URS Greiner Woodward Clyde
A Division of URS Corporation

111 SW Columbia, Suite 900
Portland, OR 97201-4014
Tel: 503.222.7200
Fax: 503.222.4292
Offices Worldwide

September 8, 1999
5300071916.06

Bobbi Barrera
U.S. Fish and Wildlife Service
510 Desmond Drive, S.E., Suite 102
Olympia, WA 98503-1263

Subject: Information Request

Dear Ms. Barrera:

We will be preparing a biological assessment that addresses endangered and threatened species in the vicinity of North Wind Weir Park. The project is located within township 23N, range 4E, and section 4. Copies of the vicinity map and site plans are enclosed. This project will involve federal permitting. Please send us information on listed and proposed listed species that may be present in the project area.

Sincerely,
URS GREINER WOODWARD CLYDE

Kate Wolfe

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111 SW Columbia, Suite 900
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September 8, 1999
5300071916.06

Donna Darm
Assistant Regional Administrator of the Protected Resources
National Marine Fisheries Service
7600 Sand Point Way, N.E.
Seattle, WA 98115-0070

Subject: Information Request

Dear Ms. Darm:

We will be preparing a biological assessment that addresses endangered and threatened species in the vicinity of North Wind Weir Park. The project is located within township 23N, range 4E, and section 4. Copies of the vicinity map and site plans are enclosed. Please send us information on listed and proposed listed species that may be present in the project area.

Sincerely,
URS GREINER WOODWARD CLYDE

Kate Wolfe

Kate Wolfe

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Pacific Coast Ecoregion
Western Washington Office
510 Desmond Drive SE, Suite 102
Lacey, Washington 98503
Phone: (360) 753-9440 Fax: (360) 753-9518

OCT 07 1999

Dear Species List Requester:

You have requested a list of listed and proposed threatened and endangered species, candidate species, and species of concern (Attachment A) that may be present within the area of your proposed project. This response fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (Act). We have also enclosed a copy of the requirements for Federal agency compliance under the Act (Attachment B).

Should the Federal agency determine that a listed species is likely to be affected (adversely or beneficially) by the project, you should request section 7 consultation through this office. If the Federal agency determines that the proposed action is "not likely to adversely affect" a listed species, you should request Service concurrence with that determination through the informal consultation process. Even if there is a "no effect" situation, we would appreciate receiving a copy for our information.

Both listed and proposed species may occur in the vicinity of the project. Therefore, pursuant to the regulations implementing the Act, impacts to both listed and proposed species must be considered by the Federal agency in a Biological Assessment (BA) (Attachment B for more information on preparing BAs). Formal conference with the Service is required by the Act if the federal agency determines that the proposed action is likely to jeopardize the continued existence of a proposed species, or result in the destruction or adverse modification of proposed critical habitat. The results of the BA will determine if conferencing is required. If the species is ultimately listed, your agency may be required to reinitiate consultation.

Species of concern are those species whose conservation standing is of concern to the Service, but for which further status information is still needed. Conservation measures for species of concern are voluntary, but recommended. Protection provided to these species now may preclude possible listing in the future.

There may be other Federally listed species that may occur in the vicinity of your project which are under the jurisdiction of the National Marine Fisheries Service (NMFS). Please contact NMFS at (360) 753-9530 to request a species list.

In addition, please be advised that Federal and state regulations may require permits in areas where wetlands are identified. You should contact the Seattle District of the U.S. Army Corps of Engineers

for Federal permit requirements and the Washington State Department of Ecology for State permit requirements.

Your interest in endangered species is appreciated. If you have additional questions regarding your responsibilities under the Act, please contact Bobbi Barrera at (360) 753-6048, or John Grettenberger of this office, at the letterhead phone/address.

Sincerely,

Gerry A. Jackson
Supervisor

BB
Enclosure(s)

c: COE
WDFW Region 4

ATTACHMENT A **September 27, 1999**

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN THE VICINITY OF THE PROPOSED NORTH WIND WEIR PARK PROJECT IN KING COUNTY, WASHINGTON

(T23N R04E S04)

FWS REF: 1-3-99-SP-1371

LISTED

Bald eagle (*Haliaeetus leucocephalus*) -Wintering bald eagles may occur in the vicinity of the project. Wintering activities occur from October 31 through March 31.

Major concerns that should be addressed in your biological assessment of the project impacts to listed species are:

1. Level of use of the project area by listed species.

2. Effect of the project on listed species' primary food stocks, prey species, and foraging areas in all areas influenced by the project.

3. Impacts from project construction (i.e., habitat loss, increased noise levels, increased human activity) which may result in disturbance to listed species and/or their avoidance of the project area.

PROPOSED

Bull trout (*Salvelinus confluentus*) - Coastal/Puget Sound population occur in the vicinity of the project.

CANDIDATE

None.

SPECIES OF CONCERN

The following species of concern may occur in the vicinity of the project:

Long-eared myotis (*Myotis evotis*)
Long-legged myotis (*Myotis volans*)
Pacific lamprey (*Lampetra tridentata*)
Pacific Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
River lamprey (*Lampetra ayresi*)

ATTACHMENT B

FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) AND 7(c) OF THE ENDANGERED SPECIES ACT OF 1973, AS AMENDED

SECTION 7(a) - Consultation/Conference

Requires:

1. Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2. Consultation with FWS when a federal action may affect a listed endangered or threatened species to ensure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the federal agency after it has determined if its action may affect (adversely or beneficially) a listed species; and

3. Conference with FWS when a federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or an adverse modification of proposed critical habitat.

SECTION 7(c) - Biological Assessment for Construction Projects *

Requires federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify any proposed and/or listed species which is/are likely to be affected by a construction project. The process is initiated by a federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, please verify the accuracy of the list with the Service. No irreversible commitment of resources is to be made during the BA process which would result in violation of the requirements under Section 7(a) of the Act. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct an onsite inspection of the area to be affected by the proposal, which may include a detailed survey of the area to determine if the species is present and whether suitable habitat exists for either expanding the existing population or potential reintroduction of the species; (2) review literature and scientific data to determine species distribution, habitat needs, and other biological requirements; (3) interview experts including those within the FWS, National Marine Fisheries Service, state conservation department, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; (5) analyze alternative actions that may provide conservation measures; and (6) prepare a report documenting the results, including a discussion of study methods used, any problems encountered, and other relevant information. Upon completion, the report should be forwarded to our Endangered Species Division, 510 Desmond Drive SE, Suite 102, Lacey, WA 98503-1273.

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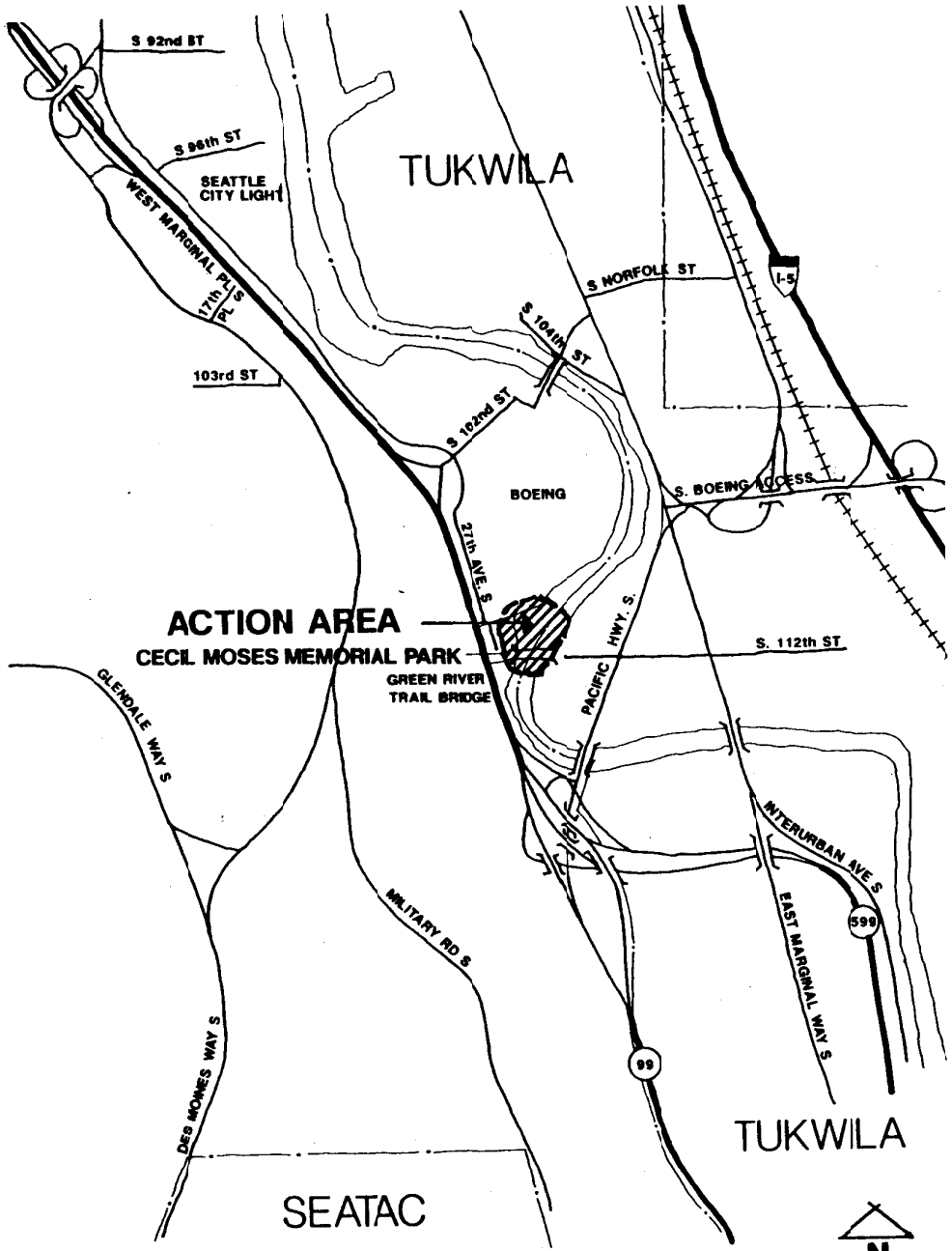
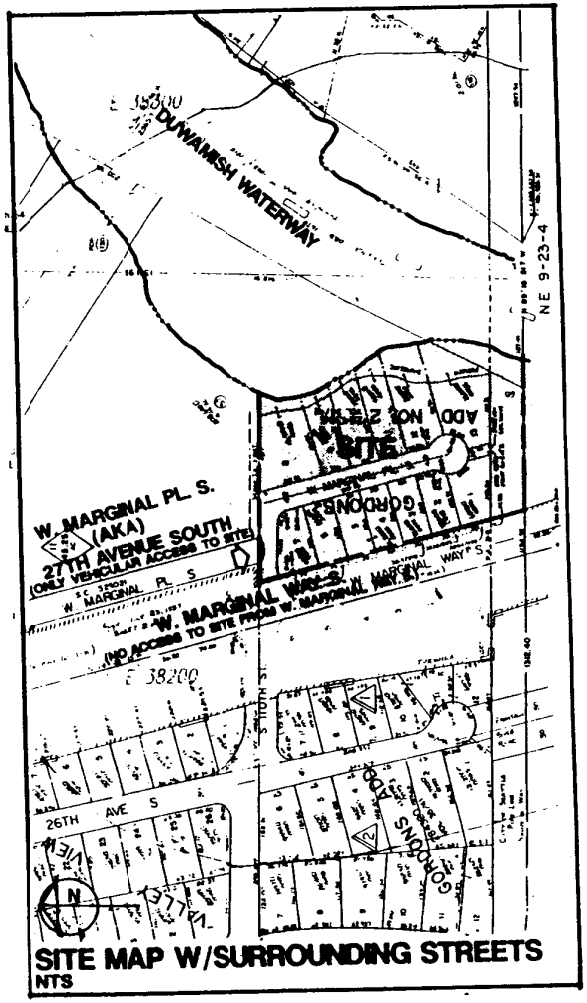
* "Construction project" means any major federal action which significantly affects the quality of the human environment (requiring an EIS), designed primarily to result in the building or erection of human-made structures such as dams, buildings, roads, pipelines, channels, and the like. This includes federal action such as permits, grants, licenses, or other forms of federal authorization or approval which may result

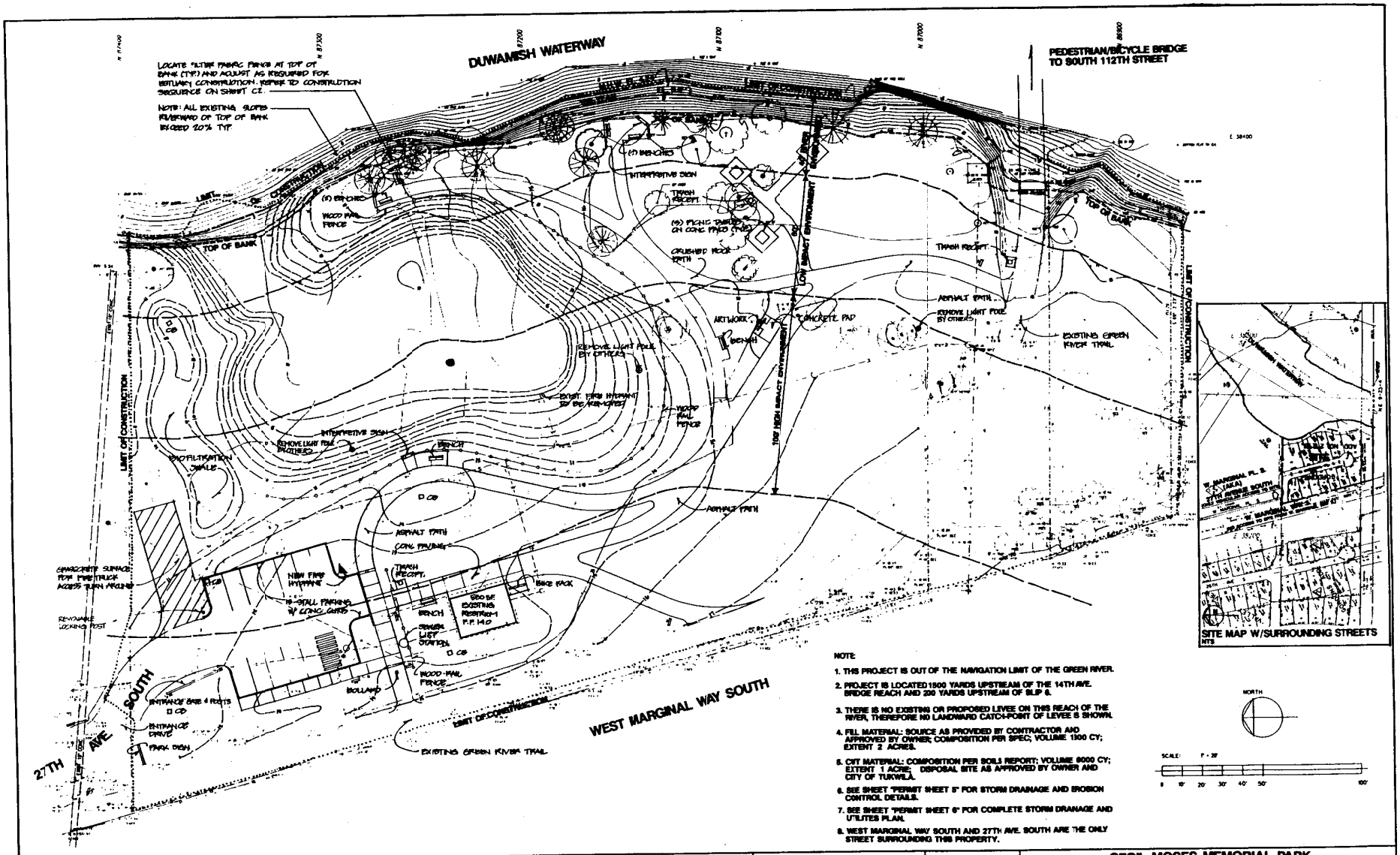
Appendix 2
(Figures)



VICINITY MAP



SITE MAP W/SURROUNDING STREETS
NTS



NOTE:

1. THIS PROJECT IS OUT OF THE NAVIGATION LIMIT OF THE GREEN RIVER.
2. PROJECT IS LOCATED 1500 YARDS UPSTREAM OF THE 14TH AVE. BRIDGE REACH AND 200 YARDS UPSTREAM OF SLIP 6.
3. THERE IS NO EXISTING OR PROPOSED LEVEE ON THIS REACH OF THE RIVER, THEREFORE NO LANDWARD CATCH-POINT OF LEVEE IS SHOWN.
4. FILL MATERIAL: SOURCE AS PROVIDED BY CONTRACTOR AND APPROVED BY OWNER; COMPOSITION PER SPEC; VOLUME 1500 CY; EXTENT 2 ACRES.
5. CUT MATERIAL: COMPOSITION PER SOILS REPORT; VOLUME 8000 CY; EXTENT 1 ACRE; DISPOSAL SITE AS APPROVED BY OWNER AND CITY OF TUKWILA.
6. SEE SHEET "PERMIT SHEET 5" FOR STORM DRAINAGE AND EROSION CONTROL DETAILS.
7. SEE SHEET "PERMIT SHEET 6" FOR COMPLETE STORM DRAINAGE AND UTILITES PLAN.
8. WEST MARGINAL WAY SOUTH AND 27TH AVE. SOUTH ARE THE ONLY STREET SURROUNDING THIS PROPERTY.

REVISIONS	DATE
EXTENT PARKING, ADD TURN AROUND	6/4/99
REVISE ENTRANCE GATE DESIGN	7/12/99

CLIENT AGENCY:
KING COUNTY
DEPARTMENT OF PARKS, CULTURAL AND NATURAL RESOURCES
1100 SMITH TOWER
500 2ND AVENUE
SEATTLE, WA 98105

KING COUNTY
FACILITIES MANAGEMENT DIVISION-PARKS CIP
320 King County Administration Building
Seattle, Washington 98104
Telephone (206) 296-0846
Fax (206) 296-0186

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
TERRANCE K. RECKORD
CERTIFICATE NO. 205

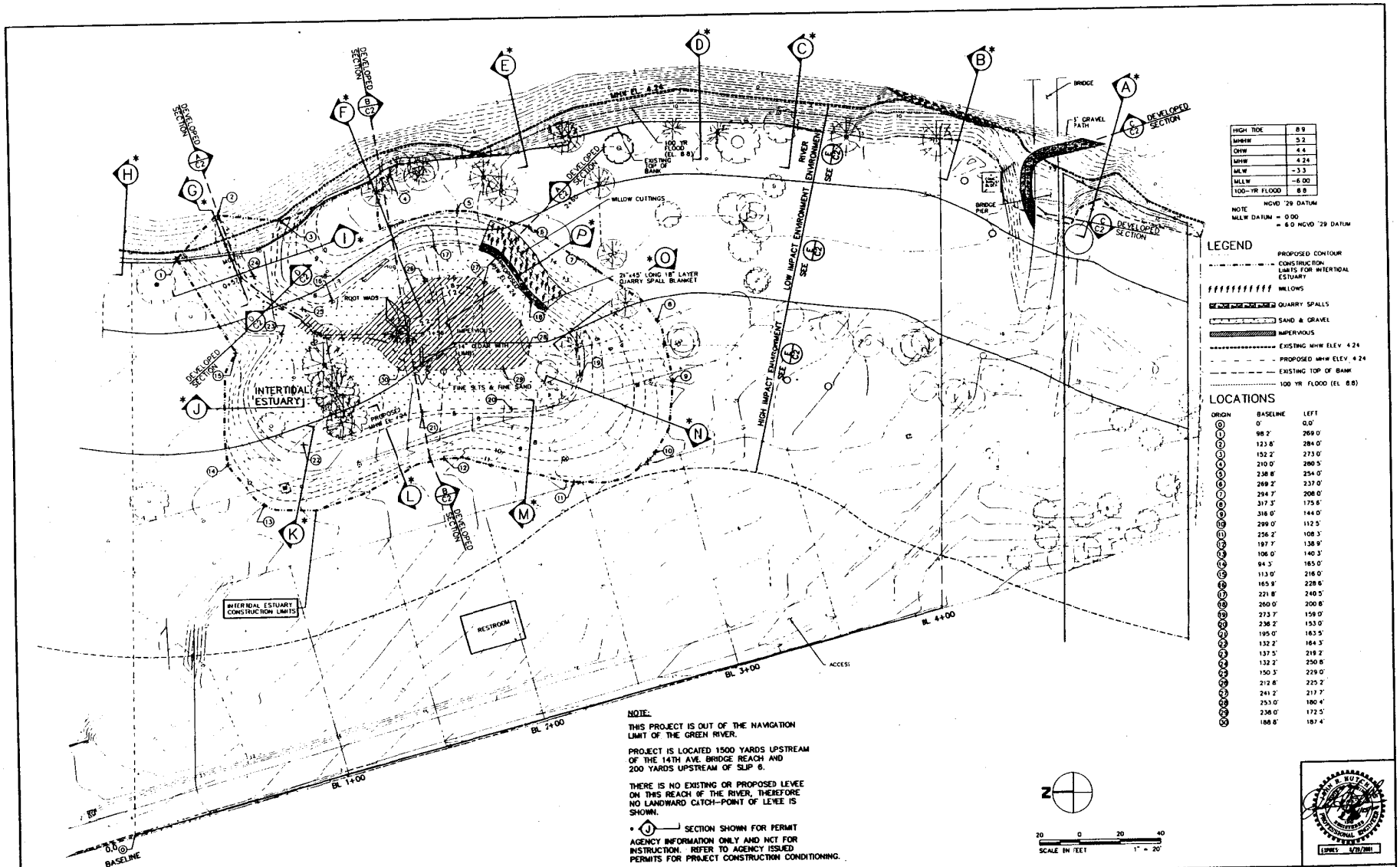
MacLeod Reckord
Landscape Architects
221 Russell Ave East
Seattle, Washington 98102
PH: (206) 323-7910
FAX: (206) 323-8242

CECIL MOSES MEMORIAL PARK
FORMERLY KNOWN AS NORTH WIND'S WEIR PARK

SCALE:
DATE: 01/21/99
DESIGN BY:
CHECKED BY:
JOB NO.:

SITE PLAN

SHEET
PERMIT
4



REVISION	DATE
REV-1	REV-1DATE
REV-2	REV-2DATE
REV-3	REV-3DATE
REV-4	REV-4DATE
REV-5	REV-5DATE
REV-6	REV-6DATE

CLIENT AGENCY
KING COUNTY
DEPARTMENT OF PARKS, CULTURAL AND NATURAL RESOURCES
1108 SMITH TOWER
506 2ND AVENUE
SEATTLE, WA 98104

KING COUNTY
FACILITIES MANAGEMENT DIVISION-PARKS CIP
320 King County Administration Building
Seattle, Washington 98104
Telephone (206) 296-0548
Fax (206) 296-0186

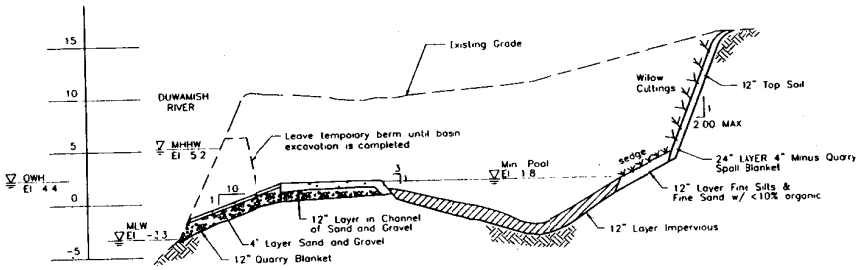
MOFFATT & NICHOL ENGINEERS

MacLeod Reckord
Landscape Architects

SCALE	1"=20'
DATE	01/21/00
DRAWN BY	JMP
CHECKED BY	JEN
JOB NO	4447

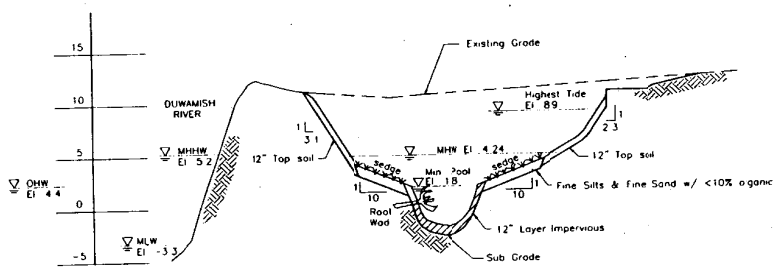
CECIL MOSES MEMORIAL PARK
FORMERLY KNOWN AS NORTH WIND'S WEIR PARK
PERMIT SUBMITTAL
INTERTIDAL ESTUARY
LAYOUT AND GRADING PLAN

SHEET C1 PERMIT SHEET 2



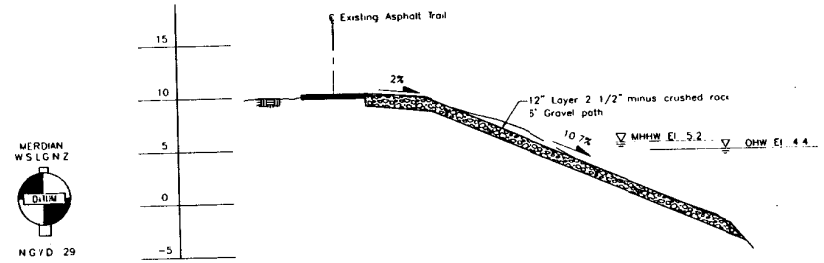
DEVELOPED SECTION A-A

VER 1" = 5'
HOR 1" = 20'



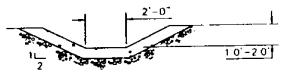
DEVELOPED SECTION B-B

VER 1" = 5'
HOR 1" = 20'



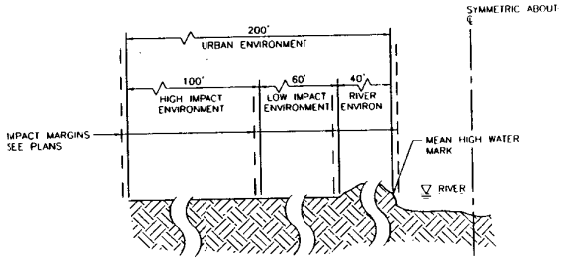
DEVELOPED SECTION C-C

VER 1" = 5'
HOR 1" = 10



SECTION D-D

VER 1" = 5'
HOR 1" = 20'



SECTION E-E

NOT TO SCALE

URBAN ENVIRONMENT

CITY OF TUKWILA
SHORELINE MANAGEMENT ENVIRONMENTS
FIGURE 18-1

CONSTRUCTION SEQUENCE

1 CONTACT PROJECT ARCHAEOLOGIST AT BOAS, inc. (206)323-1343 BEFORE ANY EXCAVATION BEGINS A REPRESENTATIVE FROM BOAS SHALL BE ON SITE AT ALL TIMES DURING INITIAL EARTHWORK
2 STAKE OUT THE CONSTRUCTION LIMITS BEFORE ANY EXCAVATION BEGINS
3 INSTALL ALL SEDIMENTATION CONTROLS INCLUDING TEMPORARY QUARRY SPALL CONSTRUCTION ENTRANCE
4 CLEAR, GRUB AND REMOVE TOPSOIL PER DEMOLITION PLAN STOCKPILE TOPSOIL
5 LEAVE A BERM ABOVE HIGH WATER ELEVATION AT THE MOUTH OF THE ESTUARY SEE SECTION A-A SHEET C2 EXCAVATE ESTUARY TO SUBGRADE
6 PLACE QUARRY SPALLS
7 SCARIFY SLOPES AND PLACE TOPSOIL PLANT WILLOWS AND HYDROSEED SLOPES
8 PLACE IMPERVIOUS SOILS
9 PLACE FINE SILTS & FINE SAND WITH / < 10% ORGANIC SOILS
10 REMOVE TEMPORARY DIKE DURING LOW TIDE AND PLACE QUARRY SPALLS AS NEEDED, PLACE AND SHAPE CHANNEL SAND AND GRAVEL
11 PLANT SEDGE GRASS

HIGH TIDE	8.9
MHHW	5.2
OHW	4.4
MHW	4.24
MLW	-3.3
MLLW	-6.00
100-YR FLOOD	8.8

NGVD '29 DATUM

ABOVE INFORMATION BASED ON NGVD '29 DATUM

NOTE
MLLW DATUM = 0.00
= 6.0 NGVD '29 DATUM

REVISION	DATE
REV-1	REV-1DATE
REV-2	REV-2DATE
REV-3	REV-3DATE
REV-4	REV-4DATE
REV-5	REV-5DATE
REV-6	REV-6DATE

CLIENT AGENCY:
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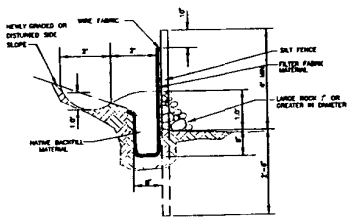
CECIL MOSES MEMORIAL PARK
FORMERLY KNOWN AS NORTH WIND'S WEIR PARK

SCALE	AS NOTED
DATE	01/21/00
DRAWN BY	JMP
CHECKED BY	JEN
JOB NO	4447

PERMIT SUBMITTAL
INTERTIDAL ESTUARY SECTION AND DETAILS

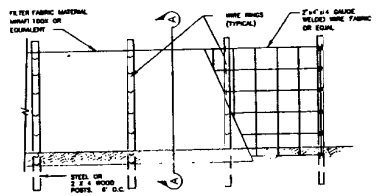
SHEET C2 PERMIT SHEET 3

EXPIRES 6/29/2001



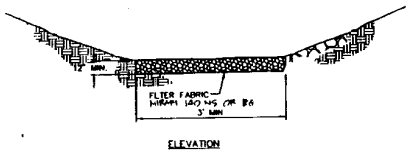
SECTION A–A

NOTE:
INSTALL THE SILT FENCE FIRST AFTER THE SILT FENCE HAS BEEN INSTALLED, CONSTRUCT BERM AND TRENCH

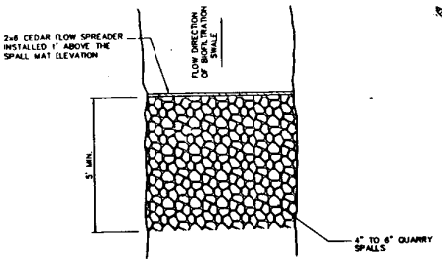


ELEVATION

1 FILTER FABRIC FENCE
NTS

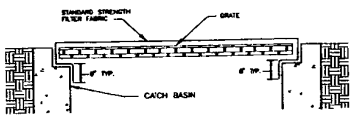


ELEVATION



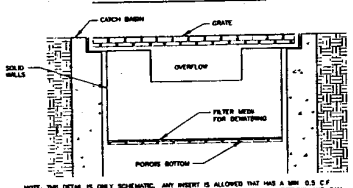
PLAN

3 TIMBER CHECK DAM W/ QUARRY SPALL MAT
NTS



NOTE: ONLY TO BE USED WHERE PONDING OF WATER ABOVE THE CATCH BASIN WILL NOT CAUSE TRAFFIC PROBLEMS AND WHERE OVERFLOW WILL NOT RESULT IN EROSION OF SLOPES.

FILTER FABRIC PROTECTION



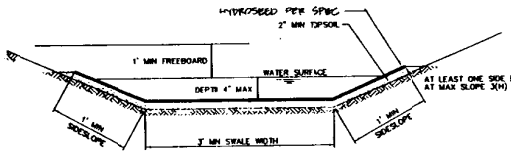
NOTE: THIS DETAIL IS ONLY SCHEMATIC. ANY INSERT IS ALLOWED THAT HAS A MIN. 0.5 C.F. OF STORAGE. THE MEANS TO DEWATER THE STORED SEDIMENT, AN OVERFLOW, AND CAN BE EASILY MAINTAINED.

CATCH BASIN INSERT

GENERAL NOTES:

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE FILTER FABRIC PROTECTION SHALL BE REMOVED IMMEDIATELY. SEDIMENT SHALL NOT BE REMOVED WITH WATER, AND ALL SEDIMENT MUST BE DISPOSED OF AS FILL ON-SITE OR HAULED OFF-SITE.
2. ANY SEDIMENT IN THE CATCH BASIN INSERT SHALL BE REMOVED WHEN THE SEDIMENT HAS FILLED ONE-THIRD OF THE AVAILABLE STORAGE. THE FILTER MESH FOR THE INSERT SHALL BE CLEANED OR REPLACED AT LEAST SIMILARLY.
3. REGULAR MAINTENANCE IS CRITICAL FOR BOTH FORMS OF CATCH BASIN PROTECTION. UNLIKE MANY FORMS OF PROTECTION THAT FAIL GRADUALLY, CATCH BASIN PROTECTION WILL FAIL SUDDENLY AND COMPLETELY IF NOT MAINTAINED PROPERLY.

2 INTERIM CB PROTECTION
NTS



4 BIOFILTRATION SWALE TYP. CROSS SECTION
NTS

DRAINAGE NOTES

1. All pipe and appurtenances shall be laid on a properly prepared foundation in accordance with WSDOT 7-02.1(1). This shall include leveling and compacting the trench bottom, the top of the foundation material, and any required pipe bedding, to a uniform grade so that the entire pipe is supported by a uniformly dense unyielding base.
2. Steel pipe shall be galvanized and have asphalt treatment #1 or better inside and outside.
3. All drainage structures, such as catch basins and manholes, not located within a traveled roadway or sidewalk, shall have solid locking lids.
4. All catch basin grates shall include the stamping "OUTFALL TO STREAM, DUMP NO POLLUTANTS".
5. All driveway culverts located within the right-of-way shall be of sufficient length to provide a minimum 3:1 slope from the edge of the driveway to the bottom of the ditch. Culverts shall have beveled end sections to match the side slope.
6. Rock for erosion protection of roadway ditches, where required, must be of sound quarry rock, placed to a depth of 1 foot and must meet the following specifications: 4"-8" rock/40%-70% passing, 2"-4" rock/30%-40% passing, and -2" rock/10%-20% passing.

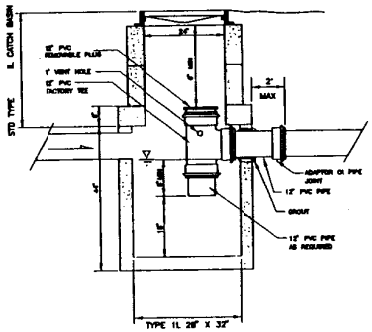
STORM PIPE SCHEDULE

PVC	ASTM D-3034 SDR 35, GASKET JOINT - ALL SIZES, BEDDING CLASS B, TYPE 1 OR II
CONCRETE	ASTM C-14 CLASS III FOR SMALLER THAN 12" ASTM C-76 CLASS IV FOR 12" AND 15" ASTM C-76 CLASS III FOR 18" AND LARGER
DUCTILE IRON	ANSI A21.51 CLASS 50
CORRUGATED HIGH DENSITY POLYETHYLENE PIPE (CPEP)	
	SMOOTH BORE - TYPE/IL CATEGORY 4 OR 5, GRADE P33 OR P34, CLASS C PER ASTM D-1248, AND SHALL MEET AASHTO M-294
CMP	ALL GALVANIZED STEEL SHALL HAVE APWA TRIATMENT I; ALL CMP SHALL HAVE CLASS B TYPE I BEDDING - GALVANIZED STEEL CMP SHALL MEET THE REQUREMENTS OF AASHTO M-36, TYPE I; ALUMINUM CMP SHALL MEET THE REQUIREMENTS OF AASHTO M-196 TYPE I

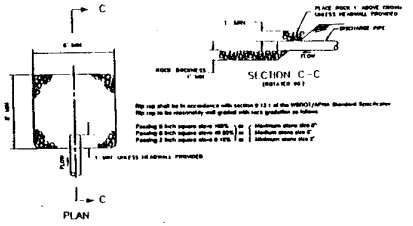
CMP PIPE SPECIFICS

DIAMETER	CORRUGATION	ALUMINUM GAUGE	BAND AND GASKET WIDTH	STEEL GAUGE	BAND AND GASKET WIDTH
12"-21"	2 2/3 X 1/2	16	12"	16	12"
24"	2 2/3 X 1/2	14	12"	16	12"
27"-36"	2 2/3 X 1/2	14	12"	14	12"
42"-60"	3 X 1	12	24"	12	24"
72"-96"	3 X 1	10	24"	12	24"

NOTE TYPE OF MATERIALS USED SHALL BE AS INDICATED ON THE CONSTRUCTION DOCUMENTS



5 FLOATABLE MATERIAL SEPARATOR - 12" PIPE
NTS



6 RIP RAP OUTFALL

EROSION/SEDIMENTATION CONTROL NOTES

1. Approval of this erosion/sedimentation control (ESC) plan does not constitute an approval of permanent road or drainage design (e.g. size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).
2. The implementation of these ESC plans and the construction, maintenance, replacement, and upgrading of these ESC facilities is the responsibility of the applicant/contractor until all construction is approved.
3. The boundaries of the clearing limits shown on this plan shall be clearly flagged in the field prior to construction. During the construction period, no disturbance beyond the flagged clearing limits shall be permitted. The flagging shall be maintained by the applicant/contractor for the duration of construction.
4. The ESC facilities shown on this plan must be constructed in conjunction with all clearing and grading activities, and in such a manner as to insure that sediment laden water does not enter the drainage system or violate applicable water standards.
5. The ESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these ESC facilities shall be upgraded (e.g. additional dumps, relocation of ditches and silt fences, ect.) as needed for unexpected storm events.
6. The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.
7. Any area stripped of vegetation, including roadway embankments, where no further work is anticipated for a period of 15 days, shall be immediately stabilized with the approved ESC methods (e.g. seeding, mulching, netting, erosion blankets, etc.).
8. Any area needing ESC measure, not requiring immediate attention, shall be addressed within fifteen (15) days.
9. The ESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within the 48 hours following a storm event.
10. At no time shall more than one foot of sediment be allowed to accumulate within a catch basin. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment laden water into the downstream system.
11. Stabilized construction entrances and wash pads shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to insure that all paved areas are kept clean for the duration of the project.
12. During the time period of November 1 through March 31, all project disturbed areas greater than 5,000 square feet that are to be left unworked for more than 12 hours shall be covered by one of the following cover measures: mulch, seeding or plastic covering.
13. Any permanent retention/detention facility used as a temporary settling basin shall be modified with the necessary erosion control measures and shall provide adequate storage capacity. If the permanent facility is to function ultimately as an infiltration or dispersion system, the facility shall not be used as a temporary settling basin. No underground detention tanks or vaults shall be used as a temporary settling basin.
14. Where seeding for temporary erosion control is required, fast germinating grasses shall be spread at an appropriate rate (e.g. annual or perennial rye applied at approximately 80 pounds per acre).
15. Where straw mulch for temporary erosion control is required, it shall be applied at a minimum thickness of two inches.

FILTER FABRIC FENCE NOTES

1. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and both ends securely fastened to the post.
2. The filter fabric fence shall be installed to follow the contours (where feasible). The fence posts shall be spaced a maximum of 8 feet apart and driven securely into the ground (minimum of 30 inches).
3. A trench shall be excavated, roughly 8 inches wide and 8 inches deep, upslope and adjacent to the wood post to allow the filter fabric to be buried.
4. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy-duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 4 inches and shall not extend more than 36 inches above the original ground surface.
5. The filter fabric shall be stapled or wired to the fence, and 20 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
6. Filter fabric fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
7. Filter fabric fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

REVISIONS	DATE

CLIENT AGENCY
KING COUNTY
DEPARTMENT OF PARKS, CULTURAL AND NATURAL RESOURCES
1100 SIXTH TOWER
999 3RD AVENUE
SEATTLE, WA 98104

KING COUNTY
FACILITIES MANAGEMENT DIVISION-PARKS CIP
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Telephone (206) 296-0649
Fax (206) 296-0166

STATE OF WASHINGTON — REGISTERED LANDSCAPE ARCHITECT — TERRANCE R. RECKORD — CERTIFICATE NO. 328

MadLeod Reckord Landscape Architects

SCALE	AS NOTED
DATE	1/31/96
DRAWN BY	AR
CHECKED BY	CR
JOB NO.	

CECIL MOSES MEMORIAL PARK
FORMERLY KNOWN AS NORTH WIND'S WEIR PARK

STORM DRAINAGE AND EROSION CONTROL DETAILS

SHEET D3

GENERAL NOTES

1. All construction shall be in accordance with City of Tukwila standards
2. The design elements within these plans have been reviewed according to City of Tukwila the engineering review checklist. Some elements may have been overlooked or missed by the plan reviewer. Any variance from adopted standards is not allowed unless specifically approved prior to construction
3. Approval of this grading and drainage plan does not constitute an approval of any other construction (e.g. domestic water conveyance, sewer conveyance, gas, electrical, etc.)
4. Before any construction or development activity a preconstruction meeting must be held between the City of Tukwila, the Applicant, and the Applicant's Construction Representative.
5. A copy of these approved plans must be on the job site whenever construction is in progress.
6. Construction noise shall be limited as per City of Tukwila Code
7. It shall be the applicant's/contractor's responsibility to obtain all construction easements necessary before installing off-site work within the road rights-of-way
8. Franchised utilities or other installations that are not shown on these approved plans shall not be constructed unless an approved set of plans that meet all requirements of City of Tukwila are submitted three days prior to construction
9. Datum shall be KCAS unless otherwise approved
10. All utility trenches shall be backfilled and compacted to 95% density WSDOT 2-08.3
11. All roadway subgrade shall be backfilled and compacted to 95% density WSDOT 2-08.3
12. Open cutting of existing roadways is not allowed unless specifically approved by the City of Tukwila and noted on these approved plans
13. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, flaggers, and any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of work covered by the contractor. Any work within the travelled right-of-way that may interrupt normal traffic flow shall require at least one flagger for each lane of traffic affected. All sections of the WSDOT Standard Specifications 1-07.23 - Traffic Control shall apply

RESTORATION NOTES

1. SEED ALL DISTURBED AREAS NOT DESIGNATED FOR OTHER IMPROVEMENTS.
2. RESTORE ALL AREAS USED FOR STAGING AND ACCESS TO PARK SITE AS REQUIRED FOR SEEDED AREAS.

SURVEY NOTES

MERIDIAN: USED SURVEY BY LAND PLANNING & MANAGEMENT FOR WEMLEY ENTERPRISES, INC & RECORDED IN VOLUME 22 PAGE 249

BASIS: N.S.L. 1929 PER FLOOD INSURANCE RATE MAPS, PANELS 491 & 492 OF 0454 D CONTROLLING BENCHMARKS WERE Rki 372, Rki 370, Rki 371, Rki 362, Rki 376, Rki 180, Rki 381.

THIS IS A COMPUTER AIDED DRAWING - SPOT ELEVATIONS, DESCRIPTIONS & COORDINATES CAN BE FOUND ON SEPARATE LAYERS

THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. ANY UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OWNERS AND POTHOLLESON ASSOC., INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS

ALL MONUMENTS INDICATED AS FOUND WERE RECOVERED ALONG THE COURSE OF THIS SURVEY AT THE DATE SHOWN IN THE SURVEYOR'S CERTIFICATE. UNLESS OTHERWISE NOTED

A 3" DIAMETER 400 SERIES INSTRUMENT WAS UTILIZED TO PERFORM ANGULAR AND LINEAR MEASUREMENTS, UNLESS OTHERWISE NOTED. TRAVERSE CLOSURES WERE BETTER THAN 1-10,000

DECLARATION:

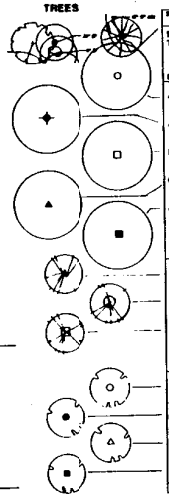
I HEREBY DECLARE THAT THIS DRAWING REPRESENTS A SURVEY CONDUCTED BY POTHOLLESON ASSOC. INC., UNDER MY SUPERVISION AND THAT THE DIMENSIONS AND BEARINGS SHOWN HEREON CORRECTLY REFLECT THE EXTENT OF THE LEGAL DESCRIPTION AS PROVIDED TO ME, OF THE SUBJECT PROPERTY; AND THAT THE SPOT ELEVATIONS AND TOPOGRAPHIC FEATURES SHOWN HEREON ARE A FIELD RE-SURVEYED AND LOCATED UNLESS OTHERWISE NOTED

Gordon S. Hector
GORDON S. HECTOR - P.L.S. #19404

12-2-75
DATE

PLANT LEGEND

TREES

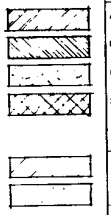


BOTANICAL NAME/ COMMON NAME	QTY	SIZE	REMARKS	LOCATION: Balcony	LOCATION: Acre Park	LOCATION: Interior	TYPE: Native	TYPE: Ornamental
EXISTING TREES TO REMAIN								
LARGE DECIDUOUS TREES								
Acer macrophyllum/ Big Leaf Maple	6	2½" cal	B&B	X	X		X	
Acer rubrum 'October Glory'/ October Glory Red Maple	10	2½" cal	B&B well matched			X		X
Fraxinus oregona/ Oregon Ash	5	2½" cal	B & B	X			X	
Cladrastis lutea Yellow Wood	4	2½" cal	B & B			X		X
Quercus rubra/ Red Oak	11	2½" cal	B & B			X		X
LARGE CONIFEROUS TREES								
Pinus contorta/ Shore Pine	9	6'-8"	B&B			X	X	
Pseudotsuga menziesii/ Douglas Fir	19	8'-10"	B&B			X	X	
Thuja plicata/ Western Red Cedar	11	6'-8"	B&B	X		X	X	
SMALL DECIDUOUS TREES								
Acer circinatum/ Vine Maple	8	2" cal	Multi-trunk B&B	X		X	X	
Amelanchier alnifolia/ Serviceberry	6	2" cal	B&B	X			X	
Cornus nuttallii/ Pacific Dogwood	6	2" cal	B&B	X		X	X	
Crataegus phaenopyrum/ Washington Thorn	8	2" cal	B&B			X		X

SHRUBS

BOTANICAL NAME/ COMMON NAME	QTY	SIZE	REMARKS	LOCATION: Balcony	LOCATION: Acre Park	LOCATION: Interior	TYPE: Native	TYPE: Ornamental
LARGE SHRUBS								
Cornus stolonifera/ Red-Osier Dogwood	19	24"-30" ht	cont.	X			X	
Myrica californica/ Pacific Wax Myrtle	19	24"-30" ht	B&B or cont.	X		X	X	
Ornitaria certaciformis/ Indian Plum	15	20"-24" ht	B&B or cont.	X			X	
Rhododiphus lewisii/ Mock Orange	15	24"-30" ht	B&B or cont.	X		X	X	
Ribes sanguineum/ Red Flowering Currant	29	20"-24" ht	B&B or cont.		X		X	
MEDIUM SHRUBS								
Cornus purpurea/ Rockrose	101	18"-30" ht	B&B or cont.			X		X
Holodiscus discolor/ Ocean Spray	49	12"-18" ht	B&B or cont.	X			X	
Mahonia aquifolium/ Oregon Grape	55	18"-30" ht	B&B or cont.		X		X	
Rosa nutkana/ Nootka Rose	57	18"-30" ht	B&B or cont.	X	X		X	
Spirea douglasii/ Western Spirea	33	12"-18" ht	B&B or cont.	X			X	
Symphoricarpos albus/ Common Snowberry	21	12"-18" ht	B&B or cont.	X			X	
Vaccinium ovatum/ Evergreen Huckleberry	26	12"-18" ht	B&B or cont.	X		X	X	
SMALL SHRUBS								
Mahonia nervosa/ Longleaf Mahonia	176	1 gal	B&B or cont.	X	X	X	X	

GROUNDCOVERS



SEE NOTE ON SHEET L5

BOTANICAL NAME/ COMMON NAME	QTY	SIZE	REMARKS	LOCATION: Balcony	LOCATION: Acre Park	LOCATION: Interior	TYPE: Native	TYPE: Ornamental
GROUNDCOVER								
Arctostaphylos uva-ursi/ Kinnikinnick	4,035	1 gal. cont.	18" oc. triang. spacing	X		X	X	
Fragaria chiloensis/ Beach Strawberry	8,131	4" pots	15" oc. triang. spacing	X		X	X	
Rubus ulycoides (aka R. pentalobus)	6,955	4" pots	15" oc. triang. spacing		X			X
Symphoricarpos mollis/ Creeping Snowberry	105	1 gal. cont.	18" oc. triang. spacing	X			X	
MEDGE/RUSHES/GRASSES/ LAWN								
Carex hughesn / Sedge	14700	4" pots	10" oc. triang. spacing	X			X	
Hydroseed lawn Restoration			See specs					
Willow Stakes (Live Staking)	940	Stakes	24" oc. triang. spacing, Locate as directed	X	X			

ADD ALTERNATE #1

DECREASE SPACING OF ABOVE GROUNDCOVER, ARCTOSTAPHYLOS UVA-URSI/ KINNIKINNICK TO 18" O.C. TRIANG. SPACING, 1 GAL. CONT., TOTAL QUANTITY 6600 PLANTS

REVISIONS	DATE

CLIENT AGENCY
KING COUNTY
DEPARTMENT OF PARKS, CULTURAL AND NATURAL RESOURCES
1160 SMITH TOWER
506 2ND AVENUE
SEATTLE, WA 98104

KING COUNTY
FACILITIES MANAGEMENT DIVISION-PARKS CIP
320 King County Administration Building
Seattle, Washington 98104
Telephone (206) 296-0548
Fax (206) 296-0166

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
TERRANCE F. RECKORD CERTIFICATE NO. 139

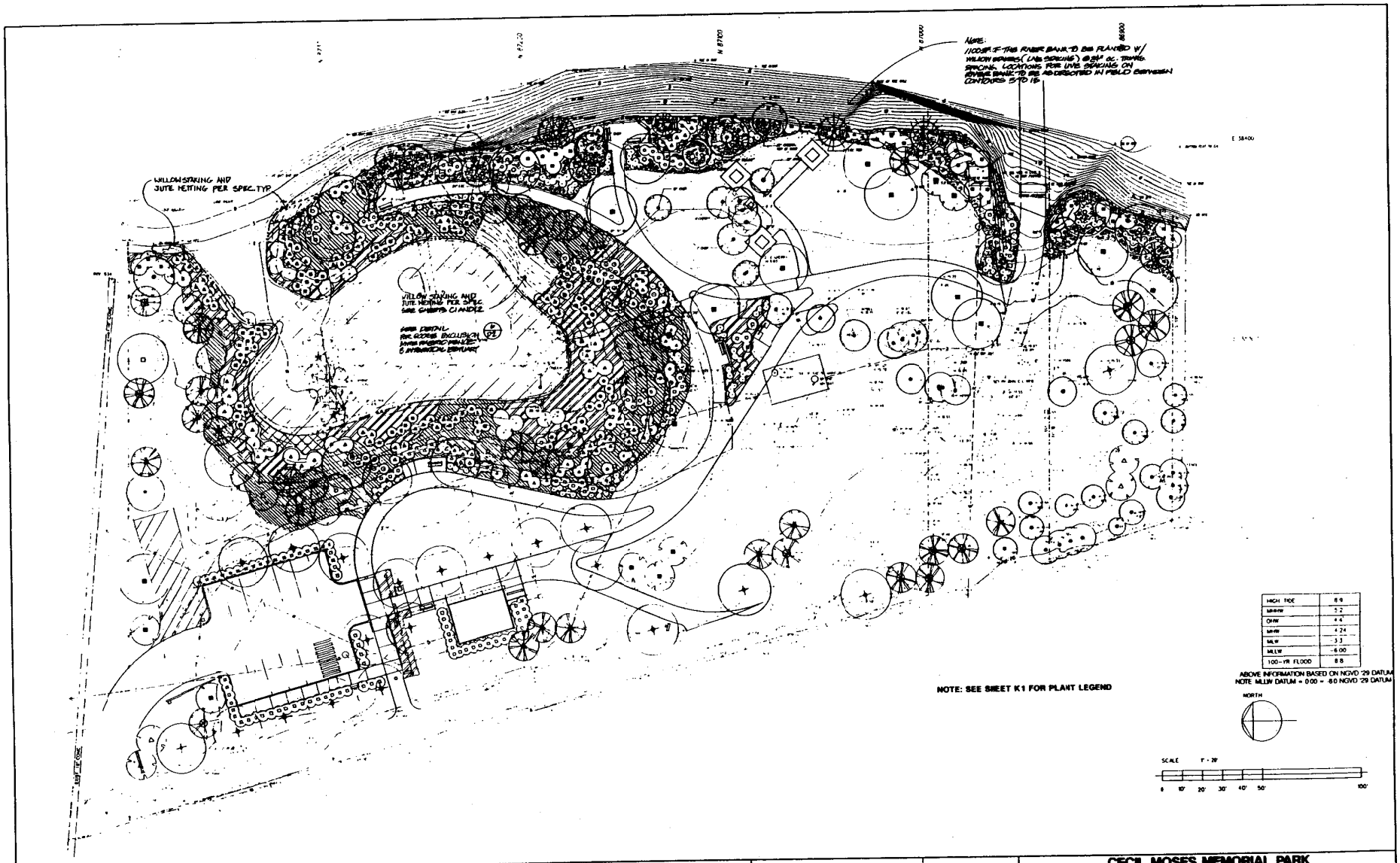
MacLeod Reckord
Landscape Architects

CECIL MOSES MEMORIAL PARK
FORMERLY KNOWN AS NORTH WIND'S WEIR PARK

SCALE: NO SCALE
DATE: 1/21/99
DRAWN BY: AS
CHECKED BY: CR
JOB NO.:

LEGENDS & NOTES

SHEET K1



HIGH TIDE	8.9
MHHW	5.2
DHW	4.4
MHW	4.24
MLW	-3.3
MLLW	-6.00
100-YR FLOOD	8.8

ABOVE INFORMATION BASED ON NGVD '29 DATUM
NOTE MLLW DATUM = 0.00 = -6.0 NGVD '29 DATUM

REVISIONS	DATE

CLIENT AGENCY:
KING COUNTY
DEPARTMENT OF PARKS, CULTURAL AND NATURAL RESOURCES
1100 SMITH TOWER
506 2ND AVENUE
SEATTLE, WA 98104

KING COUNTY
FACILITIES MANAGEMENT DIVISION-PARKS CIP
320 King County Administration Building
Seattle, Washington 98104
Telephone (206) 296-0848
Fax (206) 296-0186

STEPHANIE L. RECKORD
CERTIFICATE NO. 326

MacLeod Reckord
Landscape Architects

CECIL MOSES MEMORIAL PARK
FORMERLY KNOWN AS NORTH WIND'S WEIR PARK

SCALE 1"=20'-0"
DATE 1/21/90
DRAWN BY JK
CHECKED BY CR
JOB NO.

PLANTING PLAN

SHEET L5

LEGAL DESCRIPTION

Gordon's Addition No. 2 as recorded in Volume 36 of Plats, page 42, in King County, Washington, EXCEPT that portion conveyed to the State of Washington for highway purposes:

Together with that portion of the Southeast quarter of the Southwest quarter of the Southeast quarter of Section 4, Township 23 North, Range 4 East, W.M., in King County Washington, lying westerly of the Duwamish River and easterly of said Plat;

Together with the North 51.74 feet of the following described property:
All that portion of Government Lot 1, Section 9, Township 23 North, Range 4 East, W.M., in King County, Washington lying east of the W.W. Beck County Road, Westerly of the Duwamish River and northerly of a line bearing N 69°31'-18" E from a point on the Easterly margin of said W.W. Beck County Road which point is 775.3 i feet southeasterly as measured along said Easterly marginal line from its intersection with the North boundary line of said Section 9; EXCEPT that portion thereof conveyed to the State of Washington for highway purposes.

DRAFT CONSTRUCTION SCHEDULE

CECIL MOSES MEMORIAL PARK

30-May-00

CONSTRUCTION ACTIVITY	OCT	NOV	DEC	JAN	FEB	MAR
Notice to Proceed and Mobilize						
Stake Limits and Grades for Approval						
Install Sedimentation Controls						
Clear, Grub, Remove Topsoil						
Excavate Behind Berm and Haul						
Install Irrigation						
Place Quarry Spalls						
Scarify Slopes, Place Topsoil						
Plant Slopes Above OHW						
Place Impervious Soils						
Place Fine Silts and Sand						
Remove Temporary Berm						
Form Channel, Place Sand & Gravel						
Plant Sedge Below OHW						
Open Channel to River (low tide)			*			
WORK IN WATER (low tide)			*			
CONSTRUCTION WINDOW						
DATE OF HIGHEST TIDE	24	15	14	12	9	10
DATE OF LOWEST TIDE	18	15	12	9	7	7
SCHEDULE REVIEW & APPROVAL	x	x	x x			

Appendix 3
(NMFS Biological Assessment Matrix for Chinook Salmon and USFWS Biological Assessment Matrix for Bull Trout)

TABLE 3-1
CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR CHINOOK SALMON

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Properly[1] Functioning	At Risk[1]	Not Properly[1] Functioning	Restore[2]	Maintain[3]	Degrade[4]
Water Quality: Temperature			High water temperatures in the Green River below RM 30 are cited by Bishop and Morgan (1996)		Water temperatures will not be affected by the proposed project; proposed tree plantings will increase riparian shade	
Sediment			High proportion of private timberlands in the upper watershed, and high road densities throughout (Bishop and Morgan 1996)		Sediment/turbidity will not be affected by the proposed project	
Chemical Contamination and Nutrient Loads			Many 303(d) designated sections in the Duwamish/Green system, including one at project site		Will not be affected by proposed project	
Habitat Access: Physical Barriers			Duwamish/Green River formerly drained 1,642 sq mi, now only 483 sq mi due to human actions; Tacoma water diversion and Howard Hanson dams block access to approx. 107 mi. of historic habitat (Bishop and Morgan 1996)		Will not be affected by proposed project	
Habitat Elements: Substrate			Lower Duwamish likely has silt substrate		Will not be affected by proposed project	
Large Woody Debris			Channelization, rip-rap-hardened banks and loss of riparian vegetation causes lack of LWD		Will not be affected by proposed project	

TABLE 3-1
CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR CHINOOK SALMON

PATHWAYS:	**ENVIRONMENTAL BASELINE**			**EFFECTS OF THE ACTION(S)**		
INDICATORS	Properly[1] Functioning	At Risk[1]	Not Properly[1] Functioning	Restore[2]	Maintain[3]	Degrade[4]
Pool Frequency			Lower Duwamish historically was rapidly shifting meanders; now almost completely within dikes and pools in lower reaches were eliminated (Bishop and Morgan 1996)		Will not be affected by proposed project	
Pool Quality			See above		Will not be affected by proposed project	
Habitat Elements, continued: Off-channel habitat			Lower Duwamish estuary has lost all of original tidal swamp, most of mudflats and tidal marsh – 99% reduction; most of estuary shoreline is bulkheads, riprap, or pilings (Warner and Fritz 1995, Bishop and Morgan 1996)	Additional small area of off-channel habitat will be provided by this project		
Refugia			See above; refugia nearly lacking on lower Duwamish		Will not be affected by proposed project	
Channel Condition and Dynamics Width/Depth Ratio			Unknown, severely altered from original condition		Will not be affected by proposed project	
Streambank Conditions			Bishop and Morgan (1996) indicate intense timber harvest and high road density, likely to be <80 % stable banks		Will not be affected by proposed project	
Floodplain Connectivity			Severely reduced hydrologic connectivity (Bishop and Morgan 1996)	Additional small area of off-channel habitat will be provided by this project		

TABLE 3-1
CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR CHINOOK SALMON

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Properly[1] Functioning	At Risk[1]	Not Properly[1] Functioning	Restore[2]	Maintain[3]	Degrade[4]
Flow/Hydrology: Peak/Base Flows			Reduced mainstem instream flows year round and in spring due to Corps and City of Tacoma reservoir operation (Bishop and Morgan 1996)		Will not be affected by proposed project	
Drainage Network Increase			Significant increase in drainage network density due to roads (Bishop and Morgan 1996)		Will not be affected by proposed project	
Watershed Conditions: Road Density and Location					Will not be affected by proposed project	
Disturbance History		>15% ECA (entire watershed), disturbance throughout, LSOG retention percentage unknown			Will not be affected by proposed project	
Riparian reserves			Riparian reserve system severely impacted (Bishop and Morgan 1996)		Will not be affected by proposed project	

Watershed Name: Duwamish/Green Location: Project Location is at approximately RM 6.25

1 These three categories of function ("Properly functioning", "at risk", and "not properly functioning") are defined for each indicator in the "Matrix of Pathways and Indicators" (Table 1 on p. 10).

2 For the purposes of this checklist, "restore" means to change the function of an "at risk" indicator to "properly functioning", or to change the function of a "not properly functioning" indicator to "at risk" or "properly functioning" (i.e., it does not apply to "properly functioning" indicators).

3 For the purposes of this checklist, "maintain" means that the function of an indicator does not change (i.e., it applies to all indicators regardless of functional level).

4 For the purpose of this checklist, "degrade" means to change the function of an indicator for the worse (i.e., it applies to all indicators regardless of functional level). In some cases, a "not properly functioning" indicator may be further worsened, and this should be noted.

TABLE 3-2

CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR BULL TROUT

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Functioning Appropriately[1]	Functioning At Risk[1]	Functioning at Unacceptable Risk[1]	Restore[2]	Maintain[3]	Degrade[4]
Subpopulation Characteristics: Subpopulation Size			Population size is probably less than 50 adults; less than a dozen fish have been reported in the Duwamish/Green River in the last 50 years; presence of suitable spawning habitat questionable; fish reported may originate from other streams		Project will not affect subpopulation size	
Growth and Survival		Probably functioning at risk; lack of records makes it difficult to assess; warm water temperatures render spawning habitat less than optimal; status of population unknown but apparently very low, unlikely to recover from disturbance in 5 years			Project will not affect life history diversity or isolation	

TABLE 3-2
CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR BULL TROUT

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Functioning Appropriately[1]	Functioning At Risk[1]	Functioning at Unacceptable Risk[1]	Restore[2]	Maintain[3]	Degrade[4]
Life History Diversity and Isolation		Probably functioning at risk, fish reared in other streams could easily enter the Duwamish/ Green River system and remain there; migratory form probably the only one present				
		Fish originating from other stream systems would have access to the Green/ Duwamish system; source populations have not been identified, displacement by competitors possible	This also possibly the case for bull trout in the Duwamish/Green River system		Project will not affect persistence and genetic integrity	
Water Quality: Temperature			High water temperatures in the Green River below RM 30 are cited by Bishop and Morgan (1996)		Water temperatures will not be affected by the proposed project; proposed tree plantings will increase riparian shade	

TABLE 3-2
CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR BULL TROUT

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Functioning Appropriately[1]	Functioning At Risk[1]	Functioning at Unacceptable Risk[1]	Restore[2]	Maintain[3]	Degrade[4]
Sediment			High proportion of private timberlands in the upper watershed, and high road densities throughout (Bishop and Morgan 1996)		Sediment/turbidity will not be affected by the proposed project	
Chemical Contamination and Nutrient Loads			Many 303(d) designated sections in the Duwamish/Green system, including one at project site		Will not be affected by proposed project	
Habitat Access: Physical Barriers			Duwamish/Green River formerly drained 1,642 sq mi, now only 483 sq mi due to human actions; Tacoma water diversion and Howard Hanson dams block access to approx. 107 mi. of historic habitat (Bishop and Morgan 1996)		Will not be affected by proposed project	
Habitat Elements: Substrate			Lower Duwamish likely has silt substrate		Will not be affected by proposed project	
Large Woody Debris			Channelization, rip-rap-hardened banks and loss of riparian vegetation causes lack of LWD		Will not be affected by proposed project	

TABLE 3-2
CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR BULL TROUT

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Functioning Appropriately[1]	Functioning At Risk[1]	Functioning at Unacceptable Risk[1]	Restore[2]	Maintain[3]	Degrade[4]
Pool Frequency			Lower Duwamish historically was rapidly shifting meanders; now almost completely within dikes and pools in lower reaches were eliminated (Bishop and Morgan 1996)		Will not be affected by proposed project	
Large Pools			See above			
Off-channel habitat			Lower Duwamish estuary has lost all of original tidal swamp, most of mudflats and tidal marsh – 99% reduction; most of estuary shoreline is bulkheads, riprap, or pilings (Warner and Fritz 1995, Bishop and Morgan 1996)	Additional small area of off-channel habitat will be provided by this project		
Refugia			See above; refugia nearly lacking on lower Duwamish		Will not be affected by proposed project	
Channel Condition and Dynamics Width/Depth Ratio			Unknown, severely altered from original condition		Will not be affected by proposed project	
Streambank Conditions			Bishop and Morgan (1996) indicate intense timber harvest and high road density, likely to be <80 % stable banks		Will not be affected by proposed project	

TABLE 3-2

CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS FOR BULL TROUT

PATHWAYS:	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
INDICATORS	Functioning Appropriately[1]	Functioning At Risk[1]	Functioning at Unacceptable Risk[1]	Restore[2]	Maintain[3]	Degrade[4]
Flocdplain Connectivity			Severely reduced hydrologic connectivity (Bishop and Morgan 1996)	Additional small area of off-channel habitat will be provided by this project		
Flow/Hydrology: Peak/Base Flows			Reduced mainstem instream flows year round and in spring due to Corps and City of Tacoma reservoir operation (Bishop and Morgan 1996)		Will not be affected by proposed project	
Drainage Network Increase			Significant increase in drainage network density due to roads (Bishop and Morgan 1996)		Will not be affected by proposed project	

TABLE 1. MATRIX of PATHWAYS AND INDICATORS

(Remember, the ranges of criteria presented here are not absolute, they may be adjusted for unique watersheds. See p. 3)

PATHWAY	INDICATORS	PROPERLY FUNCTIONING	AT RISK	NOT PROPERLY FUNCTIONING
Water Quality:	Temperature	50-57° F[1]	57-60° (spawning) 57-64° (migration &rearing)[1]	> 60° (spawning) > 64° (migration & rearing)[2]
	Sediment/Turbidity	< 12% fines (<0.85mm) in gravel[3], turbidity low	12-17% (west-side)[3], 12-20% (east-side)[2], turbidity moderate	>17% (west-side)[3], >20% (east side)[2] fines at surface or depth in spawning habitat[2], turbidity high
	Chemical Contamination/ Nutrients	low levels of chemical contamination from agricultural, industrial and other sources, no excess nutrients, no CWA 303d designated reaches[5]	moderate levels of chemical contamination from agricultural, industrial and other sources, some excess nutrients, one CWA 303d designated reach[5]	high levels of chemical contamination from agricultural, industrial and other sources, high levels of excess nutrients, more than one CWA 303d designated reach[5]
Habitat Access:	Physical Barriers	any man-made barriers present in watershed allow upstream and downstream fish passage at all flows	any man-made barriers present in watershed do not allow upstream and/or downstream fish passage at base/low flows	any man-made barriers present in watershed do not allow upstream and/or downstream fish passage at a range of flows
Habitat Elements:	Substrate	dominant substrate is gravel or cobble (interstitial spaces clear), or embeddedness <20%[3]	gravel and cobble is subdominant, or if dominant, embeddedness 20-30%[3]	bedrock, sand, silt or small gravel dominant, or if gravel and cobble dominant, embeddedness >30%[2]
	Large Woody Debris	Coast: >80 pieces/mile >24"diameter >50 ft. length[4]; East-side: >20 pieces/ mile >12"diameter >35 ft. length[2]; and adequate sources of woody debris recruitment in riparian areas	currently meets standards for properly functioning, but lacks potential sources from riparian areas of woody debris recruitment to maintain that standard	does not meet standards for properly functioning and lacks potential large woody debris recruitment
	Pool Frequency channel width # pools/mile[6] 5 feet 184 10 " 96 15 " 70 20 " 58 25 " 47 50 " 26 75 " 23 100 " 18	meets pool frequency standards (left) and large woody debris recruitment standards for properly functioning habitat (above)	meets pool frequency standards but large woody debris recruitment inadequate to maintain pools over time	does not meet pool frequency standards

	Disturbance History	<15% ECA (entire watershed) with no concentration of disturbance in unstable or potentially unstable areas, and/or refugia, and/or riparian area; and for NWFP area (except AMAs), ≥15% retention of LSOG in watershed[10]	<15% ECA (entire watershed) but disturbance concentrated in unstable or potentially unstable areas, and/or refugia, and/or riparian area; and for NWFP area (except AMAs), ≥15% retention of LSOG in watershed[10]	>15% ECA (entire watershed) and disturbance concentrated in unstable or potentially unstable areas, and/or refugia, and/or riparian area; does not meet NWFP standard for LSOG retention
	Riparian Reserves	the riparian reserve system provides adequate shade, large woody debris recruitment, and habitat protection and connectivity in all subwatersheds, and buffers or includes known refugia for sensitive aquatic species (>80% intact),and/or for grazing impacts: percent similarity of riparian vegetation to the potential natural community/ composition >50%[11]	moderate loss of connectivity or function (shade, LWD recruitment, etc.) of riparian reserve system, or incomplete protection of habitats and refugia for sensitive aquatic species (=70-80% intact), and/or for grazing impacts: percent similarity of riparian vegetation to the potential natural community/composition 25-50% or better[12]	riparian reserve system is fragmented, poorly connected, or provides inadequate protection of habitats and refugia for sensitive aquatic species (<70% intact), and/or for grazing impacts: percent similarity of riparian vegetation to the potential natural community/composition <25%[12]

[1] Bjornn, T.C. and D.W. Reiser, 1991. Habitat Requirements of Salmonids in Streams. American Fisheries Society Special Publication 19:83-138. Meehan, W.R., ed.
[2] Biological Opinion on Land and Resource Management Plans for the: Boise, Challis, Nez Perce, Payette, Salmon, Sawtooth, Umatilla, and Wallowa-Whitman National Forests. March 1, 1995.
[3] Washington Timber/Fish Wildlife Cooperative Monitoring Evaluation and Research Committee, 1993. Watershed Analysis Manual (Version 2.0). Washington Department of Natural Resources.
[4] Biological Opinion on Implementation of Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH). National Marine Fisheries Service, Northwest Region, January 23, 1995.
[5] A Federal Agency Guide for Pilot Watershed Analysis (Version 1.2), 1994.
[6] USDA Forest Service, 1994. Section 7 Fish Habitat Monitoring Protocol for the Upper Columbia River Basin.
[7] Frissell, C.A., Liss, W.J., and David Bayles, 1993. An Integrated Biophysical Strategy for Ecological Restoration of Large Watersheds. Proceedings from the Symposium on Changing Roles in Water Resources Management and Policy, June 27-30, 1993 (American Water Resources Association), p. 449-456.
[8] Wemple, B.C., 1994. Hydrologic Integration of Forest Roads with Stream Networks in Two Basins, Western Cascades, Oregon. M.S. Thesis, Geosciences Department, Oregon State University.
[9] e.g., see Elk River Watershed Analysis Report, 1995. Siskiyou National Forest, Oregon.
[10] Northwest Forest Plan, 1994. Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl. USDA Forest Service and USDI Bureau of Land Management.
[11] USDA Forest Service, 1993. Determining the Risk of Cumulative Watershed Effects Resulting from Multiple Activities.
[12] Winward, A.H., 1989 Ecological Status of Vegetation as a base for Multiple Product Management. Abstracts 42nd annual meeting, Society for Range Management, Billings MT, Denver CO: Society For Range Managemnt: p277.

FIGURE 1. DICHOTOMOUS KEY FOR MAKING ESA DETERMINATION OF EFFECTS

1. Are there any proposed/listed anadromous salmonids and/or proposed/designated critical habitat in the watershed or downstream from the watershed?

   NO . . . . . No effect

   YES . . . . . May affect, go to 2

2. Does the proposed action(s) have the potential to hinder attainment of relevant properly functioning indicators (from table 2)?

   A. The probability of attaining or maintaining relevant properly functioning indicators is not very high nor timely . . . . . Likely to adversely affect

   B. The probability of attaining or maintaining relevant properly functioning indicators is very high and timely . . . . . Go to 3

3. Does the proposed action(s) have the potential to result in "take"[1] of proposed/listed anadromous salmonids or destruction/adverse modification of proposed/designated critical habitat?

   A. There is a negligible (extremely low) probability of take of proposed/listed anadromous salmonids or destruction/adverse modification of proposed/designated critical habitat . . . . . Not likely to adversely affect

   B. There is more than a negligible probability of take of proposed/listed anadromous salmonids or destruction/adverse modification of proposed/designated critical habitat . . . . . *Likely to adversely affect*

[1] "Take" - The ESA (Section 3) defines take as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, collect or attempt to engage in any such conduct". The USFWS (USFWS, 1994) further defines "harm" as "significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering", and "harass" as "actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering".

Appendix A

King County Section 7 Assessment Form – Part 1

Assessment form – Part I: 2000 Schedule and Workload Forecast

	B	D
1	*Question*	*Response*
2	Project Name	Cecil Moses Memorial Park
3	**General Information**	
4		
5	Identification number	*(leave blank, ID no. will be assigned)*
6	Department	Dept. of Construction & Facilities Management
7	Division	Div. Of Capital Planning & Development
8	Section	Parks C.I.P.Section
9	Project manager name	Michael Lozano
10	Project manager phone number	(206) 296-4240
11	Contact name (if different than project manager)	Don Benson URS Greiner Woodward Clyde
12	Contact phone number	(206) 343-7933
13	Who is the project ecologist or biologist?	Lynn Sharp URS Greiner Woodward Clyde
14	Identify project purpose(s)	habitat restoration/enhancement,park passive use
15	Identify project type	new
16	Identify any other projects directly related to and/or dependent upon this project.	Green River Trail Project – Connecting trail gaps
17	**Species Information**	
18	What listed species may be present in this location?	Bald Eagle (T); Puget Sound Chinook Salmon (T); Bull Trout (T)
19	If known, at what life stages?	Bald Eagle - Adult; Salmon - Smolt and Adult; Bull Trout - Probably adults, if present
20	List information sources and/or contacts (federal, state, tribal, local) for this info.	USFWS; NMFS; WDFWS; Muckleshoot Tribe
21	What species (if any) are proposed for listing in this location?	NA
22	If known, at what life stages?	NA
23	List information sources and/or contacts (federal, state, tribal, local) used for this info.	NA
24	What candidate species are present in this location?	Puget Sound/Strait of Georgia Coho Salmon
25	If known, at what life stages?	Smolt and Adult
26	List information sources and/or contacts (federal, state, tribal, local) used for this info.	NMFS
27	**Location Information**	
28	Submit a USGS 7 ½ minute quadrangle map. What is the name of the quadrangle map?	Seattle South (Submitted)

	B	D
29	Provide a Thomas Bros. Guide map. What is the edition year, page number and grid coordinates?	1999 King/Pierce/Snohomish, pg. 625, D-6
30	WRIA number	09 0001
31	Stream segment number	N/A (River Mile is approx. 6.25)
32	¼ Section	SE1/4, SW1/4, SE1/4
33	Section	4
34	Township,	23 N
35	Range	4 E
36	GIS Reference Number	*Leave this blank for now.*
37	**Federal Link Information**	
38	Federal Permit Agency	Corps of Engineers
39	Federal Permit type	404, 401
40	Date of permit application	September, 1998
41	Date of permit approval	TBD
42	Federal Funding Agency	No federal funds
43	Name of federal funding program	None
44	Federal Funding Amount ($)	None
45	If more than one federal link, which federal action agency is the lead?	N/A
46	Are there partners for the project? List partners.	Elliott Bay Duwamish Restoration Panel
47	If partners, who is lead?	King County
48	**State and Local Permit Information**	
49	What State permit(s) are required	HPA (St. Dept. of Fish and Wildlife)
50	List date(s) of application for state permit(s).	September 1998
51	List date(s) of approval for state permit(s).	TBD
52	What local permits are required?	Tukwila – Shorelines; Land Altering; Irrigation; Flood Zone Control
53	List date(s) of application for local permits.	Shorelines - April 1999; Other Permits - Feb-March 2000
54	List date(s) of approval for local permits.	TBD
55	**Environmental Review**	
56	**SEPA (or NEPA?)**	SEPA and NEPA
57	Threshold Determination Date	TBD - Probably March 2000
58	Threshold Determination Decision	TBD - Probably DNS or MDNS
59	**Schedule Information**	
60	DEADLINE – Project deadline for conclusion of Section 7	Probably March 2000
61	Specify impact of not meeting deadline	Miss this year's fish window. Construction delayed a year.

Assessment form – Part I: 2000 Schedule and Workload Forecast

	B	D
62	Bid Date	8/9/00
63	Construction Date	October 2000 through February 2001
64	Target Date for Initial Panel Consultation Date	February 2000
65	Target Date for Initial Submittal of complete Assessment Form (includes Part II-Project Details) to Panel	February 2000
66	**Cost/Budget Information**	
67	Budget Project Number	316003
68	CIP ID number	N/A
69	Project Cost	$375,000 Estuary and Park

Appendix 5

(Intertidal Habitat Projects Monitoring Program)