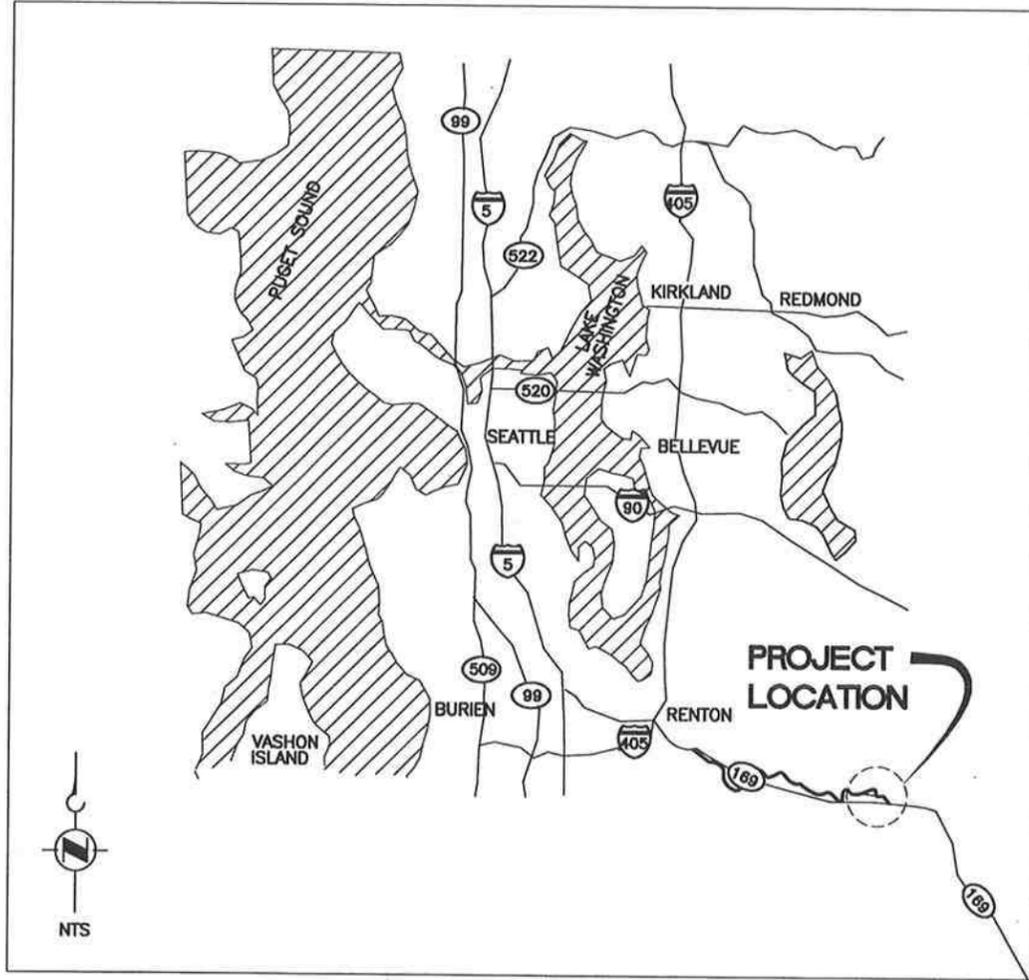
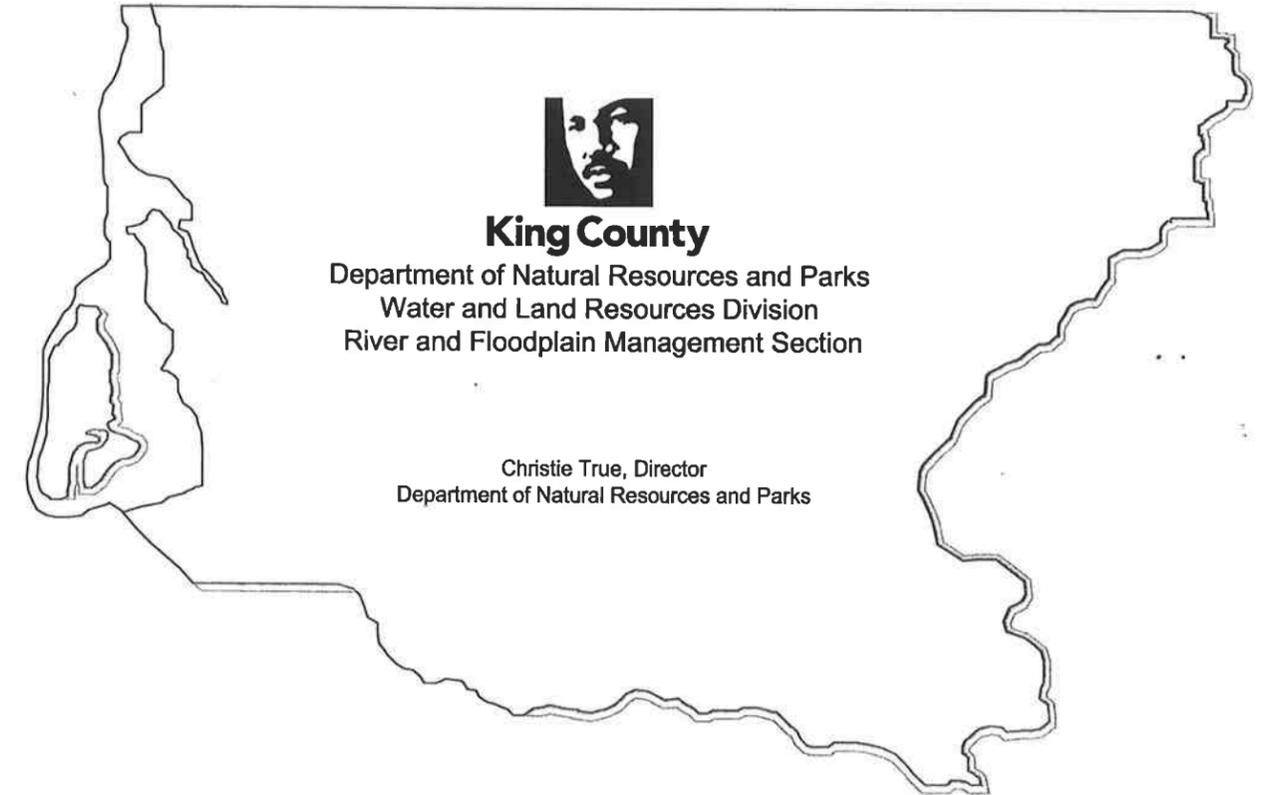
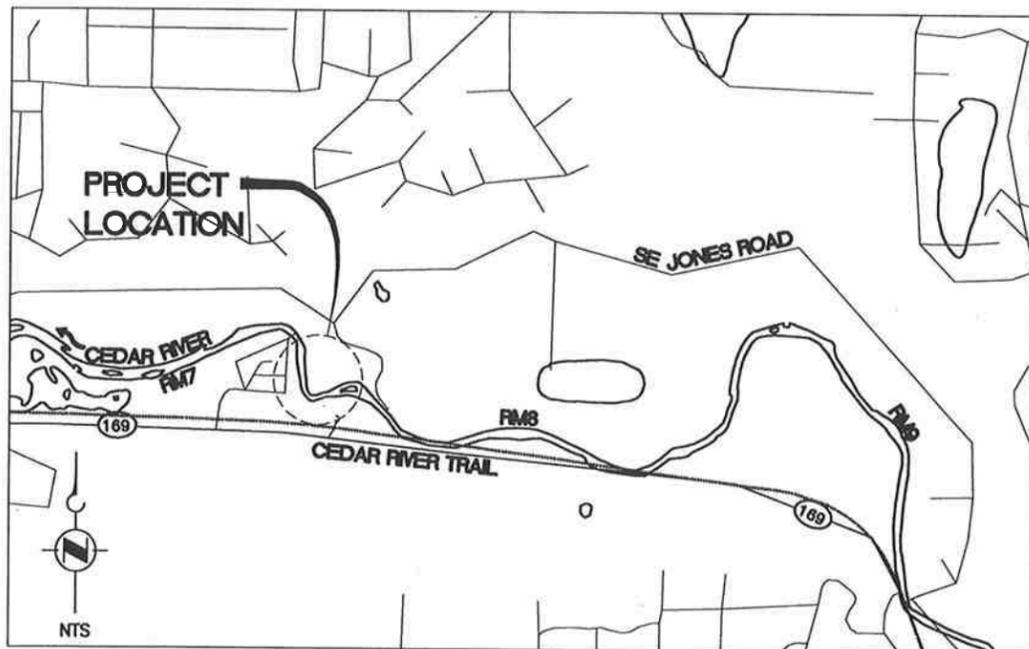


LOCATION MAP



VICINITY MAP



# CEDAR RAPIDS LEVEE SETBACK REPAIR - 2012

INDEX	
SHEET	DESCRIPTION
1	COVER SHEET, LOCATION MAP, VICINITY MAP, AND SHEET INDEX
2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
3-5	DETAILS
6	EXISTING SITE PLAN
7	PROPOSED SITE PLAN
8	T.E.S.C. PLAN
9	T.E.S.C. DETAILS
10	PLANTING PLAN
11	TEMPORARY TRAFFIC CONTROL PLAN



NAVD 88

**CALL 2 WORKING DAYS  
BEFORE YOU DIG**  
1-800-424-5555

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	N/A	APPROVED PROJECT:	JOHN ENGEL, P.E.	01-2012
SURVEYED:	WATERSHED SCIENCES 03-2011	PROJECT ECOLOGIST:	KATE AKYUZ	01-2012
SURVEY BASE MAP:	WATERSHED SCIENCES 03-2011	PROJECT MANAGER:	WES KAMEDA, P.E.	01-2012
CHECKED:	KCDNRP 04/2011	DESIGNED:	CAROLYN BUTCHART, P.E.	01-2012
PROJECT No.:	FL7048	REVIEWED:	JOHN ENGEL, P.E.	01-2012
SURVEY No.:	N/A	DESIGN ENTERED:	LICA DULAN	01-2012

**90% DESIGN  
6/8/2012**



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
*Christie True, Director*

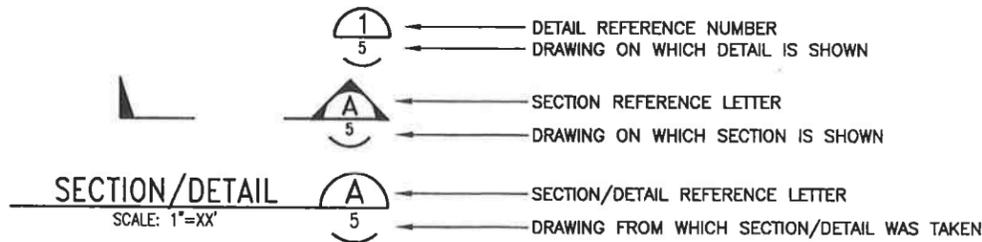
**CEDAR RAPIDS  
LEVEE SETBACK REPAIR - 2012**  
**COVER SHEET, LOCATION MAP, VICINITY MAP  
AND SHEET INDEX**

SHEET  
1  
OF  
11  
SHEETS  
**FL7048**

**GENERAL NOTES:**

- DATUM: H. NAD 83/91, V. NAVD 88
- ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND COUNTY PERMIT REQUIREMENTS AND CONDITIONS.
- RESTORATION PLANTINGS IN A PORTION OF THE SITE WILL BE COMPLETED BY THE OWNER FOLLOWING CONTRACTOR PROJECT CLOSEOUT, AS SHOWN ON SHEET 9.
- THE CONTRACTOR SHALL CALL 1-800-424-5555 TWO WORKING DAYS BEFORE DIGGING.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS AND STAGING PLAN TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. ALL DISTURBED AREAS SHALL BE RESTORED AND APPROVED BY THE ENGINEER.
- ALL EXISTING TREES NOT SHOWN ON THE PLANS FOR REMOVAL ARE TO BE RETAINED AND SHALL BE FLAGGED IN THE FIELD BY THE OWNER PRIOR TO CONSTRUCTION. IF THE GRADING PLANS AND/OR THE TEMPORARY ACCESS ROAD IMPACT AREAS WITHIN THE DRIP LINE OF THESE TREES, THE CONTRACTOR SHALL REQUEST DIRECTION TO MINIMIZE IMPACTS. PROTECTION MAY BE REQUIRED PER 1-07.16(2) AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE TREE PROTECTION PER STANDARD PLANS AND SPECIFICATIONS.

**DRAWING REFERENCE:**



**ABBREVIATIONS:**

- "-" INDICATES THAT THE DETAIL/SECTION IS SHOWN ON THE SAME DRAWING
- "TYP" INDICATES THAT THE DETAIL/SECTION IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
- "VAR" SPECIFIES THAT DETAIL/SECTION WAS TAKEN FROM SEVERAL DRAWINGS
- "NTS" NOT TO SCALE
- "TESC" TEMPORARY EROSION & SEDIMENT CONTROL

**LEGEND:**

	100	MAJOR CONTOUR (FT)
		MINOR CONTOUR (FT)
	OH	OVERHEAD POWER OR UTILITIES
		100-YEAR FLOODPLAIN
		TRIBUTARY
	SB	STREAM BUFFER
	V	WETLAND
	WB	WETLAND BUFFER
	HVF	HIGH VISIBILITY FENCE
	OHW	ORDINARY HIGH WATER (OHW)
		RIVER BUFFER
		PARCEL BOUNDARIES
	X	EXISTING CHAINLINK FENCE
	E	EXISTING EASEMENT
	SF	SILT FENCE
	CL	CONSTRUCTION LIMITS
		EXCAVATION LIMITS
	G	COFFERDAM OR EQUIVALENT
	P	POWER POLE
	E	ELJ - 2010 CONSTRUCTION (SURVEYED)
	A	ELJ - 2010 CONSTRUCTION (APPROXIMATE LOCATION)
		TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
		VEGETATION CANOPY BOUNDARY
		SURVEY CONTROL
		STAGING AREA
	V	WETLAND BOUNDARY

**CONSTRUCTION SEQUENCE:**

- FLAG THE EDGE OF EXCAVATION.
- MEASURE AND MARK 20 FOOT OFFSETS LANDWARD FROM THE PROPOSED LANDWARD TOE EVERY 25- FEET.
- MEASURE AND FLAG THE ELEVATION OF THE ORDINARY HIGH WATER MARK (OHWM), USING THE ASSISTANCE OF A QUALIFIED ECOLOGIST.
- ON THE LEFT BANK, STAKE 20-FOOT OFFSETS FROM TOE OF RIVERWARD SIDE OF THE PROPOSED LEVEE BERM, EVERY 50- FEET.
- INSTALL TEMPORARY ACCESS AS SHOWN ON TESC PLAN. CLEAR WORK AREAS AND INSTALL TESC MEASURES AS SHOWN ON TESC PLAN.
- EXCAVATE RIGHT BANK BENCH TO FACILITATE ROCK REMOVAL FROM THE CHANNEL. STOCKPILE LARGE ROCK (3 MAN AND LARGER) FOR REUSE.
- EXCAVATE BURIED REVETMENT AND LAUNCHABLE TOE, SECTIONS A-A AND B-B.
- FROM THE RIGHT BANK TO THE EXTENT SHOWN IN SECTION D-D, REMOVE THE PREVIOUSLY PLACED ROCK FROM CHANNEL. BEGIN REMOVAL FROM THE RIVERWARD EDGE AND EXCAVATE BACKWARDS TOWARD THE BANK. EXCAVATE TRENCH FOR TOE ROCK. MINIMIZE DISTURBANCE TO THE STREAM BED AND TURBIDITY. RECONSTRUCT REVETMENT FACE, TOE AND GEOGRID LIFTS.
- CONSTRUCT BURIED REVETMENT IN LAYERS SUCH THAT THE QUARRY SPALL GRANULAR FILTER AND RIPRAP ARE PLACED IN THE BURIED REVETMENT SECTION AND LAUNCHABLE TOE AS PER SECTION VIEW.
- FINISH LEVEE SECTIONS ABOVE EXISTING GRADE WITH NATIVE MATERIAL TO MATCH EXISTING LEVEE BERM ELEVATION AS PER SECTION.
- SCARIFY STAGING AREAS/ REPLANTING AREAS (SHEET 10) TO A MINIMUM DEPTH OF 12" AND STABILIZE PER TESC PLAN PRIOR TO DEMOBILIZATION.

**CALL 2 WORKING DAYS BEFORE YOU DIG**  
1-800-424-5555

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEYED:	WATERSHED SCIENCES	03-2011			PROJECT:	KATE AKYUZ	01-2012
SURVEY BASE MAP:	WATERSHED SCIENCES	03-2011			ECOLOGIST:	WES KAMEDA, P.E.	01-2012
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SURVEY No.	N/A				DESIGN ENTERED:	LICA DULAN	01-2012
		NUM.	REVISION	BY	DATE		

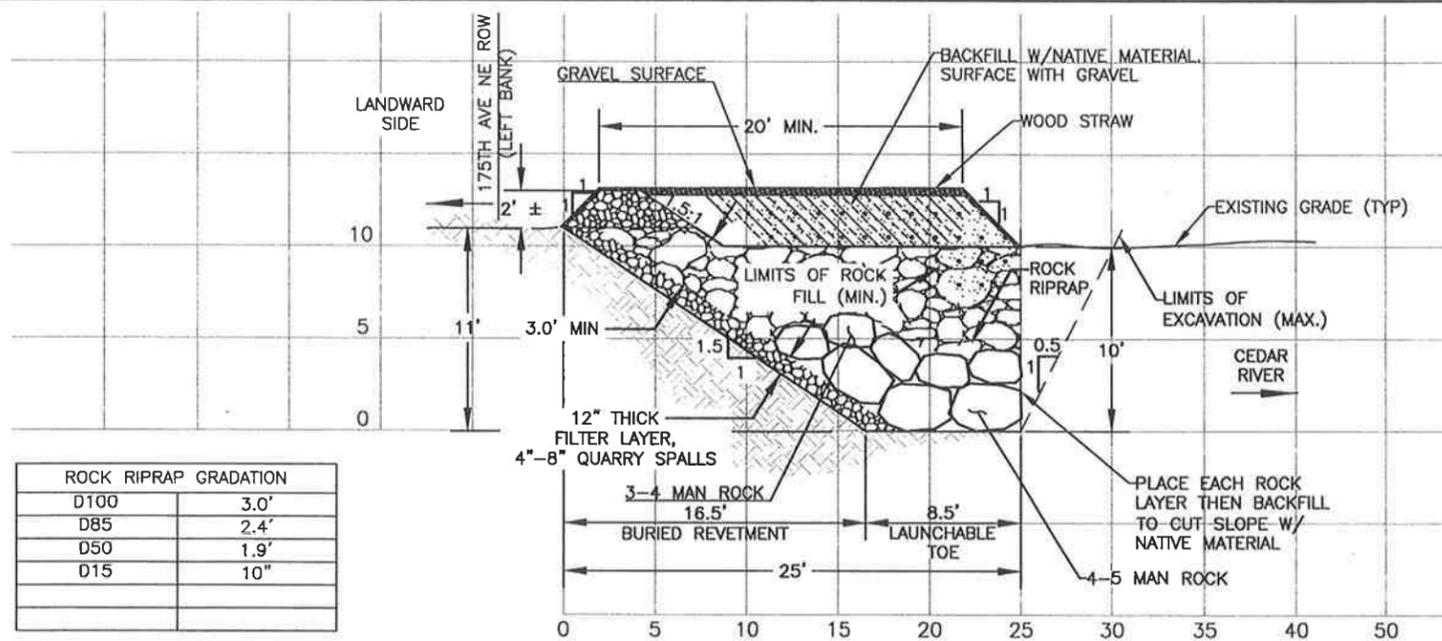
**90% DESIGN**  
**6/8/2012**



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie True, Director

**CEDAR RAPIDS LEVEE SETBACK REPAIR - 2012**  
GENERAL NOTES, LEGEND AND ABBREVIATIONS

SHEET  
**2**  
OF  
**11**  
SHEETS  
**FL7048**

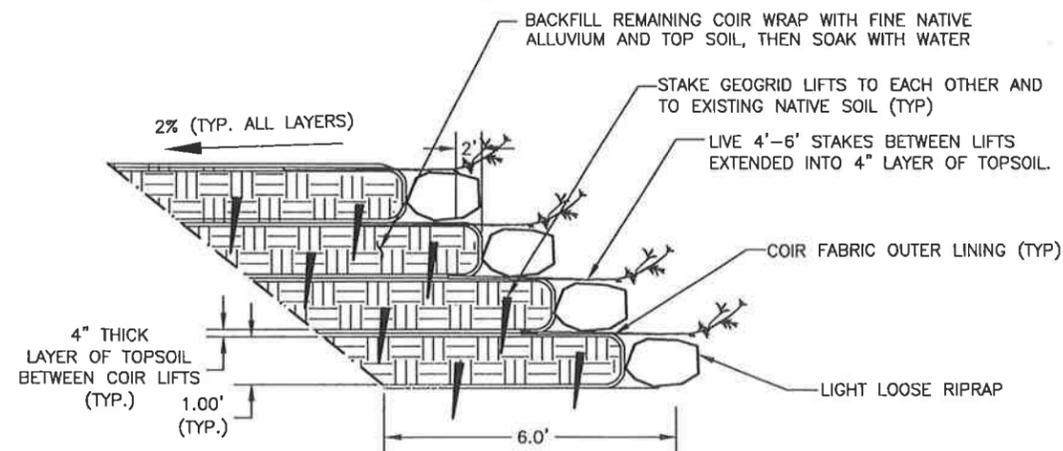


ROCK RIPRAP GRADATION	
D100	3.0'
D85	2.4'
D50	1.9'
D15	10"

**BURIED REVETMENT SECTION (TYP)**

SCALE: 1"=5' HORIZONTAL & VERTICAL

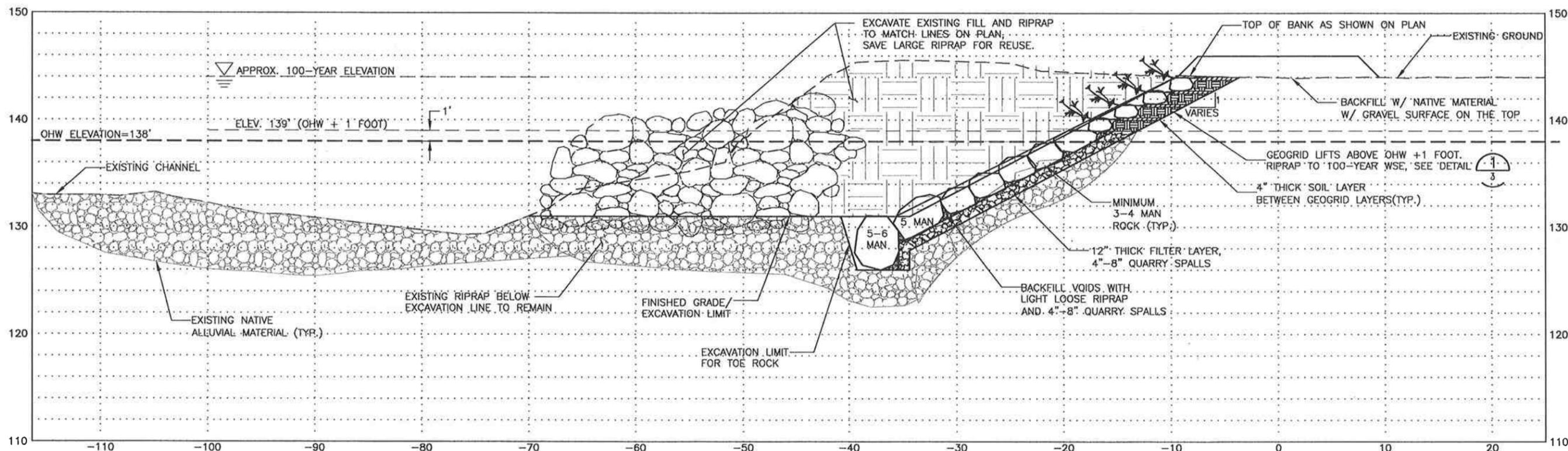
(A,F)  
7



**DETAIL - GEOGRID LIFTS (TYP)**

NTS

(1)  
4



**SECTION D-D**

SCALE: 1"=5' HORIZONTAL & VERTICAL

(C)  
7

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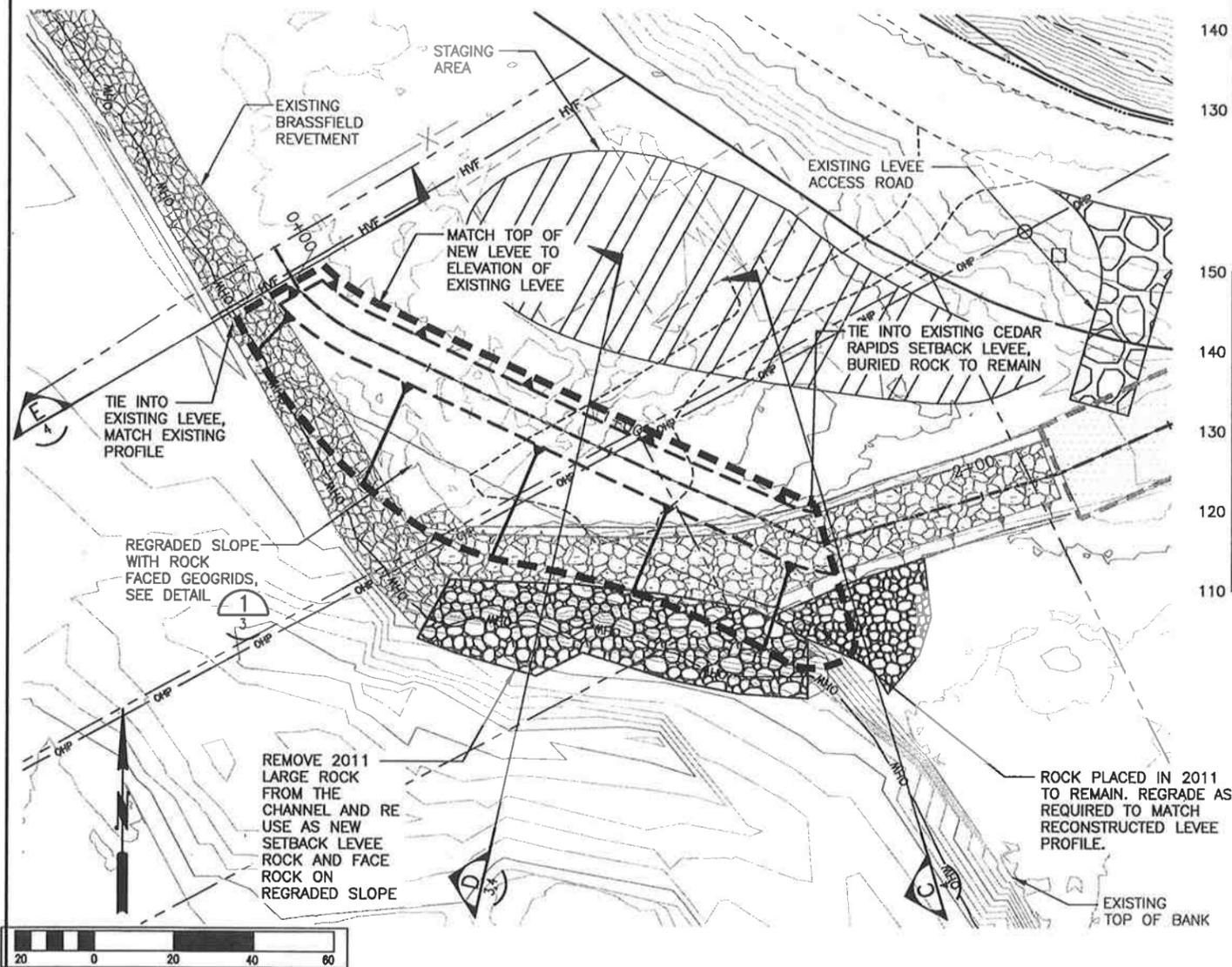


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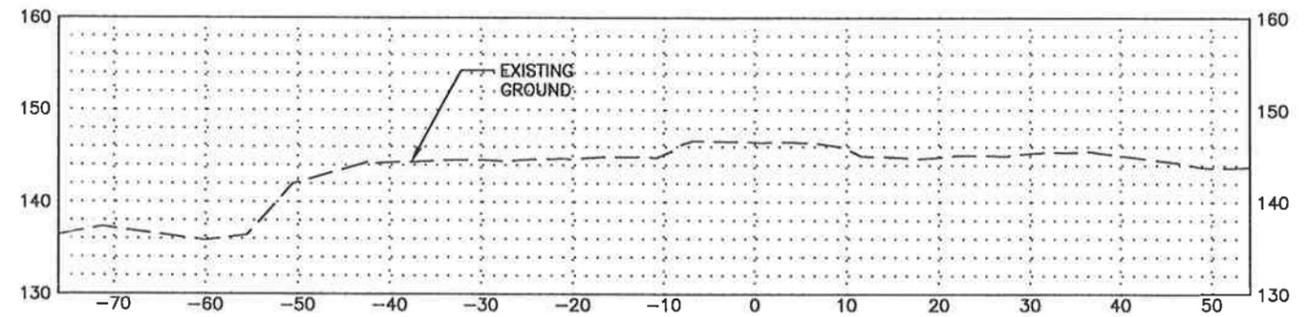
**CEDAR RAPIDS  
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**DETAILS**

SHEET  
**3**  
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**11**  
SHEETS  
**FL7048**



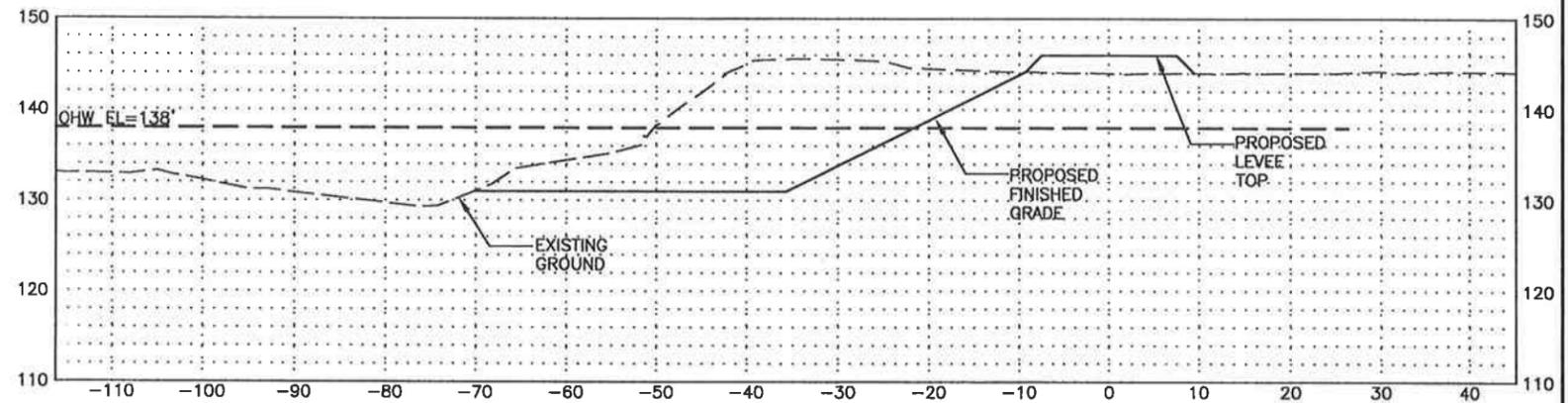
PLAN VIEW  
SCALE: 1"=20'



SECTION C-C

SCALE: 1"=10' HORIZONTAL & VERTICAL

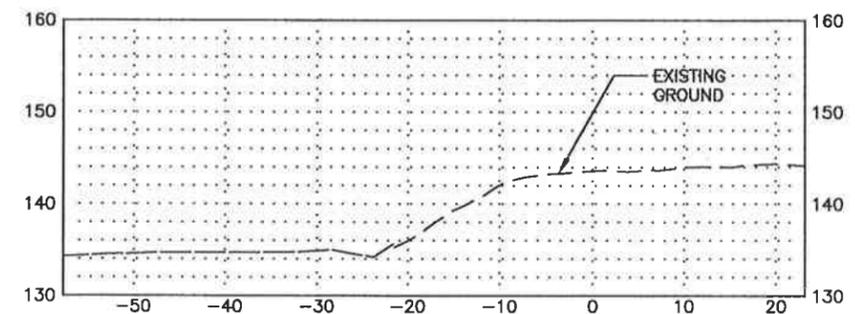
C  
4.7



SECTION D-D

SCALE: 1"=10' HORIZONTAL & VERTICAL

D  
4.7



SECTION E-E

SCALE: 1"=10' HORIZONTAL & VERTICAL

E  
4.7

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-5555

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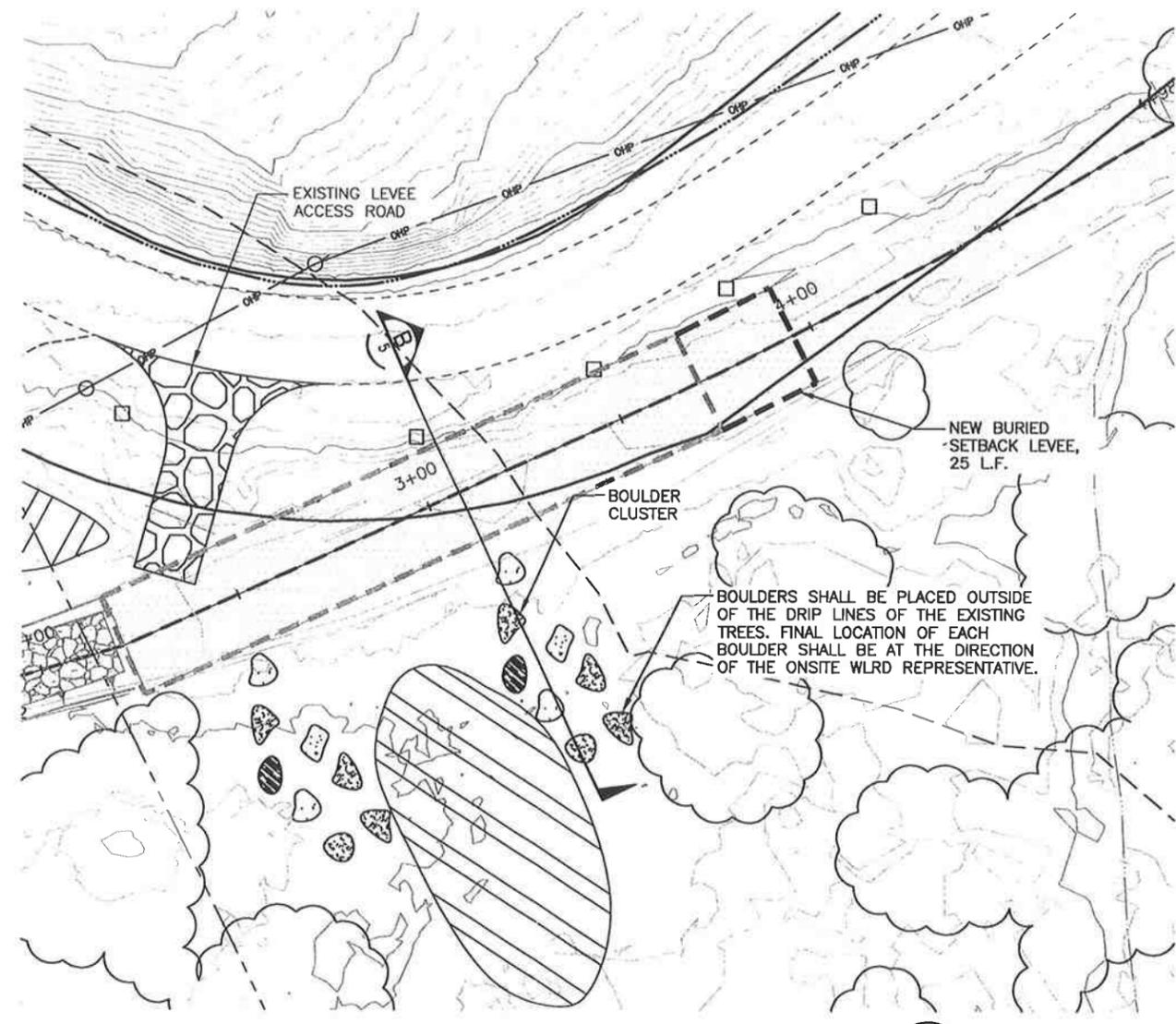
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River and Floodplain Management Section  
Christie True, Director

**CEDAR RAPIDS  
LEVEE SETBACK REPAIR - 2012**  
**DETAILS**

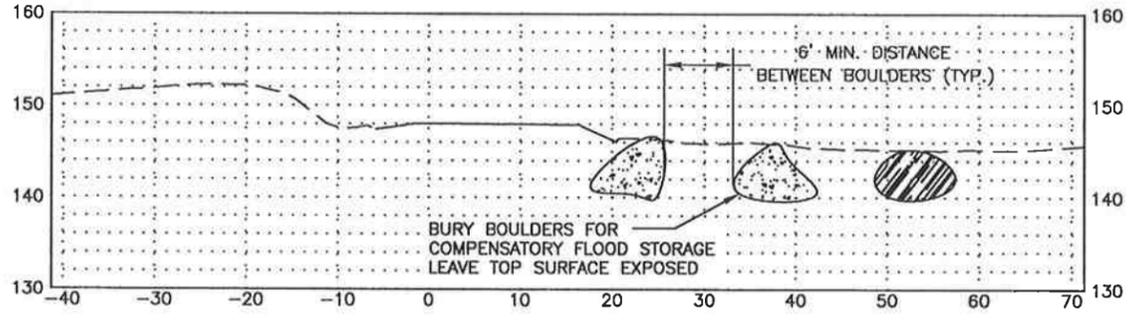
SHEET  
4  
OF  
11  
SHEETS  
FL7048



PLAN VIEW-BOULDER CLUSTER

SCALE: 1"=20'

B  
5,7



SECTION B-B

SCALE: 1"=10' HORIZONTAL AND VERTICAL

B  
5,7

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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PROJECT No.	FL7048
SURVEY No.	N/A

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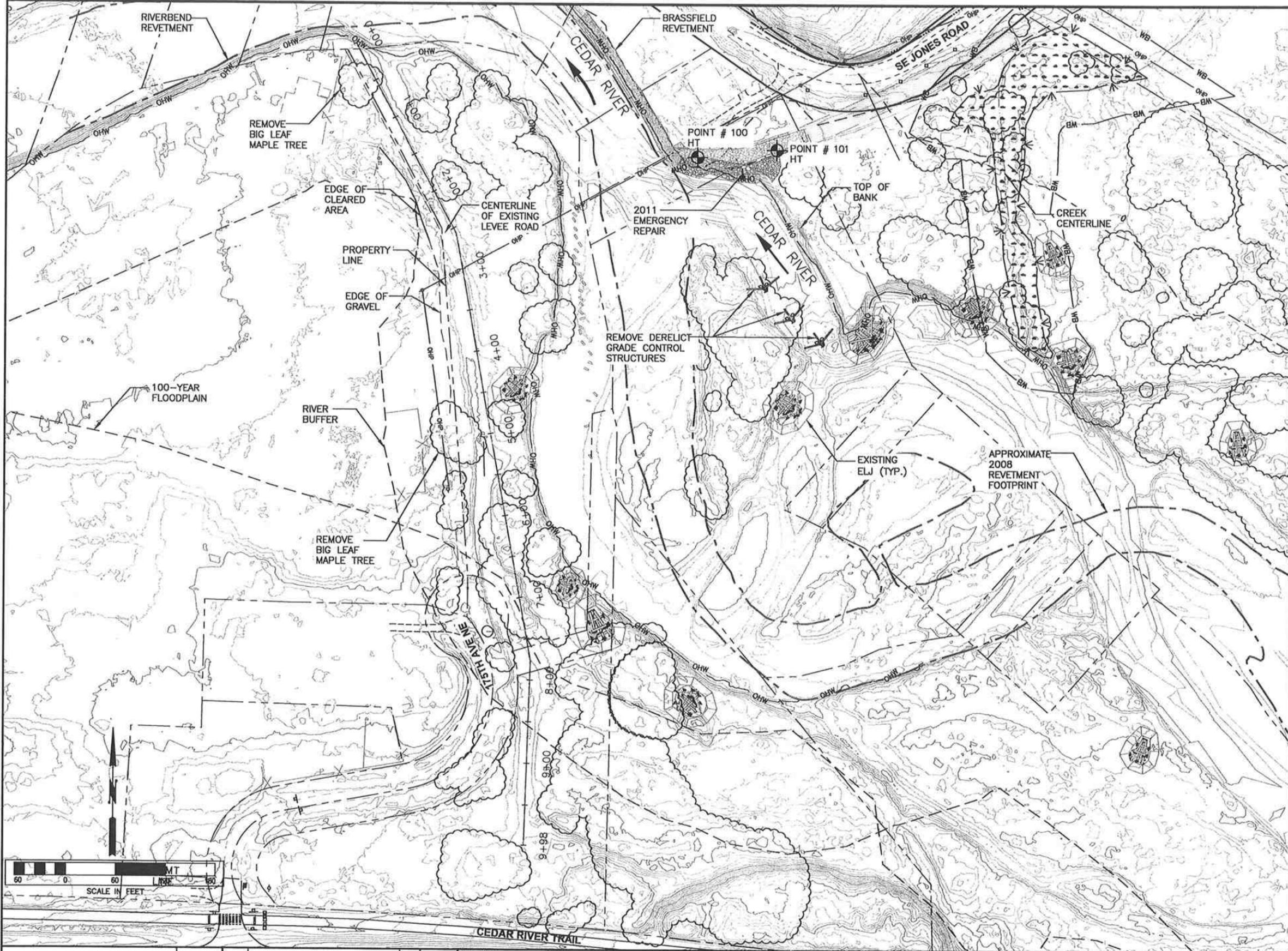
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**CEDAR RAPIDS  
LEVEE SETBACK REPAIR - 2012**

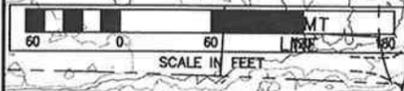
DETAILS

SHEET  
5  
OF  
11  
SHEETS

FL7048



SURVEY CONTROL				
PT. #	NORTHING	EASTING	ELEV.	DESC.
100	172531.552	1325675.248	145.752	HT
101	172540.362	1325771.565	146.615	HT



CALL 2 WORKING DAYS  
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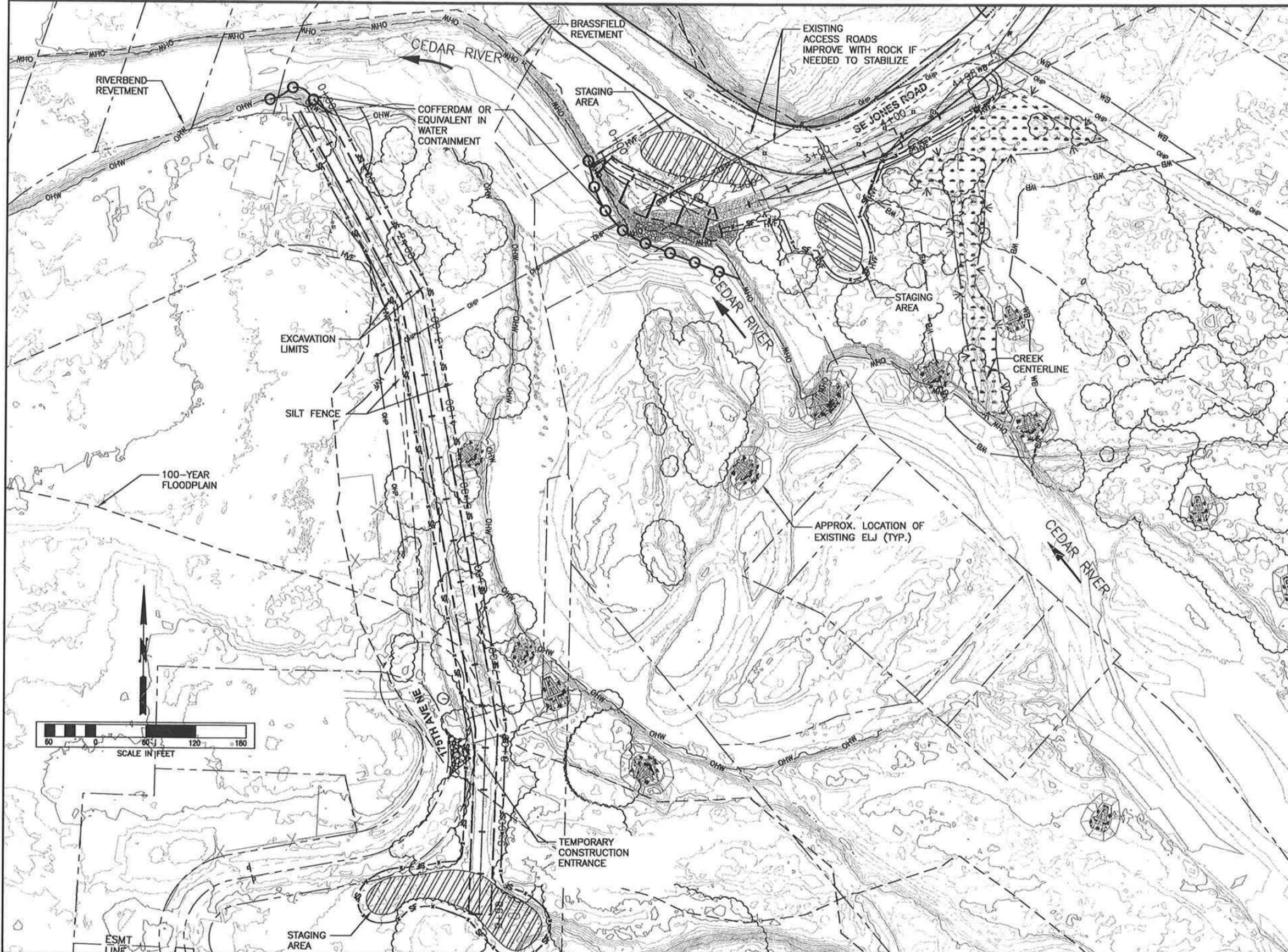


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**CEDAR RAPIDS  
LEVEE SETBACK REPAIR - 2012**  
**EXISTING SITE PLAN**

SHEET  
**6**  
OF  
**11**  
SHEETS  
**FL7048**





**TESC NOTES:**  
 THE FOLLOWING TOOLS AND MATERIALS WILL BE AVAILABLE ON SITE AND DEPLOYED AS NEEDED DURING CONSTRUCTION:

- STRAW BALES FOR SLOPE MULCHING
- SILT FENCING FOR PERIMETER SILTATION CONTROL
- HAND BROOMS, STREET SWEEPERS, AND WASH TRUCKS FOR CONTROL OF SEDIMENTS ON PAVED TRAFFIC SURFACES
- A SPILL RESPONSE KIT

THE FOLLOWING MATERIALS WILL BE AVAILABLE FOR TRANSPORT TO THE SITE AS NEEDED:

- CRUSHED ROCK FOR CONTROL OF SOIL PUMPING ON EXPOSED SOILS IN HEAVY TRAFFIC AREAS
- CRUSHED ROCK FOR STAGING AREAS AND ROAD SHOULDERS
- PEA GRAVEL AND/OR STRAW WATTLES FOR FILTER BERMS AND FOR ANCHORING SILT FENCE INSTALLATIONS.

1. SPILL RESPONSE KITS SHALL BE STAGED ON BOTH SIDES OF RIVER.
2. STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED AND INSTALLED AT ALL POINTS OF ENTRY ONTO THE SITE FROM PAVED OR GRAVEL ROADS AS SHOWN.
3. ALL PAVED ROADS USED FOR INGRESS AND EGRESS WILL BE KEPT FREE FROM SEDIMENT ACCUMULATIONS BY DAILY SWEEPING AND, IF NEEDED, WASHING. HAND BROOMS, STREET SWEEPERS, AND WASH TRUCKS SHALL BE USED FOR CONTROL OF SEDIMENTS ON PAVED ROADWAYS USED FOR INGRESS AND EGRESS.
4. HAND BROOMS AND OTHER APPROPRIATE TOOLS SHALL BE USED TO REMOVE SEDIMENT FROM PROJECT VEHICLE TIRES BEFORE EXITING THE SITE AND ENTERING PUBLIC ROADWAYS.
5. CONTRACTOR SHALL MAINTAIN AND AUGMENT EXISTING TESC MEASURES AS REQUIRED THROUGHOUT DURATION OF PROJECT.
6. ALL STOCKPILED SPOILS SHALL BE STAGED AND MAINTAINED WITHIN THE CONSTRUCTION LIMITS SHOWN ON THE PLANS USING STANDARD BMP'S AS NECESSARY TO CONTROL EROSION SEDIMENT TRANSPORT AND TURBIDITY.
7. 15 FT OF UNDISTURBED HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN LOW WATER AND THE LIMITS OF BURIED REVEGETATION EXCAVATION.
8. TO THE MAXIMUM EXTENT PRACTICABLE TREES THAT MUST BE CLEARED FOR EQUIPMENT ACCESS SHALL BE PUSHED DOWN USING A TRACKHOE RATHER THAN BEING CUT DOWN WITH A SAW. SALVAGE INTACT BOLES WITH ROOTWADS. SALVAGE WILL BE PLACED IN FLOODPLAIN AREA(S) AS DIRECTED BY THE ENGINEER AND GEOLOGIST.
9. CONTRACTOR SHALL PROVIDE A WASHINGTON STATE CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) PRESENT ON SITE DURING CONSTRUCTION, TO IMPLEMENT THE PROJECT TESC PLAN, AND SUPERVISE CONTRACTOR MAINTENANCE OF TESC MEASURES.
10. INSTALL SILT FENCE WITH WATTLES DOWN GRADIENT OF DISTURBED AND BARE SOILS AS NEEDED TO CONTROL TURBIDITY.
11. CONTRACTOR SHALL PREPARE AND SUBMIT NARRATIVE TESC PLAN BASED ON ADOPTED OR REUSED TESC PLAN. CONTRACTOR SHALL SUBMIT NARRATIVE PLAN CONSISTENT WITH PROJECT SCHEDULE AND SPECIFICATION REQUIREMENTS.
12. WITHIN SEVEN CALENDAR DAYS OF PROJECT COMPLETION, ANY DISTURBED BANK AND RIPARIAN AREAS SHALL BE PROTECTED USING NATIVE VEGETATION OR OTHER EROSION CONTROL MEASURES AS APPROPRIATE. FOR EROSION CONTROL, STERILE GRASSES AND WOOD STRAW MAY BE USED IN LIEU OF NATIVE SEED MIXES.
13. NATIVE RIPARIAN TREES AND SHRUBS WILL BE PLANTED TO ALL DISTURBED AREAS BETWEEN OCTOBER 1 AND APRIL 15 OF THE YEAR FOLLOWING CONSTRUCTION.
14. PLANTINGS WILL BE MAINTAINED AS NECESSARY FOR THREE YEARS TO ENSURE 50% HERBACEOUS AND/OR 70% WOODY COVER IN YEAR THREE, WHATEVER IS APPLICABLE.
15. FINISHED ACCESS BERM WILL BE COVERED WITH WOOD STRAW AND SEEDED WITH NATIVE GRASSES AND RE GREEN OR EQUIVALENT.
16. FENCING WILL BE INSTALLED AS NECESSARY TO PREVENT ACCESS TO REVEGETATED SITES BY UNAUTHORIZED PERSONS.

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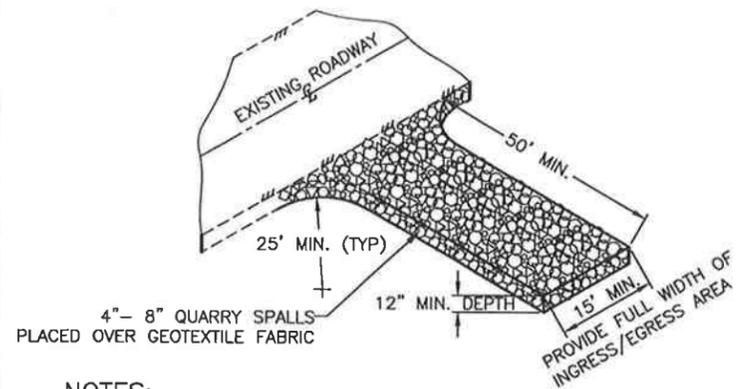


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**CEDAR RAPIDS  
 LEVEE SETBACK REPAIR - 2012**

**TESC PLAN**

SHEET  
 8  
 OF  
 11  
 SHEETS  
**FL7048**

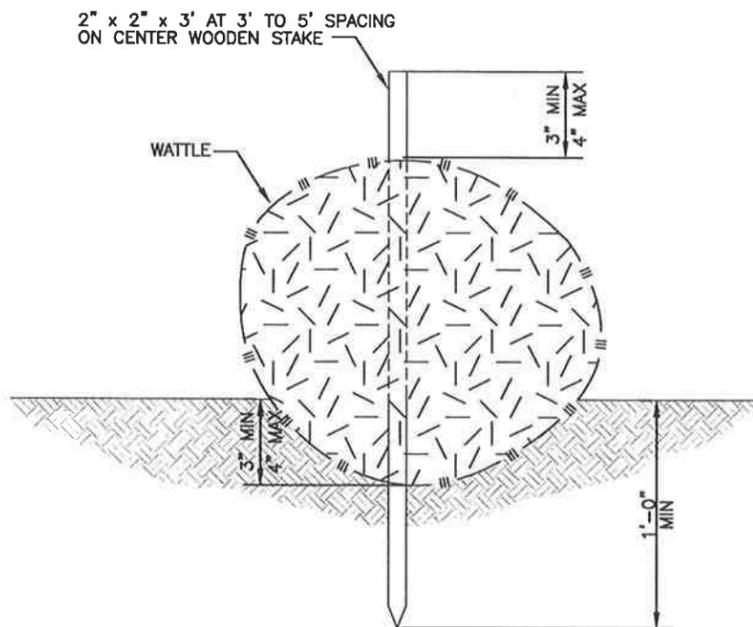


**NOTES:**

1. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS MUST BE REMOVED IMMEDIATELY.
2. VEHICLE TIRES SHALL BE INSPECTED TO ENSURE THEY ARE FREE OF MUD BEFORE ENTERING PUBLIC ROADWAYS.
3. PROVIDE FLAGGING FOR CONSTRUCTION VEHICLES ENTERING AND LEAVING SITE AND ENTERING PUBLIC ROADWAYS.
4. CONTRACTOR SHALL MAINTAIN AND AUGMENT EXISTING STABILIZED CONSTRUCTION ENTRANCES AS NEEDED TO CONTROL SEDIMENT.

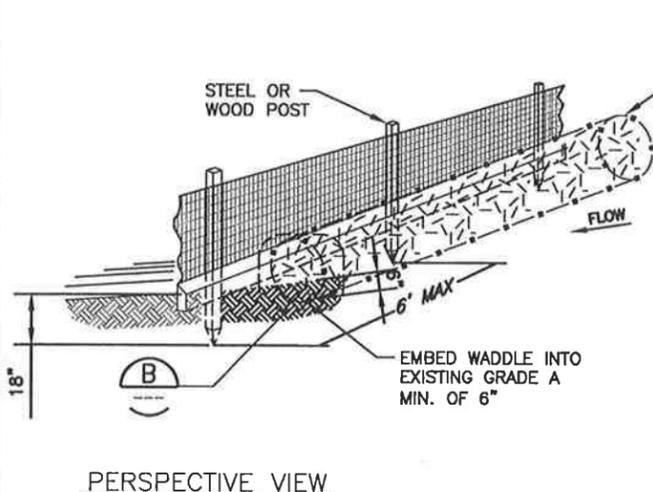
**STABILIZED CONSTRUCTION ENTRANCE**

SCALE: N.T.S.



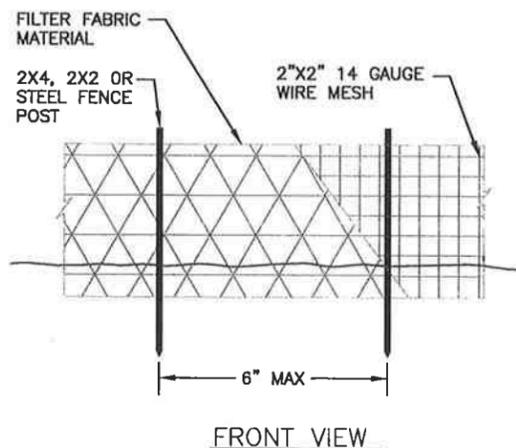
**WATTLE**

SCALE: N.T.S.

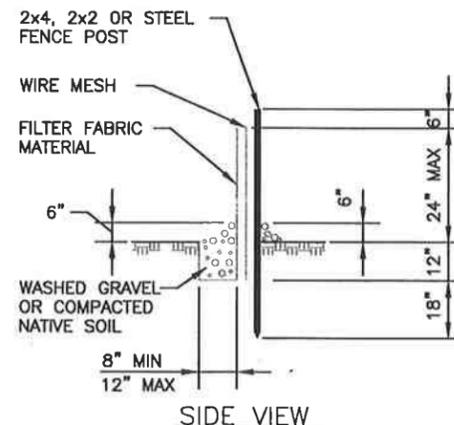


**PERSPECTIVE VIEW**

WATTLE EMBEDDED AND PARALLEL TO SILT FENCE



**FRONT VIEW**



**SIDE VIEW**

**SILT FENCE DETAIL**

SCALE: N.T.S.



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**90% DESIGN**  
**6/8/2012**



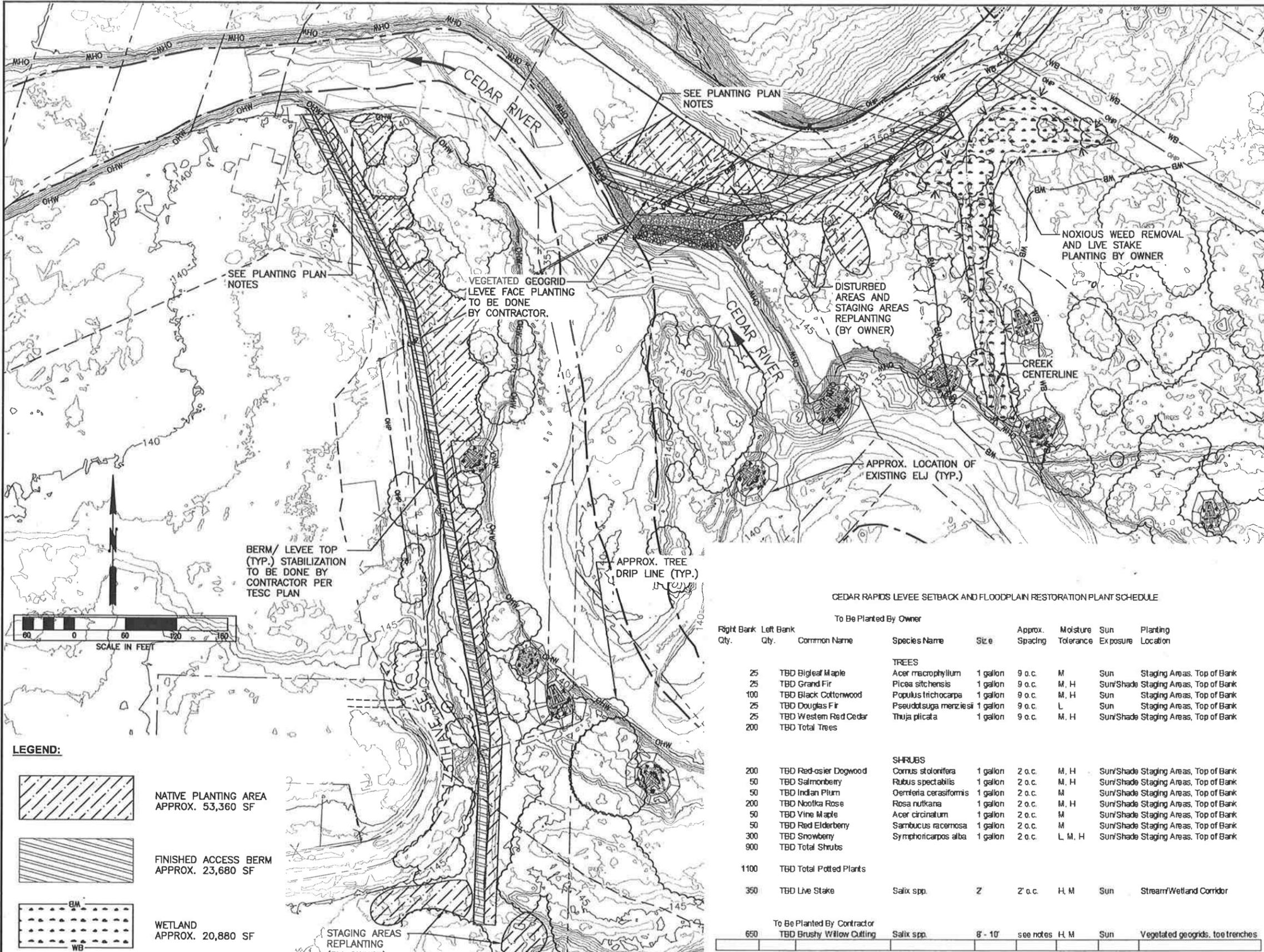
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie True, Director

**CEDAR RAPIDS  
LEVEE SETBACK REPAIR - 2012**

**TESC DETAILS**

SHEET  
**9**  
OF  
**11**  
SHEETS

**FL7048**



- PLANTING PLAN NOTES:**
- Willow Harvesting and Installation:**
- Willow cuttings shall be collected only from locations approved by owner.
  - Harvest crew members shall wear appropriate protective clothing (chaps, gloves, eye and ear protection) and be trained in the safe use of cutting equipment including loppers and chain saws.
  - Unless otherwise directed, no more than one third of the willows shall be removed from any given willow harvesting location. Cuttings should be removed evenly throughout the stand to avoid the creation of bare areas or unnecessary gaps in the canopy.
  - At least six inches of the cut stems should be left above the ground to promote stand regeneration.
  - Chain saws shall be refueled well away from surface water to prevent release of gasoline into the Cedar River.
  - When working in areas in publicly accessible areas, signage provided by the owner shall be posted to notify passers-by that permitted vegetation harvesting is taking place. This is especially essential when working on the Cedar River Trail, which is used by pedestrians and cyclists to prevent collisions with cuttings transport vehicles.
- Willow Handling and Storage:**
- Whenever possible, cuttings shall be cut, bundled for transport to the planting site and installed the same day. If immediate use is not possible, cuttings shall be protected from the sun and wind, and stored in bundles in the water to stimulate root and shoot formation following planting.
  - Leaves and small branches of brushy willow cuttings installed in vegetated geogrids and setback levee toe trenches shall not be trimmed, because small stems contain nodes that serve as plant propagules when in contact with moist soil. To save time, do not trim the tips of the cuttings that overhang the geogrid soil layers.
- Geogrid and Levee Setback Toe Stem Diameter and Length:**
- Willow cuttings for live geogrid construction shall be at least one inch in diameter at the butt end and long enough to overhang the outer edge of the geogrid soil layers by up to one foot. On this project site cuttings will average 6 feet in length, tapering to shorter lengths as bank reconstruction proceeds from the lower bank to the finished slope elevation. Cuttings installed in the repaired setback levee toe excavation zone shall be 6 feet long.
- Vegetated Geogrid Layers:**
- Cover the full length and width of each sequentially constructed structural fill lift with a minimum 2" thick layer of Groco (or equivalent) amended topsoil and thoroughly water it. After placing the live willow cuttings on the lower soil layer, cover them with another minimum 2" thick layer of Groco (or equivalent) amended topsoil and thoroughly water it to form a soil "envelope" that encloses the cuttings in wet soil.
  - Live willow cuttings shall be placed within the above-described soil envelope with the butt ends pointing toward the cut slope and the tips pointing toward the river, with up to one foot of the tips protruding from the face of the finished slope. Criss-crossing or interlacing the cuttings is acceptable as long as the butt ends are oriented toward the cut bank and the tips are oriented toward the river.
- Live Stakes for wetland corridor:**
- Lives stakes shall be at least 1 inch in diameter at the butt end, and 36 inches long. Leaves and branches of willow live stakes shall be removed, and the bottom end of each cutting shall be beveled to facilitate driving the cuttings into the ground to a depth of 18 inches.
- Short-Term Summer Watering:**
- Following completion of earthwork the owner will water live geogrids and vegetated levee toe trenches at least once a week until the onset of cool, rainy weather. During subsequent growing seasons water may be supplied by installing a drip irrigation system, spraying water from a water truck, or pumping from the adjacent river if a Washington Department of Ecology watering permit has been issued.
- Potted Plant Installation and Maintenance (to be carried out by owner):**
- Potted plants will be installed by the owner during the 2012-2013 plant dormancy season. These planting areas will be weeded, watered, and dead plants will be replaced as needed during the monitoring period to ensure attainment of the performance standards described below.
- Performance Standards (to be carried out by owner):**
- Percent of bare ground will not exceed 15% at any time within the first three years of the monitoring period. Tree and shrub cover will be at least 10% after one year, 20% after two years and 35% after three years. Non-invasive native volunteer species can be included in the assessment of overall percent cover. Non-native invasive plants will not make up more than 10% cover in any growing season during the monitoring period.

CEDAR RAPIDS LEVEE SETBACK AND FLOODPLAIN RESTORATION PLANT SCHEDULE

To Be Planted By Owner								
Right Bank Qty.	Left Bank Qty.	Common Name	Species Name	Size	Approx. Spacing	Moisture Tolerance	Sun Exposure	Planting Location
<b>TREES</b>								
25	TBD	Bigleaf Maple	<i>Acer macrophyllum</i>	1 gallon	9 o.c.	M	Sun	Staging Areas, Top of Bank
25	TBD	Grand Fir	<i>Picea sitchensis</i>	1 gallon	9 o.c.	M, H	Sun/Shade	Staging Areas, Top of Bank
100	TBD	Black Cottonwood	<i>Populus trichocarpa</i>	1 gallon	9 o.c.	M, H	Sun	Staging Areas, Top of Bank
25	TBD	Douglas Fir	<i>Pseudotsuga menziesii</i>	1 gallon	9 o.c.	L	Sun	Staging Areas, Top of Bank
25	TBD	Western Red Cedar	<i>Thuja plicata</i>	1 gallon	9 o.c.	M, H	Sun/Shade	Staging Areas, Top of Bank
200	TBD	Total Trees						
<b>SHRUBS</b>								
200	TBD	Red-osier Dogwood	<i>Cornus stolonifera</i>	1 gallon	2 o.c.	M, H	Sun/Shade	Staging Areas, Top of Bank
50	TBD	Salmonberry	<i>Rubus spectabilis</i>	1 gallon	2 o.c.	M, H	Sun/Shade	Staging Areas, Top of Bank
50	TBD	Indian Plum	<i>Oemleria cerasiformis</i>	1 gallon	2 o.c.	M	Sun/Shade	Staging Areas, Top of Bank
200	TBD	Nootka Rose	<i>Rosa nutkana</i>	1 gallon	2 o.c.	M, H	Sun/Shade	Staging Areas, Top of Bank
50	TBD	Vine Maple	<i>Acer circinatum</i>	1 gallon	2 o.c.	M	Sun/Shade	Staging Areas, Top of Bank
50	TBD	Red Elderberry	<i>Sambucus racemosa</i>	1 gallon	2 o.c.	M	Sun/Shade	Staging Areas, Top of Bank
300	TBD	Snowberry	<i>Symphoricarpos alba</i>	1 gallon	2 o.c.	L, M, H	Sun/Shade	Staging Areas, Top of Bank
900	TBD	Total Shrubs						
1100	TBD	Total Potted Plants						
350	TBD	Live Stake	<i>Salix spp.</i>	2'	2' o.c.	H, M	Sun	Stream/Wetland Corridor
To Be Planted By Contractor								
650	TBD	Brushy Willow Cutting	<i>Salix spp.</i>	8' - 10'	see notes	H, M	Sun	Vegetated geogrids, toe trenches

- LEGEND:**
- NATIVE PLANTING AREA APPROX. 53,360 SF
  - FINISHED ACCESS BERM APPROX. 23,680 SF
  - WETLAND APPROX. 20,880 SF

**CALL 2 WORKING DAYS BEFORE YOU DIG**  
**1-800-424-5555**  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	N/A
SURVEYED:	WATERSHED SCIENCES 03-2011
SURVEY BASE MAP:	WATERSHED SCIENCES 03-2011
CHECKED:	KCDNRP 04/2011
PROJECT No.	FL7048
SURVEY No.	N/A

**90% DESIGN**  
**6/8/2012**

APPROVED PROJECT:	JOHN ENGEL, P.E.	01-2012
PROJECT ECOLOGIST:	KATE AKYUZ	01-2012
PROJECT MANAGER:	WES KAMEDA, P.E.	01-2012
DESIGNED:	CAROLYN BUTCHART, P.E.	01-2012
REVIEWED:	JOHN ENGEL, P.E.	01-2012
DESIGN ENTERED:	LICA DULAN	01-2012

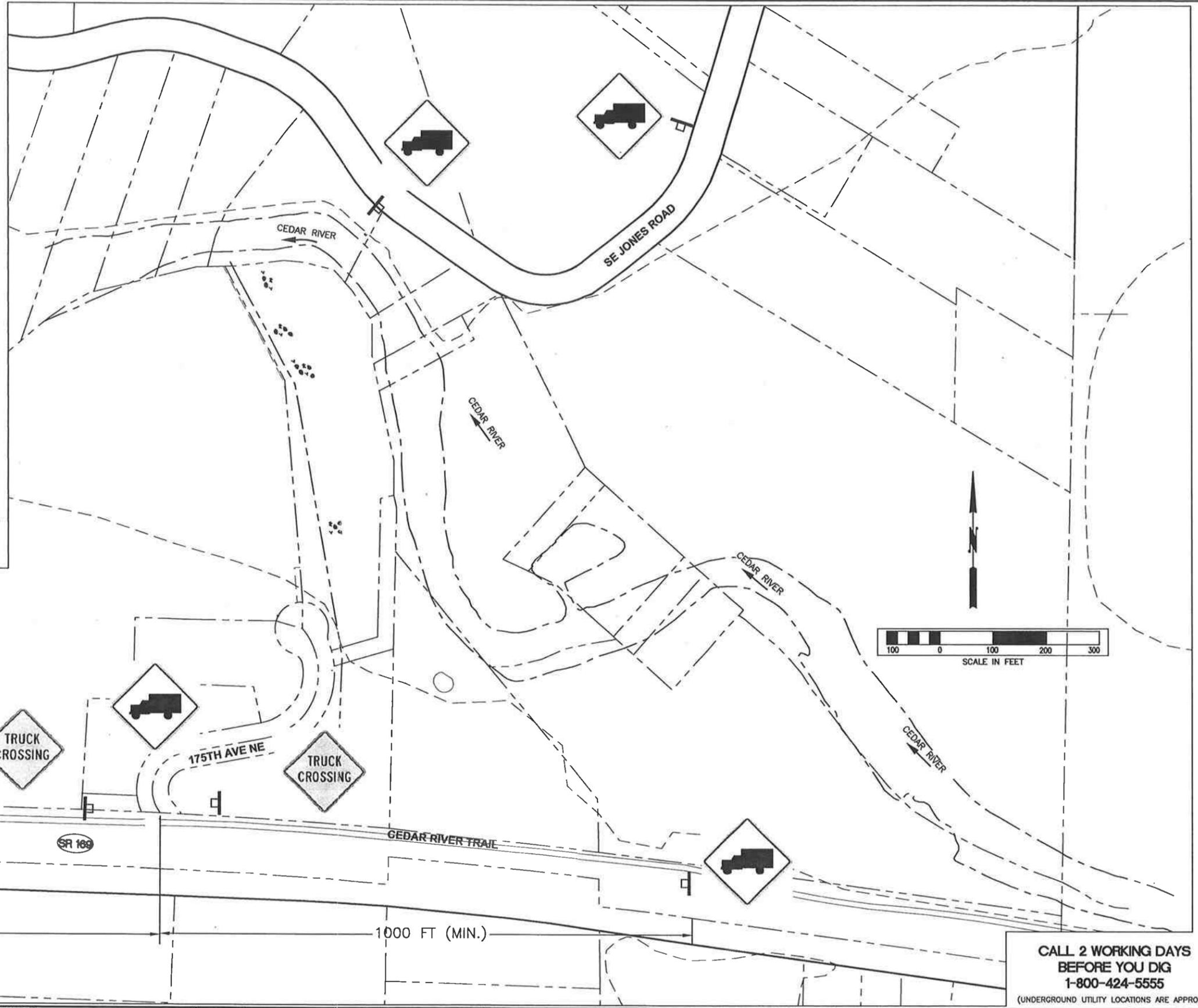
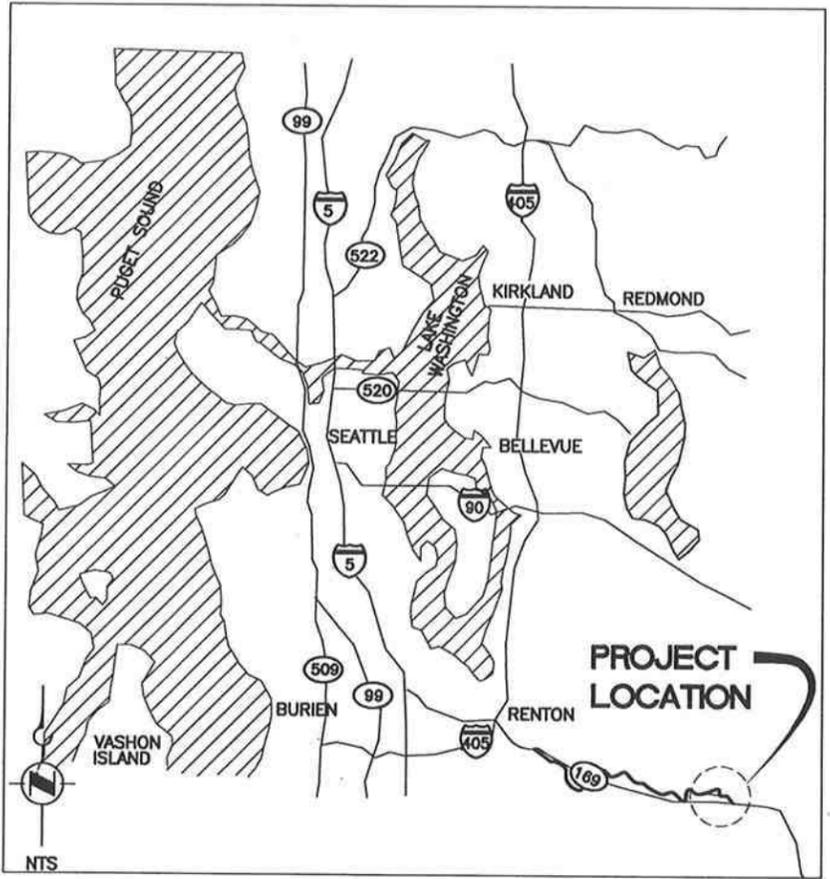


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**CEDAR RAPIDS LEVEE SETBACK REPAIR - 2012**  
**PLANTING PLAN**

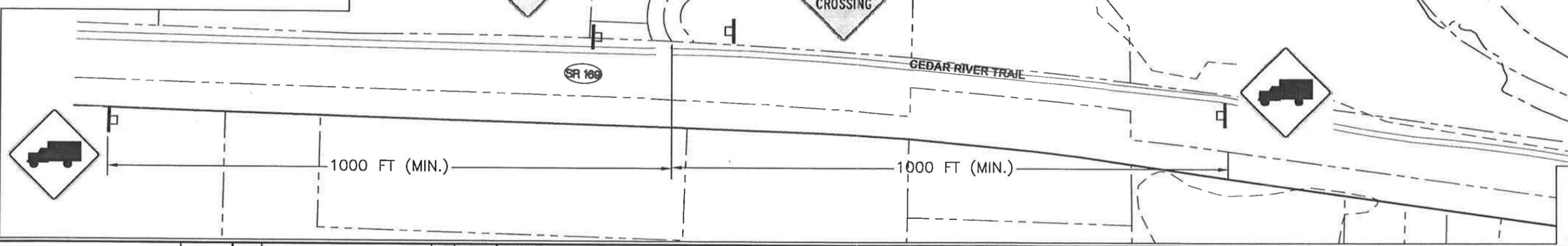
SHEET  
**10**  
 OF  
**11**  
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**FL7048**

**ADVANCE NOTIFICATION**  
TO BE POSTED ON THE FIRST DAY OF PROJECT



- NOTES:**
- SIGNS SHALL BE INSTALLED IN COMPLIANCE WITH MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PARTS 2 AND 6.

SIGN	MUTCD DESIGNATION	QUANTITY	LOCATION
TRUCK CROSSING (OR EQUIVALENT)	W 8-6	2 EACH	BIKETRAIL
TRUCK (OR EQUIVALENT)	W 11-10	3 EACH	ROADSIDE



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FIELD BOOK:	N/A
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SURVEY BASE MAP:	WATERSHED SCIENCES 03-2011
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NUM.	REVISION	BY	DATE
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**CEDAR RAPIDS  
LEVEE SETBACK REPAIR - 2012**  
**TEMPORARY TRAFFIC CONTROL PLAN**

SHEET  
**11**  
OF  
**11**  
SHEETS  
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