DAWN DRIVE LANDSLIDE STABILIZATION
SE 36T STREET AND DAWN DRIVE - MERCER ISLAND, WASHINGTON

WORK DESCRIPTION:

WORK TO CONSIST OF REMOVING UNSTABLE SOILS BELOW EXISTING ROADWAY, EXCAVATION OF KEY BENCHES AT THE TOE OF THE SLOPE, BACKFILLING EXCAVATION WITH QUARRY SPALLS, LANDSCAPE RESTORATION, AND PAVING REPAIR.

SITE INFORMATION:

PROJECT ADDRESS:DAWN DRIVE & S.E. 46TH STREET, MERCER ISLAND, WASHINGTON
TAX PARCEL: TRACT A, 192300TR-A
TOTAL PARCEL AREA: 0.97 ACRES

CONTACT INFORMATION:

OWNER: DAWN DRIVE ASSOCIATION

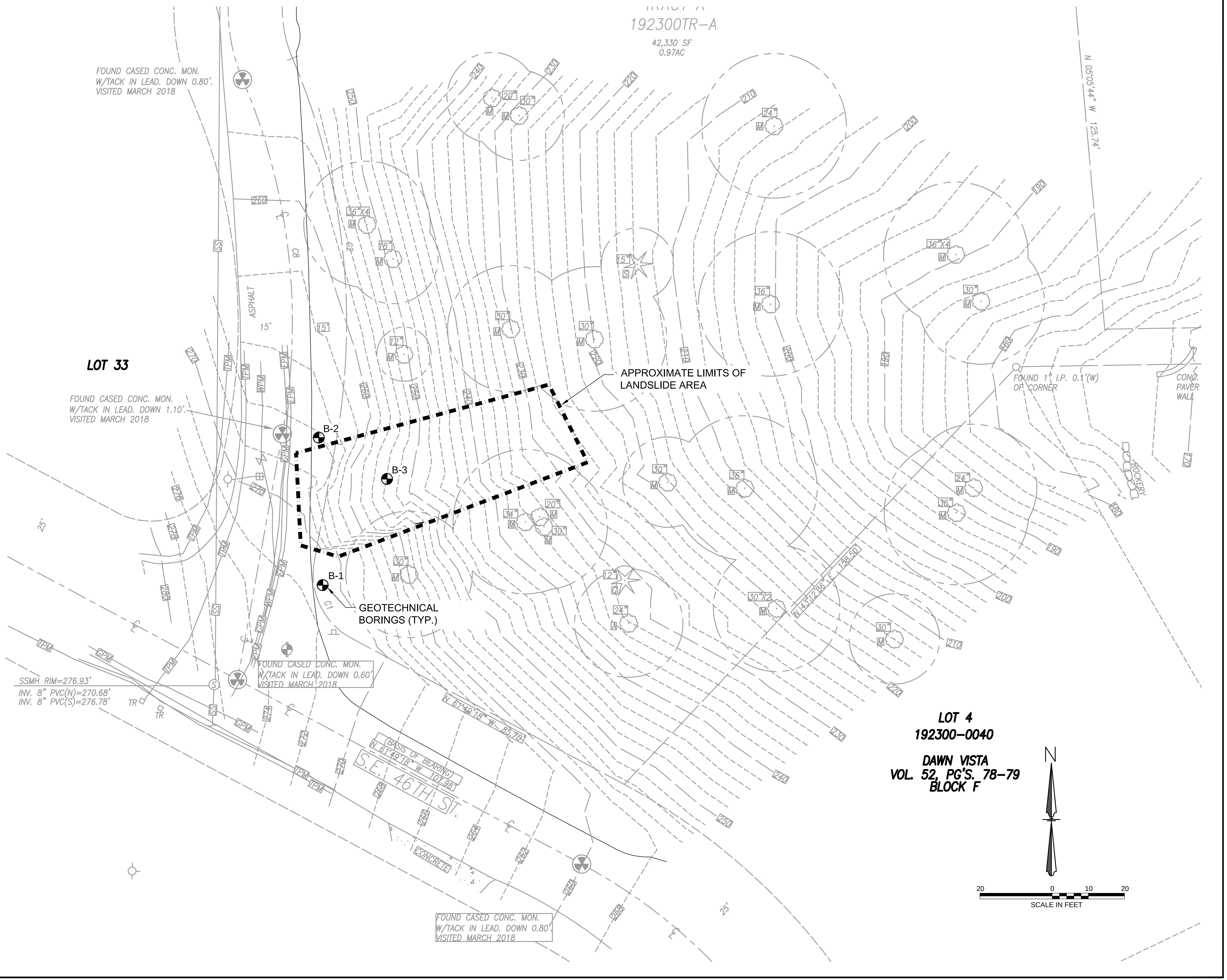
OWNERS REP/APPLICANT:
ZIPPER GEO ASSOCIATES, LLC
19019 36TH AVE. WEST, SUITE E
LYNNWOOD, WA 98036
ROB ROSS, P.E. 425-582-9928

GEOTECHNICAL ENGINEER:
ZIPPER GEO ASSOCIATES

SHEET INDEX:

LANDSLIDE STABILIZATION PLANS

- C1.0 - COVER SHEET
- C2.0 - TESC PLAN
- C3.0 - PHASE 1 GRADING PLAN
- C3.1 - FINAL GRADING PLAN
- C3.2 - RESTORATION PLAN



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DAWN DRIVE LANDSLIDE STABILIZATION
DAWN DRIVE AND SE 46TH STREET
MERCER ISLAND, WASHINGTON

COVER SHEET AND SITE PLAN

DRAWING
C1.0
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TEMPORARY EROSION AND SEDIMENT CONTROL GENERAL NOTES

PART 1 - GENERAL

1. THE SUCCESS OF THIS PROJECT IS HIGHLY DEPENDANT ON CONTROL OF SURFACE WATER RUNOFF INTO THE WORK AREA TO PREVENT EROSION AND FURTHER DESTABILIZATION OF THE SLOPE.

2. GRADING FOR THIS PROJECT WILL REQUIRE CREATING A TEMPORARY SLOPE CUT THAT EXTENDS DOWN FROM THE EDGE OF DAWN DRIVE. THE EXPOSED CUT MUST BE PROTECTED FROM EXPOSURE TO DIRECT RAINFALL AND SURFACE WATER RUNOFF TO THE EXTENT POSSIBLE DURING CONSTRUCTION. IF WET WEATHER IS EXPECTED (DEFINED AS FORECAST RAINFALL GREATER THAN 0.25 INCHES IN A 12 HOUR PERIOD), AT THE END OF EACH WORK DAY, THE SLOPE SHALL BE COVERED WITH ANCHORED PLASTIC SHEETING. AREAS OF THE SITE THAT WILL BE UN-WORKED FOR MORE THAN TWO DAYS SHOULD BE COVERED WITH ANCHORED PLASTIC SHEETING. DEPENDING ON THE CONSTRUCTION PROGRESS, THERE MAY BE A NEED TO TEMPORARILY DELAY WORK AT THE SITE IF HEAVY RAINFALL IS FORECAST. TEMPORARY WORK DELAYS DURING CONSTRUCTION WILL BE EVALUATED ON A CASE-BY-CASE BASIS THROUGH OBSERVATION OF SITE CONDITIONS BY ZIPPER GEO ASSOCIATES IN COORDINATION WITH THE CONTRACTOR.

3. CONSTRUCTION EROSION CONTROL MEASURES MUST BE IN PLACE AND APPROVED BY THE ENGINEER AND CITY PRIOR TO ANY EARTH DISTURBANCE.

4. THE IMPLEMENTATION OF THE TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED AND SITE IS PERMANENTLY STABILIZED.

5. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY SEDIMENTATION COLLECTION FACILITIES TO ENSURE THAT SEDIMENT -LADEN WATER DOES NOT ENTER THE PUBLIC DRAINAGE SYSTEM. AS CONSTRUCTION PROGRESSES AND UNEXPECTED (SEASONAL) CONDITIONS DICTATE, MORE TEMPORARY SEDIMENTATION COLLECTION FACILITIES MAY BE REQUIRED TO PREVENT VIOLATING APPLICABLE WATER STANDARDS. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY THEIR ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES THAT MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES.

6. THE TESC FACILITIES SHOWN ON THESE PLANS AND MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL DEMOLITION, CLEARING, AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE, ENTER THE DRAINAGE SYSTEM, OR VIOLATE APPLICABLE WATER STANDARDS.

7. NO SEDIMENT SHALL BE TRACKED INTO THE STREET OR ONTO PAVED SURFACES. SEDIMENT SHALL BE REMOVED FROM TRUCKS AND EQUIPMENT PRIOR TO LEAVING THE SITE. IN THE EVENT OF FAILURE OF THE EROSION CONTROL SYSTEM RESULTING IN SEDIMENT BEING TRACKED ONTO PAVED SURFACES, THE CONTRACTOR SHALL IMMEDIATELY IMPLEMENT MEASURES TO CORRECT THE SITUATION, AND VACUUM STREET SWEEPING SHALL BE EMPLOYED ON AN EMERGENCY BASIS. IF VACUUM STREET SWEEPING VEHICLES ARE UTILIZED, THEY SHALL BE OF THE TYPE THAT ACTUALLY REMOVES THE SEDIMENT FROM THE PAVEMENT. WASHING OF THE STREETS WILL NOT BE ALLOWED WITHOUT PRIOR SNOHOMISH COUNTY APPROVAL.

8. AREAS NOT WORKED FOR MORE THAN 2 DAYS SHALL BE COVERED WITH ANCHORED PLASTIC SHEETING.

9. NO SEDIMENT SHALL BE ALLOWED TO ENTER ANY CATCH BASIN WITHIN THE SITE, OR ADJACENT PROPERTIES. IN THE EVENT OF A FAILURE OF THE TESC PLAN THAT RESULTS IN SEDIMENT ENTERING A CATCH BASIN, THE CONTRACTOR SHALL REMOVE ALL SUCH SEDIMENT IMMEDIATELY.

10. DISTURBED SOILS THAT ARE EXPOSED TO SURFACE RUNOFF SHALL BE IMMEDIATELY STABILIZED WITH TESC MEASURES AND APPROVED BY THE ENGINEER AND CITY.

11. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

12. CATCH BASINS IN THE STREET SHALL BE INSPECTED BY THE CONTRACTOR DAILY. WATER LEAVING THE SITE DURING CONSTRUCTION, INCLUDING WATER CARRIED BY TRUCKS, SHALL BE CLEAN. THE CONTRACTOR SHALL CLEAN CITY CATCH BASINS AND IMPLEMENT EXTRA SEDIMENTATION CONTROL MEASURES IF NECESSARY AND AS DIRECTED BY THE SNOHOMISH COUNTY INSPECTOR/DOE INSPECTOR AT NO ADDITIONAL EXPENSE TO OWNER.

13. THE TESC FACILITIES SHALL BE MAINTAINED UNTIL PERMANENT EROSION CONTROL (PAVING, STRUCTURE, REVEGETATION WITH TREES, SHRUBS, GROUND COVER, ETC.) PER THE APPOROVED PLANS IS IN PLACE.

PART 1 - GENERAL CONT.

14. DESIGN, PREPARE AND OBTAIN PERMITS FOR TEMPORARY DEWATERING. TREAT AND DISPOSE OF WATER FROM TEMPORARY DEWATERING IN ACCORDANCE WITH DOE REQUIREMENTS.

15. PROTECT STOCKPILES FROM WET WEATHER AND CONTAMINATION FROM OTHER SOURCES. PROVIDE DUST CONTROL MEASURES AND STOCKPILE PROTECTION IN ACCORDANCE THESE PLANS. STOCKPILES THAT BECOME UNSUITABLE DUE TO LACK OF PROTECTION MEASURES SHALL BE PROPERLY DISPOSED OF AND REPLACED AT CONTRACTOR'S EXPENSE.

16. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS USED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE.

17. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS USED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.

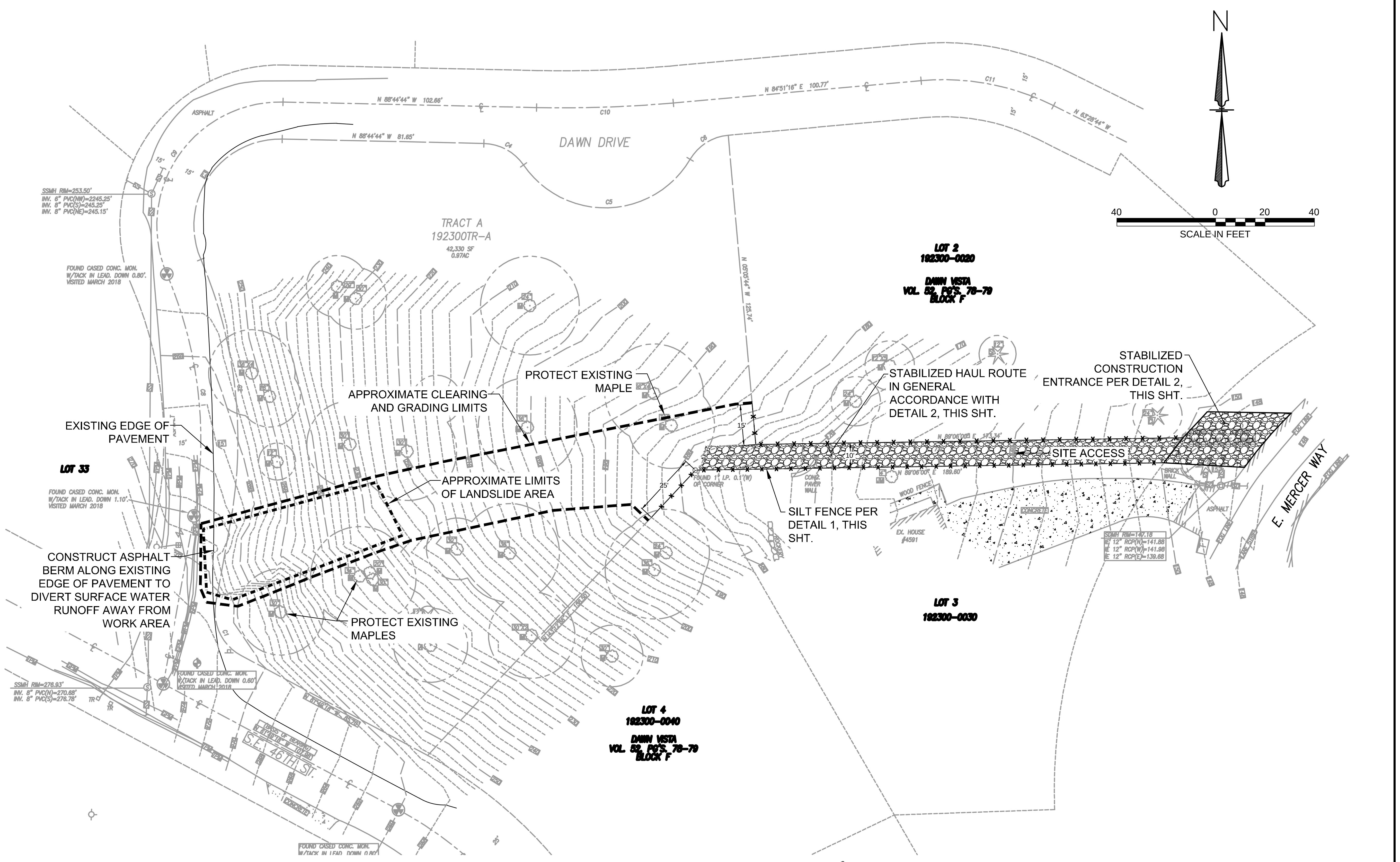
18. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MEANS AND METHODS AND SEQUENCING OF TESC MEASURES AND ENSURING WATER QUALITY REQUIREMENTS ARE MET.

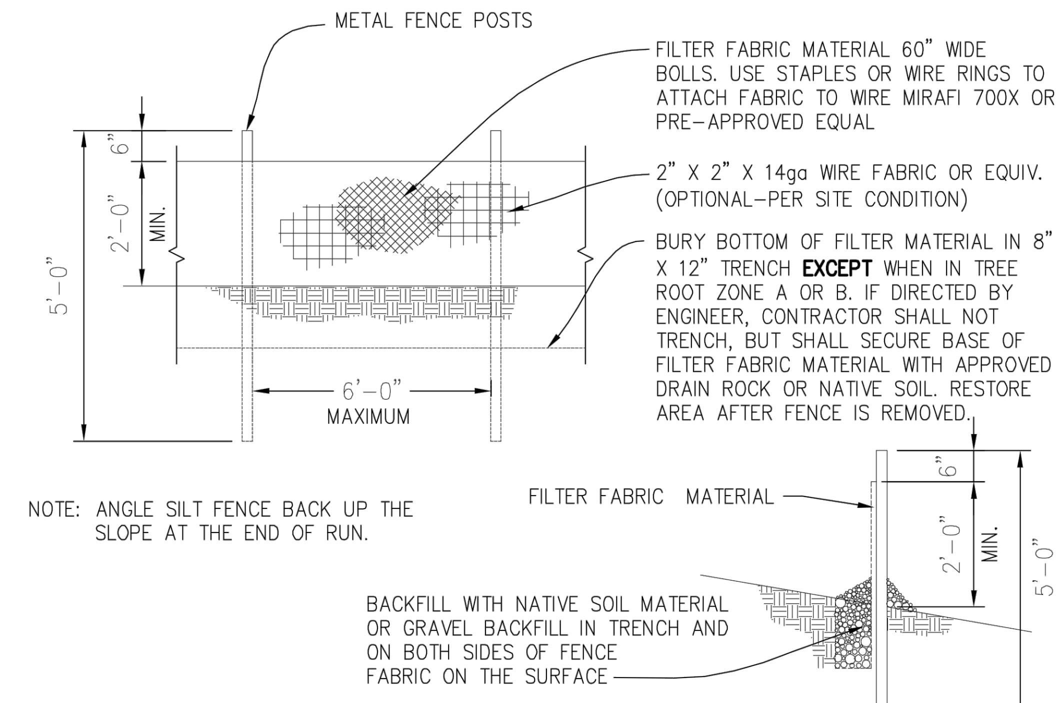
PART 2 - TEMPORARY EXCAVATION STABILITY

1. TEMPORARY EXCAVATION SLOPE STABILITY IS A FUNCTION OF MANY FACTORS, INCLUDING: GROUNDWATER SEEPAGE, THE TYPE AND DENSITY OF THE VARIOUS SOIL STRATA, THE DEPTH OF CUT; SURCHARGE LOADINGS ADJACENT TO THE EXCAVATION, AND THE LENGTH OF TIME THE EXCAVATION REMAINS OPEN.

2. AS THE CONTRACTOR CONTINUOUSLY PRESENT AT THE SITE AND ABLE TO CONTINUOUSLY OBSERVE SITE CONDITIONS, THE CONTRACTOR SHOULD BE RESPONSIBLE FOR MAINTENANCE OF SAFE SLOPES AND WORKER SAFETY. WE RECOMMEND THE CONTRACTOR CONTINUOUSLY OBSERVE TEMPORARY EXCAVATIONS FOR INDICATIONS OF INSTABILITY SUCH AS SOIL SLUMPS, GROUNDWATER SEEPAGE AT THE SURFACE OF THE SLOPE, AND CRACKS OR DOWN SETTING OF THE GROUND SURFACE AT THE TOP OF THE SLOPE OR ALONG ANY PORTION OF THE SLOPE. IF SIGNS OF INSTABILITY ARE OBSERVED, THE CONTRACTOR SHALL STOP WORK AND CONTACT ZIPPER GEO ASSOCIATES IMMEDIATELY FOR FURTHER OBSERVATION AND RECOMMENDATIONS.

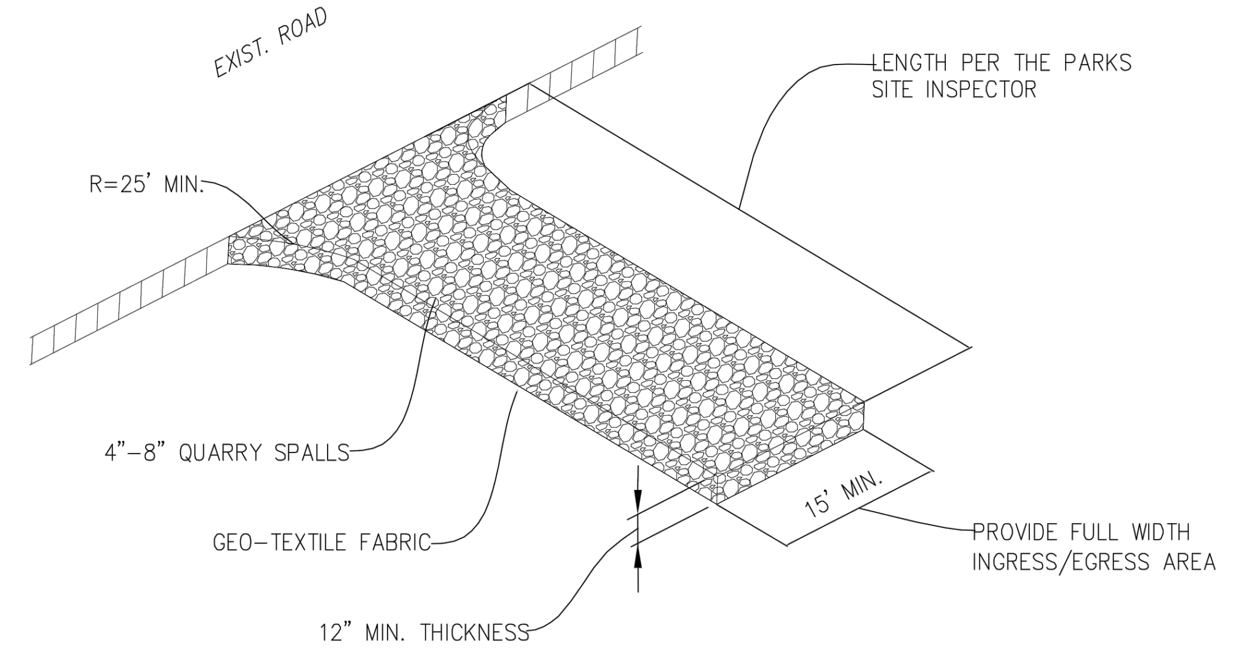
3. ZIPPER GEO ASSOCIATES (ZGA) SHALL PROVIDE PERIODIC OBSERVATION OF THE TEMPORARY EXCAVATION AS IT PROCEEDS. ZGA SHALL OBSERVE THE SITE AND TEMPORARY EXCAVATIONS IMMEDIATELY AFTER A RAINFALL EVENT TOTALLY 0.5 INCHES OR MORE IN A 24 HOUR PERIOD.





PURPOSE: TO INTERCEPT & DETAIN SMALL AMOUNTS OF SEDIMENT UNDER SHEET FLOW CONDITIONS FROM DISTURBED AREAS DURING CONSTRUCTION AND TO REDUCE THE VELOCITY OF SHEET FLOWS..

1 / - SILT FENCE



STABILIZED ACCESS SHALL BE USED IN ALL AREAS OF THE SITE WITH VEHICLE TRAFFIC AND PARKING, INCLUDING PLANTING STRIPS. OTHER MEANS OF PROVIDING STABILIZED ACCESS WILL BE CONSIDERED.

PURPOSE: TO REDUCE THE AMOUNT OF MUD, DIRT, ROCKS, ETC. TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.

2 / - STABILIZED CONSTRUCTION ENTRANCE

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DAWN DRIVE LANDSLIDE STABILIZATION
DAWN DRIVE AND SE 46TH STREET
MERCER ISLAND, WASHINGTON

TESC PLAN

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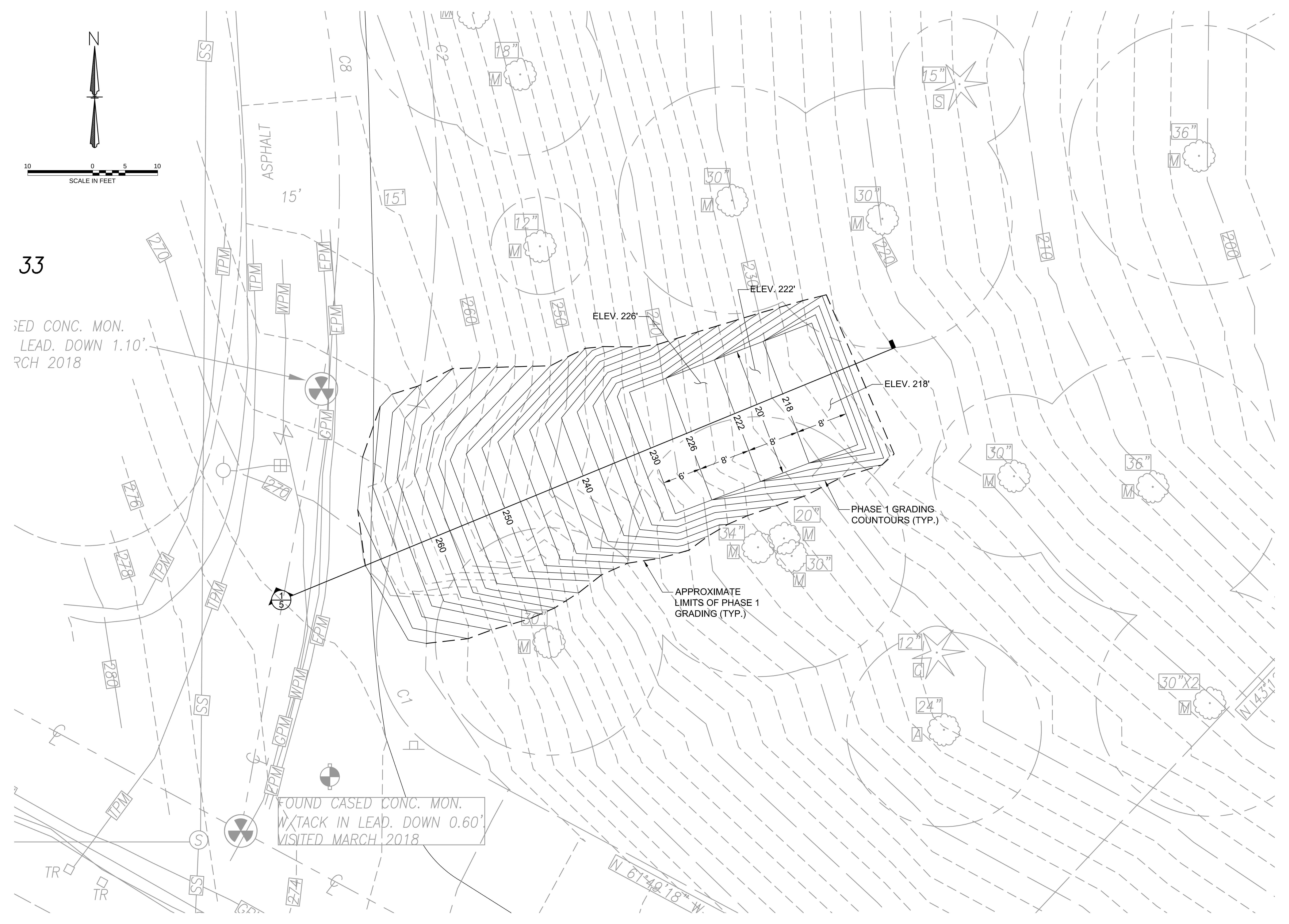

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PHASE 1 GRADING PLAN

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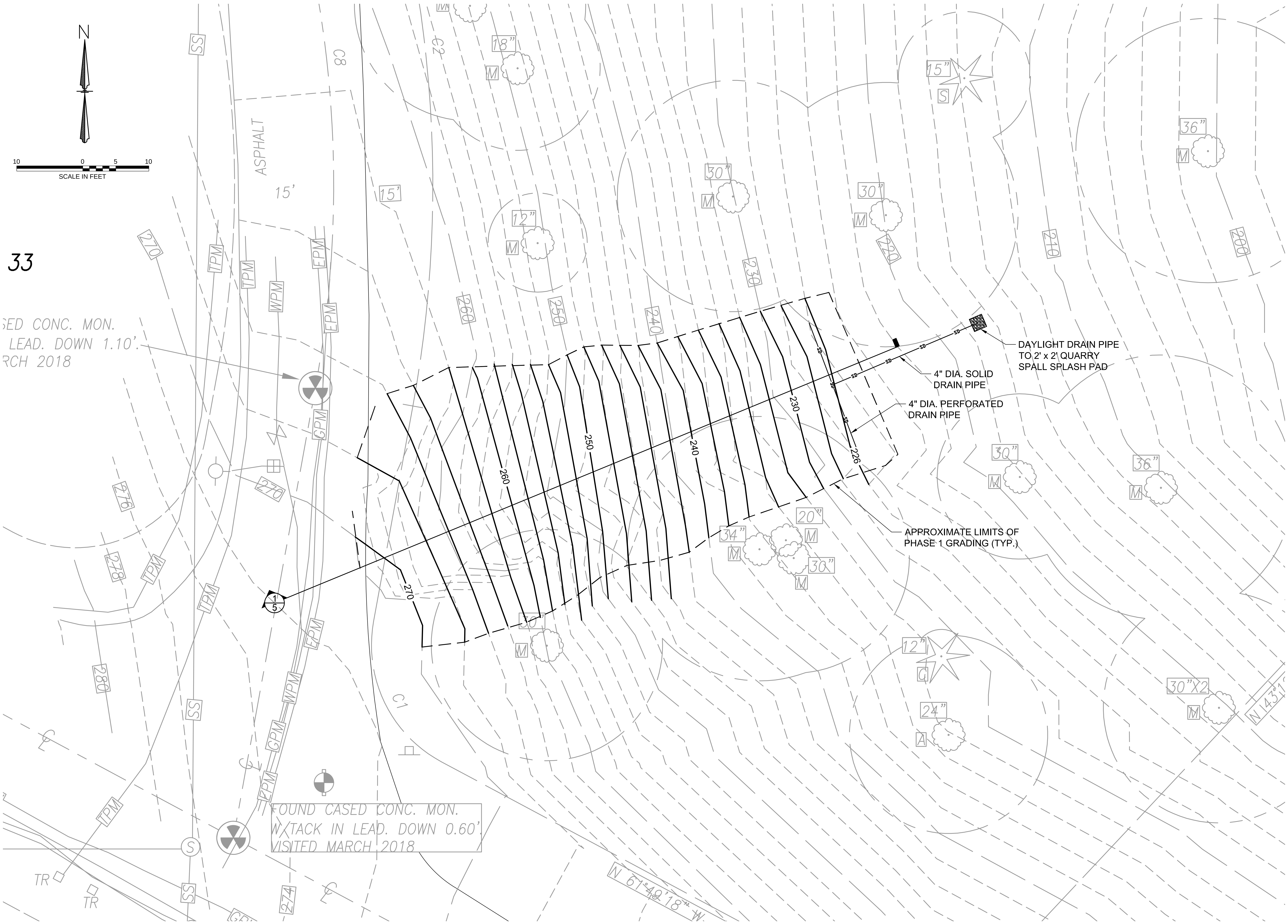

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FINAL GRADING AND DRAINAGE PLAN

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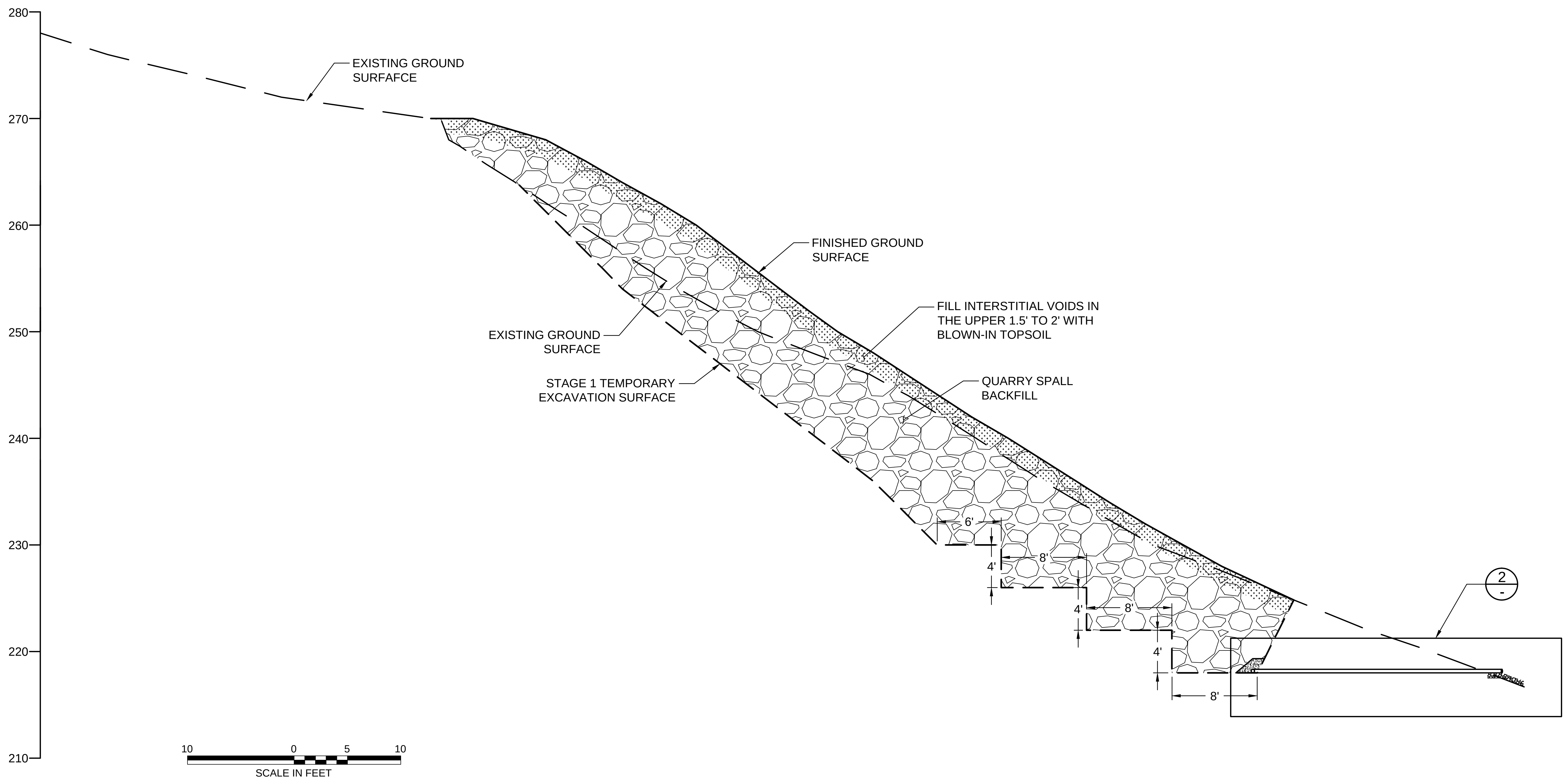

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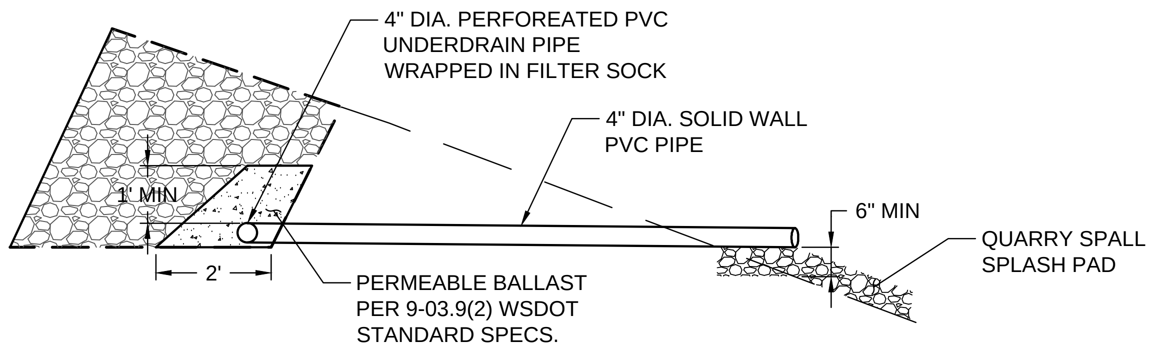

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SECTIONS

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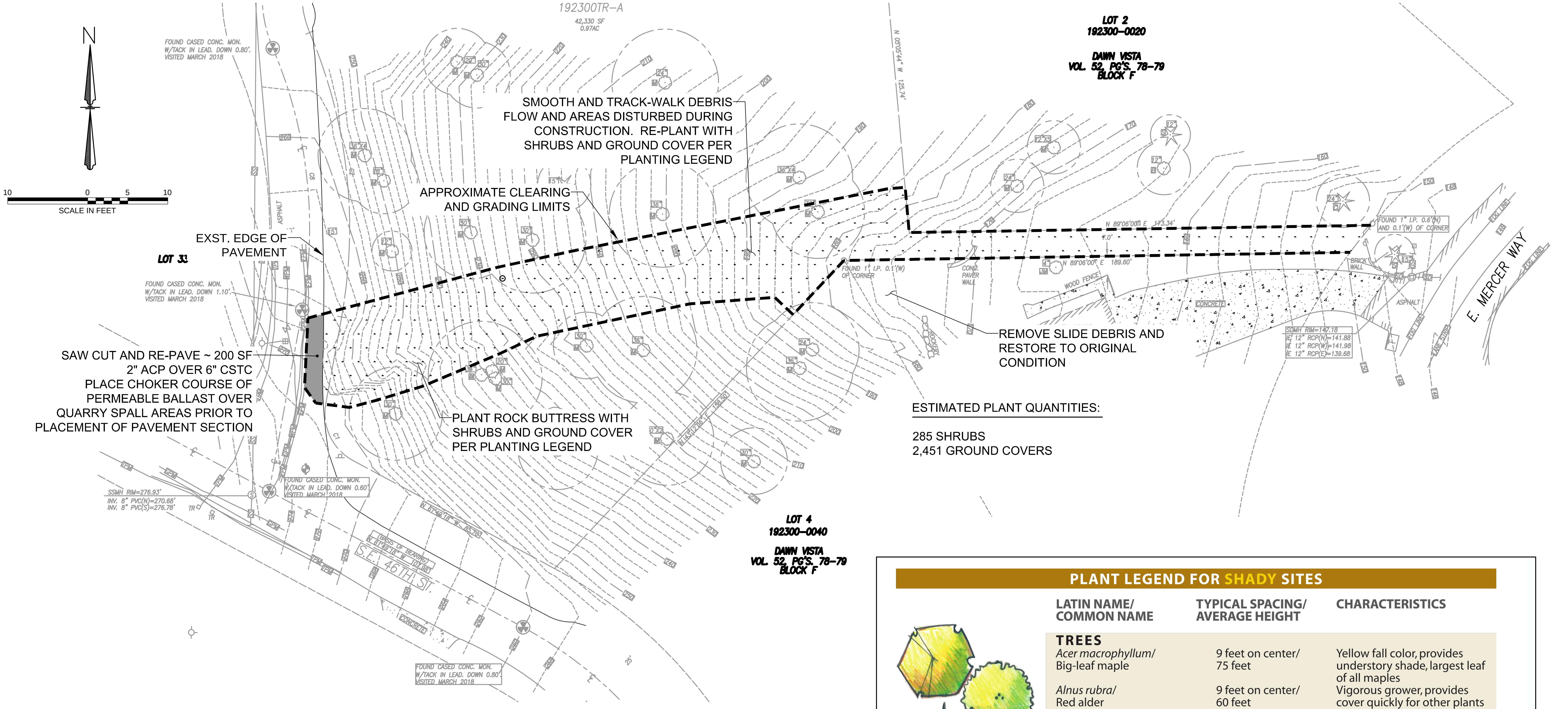


SMOOTH AND TRACK-WALK DEBRIS FLOW AND AREAS DISTURBED DURING CONSTRUCTION. RE-PLANT WITH SHRUBS AND GROUND COVER PER PLANTING LEGEND

APPROXIMATE CLEARING AND GRADING LIMITS

EXST. EDGE OF PAVEMENT

SAW CUT AND RE-PAVE ~ 200 SF 2" ACP OVER 6" CSTC PLACE CHOKER COURSE OF PERMEABLE BALLAST OVER QUARRY SPALL AREAS PRIOR TO PLACEMENT OF PAVEMENT SECTION

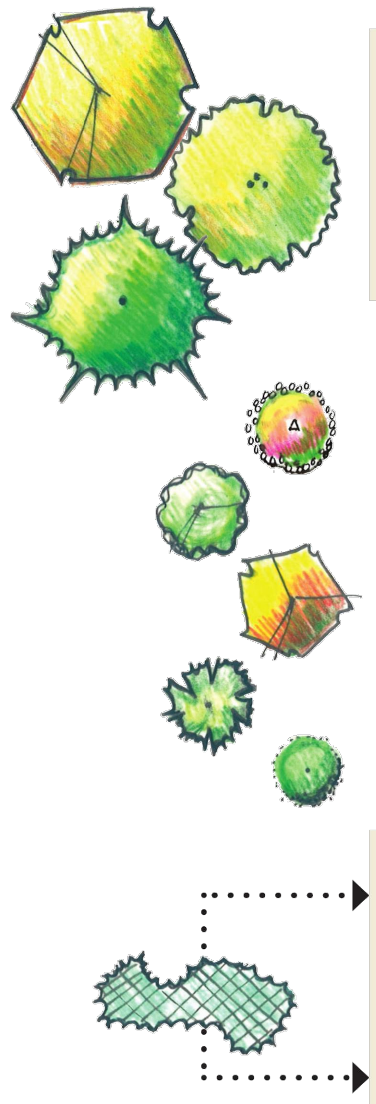
PLANT ROCK BUTTRESS WITH SHRUBS AND GROUND COVER PER PLANTING LEGEND

REMOVE SLIDE DEBRIS AND RESTORE TO ORIGINAL CONDITION

ESTIMATED PLANT QUANTITIES:

285 SHRUBS
2,451 GROUND COVERS

PLANT LEGEND FOR SHADY SITES



LATIN NAME/ COMMON NAME	TYPICAL SPACING/ AVERAGE HEIGHT	CHARACTERISTICS
TREES		
Acer macrophyllum/ Big-leaf maple	9 feet on center/ 75 feet	Yellow fall color, provides understory shade, largest leaf of all maples
Alnus rubra/ Red alder	9 feet on center/ 60 feet	Vigorous grower, provides cover quickly for other plants
Thuja plicata/ Western red cedar	9 feet on center/ 150 feet	Fragrant, adaptable to many sites
SHRUBS		
Acer circinatum/ Vine maple	4.5 feet on center/ 20 feet	Bright red fall color, small understory tree, grows well in shade
Amelanchier alnifolia/ Western serviceberry	4.5 feet on center/ 20 feet	Fragrant flowers, edible red to purple berries
Corylus cornuta/ Beaked hazelnut	6 feet on center/ 11 feet	Edible acorn, wildlife food, small understory tree, yellowish fall color
Oemleria cerasiformis/ Osoberry	4.5 feet on center/ 10 feet	Berries attract birds, first shrub to leaf out in spring
Sambucus racemosa/ Red elderberry	4 feet on center/ 15 feet	Edible berries, fast grower, graceful form with age
GROUNDCOVERS & PERENNIALS		
Arctostaphylos uva-ursi/ Kinnikinnick	*24 in. on center/ 6-8 in.	Evergreen groundcover, great for rockeries and full sun areas
Asarum caudatum/ Wild ginger	*24 in. on center/ 6-8 in.	Tough groundcover, great for planting under shrubs and trees
Polystichum munitum/ Sword fern	*24 in. on center/ 5 feet once mature	Semi-evergreen fern, highly adaptable

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RESTORATION PLAN

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