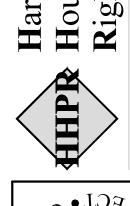
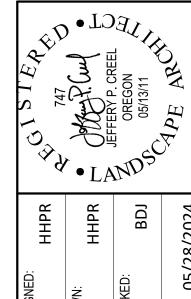


# **CONSTRUCTION NOTES:** 1 PLACE 12" STORMWATER FACILITY BLENDED SOIL IN FACILITIES PER CWS DETAIL #798. 2 PLACE 3" BARK MULCH IN ZONE B, TYP. NO MULCH IN ZONE A.

STORM FACILITY PLANTING PLAN **PORTABLES** OREGON BEAVERTON, **GREENWAY** 



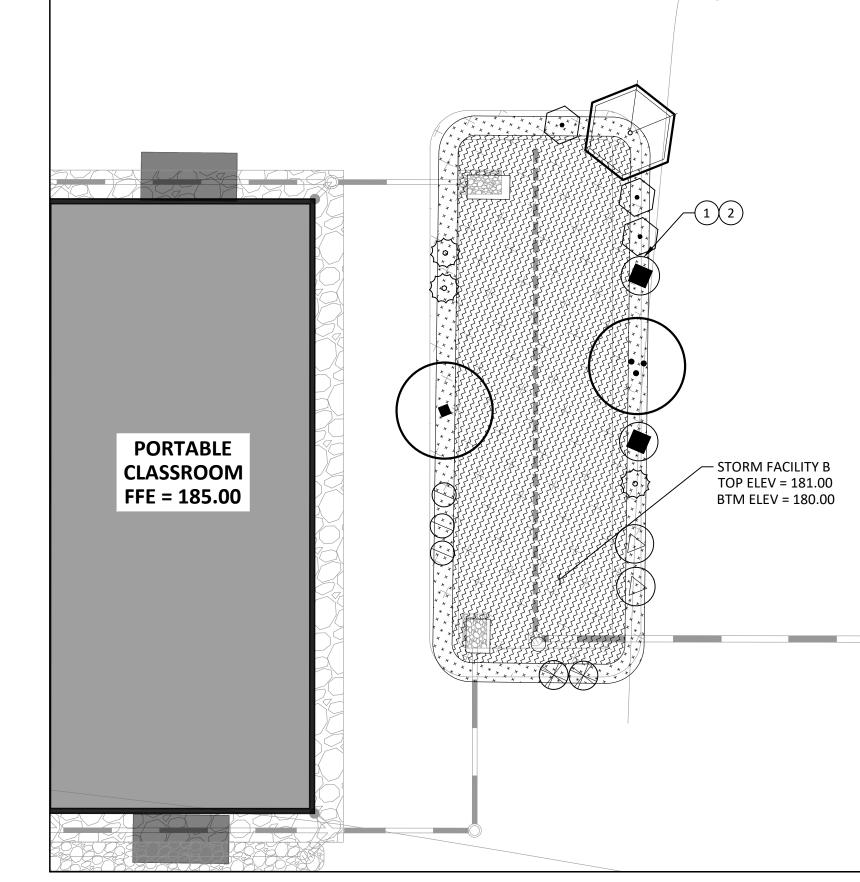


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SHEET NO.

SCALE: 1" = 10'

JOB NO. BSD-122



1 STORM FACILITY B

STORM FACILITY A TOP ELEV = 191.00 BTM ELEV = 190.00 EXISTING PROPERTY LINE

2 STORM FACILITY A

- ROOT CROWN LEVEL WITH OR JUST ABOVE FINISH GRADE. NO MULCH OR COMPOST TO BE APPLIED.

- TAMP SOIL FIRMLY TO ELIMINATE AIR POCKETS IN PLANTING HOLE.

— SPECIFIED SOIL MIX — PLANT ROOTS TO BE STRAIGHT AND UNDAMAGED

DURING INSTALLATION.

CREATE PLANTING HOLE BY DRIVING A STEEL SPIKE OR DIBBLE INTO THE GROUND AND WORKING BACK AND FORTH.

PLUG PLANTING

Section NOT TO SCALE

# CWS STORM WATER BASINS

Scale: 1"-10'-0"

FACILITY NUMBER	SW FACILITY SF	ZONE A SF	ZONE B SF	ZONE A PLUGS (6 / SF)	ZONE B SHRUBS	ZONE B TREES
Α	915	686	229	4116	11	2
В	1284	986	298	5916	15	3
TOTAL	2199	1672	527	10032	26	5

STORMWATER TREATMENT - PRIVATE ZONE A (WET) 2,508 Carex obnupta - Slough Sedge 2,508 Carex densa - Dense Sedge 2,508 Juncus patens - Spreading Rush
2,508 Deschampsia cespitosa - Tufted Hair Grass
1"x6" PLUG 6 PLUGS PER SF ZONE B (SEMI-WET/DRY) 2 Crataegus douglasii - Douglas Hawthorne 2 GAL. WELL BRANCHED, 2' MIN. HEIGHT 2 Rhamnus purshiana - Cascara 2 GAL. WELL BRANCHED, 2' MIN. HEIGHT 1 Acer circinatum - Vine Maple
2 GAL. WELL BRANCHED, 2' MIN. HEIGHT 127 Spiraea douglasii - Douglas Spirea
1 GAL CONT., FULL PLANTS, SPACING AS SHOWN 70 Rosa nutkana - Nootka Rose 1 GAL CONT., FULL PLANTS, SPACING AS SHOWN 145 Mahonia nervosa - Cascade Oregon Grape 1 GAL CONT., FULL PLANTS, 4" MIN. HEIGHT

21 Symphoricarpos albus - Snowberry 1 GAL CONT., FULL PLANTS, 1.5' MIN. HEIGHT

1644 Arctostaphylos uva-ursi - Kinnikinnick #SP4 CONT., FULL PLANTS, 36" O.C.

Scale: 1"-10'-0"

ZONE A DILICE

# PLANTING NOTES: PLANTING METHODS, QUANTITIES AND

1. DEEP ROOTING TREES AND SHRUBS SHALL NOT BE PLANTED ON TOP OF CONCRETE PIPES OR WITHIN 10 FEET OF RETAINING WALLS, INLET/OUTLET STRUCTURES OR OTHER CULVERTS.

PLACEMENT

- 2. LARGE TREES OR SHRUBS SHALL NOT BE PLANTED ON BERMS OVER 4 FEET TALL THAT IMPOUND WATER. SMALL TREES OR SHRUBS WITH FIBROUS ROOT SYSTEMS MAY BE INSTALLED ON BERMS THAT IMPOUND WATER AND ARE LESS THAN 4 FEET TALL.
- 3. CONTAINERIZED STOCK SHALL BE INSTALLED ONLY FROM FEBRUARY 1 THROUGH MAY 1 AND OCTOBER 1 THROUGH NOVEMBER 15. IF PLANTING OUTSIDE OF THESE TIMES IS PROPOSED, CONTRACTOR SHALL SUBMIT PROCEDURES OF ADDITIONAL MEASURES TO BE IMPLEMENTED TO ENSURE SURVIVAL.

#### ACCESS, MONITORING AND MAINTENANCE

- 1. STORMWATER FACILITIES ACCESS SHALL MEET REQUIREMENTS PER CLEAN WATER SERVICES DESIGN AND CONSTRUCTION STANDARDS, CHAPTER 4, SECTION 4.02.4.
- 2. CONTRACTOR SHALL PROVIDE MONITORING AND MAINTENANCE FOR A PERIOD OF 2 YEARS FOLLOWING SUBSTANTIAL COMPLETION AND ACCEPTANCE FROM DISTRICT.
- 3. CONTRACTOR SHALL SUBMIT MAINTENANCE SCHEDULE, INCLUDING RESPONSIBLE PARTY, CONTACT INFORMATION, DATES OF INSPECTION (MINIMUM 3 PER GROWING SEASON, AND ONE PRIOR TO ONSET OF GROWING SEASON) AND ESTIMATED MAINTENANCE SCHEDULE THROUGHOUT THE 2-YEAR MONITORING PERIOD.
- 4. CONTRACTOR SHALL INSPECT THE SITE WITH PROJECT ENGINEER OR OWNER'S REPRESENTATIVE DURING SCHEDULED SITE VISITS. PLANTINGS SHALL BE EVALUATED AND REPLACED AS NECESSARY TO ENSURE A MINIMUM 80% SURVIVAL RATE OF THE INSTALLATION AND 90% AERIAL COVERAGE.
- 5. NON-NATIVE, INVASIVE PLANT SPECIES SHALL BE REMOVED WHEN OCCUPYING GREATER THAN 20% OF THE SITE.
- 6. STORMWATER FACILITY SHALL BE RE-EXCAVATED AND PLANTED IF SILTATION GREATER THAN 3 INCHES IN DEPTH OCCURS WITHIN THE 2-YEAR MAINTENANCE PERIOD.

# MULCHING AND IRRIGATION

- 1. TREES, SHRUBS AND
  GROUNDCOVERS PLANTED IN
  UPLAND AREAS SHALL BE
  MULCHED A MINIMUM 3" DEPTH
  AND 18" DIAMETER.
  APPROPRIATE MULCHES SHALL BE
  DERIVED FROM COMPOSTED
  BARK OR LEAVES THAT HAVE NOT
  BEEN CHEMICALLY TREATED.
  ORGANIC MULCH SHALL NOT BE
  USED IN FREQUENTLY INUNDATED
  AREAS (SWALE TREATMENT
  AREA).
- 2. CONTRACTOR SHALL SUBMIT SUPPLEMENTAL WATERING PLAN FOR APPROVAL BY DISTRICT/CITY. CONTRACTOR SHALL HAND WATER FOR A MINIMUM 2-YEAR PLANT ESTABLISHMENT PERIOD. WATERING SHALL BE A MINIMUM RATE OF 1 INCH PER WEEK FROM JUNE 15 THROUGH OCTOBER 15.
- EROSION CONTROL

  1. INSTALL AND/OR MAINTAIN
  EROSION CONTROL SYSTEMS IN
  ACCORDANCE WITH CLEAN
  WATER SERVICES STANDARDS

- PRIOR TO SITE WORK AND LANDSCAPE INSTALLATION.
- 2. GRADING, SOIL PREPARATION, AND SEEDING SHALL BE PERFORMED DURING OPTIMAL WEATHER CONDITIONS AND AT LOW FLOW LEVELS TO MINIMIZE SEDIMENT IMPACTS.
- 3. SITE DISTURBANCE SHALL BE MINIMIZED AND DESIRABLE NATIVE VEGETATION RETAINED WHERE POSSIBLE.
- 4. BIODEGRADABLE FABRICS SUCH AS BURLAP MAY BE USED TO SECURE PLANT PLUGS IN PLACE AND TO DISCOURAGE FLOATING UPON INUNDATION.
- PLASTIC MESH THAT CAN ENTANGLE WILDLIFE IS NOT PERMITTED.

### WATER QUALITY PLANTING GENERAL NOTES

- 1. ALL INVASIVE, NON-NATIVE OR NOXIOUS PLANT MATERIAL IS TO BE REMOVED. METHODS FOR REMOVAL AND CONTROL OF INVASIVE/NON-NATIVE AND/OR NOXIOUS PLANTS ARE TO FOLLOW STRATEGIES AS OUTLINED WITHIN THE CWS IVAM **GUIDANCE** MANUAL. THE SUBJECT SITE IS TO EMPLOY MANUAL/MECHANICAL MANAGEMENT STRATEGIES AND PESTICIDE MANAGEMENT STRATEGIES THROUGHOUT MAINTENANCE PERIOD OR UNTIL HEALTHY STAND OF DESIRABLE VEGETATION IS ESTABLISHED.
- 2. PRESERVE SITE'S EXISTING NATIVE VEGETATION TO THE MAXIMUM EXTENT PRACTICABLE. EVERY EFFORT SHALL BE MADE TO PROTECT A SITE'S EXISTING NATIVE VEGETATION. NATIVE VEGETATION ALONG SENSITIVE AREAS AND VEGETATED CORRIDORS SHALL BE RETAINED TO THE MAXIMUM EXTENT PRACTICABLE
- 3. REPLANTING/ENHANCEMENT AS FOLLOWS:
- REFER TO PLANT TABLE AND PLAN FOR PLANT SPECIES, LOCATION, DISTRIBUTION, QUANTITIES, SIZE, CONDITION AND REQUIREMENTS.
- A NATIVE SEED MIX HAS BEEN SPECIFIED FOR THE BUFFER AREA ONLY. ALL PLANTS TO BE PIT PLANTED WITH ADDITIONAL ORGANIC MATTER IF REQUIRED BUT NO TRADITIONAL FERTILIZER IS NECESSARY. PLANT PLACEMENT SHALL BE CONSISTENT WITH THE FORM OF THE NATURALLY OCCURRING PLANT COMMUNITY. SHRUBS SHALL BE PLACED IN SINGLES OR CLUSTERS OF THE SAME SPECIES TO PROVIDE A NATURAL PLANTING SCHEME.
- 4. PLANT INSTALLATION REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF SITE PLANTING AS SPECIFIED. ALL TREES AND SHRUBS PLANTED IN THE UPLAND AREA ARE TO BE MULCHED A MINIMUM OF THREE INCHES IN DEPTH AND 18 INCHES IN DIAMETER. APPROPRIATE MULCHES INCLUDE THOSE MADE FROM COMPOSTED LEAVESA OR BARK THAT HAVE NOT BEEM CHEMICALLY TREATED. TEMPORARY IRRIGATION WILL BE PROVIDED AND USED DURING THE TWO YEAR MAINTENANCE PERIOD.
- 5. MONITORING AND MAINTENANCE. CONTRACTOR IS RESPONSIBLE FOR MONITORING AND MAINTAINING THE SITE. ALL NEW PLANT MATERIAL IS TO BE TAGGED. THE REMOVAL OF NON-NATIVE, INVASIVE WEEDS IS NECESSARY THROUGHOUT THE TWO YEAR MAINTENANCE PERIOD, OR UNTIL A HEALTHY STAND OF DESIRABLE VEGETATION IS ESTABLISHED. THE SITE IS TO BE MONITORED A MIN. OF 4 TIMES PER YEAR, OR 3 TIMES PER GROWING SEASON. IF AT ANY TIME THE LANDSCAPING FALLS BELOW THE 80% SURVIVAL LEVEL, THE CONTRACTOR SHALL

- REINSTALL ALL DEFICIENT
  PLANTING AT THE NEXT
  APPROPRIATE OPPORTUNITY AND
  THE TWO YEAR MAINTENANCE
  PERIOD SHALL BEGIN AGAIN
  FROM THE DATE OF THE
  REPLANTING.
- 6. PLANT TIMING. CONTAINERIZED STOCK SHALL BE INSTALLED ONLY FROM FEBRUARY 1 THROUGH MAY 1 AND OCTOBER 1 THROUGH NOVEMBER 15. BARE ROOT STOCK SHALL BE INSTALLED ONLY FROM DECEMBER 15 THROUGH APRIL 15. PLANTINGS OUTSIDE THESE TIMES MAY REQUIRE ADDITIONAL MEASURES TO ENSURE SURVIVAL WHICH SHALL BE SPECIFIED ON THE PLANS.

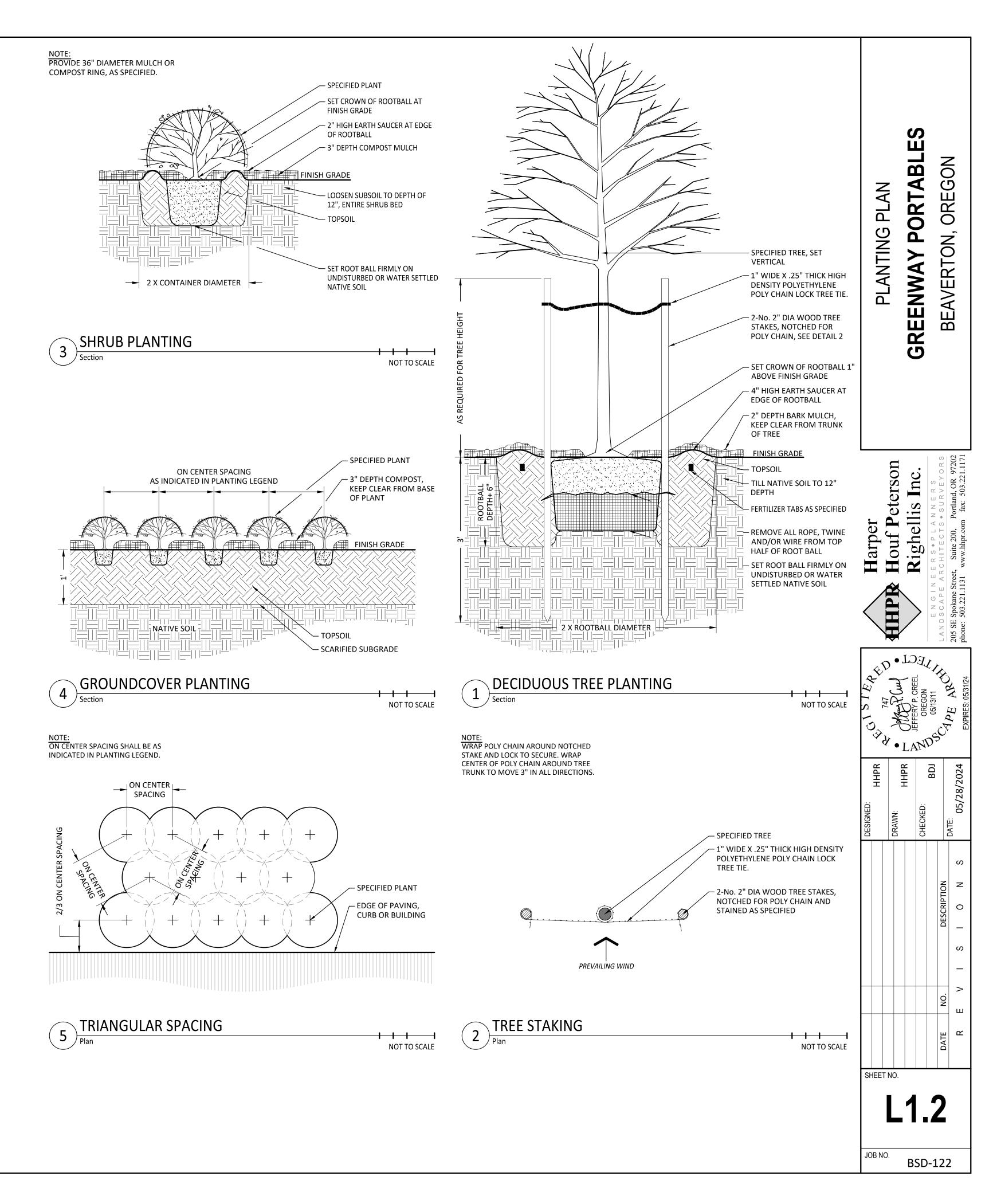
#### SITE PREPARATION

- 1. CONTRACTOR SHALL REMOVE ALL WEEDS AND INVASIVE SPECIES PRIOR TO PLANTING. ALL SEEDED AREAS SHALL BE STRIPPED OF VEGETATION, SCARIFIED AND RECEIVE 4" OF TOPSOIL PRIOR TO APPLICATION OF SEED.
- 2. FOR UPLAND SITES WITH AT LEAST ONE FOOT OF NATIVE TOPSOIL, BUT CONTAINING A NON-NATIVE, INVASIVE SEED BANK OR PLANTS, REMOVE THE UNDESIRABLE PLANTS, ROOTS, AND SEEDS PRIOR TO PLANTING.
- 3. ALL PLANTING ISLANDS, BUFFER PLANTINGS AND GROUND COVER BEDS SHALL BE SCARIFIED 12"
  BELOW FINISHED GRADE AND HAVE 12" OF TOPSOIL ADDED TO BRING BACK TO FINISHED GRADE PRIOR TO PLANTING.
- 4. FOR UPLAND SITES WITH EITHER DISTURBED AND COMPACTED SOILS OR LESS THAN ONE FOOT OF TOPSOIL AND INVIASIVE, NON-NATIVE SEED BANK OR PLANTS THAT HAVE BECOME ESTABLISHED:
- ESTABLISHED:
  4.1. REMOVE UNDESIRABLE PLANTS,
  ROOTS, AND SEEDS PRIOR TO
- ADDING TOPSOIL.

  4.2. TILL SUB-GRADE IN THESE AREAS TO DEPTH OF AT LEAST FOUR INCHES AND ADD 12" MINIMUM CLEAN COMPOST-AMENDED TOPSOIL. COMPOST AMENDED TOPSOIL SHALL HAVE THE FOLLOWING CHARACTERISTICS:
- 4.2.1. TEXTURE: MATERIAL PASSES THROUGH 1-INCH SCREEN
  4.2.2. FERTILITY: 35% ORGANIC MATTER
- 4.3. IN THE EVENT OF FLOODPLAIN GRADING, OVER-EXCAVATE SUB-GRADE TO ENSURE 12 INCHES OF TOPSOIL CAN BE APPLIED WITHOUT IMPACTING SURFACE WATER ELEVATIONS.
- 5. WHERE APPROPRIATE AND NECESSARY FOR EROSION CONTROL OR TO ENHANCE ORGANIC MATTER, LEAF COMPOST MAY BE PLACED UNIFORMLY ON TOPSOIL (REFER TO CHAPTER 6, CLEAN WATER SERVICE DESIGN AND CONSTRUCTION STANDARDS). OTHER AMENDMENTS, CONDITIONERS, AND **BIO-AMENDMENTS MAY BE** ADDED AS NEEDED TO SUPPORT SPECIFIED PLANTS OR ADJUST SOIL pH. CONVENTIONAL FERTILIZERS (N-P-K) SHALL NOT BE USED FOR NATIVE PLANTINGS.

# MAINTENANCE

1. CONTRACTOR SHALL PROVIDE MONITORING AND MAINTENANCE OF MITIGATION PLANTINGS AND VEGETATED CORRIDOR FOR A PERIOD OF 2 YEARS FOLLOWING SUBSTANTIAL COMPLETION AND ACCEPTANCE.



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