

MIKE M - May 16, 2023 - 11:26 AM - C:\USERS\MIKE M\DESKTOP\WORK\BARREL SPRINGS\SPORE-TS_STB.DWG

T36N R03E SECTION12NE

BARREL SPRINGS DAM REMOVAL AND STREAM RESTORATION PROJECT



SKAGIT COUNTY OFFICIALS

BOARD OF COMMISSIONERS •RON WESEN, CHAIR •LISA JANICKI, COMMISSIONER • PETER BROWNING, COMMISSIONER PUBLIC WORKS •GRACE K. KANE P.E., DIRECTOR/COUNTY ENGINEER

SUMMARY OF QUANTITIES

Item Number	Spec Section	Item Description	Unit	Quantity
		GENERAL REQUIREMENTS		
1	1-05.18 (SP)	RECORD DRAWINGS	LS	1
2	1-07.15	SPCC PLAN	LS	1
3	1-09.6	FORCE ACCOUNT	LS	1
4	1-09.7	MOBILIZATION/DEMOBILIZATION	LS	1
5	1-08.3	TYPE B PROGRESS SCHEDULE	LS	1
6	1-10	TEMPORARY TRAFFIC CONTROL	LS	1
		EARTHWORK		
7	2-01	CLEARING AND GRUBBING	AC	0.83
8	2-02	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
9	2-05 (SP)	REMOVE AND SALVAGE WHOLE TREE	EA	25
10	2-10 (SP)	CHANNEL GRADING	CY	1600
11	2-11	TRIMMING AND CLEANUP	LS	1
		BASES		
12	4-04	CRUSHED SURFACING TOP COURSE	TN	93
		MISCELLANEOUS CONSTRUCTION		
13	8-01	ESC LEAD	DAY	30
14	8-01.3(2)B	TEMPORARY SEEDING - WETLAND	AC	0.12
15	8-01.3(2)B	TEMPORARY SEEDING - UPLAND	AC	0.55
16	8-01.3(2)D	TEMPORARY MULCHING	AC	0.67
17	8-01.3(9)A2	SILT FENCE	LF	80
18	8-02.3(4)B	TOPSOIL TYPE B	CY	110
19	8-26 (SP)	STREAMBED GRAVEL	CY	40
20	8-27 (SP)	STREAMBED LOG	LS	1
21	8-31	TEMPORARY STREAM DIVERSION	LS	1
22	8-32 (SP)	SOIL DEWATERING	LS	1



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WA402222

PLAN SHEET INDEX

SHEET TITLE

COVER, SHEET INDEX & VICINITY MAP GENERAL NOTES SITE OVERVIEW SPORE DAM - EXISTING CONDITIONS SPORE DAM - PROPOSED CONDITIONS SWPPP SWPPP DETAILS DEWATERING PLAN GRADING PLAN & PROFILE GRADING CROSS SECTIONS TYPICAL DETAILS REVEGETATION PLAN





GENERAL NOTES

- 1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF SKAGIT COUNTY PUBLIC WORKS (SCPW), HEREAFTER REFERRED TO AS "OWNER" AND "CONTRACTOR" AND THEIR AUTHORIZED AGENTS.
- 2. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE. MINOR MODIFICATIONS ARE EXPECTED TO SUIT JOB SITE DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- 3. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS IN ACCORDANCE WITH THE PROVISIONS OUTLINED BY THE PROJECT CONTRACT AND SPECIFICATIONS
- 4. ALL IMPROVEMENTS SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE OWNER. IMPROVEMENT CONSTRUCTION SHALL COMPLY WITH THESE PLANS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS FOR CONSTRUCTION OF ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, CURRENT EDITION UNLESS NOTED OTHERWISE. ALL REFERENCES TO THE "STANDARD SPECIFICATIONS" SHALL MEAN THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF LOCAL STREETS AND ROADS, CURRENT EDITION. CONSTRUCTION NOT SPECIFIED ON THESE PLANS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR IS OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL PROVISIONS SHALL SUPERSEDE THOSE OF THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR.
- 5. THE COUNTY WILL HOST A PRE-BID ON-SITE MEETING FOR THE CONTRACTOR AND SUBCONTRACTOR(S) TO EXAMINE THE PROJECT SITE PRIOR TO BIDDING SO THAT THE CONTRACTOR CAN BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED SUCH AS: THE NATURE AND LOCATION OF THE WORK; THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER; THE CONDITIONS OF THE GROUND SURFACE AND SUBSURFACE MATERIALS, GROUNDWATER; THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK AND THE COSTS THEREOF ANY FAILURE BY THE CONTRACTOR AND SUBCONTRACTOR(S) TO ACQUAINT THEMSELVES WITH ALL THE AVAILABLE INFORMATION WILL NOT RELIEVE THE CONTRACTOR AND SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK
- 6. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED TO THE OWNER FOR REVIEW AND ACCEPTANCE.

PERMIT NOTES

- 1. EVERY REASONABLE EFFORT SHALL BE MADE TO CONDUCT THE ACTIVITIES SHOWN IN THESE PLANS, IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.
- 2. ALL WORK WILL BE IN COMPLIANCE WITH PERMIT CONDITIONS ISSUED BY PERTINENT REGULATORY AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
- 3. ALL WORK THAT DISTURBS THE SUBSTRATE, BANK, OR SHORE OF A WATERS OF THE STATE THAT CONTAINS FISH LIFE SHALL BE CONDUCTED ONLY DURING THE WORK PERIOD FOR THAT WATERBODY AS ALLOWED BY RELEVANT HYDRAULIC WORK PERMITS.
- 4. ALL ACTIVITIES THAT INVOLVE WORK ADJACENT TO, OR WITHIN THE WETTED CHANNEL SHALL, AT ALL TIMES, REMAIN CONSISTENT WITH ALL APPLICABLE WATER QUALITY STANDARDS; EFFLUENT LIMITATION; AND STANDARDS OF PERFORMANCE, PROHIBITIONS, PRETREATMENT STANDARDS, AND MANAGEMENT PRACTICES ESTABLISHED PURSUANT TO THE CLEAN WATER ACT OR PURSUANT TO APPLICABLE STATE AND LOCAL LAW.
- 5. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
- 6. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

SURVEY NOTES

- 1. UNLESS NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION.
- 2. EXISTING CONDITIONS SURFACE FOR THIS PROJECT CONSISTS OF TOPOGRAPHIC SURVEY DATA COLLECTED BY INTERFLUVE IN 2021 SUPPLEMENTED WITH A 2017 LIDAR SURFACE OBTAINED FROM THE WASHINGTON DEPARTMENT OF NATURAL RESOURCES LIDAR PORTAL. THE VERTICAL DATUM IS NAVD88 (FT). THE HORIZONTAL DATUM IS WASHINGTON STATE PLANE NORTH, NAD83 (FT).

EROSION, SEDIMENT CONTROL AND WATER MANAGEMENT NOTES

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT

2. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL BY OWNER AND/OR THE ENGINEER BEFORE ANY CONSTRUCTION MAY BEGIN. THE SEDIMENT AND EROSION CONTROL PLAN WILL IDENTIFY BEST MANAGEMENT PRACTICES TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.

3. ACTIVITIES SHALL BE DESIGNED AND CONSTRUCTED TO AVOID AND MINIMIZE ADVERSE IMPACTS TO WATERS OF THE UNITED STATES TO THE MAXIMUM EXTENT PRACTICAL THROUGH THE USE OF PRACTICAL ALTERNATIVES. ALTERNATIVES THAT SHALL BE CONSIDERED INCLUDE THOSE THAT MINIMIZE THE NUMBER AND EXTENT OF IN-WATER WORK AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.

4. AT NO TIME SHALL SEDIMENT-LADEN WATER BE DISCHARGED OR PUMPED DIRECTLY INTO THE SUBJECT RIVER, STREAM, OR WETLAND. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE PROJECT PERMITS AND / OR SPECIFICATIONS

5. IF HIGH WATER LEVEL CONDITIONS THAT CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION. WORK SHALL STOP UNTIL THE WATER LEVEL SUBSIDES

6. PERMIT CONDITIONS CONTAIN SPECIFIC REQUIREMENTS FOR THE CONTROL OF EROSION AND TURBIDITY FROM PROJECT OPERATIONS. TURBIDITY WILL BE MONITORED ON A FREQUENT BASIS BY THE PROJECT MANAGEMENT AND INSPECTION STAFF ON-SITE. TURBIDITY AMOUNTS IN EXCESS OF THE PERMITTED CONCENTRATIONS AND/OR DURATIONS WILL CAUSE WORK TO BE STOPPED UNTIL IMPROVED PRACTICES ARE IN EFFECT AND THE PROBLEMS CONTROLLED. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR ANY PROJECT DELAYS THAT OCCUR BY NATURE OF THIS FAILURE TO ADEQUATELY CONTAIN SEDIMENT ON-SITE.

7. CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT TO CONSTRUCTION AREAS DEFINED ON SITE PLAN OR IDENTIFIED AS ACCEPTABLE BY THE ENGINEER OR OWNER.

8. ALL EXTERNAL GREASE AND OIL SHALL BE PRESSURE-WASHED OFF THE EQUIPMENT PRIOR TO TRANSPORT TO THE SITE.

9. ALL EQUIPMENT OPERATING BELOW OHWM SHALL UTILIZE READILY BIODEGRADABLE VEGETABLE-BASED HYDRAULIC FLUIDS.

10. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, SEDIMENTS, SEDIMENT-LADEN WATER, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE SUBJECT RIVER, STREAM, OR WETLAND.

11. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL KIT ONSITE AT ALL TIMES.

12. NO TREES OR WETLAND VEGETATION SHALL BE REMOVED UNLESS THEY ARE SHOWN AND NOTED TO BE REMOVED ON THE PLANS OR AS DIRECTLY SPECIFIED ON-SITE BY THE PROJECT MANAGEMENT STAFF. ALL TREES CONFLICTING WITH GRADING SHALL BE REMOVED. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.

13. FOLLOWING CONSTRUCTION, SITE RESTORATION WILL INCLUDE ESTABLISHING LONG-TERM EROSION PROTECTION MEASURES. THESE MEASURES WILL INCLUDE PLANTINGS, EROSION CONTROL FABRIC, SEED, AND MULCH. EQUIPMENT AND EXCESS SUPPLIES WILL BE REMOVED AND THE WORK AREA WILL BE CLEANED. MAINTENANCE ACTIVITIES FOR THE NEWLY CONSTRUCTED RESTORATION PROJECTS ARE ANTICIPATED TO OCCUR PERIODICALLY.

1. CONTRACT DOCUMENTS REFER TO THESE PLANS.

2. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED IN THE CONTRACT DOCUMENTS.

3. SOILS AT THE SITE CONTAIN SOFT SILT, CLAY AND HIGH GROUNDWATER AND MAY REQUIRE EQUIPMENT MATS TO SUPPORT CONSTRUCTION EQUIPMENT. CONSOLIDATION OF THE GROUND SURFACE SHOULD BE EXPECTED. CONTRACTOR IS RESPONSIBLE FOR DETERMINING NEED FOR, DESIGNING, PROCURING, INSTALLING, USING AND REMOVING ANY EQUIPMENT MATS NEEDED TO ALLOW FOR EQUIPMENT OPERATION SUFFICIENT TO CONSTRUCT THE PROJECT.

4. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.

5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE OWNER OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THIS CONTRACT.

- DOCUMENTS.
- NOT SPECIFIED AS REMAINING ON THE PROPERTY.
- 10. THE PLANS REPRESENT THE PROJECT. THEY DO NOT INDICATE THE METHOD OF ALL
- SECURITY OF ALL EQUIPMENT AND MATERIALS.

ABBREVIATIONS

PPROX	APPROXIMATE
FS	CUBIC FEET PER SECOND
PM	GALLONS PER MINUTE
BS	POUNDS
IN	MINIMUM
AX	MAXIMUM
Т	FEET
F	LINEAR FEET
F	SQUARE FEET
Y	SQUARE YARDS
Y	CUBIC YARDS
С	ACRES
С	ON CENTER
LS	PURE LIVE SEED
L	CENTERLINE
S	CROSS SECTION
VE T	AVERAGE OR AVENUE
	SIREEI
IS	NOT TO SCALE
5	CONTROL SUVERY
SRPC	CUNTROL SURVEY RED PLASTIC CAP
ISC	SURFACE MONUMENT DISC
SHI	
 т	
I	
1	POINT OF INTERSECTION
\/I	POINT OF VERTICAL INTERSECTION
C	POINT OF CURVATURE
т	POINT OF TANGENCY
' SMH	SANITARY SEWER MANHOLE
RIB	TRIBUTARY
WM	LARGE WOODY MATERIAL
HW	ORDINARY HIGH WATER
IS	WATER SURFACE
R	RAILROAD
В	NORTHBOUND
В	SOUTHBOUND
NG	CASCADE NATURAL GAS
VF	HIGH VISIBILITY FENCE
ESC	TEMPORARY EROSION AND SEDIMENT CO
WPPP	STORMWATER POLLUTION PREVENTION P
OB	CITY OF BELLINGHAM
/CC	WASHINGTON CONSERVATION CORPS
/SDOT	WASHINGTON STATE DEPARTMENT OF TR
2B	BAY TO BAKER
SE	Pacific Surveying & Engineering
ΥP	TYPICAL
L	ELEVATION
-	INVERT ELEVATION
EINF	REINFORCED
ONC	CONCRETE
XIST	EXISTING





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STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

THE CONTRACTOR IS ADVISED THAT THE PROJECT AREA DRAINS TO A SALMON BEARING STREAM AND/OR STATE WATERS AND THAT THE CONTRACTOR IS RESPONSIBLE TO PROTECT THE RECEIVING WATERS FROM DELETERIOUS EFFECTS OF CONSTRUCTION.

THE OWNER HAS PREPARED THIS SWPPP. CONTRACTOR IS REQUIRED TO HAVE A COPY OF THE SWPPP ON SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING, INSTALLING, MAINTAINING, REPLACING, SUBSTITUTING, AND REMOVING BMP'S.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE EROSION CONTROL MEASURES SHOWN OR DESCRIBED IN THE CONTRACT DOCUMENTS AND ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED BY THE CONTRACTORS MEANS AND METHODS OF CONSTRUCTION AS NEEDED TO CONTROL EROSION AND SEDIMENT AT THE CONSTRUCTION SITE AND TO PREVENT VIOLATION OF SURFACE WATER QUALITY. GROUND WATER QUALITY, OR SEDIMENT MANAGEMENT STANDARDS. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND UNTIL ALL DISTURBED EARTH IS STABILIZED IN FINISH GRADES.

CONTRACTOR'S TESC RECORD

WEEKLY REPORTS SUMMARIZING THE SCOPE OF INSPECTIONS, THE PERSONNEL CONDUCTING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THIS SWPPP. AND ACTIONS TAKEN AS A RESULT OF THESE INSPECTIONS SHALL BE PREPARED AND RETAINED ON SITE BY THE CONTRACTOR. IN ADDITION, A RECORD OF THE FOLLOWING DATES SHALL BE INCLUDED IN THE REPORTS:

- 1. WHEN MAJOR GRADING ACTIVITIES OCCUR.
- 2. DATES OF RAINFALL EVENTS EITHER EXCEEDING 2 HOURS DURATION OR MORE THAN 0.5 INCHES/24 HOURS,
- WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON 3. SITE, OR ON A PORTION OF THE SITE,
- 4. WHEN STABILIZATION MEASURES ARE INITIATED FOR PORTIONS OF THE SITE.

SWPPP REQUIRED REPORTS SHALL BE MADE AVAILABLE TO THE OWNER AND ENGINEER ON REQUEST AND SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO APPLICATION FOR PAYMENT.

1. CLEARING LIMITS

CONSTRUCTION SHALL NOT BEGIN UNTIL AFTER CLEARING LIMITS, SENSITIVE AREAS, AND TREES TO BE PRESERVED HAVE BEEN DELINEATED IN THE FIELD BY THE ENGINEER OR OWNER.

2. CONSTRUCTION ACCESS

WHEN POSSIBLE, LIMIT CONSTRUCTION VEHICLE ACCESS AND EXIT TO ONE ROUTE. ALL ACCESS/EXIT POINTS SHALL BE STABILIZED WITH QUARRY SPALLS IN CONFORMANCE WITH THE STABILIZED CONSTRUCTION EXIT DETAIL. CONSTRUCTION ACCESS RESTORATION SHALL BE EQUAL TO OR BETTER THAN THE PRECONSTRUCTION CONDITION.

PUBLIC RIGHTS-OF-WAY SHALL BE KEPT IN A CLEAN AND SERVICEABLE CONDITION AT ALL TIMES. IN THE EVENT MATERIALS ARE INADVERTENTLY DEPOSITED ON ROADWAYS THE MATERIAL SHALL BE PROMPTLY REMOVED. MATERIALS ARE TO BE SWEPT AND REMOVED PRIOR TO ANY STREET FLUSHING.

3. CONTROL FLOW RATES

THIS PROJECT WILL NOT INCREASE RUNOFF VOLUME, VELOCITY, OR PEAK FLOW RATE OF STORMWATER

4. SEDIMENT CONTROLS

THE DUFF LAYER, NATIVE TOP SOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. THE CONTRACTOR SHALL MARK ALL AREAS WHICH ARE NOT TO BE DISTURBED. INCLUDING SETBACKS. SENSITIVE/CRITICAL AREAS AND THEIR BUFFERS. TREES AND DRAINAGE COURSES NOT TO BE DISTURBED SHALL BE MARKED AND FLAGGED

BEFORE CONSTRUCTION ACTIVITIES ARE INITIATED. THESE AREAS SHALL BE PROTECTED BY THE CONTRACTOR WITH BARRIER FENCING AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER WHEN MEASURES UNDER THIS SWPPP AND/OR CONSTRUCTION ACTIVITIES ARE INITIATED.

TO THE EXTENT PRACTICABLE, EXCAVATIONS SHALL OCCUR IN A MANNER AND CONFIGURATION THAT CAUSES STORMWATER OCCURING WITHIN THE PROJECT LIMITS TO DRAIN TOWARD EXCAVATED AREAS WITH NO OUTLET, THUS CAUSING THESE EXCAVATION AREAS TO BE SEDIMENT PONDS AND STORMWATER RETENTION FACILITIES. AS DEEPER EXCAVATIONS COME INTO CONTACT WITH GROUNDWATER, STORMWATER AND/OR SEDIMENT LADEN WATER SHALL BE DETAINED IN POND B AND BY SILT BARRIERS IN POND A.

THE CONTRACTOR MAY ELECT TO CONSTRUCT OTHER TEMPORARY SEDIMENTATION PONDS, TANKS, OR OTHER FACILITIES AS NECESSARY TO CONTROL RUNOFF AND/OR TO FILTER DEWATERING DISCHARGE. THE CONTRACTOR MAY MAKE TEMPORARY CONNECTIONS TO THE EXISTING STORM DRAINAGE SYSTEM AS NECESSARY TO CONVEY FLOW FROM TEMPORARY FACILITIES. TEMPORARY ON-SITE CONVEYANCE CHANNELS REQUIRED BY THE CONTRACTOR'S MEANS AND METHODS SHALL BE DESIGNED, CONSTRUCTED, AND STABILIZED TO PREVENT EROSION FROM THE EXPECTED VELOCITY OF A 2-YEAR, 24-HOUR FREQUENCY STORM FOR THE DEVELOPED CONDITION. IN LIEU OF DESIGN, THE CONTRACTOR MAY ELECT TO LINE TEMPORARY CHANNELS AND FACILITIES WITH EROSION CONTROL MAT AT CONTRACTOR'S EXPENSE.

5. STABILIZE SOILS

FROM MAY 1 THROUGH SEPTEMBER 30. ALL EXPOSED SOILS SHALL BE PROTECTED FROM EROSION BY MULCHING, PLASTIC SHEETING, HYDROSEED COVERING, OR OTHER APPROVED MEASURES WITHIN ONE WEEK OF GRADING. FROM OCTOBER THROUGH APRIL 30, ALL EXPOSED SOILS SHALL BE PROTECTED WITHIN 2 DAYS OF GRADING. SOILS SHALL BE STABILIZED BEFORE A WORK SHUTDOWN, HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST. SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES.

6. PROTECT SLOPES

CUT AND FILL SLOPES SHALL BE CONSTRUCTED AND PHASED IN A MANNER THAT WILL MINIMIZE EROSION.

EXISTING NATURAL DRAINAGE AND EXISTING STORMWATER COLLECTION AND ROUTING WILL DIVERT MOST RUN-ON AND UPSLOPE STORMWATER AROUND THE SITE. AS NEEDED, THE CONTRACTOR SHALL MODIFY DITCHES TO REDIRECT STORMWATER AROUND THE SITE. ALL DISTURBED GROUND SHALL BE TOPSOILED, SEEDED, AND MULCHED OR COVERED WITH EROSION CONTROL BLANKET.

7. PROTECT DRAIN INLETS

ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT.

ALL APPROACH ROADS SHALL BE KEPT CLEAN. AND ALL SEDIMENT AND STREET WASH WATER SHALL NOT BE ALLOWED TO ENTER STORM DRAINS WITHOUT PRIOR AND ADEQUATE TREATMENT UNLESS TREATMENT IS PROVIDED BEFORE THE STORM DRAIN DISCHARGES TO WATERS OF THE STATE.

8. STABILIZE CHANNELS AND OUTLETS

THIS PROJECT INCLUDES WORK IN AND NEAR STREAMS. THE CONSTRUCTED STREAMBED AND STREAMBANKS SHALL BE CONSTRUCTED USING THE MATERIALS AND METHODS SPECIFIED IN THE PLANS AND PROVISIONS SO THAT THE CHANNEL WILL REMAIN STABLE DURING ALL ANTICIPATED FLOW RATES. ALSO SHOWN IN THE PLANS ARE EXTRA EROSION CONTROL MEASURES THAT SHALL BE IMPLEMENTED WHERE A STORMWATER PIPE DISCHARGES TO THE CHANNEL

9. CONTROL POLLUTANTS

CONTRACTOR MUST PREPARE A SPILL PREVENTION CONTROL AND COUNTER MEASURE (SPCC) PLAN AND IMPLEMENT REQUIRED MEASURES TO CONTROL POLLUTANTS. SEE THE SPECIAL PROVISIONS. ALL POLLUTANT DISCHARGES OTHER THAN SEDIMENT THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER, GROUNDWATER, OR SOILS TO REMAIN ON SITE.

THE USE OF LIME, FLY ASH, OR OTHER SOIL AMENDMENTS THAT COULD ALTER THE PH OF DISCHARGE WATERS IS PROHIBITED.

10. CONTROL DEWATERING

HIGHLY TURBID OR CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION SHALL BE HANDLED SEPARATELY FROM STORMWATER DISPOSAL OPTIONS FOR DEWATERING DISCHARGE INCLUDE:

- 1. INFILTRATION
- TRANSPORT OFF SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
- 3. USE OF AN APPROPRIATELY SIZED AND MAINTAINED SEDIMENTATION BAG (DIRTBAG) WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DEWATERING.
- 4. ON-SITE TREATMENT USING APPROVED CHEMICAL TREATMENT (MUST BE PRE-APPROVED BY DOE PRIOR TO CONSTRUCTION AND CLOSELY MONITORED DURING USE OF THIS METHOD).

11. MAINTAIN BMPS

ALL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL ON-SITE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. SEDIMENT MUST BE REMOVED FROM SILT FENCES BEFORE IT REACHES APPROXIMATELY ONE THIRD THE HEIGHT OF THE FENCE. ESPECIALLY IF HEAVY RAINS ARE EXPECTED.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED FROM THE SITE OR INCORPORATED INTO FINISHED GRADING. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.

12. PROJECT MANAGEMENT

PHASING OF CONSTRUCTION - THE PROJECT SHALL BE PHASED TO PREVENT, TO THE MAXIMUM EXTENT PRACTICABLE, THE TRANSPORT OF SEDIMENT FROM THE SITE DURING CONSTRUCTION.

WHEN ESTABLISHING THE PERMITTED CLEARING AND GRADING AREAS, CONSIDERATION SHOULD BE GIVEN TO MINIMIZING REMOVAL OF EXISTING TREES AND MINIMIZING DISTURBANCE/COMPACTION OF NATIVE SOILS EXCEPT AS NEEDED FOR BUILDING PURPOSES. PERMITTED CLEARING AND GRADING AREAS AND ANY OTHER AREAS REQUIRED TO PRESERVE CRITICAL OR SENSITIVE AREAS, BUFFERS, NATIVE GROWTH PROTECTION EASEMENTS, OR TREE RETENTION AREAS, ARE DELINEATED ON THE SITE PLANS AND WILL BE DELINEATED IN THE FIELD PRIOR TO CONSTRUCTION.

WHENEVER INSPECTION AND/OR MONITORING REVEALS THAT THE BMPS IDENTIFIED IN THE CONSTRUCTION SWPPP ARE INADEQUATE, DUE TO THE ACTUAL DISCHARGE OF OR POTENTIAL TO DISCHARGE A SIGNIFICANT AMOUNT OF ANY POLLUTANT, THE SWPPP SHALL BE MODIFIED, AS APPROPRIATE, IN A TIMELY MANNER.

THE CONSTRUCTION SWPPP SHALL BE RETAINED ON-SITE. THE CONSTRUCTION SWPPP SHALL BE MODIFIED WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF ANY BMP.

A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL SHALL BE IDENTIFIED IN THE CONSTRUCTION SWPPP AND SHALL BE ON-SITE OR ON-CALL AT ALL TIMES.

13. PROTECT LOW IMPACT DEVELOPMENT BMPS.

- (A) PROTECT ALL BIORETENTION AND RAIN GARDEN BMPS FROM SEDIMENTATION THROUGH INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BMPS ON PORTIONS OF THE SITE THAT DRAIN INTO THE BIORETENTION AND/OR RAIN GARDEN BMPS. RESTORE THE BMPS TO THEIR FULLY FUNCTIONING CONDITION IF THEY ACCUMULATE SEDIMENT DURING CONSTRUCTION. RESTORING THE BMP MUST INCLUDE REMOVAL OF SEDIMENT AND ANY SEDIMENT-LADEN BIORETENTION/RAIN GARDEN SOILS, AND REPLACING THE REMOVED SOILS WITH SOILS MEETING THE DESIGN SPECIFICATION.
- (B) PREVENT COMPACTING BIORETENTION AND RAIN GARDEN BMPS BY EXCLUDING CONSTRUCTION EQUIPMENT AND FOOT TRAFFIC. PROTECT COMPLETED LAWN AND LANDSCAPED AREAS FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT.
- (C) CONTROL EROSION AND AVOID INTRODUCING SEDIMENT FROM SURROUNDING LAND USES ONTO PERMEABLE PAVEMENTS. DO NOT ALLOW MUDDY CONSTRUCTION EQUIPMENT ON THE BASE MATERIAL OR PAVEMENT. DO NOT ALLOW SEDIMENT-LADEN RUNOFF ONTO PERMEABLE PAVEMENTS OR BASE MATERIALS.
- (D) PAVEMENT FOULED WITH SEDIMENTS OR NO LONGER PASSING AN INITIAL INFILTRATION TEST MUST BE CLEANED USING PROCEDURES IN ACCORDANCE WITH THE ECOLOGY MANUAL OR THE MANUFACTURER'S PROCEDURES.
- (E) KEEP ALL HEAVY EQUIPMENT OFF EXISTING SOILS UNDER LID FACILITIES THAT HAVE BEEN EXCAVATED TO FINAL GRADE TO RETAIN THE INFILTRATION RATE OF THE SOILS.

BARREL SPRINGS DAM	PROJECT NO .: WA4022	22	COUNTY ENGINEER	ENGINEER OF RECORD			
REMOVAL AND STREAM	FED. AID NO.:			A STATE WATER AND			SKAGIT COUNTY
	DESIGNED BY: MM	DRAWN BY: MM		All and all all all all all all all all all al			
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IF AGRICULTURE	PAGE	WATERSHED PROTECTION DIVISION				
ISERVATION SERVICE	G - 27 - 3	DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH				



TYPICAL WELL POINT SYSTEM FOR GROUNDWATER DRAWDOWN

•					1800 CONTINENTAL PLACE MOUNT VERNON, WA 98273-5625 (360) 416-1400 FAX (360) 416-1405
	COUNTY ENGINEER OF RECORD	A STOR WATER OF			ANA CONTRACTOR OF AND
	PROJECT NO.: WA402222	FED. AID NO.:	DESIGNED BY: MM DRAWN BY: MM	CHECKED BY: APPROVED BY:	PROJECT LOCATED NEAR: ALGER. WA
	BARREL SPRINGS DAM				SWPPP DETAILS
501 Portway Avenue, Suite 101 Hood River, OR 97031 541.386.9003 www.interfluve.com		1 JUST 	INCH SCA	SCA LE A	LE BAR CCORDING



MIKE M - May 16, 2023 - 9:53 AM - C:\USERS\MIKE M\DESKTOP\WORK\BARREL SPRINGS\SPORE-TS_STB.DWG



MIKE M - April 17, 2023 - 11:34 AM - C:\USERS\MIKE M\DESKTOP\WORK\BARREL SPRINGS\SPORE-TS_STB.DWG





PROJECT NO.: W4402222 =ED. AID NO.: DESIGNED BY: MM DRAWN BY: MN DESIGNED BY: MM DRAWN BY: MN DHECKED BY: APPROVED BY: PROJECT LOCATED NEAR: ALGER, WA





MIKE M - April 17, 2023 - 11:35 AM - C:\USERS\MIKE M\DESKTOP\WORK\BARREL SPRINGS\SPORE-TS_STB.DWG



SEED MIX

Wetland Se	ed Mix - 43 lbs PLS/acre	
COMMON NAME	SCIENTIFIC NAME	1
Blue Wildrye	Elymus glaucus	
Native Red Fescue	Festuca rubra rubra	
Rice cutgrass	Leersia oryzoides	
Tufted Hairgrass	Deschampsia cespitosa	
Western mannagrass	Glyceria occidentalis	
American sloughgrass	Beckmannia syzigachne	
	Total % by weight	

eed Mix - 43 lbs PLS/acre		5.2	LBS
SCIENTIFIC NAME	% by weight		
Elymus glaucus	40		
Festuca rubra rubra	30		
Leersia oryzoides	14		
Deschampsia cespitosa	12		
Glyceria occidentalis	2		
Beckmannia syzigachne	2		
Total % by weight	100.0		
eed Mix - 43 lbs PLS/acre		22.4	LBS
SCIENTIFIC NAME	% by weight		
Elymus glaucus	50		
Festuca rubra rubra	30		
Bromus carinatus	10		
Agrostis exarata	10		
Total % by weight	100.0		
	SCIENTIFIC NAME Elymus glaucus Festuca rubra rubra Leersia oryzoides Deschampsia cespitosa Glyceria occidentalis Beckmannia syzigachne Total % by weight SCIENTIFIC NAME Elymus glaucus Festuca rubra rubra Bromus glaucus Festuca rubra rubra Bromus carinatus Agrostis exarata Total % by weight	Seed Mix - 43 Ibs PLS/acreSCIENTIFIC NAME% by weightElymus glaucus40Festuca rubra rubra30Leersia oryzoides14Deschampsia cespitosa12Glyceria occidentalis2Beckmannia syzigachne2Total % by weight100.0SCIENTIFIC NAMEØby weight% by weightElymus glaucus50Festuca rubra rubra30Bromus carinatus10Agrostis exarata10Total % by weight100.0	See Mix - 43 lbs PLS/acre5.2SCIENTIFIC NAME% by weightElymus glaucus40Festuca rubra rubra30Leersia oryzoides14Deschampsia cespitosa12Glyceria occidentalis2Beckmannia syzigachne2Total % by weight100.0SCIENTIFIC NAME% by weightElymus glaucus50Festuca rubra rubra30Bromus carinatus10Agrostis exarata10Total % by weight100.0

NOTES:

1. APPLY EROSION CONTROL MULCH OVER SEEDED GROUND. 2. CERTIFIED WEED FREE STRAW MULCH (2 TONS/ACRE) OR WOOD CELLULOSE FIBER HYDROMULCH (2,600 LBS/ACRE).



