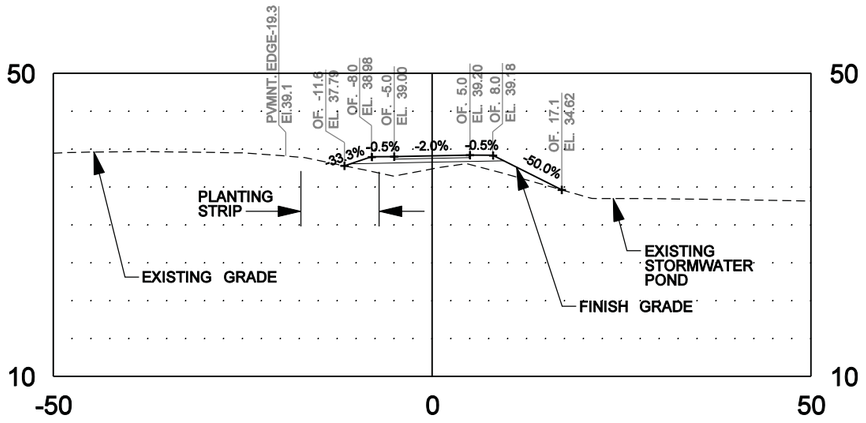
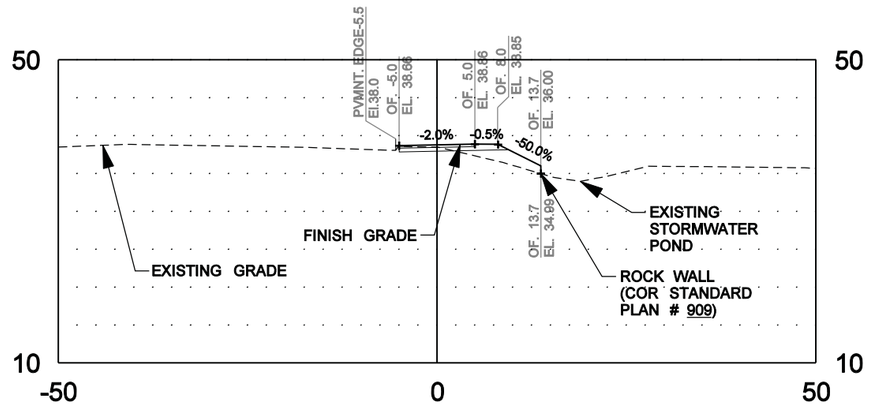


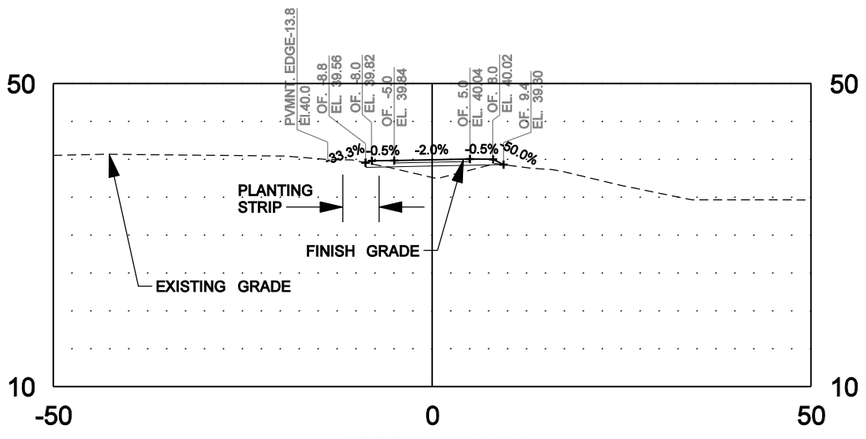
SECTION P1-P1
TRAIL - STA. 506+80

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



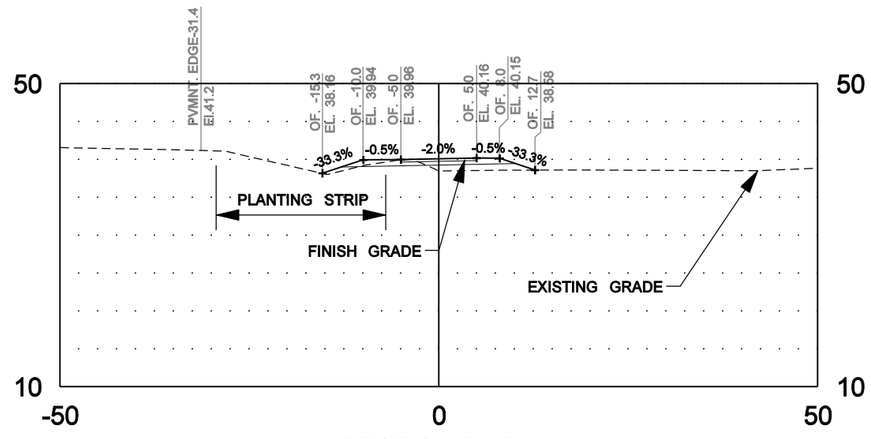
SECTION P2-P2
TRAIL - STA. 508+50

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



SECTION P3-P3
TRAIL - STA. 514+40

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



SECTION P4-P4
TRAIL - STA. 520+40

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

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

TYPICAL SECTIONS

GR9

SHEET OF SHEETS

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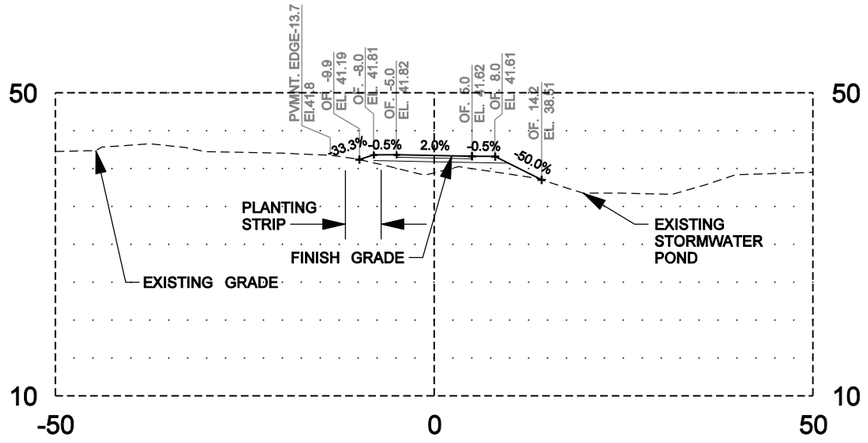
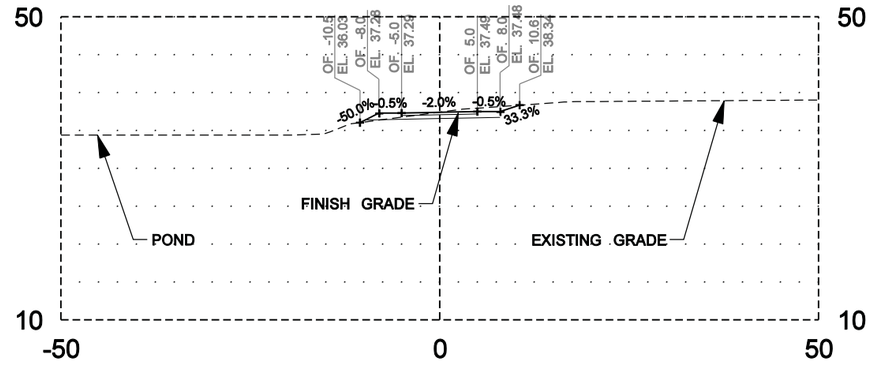


SECTION P5-P5
TRAIL - STA. 525+05

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



SECTION P6-P6
TRAIL - STA. 501+48

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

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

TYPICAL SECTIONS

GR10

SHEET OF SHEETS

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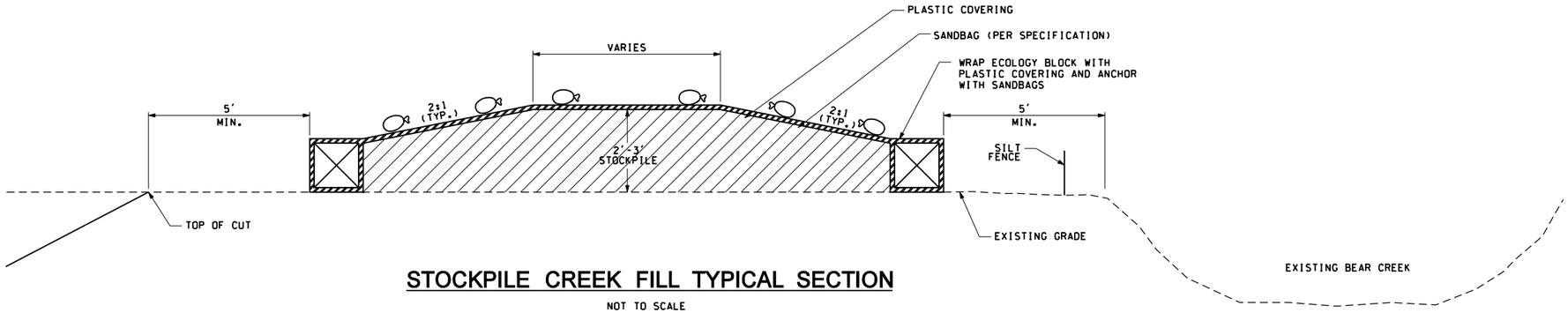
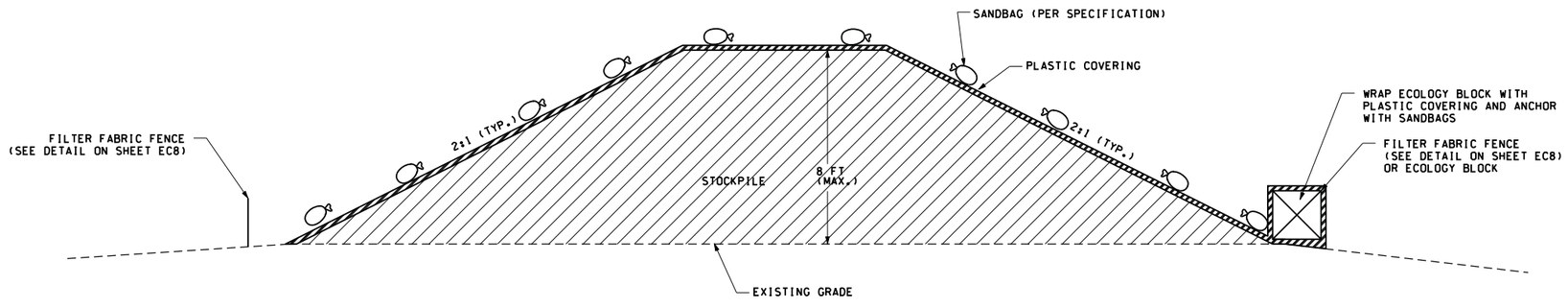


STOCKPILE CREEK FILL TYPICAL SECTION

NOT TO SCALE



STOCKPILE LINER TYPICAL SECTION

NOT TO SCALE

90% SUBMITTAL

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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BEAR CREEK REHABILITATION PROJECT

GRADING DETAILS

GR11

SHEET OF SHEETS

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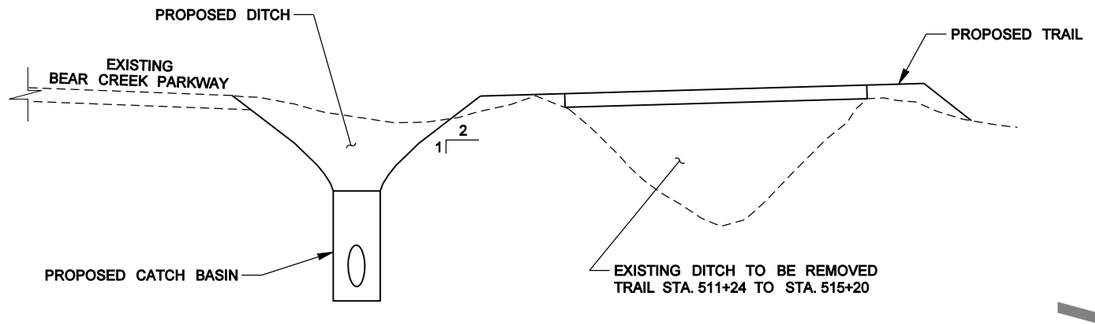
TRAIL SLOPE TABLE

STATION TO STATION	CUT / FILL LT	RT	NOTES
500+00 TO 501+00	3:1	3:1	
501+10 TO 501+80	2:1	3:1	AVOID POND
501+80 TO 505+24	3:1	3:1	
505+24 TO 505+40	3:1	2:1	AVOID STOCKPILE
505+40 TO 505+76	3:1	3:1	AVOID STOCKPILE
505+76 TO 506+25	DITCH	3:1	AVOID STOCKPILE
506+25 TO 506+43	3:1	3:1	AVOID STOCKPILE
506+43 TO 508+00	3:1	2:1	AVOID EXISTING STORMWATER POND
508+00 TO 508+14	3:1	WALL	AVOID EXISTING STORMWATER POND (SEE COR ROCK WALL STANDARD # 909)
508+14 TO 508+78	-	WALL	MATCH BUS STOP CURB, AVOID POND
508+78 TO 509+41	-	2:1	MATCH BUS STOP CURB, AVOID POND
509+41 TO 511+24	3:1	3:1	
511+24 TO 514+04	DITCH	3:1	
514+04 TO 515+20	DITCH	2:1	AVOID EXISTING STORMWATER POND
515+20 TO 518+00	3:1	3:1	
518+00 TO 519+40	5' PLANTER/2:1	3:1	
519+40 TO 522+40	5' PLANTER/3:1	3:1	
522+40 TO 522+82	3:1	3:1	
514+04 TO 516+00	3:1	2:1	AVOID EXISTING STORMWATER POND
516+00 TO 522+82	3:1	3:1	
522+82 TO 523+65	-	3:1	MATCH BEAR CREEEK PKWY PAVEMENT
523+65 TO 524+45	3:1	3:1	
524+45 TO 525+60	3:1	2:1	AVOID EXISTING STORMWATER POND
525+60 TO 525+90	3:1	WALL	AVOID EXISTING STORMWATER POND (SEE COR ROCK WALL STANDARD # 909)
525+90 TO 527+47.72	3:1	3:1	

TRAIL SUPERELEVATION TABLE

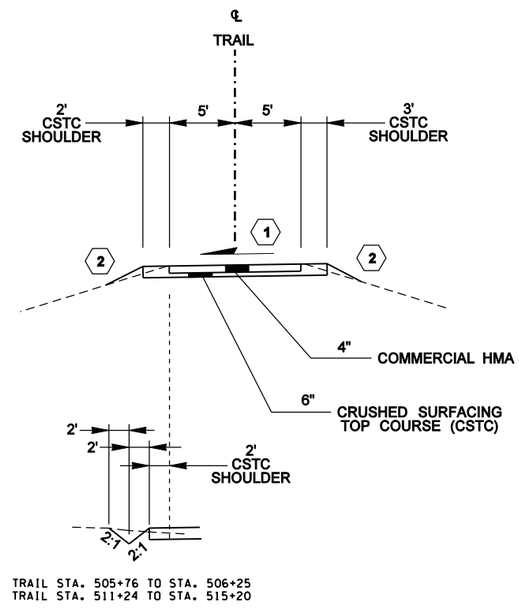
STATION TO STATION	LT	RT	NOTES
500+00 TO 500+13.86	0%	0%	MATCH EXISTING
500+13.86 TO 500+53.86	TRANSITION		
500+53.86 TO 501+60.87	-2%	2%	
501+60.87 TO 502+40.87	TRANSITION		
502+40.87 TO 503+85.58	2%	-2%	
503+85.58 TO 504+65.58	TRANSITION		
504+65.58 TO 516+17.63	-2%	2%	
516+17.63 TO 516+97.63	TRANSITION		
516+97.63 TO 517+27.14	2%	-2%	
517+27.14 TO 518+07.14	TRANSITION		
518+07.14 TO 522+06.82	-2%	2%	
522+06.82 TO 522+86.82	TRANSITION		
522+86.82 TO 526+34.18	2%	-2%	
526+34.18 TO 527+14.18	TRANSITION		
527+14.18 TO 527+47.72	-2%	2%	MATCH EXISTING



TRAIL & STORM SECTION X

NOT TO SCALE

GR3/GR8



TRAIL STA. 505+76 TO STA. 506+25
TRAIL STA. 511+24 TO STA. 515+20

TYPICAL TRAIL SECTION

NOT TO SCALE
TRAIL STA. 500+00.00 TO STA. 527+47.72

CONSTRUCTION NOTES:

1. CROSS SLOPE VARIES. SEE TRAIL SUPERELEVATION TABLE.
2. SLOPE TREATMENT VARIES. SEE TRAIL SLOPE TABLE.

90% SUBMITTAL

Supervisor	J. GAGE	3/2010				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Designed By	A. SCHMIDTMAN	3/2010					WASH			
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

GRADING DETAILS

GR12

SHEET OF SHEETS

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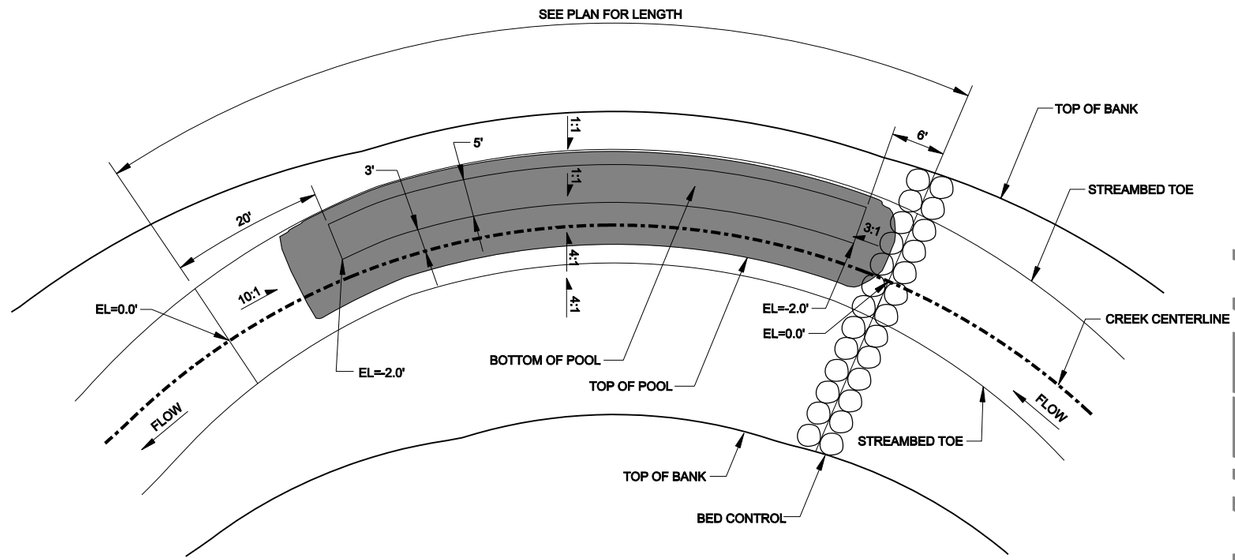
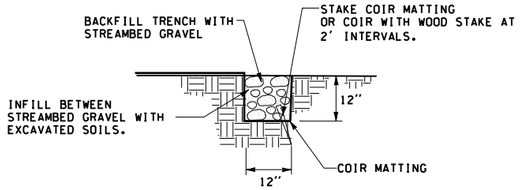


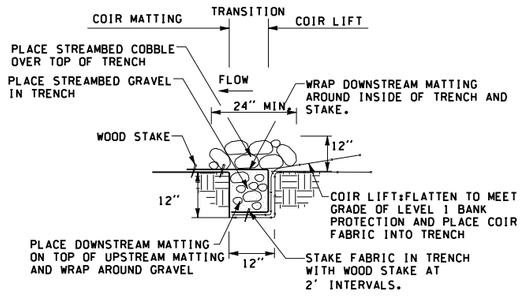
TYPICAL POOL DETAIL

NOT TO SCALE



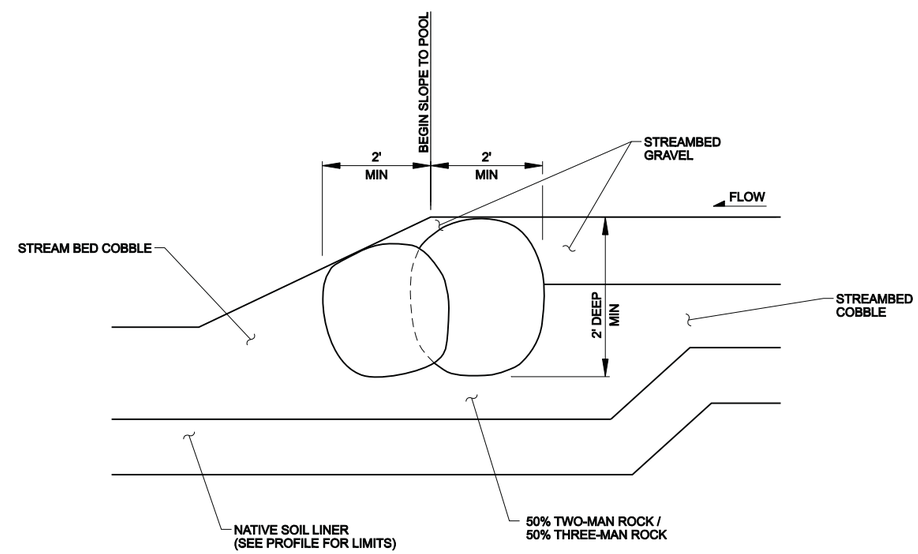
ANCHOR TRENCH SECTION

NOT TO SCALE



TRANSITION TRENCH

NOT TO SCALE



BED CONTROL DETAIL

NOT TO SCALE

90% SUBMITTAL

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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BEAR CREEK REHABILITATION PROJECT

GRADING DETAILS

GR13

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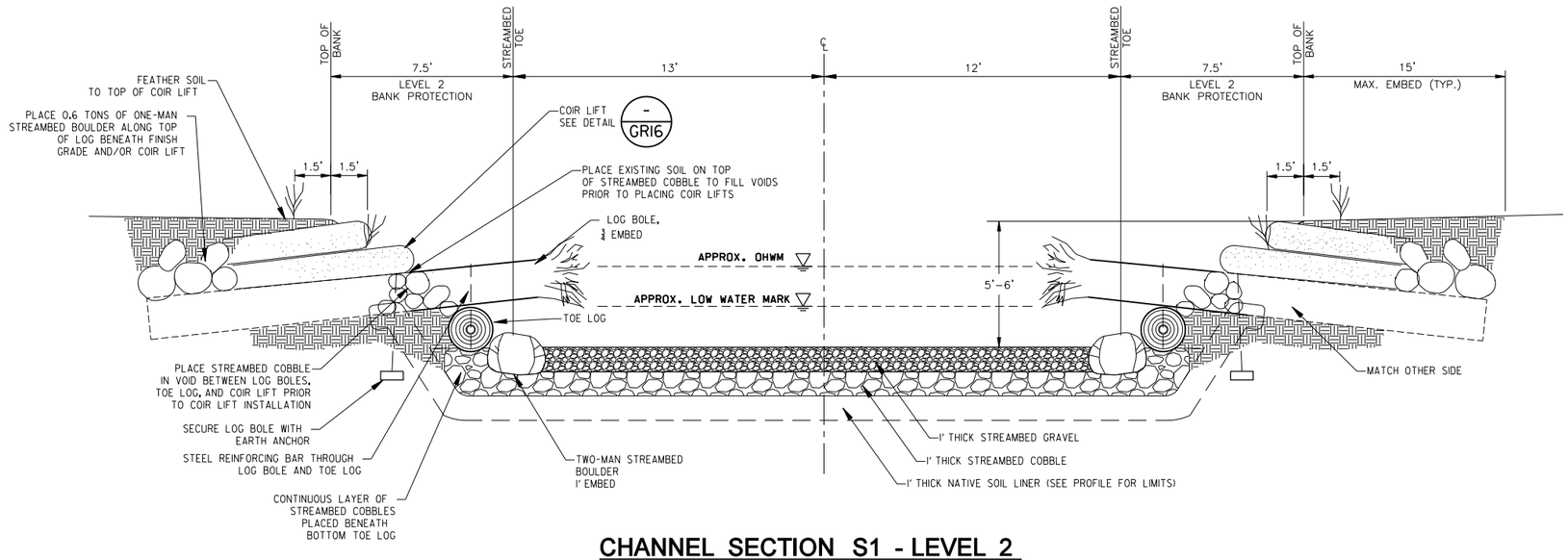
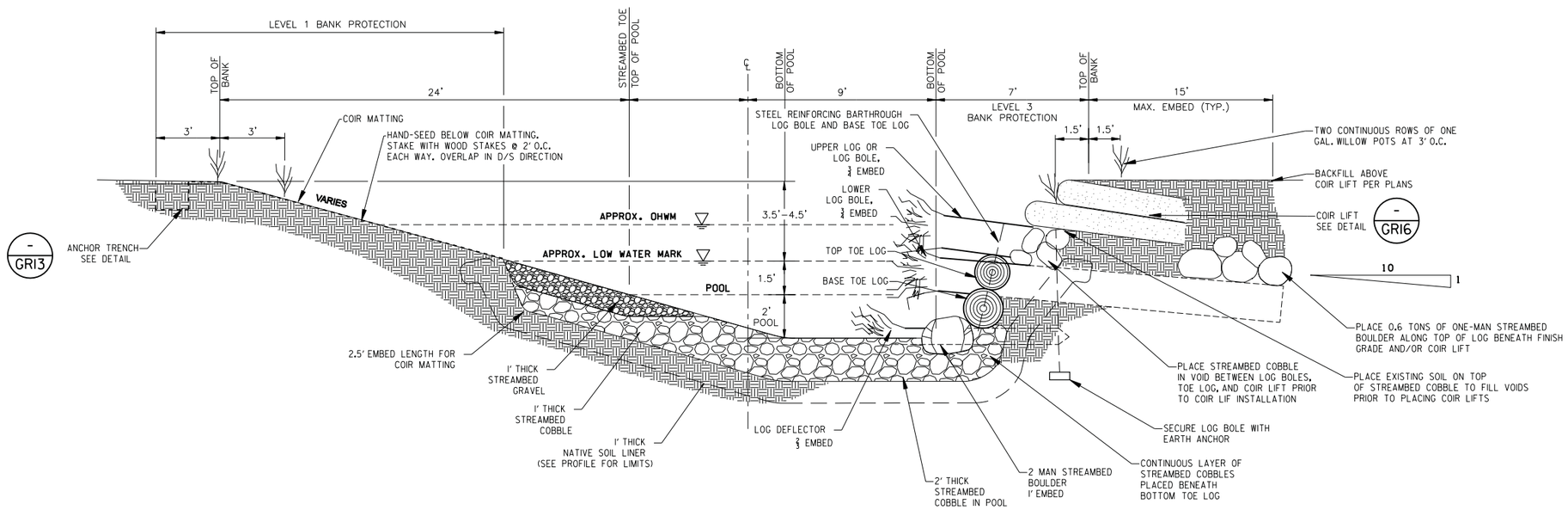


CHANNEL SECTION S1 - LEVEL 2

NOT TO SCALE



CHANNEL SECTION S2 - LEVELS 1 & 3

NOT TO SCALE

90% SUBMITTAL

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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City of Redmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

HABITAT DETAILS

GR14

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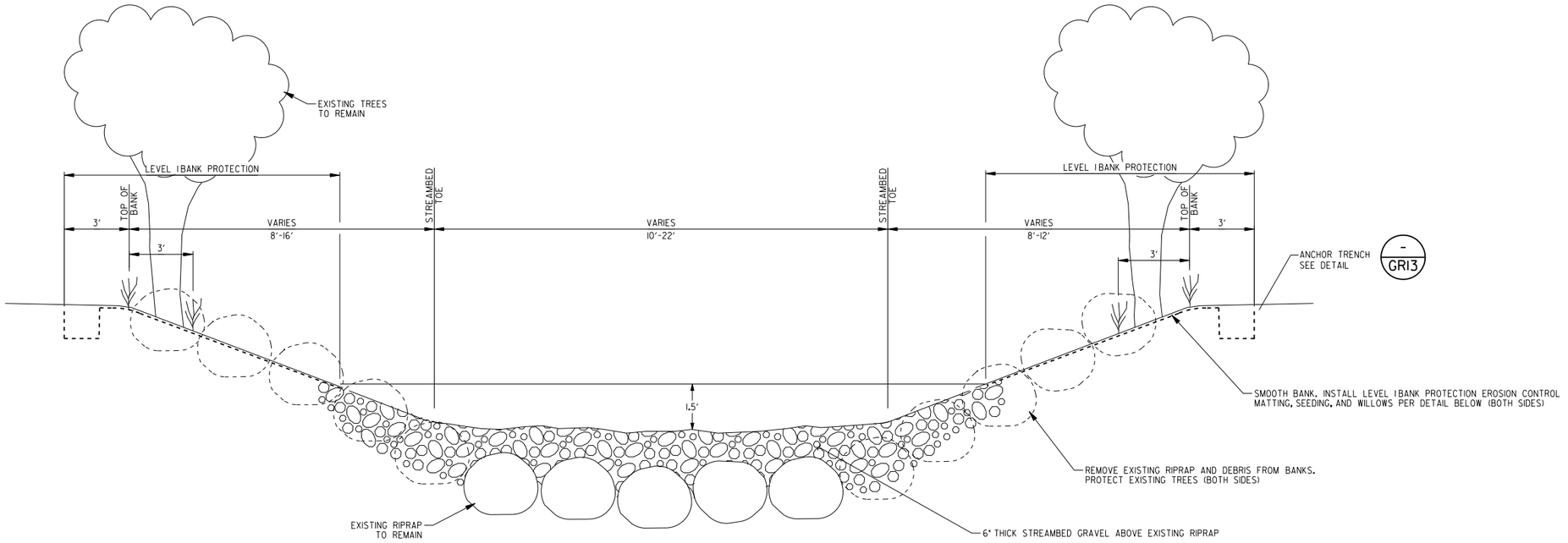
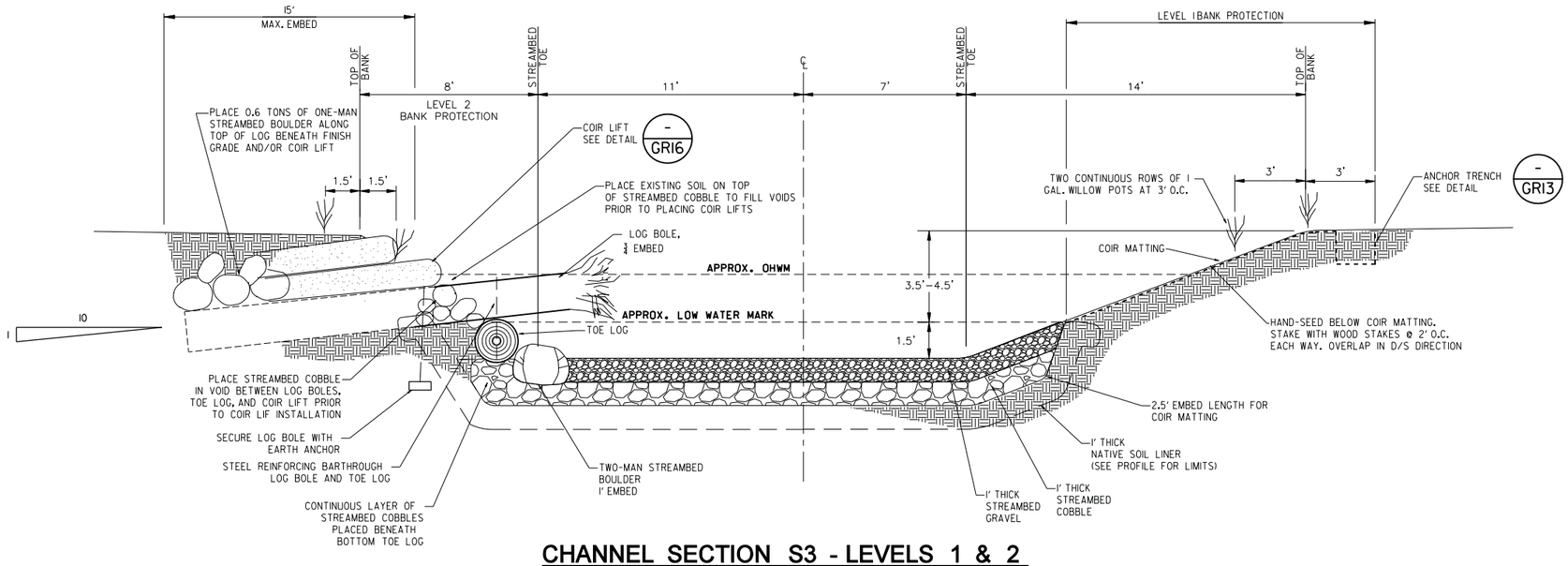


BACK WATER CHANNEL A, B, AND C TYPICAL SECTION

NOT TO SCALE



CHANNEL SECTION S3 - LEVELS 1 & 2

NOT TO SCALE

90% SUBMITTAL

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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BEAR CREEK REHABILITATION PROJECT

HABITAT DETAILS

GR15

SHEET OF SHEETS

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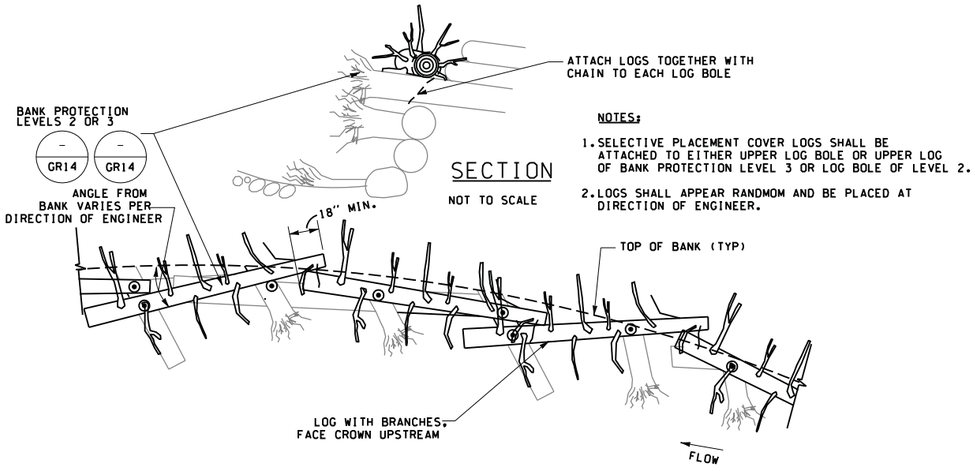
STANDING SNAG

NOT TO SCALE



SECTION

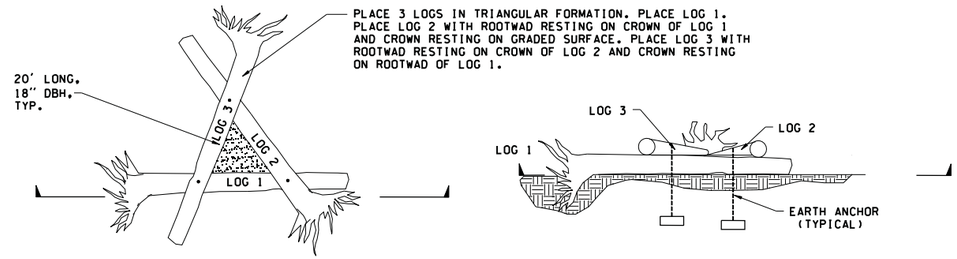
NOT TO SCALE

NOTES:

1. SELECTIVE PLACEMENT COVER LOGS SHALL BE ATTACHED TO EITHER UPPER LOG BOLE OR UPPER LOG OF BANK PROTECTION LEVEL 3 OR LOG BOLE OF LEVEL 2.
2. LOGS SHALL APPEAR RANDMOM AND BE PLACED AT DIRECTION OF ENGINEER.

SELECTIVE PLACEMENT COVER LOGS

NOT TO SCALE

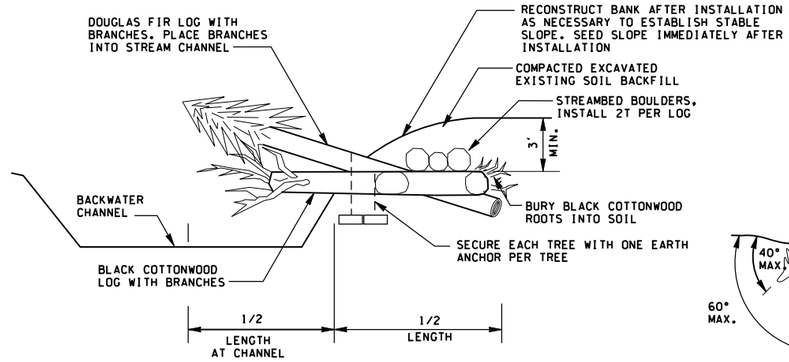


PLAN

SECTION

FLOODPLAIN LOGJAM

NOT TO SCALE

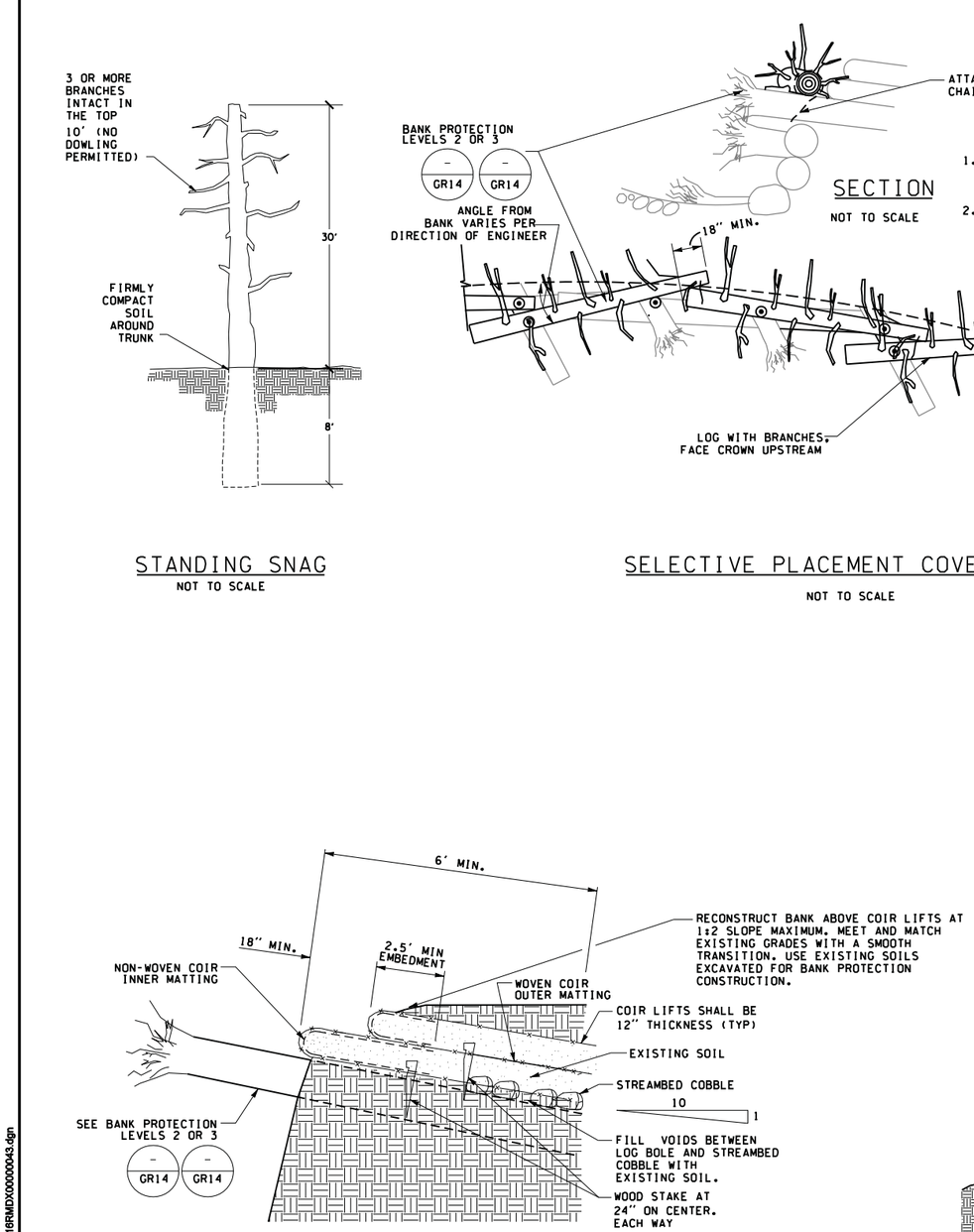


SECTION

PLAN

TREE OVERHANG

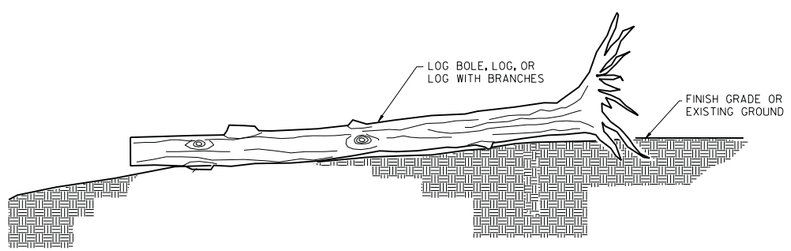
NOT TO SCALE



COIR LIFT

NOT TO SCALE

SLOPE COIR LIFTS CONSISTENT WITH LOG BOLES.



DOWN LOG

NOT TO SCALE

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

HABITAT DETAILS

GR16

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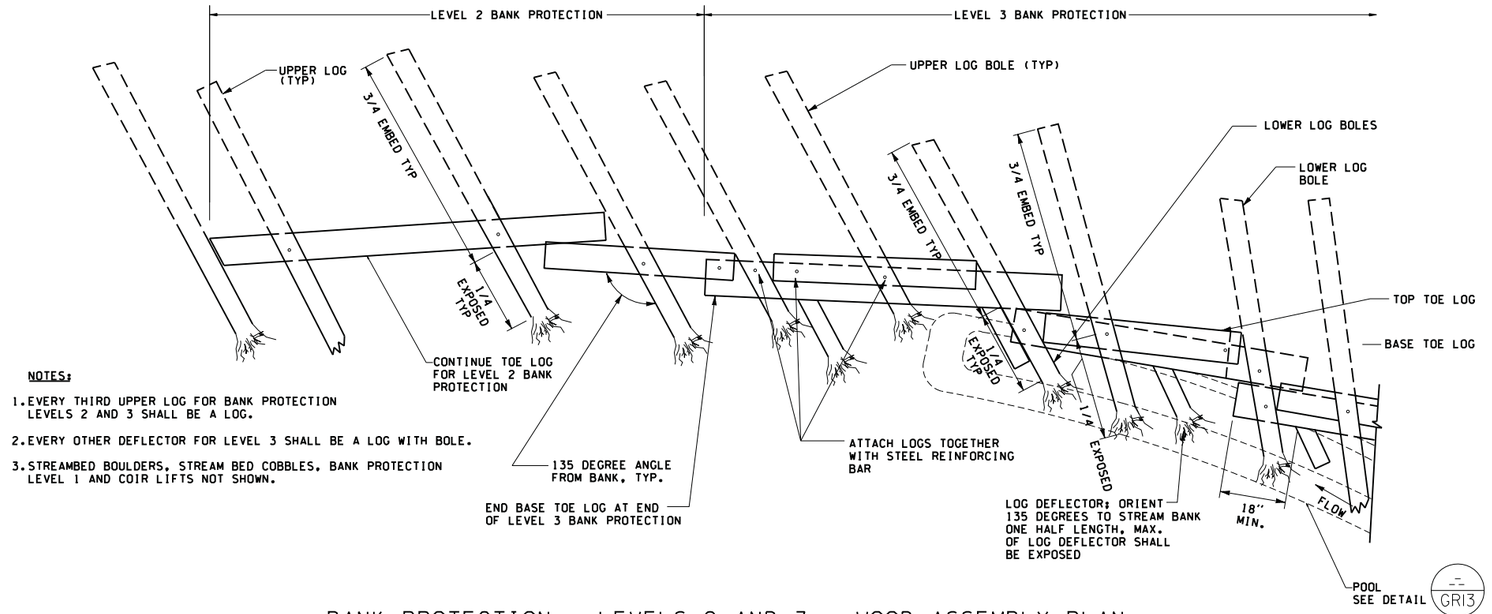
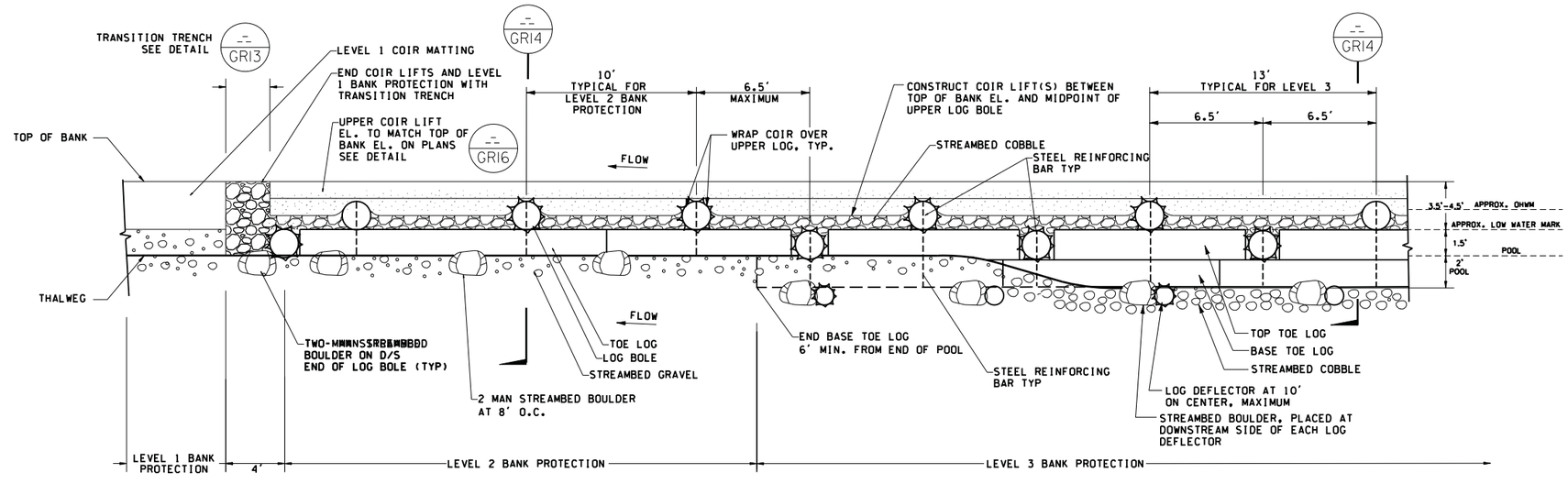


NOTES:

1. EVERY THIRD UPPER LOG FOR BANK PROTECTION LEVELS 2 AND 3 SHALL BE A LOG.
2. EVERY OTHER DEFLECTOR FOR LEVEL 3 SHALL BE A LOG WITH BOLE.
3. STREAMBED BOULDERS, STREAM BED COBBLES, BANK PROTECTION LEVEL 1 AND COIR LIFTS NOT SHOWN.

BANK PROTECTION - LEVELS 2 AND 3 - WOOD ASSEMBLY PLAN

NOT TO SCALE



NOTE: LIVE STAKES ON TOP OF COIR LIFTS NOT SHOWN.

BANK PROTECTION - LEVELS 1, 2 AND 3 - SECTION

NOT TO SCALE

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

HABITAT DETAILS

GR17

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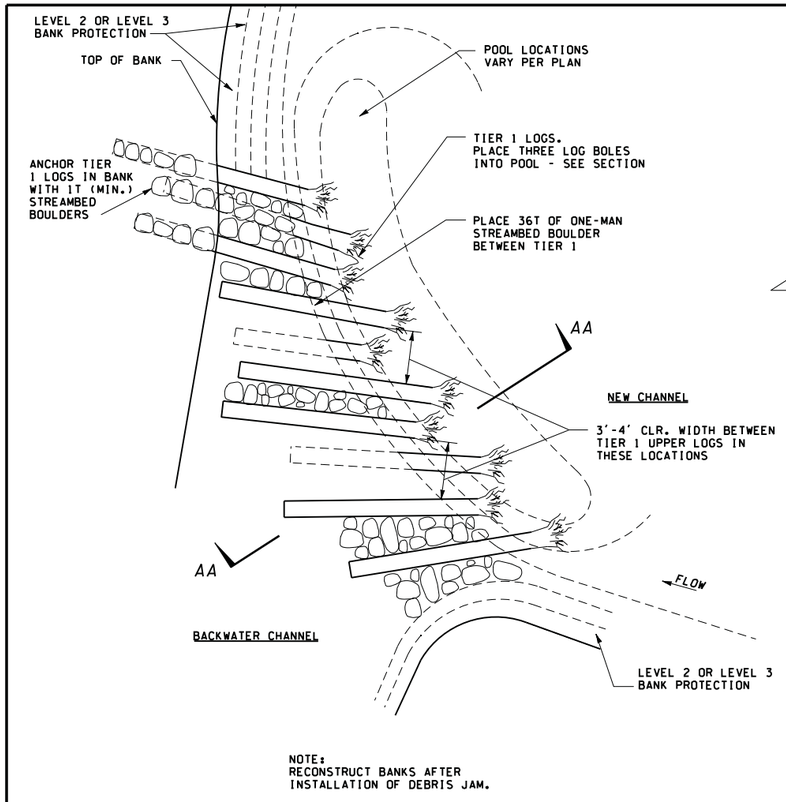
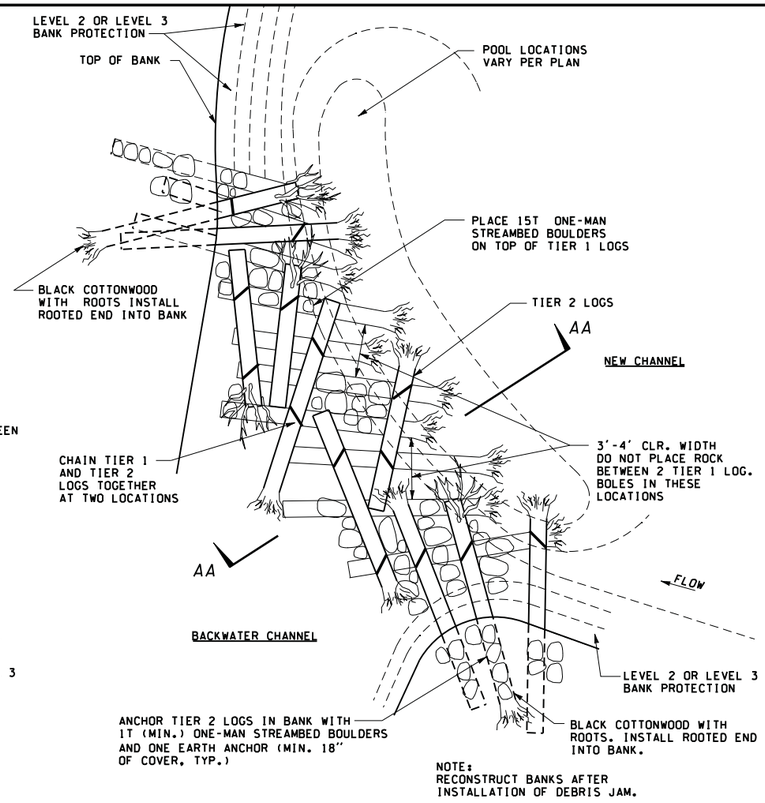


TYPICAL LOG DEBRIS JAM

TIER 1 PLAN

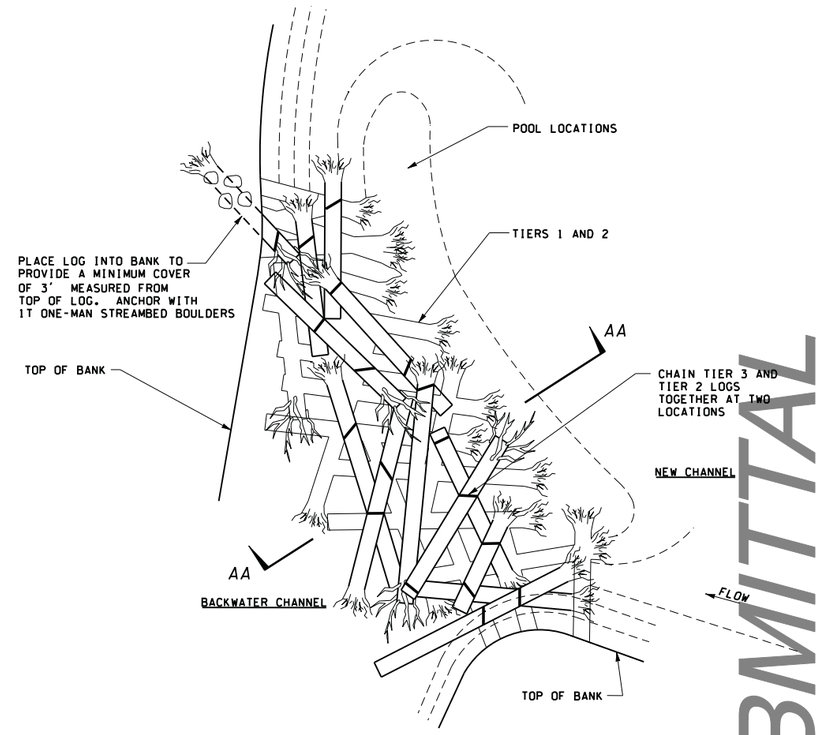
NOT TO SCALE



TYPICAL LOG DEBRIS JAM

TIER 2 PLAN

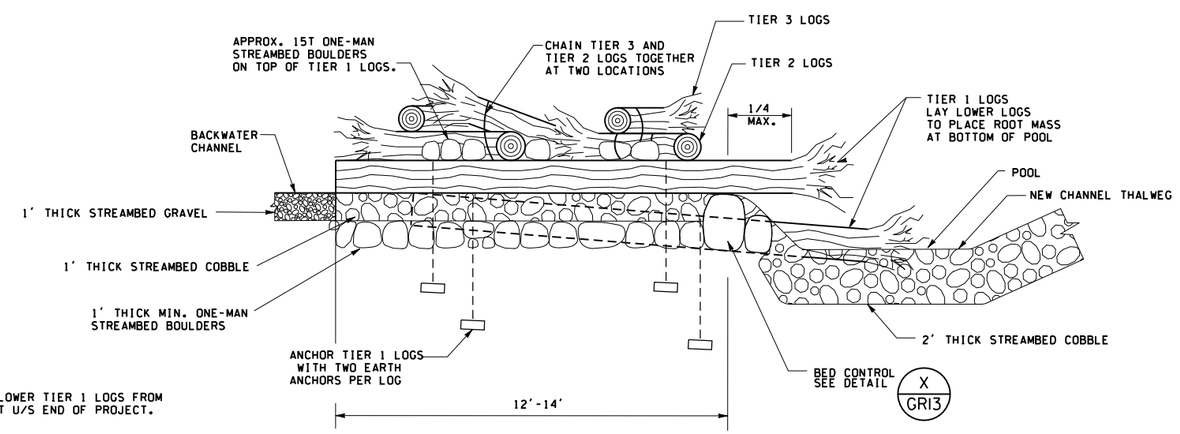
NOT TO SCALE



TYPICAL LOG DEBRIS JAM

TIER 3 PLAN

NOT TO SCALE



NOTE:
DELETE POOL AND LOWER TIER 1 LOGS FROM LOG DEBRIS JAM AT U/S END OF PROJECT.

LOG DEBRIS JAM - SECTION AA-AA (TIERS 1, 2, AND 3)

NOT TO SCALE

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

DAVID EVANS AND ASSOCIATES INC.
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CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

HABITAT DETAILS

GR18

SHEET OF SHEETS

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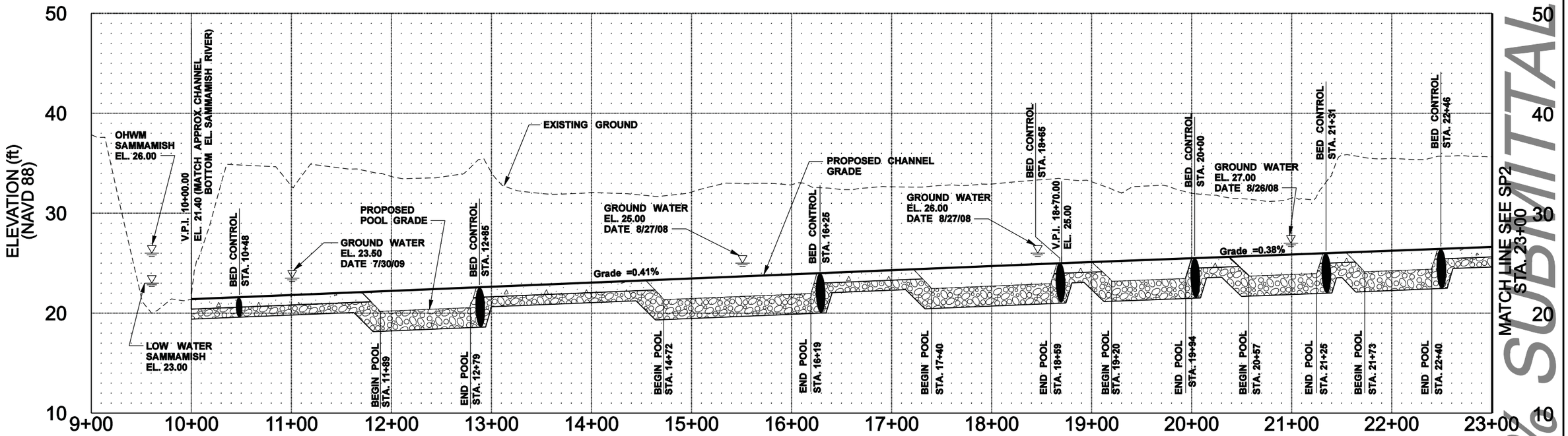

MAIN CHANNEL DISTANCE (ft)

SCALE: V: 1=100'
H: 1=10'

90% SUBMITTAL

LEGEND

- EXISTING GROUND
- PROPOSED CHANNEL CENTERLINE GRADE
- PROPOSED POOL GRADE
- STREAMBED GRAVEL
- STREAMBED COBBLE
- NATIVE SOIL LINER
- BED CONTROL

NOTES

1. GROUNDWATER ELEVATION SUBJECT TO CHANGE. SEE GEOTECHNICAL TECH. MEMO.

			REVISION	BY	APP'D
Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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BEAR CREEK REHABILITATION PROJECT

STREAM CHANNEL PROFILE

SP1

SHEET OF SHEETS

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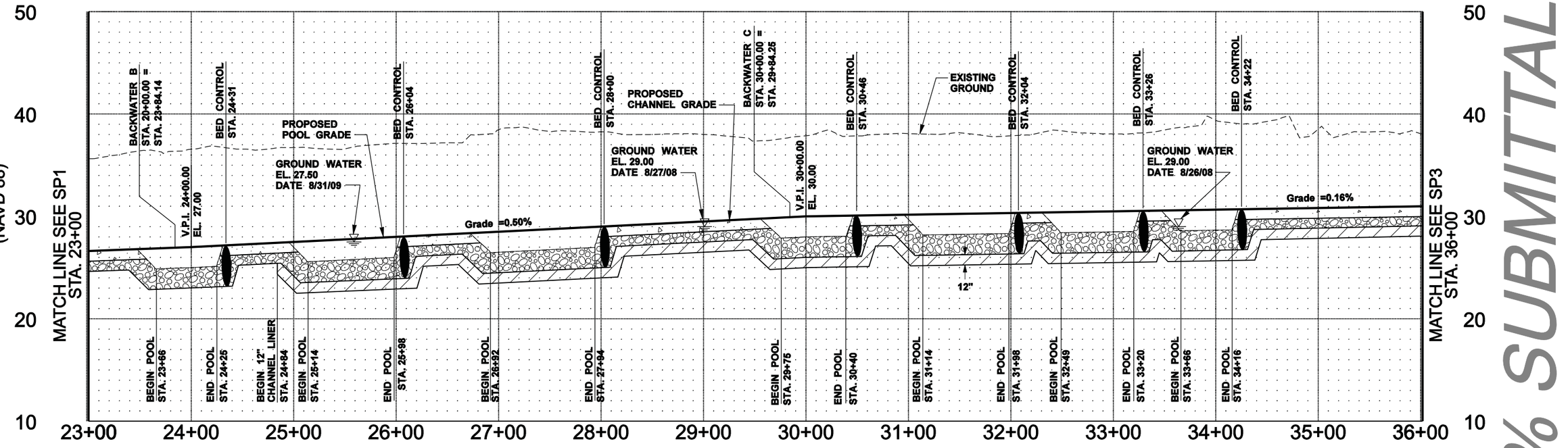

90% SUBMITTAL

LEGEND

- EXISTING GROUND
- PROPOSED CHANNEL CENTERLINE GRADE
- PROPOSED POOL GRADE
- STREAMBED GRAVEL
- STREAMBED COBBLE
- NATIVE SOIL LINER
- BED CONTROL

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1. GROUNDWATER ELEVATION SUBJECT TO CHANGE. SEE GEOTECHNICAL TECH. MEMO.

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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City of Redmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

STREAM CHANNEL PROFILE

SP2

SHEET OF SHEETS

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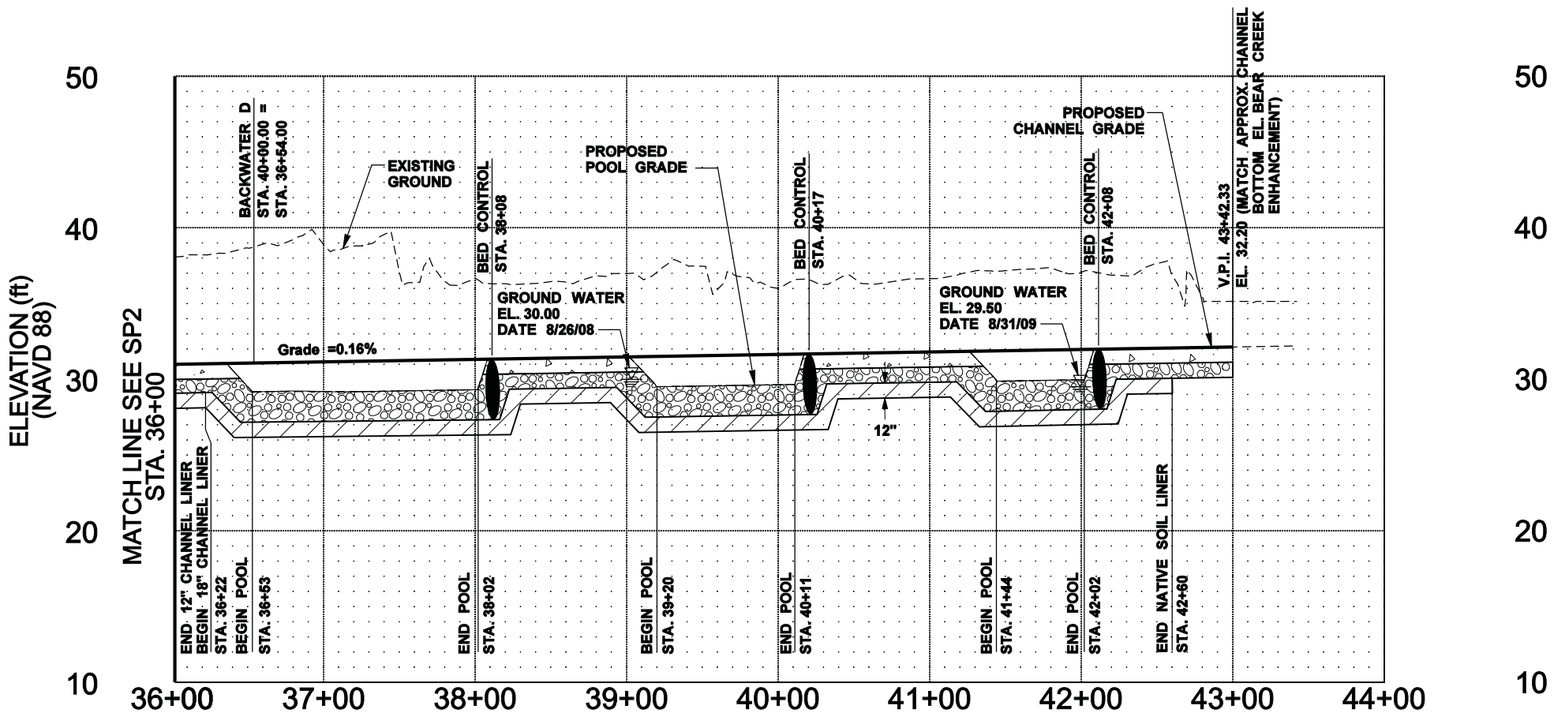

MAIN CHANNEL DISTANCE (ft)

SCALE: V: 1=100'
H: 1=10'

90% SUBMITTAL

LEGEND

- EXISTING GROUND
- PROPOSED CHANNEL CENTERLINE GRADE
- PROPOSED POOL GRADE
- STREAMBED GRAVEL
- STREAMBED COBBLE
- NATIVE SOIL LINER
- BED CONTROL

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						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010								
Designed By	A. SCHMIDTMAN	3/2010					WASH			
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

STREAM CHANNEL PROFILE

SP3

SHEET OF SHEETS

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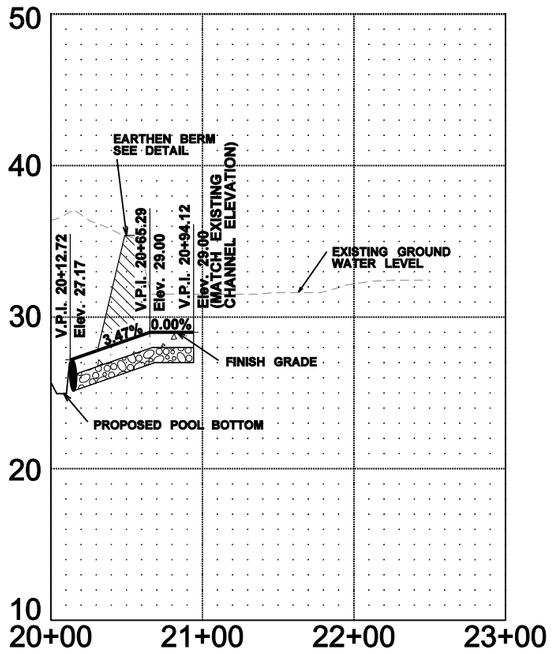
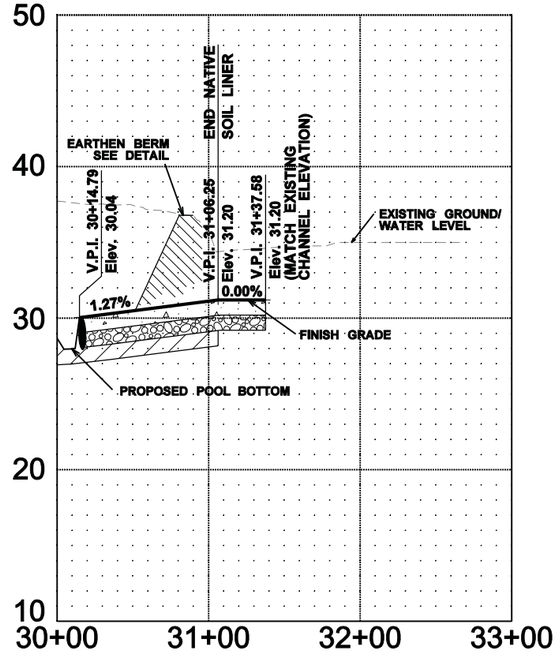


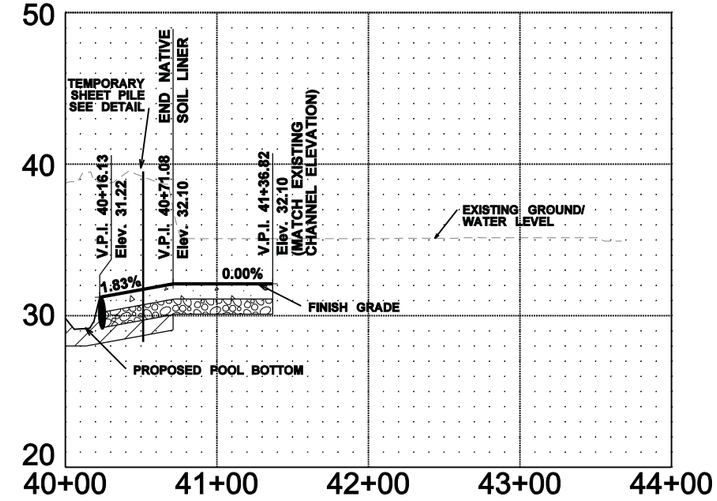
BACKWATER B

SCALE: V: 1"=100'
H: 1"=10'



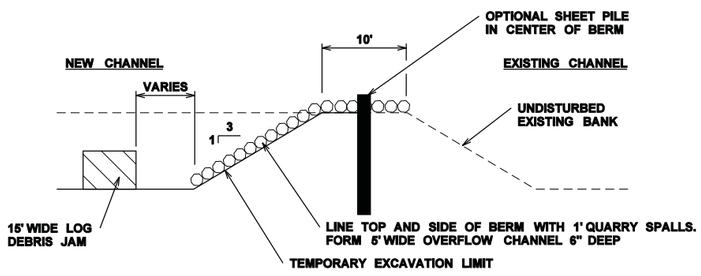
BACKWATER C

SCALE: V: 1"=100'
H: 1"=10'



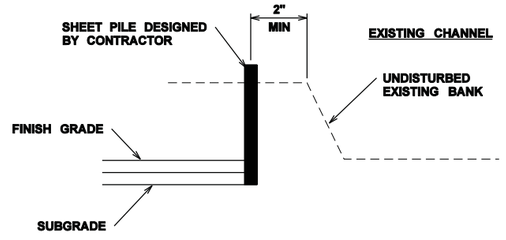
BACKWATER D

SCALE: V: 1"=100'
H: 1"=10'



EARTHEN BERM SECTION
BACKWATER CHANNELS B & C
MOUTH OF NE CHANNEL

NOT TO SCALE



TEMPORARY SHEET PILE DIVERSION
BACKWATER CHANNEL D
UPSTREAM CONNECTION

NOT TO SCALE

LEGEND

- EXISTING GROUND
- PROPOSED CHANNEL CENTERLINE GRADE
- PROPOSED POOL GRADE
- STREAMBED GRAVEL
- STREAMBED COBBLE
- NATIVE SOIL LINER
- BED CONTROL

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
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			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

BACKWATER PROFILES

SP4

SHEET OF SHEETS

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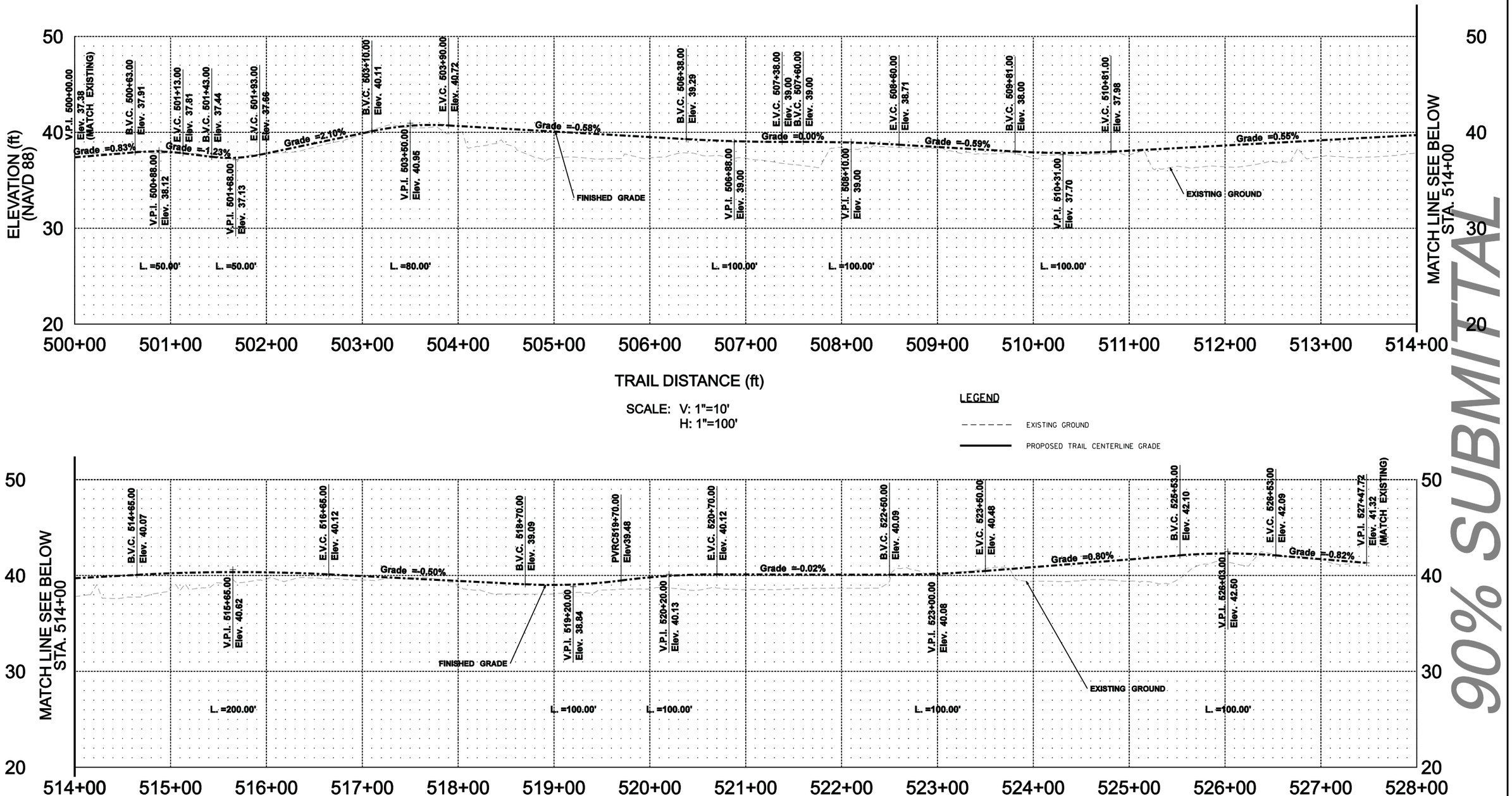

90% SUBMITTAL

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			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

TRAIL PROFILE

TP1

SHEET OF SHEETS

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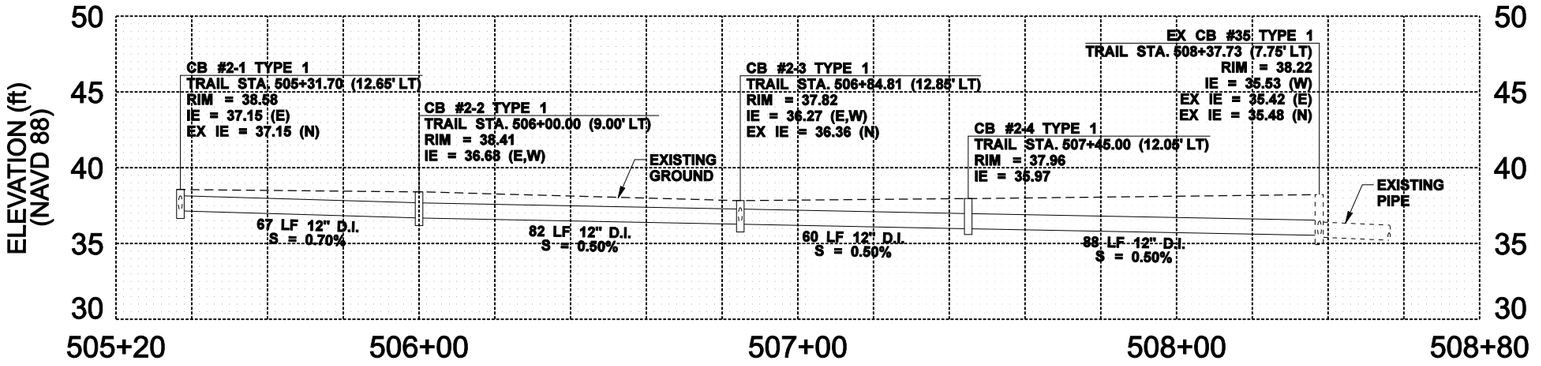
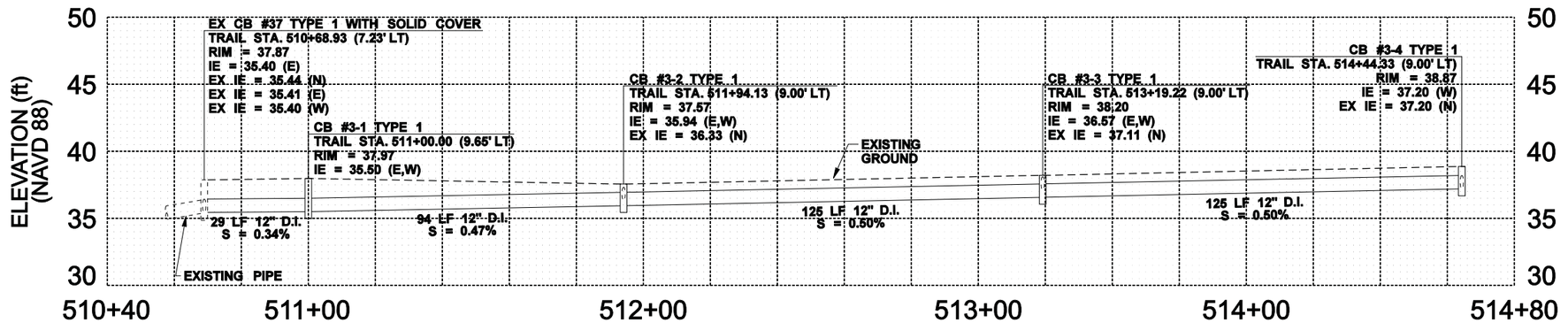


DRAINAGE PROFILE
SCALE: V: 1"=10'
H: 1"=40'



DRAINAGE PROFILE
SCALE: V: 1"=10'
H: 1"=40'

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
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BEAR CREEK REHABILITATION PROJECT

STORM DRAIN PROFILE

SDP1

SHEET OF SHEETS

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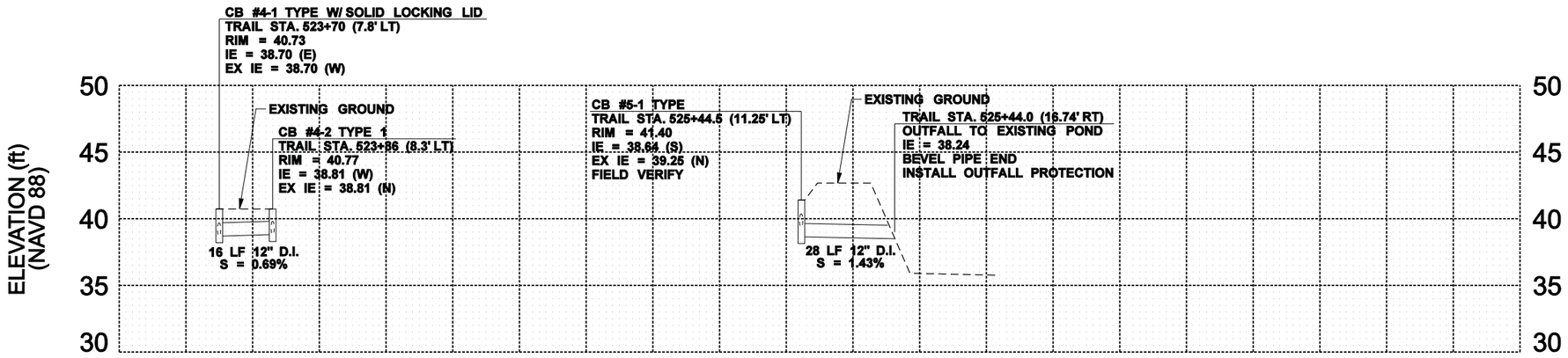

DRAINAGE PROFILE

SCALE: V: 1"=10'
H: 1"=40'

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010								
Designed By	A. SCHMIDTMAN	3/2010					WASH			
Checked By	J. ST. JOHN	3/2010								
Detailed By	D. OLSEN	3/2010				JOB NUMBER				
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

STORM DRAIN PROFILE

SDP2

SHEET OF SHEETS

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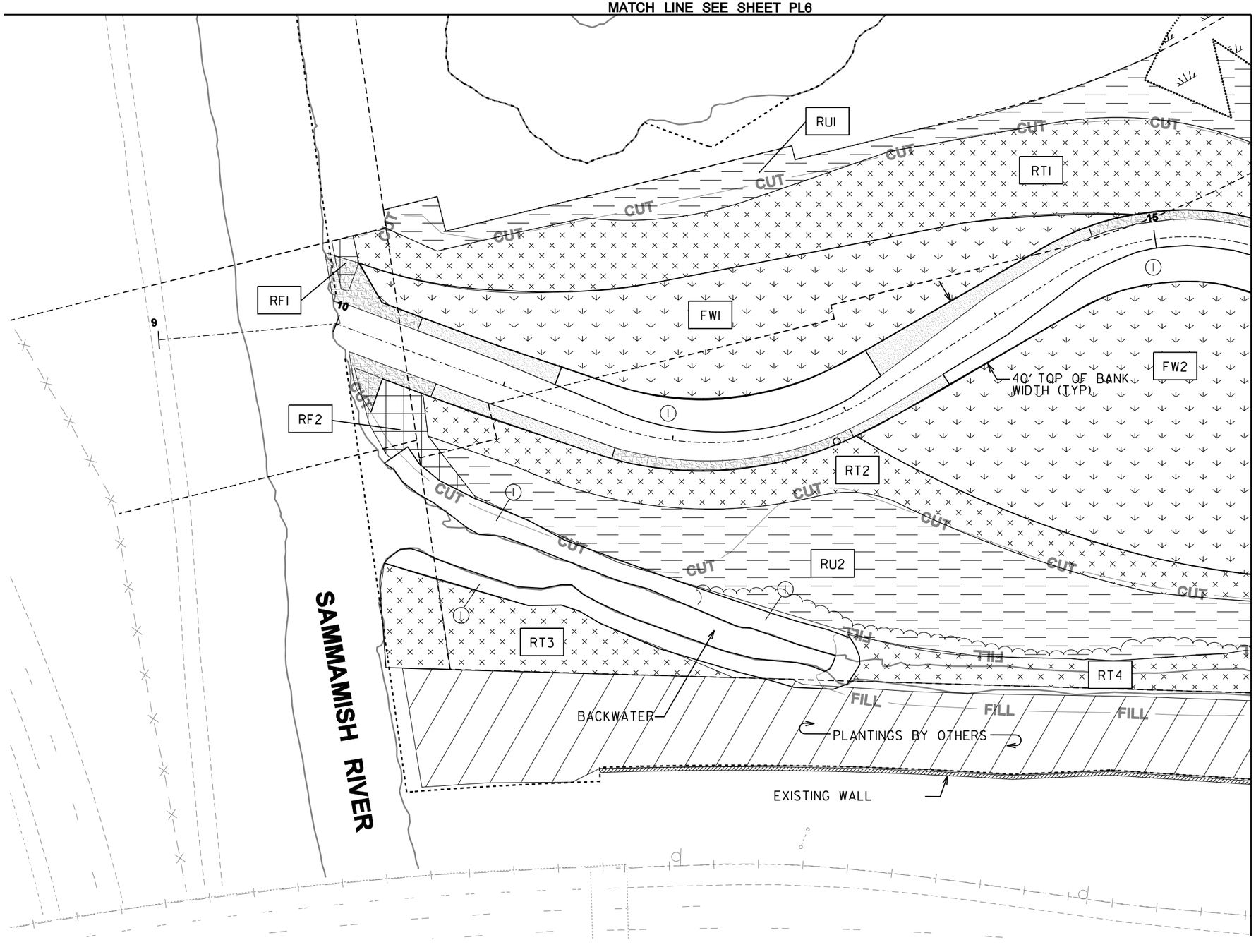
MATCH LINE SEE SHEET PL6



MATCH LINE SEE SHEET PL2

PLANTING LEGEND

- FORESTED WETLAND (FW)
- RIPARIAN - FLOODWAY (RF)
- RIPARIAN - TRANSITION SLOPE (RT)
- RIPARIAN - UPLAND BUFFER (RU)
- BANK PROTECTION LEVEL 1 WILLOWS (SEE SECTION S2, SHT GR14)
- BANK PROTECTION LEVEL 2 WILLOWS (SEE SECTION S1, SHT GR14)
- BANK PROTECTION LEVEL 3 WILLOWS (SEE SECTION S2, SHT GR14)
- EXISTING WETLAND
- STREAM BUFFER PLANTING BY OTHERS, RESTORE IF DISTURBED
- TRAIL PLANTING (TP) AND 3" BARK MULCH
- SWALE PLANTING (SP)
- STREET TREE
- EXISTING EDGE OF CANOPY

PLANTING NOTES

1. SEE SHEET PL7 FOR PLANTING SCHEDULE AND SHEET PL8 FOR PLANTING NOTES AND DETAILS.
2. ALL PLANTING AREAS SHALL RECEIVE 6" UNIFORM SOIL AMENDMENT TILLED TO A 12" DEPTH.
3. LAYOUT WILLOWS FOR BANK PROTECTION LEVELS 1, 2, AND 3 PER SECTION 1 AND 2 ON SHEET GR14.
4. HYDROSEED ALL DISTURBED AREAS AS SHOWN ON SHEETS EC1-EC9.

N

0 30 60

SCALE IN FEET

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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Bellevue Washington 98005–3518
Phone: 425.519.6500

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BEAR CREEK REHABILITATION PROJECT

PLANTING PLAN

PL1

SHEET OF SHEETS

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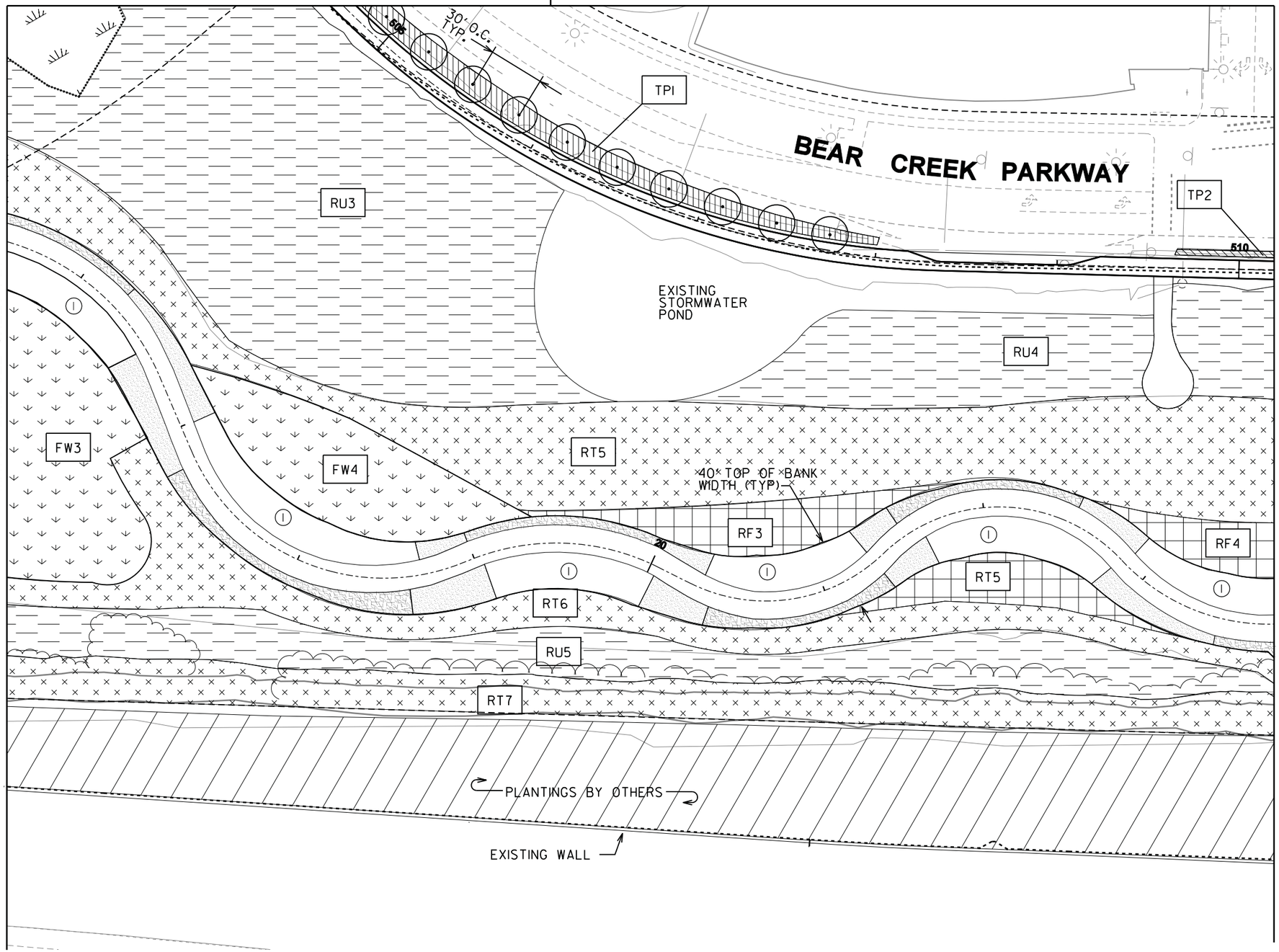
MATCH LINE SEE SHEET PL6

MATCH LINE SEE SHEET PL1

MATCH LINE SEE SHEET PL3



PLANTING LEGEND

- FORESTED WETLAND (FW)
- RIPARIAN - FLOODWAY (RF)
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N

0 30 60
SCALE IN FEET

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010								
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BEAR CREEK REHABILITATION PROJECT

PLANTING PLAN

PL2

SHEET OF SHEETS

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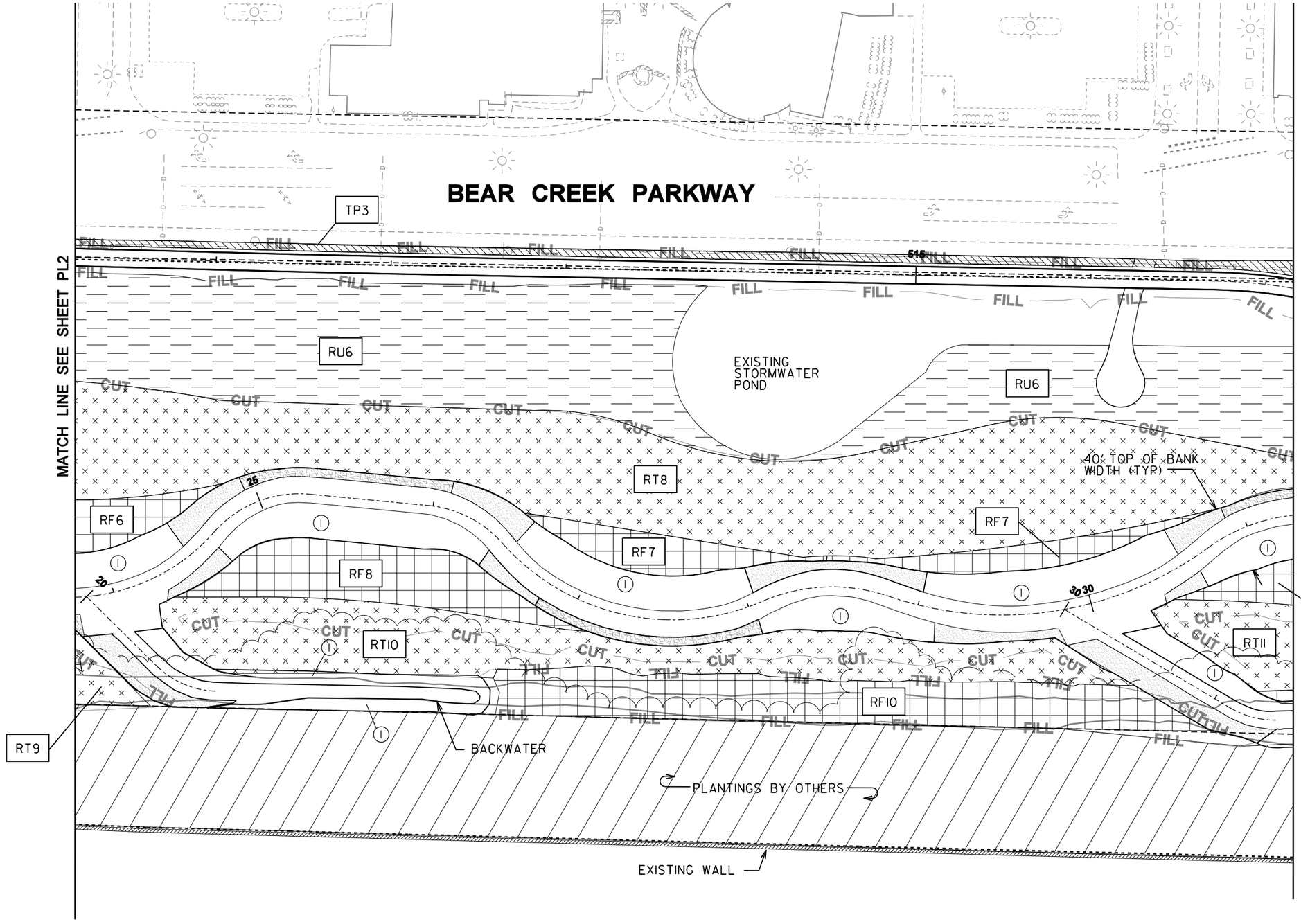

PLANTING LEGEND

- FORESTED WETLAND (FW)
- RIPARIAN - FLOODWAY (RF)
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4. HYDROSEED ALL DISTURBED AREAS AS SHOWN ON SHEETS EC1-EC9.

N

0 30 60

SCALE IN FEET

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
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Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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415 – 118th Avenue SE
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BEAR CREEK REHABILITATION PROJECT

PLANTING PLAN

PL3

SHEET OF SHEETS

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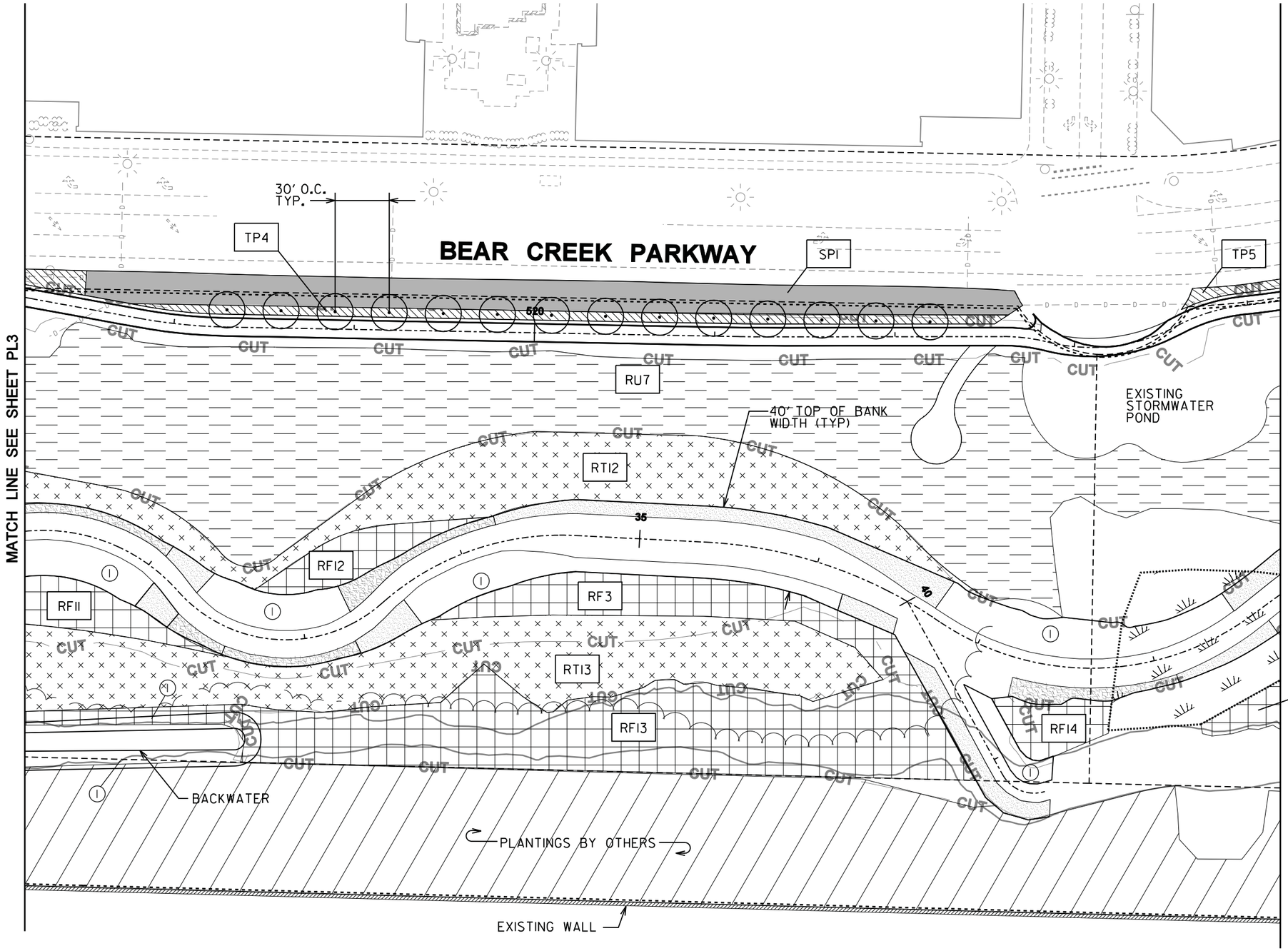

PLANTING LEGEND

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- BANK PROTECTION LEVEL 3 WILLOWS (SEE SECTION S2, SHT GR14)
- EXISTING WETLAND
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- SWALE PLANTING (SP)
- STREET TREE
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3. LAYOUT WILLOWS FOR BANK PROTECTION LEVELS 1, 2, AND 3 PER SECTION 1 AND 2 ON SHEET GR14.
4. HYDROSEED ALL DISTURBED AREAS AS SHOWN ON SHEETS EC1-EC9.

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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Designed By	A. SCHMIDTMAN	3/2010				JOB NUMBER				
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Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

PL4

PLANTING PLAN

SHEET OF SHEETS

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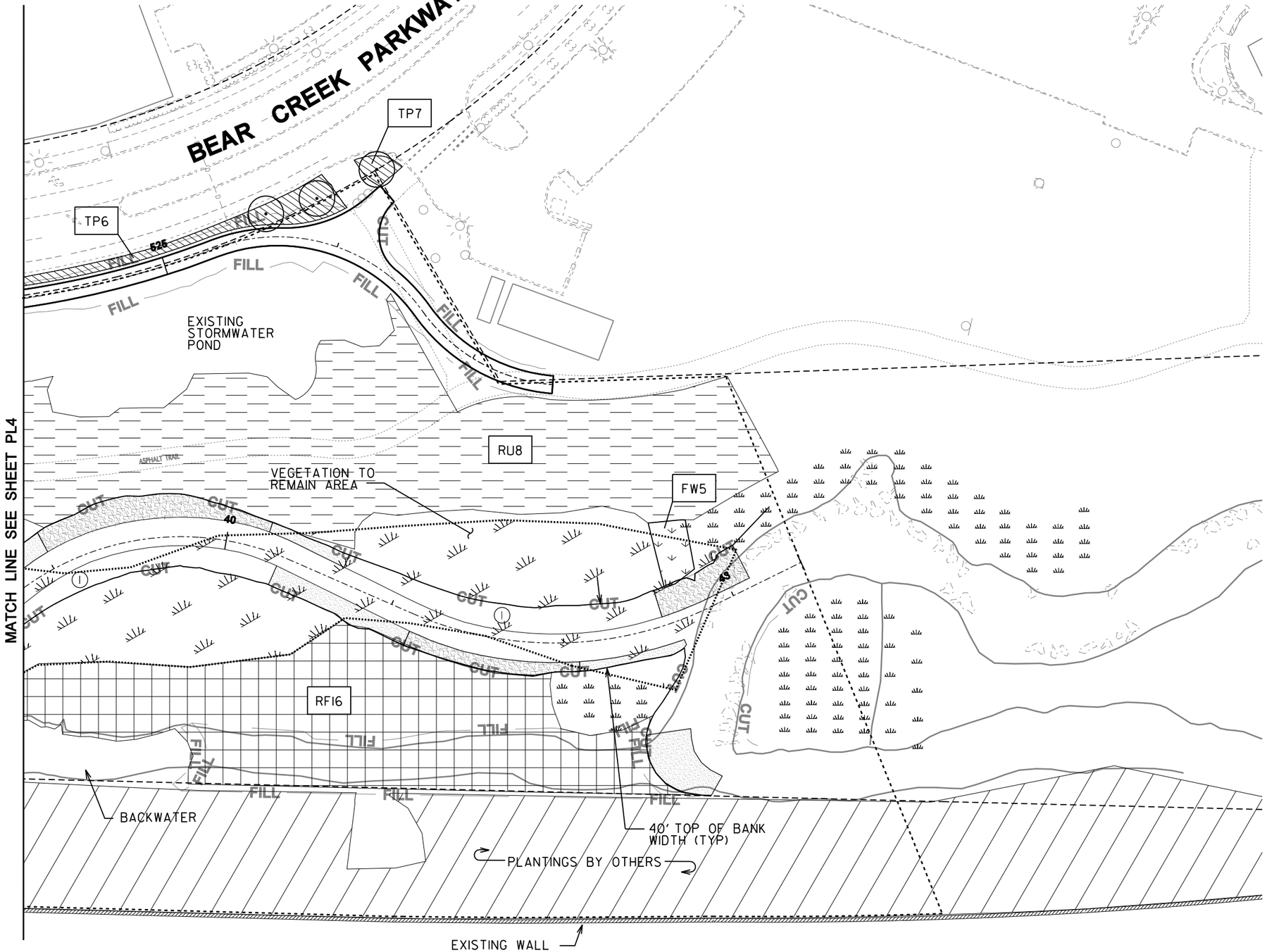

PLANTING LEGEND

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- RIPARIAN - FLOODWAY (RF)
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- EXISTING WETLAND
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4. HYDROSEED ALL DISTURBED AREAS AS SHOWN ON SHEETS ECI-EC9.

N

0 30 60
SCALE IN FEET

90% SUBMITTAL

Supervisor	J. GAGE	3/2010				
Designed By	A. SCHMIDTMAN	3/2010				
Checked By	J. ST. JOHN	3/2010				
Detailed By	D. OLSEN	3/2010				
			REVISION	BY	APP'D	

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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Bellevue Washington 98005–3518
Phone: 425.519.6500

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BEAR CREEK REHABILITATION PROJECT

PLANTING PLAN

PL5

SHEET OF SHEETS

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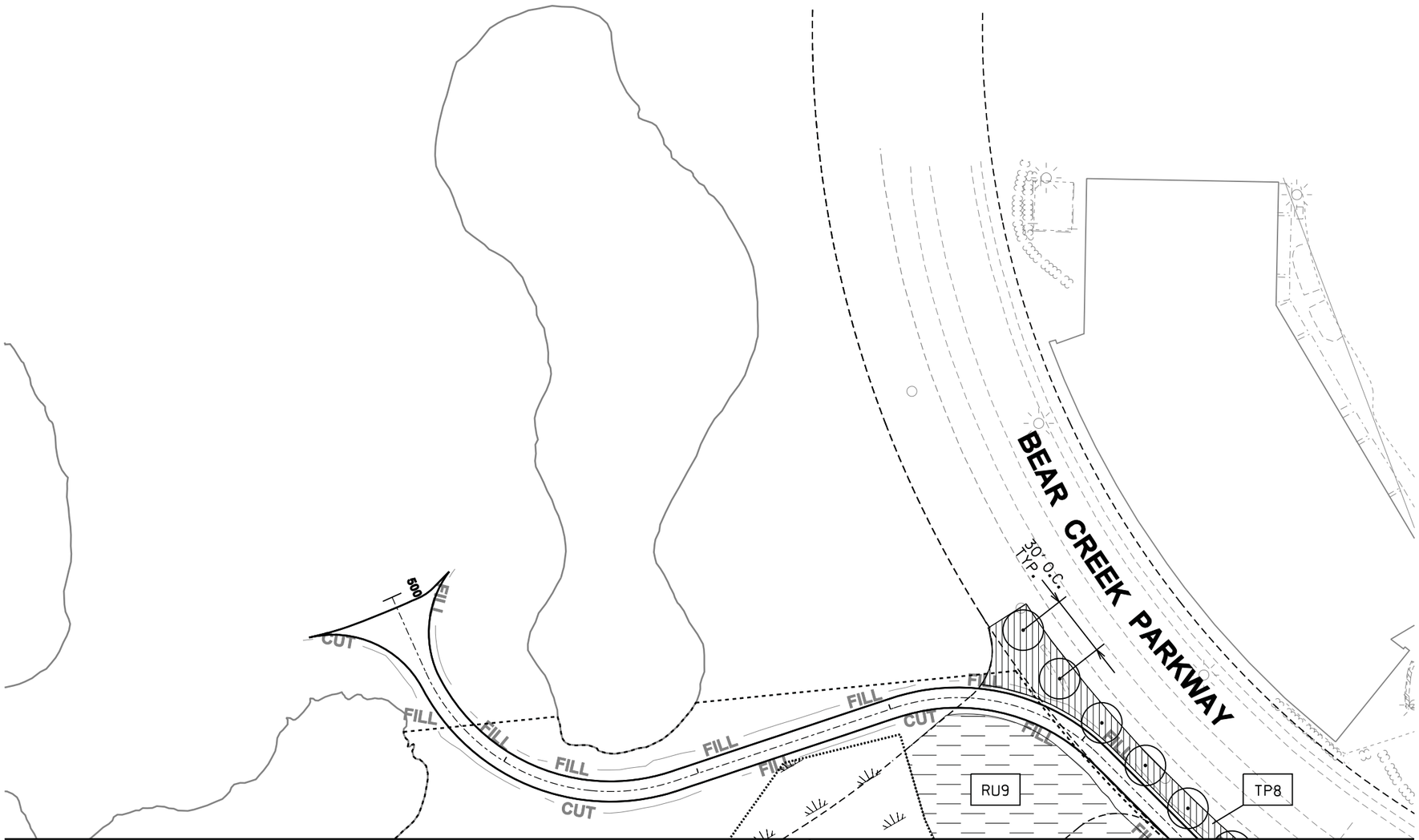

PLANTING LEGEND

- FORESTED WETLAND (FW)
- RIPARIAN - FLOODWAY (RF)
- RIPARIAN - TRANSITION SLOPE (RT)
- RIPARIAN - UPLAND BUFFER (RU)
- BANK PROTECTION LEVEL 1 WILLOWS (SEE SECTION S2, SHT GR14)
- BANK PROTECTION LEVEL 2 WILLOWS (SEE SECTION S1, SHT GR14)
- BANK PROTECTION LEVEL 3 WILLOWS (SEE SECTION S2, SHT GR14)
- EXISTING WETLAND
- STREAM BUFFER PLANTING BY OTHERS, RESTORE IF DISTURBED
- TRAIL PLANTING (TP) AND 3" BARK MULCH
- SWALE PLANTING (SP)
- STREET TREE
- EXISTING EDGE OF CANOPY

PLANTING NOTES

1. SEE SHEET PL7 FOR PLANTING SCHEDULE AND SHEET PL8 FOR PLANTING NOTES AND DETAILS.
2. ALL PLANTING AREAS SHALL RECEIVE 6" UNIFORM SOIL AMENDMENT TILLED TO A 12" DEPTH.
3. LAYOUT WILLOWS FOR BANK PROTECTION LEVELS 1, 2, AND 3 PER SECTION 1 AND 2 ON SHEET GR14.
4. HYDROSEED ALL DISTURBED AREAS AS SHOWN ON SHEETS EC1-EC3.

N

0 30 60
SCALE IN FEET

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

DAVID EVANS AND ASSOCIATES INC.
415 – 118th Avenue SE
Bellevue Washington 98005–3518
Phone: 425.519.6500

CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

PLANTING PLAN

PL6

SHEET OF SHEETS

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PLANT SCHEDULE - REHABILITATION

COMMON NAME	BOTANICAL NAME	CONDITION	SPACING	ZONE															
RIPARIAN - UPLAND BUFFER (RU)*				RU1	RU2	RU3	RU4	RU5	RU6	RU7	RU8								
TREES																			
BIG LEAF MAPLE	ACER MACROPHYLLUM	2 GAL.	10' O.C. MIN.	19	50	101	33	39	81	128	70								
BITTER CHERRY	PRUNUS EMARGINATA	2 GAL.	10' O.C. MIN.	19	50	101	33	39	81	128	70								
DOUGLAS FIR	PSEUDOTSUGA MENZEISII	2 GAL.	10' O.C. MIN.	18	45	90	30	35	73	116	63								
DOUGLAS FIR	PSEUDOTSUGA MENZEISII	5 GAL.	10' O.C. MIN.	18	45	90	30	35	73	116	63								
GRAND FIR	ABIES GRANDIS	2 GAL.	10' O.C. MIN.	14	35	70	23	27	56	90	49								
GRAND FIR	ABIES GRANDIS	5 GAL.	10' O.C. MIN.	14	35	70	23	27	56	90	49								
GARRY OAK	QUERCUS GARRYANA	2 GAL.	10' O.C. MIN.	16	40	80	27	31	65	103	56								
WESTERN HEMLOCK	TSUGA HETEROPHYLLA	2 GAL.	10' O.C. MIN.	16	40	80	27	31	65	103	56								
SHRUBS																			
BEAKED HAZELNUT	CORYLUS CORNUTA	2 GAL.	5' O.C.	23	60	121	40	47	97	154	84								
MOCK ORANGE	PHILADELPHUS LEWISII	1 GAL.	5' O.C.	23	60	121	40	47	97	154	84								
NOOTKA ROSE	ROSA NUTKANA	1 GAL.	5' O.C.	35	90	181	60	70	145	231	125								
OCEANSPRAY	HOLODISCUS DISCOLOR	1 GAL.	5' O.C.	23	60	121	40	47	97	154	84								
RED ELDERBERRY	SAMBUCUS RACEMOSA	1 GAL	5' O.C.	16	40	80	27	31	65	103	56								
RED FLOWERING CURRANT	RIBES SANGUINEUM	1 GAL.	5' O.C.	23	60	121	40	47	97	154	84								
SNOWBERRY	SYMPHORICARPOS ALBA	1 GAL	5' O.C.	35	90	181	60	70	145	231	125								
TALL OREGON GRAPE	MAHONIA AQUIFOLIUM	1 GAL.	5' O.C.	35	90	181	60	70	145	231	125								
VINE MAPLE	ACER CIRCINATUM	2 GAL.	5' O.C.	23	60	121	40	47	97	154	84								
WESTERN SERVICEBERRY	AMELANCHIER ALNIFOLIA	2 GAL.	5' O.C.	19	50	101	33	39	81	128	70								
	Total			389	999	2010	668	779	1613	2568	1394								
RIPARIAN - TRANSITION SLOPE (RT)*				RT1	RT2	RT3	RT4	RT5	RT6	RT7	RT8	RT9	RT10	RT11	RT12	RT13			
TREES																			
BLACK COTTONWOOD	POPULUS TRICHOCARPA	2 GAL.	10' O.C. MIN.	85	41	25	15	128	58	63	154	4	62	12	55	73			
SITKA SPRUCE	PICEA SITCHENSIS	2 GAL.	10' O.C. MIN.	23	11	7	4	36	16	18	43	1	17	3	15	20			
SITKA SPRUCE	PICEA SITCHENSIS	5 GAL.	10' O.C. MIN.	23	11	7	4	36	16	18	43	1	17	3	15	20			
WESTERN RED CEDAR	THUJA PLICATA	2 GAL.	10' O.C. MIN.	52	25	16	9	78	36	39	94	2	38	8	34	44			
WESTERN RED CEDAR	THUJA PLICATA	5 GAL.	10' O.C. MIN.	52	25	16	9	78	36	39	94	2	38	8	34	44			
RED ALDER	ALNUS RUBRA	2 GAL.	10' O.C. MIN	0	0	25	30	0	0	60	0	0	0	0	0	0			
SHRUBS																			
BLACK TWINBERRY	LONICERA INVOLUCRATA	1 GAL.	5' O.C.	113	54	34	20	171	78	84	206	5	83	17	73	97			
BLACK HAWTHORN	CRATAGEOUS DOUGLASII	2 GAL.	5' O.C.	103	50	31	9	156	71	77	189	5	76	15	67	89			
INDIAN PLUM	OEMLARIA CERASIFORMIS	1 GAL.	5' O.C.	75	36	23	14	114	52	56	137	4	56	11	49	65			
THIMBLEBERRY	RUBUS PARVIFLORUS	1 GAL.	5' O.C.	94	45	10	12	142	65	50	171	4	69	14	61	81			
RED FLOWERING CURRANT	RIBES SANGUINEUM	1 GAL.	5' O.C.	94	45	28	12	142	65	50	171	4	69	14	61	81			
SALMONBERRY	RUBUS SPECTABILIS	1 GAL.	5' O.C.	85	41	25	15	128	58	63	154	4	62	12	55	73			
SITKA WILLOW	SALIX SITCHENSIS	1 GAL.	5' O.C.	141	68	42	15	213	97	85	257	7	104	21	92	121			
	Total			939	450	289	169	1421	647	701	1714	44	694	138	610	807			
RIPARIAN - FLOODWAY (RF)*				RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	RF10	RF11	RF12	RF13	RF14	RF15	RF16
TREES																			
BLACK COTTONWOOD	POPULUS TRICHOCARPA	2 GAL.	10' O.C. MIN.	2	41	18	12	17	9	27	29	5	55	11	9	97	10	4	119
OREGON ASH	FRAXINUS LATIFOLIA	2 GAL.	10' O.C. MIN.	2	44	20	13	19	10	30	31	6	60	12	10	105	11	4	129
SHRUBS																0	0	0	0
PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	1 GAL.	5' O.C.	2	44	20	13	19	10	30	31	6	60	12	10	105	11	4	129
PACIFIC WILLOW	SALIX LUCIDA	1 GAL.	5' O.C.	2	44	20	13	19	10	30	31	6	60	12	10	105	11	4	129
RED-OSIER DOGWOOD	CORNUS SERICEA	2 GAL.	5' O.C.	2	51	23	15	22	12	34	36	7	69	13	11	121	12	5	149
SALMONBERRY	RUBUS SPECTABILIS	1 GAL.	5' O.C.	2	44	20	13	19	10	30	31	6	60	12	10	105	11	4	129
SITKA WILLOW	SALIX SITCHENSIS	1 GAL.	5' O.C.	2	27	20	13	19	10	30	31	6	60	12	10	105	11	4	129
STINK CURRANT	RIBES BRACTEOSUM	1 GAL.	5' O.C.	1	27	12	8	12	6	18	19	4	37	7	6	65	6	3	79
	Total			14	323	154	97	144	79	228	241	45	458	89	75	807	81	34	993
FORESTED WETLAND (FW)*				FW1	FW2	FW3	FW4	FW5											
TREES																			
BLACK COTTONWOOD	POPULUS TRICHOCARPA	2 GAL.	10' O.C. MIN.	61	74	31	24	3											
OREGON ASH	FRAXINUS LATIFOLIA	2 GAL.	10' O.C. MIN.	70	84	36	27	3											
SITKA SPRUCE	PICEA SITCHENSIS	2 GAL.	10' O.C. MIN.	70	84	36	27	3											
WESTERN CRABAPPLE	MALUS FUSCA	2 GAL.	10' O.C. MIN.	44	53	22	17	2											
SHRUBS																			
BLACK HAWTHORN	CRATAGEOUS DOUGLASII	2 GAL.	5' O.C.	70	84	36	27	3											
BLACK TWINBERRY	LONICERA INVOLUCRATA	1 GAL.	5' O.C.	88	105	44	34	4											
PACIFIC WILLOW	SALI X LUCIDA	1 GAL.	5' O.C.	105	126	53	41	5											
PEAFRUIT ROSE	ROSA PISOCARPA	1 GAL.	5' O.C.	70	84	36	27	3											
RED-OSIER DOGWOOD	CORNUS SERICEA	2 GAL.	5' O.C.	131	158	67	51	6											
SITKA WILLOW	SALIX SITCHENSIS	1 GAL.	5' O.C.	96	116	49	37	4											
SWAMP GOOSEBERRY	RIBES LACUSTRE	1 GAL.	5' O.C.	70	84	36	27	3											
	Total			875	1053	444	339	40											
				SHEET #															
BANK PROTECTION LEVELS 1, 2, & 3 (SHEETS PL1-PL5)**				PL1	PL2	PL3	PL4	PL5											
PACIFIC WILLOW	SALIX LUCIDA	1 GAL.	3' O.C.	246	366	330	336	205											
SITKA WILLOW	SALIX SITCHENSIS	1 GAL.	3' O.C.	246	366	330	336	205											
SCOULER WILLOW	SALIX SCOULERIANA	1 GAL.	3' O.C.	246	366	330	336	205											
	Total			739	1099	991	1007	615											
*PLANT IN CLUSTER OF 3-5 OF SAME SPECIES																			
**PLANT IN CLUSTERS OF 9-12 OF SAME SPECIES																			

PLANT SCHEDULE - RIGHT-OF-WAY

COMMON NAME	BOTANICAL NAME	CONDITION	SPACING	ZONE							
TRAIL PLANTING (TP)*											
TREES				TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8
GREEN MOUNTAIN MAPLE	ACER SACCHARUM 'GREEN MOUNTAIN'	B&B	30' O.C.	10	0	0	14	0	2	1	5
SHRUBS											
PRIVET HONEYSUCKLE	LONICERA PILEATA	2 GAL.	4' O.C.	62	2	40	25	4	20	3	24
MOCK ORANGE	PHILADELPHUS LEWISII	2 GAL.	4' O.C.	83	3	53	33	5	27	4	32
RUGOSA ROSE	ROSA RUGOSA 'PAVEMENT SERIES'	1 GAL.	4' O.C.	124	4	79	50	7	40	6	48
RED FLOWERING CURRANT	RIBES SANGUINEUM	2 GAL.	4' O.C.	83	3	53	33	5	27	4	32
HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	2 GAL.	4' O.C.	62	2	40	25	4	20	3	24
	Total			413	14	264	181	24	136	21	164
SWALE PLANTING (SP)**											
SHRUBS				SP1							
FLAVIRAMEA REDTWIG DOGWOOD	CORNUS SERICEA 'FLAVIRAMEA'	2 GAL.	4' O.C.	185							
MIDWINTER FIRE REDTWIG DOGWOOD	CORNUS SERICEA 'MIDWINTER FIRE'	2 GAL.	4' O.C.	173							
DWARF ARCTIC WILLOW	SALIX PURPUREA 'NANA'	2 GAL.	4' O.C.	259							
	Total			617							
*PLANT IN CLUSTER OF 3-5 OF SAME SPECIES											
**PLANT IN CLUSTERS OF 9-12 OF SAME SPECIES											

90% SUBMITTAL

Supervisor	J. GAGE	3/2010
Designed By	A. SCHMIDTMAN	3/2010
Checked By	J. ST. JOHN	3/2010
Detailed By	D. OLSEN	3/2010

REVISION | BY | APP'D

REGION NO. | STATE: WASH | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS

JOB NUMBER

DAVID EVANS AND ASSOCIATES INC.
415 – 118th Avenue SE
Bellevue Washington 98005–3518
Phone: 425.519.6500

City of Redmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

PLANTING SCHEDULE

PL7

SHEET OF SHEETS

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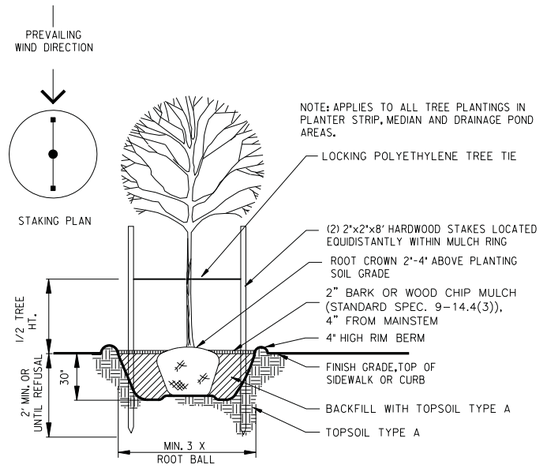
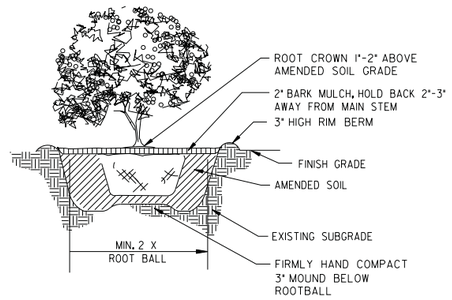
RIGHT-OF-WAY PLANTING NOTES:

1. THE ENGINEER SHALL APPROVE SOIL AMENDING FOR CULTIVATION DEPTH, AMOUNT OF COMPOST AND UNIFORMITY OF TILLING PRIOR TO PLANT INSTALLATION.
2. INSTALL PLANTS PER THE RIGHT-OF-WAY PLANTING DETAILS AND TYPICAL PLANT SPACING DETAIL ON THIS SHEET.
3. THE TRAIL PLANTING (TP) SHALL RECEIVE UNIFORM 3" OF BARK MULCH.
4. SWALE PLANTING (SP) SHALL BE HYDROSEEDED WITH WETLAND HYDROSEED MIX (SHEET EC7).



RIGHT-OF-WAY TREE DETAIL

NOT TO SCALE

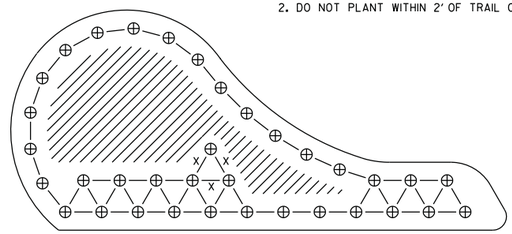


RIGHT-OF-WAY SHRUB DETAIL

NOT TO SCALE

NOTES:

1. LAYOUT PLANTS IN CLUSTERS OF 3-5 PLANTS OF SAME SPECIES.
2. DO NOT PLANT WITHIN 2' OF TRAIL OR PAVED SURFACES.



AREA FOR SPACING ADJUSTMENT

X PLANT SPACING - SEE PLANTING SCHEDULE (SHEET PL7)

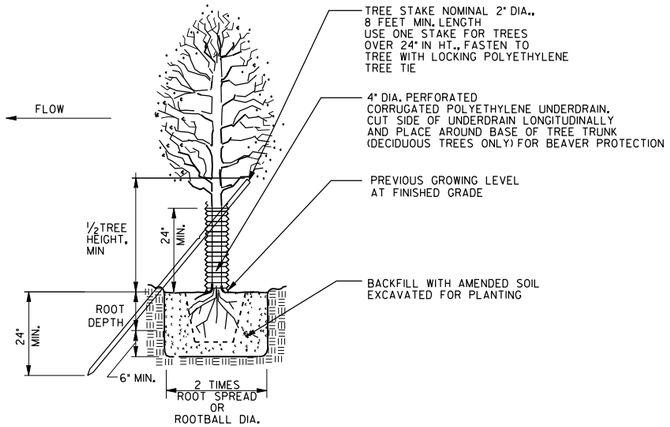
⊕ REPRESENTS A PLANT

TYPICAL PLANT SPACING

NOT TO SCALE

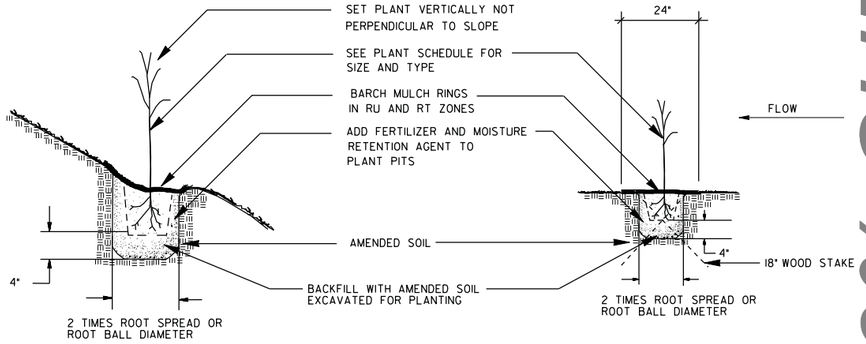
REHABILITATION PLANTING NOTES:

1. PRESERVE AND PROTECT ALL EXISTING TREES TO REMAIN AS SHOWN IN SHEETS ECI-EC9. PROVIDE ERECT FENCING AND MAINTAIN BARRICADES AS NECESSARY TO PREVENT HEAVY EQUIPMENT OR STOCKPILING WITHIN DRIPLINE OF TREES TO REMAIN.
2. IN SELECTIVE CLEARING AND GRUBBING AREAS AMONGST EXISTING VEGETATION TO REMAIN - NO CULTIVATION TO EXISTING SOIL SHALL OCCUR. UNIFORMLY PLACE 3" OF COMPOST. PIT AMEND ALL PLANTINGS WITH 1:1 MIXTURE OF COMPOST AND EXISTING SOIL BACKFILL.
3. THE ENGINEER SHALL APPROVE SOIL AMENDING FOR CULTIVATION DEPTH, AMOUNT OF COMPOST, AND UNIFORMITY OF TILLING PRIOR TO PLANT INSTALLATION. AFTER ENGINEER HAS APPROVED SOIL AMENDING, NO VEHICLES, CONSTRUCTION EQUIPMENT, OR STOCKPILING SHALL OCCUR IN PLANTING AREAS. LIMIT FOOT TRAFFIC IN PLANTING AREAS.
4. INSTALL PLANTS PER THE REHABILITATION PLANTING DETAILS AND TYPICAL PLANT SPACING DETAIL ON THIS SHEET. SPECIES CLUSTERS SHALL BE EVENLY DISTRIBUTED ACROSS THE SITE. THE ENGINEER SHALL APPROVE PLANT LAYOUT PRIOR TO PLANT INSTALLATION.
5. INSTALL BARK MULCH RINGS AROUND PLANTS IN THE LOCATIONS DESCRIBED IN THE PLANTING DETAILS (THIS SHEET).
6. REHABILITATION PLANTING AREAS SHALL BE HYDROSEEDED AS SHOWN IN SHEETS ECI-EC9. DO NOT OVERSPRAY HYDROSEED ONTO BARK MULCH RINGS.



REHABILITATION
TREE PLANTING & STAKING DETAIL

DECIDUOUS & CONIFEROUS NOT TO SCALE



REHABILITATION
SHRUB PLANTING ON SLOPE

NOT TO SCALE

REHABILITATION
SHRUB PLANTING

NOT TO SCALE

NOTES:

1. INSTALL WATER BASIN AROUND PLANTS IN RU, RT, TP, AND SP PLANTING ZONES. WATER BASIN SHALL BE A CONTINUOUS RIM OF SOIL 3" HIGH. FORM WATER BASIN AT EDGE OF PLANTING PIT.
2. FOR ALL OTHER PLANTING ZONES, SECURE ROOTBALL BELOW GRADE WITH 2-18" LONG STAKES PARALLEL TO FLOW. INSTALL STAKES THROUGH ROOTBALL AT 65° ANGLE IN OPPOSITE DIRECTIONS. END OF STAKES SHALL BE DRIVEN INTO FIRM NATIVE SOIL AND FLUSH WITH FINISH GRADE A MINIMUM OF 6". STAKES SHALL BE ARRANGED AROUND ROOT BALL AT EQUAL SPACING. ENGINEER SHALL APPROVE METHOD PRIOR TO PLANT INSTALLATION.
3. INSTALL 24" DIA. X 2" DEEP BARK MULCH RINGS AROUND ALL TREES ANS SHRUBS IN RU AND RT ZONES ONLY.

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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Bellevue Washington 98005-3518
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CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

PLANTING NOTES & DETAILS

PL8

SHEET OF SHEETS

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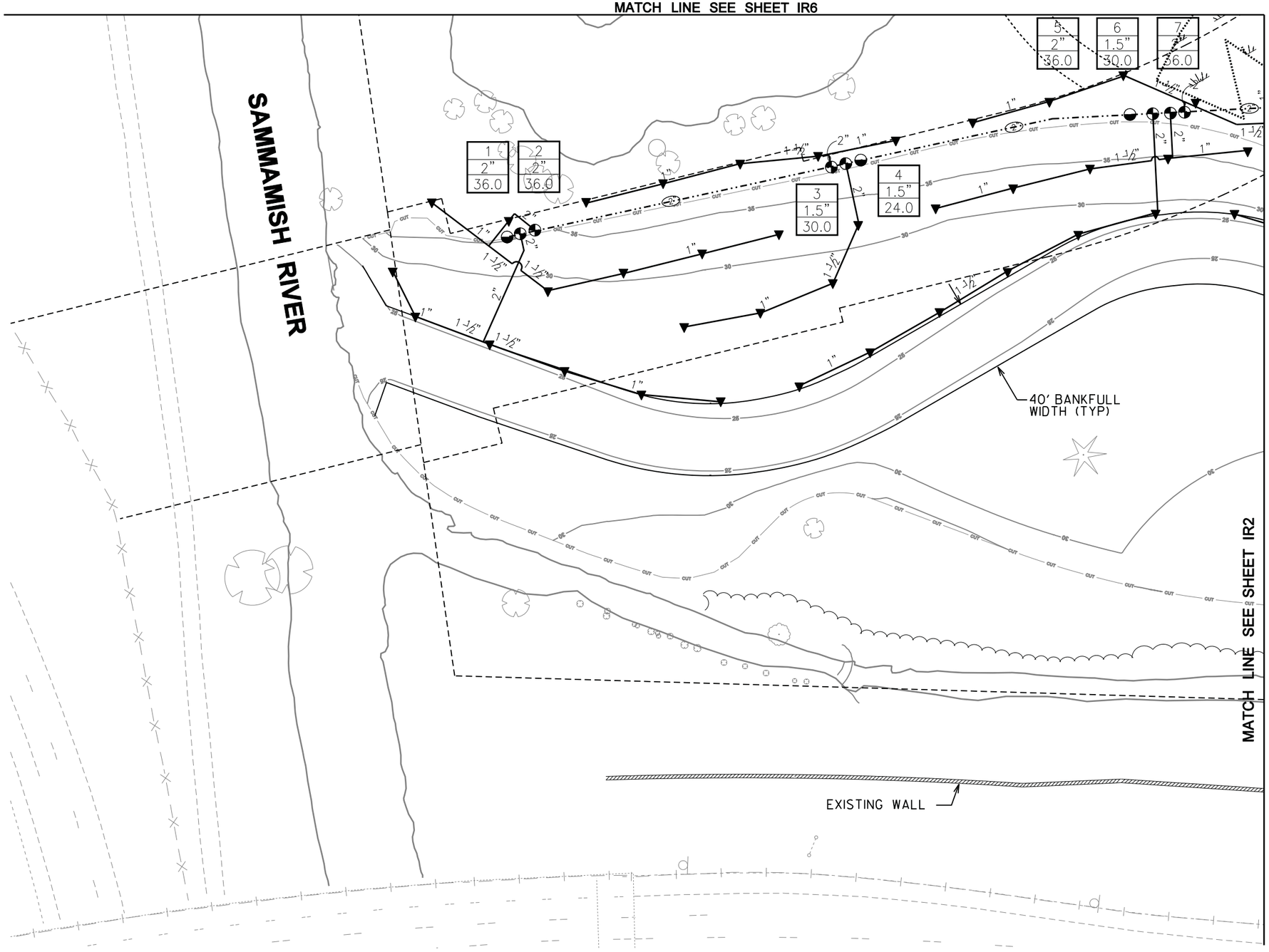
MATCH LINE SEE SHEET IR6



IRRIGATION EQUIPMENT LEGEND

FM	HUNTER	FCT 200 FLOW SENSOR
MV	HUNTER	MASTER VALVE ICV SERIES
	HUNTER	AUTOMATIC CONTROL VALVE ICV SERIES
	HUNTER	QUICK COUPLING VALVE HQ-44-LRC
R	HUNTER	SOLAR SYNC SENSOR
	DCVA	
M		EXISTING 2" WATER METER
		HUNTER MODEL ACC-99D; 99-STATION ELECTRONIC DECODER CONTROLLER W/ SOLAR SYNC SENSOR AND ASSOCIATED ICD DECODERS (MODEL PER NUMBER OF GROUPED VALVES).
		CLASS 200 PVC MAINLINE (TEMPORARY ON GRADE) (SIZED AS SHOWN ON PLANS)
		CLASS 200 PVC LATERAL (TEMPORARY ON GRADE)

VALVE LEGEND

1	STATION NUMBER
1"	VALVE SIZE
30	GALLONS PER MINUTE

IRRIGATION SPRAY HEAD LEGEND

SPRAY HEADS SHALL BE MANUFACTURED BY RAINBIRD. INSTALL MPR SPRAY NOZZLES ON 12" SCH. 80 RISER WITH MODEL PA-8S SHRUB ADAPTER.

O T H F	NOZ.	RAD.	PATTERN	PSI			FLOW	
	5'	5'	OTR, THRD, HLF, FULL	30	.10	.13	.20	.40 VAR
	8'	8'	OTR, THRD, HLF, FULL	30	.26	.35	.52	1.05 VAR
	10'	10'	OTR, THRD, HLF, FULL	30	.39	.53	.79	1.58 VAR
	12'	12'	OTR, THRD, HLF, FULL	30	.65	.87	1.3	2.60 VAR
	15'	15'	OTR, THRD, HLF, FULL	30	.92	1.23	1.85	3.70 VAR
	15'	15'	15EST, 15SST	30	.65	1.21		
	15'	9'X15'	9SST	30	1.34			

IRRIGATION IMPACT ROTOR LEGEND

SYMBOL	RAD.	MANF.	MODEL NO.	NOZZLE	FLOW	PSI
	44'	HUNTER	PGS-ADJ	10	6.0	40

N

0 30 60

SCALE IN FEET

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010					WASH			
Designed By	A. SCHMIDTMAN	3/2010								
Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
Detailed By	D. OLSEN	3/2010								
			REVISION	BY	APP'D					

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CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

IRRIGATION PLAN

IR1

SHEET OF SHEETS

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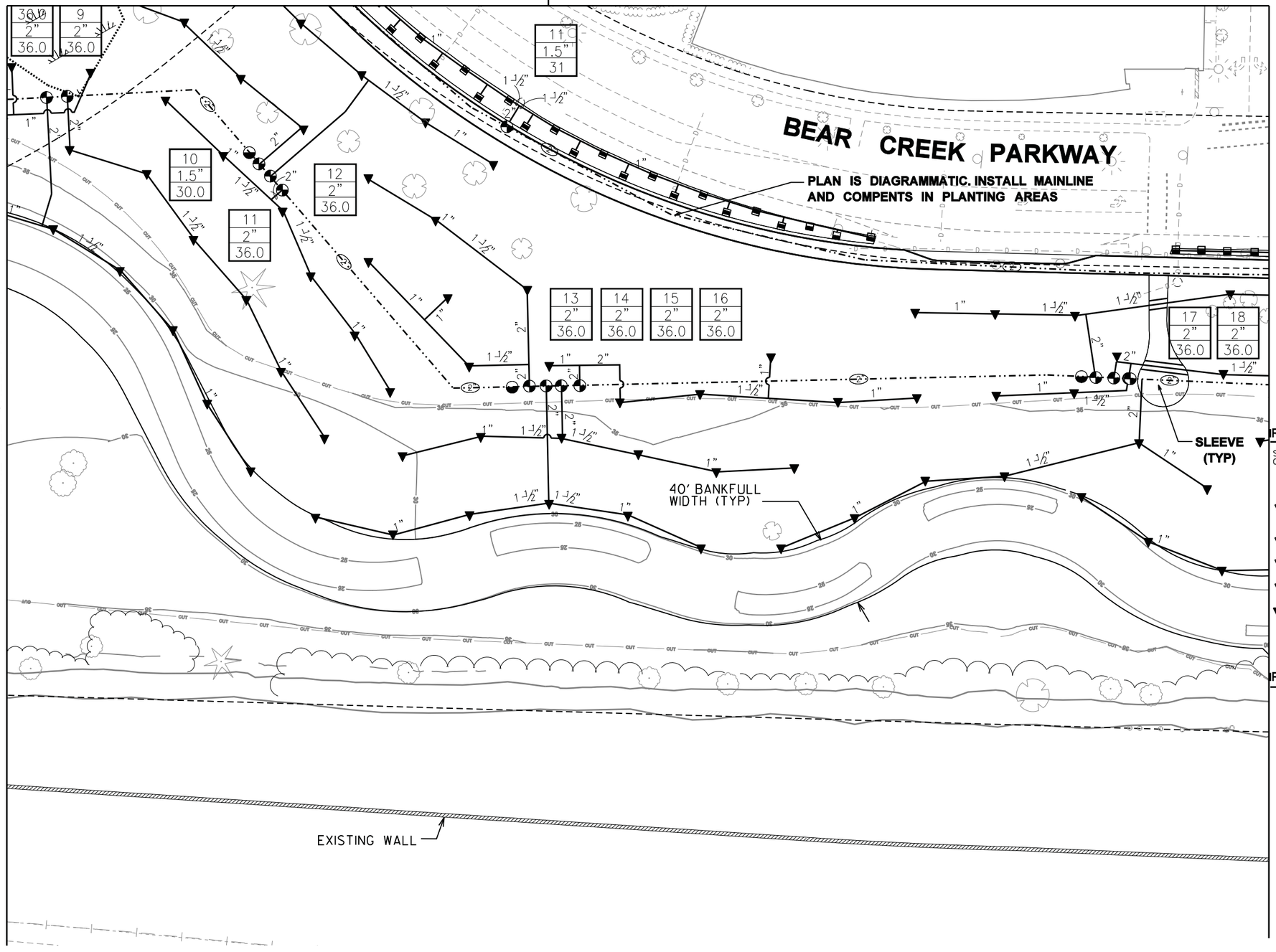
MATCH LINE SEE SHEET IR6

MATCH LINE SEE SHEET PL1



IRRIGATION EQUIPMENT LEGEND

FM	HUNTER	FCT 200 FLOW SENSOR
MV	HUNTER	MASTER VALVE ICV SERIES
	HUNTER	AUTOMATIC CONTROL VALVE ICV SERIES
	HUNTER	QUICK COUPLING VALVE HQ-44-LRC
R	HUNTER	SOLAR SYNC SENSOR
	DCVA	
M		EXISTING 2" WATER METER
		HUNTER MODEL ACC-99D; 99-STATION ELECTRONIC DECODER CONTROLLER W/ SOLAR SYNC SENSOR AND ASSOCIATED ICD DECODERS (MODEL PER NUMBER OF GROUPED VALVES).
		CLASS 200 PVC MAINLINE (TEMPORARY ON GRADE) (SIZED AS SHOWN ON PLANS)
		CLASS 200 PVC LATERAL (TEMPORARY ON GRADE)

VALVE LEGEND

1	STATION NUMBER
1"	VALVE SIZE
30	GALLONS PER MINUTE

IRRIGATION SPRAY HEAD LEGEND

SPRAY HEADS SHALL BE MANUFACTURED BY RAINBIRD. INSTALL MPR SPRAY NOZZLES ON 12" SCH. 80 RISER WITH MODEL PA-8S SHRUB ADAPTER.

Q T H F	NOZ.	RAD.	PATTERN	PSI					FLOW
	5'	5'	QTR, THRD, HLF, FULL	30	.10	.13	.20	.40	VAR
	8'	8'	QTR, THRD, HLF, FULL	30	.26	.35	.52	1.05	VAR
	10'	10'	QTR, THRD, HLF, FULL	30	.39	.53	.79	1.58	VAR
	12'	12'	QTR, THRD, HLF, FULL	30	.65	.87	1.3	2.60	VAR
	15'	15'	QTR, THRD, HLF, FULL	30	.92	1.23	1.85	3.70	VAR
	15'	15'	15EST, 15SST	30	.65	1.21			
	15'	9'X15'	9SST	30	1.34				

IRRIGATION IMPACT ROTOR LEGEND

SYMBOL	RAD.	MANF.	MODEL NO.	NOZZLE	FLOW	PSI
	44'	HUNTER	PGS-ADJ	10	6.0	40

MATCH LINE SEE SHEET IR3

N

0 30 60

SCALE IN FEET

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor	J. GAGE	3/2010								
Designed By	A. SCHMIDTMAN	3/2010					WASH			
Checked By	J. ST. JOHN	3/2010								
Detailed By	D. OLSEN	3/2010				JOB NUMBER				
			REVISION	BY	APP'D					

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CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

IRRIGATION PLAN

IR2

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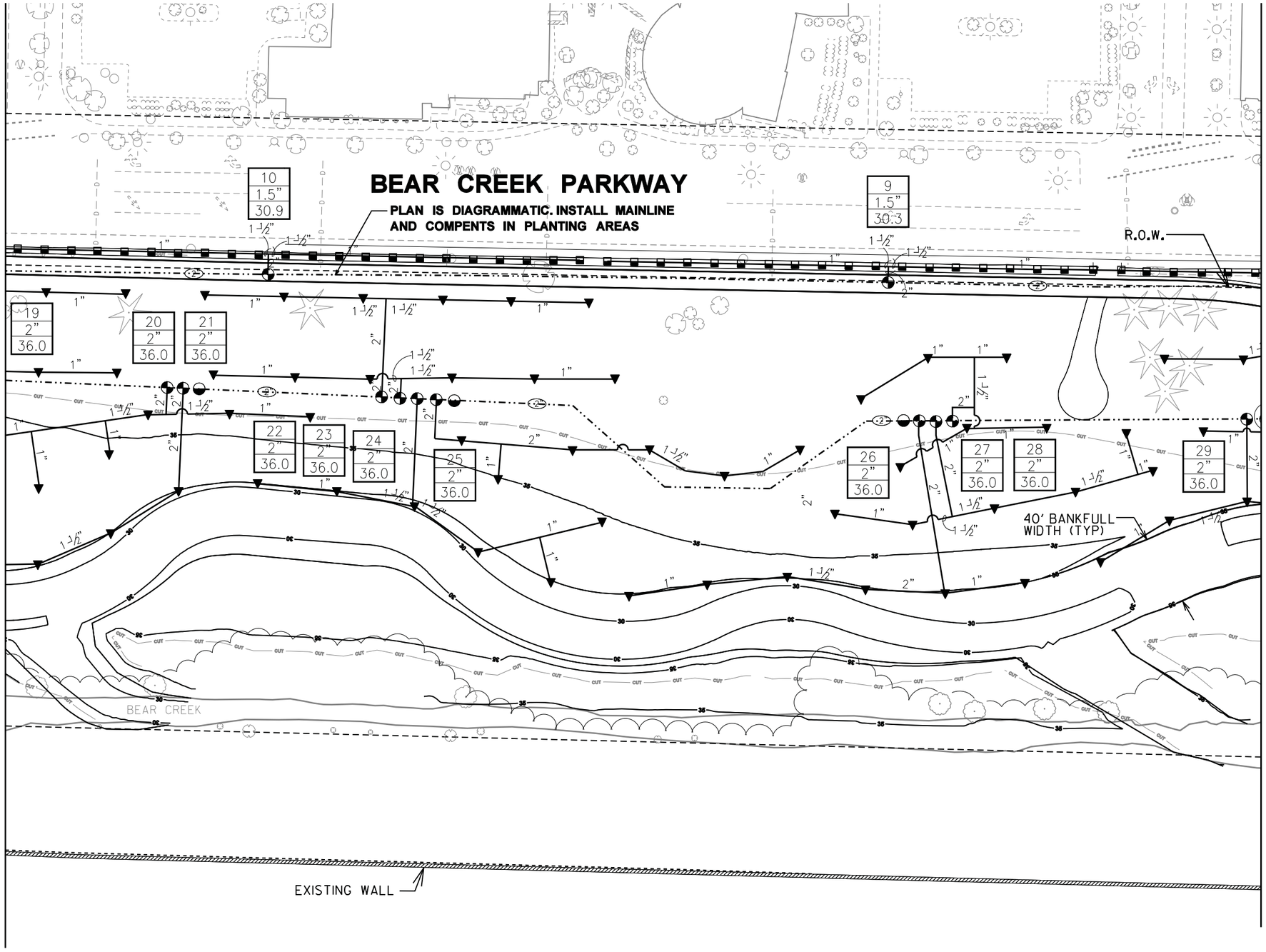

IRRIGATION EQUIPMENT LEGEND

FM	HUNTER	FCT 200 FLOW SENSOR
MV	HUNTER	MASTER VALVE ICV SERIES
	HUNTER	AUTOMATIC CONTROL VALVE ICV SERIES
	HUNTER	QUICK COUPLING VALVE HQ-44-LRC
R	HUNTER	SOLAR SYNC SENSOR
	DCVA	
M		EXISTING 2" WATER METER
		HUNTER MODEL ACC-99D; 99-STATION ELECTRONIC DECODER CONTROLLER W/ SOLAR SYNC SENSOR AND ASSOCIATED ICD DECODERS (MODEL PER NUMBER OF GROUPED VALVES).
		CLASS 200 PVC MAINLINE (TEMPORARY ON GRADE) (SIZED AS SHOWN ON PLANS)
		CLASS 200 PVC LATERAL (TEMPORARY ON GRADE)

VALVE LEGEND

1	STATION NUMBER
1"	VALVE SIZE
30	GALLONS PER MINUTE

IRRIGATION SPRAY HEAD LEGEND

SPRAY HEADS SHALL BE MANUFACTURED BY RAINBIRD. INSTALL MPR SPRAY NOZZLES ON 12" SCH. 80 RISER WITH MODEL PA-8S SHRUB ADAPTER.

Q	T	H	F	NOZ.	RAD.	PATTERN	PSI				FLOW
				5'	5'	QTR, THRD, HLF, FULL	30	.10	.13	.20	.40	VAR
				8'	8'	QTR, THRD, HLF, FULL	30	.26	.35	.52	1.05	VAR
				10'	10'	QTR, THRD, HLF, FULL	30	.39	.53	.79	1.58	VAR
				12'	12'	QTR, THRD, HLF, FULL	30	.65	.87	1.3	2.60	VAR
				15'	15'	QTR, THRD, HLF, FULL	30	.92	1.23	1.85	3.70	VAR
				15'	15'	15EST, 15SST	30	.65	1.21			
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IRRIGATION IMPACT ROTOR LEGEND

SYMBOL	RAD.	MANF.	MODEL NO.	NOZZLE	FLOW	PSI
	44'	HUNTER	PGS-ADJ	10	6.0	40

N

0 30 60
SCALE IN FEET

90% SUBMITTAL

				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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Designed By	A. SCHMIDTMAN	3/2010						
Checked By	J. ST. JOHN	3/2010			JOB NUMBER			
Detailed By	D. OLSEN	3/2010						
			REVISION	BY	APP'D			

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BEAR CREEK REHABILITATION PROJECT

IRRIGATION PLAN

IR3

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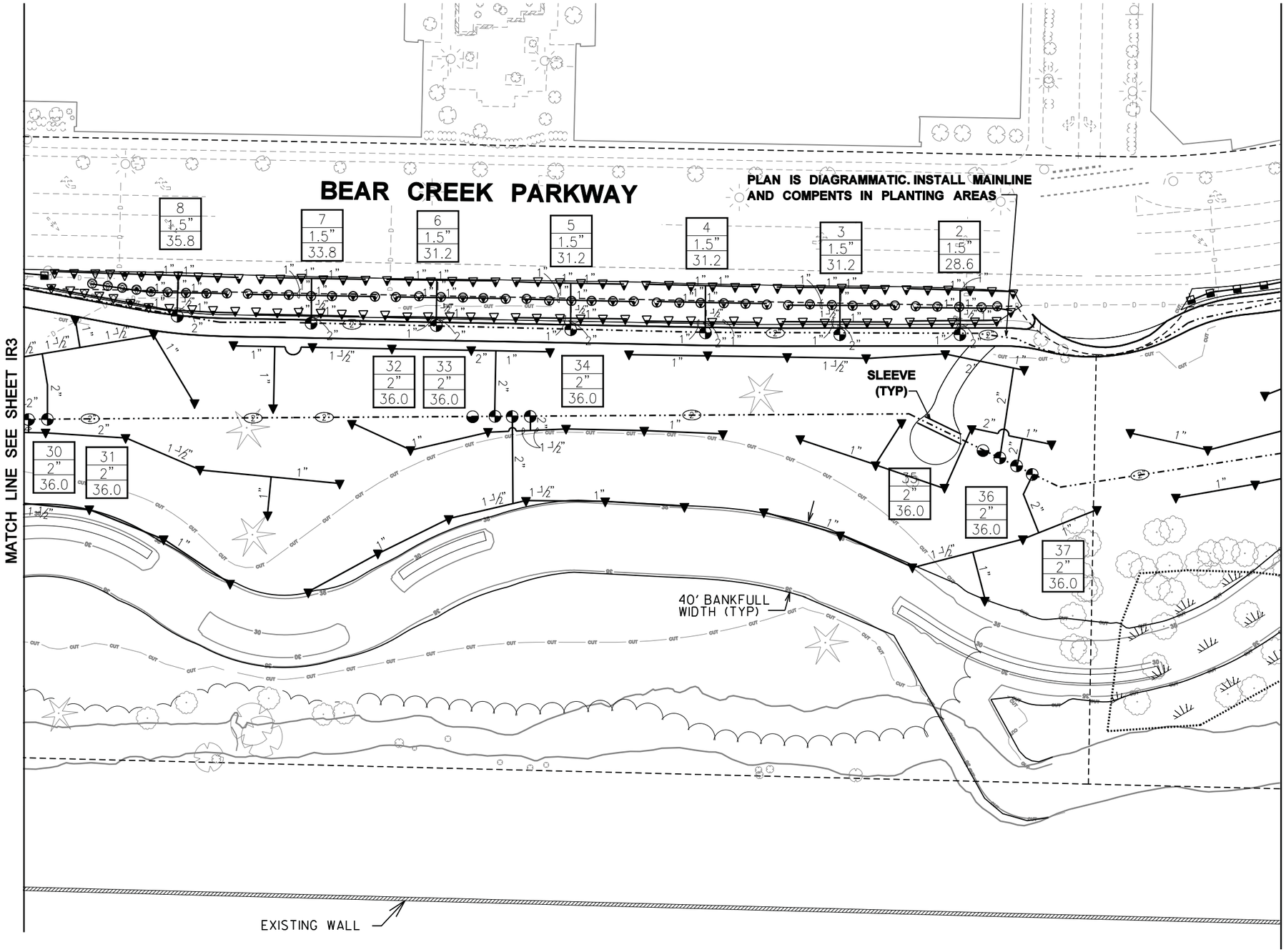

IRRIGATION EQUIPMENT LEGEND

FM	HUNTER	FCT 200 FLOW SENSOR
MV	HUNTER	MASTER VALVE ICV SERIES
	HUNTER	AUTOMATIC CONTROL VALVE ICV SERIES
	HUNTER	QUICK COUPLING VALVE HQ-44-LRC
R	HUNTER	SOLAR SYNC SENSOR
	DCVA	
M		EXISTING 2" WATER METER
		HUNTER MODEL ACC-99D; 99-STATION ELECTRONIC DECODER CONTROLLER W/ SOLAR SYNC SENSOR AND ASSOCIATED ICD DECODERS (MODEL PER NUMBER OF GROUPED VALVES).
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		CLASS 200 PVC LATERAL (TEMPORARY ON GRADE)

VALVE LEGEND

1	STATION NUMBER
1"	VALVE SIZE
30	GALLONS PER MINUTE

IRRIGATION SPRAY HEAD LEGEND

SPRAY HEADS SHALL BE MANUFACTURED BY RAINBIRD. INSTALL MPR SPRAY NOZZLES ON 12" SCH. 80 RISER WITH MODEL PA-8S SHRUB ADAPTER.

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	8'	8'	QTR, THRD, HLF, FULL	30	.26	.35	.52	1.05	VAR
	10'	10'	QTR, THRD, HLF, FULL	30	.39	.53	.79	1.58	VAR
	12'	12'	QTR, THRD, HLF, FULL	30	.65	.87	1.3	2.60	VAR
	15'	15'	QTR, THRD, HLF, FULL	30	.92	1.23	1.85	3.70	VAR
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	15'	9'X15'	9SST	30	1.34				

IRRIGATION IMPACT ROTOR LEGEND

SYMBOL	RAD.	MANF.	MODEL NO.	NOZZLE	FLOW	PSI
	44'	HUNTER	PGS-ADJ	10	6.0	40

N

0 30 60
SCALE IN FEET

90% SUBMITTAL

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Detailed By	D. OLSEN	3/2010						
			REVISION	BY	APP'D			

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BEAR CREEK REHABILITATION PROJECT

IRRIGATION PLAN

IR4

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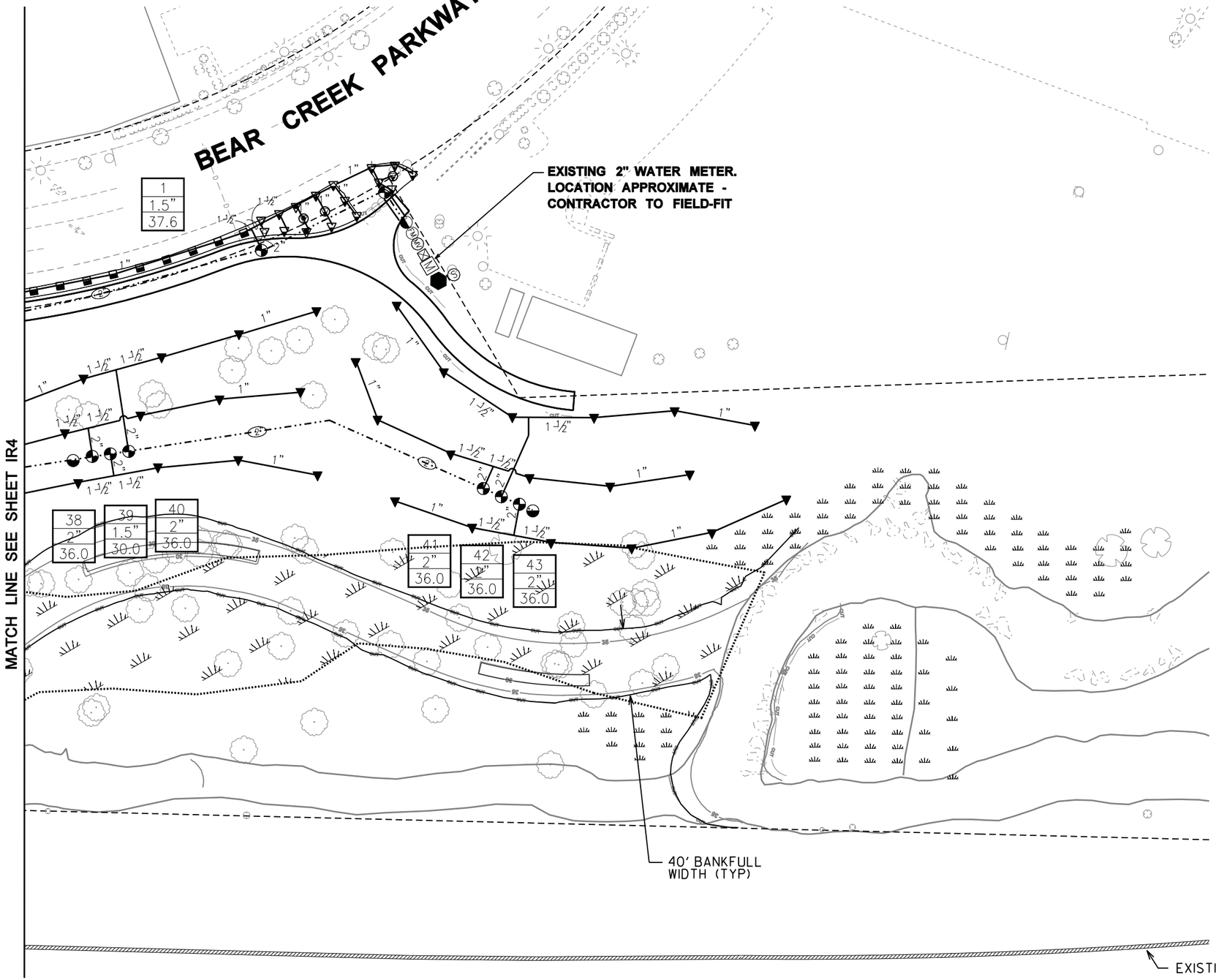

IRRIGATION EQUIPMENT LEGEND

FM	HUNTER	FCT 200 FLOW SENSOR
MV	HUNTER	MASTER VALVE ICV SERIES
	HUNTER	AUTOMATIC CONTROL VALVE ICV SERIES
	HUNTER	QUICK COUPLING VALVE HQ-44-LRC
R	HUNTER	SOLAR SYNC SENSOR
	DCVA	
M		EXISTING 2" WATER METER
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VALVE LEGEND

1	STATION NUMBER
1"	VALVE SIZE
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IRRIGATION SPRAY HEAD LEGEND

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	8'	8'	OTR, THRD, HLF, FULL	30	.26	.35	.52	1.05 VAR
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IRRIGATION IMPACT ROTOR LEGEND

SYMBOL	RAD.	MANF.	MODEL NO.	NOZZLE	FLOW	PSI
	44'	HUNTER	PGS-ADJ	10	6.0	40

N

0 30 60

SCALE IN FEET

90% SUBMITTAL

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Checked By	J. ST. JOHN	3/2010								
Detailed By	D. OLSEN	3/2010				JOB NUMBER				
			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

IRRIGATION PLAN

IR5

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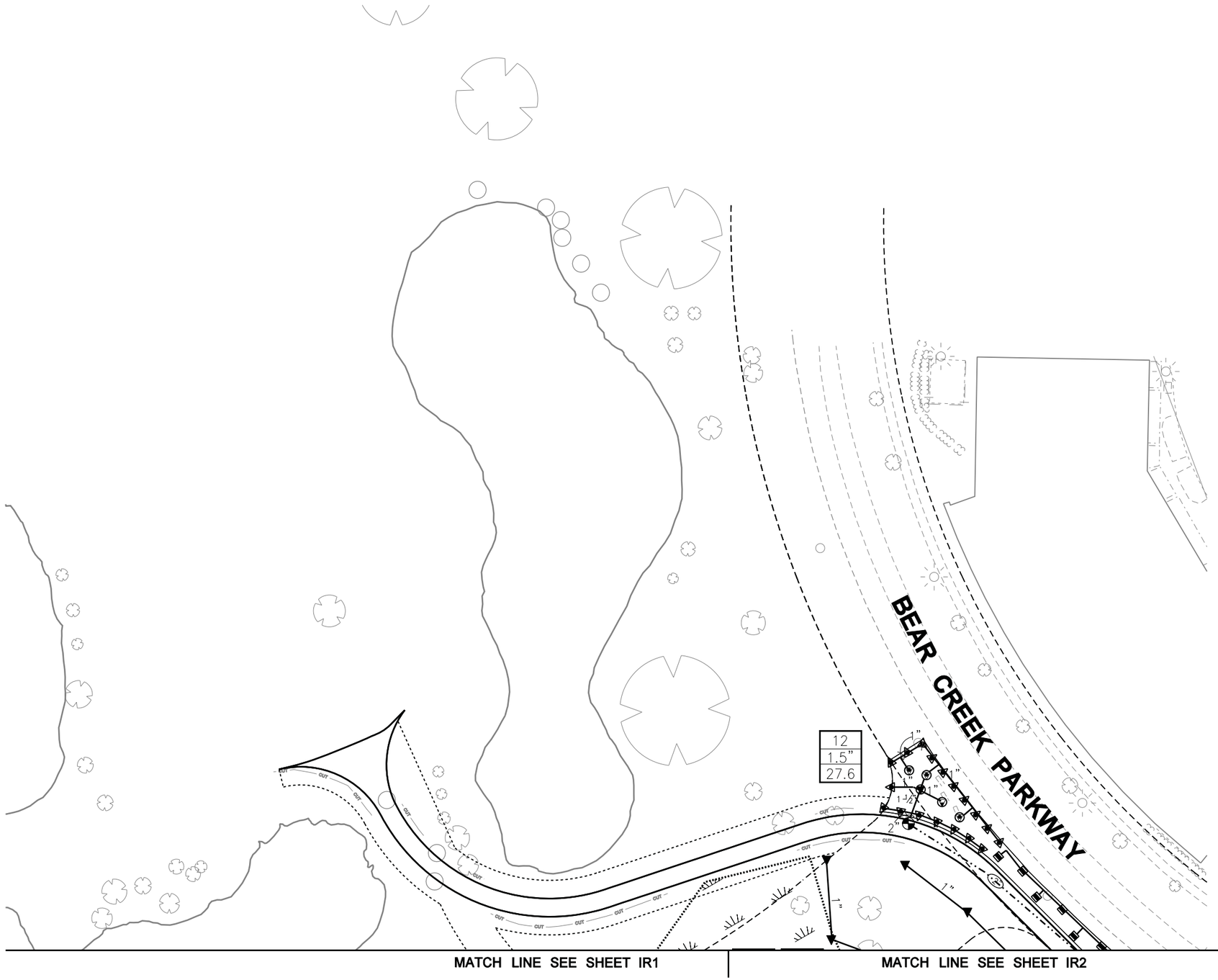

IRRIGATION EQUIPMENT LEGEND

FM	HUNTER	FCT 200 FLOW SENSOR
MV	HUNTER	MASTER VALVE ICV SERIES
	HUNTER	AUTOMATIC CONTROL VALVE ICV SERIES
	HUNTER	QUICK COUPLING VALVE HQ-44-LRC
R	HUNTER	SOLAR SYNC SENSOR
	DCVA	
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VALVE LEGEND

1	STATION NUMBER
1"	VALVE SIZE
30	GALLONS PER MINUTE

IRRIGATION SPRAY HEAD LEGEND

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	15'	15'	QTR, THRD, HLF, FULL	30	.92	1.23	1.85	3.70	VAR
	15'	15'	15EST, 15SST	30	.65	1.21			
	15'	9'X15'	9SST	30	1.34				

IRRIGATION IMPACT ROTOR LEGEND

SYMBOL	RAD.	MANF.	MODEL NO.	NOZZLE	FLOW	PSI
	44'	HUNTER	PGS-ADJ	10	6.0	40

N

0 30 60

SCALE IN FEET

90% SUBMITTAL

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Checked By	J. ST. JOHN	3/2010		JOB NUMBER				
Detailed By	D. OLSEN	3/2010						
			REVISION	BY	APP'D			

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CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

IRRIGATION PLAN

IR6

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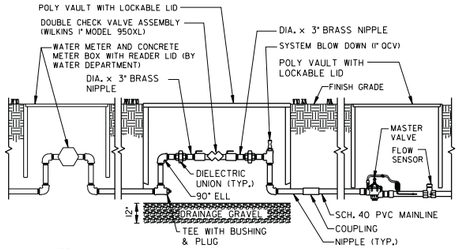
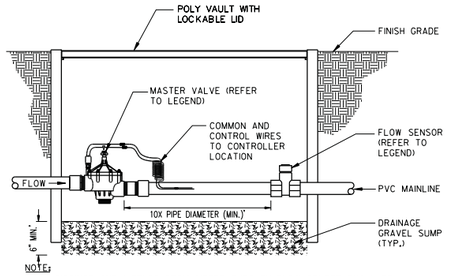


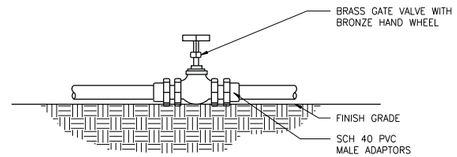
NOTE:
1. ALL FITTINGS AND NIPPLES FROM METER THROUGH FLOW SENSOR (SEE DETAIL C, THIS SHEET) SHALL BE SCH. 80 PVC OR BRASS; SIZE AND LENGTH AS REQUIRED OR AS NOTED.

(X) DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

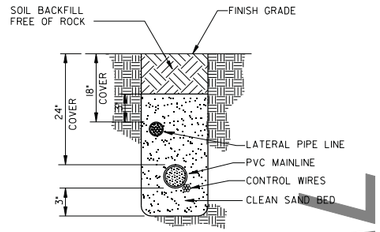


NOTE:
1. ALL FITTINGS AND NIPPLES FROM METER THROUGH FLOW SENSOR SHALL BE SCH. 80 PVC OR BRASS; SIZE AND LENGTH AS REQUIRED OR AS NOTED.

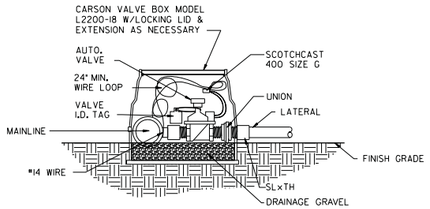
(X) MASTER VALVE WITH FLOW SENSOR
NOT TO SCALE



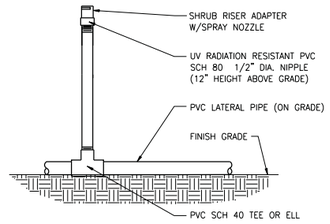
(X) GATE VALVE
NOT TO SCALE



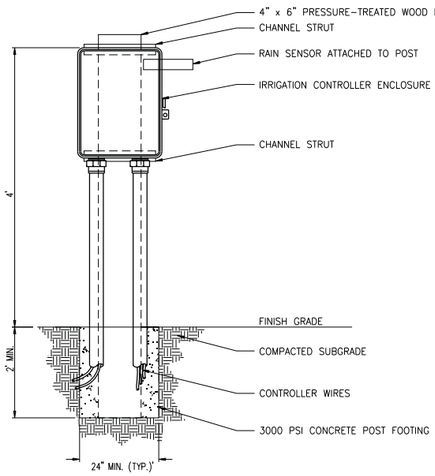
(X) TRENCH DETAIL
NOT TO SCALE



AUTOMATIC CONTROL VALVE (ON GRADE)
(X) NOT TO SCALE

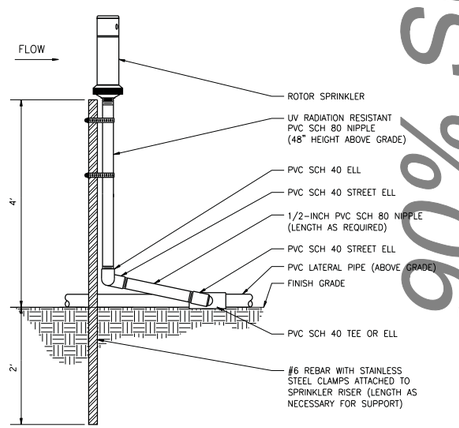


(X) SPRAY SPRINKLER
NOT TO SCALE

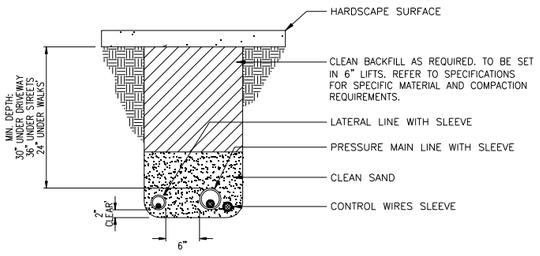


NOTE:
1. CONTROLLER UNIT 30"X20" ON POST.
2. IF CONTROLLER IS TO BE LOCATED NEAR A SLOPED AREA, INSTALL POST AT TOP OF SLOPE TO ACHIEVE 72" ELEVATION ABOVE FINAL GRADE.

(X) CONTROLLER INSTALLATION
NOT TO SCALE

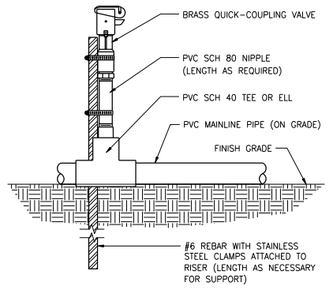


(X) ROTOR SPRINKLER
NOT TO SCALE



NOTES:
1. ALL SLEEVES TO BE PVC. SCH. 40 AND TWICE THE DIAMETER OF THE WORKING PIPE.
2. ALL SLEEVES TO RUN A MIN. OF 12" BEYOND HARDSCAPE EDGES.
3. CLEAN BACKFILL MAY BE SUBSTITUTED FOR SAND UNDER WALKS AND DRIVES.

(X) IRRIGATION SLEEVING
NOT TO SCALE



NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

(X) QUICK COUPLER VALVE (ON GRADE)
NOT TO SCALE

90% SUBMITTAL

						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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Checked By	J. ST. JOHN	3/2010				JOB NUMBER				
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			REVISION	BY	APP'D					

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CityofRedmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

IRRIGATION DETAILS

IR7

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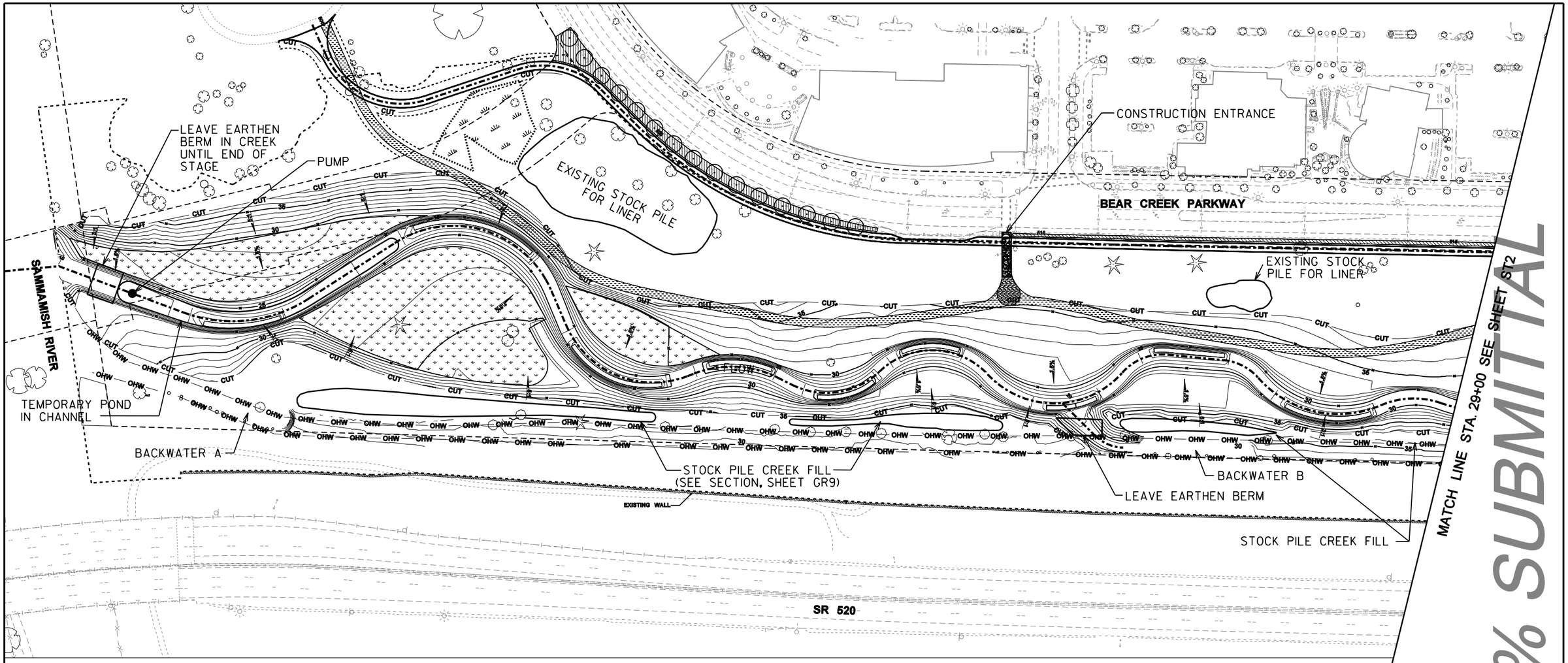

RECOMMENDED SEQUENCE OF CONSTRUCTION (ITEM 16 MUST BE DONE DURING THE APPROVED FISH WINDOW)

STAGE 1- (YEAR 1) GRADING AND PLANTING

1. INSTALL EROSION CONTROL INCLUDING SILT FENCE, CONSTRUCTION ENTRANCE, BMPS.
2. INSTALL TREE PROTECTION AND CLEARING LIMITS.
3. CONSTRUCT TRAIL REALIGNMENT.
4. USE EXISTING TRAIL AS BASIS FOR CONSTRUCTION ACCESS. CONSTRUCT NEW ACCESS ROAD NORTH OF CUT SLOPE WHERE NEEDED.
5. CLEAR AND GRUB SITE WORK LIMITS.
6. CONSTRUCT TEMPORARY SEDIMENT POND AT WEST END OF NEW STREAM CHANNEL.
7. INSTALL PUMPING EQUIPMENT AND CHITOSAN FILTERS FOR USE IF NEEDED.
8. BEGIN FINAL EXCAVATION AND GRADING FROM WEST END. LEAVE EARTHEN BERM BETWEEN NEW CREEK BED AND SAMMAMISH RIVER. LEAVE EARTHEN BERMS OR SHEET PILE BETWEEN NEW CREEK BED AND EXISTING CREEK AT BACKWATER CHANNELS.
9. STOCKPILE ON SITE SOILS FOR NATIVE SOIL LINER AND TOPSOIL.
10. STOCKPILE SOILS FOR EXISTING CHANNEL BACKFILL.
11. INSTALL NATIVE SOIL LINER AND STREAMBED GRAVEL AND COBBLE AS EXCAVATION IS COMPLETED.
12. AMEND SOILS AT WETLAND MITIGATION SITES.
13. PREPARE FINISH GRADED AREAS FOR INUNDATION (SEEDING, EROSION CONTROL BLANKET).
14. INSTALL HABITAT FEATURES IN AREAS COMPLETED IN STAGE 1.
15. PLANT ALL COMPLETED AREAS.
16. INSTALL STREAM ISOLATION CURTAIN IN SAMMAMISH RIVER DURING LOW FLOW AND EXCAVATE TO FINISH GRADE AT CONFLUENCE.
17. ALLOW SAMMAMISH RIVER TO BACKWATER INTO NEW CHANNEL.
18. INSPECT AND MAINTAIN EROSION CONTROL SYSTEM BMPS DAILY THROUGHOUT THE WET SEASON.

LEGEND

- EXISTING WETLAND
- EXISTING WETLAND (WSDOT, 2007)
- CREATED WETLAND
- RIGHT-OF-WAY (R.O.W.)
- PROPOSED STREAM BUFFER
- PROPOSED STREAM CENTERLINE
- OHW — OHW — EXISTING BEAR CREEK ORDINARY HIGH WATER MARK
- CUT — CUT LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR

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			REVISION	BY	APP'D					

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BEAR CREEK REHABILITATION PROJECT

STAGING PLAN - STAGE 1

ST1

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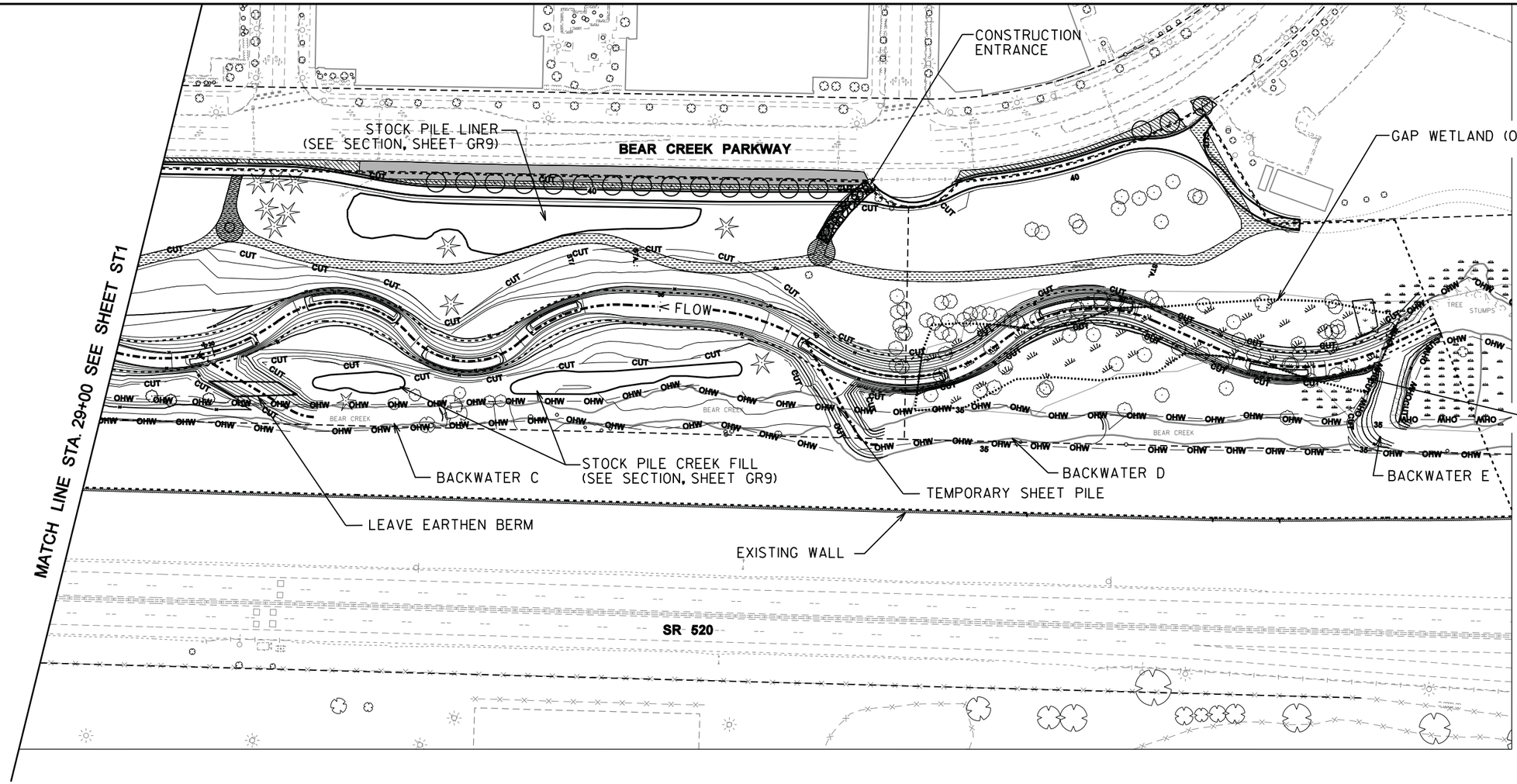

90% SUBMITTAL

LEGEND

- EXISTING WETLAND
- EXISTING WETLAND (WSDOT, 2007)
- CREATED WETLAND
- RIGHT-OF-WAY (R.O.W.)
- PROPOSED STREAM BUFFER
- PROPOSED STREAM CENTERLINE
- EXISTING BEAR CREEK ORDINARY HIGH WATER MARK
- CUT — CUT LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR

N

0 60 120
SCALE IN FEET

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

DAVID EVANS AND ASSOCIATES INC.
415 – 118th Avenue SE
Bellevue Washington 98005–3518
Phone: 425.519.6500

City of Redmond WASHINGTON

BEAR CREEK REHABILITATION PROJECT

STAGING PLAN - STAGE 1

ST2

SHEET OF SHEETS

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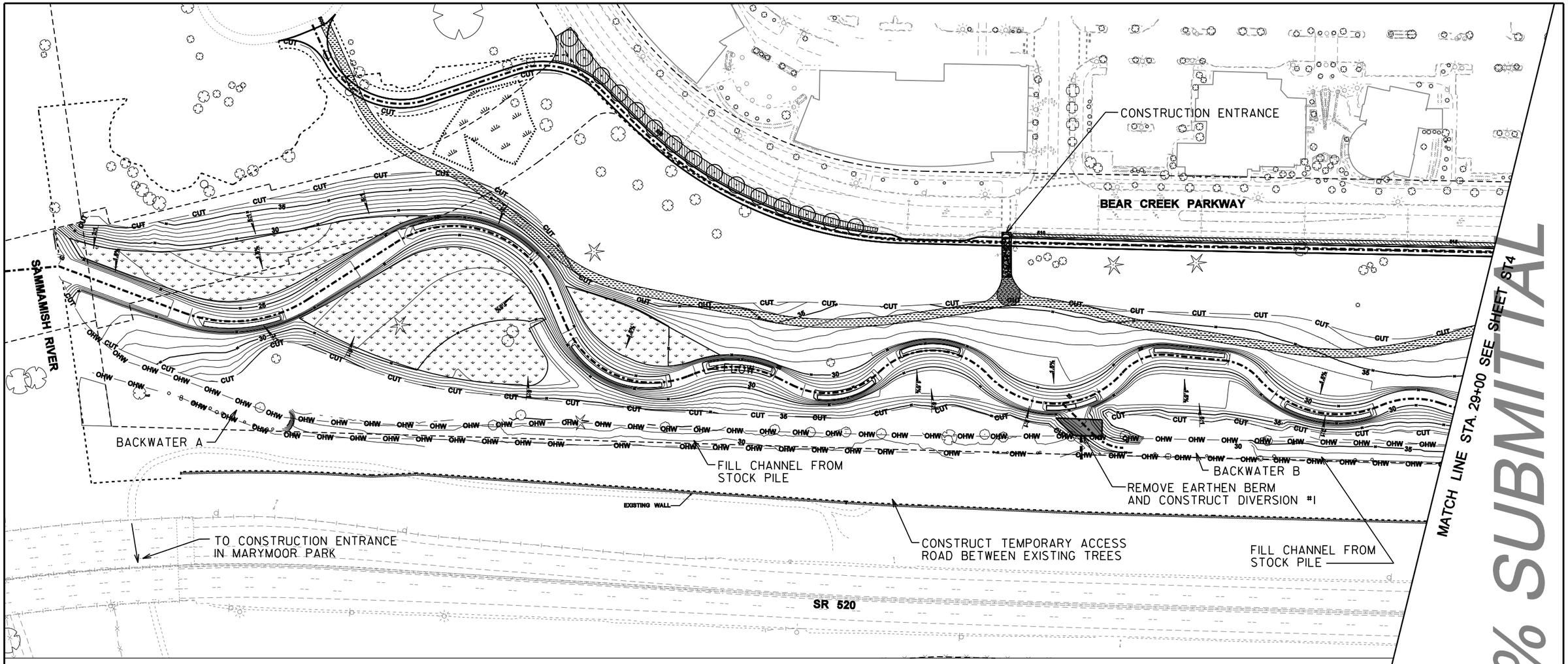

90% SUBMITTAL

RECOMMENDED SEQUENCE OF CONSTRUCTION (ITEMS 3-9 MUST BE DONE DURING THE APPROVED FISH WINDOW)

STAGE 2 - (YEAR 2) CREEK DIVERSION, FILL OLD CREEK BED, COMPLETE PROJECT

1. CONSTRUCT TEMPORARY IRRIGATION AND COMPLETE PLANTING.
2. CONSTRUCT TEMPORARY ACCESS TO SOUTH SIDE OF EXISTING CREEK VIA
   a. EXISTING DIRT ROAD FROM MARYMOOR PARK, UNDER SR 520, THEN EAST ALONG SR 520 IN WSDOT R/W, OR
   b. INSTALL TEMPORARY CONSTRUCTION ACCESS BRIDGE ACROSS NEW CHANNEL TO ACCESS DIVERSION POINTS, THEN ALONG NORTH SIDE OF FORMER CREEK BED.
3. SET UP FISH BARRIER. NOTIFY ENGINEER TO BEGIN FISH REMOVAL.
4. CONSTRUCT DIVERSION #1 PER TYPICAL DETAIL.
5. CONSTRUCT DIVERSION #2 PER TYPICAL DETAIL.
6. CONSTRUCT DIVERSION #3 PER TYPICAL DETAIL.
7. CONSTRUCT DIVERSION #4 PER TYPICAL DETAIL.
8. INSTALL STREAM ISOLATION CURTAIN AT EACH BACKWATER CONNECTION.
9. REMOVE RIPRAP AND COMPLETE GRADING AND BANK PROTECTION IN BACKWATER CHANNELS. MAKE ANY ADJUSTMENTS TO LOG DEBRIS JAMS AFTER DIVERSIONS ARE COMPLETE.
10. INSTALL HABITAT FEATURES IN AREAS COMPLETED IN STAGE 2.
11. PLANT ALL COMPLETED AREAS.
12. REMOVE CONSTRUCTION ACCESS ROADS, EXCESS STOCKPILES, AND EROSION CONTROL BMPS. PLANT REMAINING DISTURBED AREAS.

LEGEND

- EXISTING WETLAND
- EXISTING WETLAND (WSDOT, 2007)
- CREATED WETLAND
- RIGHT-OF-WAY (R.O.W.)
- PROPOSED STREAM BUFFER
- PROPOSED STREAM CENTERLINE
- OHW — OHW — EXISTING BEAR CREEK ORDINARY HIGH WATER MARK
- CUT — CUT LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR

N

0 60 120
SCALE IN FEET

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
JOB NUMBER				

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BEAR CREEK REHABILITATION PROJECT

STAGING PLAN - STAGE 2

ST3

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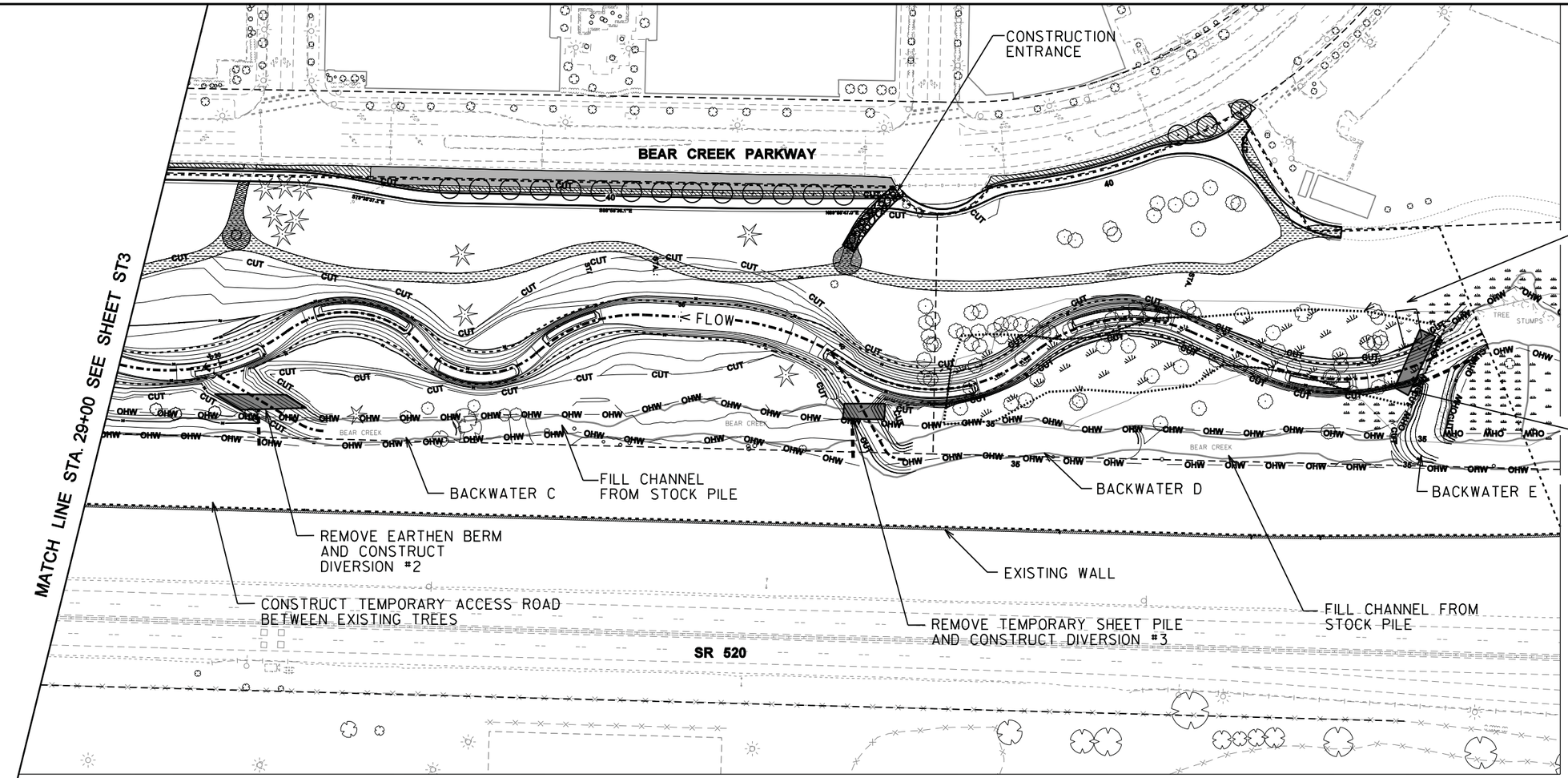

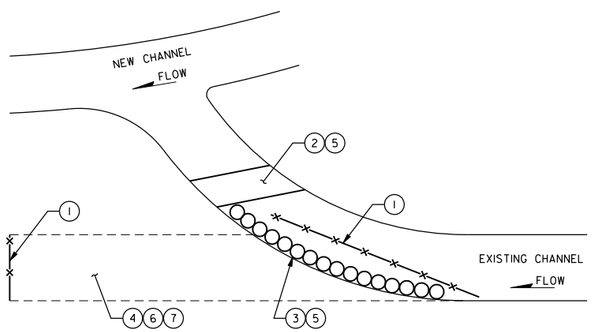

TYPICAL DIVERSION DETAIL

NOT TO SCALE

RECOMMENDED SEQUENCE OF CONSTRUCTION FOR TYPICAL DIVERSION

1. INSTALL FISH SCREENS TO ISOLATE CHANNEL TO BE FILLED.
2. REMOVE PORTION OF EARTHEN BERM OR TEMPORARY SHEET PILE BLOCKING EXISTING CHANNEL FROM NEW CHANNEL
3. INSTALL STREAM ISOLATION CURTAIN TO DIVERT 50% OF FLOW TO NEW CHANNEL
4. BIOLOGIST CONDUCTS FISH REMOVAL - ASSUME 1 WEEK REQUIRED
5. INCREASE FLOW DIVERSION TO 100%
6. BIOLOGIST COMPLETES FISH REMOVAL
7. FILL DOWNSTREAM CHANNEL

LEGEND

- EXISTING WETLAND
- EXISTING WETLAND (WSDOT, 2007)
- CREATED WETLAND
- RIGHT-OF-WAY (R.O.W.)
- PROPOSED STREAM BUFFER
- PROPOSED STREAM CENTERLINE
- EXISTING BEAR CREEK ORDINARY HIGH WATER MARK
- CUT — CUT LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR

N

0 60 120
SCALE IN FEET

90% SUBMITTAL

Supervisor	J. GAGE	3/2010			
Designed By	A. SCHMIDTMAN	3/2010			
Checked By	J. ST. JOHN	3/2010			
Detailed By	D. OLSEN	3/2010			
			REVISION	BY	APP'D

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	WASH			
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BEAR CREEK REHABILITATION PROJECT

STAGING PLAN - STAGE 2

ST4

SHEET OF SHEETS

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