENCE:

- Prepare base and subgrade
- Trench to appropriate depth for installation of root barrier so that top of barrier is 2" (5cm) below finish grade of top of sidewalk (or halfway between top of compacted base and finish grade of SW)
- Place root barrier in trench, vertical ribs must face toward tree roots.
- Backfill and compact to requirements.
- Place form material against barrier (It may be nailed from the outside of the form)



IMPORTANT NOTE:

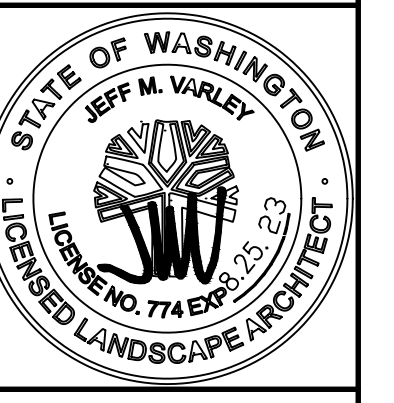
Tree location must align with "as-built" center of barrier.

No.	Date	By	Chd.	Appr.	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22
2	2/18/22	TOR	JMV	JMV	JMV

Title: LANDSCAPE NOTES AND DETAILS

FOR MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004
FOR TOLT RIVER TERRACE

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



Scale:	Horizontal	N/A	Vertical	N/A
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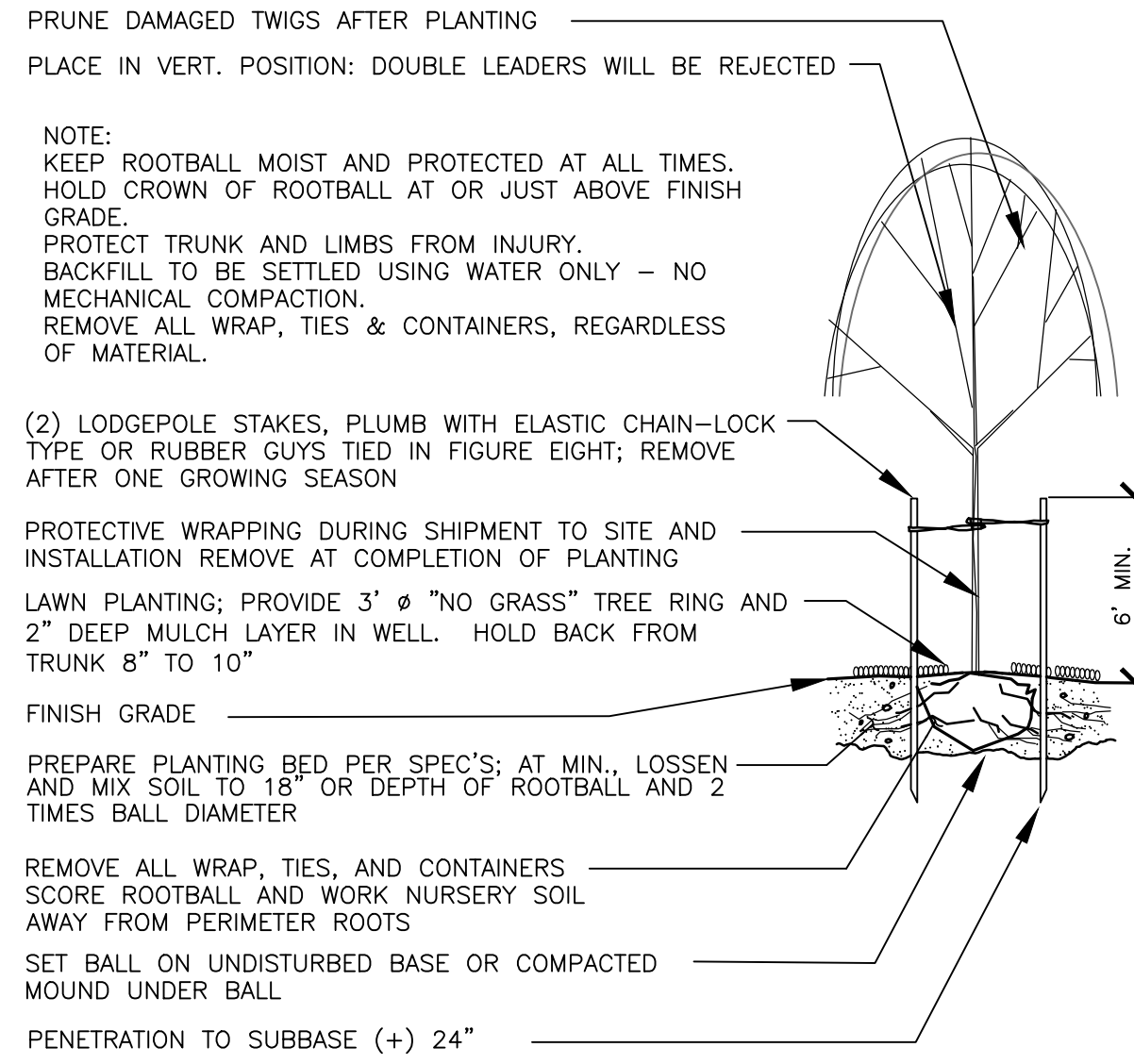
Designed	TOR	Drawn	TOR	Checked	JMV	Approved	JMV	Date	2/18/22
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Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
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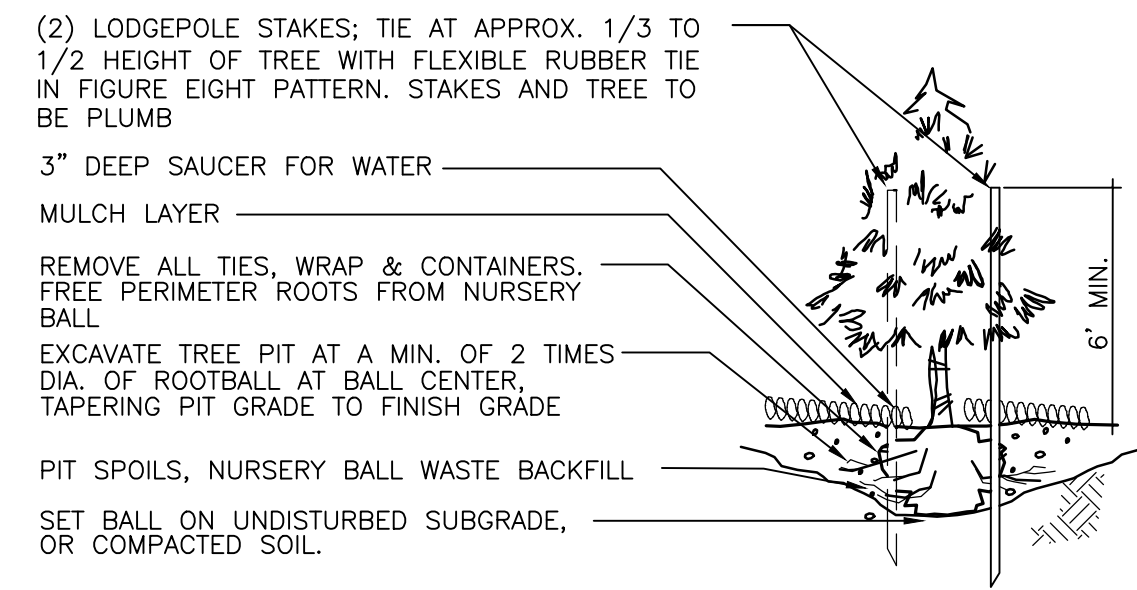
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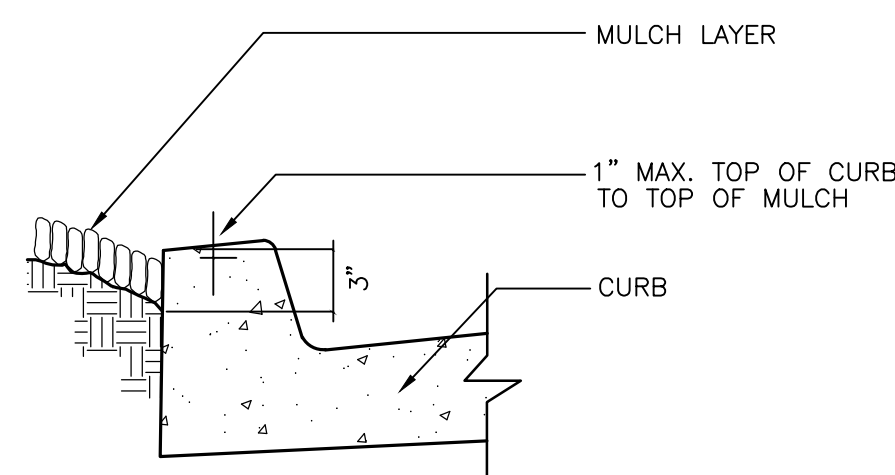
LANDSCAPE NOTES AND DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



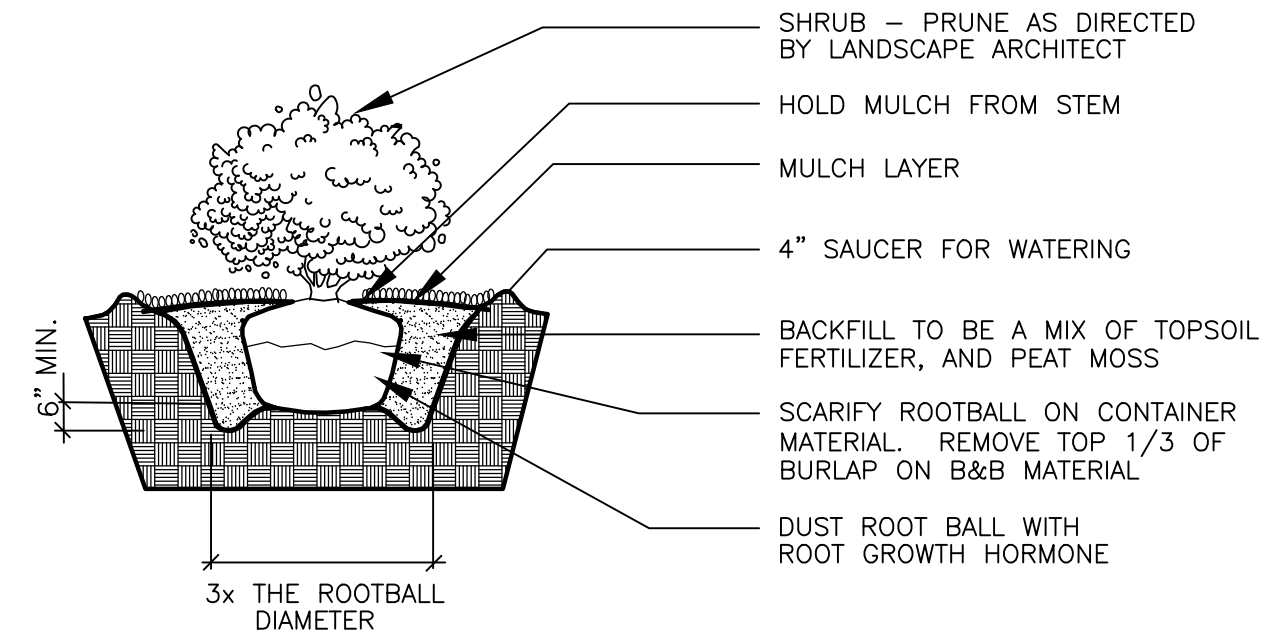
DECIDUOUS TREE PLANTING/STAKING DETAIL
NOT TO SCALE



EVERGREEN TREE PLANTING/STAKING DETAIL
NOT TO SCALE

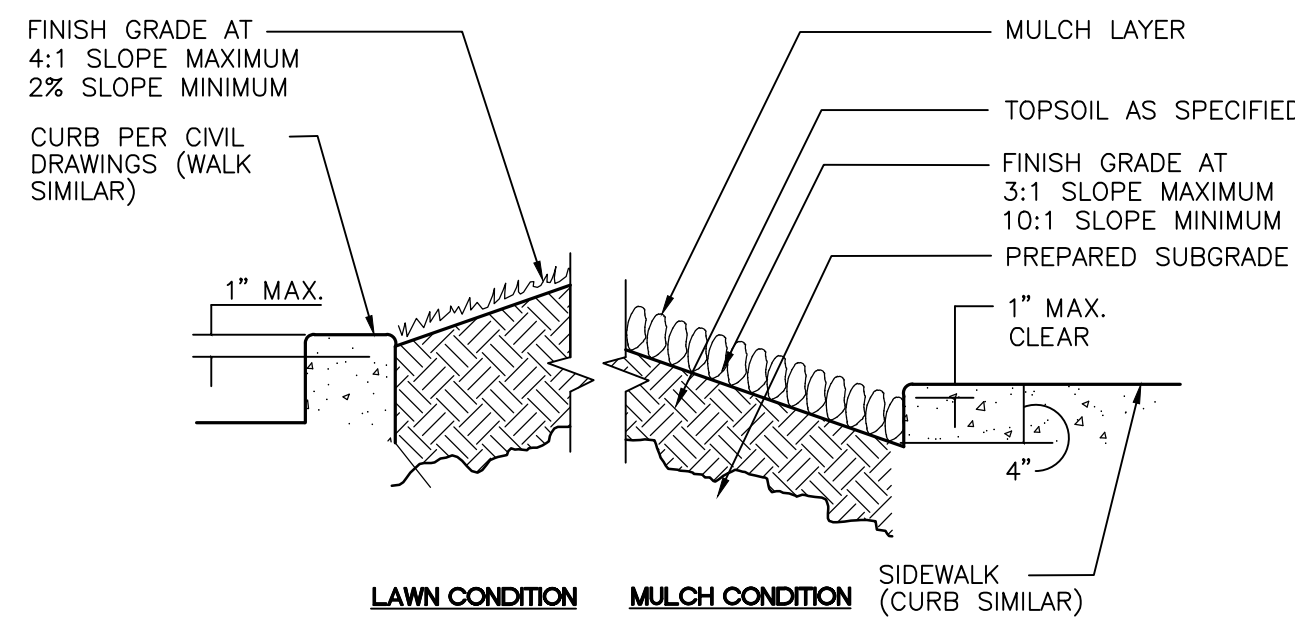


MULCH AT CURB DETAIL
NOT TO SCALE

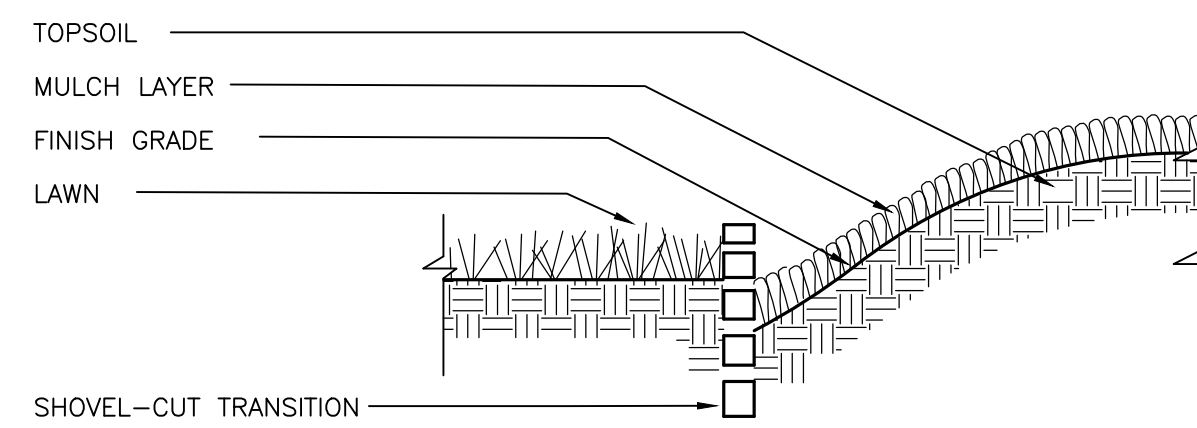


SHRUB PLANTING DETAIL
NOT TO SCALE

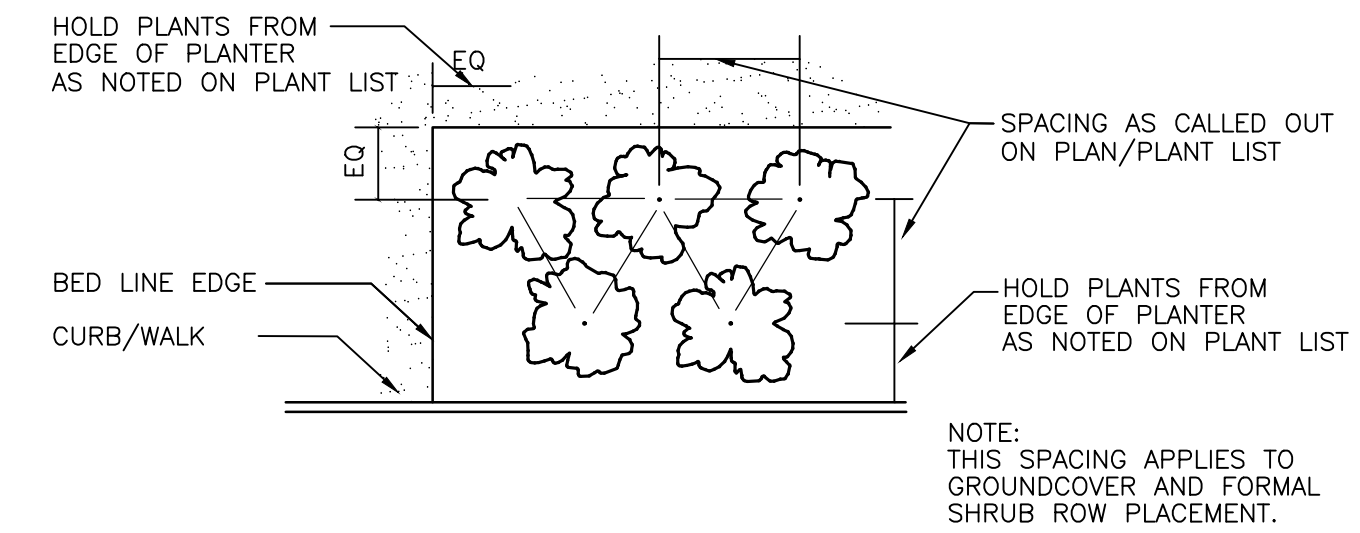
NOTE:
APPLY ADDITIONAL 4 OZ. 8-32-16 FERTILIZER INTO TOP 2" OF PLANTING MIX.
PLANT SHRUB HIGH ENOUGH TO ALLOW POSITIVE DRAINAGE AWAY FROM ROOTBALL. ROUGHEN ALL SURFACES OF PIT.
CUT AND REMOVE BURLAP FROM ROOT BALL



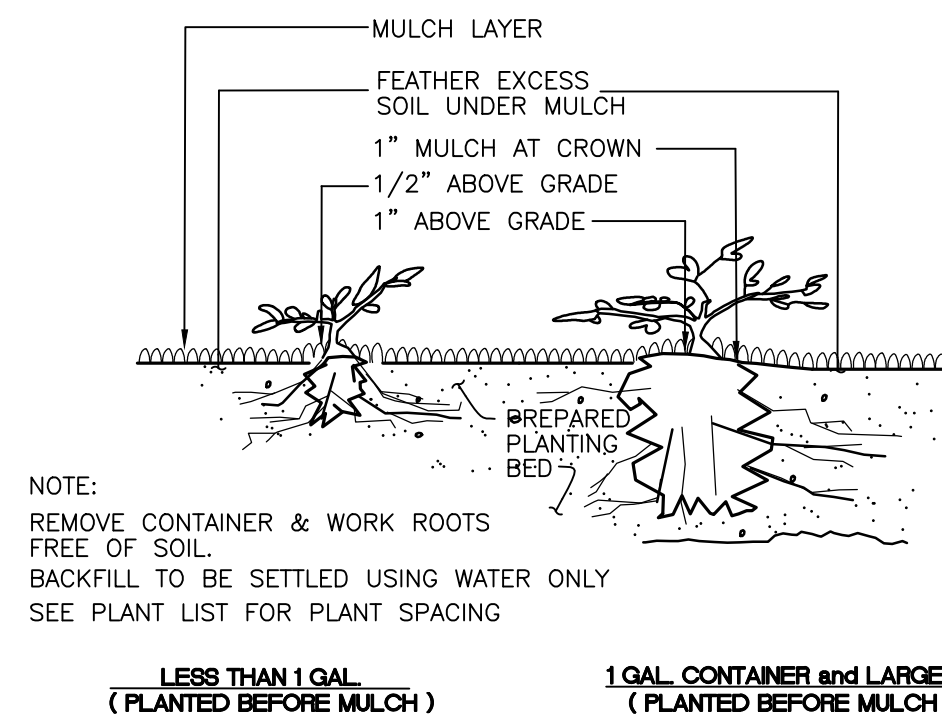
PLANTER SECTION DETAIL
NOT TO SCALE



PLANTING BED ADJACENT TO LAWN DETAIL
NOT TO SCALE



PLANT MATERIAL SPACING DETAIL
NOT TO SCALE



GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

Revision	Date	By	Chd.	Appr.
2	2/18/22	TCR	JMV	JMV
REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22				

Title: LANDSCAPE NOTES AND DETAILS
FOR TOLT RIVER TERRACE

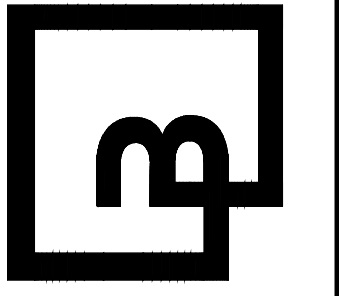
For: MAINVUE WA LLC
1110 112TH AVE NE, SUITE 202
BELLEVUE, WA 98004



Scale: Horizontal N/A, Vertical N/A

Designed	TCR
Drawn	TCR
Checked	JMV
Approved	JMV
Date	2/18/22

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425.251.6222
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Job Number: 18057
Sheet: L-9 of 16

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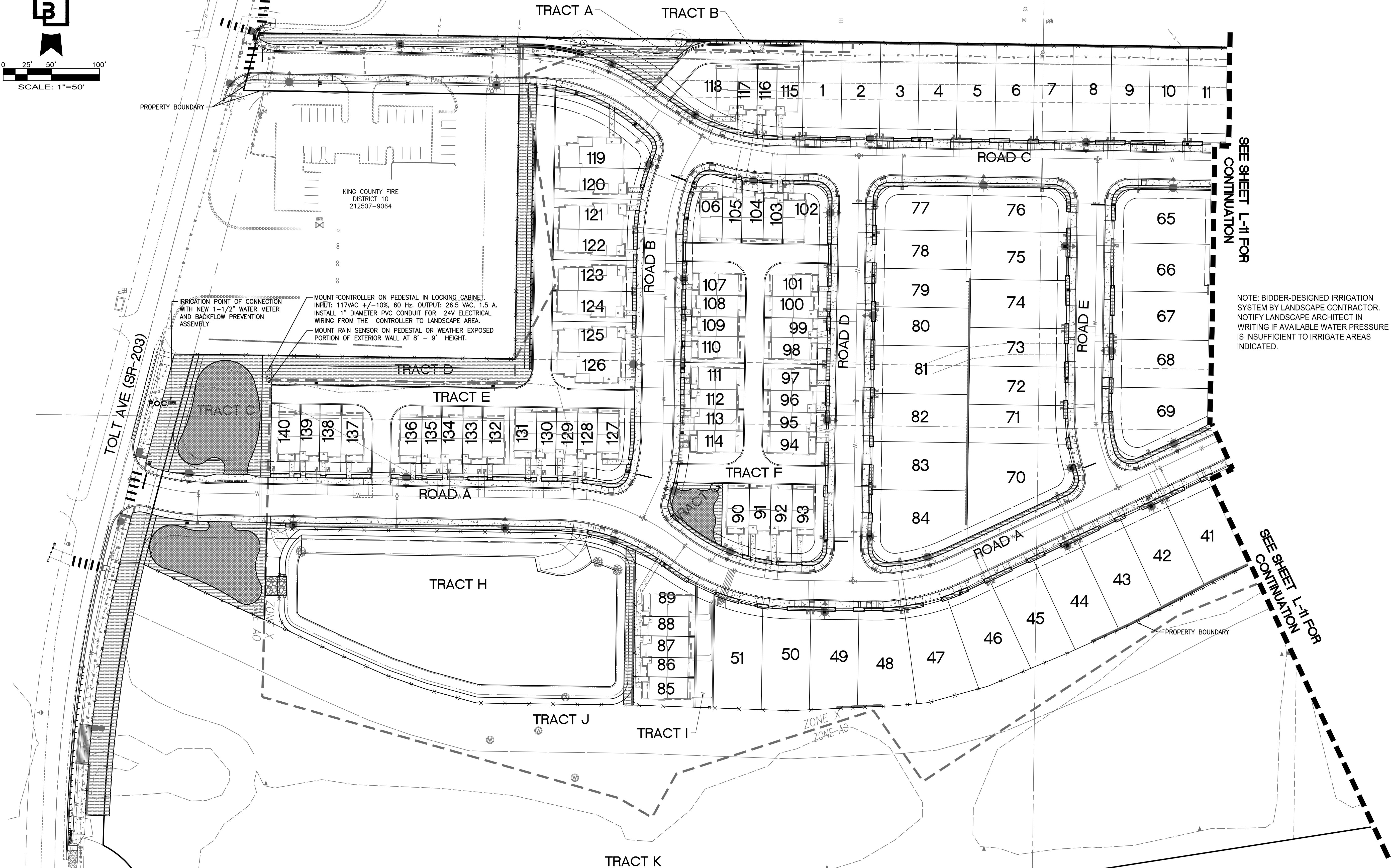
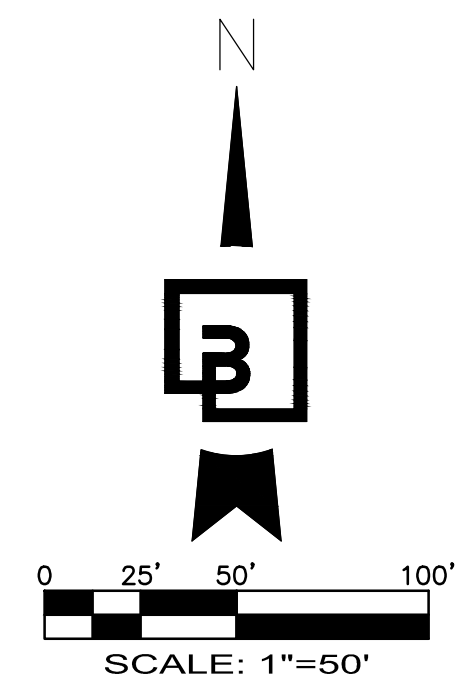
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IRRIGATION DETAILS
FOR

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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

TOLT MIDDLE SCHOOL
RIVERVIEW SCHOOL DISTRICT 407
212507-9003



IRRIGATION POINT OF CONNECTION WITH NEW 1-1/2" WATER METER AND BACKFLOW PREVENTION ASSEMBLY

MOUNT CONTROLLER ON PEDESTAL IN LOCKING CABINET. INPUT: 117VAC +/-10%, 60 Hz. OUTPUT: 26.5 VAC, 1.5 A. INSTALL 1" DIAMETER PVC CONDUIT FOR 24V ELECTRICAL WIRING FROM THE CONTROLLER TO LANDSCAPE AREA.

MOUNT RAIN SENSOR ON PEDESTAL OR WEATHER EXPOSED PORTION OF EXTERIOR WALL AT 8' - 9' HEIGHT.

SEE SHEET L-11 FOR CONTINUATION

NOTE: BIDDER-DESIGNED IRRIGATION SYSTEM BY LANDSCAPE CONTRACTOR. NOTIFY LANDSCAPE ARCHITECT IN WRITING IF AVAILABLE WATER PRESSURE IS INSUFFICIENT TO IRRIGATE AREAS INDICATED.

SEE SHEET L-11 FOR CONTINUATION

No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TCR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

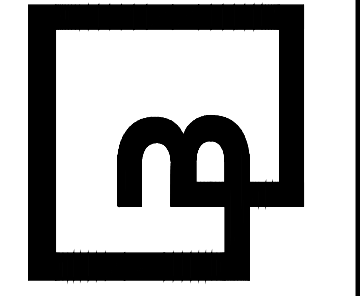
Title: **IRRIGATION DETAILS FOR TOLT RIVER TERRACE**

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



Scale:	Horizontal	1" = 50'	
	Vertical	N/A	
Designed TOR:	Drawn TOR:	Checked JMV:	
		Approved JMV:	
		Date	2/18/22

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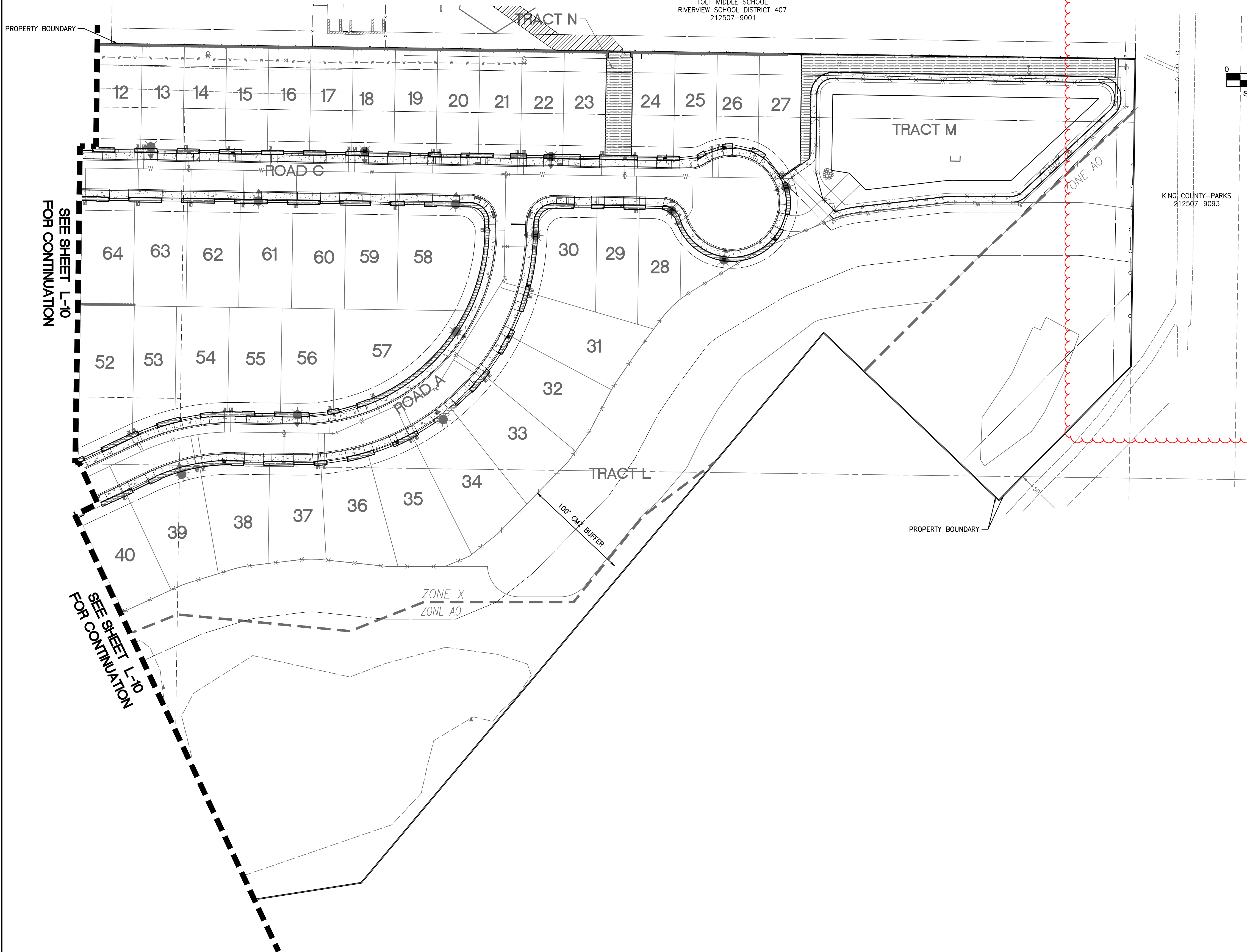
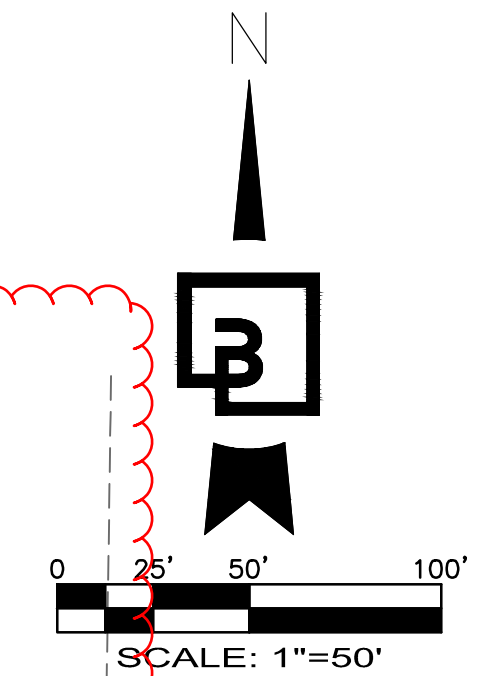
Job Number: **18057**
Sheet: **L-10** of **16**

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IRRIGATION PLAN WEST
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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

TOLT MIDDLE SCHOOL
RIVERVIEW SCHOOL DISTRICT 407
212507-9001



SEE SHEET L-10
FOR CONTINUATION

SEE SHEET L-10
FOR CONTINUATION

No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TCR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

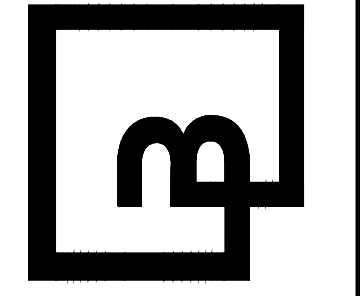
Title:
**IRRIGATION PLAN WEST
FOR
TOLT RIVER TERRACE**

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



Designed	TCR	Date	2/18/22
Drawn	TCR		
Checked	JMV		
Approved	JMV		

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Job Number
18057
Sheet
L-11 of 16

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IRRIGATION 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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

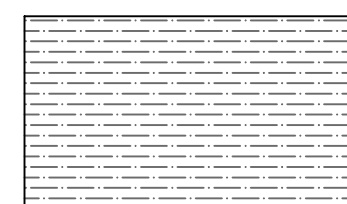
LANDSCAPE IRRIGATION NOTES

1. GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR TO COORDINATE:
 - A) INSTALLATION OF 110V ELECTRICAL SERVICE FROM ELECTRICAL SOURCE TO AUTOMATIC CONTROLLER, INCLUDING WIRE HOOK-UP INTO MOUNTED CONTROLLER. IRRIGATION CONTRACTOR WILL MOUNT CONTROLLER PER DESIGN AND COORDINATE WITH GENERAL CONTRACTOR.
 - B) INSTALLATION OF IRRIGATION/SERVICE METER AND STUB TO IRRIGATION POINT OF CONNECTION, PER UTILITY PLAN(S). PROVIDE STANDARD THREADED STUB-OUT WITH THREADED CAP ON DISCHARGE SIDE OF METER. STUB-OUT TO BE INSTALLED APPROXIMATELY 18 INCHES BELOW FINISH GRADE.
 - C) VERIFICATION OF STATIC WATER PRESSURE AT POINT-OF-CONNECTION (P.O.C.) CONTRACTOR SHALL NOTIFY OWNER AND BARGHAUSEN CONSULTING ENGINEERS, INC., OF ANY VARIATION IN STATIC PRESSURE OVER 5 PSI GREATER/LESS THAN DESIGN PRESSURE.
 - D) INSTALLATION OF SLEEVING.
2. PROVIDE ALL LABOR, MATERIALS, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH AND INSTALL A COMPLETE IRRIGATION SYSTEM AS INDICATED ON THE DRAWINGS AND/OR NOTES. PROVIDE A ONE (1) YEAR WARRANTY/GUARANTEE FROM FINAL ACCEPTANCE AGAINST ALL DEFECTS IN MATERIALS, EQUIPMENT, AND WORKMANSHIP.
3. COORDINATE IRRIGATION INSTALLATION WITH GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, LANDSCAPE CONTRACTOR, OWNER, ARCHITECT, AND LANDSCAPE ARCHITECT.
4. **LANDSCAPE CONTRACTOR TO TEST AVAILABLE WATER PRESSURE PRIOR TO BEGINNING ANY WORK. PROVIDE LANDSCAPE ARCHITECT WITH WRITTEN PSI RESULTS.**
5. ALL WORK PER LOCAL CODE. INSTALLATION PER MANUFACTURER'S WRITTEN SPECIFICATIONS.
6. CONTRACTOR TO OBTAIN AND PAY FOR ALL PERMITS, FEES, AND REQUIRED CITY INSPECTIONS.
7. SUBMITTALS:
 - A) SUBMIT FIVE (5) COPIES OF EACH ITEM LISTED BELOW FOR LANDSCAPE ARCHITECT'S REVIEW AND APPROVAL.
 - B) PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
 - C) CONTROL WIRING PATH DIAGRAM.
 - D) "AS-BUILT" DRAWINGS.
 - E) OPERATION AND MAINTENANCE MANUALS.
8. PROVIDE AND KEEP UP TO DATE A COMPLETE "AS-BUILT" RECORD SET OF PRINTS WHICH ARE TO BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS AND NOTES AND EXACT "AS-BUILT" LOCATIONS, SIZES AND KIND OF EQUIPMENT. THIS SET OF DRAWINGS ARE TO BE KEPT ON SITE AND ARE TO BE USED ONLY AS THE RECORD SET. ALL WORK IS TO BE NEAT AND LEGIBLE ANNOTATIONS THEREON DAILY AS THE WORK PROCEEDS, SHOWING WORK AS ACTUALLY INSTALLED. DIMENSION FORM TWO (2) PERMANENT POINTS OF REFERENCE, BUILDING CORNERS, WALKS, OR ROAD INTERSECTIONS, ETC., THE LOCATION OF THE FOLLOWING:
 - A) CONNECTION TO WATER LINES (P.O.C.).
 - B) CONNECTIONS TO ELECTRICAL POWER.
 - C) GATE VALVE, QUICK COUPLERS, AND REMOTE CONTROL VALVE.
 - D) ROUTING OF MAINLINE (DIMENSION MAXIMUM 100' ALONG ROUTING).
 - E) ROUTING OF CONTROL WIRING.
 - F) OTHER RELATED EQUIPMENT AS DIRECTED BY THE LANDSCAPE ARCHITECT.
9. PREPARE AND PROVIDE PRIOR TO COMPLETION OF CONSTRUCTION, A THREE RING BINDER CONTAINING THE FOLLOWING INFORMATION:
 - A) INDEX SHEET STATING CONTRACTOR'S ADDRESS, TELEPHONE NUMBER, FAX, E-MAIL AND A LIST OF EQUIPMENT WITH NAME AND ADDRESS OF LOCAL MANUFACTURER'S REPRESENTATIVES.
 - B) CATALOG AND PARTS SHEETS ON EVERY MATERIAL AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
 - C) GUARANTEE STATEMENT.
 - D) COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL MAJOR EQUIPMENT.
 - E) CONSTRUCTION DETAILS FROM THE PROJECT.
 - F) COMPLETE TROUBLE-SHOOTING GUIDE TO COMMON IRRIGATION PROBLEMS.
 - G) WINTERIZATION AND SPRING START-UP PROCEDURES.
 - H) CHART OF APPROXIMATE WATERING TIMES FOR SPRING, SUMMER, AND FALL.
 - I) A COPY OF THE "AS-BUILT" DRAWINGS AND CONTROLLER CHART.
10. ALL VALVES TO BE PLACED IN "CARSON" GRADE LEVEL BOXES WITH BOLT-LOCK LIDS (OR APPROVED EQUIVALENT). SET BOXES 2 INCHES HIGHER THAN FINISH GRADE IN MULCH AREAS AND FLUSH WITH FINISH GRADE IN LAWN AREAS. JUMBO BOX FOR CHECK VALVE, 10" ROUND BOX FOR GATE/QUICK COUPLER/WIRE SPLICES, AND 12" STANDARD FOR CONTROL VALVES. PROVIDE BOX EXTENSIONS AS REQUIRED.
11. MAINLINE PIPE TO BE BURIED 18 INCHES, LATERALS 12 INCHES, AND SLEEVES 24" INCHES BELOW FINISH GRADE. NO ROCK OR DEBRIS TO BE BACKFILLED OVER PIPE.
12. HEAD AND LINE POSITIONING IS DIAGRAMMATIC ON PLAN. ADJUST IN FIELD AS NECESSARY FOR 100 PERCENT COVERAGE. VALVES TO BE POSITIONED ADJACENT TO PAVEMENT/CURBS, IN SHRUB BEDS WHERE POSSIBLE.
13. FAMILIARIZE OWNERS FACILITY OPERATOR WITH IRRIGATION SYSTEM FUNCTION, CONTROLLER PROGRAMMING, SYSTEM OPERATION AND MAINTENANCE REQUIREMENTS.
14. SPRINKLERS ON RISERS WILL NOT BE ALLOWED UNLESS NOTED ON PLANS.
15. RADIUS REDUCTION TO BE MADE BY USE OF PRESSURE ADJUSTMENT, SCREENS, AND/OR ALTERNATE NOZZLES. IN-NOZZLE ADJUSTMENT IS LIMITED TO 10 PERCENT FOR SPRAY HEADS AND PER MANUFACTURER'S LIMITS FOR OTHER SPRINKLERS. SPRINKLER SPACING NOT EXCEED 60% OF THE DIAMETER OF THE PUBLISHED DATA.
16. ALL CONTROL WIRE SPLICES TO BE MADE AT VALVE BOXES WITH WATER TIGHT ELECTRICAL SPLICES, 3M, SCOTT'S LOCK SEAL TACK 3576-78, OR EQUIVALENT.
17. EACH VALVE BOX TO CONTAIN A MINIMUM OF TWO (2) SPARE ORANGE CONTROL WIRES FOR JACKETED WIRE. ROUTE SPARE WIRES FROM THE CONTROLLER TO THE LAST VALVE OF EACH MAINLINE BRANCH. COMMON WIRE TO BE WHITE. SINGLE STRAND WIRE TO BE A MINIMUM OF 14 GAUGE.
18. ALL ELECTRICAL EQUIPMENT TO BE U.L. TESTED AND APPROVED, AND BEAR THE U.L. LABEL.
19. CROSS CONNECTION PROTECTION INSPECTION REQUIRED. THE BACKFLOW DEVICE TO BE TESTED UPON THE ORIGINAL INSTALLATION. THE TESTING TO BE PERFORMED BY A PERSON HOLDING A CURRENT CERTIFICATE AS A BACKFLOW TESTER. THE TEST REPORT TO BE SUBMITTED TO THE LOCAL WATER DISTRICT, OR PURVEYOR, AND OWNER WITH A COPY TO BARGHAUSEN CONSULTING ENGINEERS, INC. CONTRACTOR TO INCLUDE TESTING IN THE SCOPE OF WORK. OWNER IS RESPONSIBLE FOR ANNUAL INSPECTIONS AFTER THE INTIAL INSPECTION.
20. CONTRACTOR TO PROVIDE SYSTEM WINTERIZATION/SPRING SERVICE WHEN INSTALLATION HAS BEEN COMPLETED WITHIN 90 DAYS OF NOVEMBER 1 FOR WINTERIZATION, OR MAY 15 FOR SPRING SERVICE. SERVICE TO BE PERFORMED AS NEAR AS PRACTICAL

IRRIGATION SCHEDULE

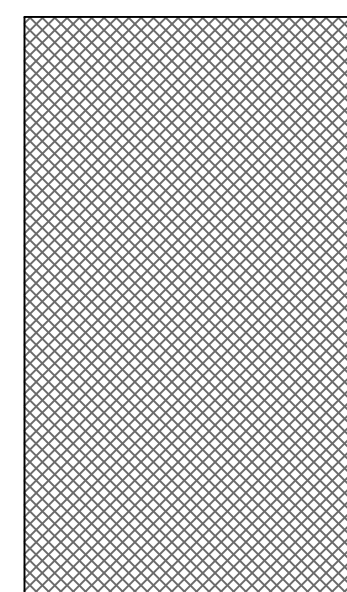
DESCRIPTION

DRIP IRRIGATION:



HUNTER LANDSCAPE DRIPLINE COMPONENTS
HDL-06-12-250-CV SUB-SURFACE DRIPLINE TUBING 0.6 GPH PRESSURE COMPENSATING EMITTERS WITH CHECK VALVE AT 12" ON-CENTER SPACING - ALL TUBING SHALL BE INSTALLED ON GRADE W/ 9" WIRE STAKES FOUR (4) FEET ON-CENTER; VERIFY THE LAYOUT AND 18" ON-CENTER SPACING IN THE FIELD PRIOR TO STARTING WORK. INSTALL ALL COMPONENTS PER MANUF. SPECIFICATIONS.
USE HUNTER PLD-LOC FITTINGS FOR CONNECTION BETWEEN PVC LATERAL LINES AND INLINE DRIP TUBING

SPRINKLER HEADS:
HUNTER MP ROTATOR WITH PRO-SPRAY POP-UP BODY AND CV DRAIN CHECK VALVE, 4" LAWN, 6" SHRUB



SYMBOL	NOZZLE	PSI	GPM	RADIUS
	HUNTER-6Q and 6H H, Q SERIES	30	0.98, 0.51	6'
	HUNTER-1000 8-15 F, TH, TT, H, Q SERIES	35	0.65, 0.48, 0.37, 0.32, 0.16	8'
	HUNTER-1000 8-15 F, TH, TT, H, Q SERIES	35	0.65, 0.48, 0.37, 0.32, 0.16	10'
	HUNTER-1000 8-15 F, TH, TT, H, Q SERIES	35	0.65, 0.48, 0.37, 0.32, 0.16	12'
	HUNTER-2000 13-21 F, TQ, TT, H, Q SERIES	30	1.29, 0.95, 0.74, 0.63, 0.33	15'
	HUNTER ES515, SS530 SERIES	35	1.41, 0.65	5'x30', 5'x15'
	HUNTER-3000 22-30 F, TQ, TT, H, Q SERIES	35	2.88, 2.19, 1.68, 1.44, 0.69	0.43 22'



HUNTER SOLAR SYNC WIRE RAIN SENSOR COMBO



HUNTER PRO-C CONTROLLER 3 TO 15 STATIONS, (HARDWIRE CONNECTION); PROVIDE GROUND AND BATTERIES PER MANUFACTURER'S SPECIFICATIONS

P.O.C.

WILKINS 950 XLT- 1" DOUBLE CHECK VALVE (STATE APPROVED); TEST AND CERTIFICATION BY LICENSED BACKFLOW TESTER
WILKINS 850 - BALL VALVE, SIZE TO MATCH PIPE
CARSON INDUSTRIES #1730 (TWO AT P.O.C.) GRADE LEVEL VAULT WITH BOLT LOCK LID

===== SLEEVE - SCH 40 PVC; 24" MINIMUM COVER AT VEHICLE CROSSINGS AND 18" MINIMUM COVER IN LANDSCAPE AREAS, 6" SIZE WHERE IRRIGATION MAINLINE TRAVELS THROUGH PIPE. 4" SIZE WHERE ONLY LATERALS TRAVEL THROUGH PIPE

IRRIGATION SHOWN DIAGRAMMATICALLY FOR PLAN CLARITY. COMMON TRENCH AND PLACE EQUIPMENT IN LANDSCAPE; MANIFOLD GROUPED VALVES IN ADJACENT SHRUB AREAS WHERE FEASIBLE.

SCH 40 PIPE SIZING CHART

PIPE SIZE	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	
FLOW GPM	1-8	8.1-13	13.1-23	23.1-32	32.1-53	53.1-74	GPM (MAX.)

No.	Date	By	Appr.	Comments
2	2/18/22	TCR	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

Revision
IRRIGATION PLAN EAST
FOR
TOLT RIVER TERRACE

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



Scale: Horizontal N/A, Vertical N/A

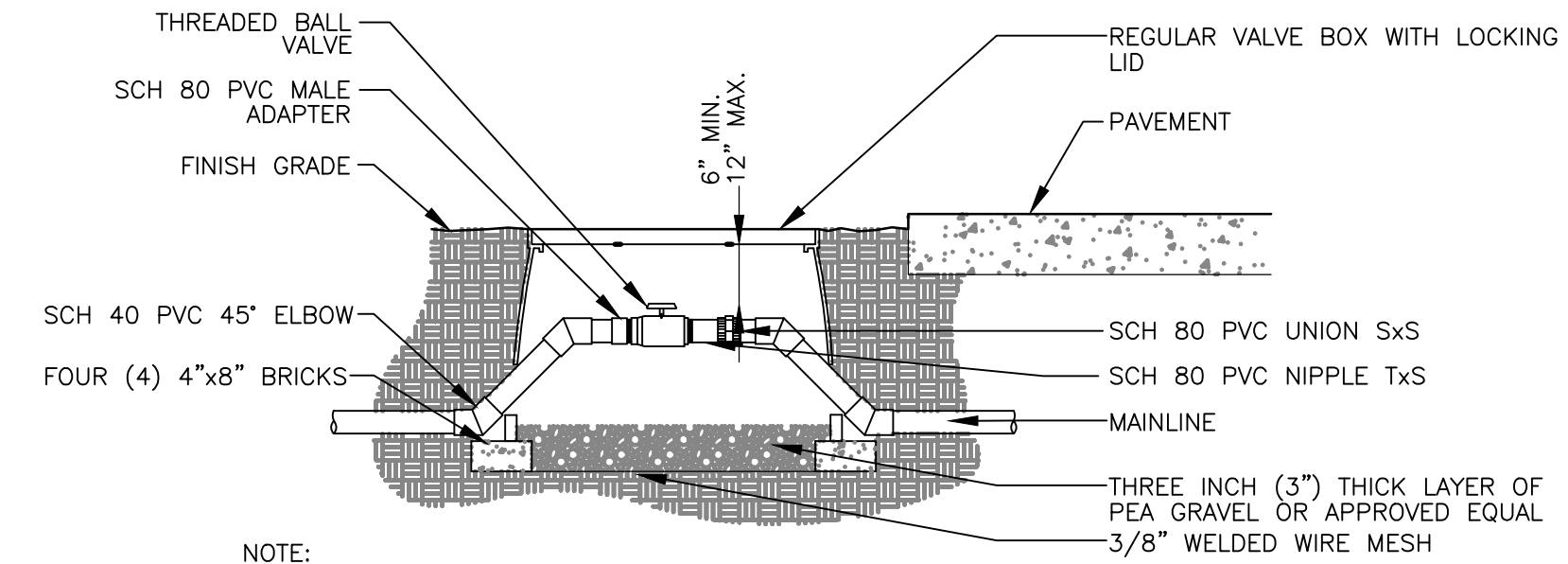
Designed: TCR, Drawn: TCR, Checked: JMV, Approved: JMV, Date: 2/18/22

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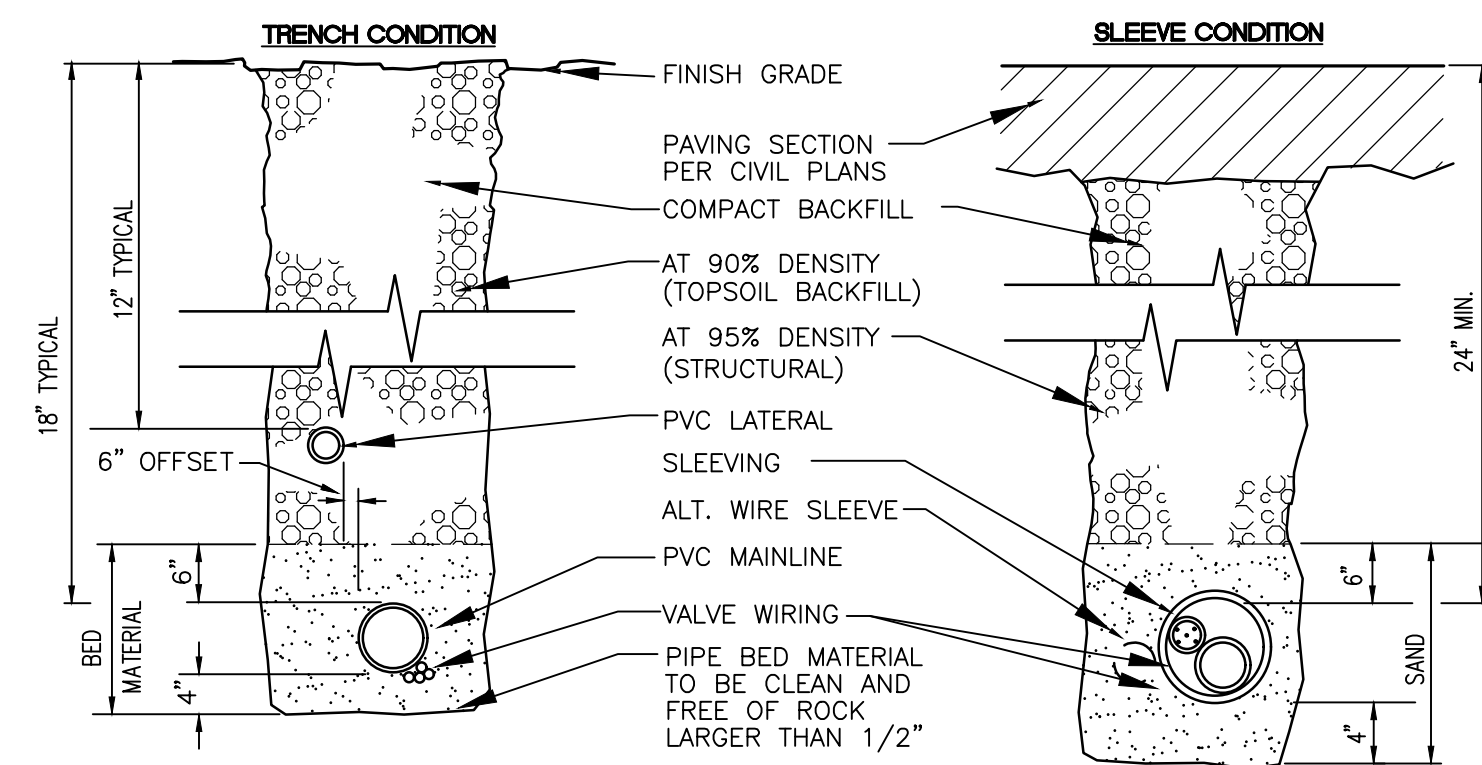
IRRIGATION NOTES AND SCHEDULE
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



- NOTE:
1. LOCATE VALVE BOXES IN PLANTING AREAS.
 2. WRAP VALVE BOX WITH A MINIMUM OF 3 MIL THICK PLASTIC AND SECURE IT USING DUCT TAPE OR ELECTRICAL TAPE.
 3. ALL THREADED CONNECTIONS TO BE MADE USING TEFLON TAPE.
 4. ALL CHANGES IN ELEVATION SHALL BE MADE USING SCH 40 PVC 45° ELBOWS.

BALL VALVE DETAIL

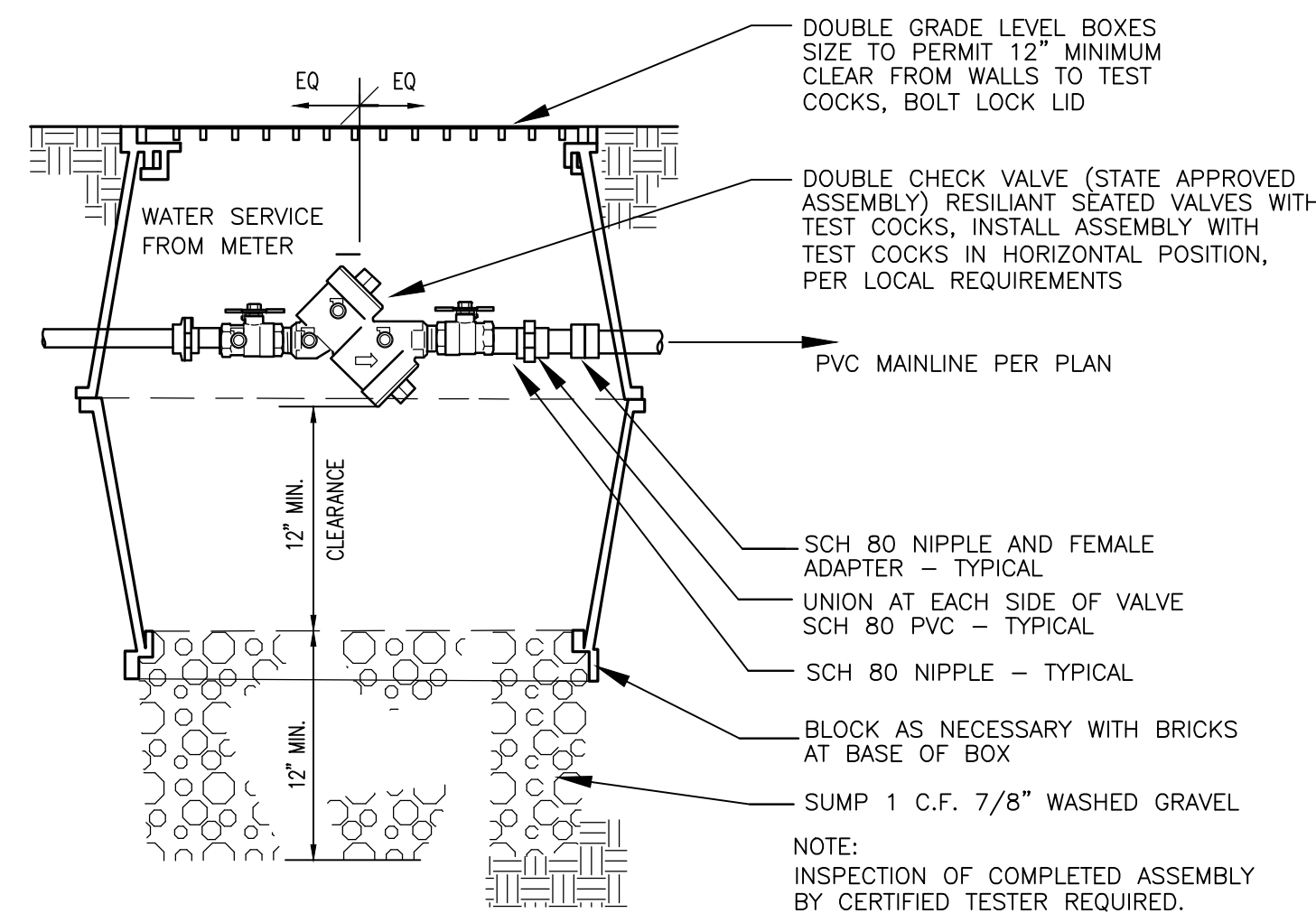
NOT TO SCALE



- NOTE:
- SLEEVING MATERIAL SHALL BE PVC CLASS 160(SDR-26). DIMENSIONS ARE MIN. CLEARANCES.
- ALL IRRIGATION SLEEVING TRENCH BACKFILL MATERIAL SHALL BE CLASS "B" OR BETTER (MAX. OF 10% PASSING NO.40 SCREEN) AND BE COMPACTED TO MIN. 95% OPTIMUM DENSITY PER ASTM D-1557-70 (MODIFIED PROCTOR)

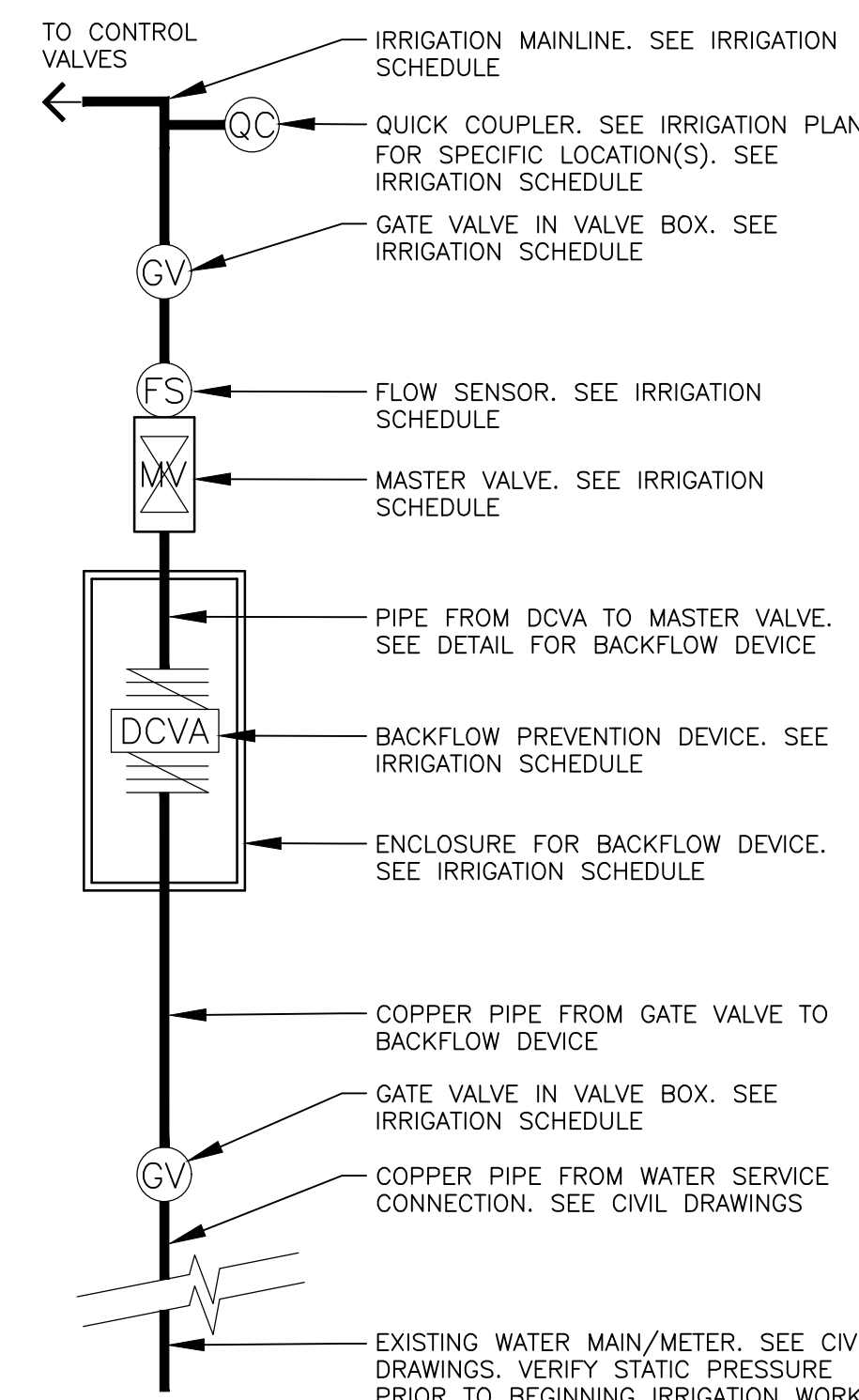
SLEEVE/TRENCHING DETAIL

NOT TO SCALE



CHECK VALVE ASSEMBLY DETAIL

NOT TO SCALE

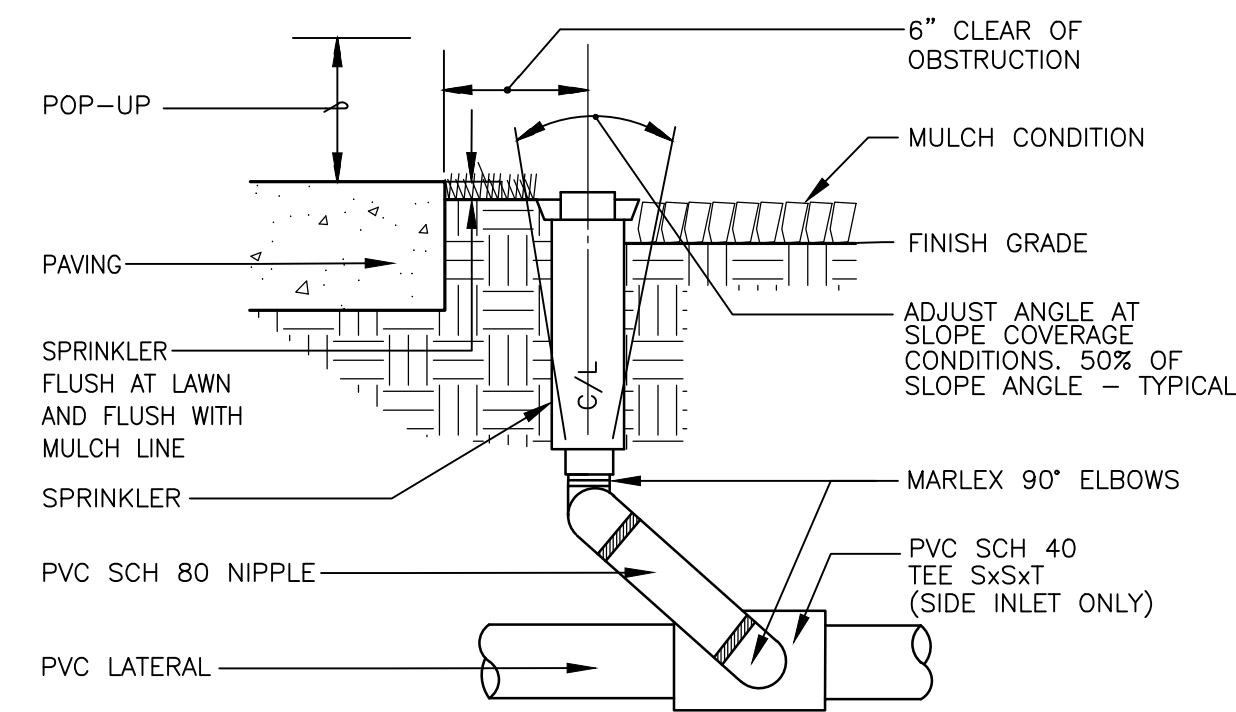


- NOTES:
- ALL COMPONENTS FOR SCHEMATIC POINT OF CONNECTION SHALL BE INSTALLED PER PROJECT SPECIFICATIONS AND DETAILS.
- INSTALL AND TESTING OF DCVA AND ANY POTABLE WATER COMPONENTS SHALL BE COMPLETED BY LICENSED PLUMBER OR SIMILAR ACCREDITED PROFESSIONAL.

BACKFLOW PREVENTION DEVICE INSTALLATION REQUIRES INSPECTION AND CERTIFICATION BY INSPECTION SERVICE AND SHALL MEET REQUIREMENTS OF LOCAL JURISDICTION

POINT OF CONNECTION (P.O.C.) DETAIL

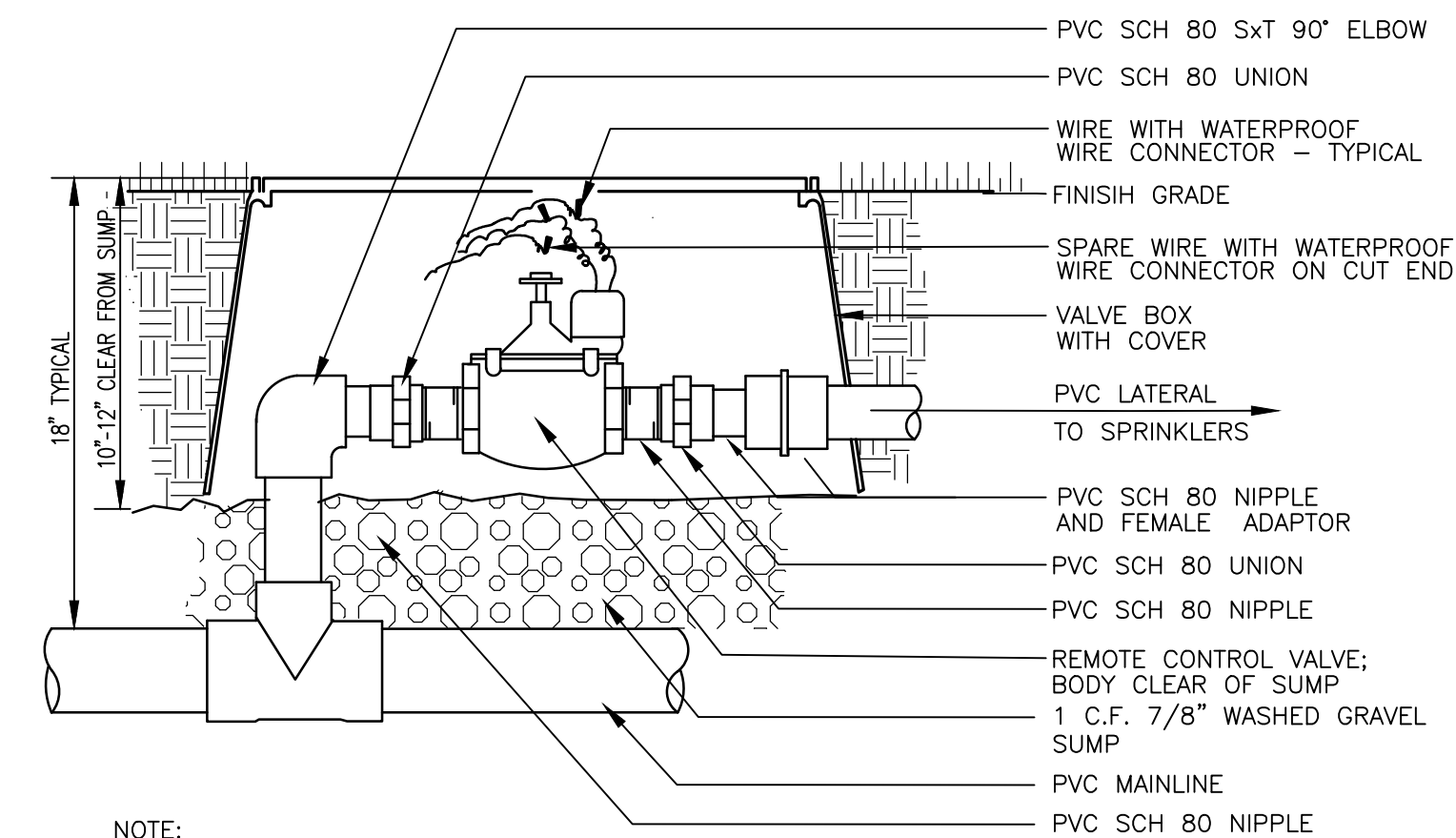
NOT TO SCALE



- NOTE:
- MANUFACTURER'S LIMITS PREVAIL FOR INSTALLATION AND ADJUSTMENTS.
- PROVIDE SWING JOINT RISERS AT WALKS AND CURBS.
- 24" FLEXIBLE RISERS ACCEPTABLE ELSEWHERE.

POP-UP RISER ASSEMBLY

NOT TO SCALE



- NOTE:
- ONE VALVE PER BOX.
- PROVIDE EXTRA COILS (18") OF EACH WIRE IN VALVE BOX.
- COMPACT SOIL AROUND VALVE BOX.
- USE TEFLON OR FLOWABLE SEALANT IN ALL THREADED FITTINGS, PER MANUFACTURER'S SPEC'S.

REMOTE CONTROL VALVE ASSEMBLY

NOT TO SCALE

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IRRIGATION NOTES AND SCHEDULE
FOR
TOLT RIVER TERRACE

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



Scale:	Horizontal	Vertical
	N/A	N/A
Designed	TOR	JMV
Drawn	TOR	JMV
Checked	JMV	JMV
Approved	JMV	JMV
Date	2/18/22	

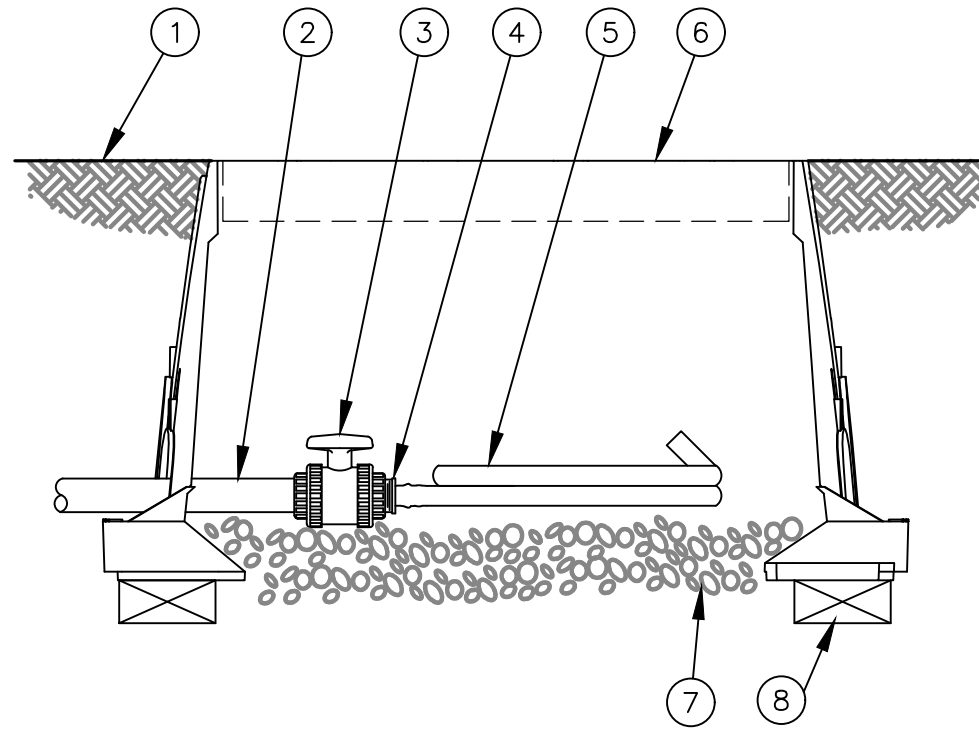
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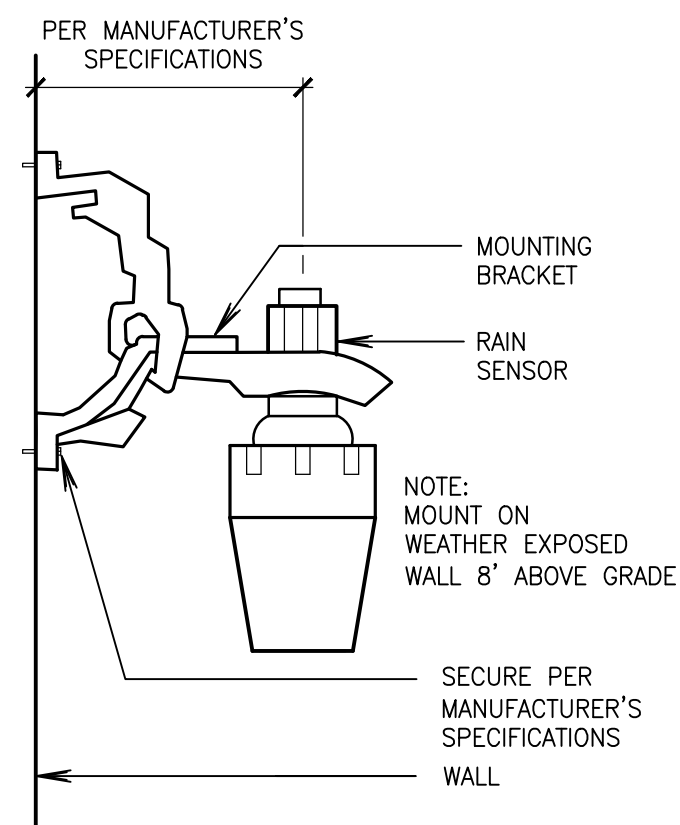
IRRIGATION DETAILS
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



- 1 FINISH GRADE
- 2 PVC DRIP MANIFOLD PIPE
- 3 PVC 1" X 3/4" TRUE UNION BALL VALVE
- 4 EASY FIT MALE X BARB ADAPTER: RAIN BIRD XFF-MA-075
- 5 SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES
- 6 12-INCH VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 7 3-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 8 BRICK (1 OF 2)

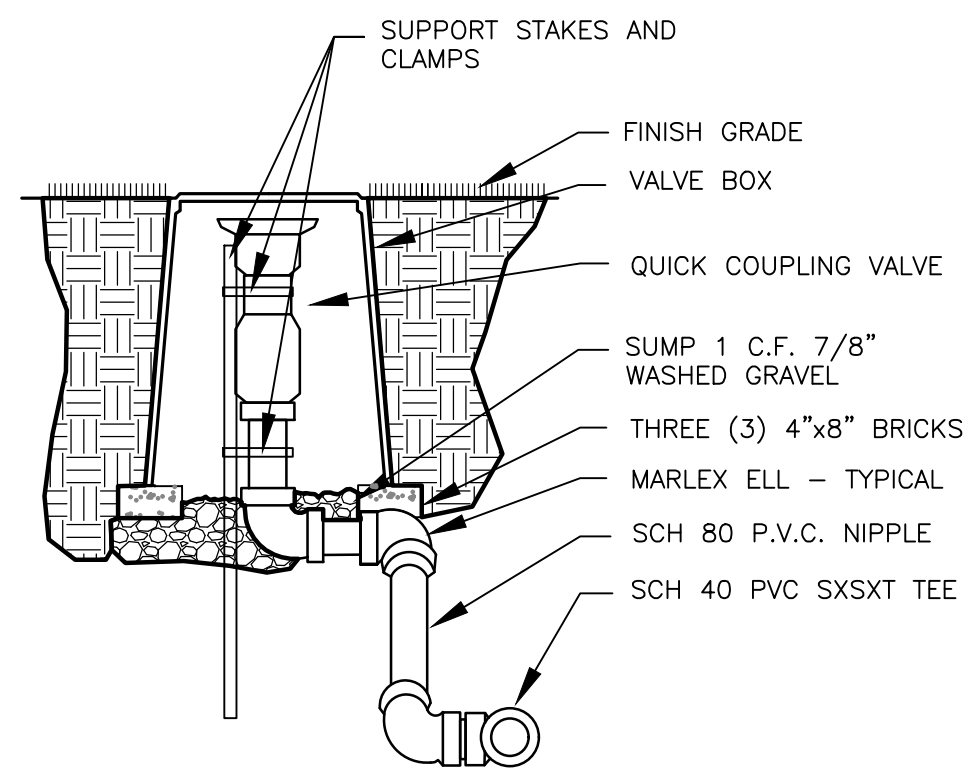
FLUSH POINT WITH BALL VALVE

NOT TO SCALE



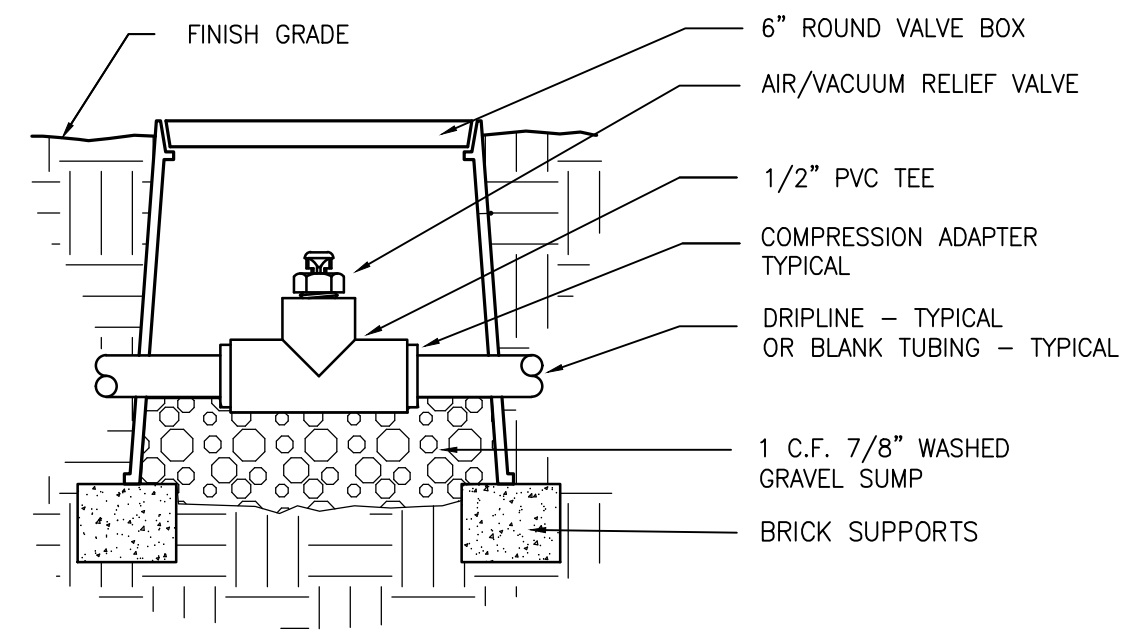
RAIN SENSOR DETAIL

NOT TO SCALE



QUICK COUPLING VALVE DETAIL

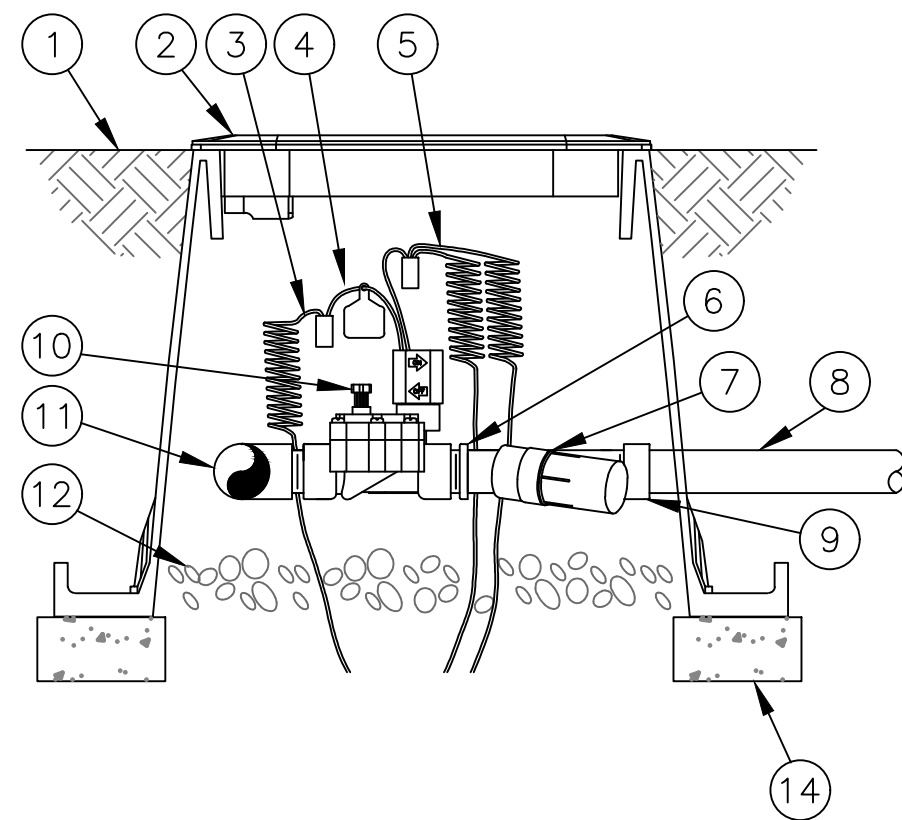
NOT TO SCALE



NOTE:
AIR/VACUUM RELIEF VALVE CANNOT BE CONNECTED LOWER THAN DRIPLINE LATERALS.
FOR USE ON ZONES OF 7 GPM OR LESS ONLY (PLUMBED TO TUBING).

1/2" AIR/VACUUM RELIEF VALVE DETAIL

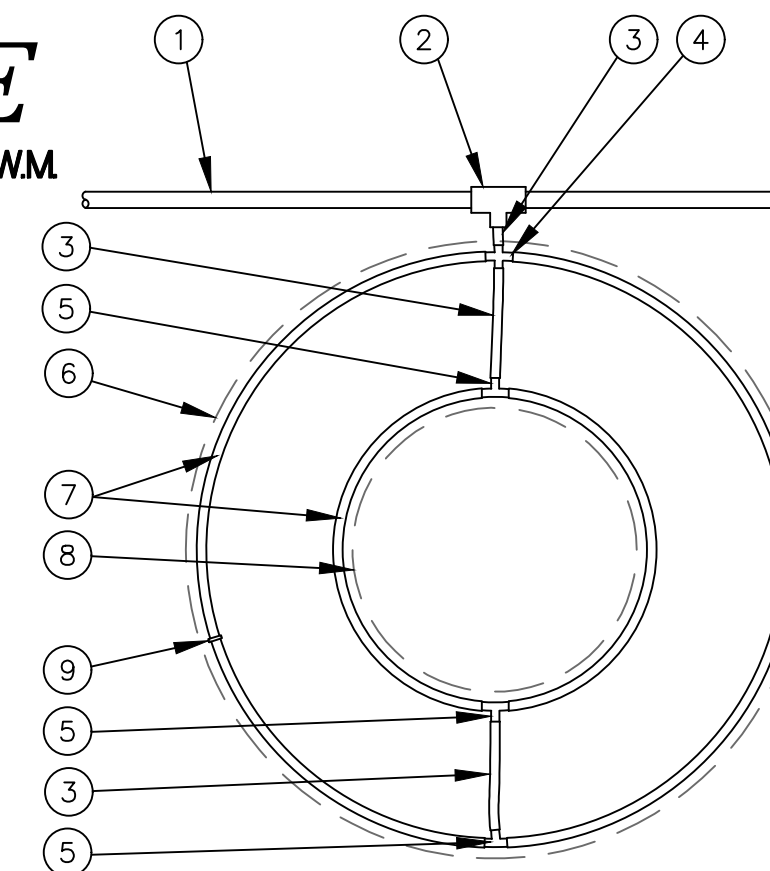
NOT TO SCALE



SIDE VIEW

DRIP IRRIGATION VALVE

NOT TO SCALE



- 1 PVC DRIP MANIFOLD PIPE
- 2 PVC SCH 40 TEE OR EL
- 3 BLANK TUBING
- 4 BARB CROSS INSERT FITTING
- 5 BARB TEE INSERT FITTING
- 6 PROJECTED CANOPY LINE OF TREE
- 7 SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE
- 8 PLACE AS SHOWN (LENGTH AS REQUIRED) ROOT BALL
- 9 TIE DOWN STAKE: QUANTITY AS REQUIRED, SEE NOTES 2-3 BELOW)

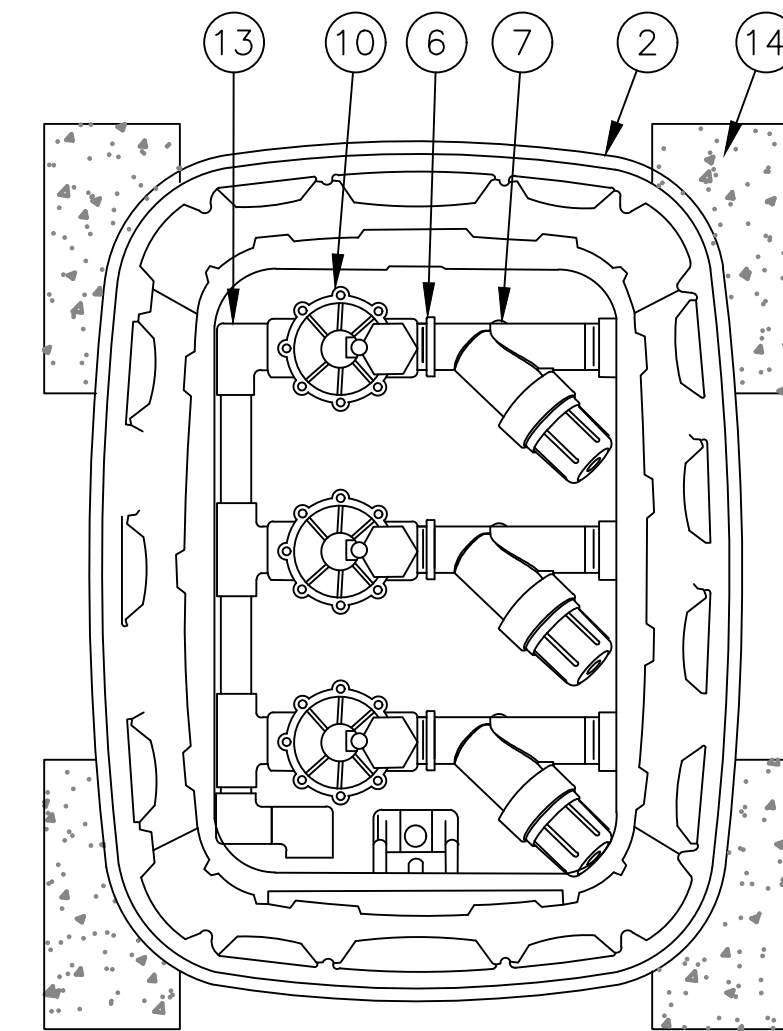
NOTES:

1. DISTANCE BETWEEN LATERAL RINGS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, AND TREE CANOPY. SEE MANUFACTURER DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACINGS.
2. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
3. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

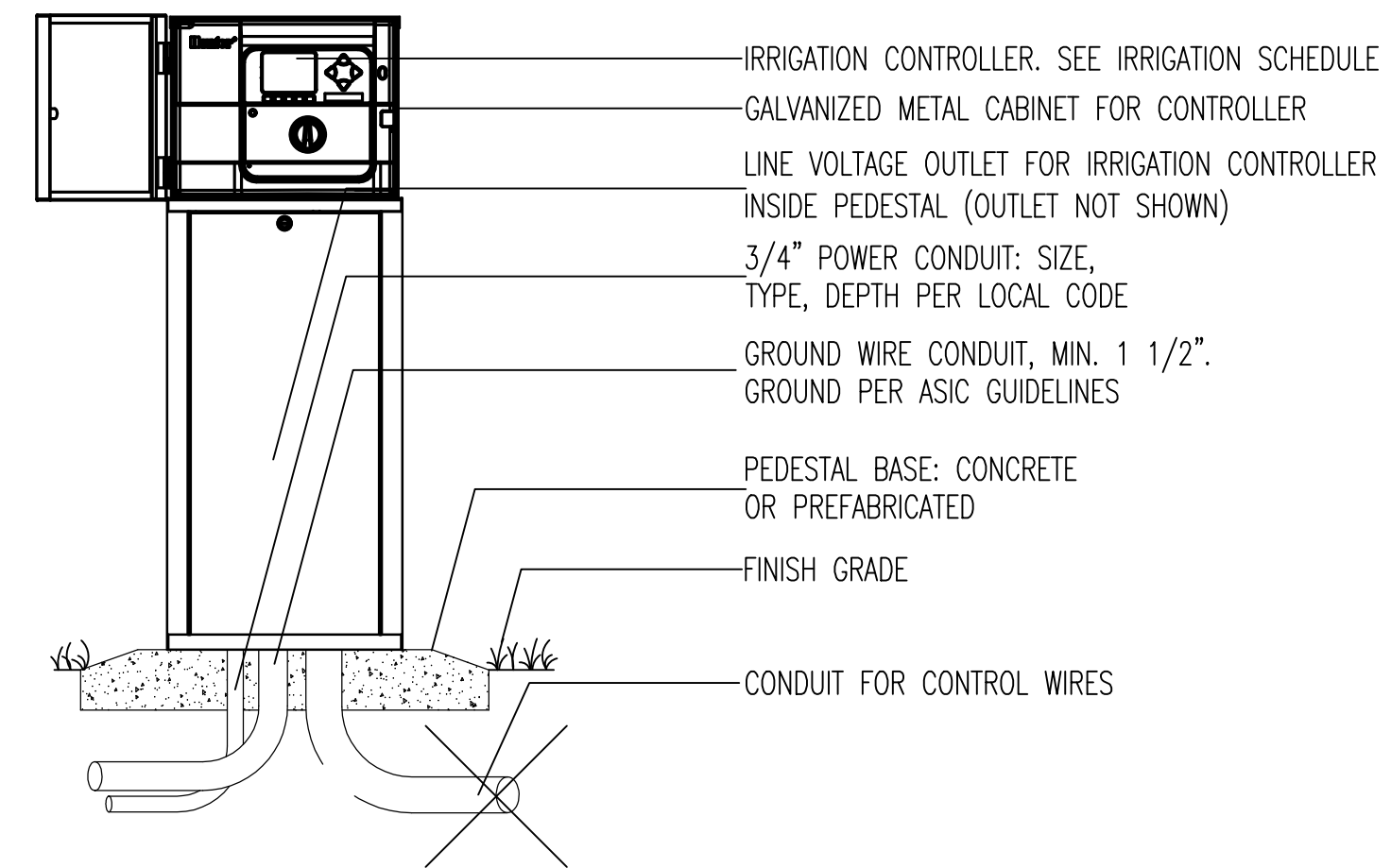
DRIPLINE AROUND TREE

NOT TO SCALE

- 1 FINISH GRADE
- 2 STANDARD VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 3 WATERPROOF CONNECTION: RAIN BIRD DB SERIES VALVE ID TAG
- 4 30-INCH LINEAR LENGTH OF WIRE, COILED
- 5 1" X 3/4" REDUCING COUPLING (INCLUDED IN XCZ-LF-100-PRF KIT)
- 6 PRESSURE REGULATING FILTER: RAIN BIRD PRF-100-RBY (INCLUDED IN XCZ-LF-100-PRF KIT)
- 7 LATERAL PIPE
- 8 PVC SCH 40 FEMALE ADAPTOR OR REDUCER
- 9 REMOTE CONTROL VALVE: RAIN BIRD LRV-100 (INCLUDED IN XCZ-LF-100-PRF KIT)
- 10 PVC SCH 40 TEE OR ELL TO MANIFOLD
- 11 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 12 MANIFOLD PIPE AND FITTINGS
- 13 MINIMUM FOUR (4) 4"x8" BRICKS



TOP VIEW



IRRIGATION CONTROLLER - PEDESTAL MOUNT

NOT TO SCALE

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No.	Date	By	Chd.	Appr.	Revision
2	2/18/22	TCR	JMV	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

IRRIGATION DETAILS
FOR
TOLT RIVER TERRACE

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



Scale:	Horizontal	Vertical
	N/A	N/A
Designed	TCR	JMV
Drawn	TCR	JMV
Checked	JMV	JMV
Approved	JMV	JMV
Date	2/18/22	

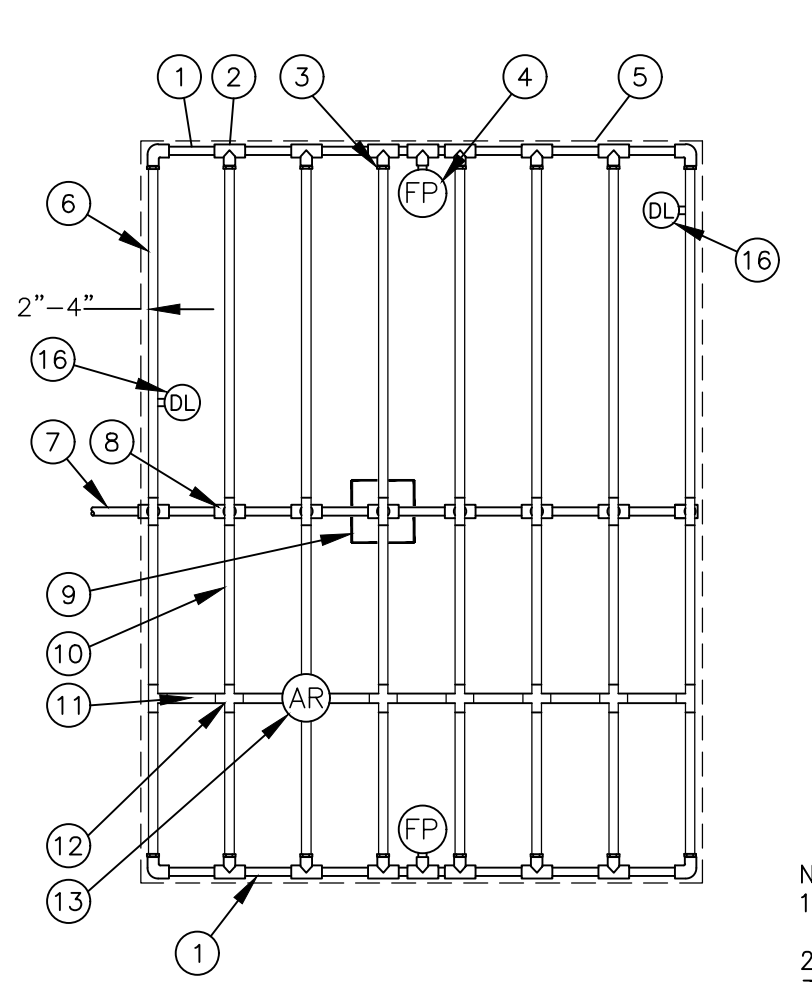
Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number: **18057**
Sheet: **L-14**
Total Sheets: **16**

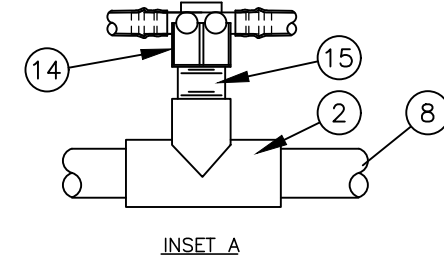
IRRIGATION DETAILS
FOR

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, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON



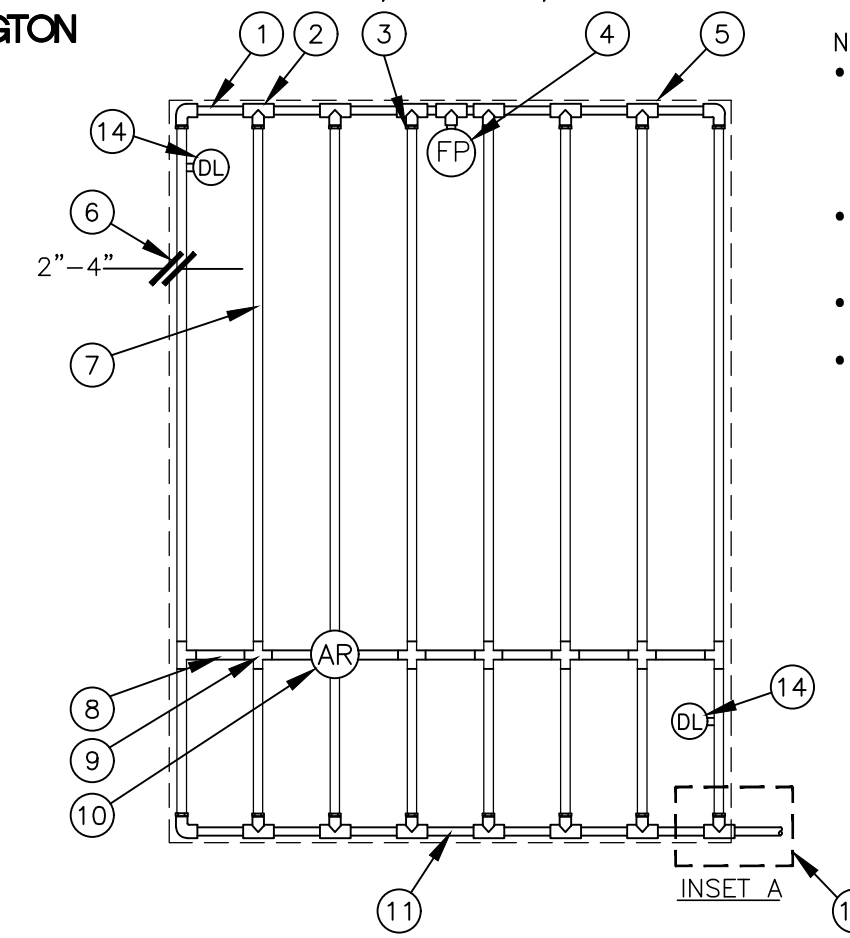
- ① PVC EXHAUST HEADER
- ② PVC SCH 40 TEE OR EL (TYPICAL)
- ③ BARB X MALE FITTING
- ④ FLUSH POINT (TYPICAL) SEE DETAIL
- ⑤ PERIMETER OF AREA
- ⑥ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- ⑦ PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ⑧ PVC SUPPLY MANIFOLD
- ⑨ CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE (TYPICAL)- SEE INSET A



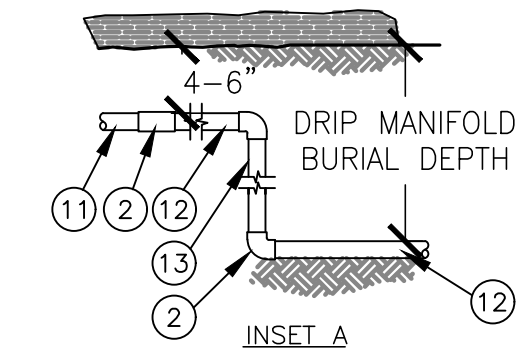
- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE IRRIGATION SCHEDULE FOR SPACING.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 - AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA.
 - WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

- ⑩ SUB-SURFACE DRIPLINE
- ⑪ BLANK TUBING
- ⑫ BARB X BARB INSERT TEE OR CROSS:
- ⑬ 1/2" AIR RELIEF VALVE
- ⑭ BARB X FEMALE FITTING:
- ⑮ 3/4" PVC NIPPLE, LENGTH AS NECESSARY
- ⑯ DRIPLINE INDICATOR. SEE DETAIL FOR ADDITIONAL INFORMATION

Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Normal Flow (gph)	Max Flow (gph)	Normal Flow (gph)	Max Flow (gph)	Normal Flow (gph)	Max Flow (gph)
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514



- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACINGS.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 - AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA.
 - WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.



- ① PVC EXHAUST HEADER
- ② PVC SCH 40 TEE OR EL (TYPICAL)
- ③ BARB X MALE FITTING:
- ④ FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL 'FLUSH POINT WITH BALL VALVE'
- ⑤ PERIMETER OF AREA
- ⑥ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- ⑦ SUB-SURFACE DRIPLINE
- ⑧ BLANK TUBING
- ⑨ BARB X BARB INSERT TEE OR CROSS:
- ⑩ 1/2" AIR RELIEF VALVE
- ⑪ PVC SUPPLY HEADER
- ⑫ PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ⑬ PVC SCH 40 RISER PIPE
- ⑭ DRIPLINE INDICATOR. SEE DETAIL FOR ADD'L INFO

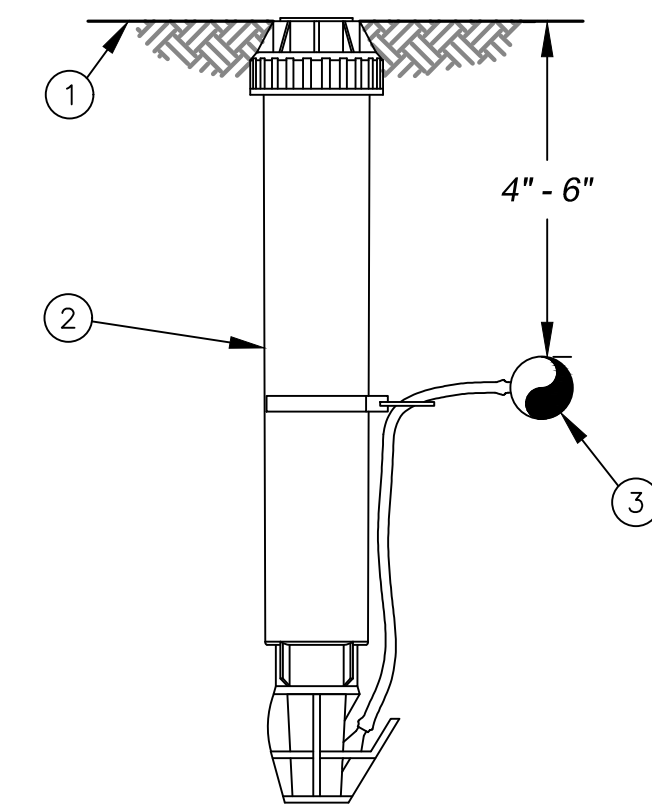
Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Normal Flow (gph)	Max Flow (gph)	Normal Flow (gph)	Max Flow (gph)	Normal Flow (gph)	Max Flow (gph)
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514

DRIPLINE CENTER FEED LAYOUT

NOT TO SCALE

DRIPLINE END FEED LAYOUT

NOT TO SCALE

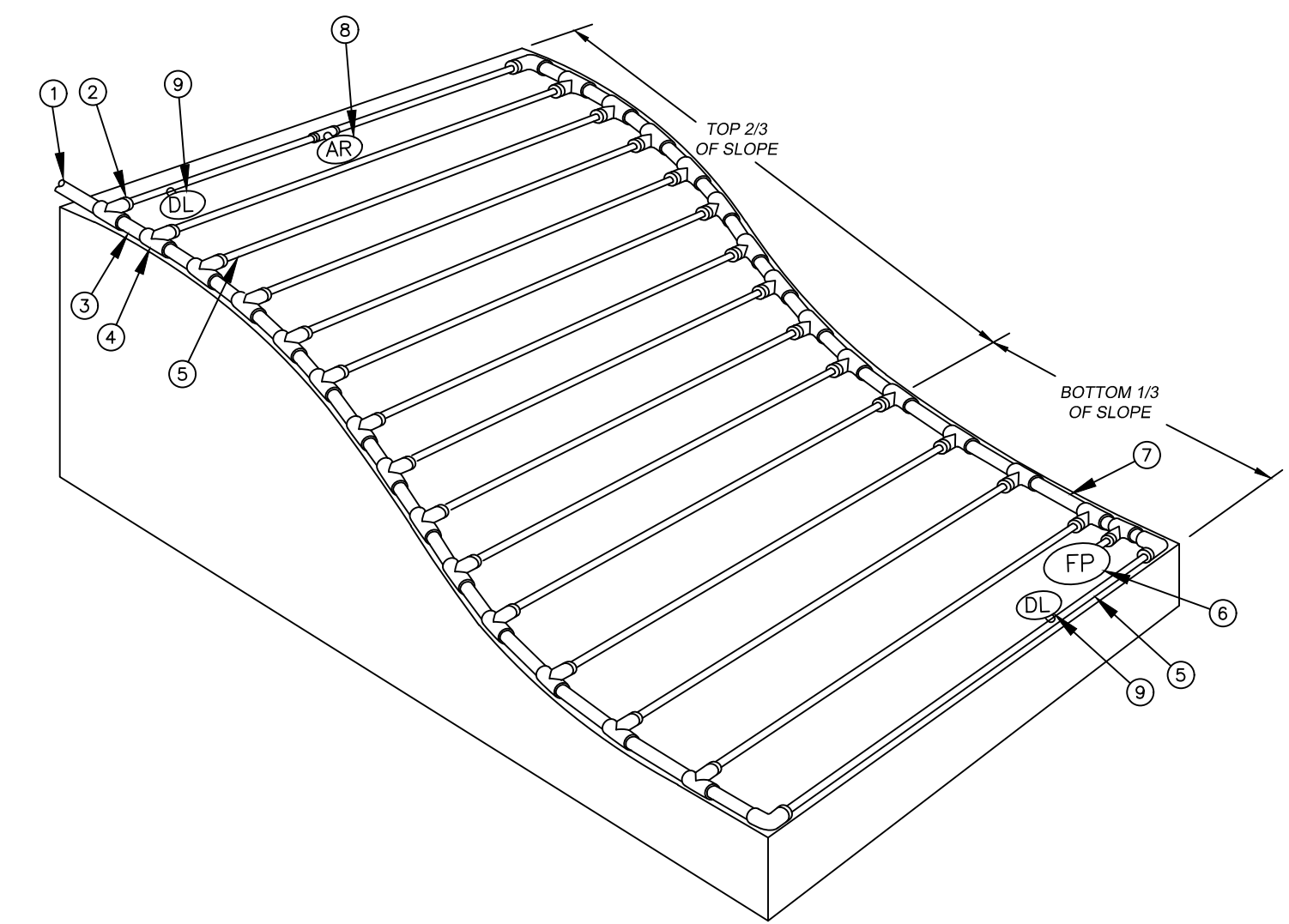


- ① FINISH GRADE/TURF
- ② OPERATION INDICATOR
- ③ SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE

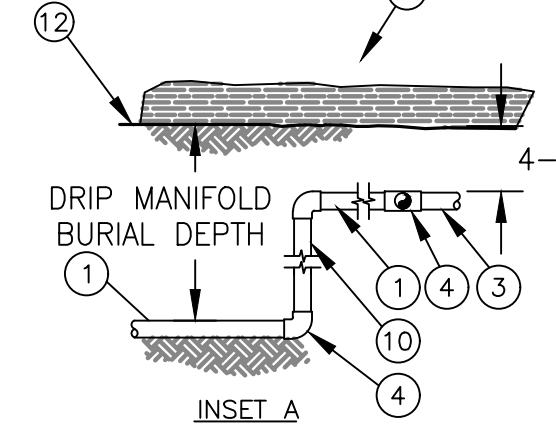
- NOTE:
- INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
 - VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO 1/4" PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

DRIPLINE SLOPED LAYOUT

NOT TO SCALE



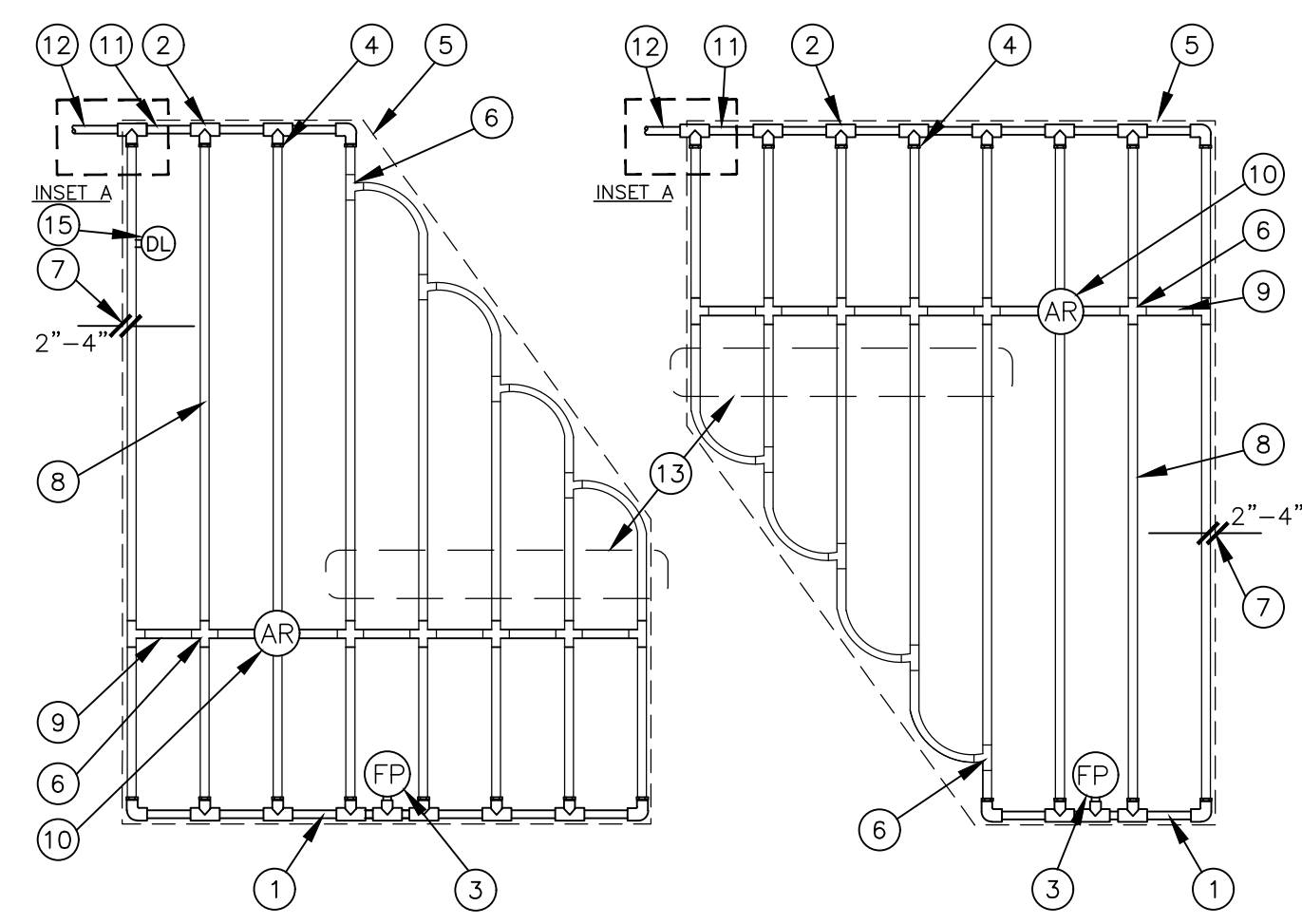
- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. DISTANCE BETWEEN LATERAL ROWS FOR BOTTOM 1/3 OF SLOPE TO BE SPACED GREATER THAN OPTIMAL ROW DISTANCE. SEE MANUFACTURER DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACING.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 - WHEN ELEVATION CHANGE EXCEEDS 8 FEET IT IS RECOMMENDED THAT A NEW DRIPLINE ZONE BE CREATED.
 - INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIPLINE LATERAL.
 - WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.



- ① PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ② BARB X MALE FITTING
- ③ PVC SUPPLY HEADER
- ④ PVC SCH 40 TEE OR EL (TYPICAL)
- ⑤ SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE
- ⑥ FLUSH POINT: SEE DETAIL
- ⑦ PVC FLUSH HEADER
- ⑧ 1/2" AIR RELIEF VALVE: RSEE DETAIL
- ⑨ DRIPLINE INDICATOR. SEE DETAIL FOR ADDITIONAL INFORMATION
- ⑩ PVC RISER PIPE
- ⑪ TURF OR MULCH
- ⑫ FINISH GRADE

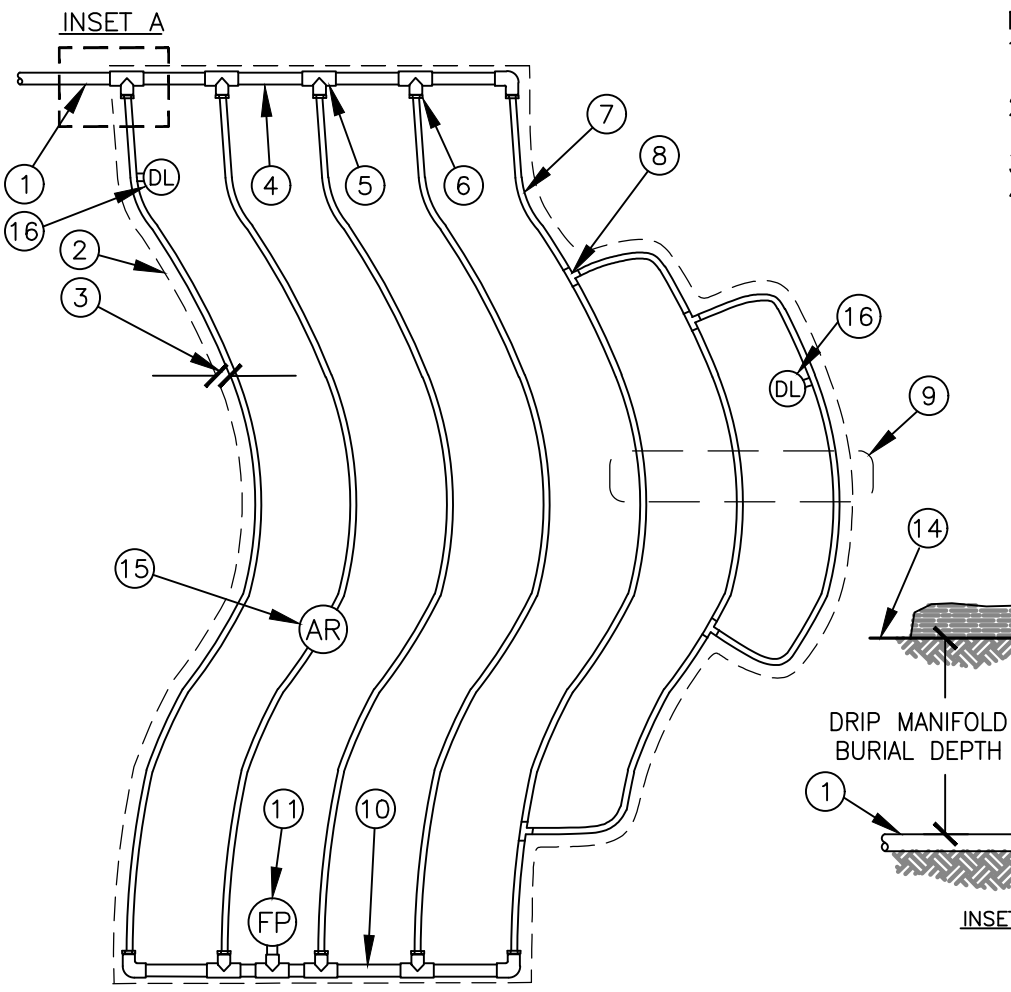
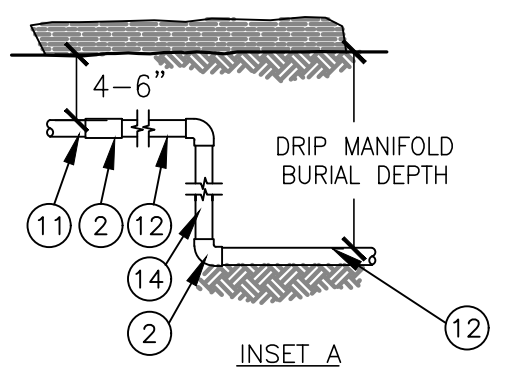
DRIPLINE IRREGULAR SHAPED LAYOUT

NOT TO SCALE



- ① PVC EXHAUST HEADER
- ② PVC SCH 40 TEE OR EL (TYPICAL)
- ③ FLUSH POINT (TYPICAL) SEE DETAIL
- ④ BARB X MALE FITTING
- ⑤ PERIMETER OF AREA
- ⑥ BARB X BARB INSERT TEE OR CROSS
- ⑦ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- ⑧ SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE
- ⑨ BLANK TUBING
- ⑩ 1/2" AIR RELIEF VALVE: SEE DETAIL
- ⑪ PVC SUPPLY MANIFOLD
- ⑫ PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ⑬ TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE
- ⑭ PVC SCH 40 RISER PIPE
- ⑮ DRIPLINE INDICATOR. SEE DETAIL FOR ADD'L INFO

- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE MANUFACTURER DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACINGS.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 - AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA.
 - WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.



- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS FOR SPACING.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
 - INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIPLINE LATERAL.
 - WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.
- ① PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
 - ② PERIMETER OF AREA
 - ③ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
 - ④ PVC SUPPLY MANIFOLD
 - ⑤ PVC SCH 40 TEE OR EL (TYPICAL)
 - ⑥ BARB X MALE FITTING
 - ⑦ SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE
 - ⑧ BARB X BARB INSERT TEE
 - ⑨ TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE
 - ⑩ PVC FLUSH HEADER
 - ⑪ FLUSH POINT: SEE DETAIL
 - ⑫ PVC RISER PIPE
 - ⑬ TURF OR MULCH
 - ⑭ FINISH GRADE
 - ⑮ 1/2" AIR RELIEF VALVE: SEE DETAIL
 - ⑯ DRIPLINE INDICATOR. SEE DETAIL FOR ADD'L INFO

DRIPLINE ODD CURVES LAYOUT

NOT TO SCALE

DRIPLINE IRREGULAR SHAPED LAYOUT

NOT TO SCALE

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Revision
02/15/22
REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

No. 2

Date 2/18/22

By TOR

Appr. JMW

Checked JMW

Drawn TOR

Designed TOR

IRRIATION DETAILS
FOR
TOLT RIVER TERRACE

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



Scale:
Horizontal N/A
Vertical N/A

Date 2/18/22

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

Job Number 18057
Sheet L-15 of 16

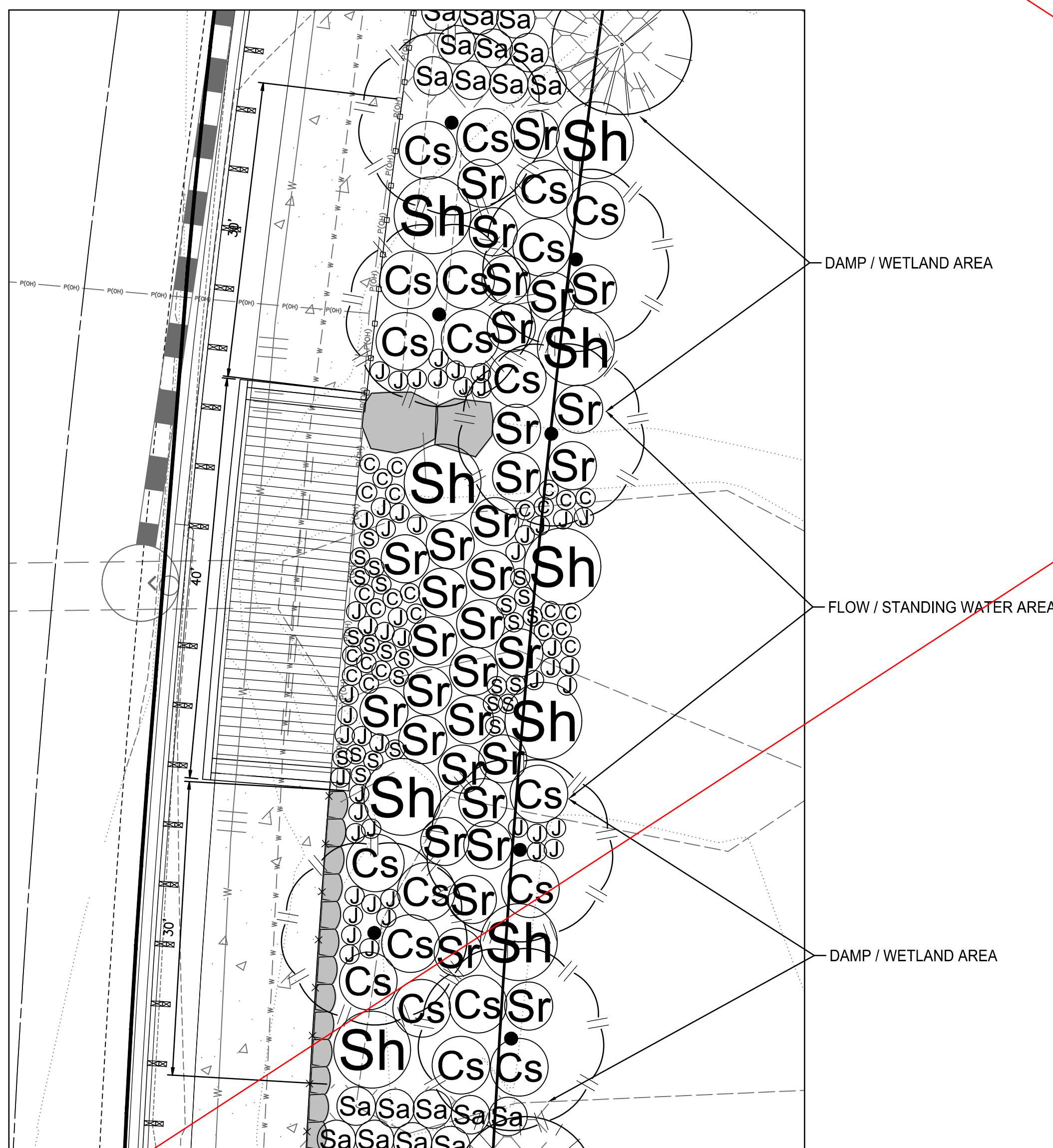
STREAM AREA ENLARGEMENT AND MITIGATION PLANT SCHEDULE
FOR
PLAT OF TOLT RIVER TERRACE
A PORTION OF NE1/4, OF THE NW1/4 OF THE SE1/4 OF THE SW1/4 OF THE NE1/4 OF SEC. 21 TWP 25 N, RGE 7 E, WM
CITY OF CARNATION, KING COUNTY, WASHINGTON

This sheet is NOT APPROVED.

PLANT SCHEDULE

NOTE: THIS PLANT SCHEDULE IS AN EXCERPT FROM THE OVERALL PLANT SCHEDULE FOR THIS LANDSCAPE PLAN SET, PROVIDED HERE FOR CONVENIENCE IN READING THE STREAM / WETLAND AREA PLAN ENLARGEMENT BELOW. SEE COMPLETE PLANT SCHEDULE, SHEET L-7

WETLAND TREES	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)
	TAXODIUM DISTICHUM / BALD CYPRESS NURSERY GROWN, UNCUT LEADER, STAKE AND GUY ONE GROWING SEASON. DO NOT SUBSTITUTE 'CASCADE FALLS' OR OTHER GRAFTED CV.	B & B	6' MIN. HT.	WET/STANDING	ADAPTIVE	DECIDUOUS CONIF.	7	50' x 30'
WETLAND PLANTS	BOTANICAL / COMMON NAME	CONT.	WATER USE	ORIGIN	FOLIAGE	QTY	MATURE SIZE (HT. X WTH.)	
	CAREX OBNUPTA / SLOUGH SEDGE	1 GAL.	WET/STANDING	NATIVE	GRASS/GRASS-LIKE	1 PER 20 SF	25	
	CORNUS SERICEA / RED TWIG DOGWOOD	2 GAL., 16" MIN. HT.	MEDIUM	NATIVE	DECIDUOUS	1 PER 20 SF	20	
	JUNCUS EFFUSUS VAR. PACIFICUS / SOFT RUSH	1 GAL.	WET/STANDING	NATIVE	GRASS/GRASS-LIKE	1 PER 20 SF	52	
	SALIX HOOKERIANA / HOOKER'S WILLOW	2 GAL., 16" MIN. HT.	MEDIUM	NATIVE	DECIDUOUS	1 PER 20 SF	9	
	SCIRPUS ACUTUS / HARDSTEM BULRUSH	1 GAL.	WET/STANDING	NATIVE	GRASS/GRASS-LIKE	1 PER 20 SF	25	
	SPIRAEA DOUGLASII / WESTERN SPIREA	2 GAL., 16" MIN. HT.	WET/STANDING	NATIVE	DECIDUOUS	1 PER 20 SF	32	



ENLARGEMENT: STREAM / WETLAND AREA
SCALE: 1" = 10' SEE SHEET L-5 FOR LARGER LANDSCAPE PLAN

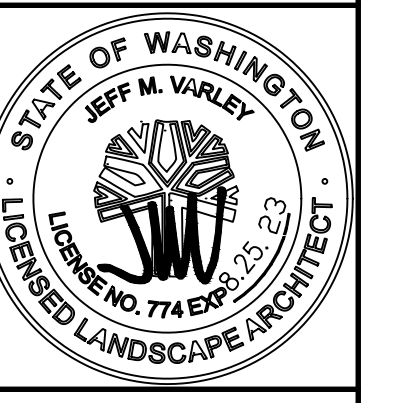
NOTE: THIS PLANT SCHEDULE APPLIES ONLY TO AREAS 6A AND 6B AS SHOWN ON SHEET L-5 AND IN MITIGATION PLAN BY ESSENCY ENVIRONMENTAL DATED 9/7/2021. IT DOES NOT APPLY TO ANY OTHER AREAS OF THIS LANDSCAPE PLAN SET.

MITIGATION PLANT SCHEDULE				PLANT QUANTITIES		
COMMON NAME	SCIENTIFIC NAME	STOCK TYPE	SPACING	PLANTING AREAS (See Sheet M1)		
				AREA 6A - 20,972 SF	AREA 6B - 17,698 SF	TOTALS
TREES						
① DOUGLAS FIR	<i>PSEUDOTSUGA MENZIESII</i>	2-GAL CONTAINER	9' ON CENTER (O.C.)	-	60	60
② WESTERN RED CEDAR	<i>THUJA PLICATA</i>	2-GAL CONTAINER	9' O.C.	70	60	130
③ SITKA SPRUCE	<i>PICEA SITCHENSIS</i>	2-GAL CONTAINER	9' O.C.	70	-	70
④ BLACK COTTONWOOD	<i>POPULUS TRICHOCARPA</i>	MIN 1 GAL-CONTAINER OR 18" BAREROOT	9' O.C.	70	60	130
⑤ RED ALDER	<i>ALNUS RUBRA</i>	MIN 1-GAL CONTAINER OR 18" BAREROOT	9' O.C.	70	60	130
SHRUBS						
⑥ REDTWIG DOGWOOD	<i>CORNUS SERICEA</i>	1-GAL CONTAINER OR MIN 12" BAREROOT	6' O.C.	190	-	190
⑦ SITKA WILLOW	<i>SALIX SITCHENSIS</i>	1-GAL CONTAINER OR MIN 12" BAREROOT	9' O.C.	100	-	100
⑧ NODTKA ROSE	<i>ROSA NUTKANA</i>	1-GAL CONTAINER OR MIN 12" BAREROOT	6' O.C.	200	170	370
⑨ SALMONBERRY	<i>RUBUS SPECTABILIS</i>	1-GAL CONTAINER OR MIN 12" BAREROOT	6' O.C.	-	170	170
⑩ TWINBERRY	<i>LONICERA INVOLUCRATA</i>	1-GAL CONTAINER OR MIN 12" BAREROOT	6' O.C.	-	170	170
TOTALS				770	750	1520

No.	Date	By	Appr.	Revision
2	2/18/22	TCR	JMV	REVISED PER 3RD REVIEW COMMENTS DATED 02/15/22

Title: **STREAM AREA ENLARGEMENT AND MITIGATION PLANT SCHEDULE FOR TOLT RIVER TERRACE**

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



Scale: Horizontal AS SHOWN, Vertical N/A

Designed: TCR, Drawn: JMV, Checked: JMV, Approved: JMV, Date: 2/18/22

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

Job Number: **18057**
Sheet: **L-16**
Date: **16**

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F:\18000s\18057\engineering\18057-L.dwg 2/18/2022 1:07 PM TROBERTS

DESIGN NOTES

- Reference: 1. Barghausen Consulting Engineers, Inc., Civil Plans, updated November 2021
 2. The Riley Group, Inc., Geotechnical Engineering Report, dated August 17, 2016

The following design assumptions were used:
 Internal angle of friction for reinforced soil = 32 degrees (design only)
 Unit weight of reinforced soil = 125 pcf
 Maximum wall height = 8.00 feet
 Batter of wall = 1H : 10V
 Site-modified peak ground acceleration = 0.579 g (per 2018 IBC)
 Surcharges (Where Applicable) = 3000 plf Footing Strip Load
 125 pcf Pad Surcharge
 250 psf Traffic Live Load
 Traffic Impact Load on Guardrail
 300 plf Horizontal Load

TECHNICAL SPECIFICATIONS FOR MECHANICALLY STABILIZED LOCK & LOAD RETAINING WALLS

GENERAL

A. The work involves the supply and installation of soil-reinforced retaining walls. The Concrete Panels and Counterforts will consist of Lock & Load Stone. Counterforts and Geogrid are the types of soil reinforcement. The wall will include, but is not limited to:
 A-1 excavation to the grades shown on the civil drawings
 A-2 supply and installation of geogrid reinforcement
 A-3 supply and installation of drainage fill and piping
 A-4 supply and installation of segmental Lock & Load Stones
 A-5 supply and installation of retained and reinforced soil fill

B. The walls shall be installed on undisturbed Native Soils or Structural Fill, as appropriate.

MATERIALS

A. Concrete Panels and Counterforts are locked together to form a "Stone". The retaining walls have been designed on the basis of Lock & Load Retaining Wall "Stones". "Stones" are to be purchased from a licensed Lock & Load manufacturer. The Lock & Load trademark on each pallet identifies Lock & Load products.

B. Information on the purchase of Lock & Load products can be obtained through:

LOCK + LOAD Retaining Walls, Ltd.
 Telephone: (604) 732-9990
 Website: www.lock-load.com

C. Geogrid: Structural geogrid reinforcement shall consist of Miragrid 5XT or an alternative approved by the Geotechnical Engineer.

D. Drainage Fill: Drainage Fill placed around and above the perforated drainage pipe shall consist of round or angular 3/4-inch to 1-inch "clean" rock.

E. Face Gravel: 3/4-inch to 1-inch clean crushed rock or approved equivalent by the Geotechnical Engineer.

F. Reinforced and Retained Soil: Suitable granular material approved by the Geotechnical Engineer.

G. Leveling Course: The Leveling Course shall consist of angular, crushed aggregate with maximum size of 3/4 inch. The Leveling Course Fill may be single size or may be well graded containing a maximum of 5% passing the No. 200 sieve.

EXECUTION

A. Contractor shall excavate to the lines and grades shown on the construction drawings. The Geotechnical Engineer should observe the excavation prior to the placement of the leveling material or fill soils.

B. Over-excavation of deleterious soils or rock shall be replaced with material meeting the specifications described in Materials Section "F" above. The material shall be compacted to 95% of ASTM D1557 (Modified Proctor) and shall be at (or slightly above) the optimum moisture content.

C. The first course of concrete Lock & Load "Stones" shall be placed on the Leveling Course, and the alignment and level shall be checked.

D. "Stones" shall be placed with the top of the panel level and parallel to the wall face. The Counterfort Base shall be installed horizontal and perpendicular to the face of the retaining wall.

E. Geogrid shall be oriented with the highest-strength axis perpendicular to the wall alignment.

F. Geogrid reinforcement shall be placed at the levels and to the lengths shown on the drawings and shall begin at the back of the Lock & Load Panels.

G. The geogrid shall be laid horizontally in the direction perpendicular to the face of the retaining wall. The geogrid shall be pulled taut, free of wrinkles, and anchored prior to backfill placement on the geogrid.

H. The geogrid reinforcement shall be continuous throughout respective embedment lengths. Spliced connections between shorter pieces of geogrid are not permitted.

I. The drainage pipe discharge points shall be connected to an approved system.

J. Reinforced and Retained Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid.

K. Reinforced and Retained Backfill shall be placed and compacted in lifts not to exceed 8 inches where hand-compaction equipment is used and not more than 12 inches where heavy compaction equipment is used. Compaction should occur over the tail of the Counterfort prior to areas away from the retaining wall. Hand-operated vibratory plate compaction equipment (700 lb. to 1,000 lb.) shall be used to compact the face gravel at wall face. Compaction reports shall be submitted to the City.

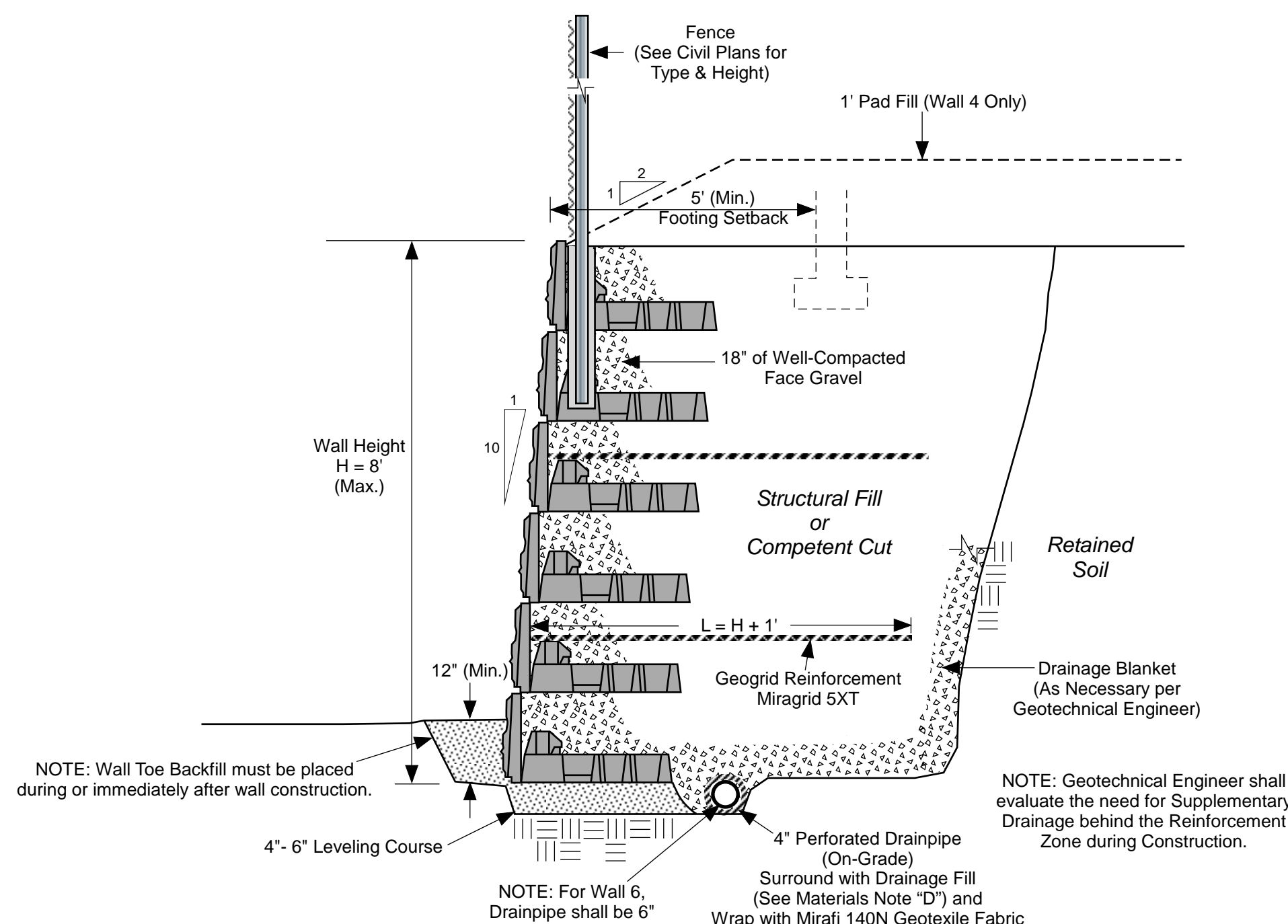
L. Reinforced and Retained Backfill shall be compacted to 95% of the maximum density as determined by ASTM D1557 (Modified Proctor) or equivalent. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be at (or slightly above) the optimum moisture content.

M. Hand-operated compaction equipment (700 lb. to 1,000 lb.) shall be used within 26 inches of the front face of the concrete facing.

N. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid.

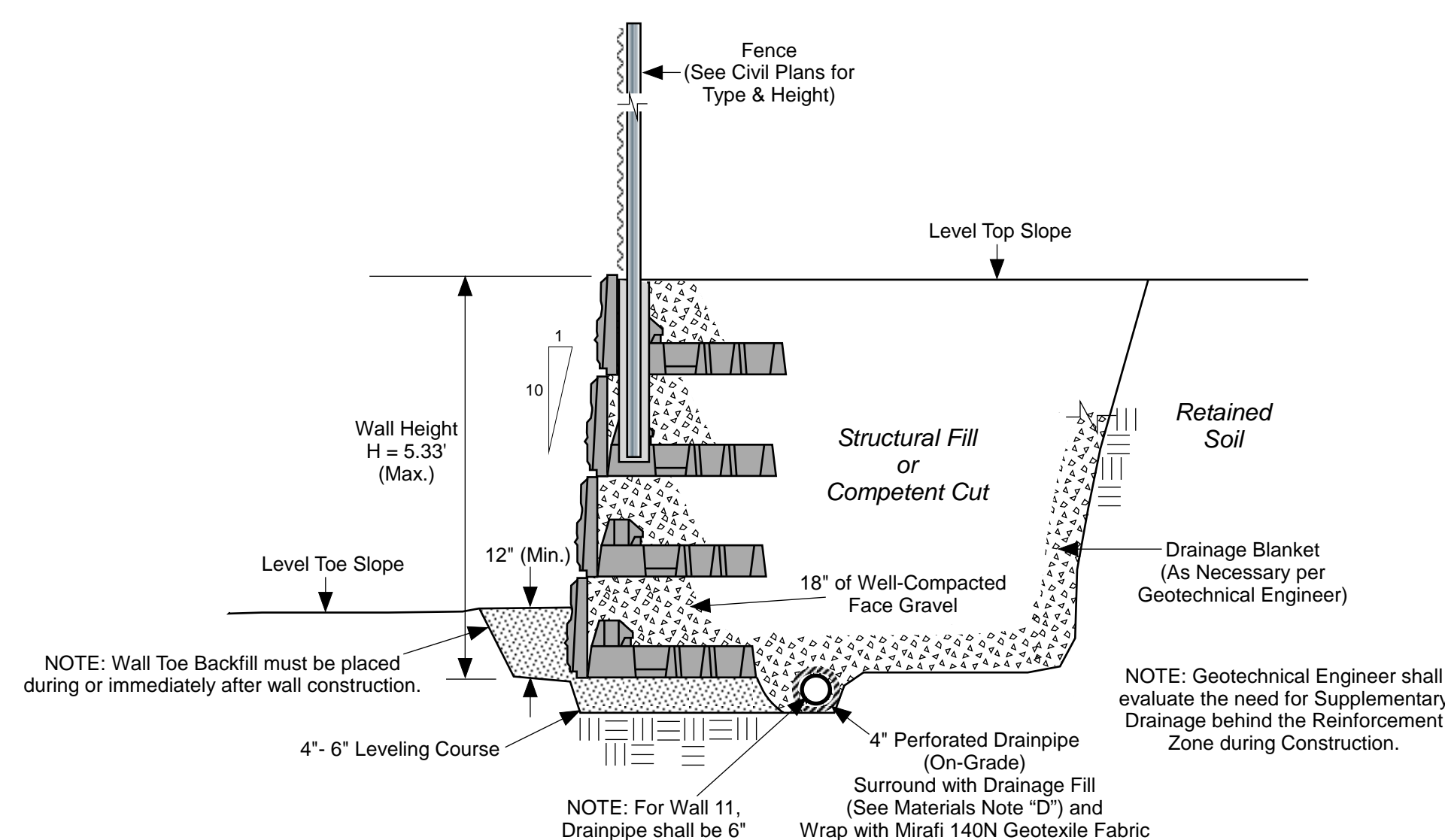
O. Rubber-tired equipment may pass over the geogrid reinforcement at speeds less than 10 mph. Sudden braking and sharp turning shall be avoided.

P. At the end of each day of operation, the contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.



TYPICAL WALL SECTION (WALLS 3-8)

NOT - TO - SCALE



GRAVITY WALL CONDITION EXPOSED H = 4' (MAX.) NO SURCHARGES & LEVEL TOP/TOE SLOPES (WALL 11)

NOT - TO - SCALE

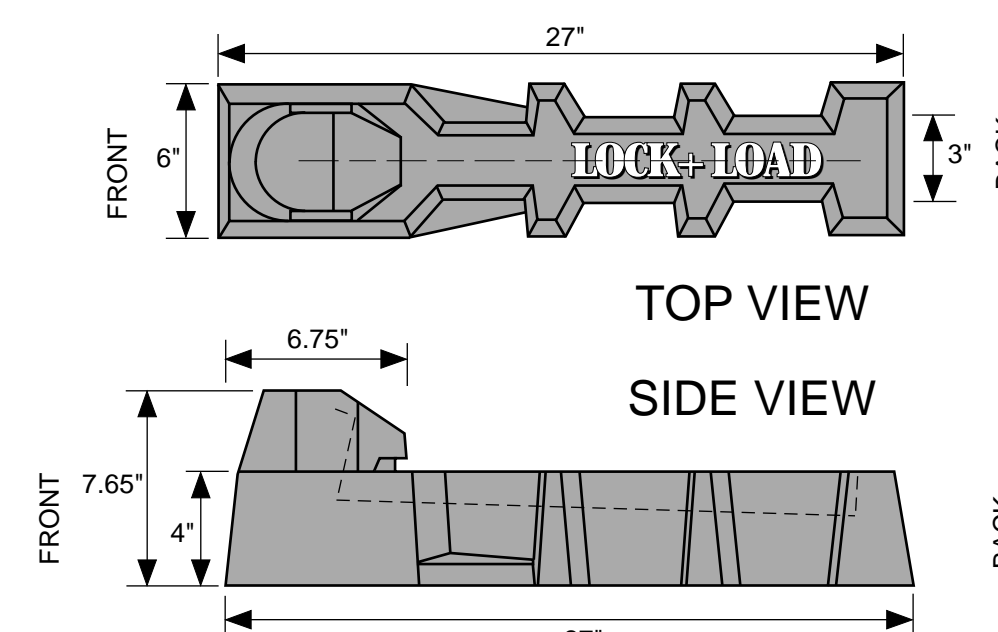
NOTES

1. Wall alignment and heights to be consistent with the permit/approved plans.
2. Geotechnical Engineer to confirm Keyway stability, support characteristics, and overall global stability prior to construction.
3. Reduced building setback from wall may be acceptable on a case-by-case basis, as recommended by the Geotechnical Engineer and approved by the City.

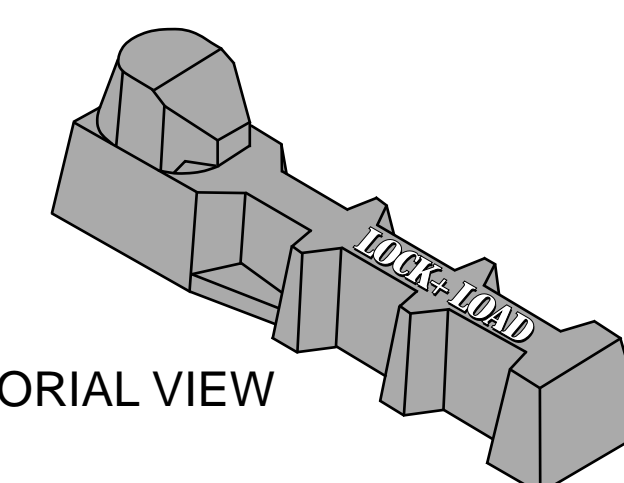
GEOGRID SCHEDULE											
Wall #	# of Panels	Wall Height (feet)	Exposed Height (feet)	Geogrid Length (feet)	Layers						
					1	2	3	4	5	6	
-	3	4.0	3.0	Varies (refer to Details)	A	-	-	-	-	-	-
2, 8, 11	4	5.3	4.3		A	A	-	-	-	-	-
3, 7, 9	5	6.7	5.7		A	A	-	-	-	-	-
1, 4, 5, 6	6	8.0	7.0		A	A	A	-	-	-	-

*NOTE: Wall Height is measured from bearing pad to finish grade.

GEOGRID: A = Miragrid 5XT



REINFORCEMENT BAR BENDING DETAIL

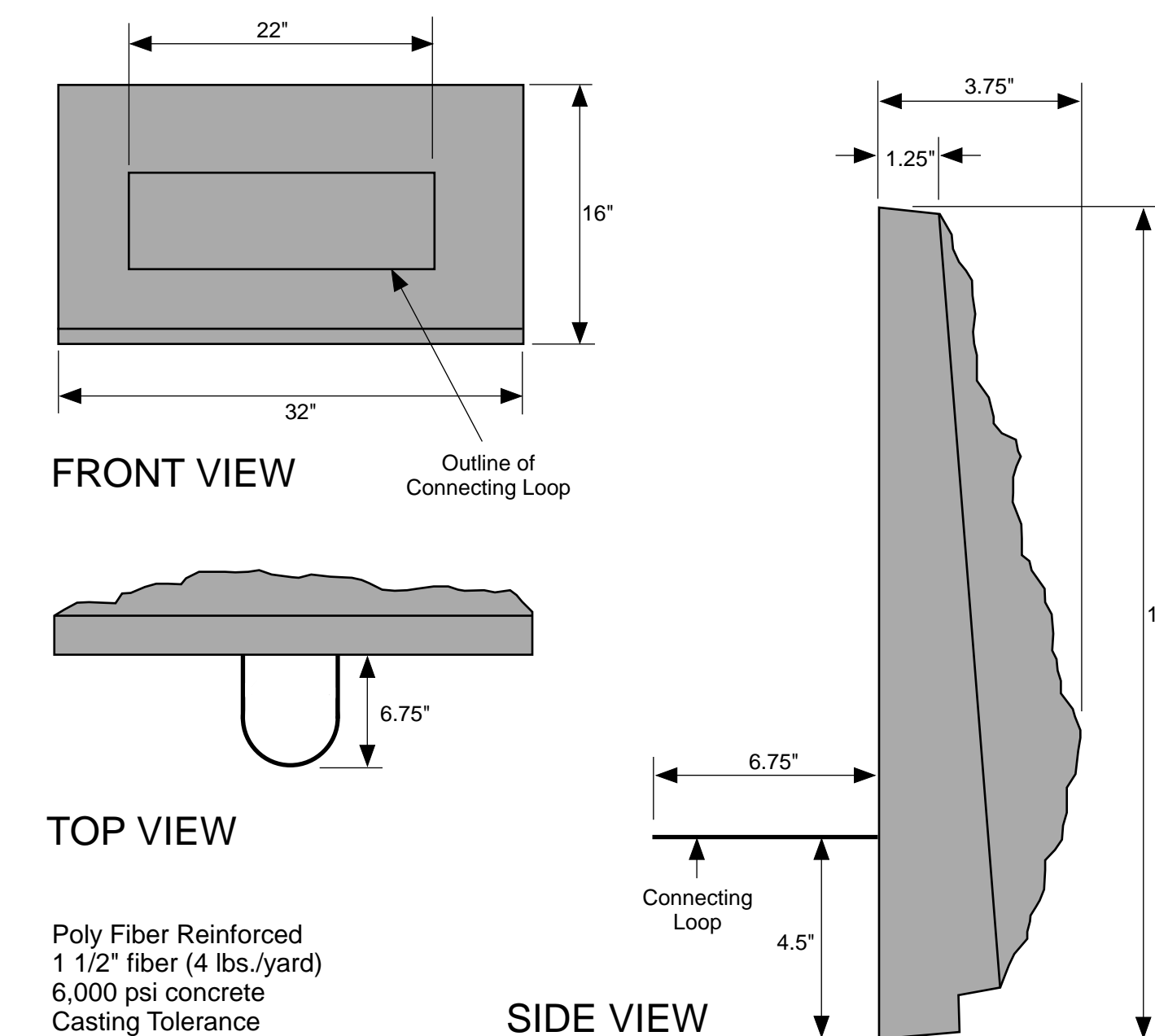


NOTES:

1. Installation to be completed in accordance with manufacturer's specifications.
2. Do not scale from drawings.

LOCK & LOAD COUNTERFORT

NOT - TO - SCALE



NOTES:

1. Installation to be completed in accordance with manufacturer's specifications.
2. Do not scale from drawings.

LOCK & LOAD PANEL

NOT - TO - SCALE

Lock & Load Wall Designs and Notes
TOLT RIVER TERRACE
 Carnation, Washington

Earth Solutions NWLLC
 Geotechnical Engineering, Construction Observation/Testing and Environmental Services

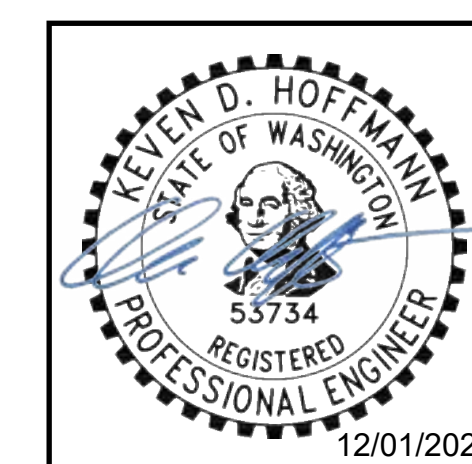


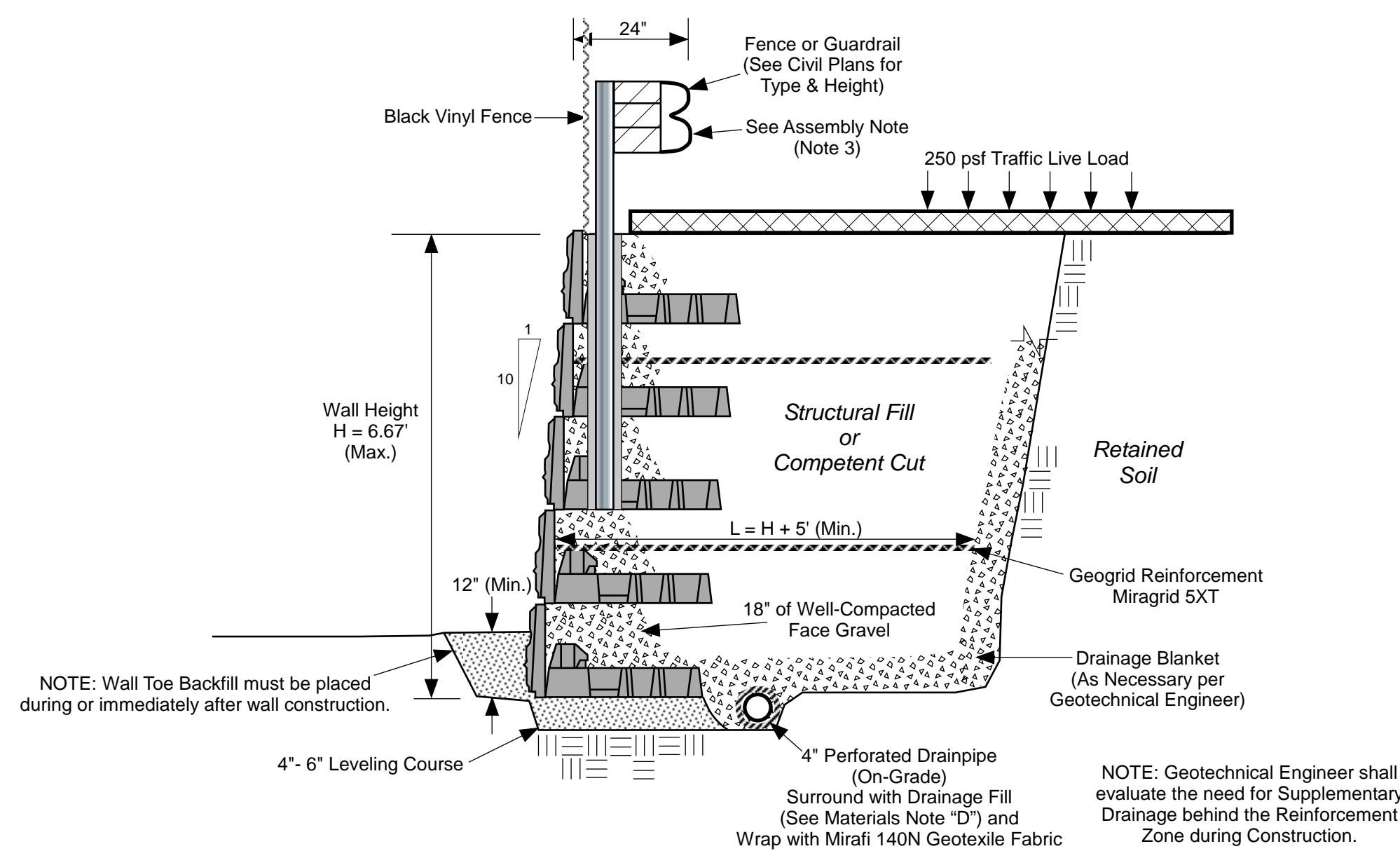
Revisions	Date	10/27/2021	11/16/2021	12/01/2021
Fence Notes per City Comments				
Tract E Detail				
Note & Detail Updates per City Comments				

Proj. No.	4658.04
Date	07/27/2021
Drawn By	MRS
Checked By	KDH

Sheet No.

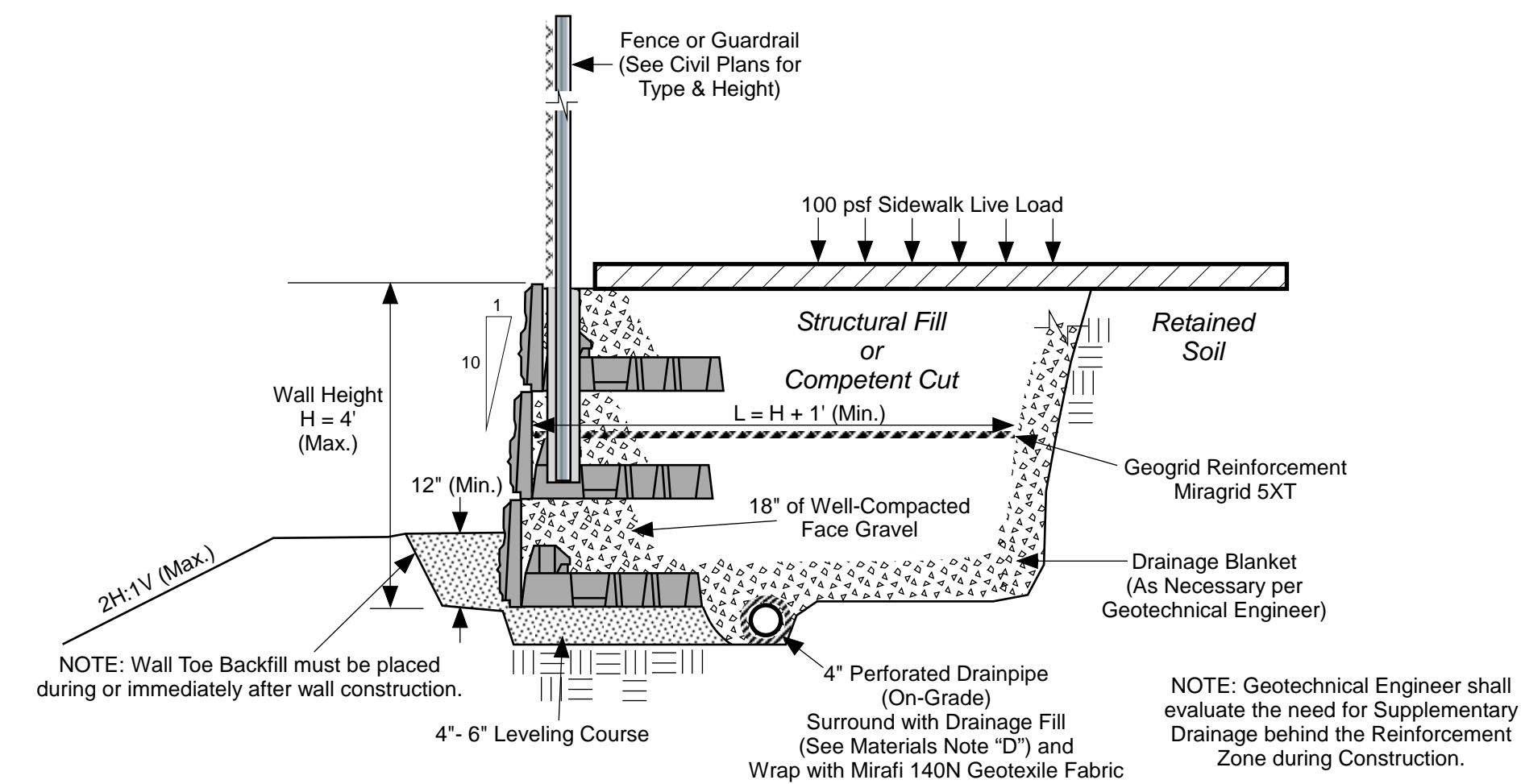
W1





**MSE WALL CONDITION
WITHIN TRACT E
(WALL 1)**

NOT - TO - SCALE

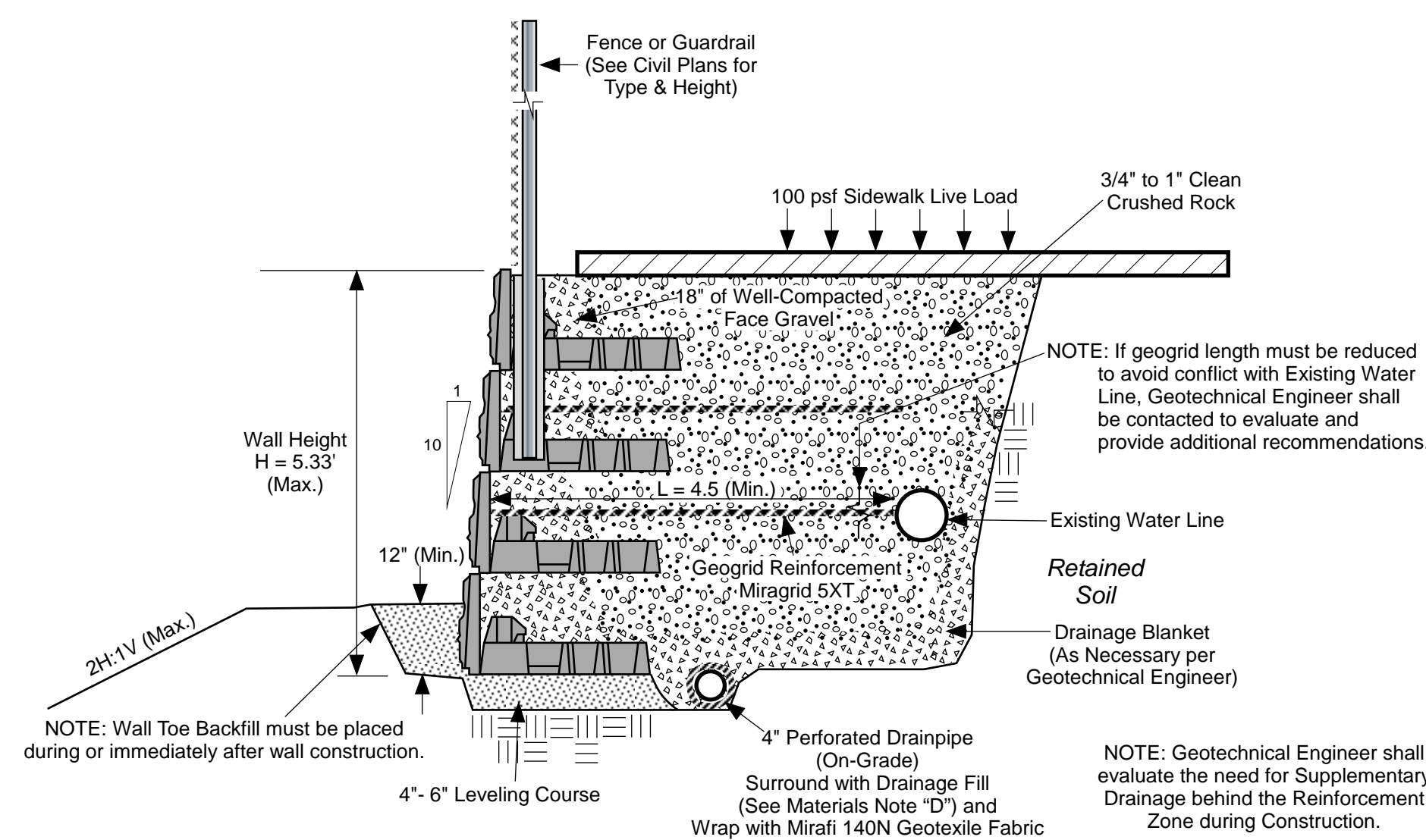


**MSE WALL CONDITION
ON EAST SIDE OF TRACT H
(WALL 2)**

NOT - TO - SCALE

NOTES

1. Wall alignment and heights to be consistent with the permit/approved plans.
2. Geotechnical Engineer to confirm Keyway stability, support characteristics, and overall global stability prior to construction.
3. 8" Diameter PVC sleeves shall be used to accommodate fence and guardrail posts. Minimum embedment for posts and sleeves shall be 36 inches. Sleeve positioning shall be 64 inches o.c. installed in "staggered" sequence to avoid conflict between fence and guardrail sleeving. Sleeves shall be installed as wall construction and panel placement progresses toward the top of wall elevation. Sleeves shall be placed immediately behind wall panels (or as close as practicable) to achieve a "tight" grouping of the fence and guardrail configuration. See MSE Wall Condition within Tract E (Wall 1) detail.



**MSE WALL CONDITION
AT SR 203 PEDESTRIAN BRIDGE
(WALL 9)**

NOT - TO - SCALE

Date	Revisions
10/27/2021	Fence Notes per City Comments
11/18/2021	Tract E Detail
12/01/2021	Note & Detail Updates per City Comments

4658.04	07/27/2021	MRS	KDH
Proj. No.	Date	Drawn By	Checked By

Sheet No.

W2



12/01/2021

GENERAL CONSTRUCTION NOTES

CODE:
DESIGN AND CONSTRUCTION SHALL CONFORM TO THE PROVISIONS OF THE 2018 IBC AS ADOPTED BY THE CITY OF CARNATION, WASHINGTON.

DISCREPANCIES:
THE CONTRACTOR SHALL NOTIFY ENGINEER UPON FINDING ANY DISCREPANCY OR OMISSION IN THE DRAWINGS OR SPECIFICATIONS.

SHORING & EXCAVATION:
THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES AND PROTECTION OF ADJACENT PROPERTY.

BACKFILL SOIL:
SEE THE GEOTECHNICAL REPORT FOR WALL BACKFILL MATERIAL REQUIREMENTS AND PLACEMENT AND COMPACTION REQUIREMENTS. ALL COMPACTION OCCURING WITHIN 5' OF THE WALL SHALL BE COMPLETED USING HAND OPERATED MACHINERY.

DESIGN CRITERIA

FOUNDATION DESIGN:
RETAINING WALL DESIGN IS BASED ON THE FOLLOWING VALUES AS PROVIDED IN THE GEOTECHNICAL REPORT BY RILEY GROUP, IN THEIR REPORT DATED 08-17-2-16.

ALLOWABLE BEARING PRESSURE: 2,500 PSF
LATERAL EARTH PRESSURES: DRAINED LEVEL BACKFILL
ACTIVE CONDITION: 35PCF EFW
AT REST CONDITION: 50PCF EFW
PASSIVE CONDITION: 250PCF EFW (w/ F_s=1.5)
SEISMIC ADDITION: E = 7H PSF UNIFORM [ACTIVE]
E = 14H PSF UNIFORM [AT REST]
SATURATED SOIL DENSITY: 125 PCF w/ LEVEL BACKFILL
COEFF OF FRICTION: 0.30 SERVICE (w/ F_s=1.5)

SURCHARGE:
250PSF UNIFORM LOAD ON THE SURFACE OF THE BACKFILL.

SPECIAL INSPECTION PLAN

GENERAL:
SPECIAL INSPECTION BY A QUALIFIED INSPECTOR IS REQUIRED IN ACCORDANCE WITH THE 2018 IBC.

QUALIFICATION:
THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL.

REQUIRED VERIFICATION & INSPECTION:
THE SPECIAL INSPECTOR SHALL PERFORM THE VERIFICATIONS & INSPECTIONS NOTED IN THE SCHEDULE BELOW

INSPECTION & TESTING SCHEDULE		
TYPES OF WORK	FREQ.	2018 IBC SECTION
CAST IN PLACE CONC		
REINFORCING STEEL, PLACEMENT.	P	1705.3
PLACEMENT OF CONCRETE	C	1705.3
VERIFYING USE OF REQUIRED DESIGN MIX	P	1705.3
TESTING OF THE CONCRETE FOR SPECIFIED STRENGTH, AIR CONTENT AND SLUMP	C	1705.3
SOILS		
VERIFICATION OF SOIL-BEARING CAPACITY: INSTALLATION OF DRAINAGE SYSTEM:	C	1705.6
PLACEMENT & COMPACTION OF WALL BACKFILL:	P	1705.6

FREQUENCY LEGEND
C = CONTINUOUS P = PERIODIC

SUBMITTAL OF REPORTS:
ALL SPECIAL INSPECTION REPORTS AND TESTING REPORTS SHALL BE SUBMITTED TO THE OWNER, SITE STRUCTURES AND THE BUILDING OFFICIAL BY THE AGENCY PERFORMING THE INSPECTION OR TESTING.

CONCRETE

CONCRETE REQUIREMENTS:

LOCATION STRENGTH MAX W/C RATIO
WALLS & FTGS 4000PSI @ 28 DAYS 0.50
AIR CONTENT:
CONC. EXPOSED TO WEATHER SHALL CONTAIN 5% +/-1% ENTRAINED AIR.

MIX DESIGN:
SHALL BE BASED ON FIELD EXPERIENCE OR TRIAL MIXTURES IN CONFORMANCE WITH THE SPECIFICATIONS. SUBMIT MIX DESIGNS TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

MATERIAL REQUIREMENTS:
CEMENT: ASTM C150. ADMIXTURES: ACI 301.
AGGREGATES: ASTM C33. WATER: ASTM C94.

EXPOSURE CATEGORIES:
FREEZING THAWING F1
SULFATE S0
IN CONTACT w/ WATER W1
CORROSION PROTECTION C1

PLACING REQUIREMENTS:

PLACING:
PLACE CONCRETE AS NEARLY AS PRACTICABLE TO ITS FINAL POSITION TO AVOID SEGREGATION.

DEBRIS:
REMOVE ALL DEBRIS FROM FORMS PRIOR TO PLACING CONCRETE.

CONSOLIDATION:
CONSOLIDATE CONCRETE BY SUITABLE MEANS. THOROUGHLY WORK CONCRETE AROUND EMBEDDED ITEMS AND INTO CORNERS OF FORMS.

REINFORCING BAR

MATERIAL REQUIREMENT:

REINFORCING BARS:
USE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60, EXCEPT AS NOTED ON THE DRAWINGS.

FABRICATION AND PLACING REQUIREMENTS:

BENDING:
BARS SHALL BE BENT COLD. BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT UNLESS NOTED OR SHOWN OTHERWISE OR AUTHORIZED BY THE ENGINEER.

CONCRETE COVER:
MINIMUM CONCRETE COVER FOR REINF. SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH 3"

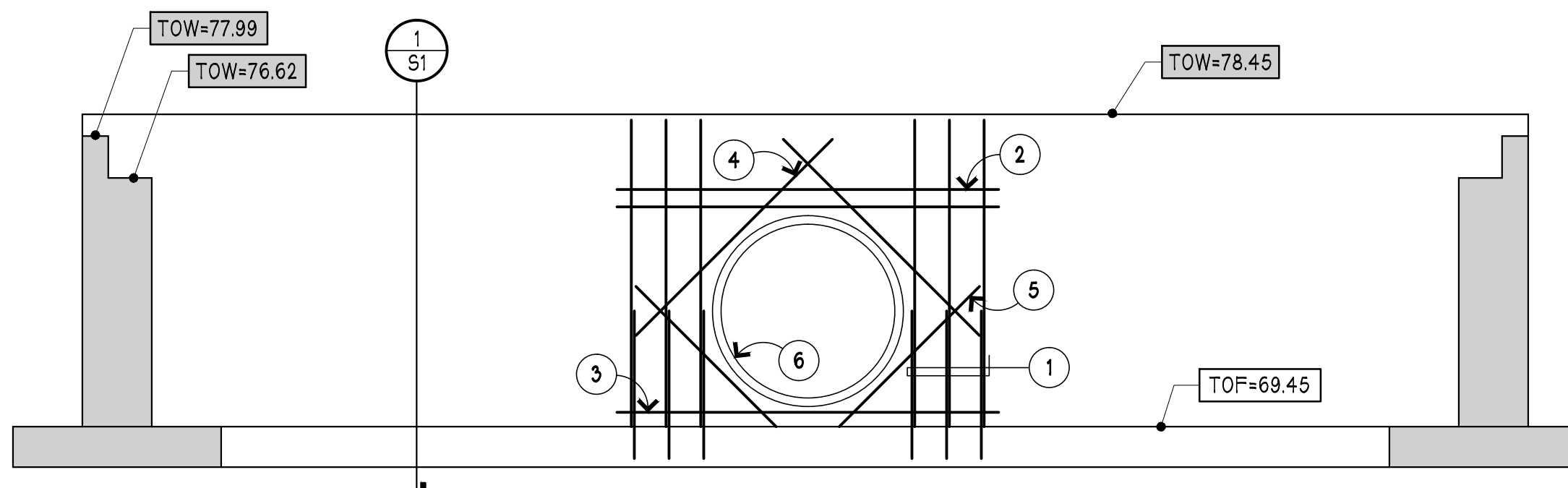
CONCRETE CAST AGAINST FORMS AND EXPOSED TO EARTH 1-1/2"

WET SETTINGS:

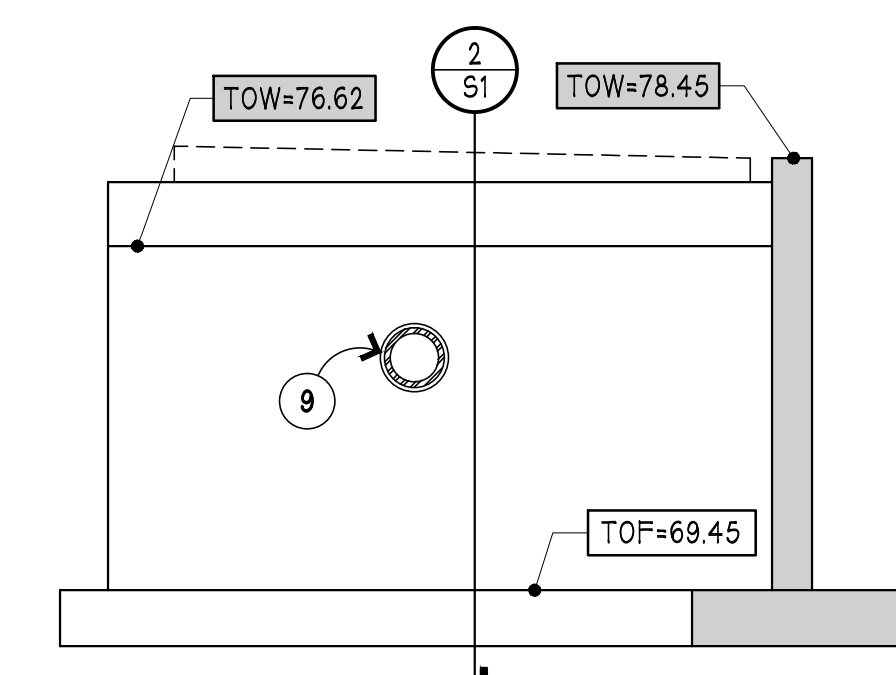
REINFORCEMENT ANCHOR BOLTS, OR ANY EMBEDDED ITEM WITHIN THE CONCRETE, MAY NOT BE SET INTO THE CONCRETE AFTER IT HAS BEEN POURED WITHIN THE FORMS.

LAP SPLICES:

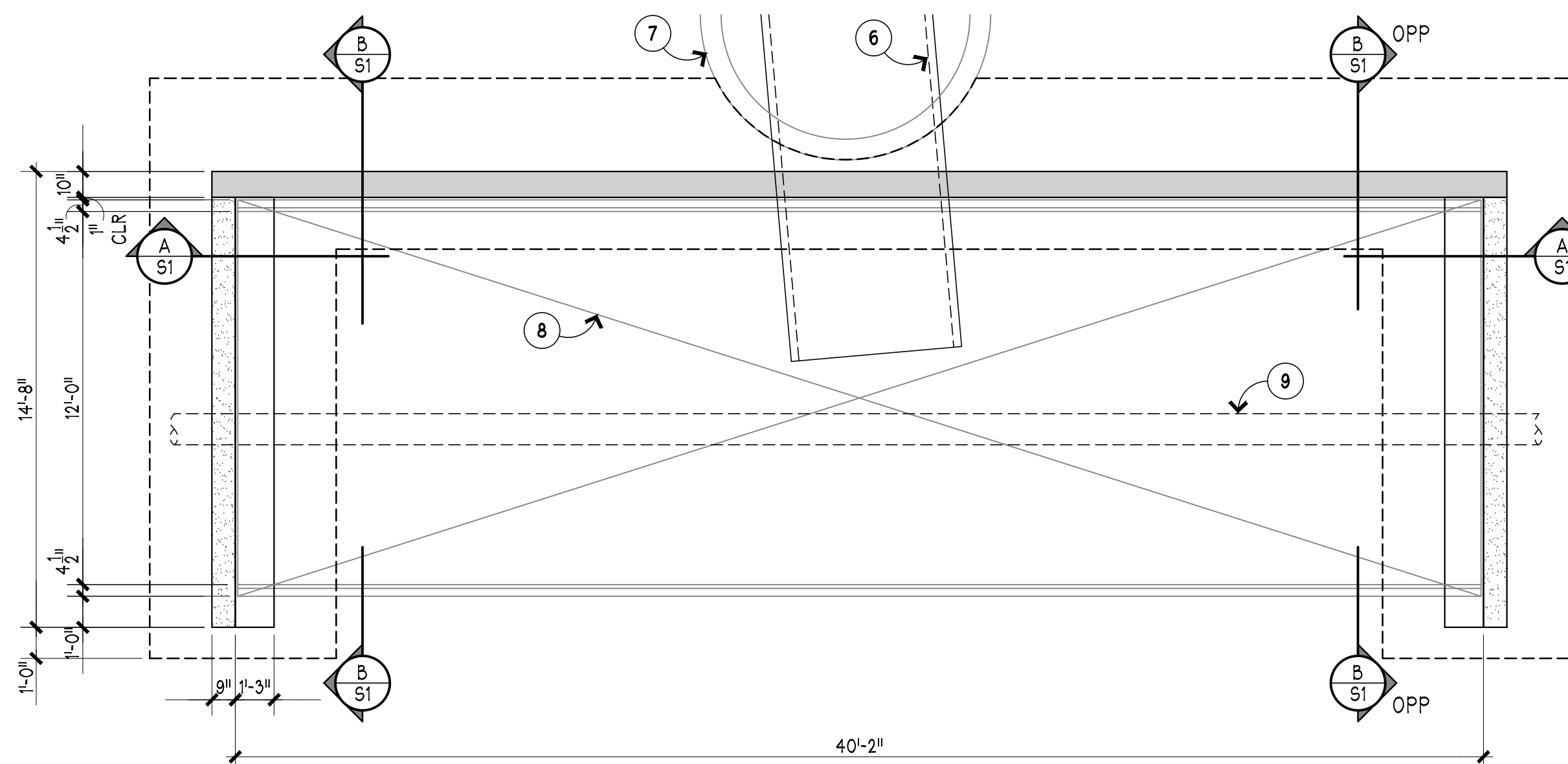
LAP ALL BARS 24" MIN UNLESS SHOWN OTHERWISE ON THESE DWGS.



BULKHEAD WALL ELEVATION
SCALE 1/4"=1'-0"

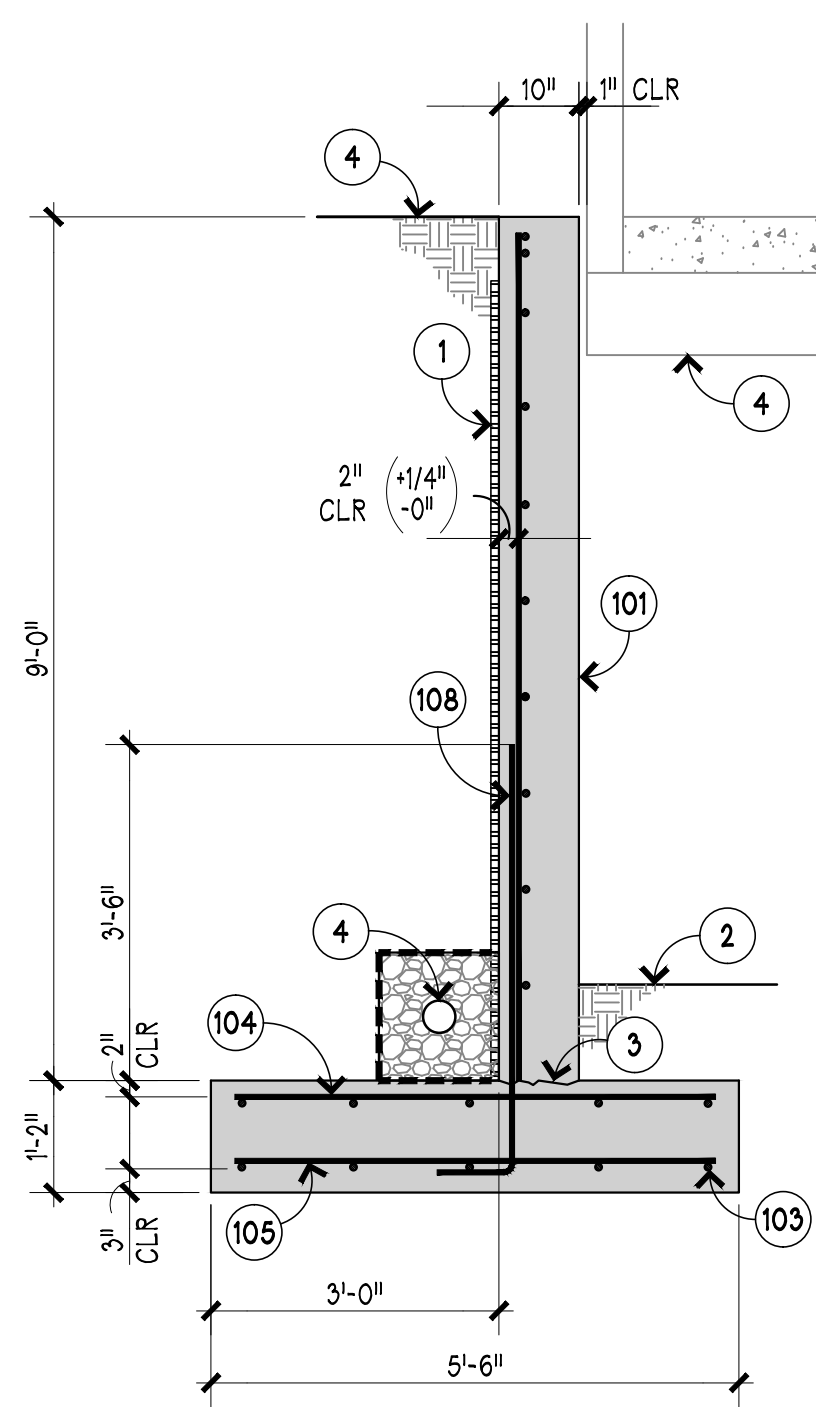


ABUTMENT WALL ELEV.
SCALE 1/4"=1'-0"

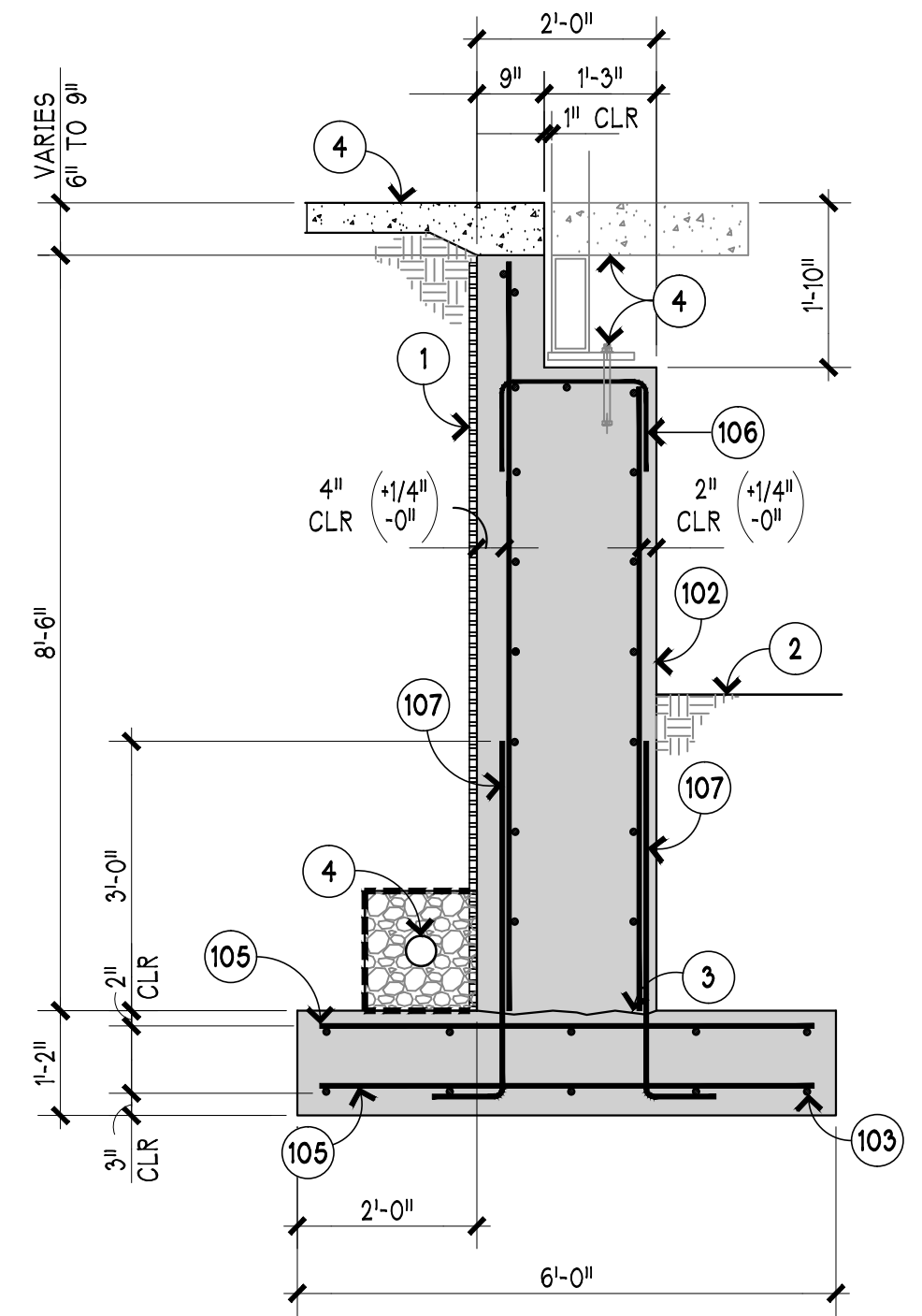


FOUNDATION PLAN

SCALE 1/4" = 1'-0"



BULKHEAD SECTION
SCALE 1/2"=1'-0"



BRIDGE ABUTMENT SECTION
SCALE 1/2"=1'-0"

WALL SECTION GENERAL KEYNOTES

1. APPLY PREFABRICATED DRAINAGE PANEL TO ALL WALLS. EXTEND DRAINAGE PANEL TO WITHIN 12" OF FINISHED GRADE. SEE GEOTECHNICAL ENGINEER FOR MATERIAL SPECIFICATIONS.
2. FINISHED GRADE AT THE DOWNHILL OR POND FACE OF THE WALL. SEE CIVIL DWGS FOR FINAL ELEVATIONS. PROVIDE 1'-0" MIN COVER OVER THE TOP OF THE FTG.
3. LEAVE SURFACE BETWEEN WALL & FOOTING ROUGH.
4. 4" PERFORATED PVC FOOTING DRAIN, SET INTO GRAVEL BED WRAPPED IN FILTER FABRIC AND REOUT TO DISCHARGE POINT AS SHOWN ON THE CIVIL DWGS.
4. PREFAB PEDESTRIAN BRIDGE. PROVIDE ANCHOR BOLTS AS DIRECTED BY THE BRIDGE MANUFACTURER.

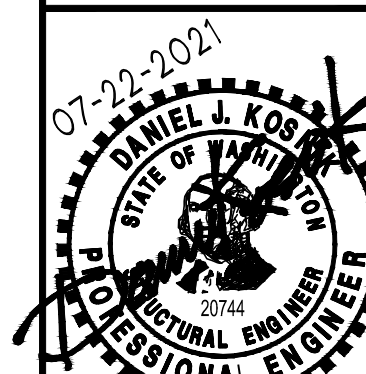
WALL SECTION REINFORCING KEYNOTES

101. 10" THICK CONCRETE RETAINING WALL. REINF w/ #5@12"o/c HORZ & VERT. PLACE VERT REINF NEAR THE BACKFILL FACE OF THE WALL. PROVIDE (2)-#5 CONTINUOUS HORZ BARS @ THE TOP OF THE WALL.
102. 24" THICK CONCRETE RETAINING WALL. REINF w/ #5@12"o/c HORZ & VERT. EA FACE OF THE WALL. PROVIDE (3)-#5 CONTINUOUS HORZ BARS @ THE SEAT AT THE TOP OF THE WALL.
103. #5 CONT. LONGITUDINAL TOP & BOT AS SHOWN. DO NOT SPLICE.
104. #6@12"o/c TRANSVERSE.
105. #5@12"o/c TRANSVERSE.
106. #4@12"o/c w/ 12" LONG LEG.
107. #5@12"o/c WALL TO FOOTING DOWELS. PROVIDE STD HOOK @ END OF BAR CAST INTO FOOTING. DOWELS SHALL BE EMBEDDED A MINIMUM OF 1" INTO 14" THK FTG AND SHALL EXTEND 36" INTO THE WALL.
108. #6@12"o/c WALL TO FOOTING DOWELS. PROVIDE STD HOOK @ END OF BAR CAST INTO FOOTING. DOWELS SHALL BE EMBEDDED A MINIMUM OF 1" INTO 14" THK FTG AND SHALL EXTEND 42" INTO THE WALL.

PLAN & ELEVATION KEYNOTES

1. ADD (3)-#5@12"o/c VERT INCLUDING #6 FTG TO WALL DOWELS EA SIDE OF CULVERT. PLACED ADDED BARS BETWEEN TYPICAL WALL VERTICAL REINFORCING.
2. ADD (2)-#5x11'-0"o/c EA FACE ABOVE THE CULVERT.
3. ADD (1)-#5x11'-0" EA FACE BELOW THE CULVERT.
4. ADD (1)-#5x8'-0" DIAGONAL EA FACE ABOVE THE CULVERT.
5. ADD (1)-#5x6'-0" DIAGONAL EA FACE BELOW THE CULVERT.
6. EXISTING 60" DIAMETER CULVERT. CAST NEW WALL AROUND THE CULVERT.
7. NEW 96" CATCH BASIN. SEE CIVIL DWGS FOR ALL INFORMATION. CAST NEW BULKHEAD WALL FOOTING AROUND CATCH BASIN.
8. PREMANUFACTURED PEDESTRIAN BRIDGE. SEE CIVL DWGS FOR ALL INFORMATION.
9. NEW 12" WATER LINE TO BE SUSPENDED FROM THE PEDESTRIAN BRIDGE. PROVIDE A 1" CLEAR SPACE AROUND THE PIPE AS IT PASSES THRU THE BRIDGE ABUTMENT WALL. SEE CIVIL DWGS FOR LOCATION AND ELEVATION.

Site Structures
A Division of Kosnik Engineering PC
10635 18th AVE SE, SUITE B
BOWEN, WASHINGTON 98008
PH: (425) 857-8600 EMAIL: DAN@KOSNIK.COM



TOLT RIVER TERRACE
PEDESTRIAN BRIDGE BULKHEAD & ABUTMENTS
WASHINGTON
CITY OF CARNATION

STRUCTURAL NOTES
WALL ELEVATIONS & SECTIONS

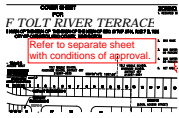
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S1 OF 1

S-21-056

TRT Civils R4 Planset.pdf Markup Summary

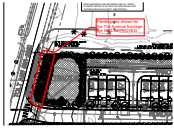
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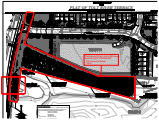
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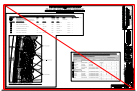
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Plantings as shown in the following areas are NOT APPROVED:
- Tolt Avenue frontage
- Tract J

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