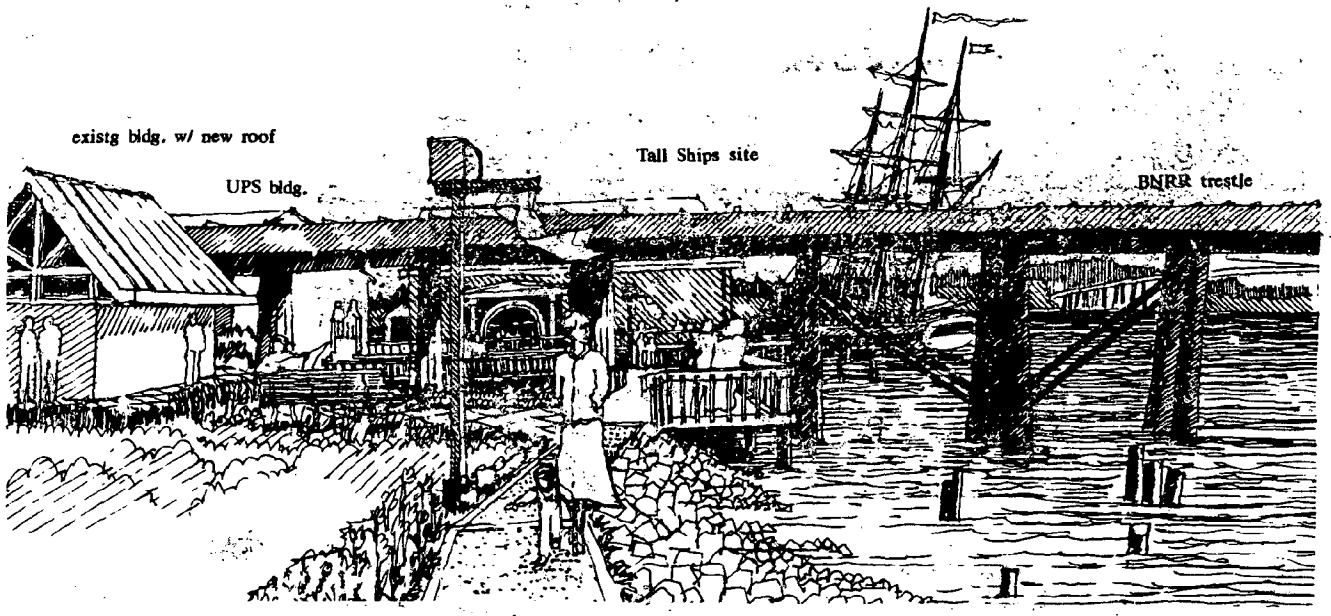
East Aberdeen Waterfront Plan

strategies for development



ABERDEEN, WASHINGTON

Kasprisin Design Group
architecture/urban planning & design

1988

Acknowledgements

ABERDEEN, WASHINGTON

City of Aberdeen

Hon.O'Dean Williamson, Mayor

City Council

Ron Bell
Tobi Buckman
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Consultants

Kasprisin Design Group

Ron Kasprisin - Architect/Planner
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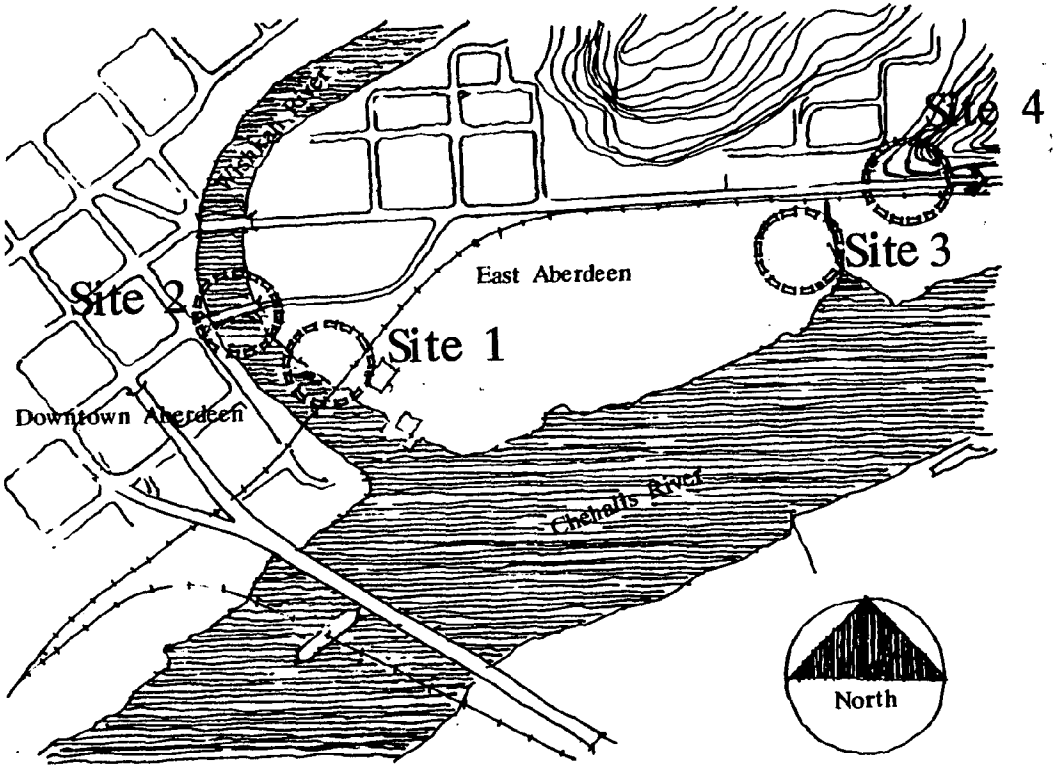
The preparation of this document was financially aided through a grant from the Washington State Department of Ecology with funds obtained from the National Oceanic and Atmospheric Administration and appropriated for Section 306B of the Coastal Zone Management Act of 1972.

Designs and graphics by the Kasprisin Design Group.

Kasprisin Design Group
5048 21st Avenue Northeast
Seattle, Washington 98105
206-328-0900

June 30th, 1988



Site 1
former Lehto Gardens site

Site 2
Heron St. & South"F"St.

Site 3
Morrison Park Entrance

Site 4
Approach to East Aberdeen

The purpose of this document is to provide for the City of Aberdeen more detailed design for four specific sites that are critical to the successful implementation of the June 1987 East Aberdeen Waterfront Plan.

Designs are herein proposed that improve the potential for supporting public access and activities on the City of Aberdeen waterfront.

The individual opportunities of each site and their relationship to each other and the potential future development of East Aberdeen have directed the following proposals.

SITE 1
former Lehto Gardens site

The former Lehto Gardens site located south of Heron Street on the east bank of Wishkah River is an important location for connecting the Tall Ships Historic Seaport site to the central business district across the Wishkah. Furthermore, the site's northern edge, Heron Street, is the main roadway eastbound through Aberdeen. This portion of the site could be a dramatic foreground for the Tall Ships complex immediately downstream. As the view up and down the Wishkah opens for eastbound traffic several opportunities could be made apparent; public open space on the river bank, public access both to the river and south to the Tall Ships complex, public exhibits and facilities, as well as parking and pedestrian drop-off areas.

Parking is depicted at the "inland" area of the site. Access and egress is adjacent to the B.N.R.R. easement to the east on Heron Street to mitigate the interference with eastbound traffic coming across the Heron Street Bridge.

A pedestrian overpass is depicted, but is probably too costly; instead a pedestrian crosswalk further to the east at the existing metro station near the parking entrance would suffice to help protect pedestrians from eastbound traffic.

PROJECT COMPLETION REPORT

COASTAL ZONE MANAGEMENT GRANT NO. G0088039

CITY OF ABERDEEN URBAN WATERFRONT REVITALIZATION PLANNING: PHASE 2

July 8, 1988

A. Summary Account

This project represents a continuation of the waterfront revitalization work initiated under a 1986 Coastal Zone Management Grant. This work focused on specific site improvements to help implement the original plan.

Work tasks completed by Kasprisin Design Group of Seattle included (1) preparation of drawings for proposed walkway from Heron Street to the Tall Ships facility, (2) an analysis of pedestrian facilities across the Wishkah River at Heron Street, (3) preparation of conceptual drawings for the Morrison Riverfront Park entrance, and (4) recommended specific signage and improvements along the bluff near the east City entrance and to Morrison Riverfront Park.

The City of Aberdeen staff completed plans, specifications, and estimate for reconstruction of the Morrison Riverfront Park entrance.

The above referenced work is contained in the completed documents presented with this report.

B. Reports, Maps, Plans, Exhibits, Etc.

This report contains in one bound set the following:

"East Aberdeen Waterfront Plan, Strategies for Development, Aberdeen, Washington," by Kasprisin Design Group, 1988.

Bid proposal - Specifications, Entrance and Approach, Traffic Bridge and Footpath Bridge, Morrison Riverfront Park, Engineering Project No. 2S5/87.

Estimated Cost Morrison Park Entrance, E.P. No. 2S5/87.

Plans, Entrance and Approach, City of Aberdeen Drawing No.s E68L, E69L, E70L, E71L, E72L, and E73L.

C. Abstract

See attached sheet.

ABSTRACT

1. Title: East Aberdeen Waterfront Revitalization Plan, Phase 2; Aberdeen, Washington.

2. Authors: Kasprisin Design Group, Architectural Urban Planning & Design, 5048 21st Avenue N.E., Seattle, WA 98105, (206)328-0900.
City of Aberdeen, Public Works Department, 200 East Market Street, Aberdeen, WA 98520, (206)533-4100.

3. Subject: Detailed design for four specific sites critical to successful implementation of the Phase 1 Waterfront plan completed in June, 1987.

4. Date: July 8, 1988.

5. Name Of Department and Participating localities: National Oceanic and Atmospheric Administration, Washington State Department of Ecology, City of Aberdeen.

6. Source of Copies: City of Aberdeen Public Works Department.

7. WDOE Project Number: Coastal Zone Management Grant No. G0088039.

8. Series Number:

9. Number of Pages: Kasprisin Design Group; "East Aberdeen Waterfront Plan Strategies for Development", 20 pages.
City of Aberdeen Public Works Department:
   1. Project Bid Proposal & Specifications, 124 pages.
   2. Estimate, 3 pages.
   3. Project Plans, 3 sheets.

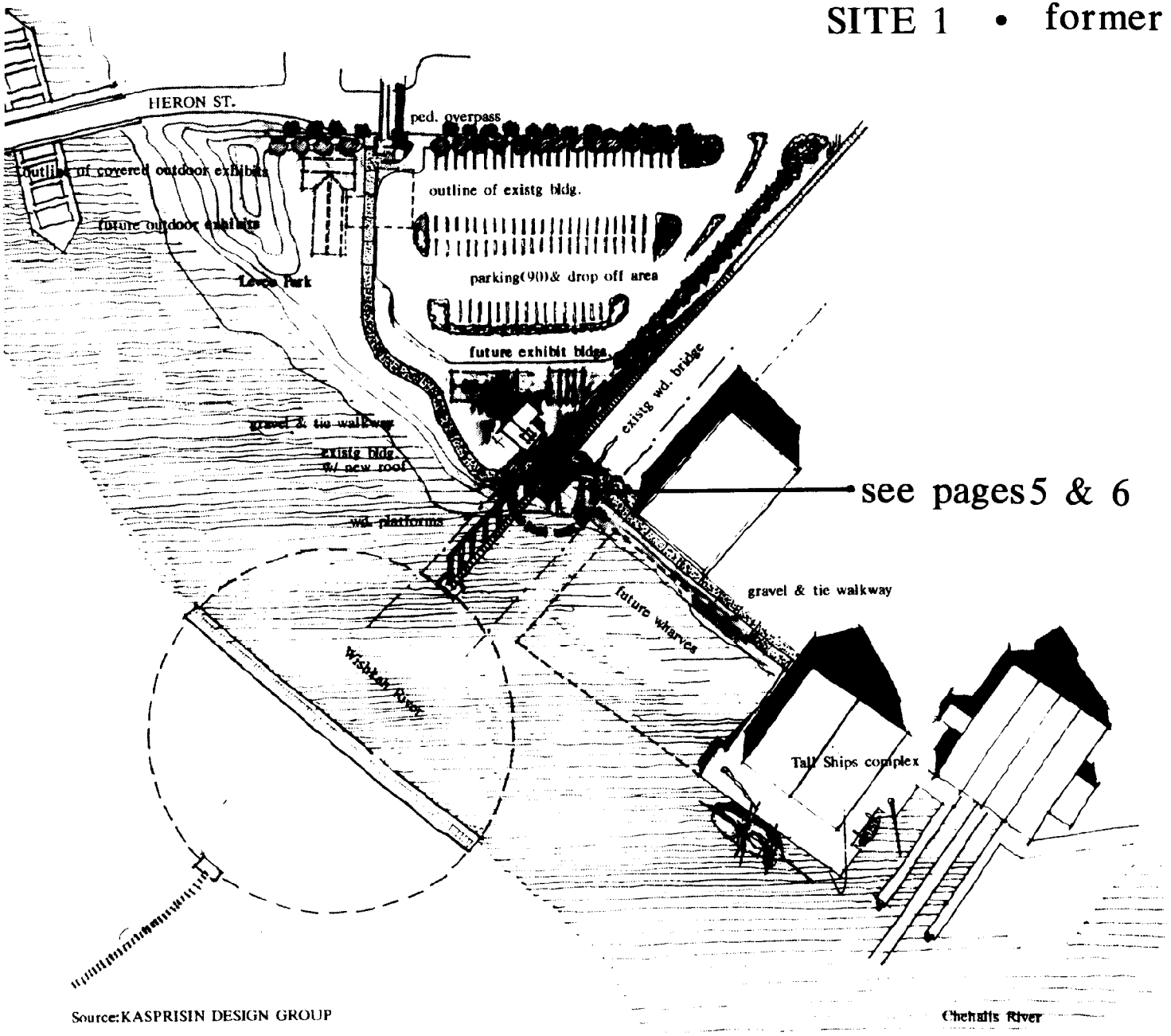
10. Abstract:

This project represents a continuation of the Phase 1 Waterfront Revitalization Plan completed in June, 1987. It concentrates specific design efforts to four areas considered instrumental to implementation of the Plan.

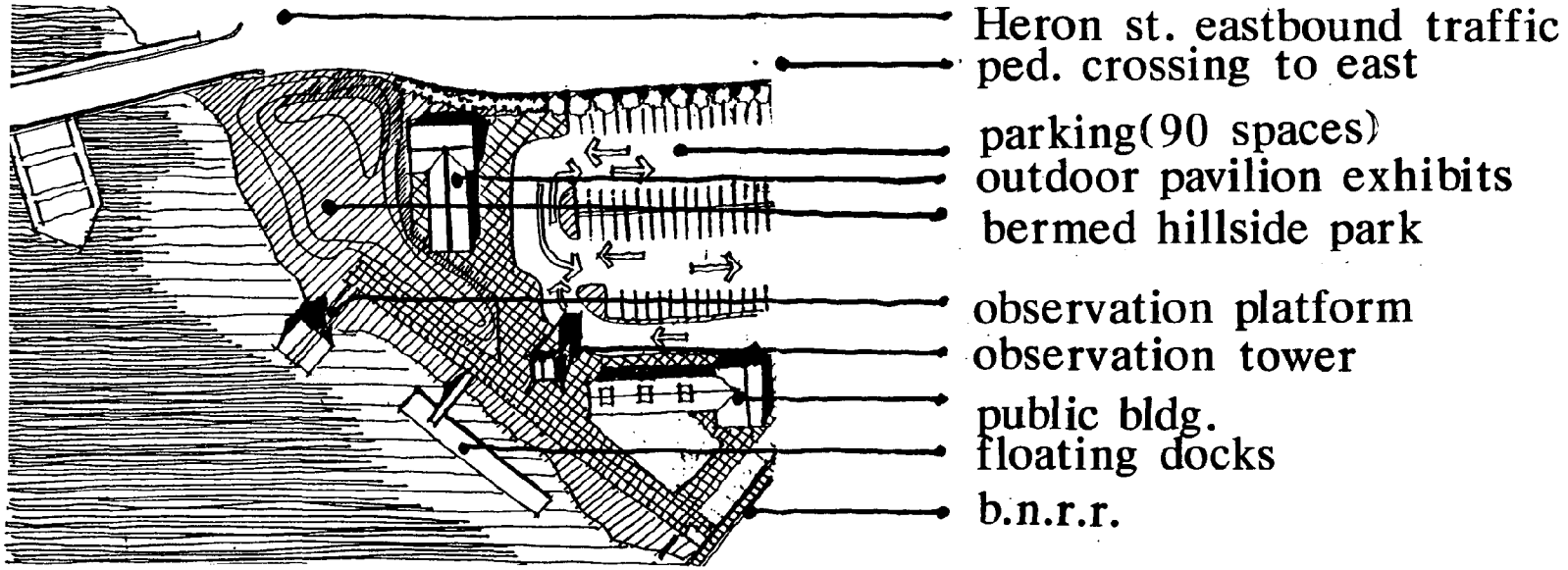
Kasprisin Design Group prepared drawings for a proposed walkway and access from Heron Street to the Tall Ships facility at the mouth of the Wishkah River where it flows into the Chehalis River. Conceptual drawings and alternatives were discussed for pedestrian facilities across the Wishkah River at Heron Street. Conceptual drawings and signage were prepared for the Morrison Riverfront Park entrance, and specific signage and improvements to the bluff area along State Route 12 above Morrison Riverfront Park were outlined.

The City of Aberdeen prepared bid documents, plans, specifications, and estimates for the Morrison Riverfront Park Entrance at Wilson Creek including channelization, a small wooden traffic bridge, and a separate pedestrian bridge.

SITE 1 • former Lehto Gardens Site



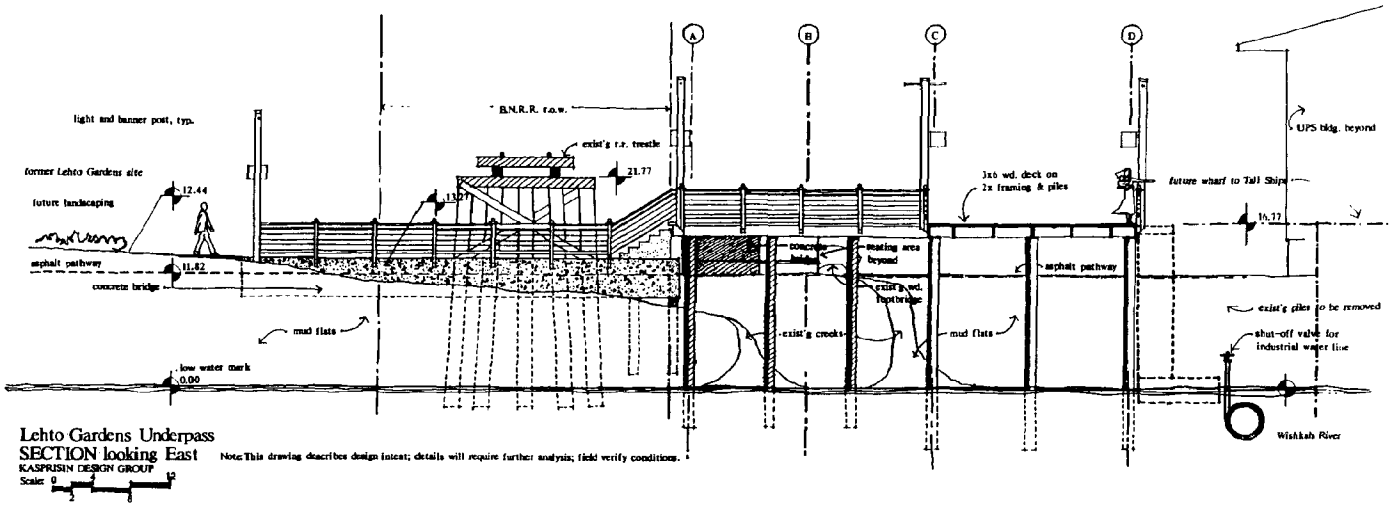
Source: KASPRISIN DESIGN GROUP



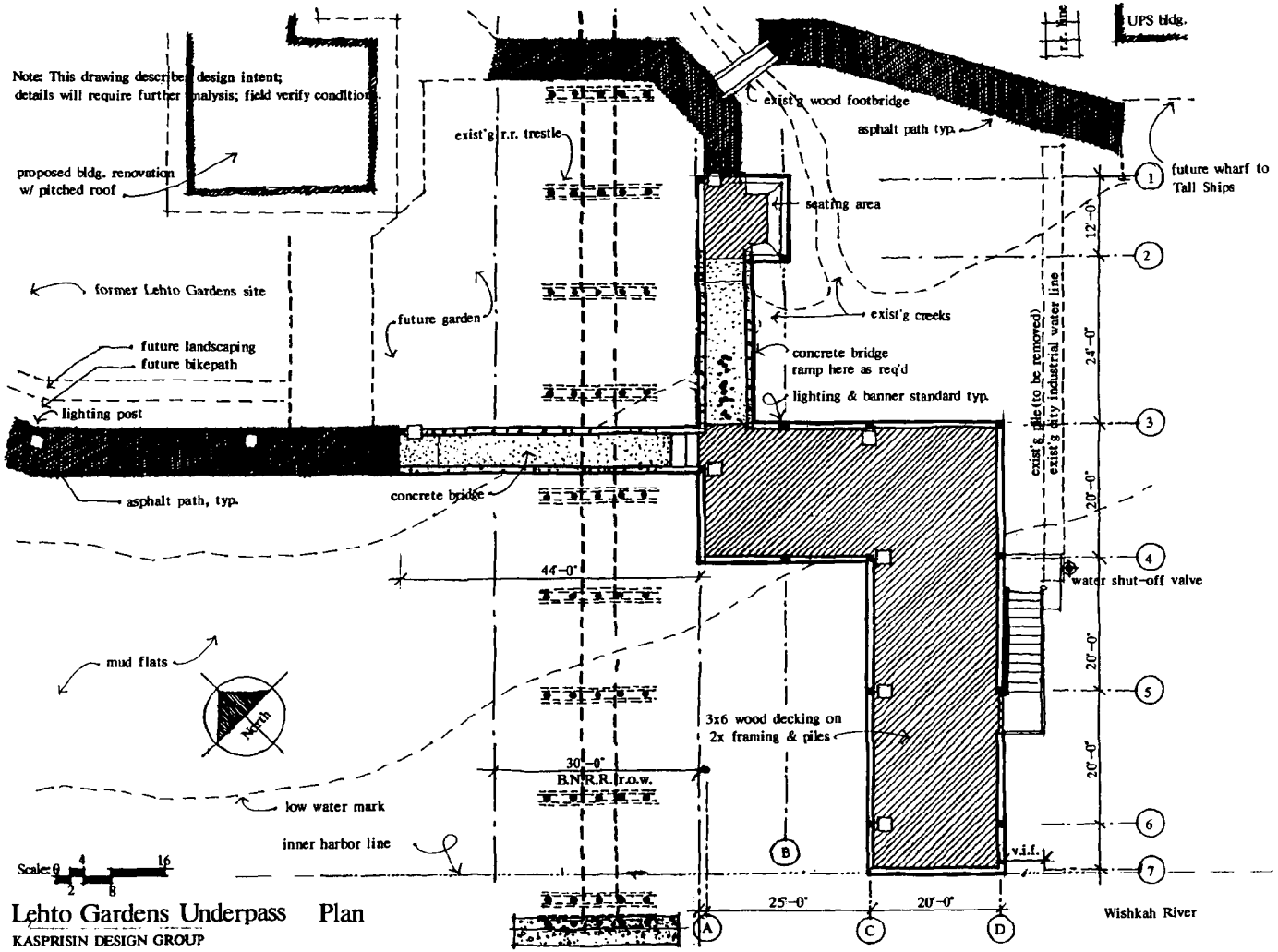
The riverbank is highly visible to eastbound traffic. Earth cut from the parking lot excavation at the middle of the northern portion of the site could be used to establish bermed overlooks at the crest of the existing levee.

This drawing depicts the high visibility and importance of Site #1's northwest corner. It would be an ideal location for covered exterior display pavilions. These open air covers for artifacts unique to Grays Harbor history would be visible and attractive day and night year round to automotive traffic and could reinforce pedestrian recreation as well. Behind the bermed riverbanks and display areas parking for as many as 100 vehicles could be provided. Buildings are shown at the southern edge of the parking area to demonstrate potential future options. These might include public buildings such as an observation tower, restrooms, restaurants, and offices. Over the water platforms and floating docks could also be accommodated here without interfering significantly with harbor traffic.

The asphalt pathway, which could eventually be expanded to include an attendant bike trail and landscaping, connects Heron Street to the north with the Tall Ships complex located to the south at the confluence of the Wishkah and Chehalis Rivers.

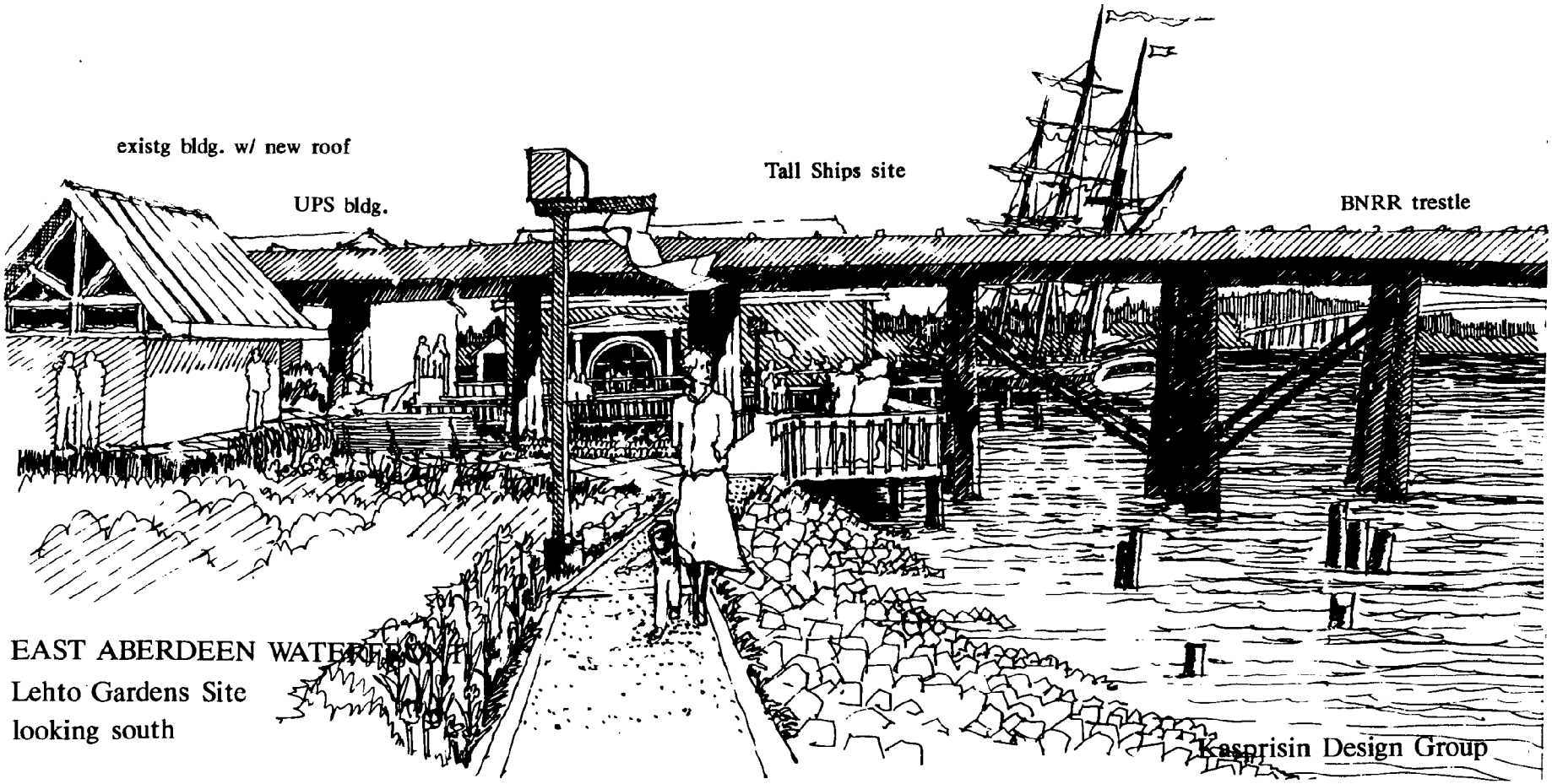


At the B.N.R.R. trestle which traverses this site an underpass in line with the pathway near the crest of the levee is proposed. This pathway and underpass will emphasize the future Tall Ships complex entry by providing a direct visual link to that complex. The wharf and walkway configuration proposed will accommodate existing terrain and protect and improve existing natural habitats. It will provide a viewing location for river activity, could accommodate visiting vessels, provide (needed) new access to city utilities, and could one day be the terminus for Tall Ships wharves extending northward.



Lehto Gardens Underpass Plan

KASPRISIN DESIGN GROUP



EAST ABERDEEN WATERFRONT
Lehto Gardens Site
looking south

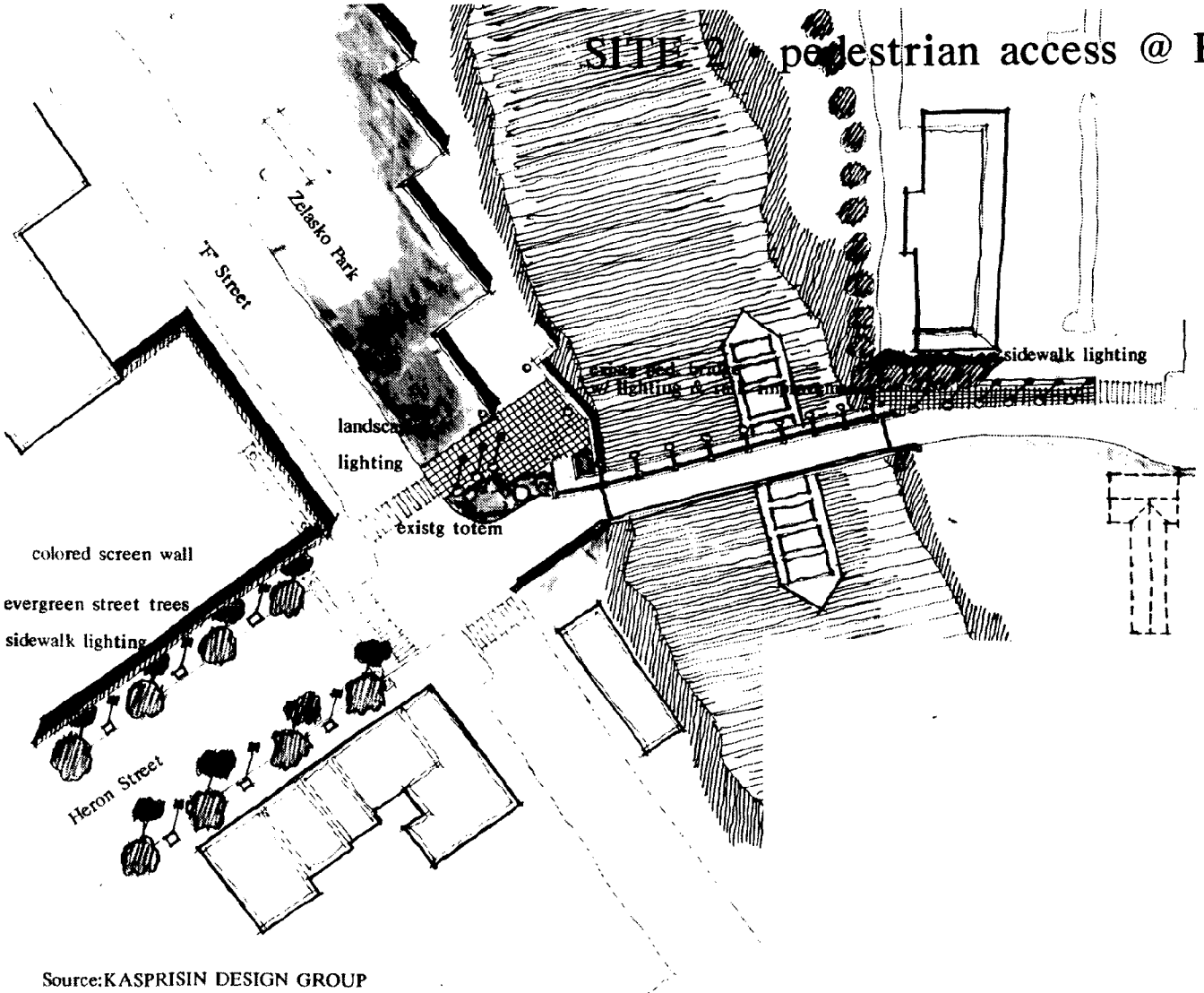
Kasprisin Design Group

SITE 2
Heron Street & South "F" St.

Zelasko Park and its immediate environs, especially the blocks to the west, are an important preamble to Site #1 and the Tall Ships Historic Seaport with its Wishkah and Chehalis River improvements. Roadway configurations and traffic controls have made this area a bottleneck for automotive traffic bound east. Visual screening of open parking lot block perimeters is recommended as an affordable and effective way of helping visually emphasize East Aberdeen's assets.

A colored screen wall with sidewalk improvements is depicted on the block just west of "F" street. Lighting and landscaping could do much to enhance the existing totem. Walkway improvements including a new railing and improved lighting at the bridge would encourage a pedestrian connection from the Central Business District through Zelasko Park and over the Heron Street Bridge to the East Aberdeen waterfront.

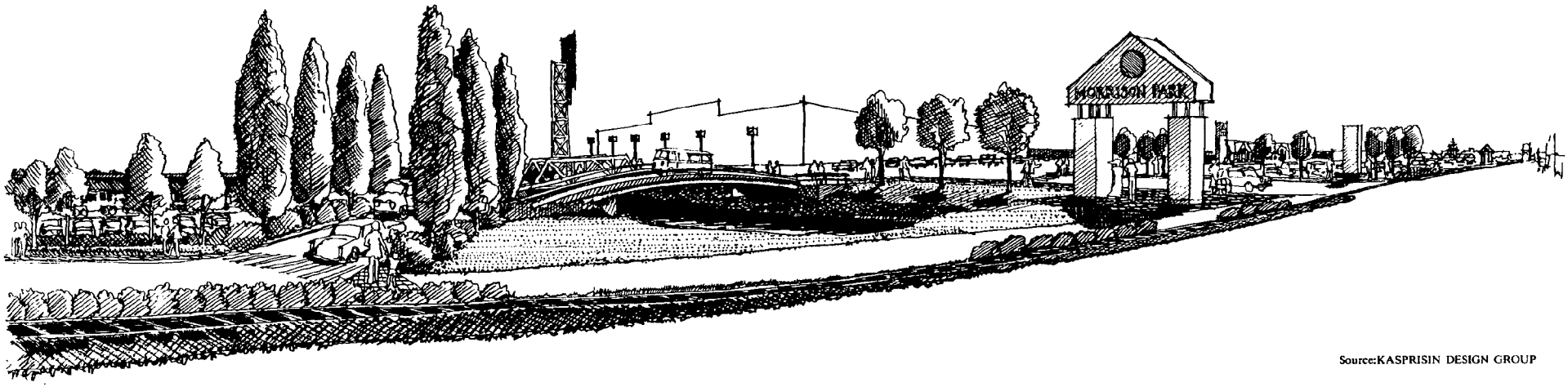
SITE 2 - pedestrian access @ Heron & South F streeets



Source:KASPRISIN DESIGN GROUP

This drawing depicts improvements to the existing pedestrian walkway at the Heron Street Bridge. Providing a walkway on the south side is not feasible as it decreases the navigable channel width and would require new bridge fender construction. The existing walkway's improvements could include improved lighting, banners, and guardrails. A pedestrian crossing of Heron Street should occur as far east of the bridge as possible. Eventually an overhead pedestrian crossing may be beneficial.

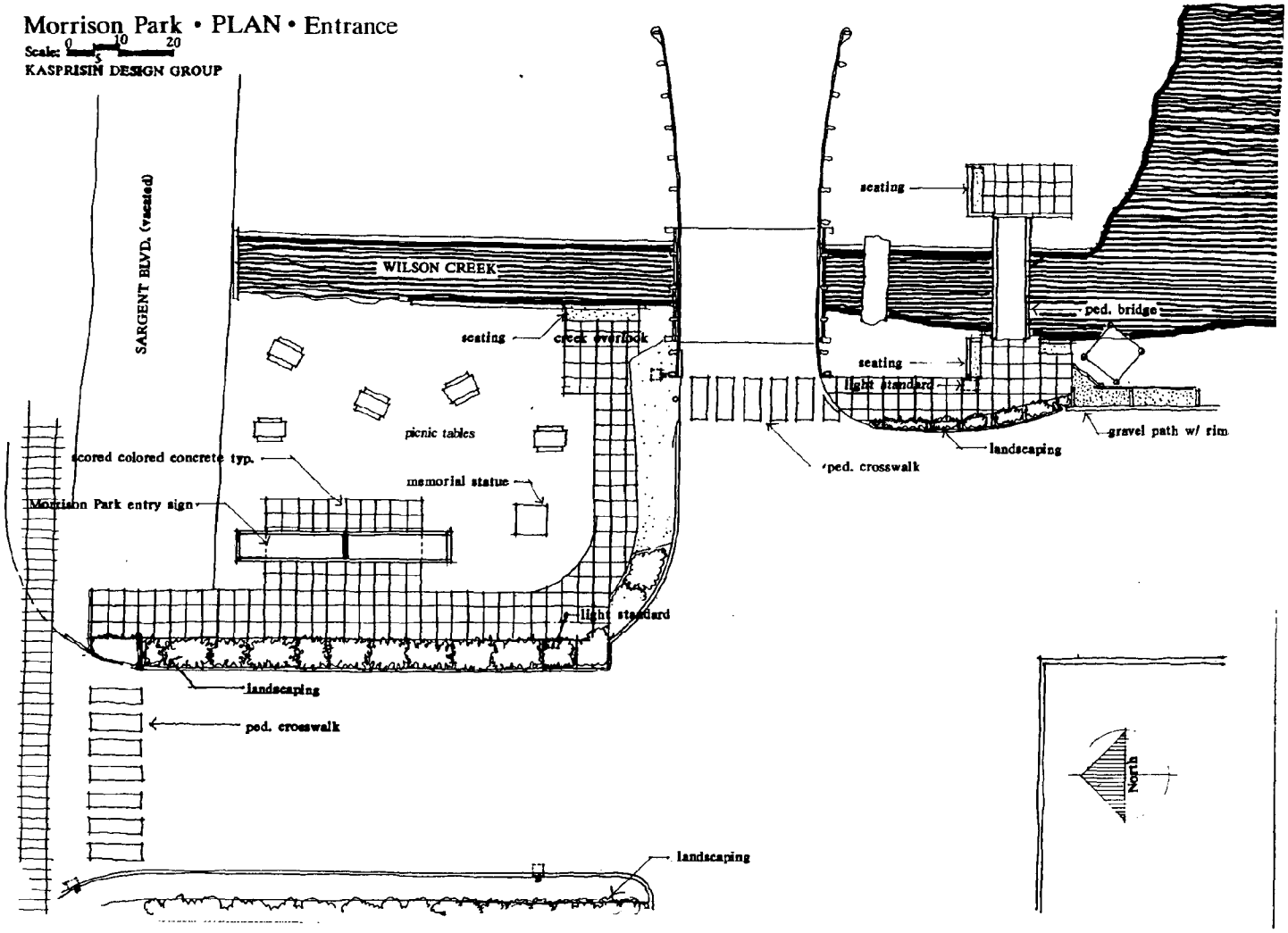
SITE 3
Morrison Park Entrance



Source:KASPRISIN DESIGN GROUP

This drawing shows the new bridge at the entrance to Morrison Park. The existing buildings at the west end of the park should be removed. The property west of Wilson Creek should be improved to make it a usable pedestrian path connecting the park to the Wishkah Mall shopping center. This portion of the site is a premier location for the large park entry sign depicted. Eventually Wilson Creek itself could be restored. This portion of the site is prominent to traffic coming into and leaving East Aberdeen. As the shopping center becomes a part of the East Aberdeen waterfront development this western side of Morrison Park could become an important amenity.

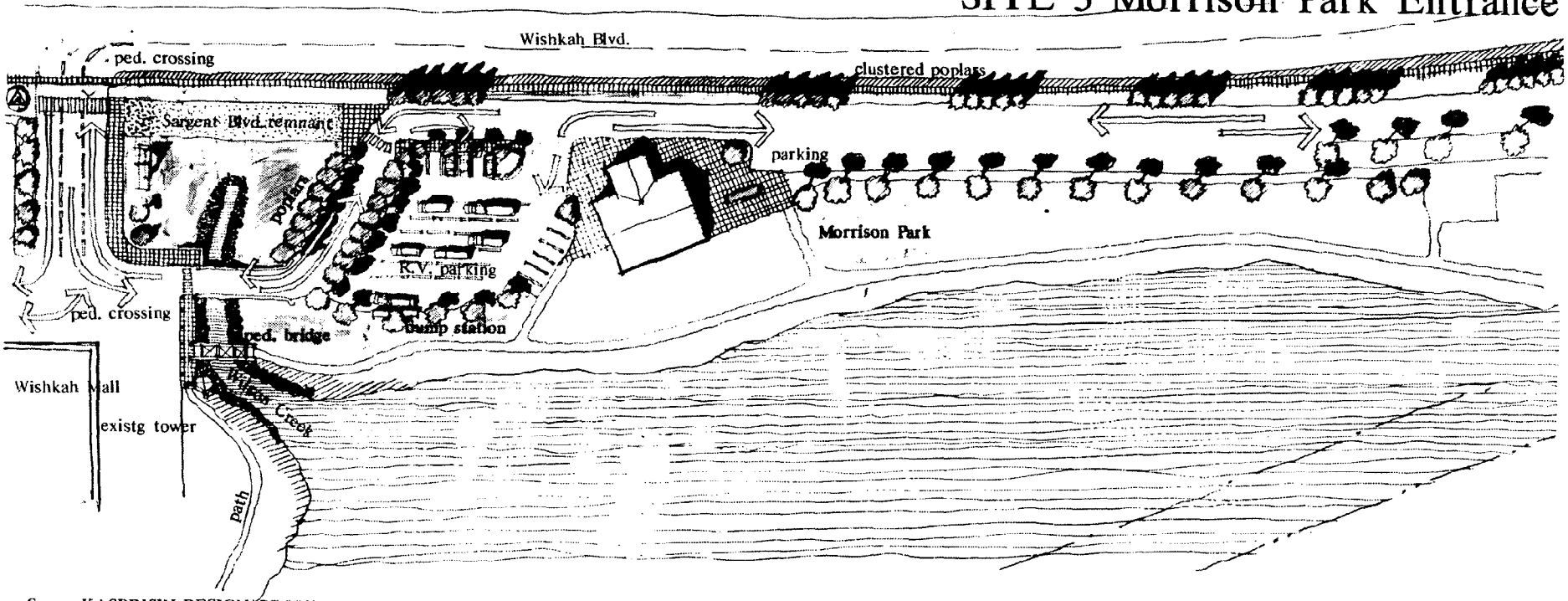
Were the B.N.R.R. to be shifted south as proposed, approximately half of the vacated Sargent Boulevard will still be available to be improved as the "northern" pedestrian route across an improved Wilson Creek into the Park.



The waterfront walkway, that will eventually connect all the way down the Chehalis River, will have a terminus at the pedestrian bridge proposed at Wilson Creek.

Pedestrian traffic from the shopping center could also be directed across the Wilson Creek area improvements to the pedestrian bridge.

SITE 3 Morrison Park Entrance



Source:KASPRISIN DESIGN GROUP

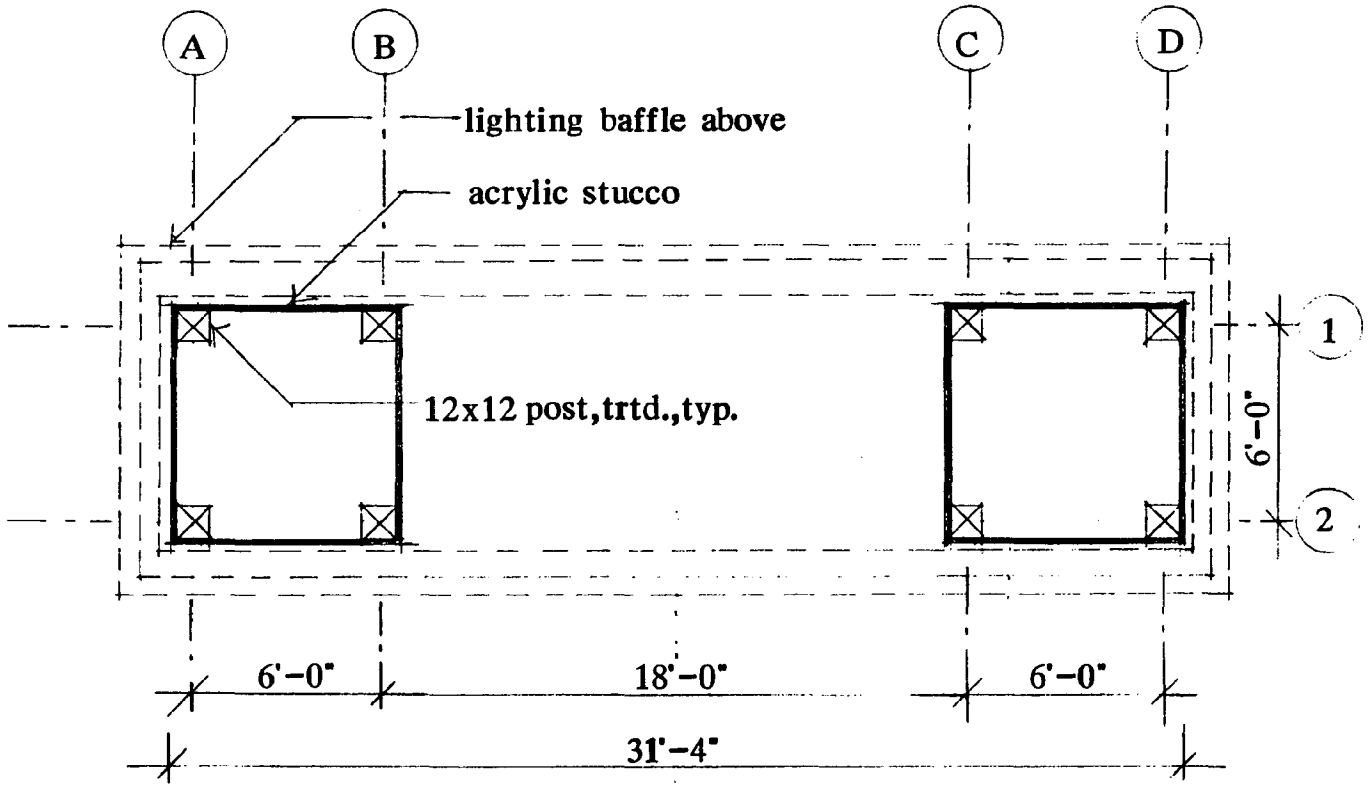
Automotive traffic at Morrison Park is brought back to the northern edge of the site by a Lombardy Poplar lined roadway, behind which there is space for recreational vehicle day parking. In addition to parking reserved for Log Pavilion employees there is also room for a dump station located near existing sanitary sewer line.

Paving and landscaping that connect to various asphalt pathways will help accommodate visitors and enhance the Log Pavilion. An asphalt waterfront pathway will connect the existing Morrison Park parking lot to the Chehalis River Waterfront path via the new Wilson Creek pedestrian bridge.

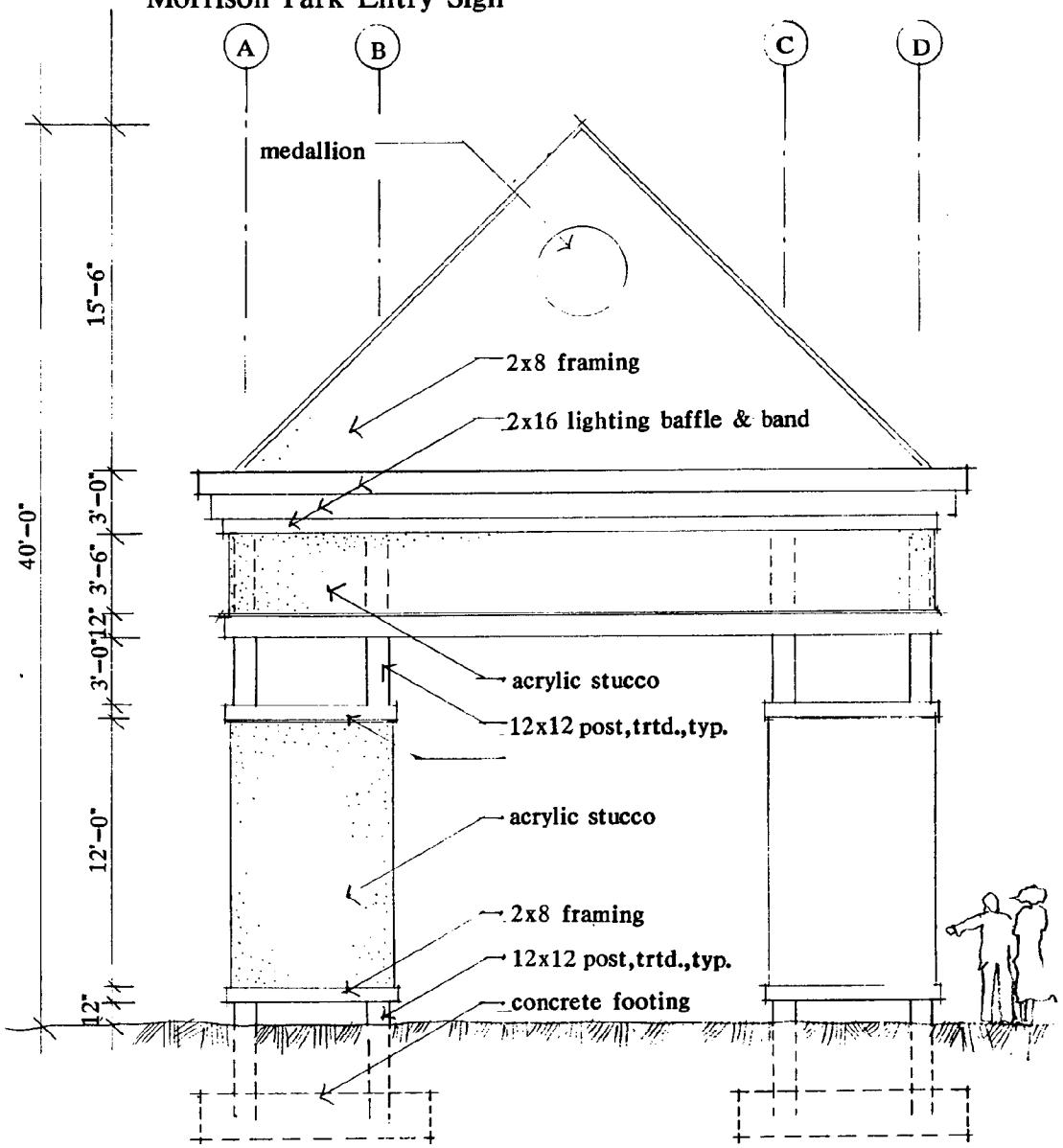
The Western edge of Morrison Park is highly visible and an important connection to East Aberdeen activities.

The following drawings describe the material, assembly, and sizes of the various elements proposed for building the Morrison Park entrance sign. This design is a "sculptural" piece that will be an effective sign from the highway for traffic bound east and west. Its simple form will be readable against the present sign clutter of the East Aberdeen approach and an appropriate marker of a major public open space. It is proposed that future Historic Seaport entry sign also be a large sculptural form compatible with this sign.

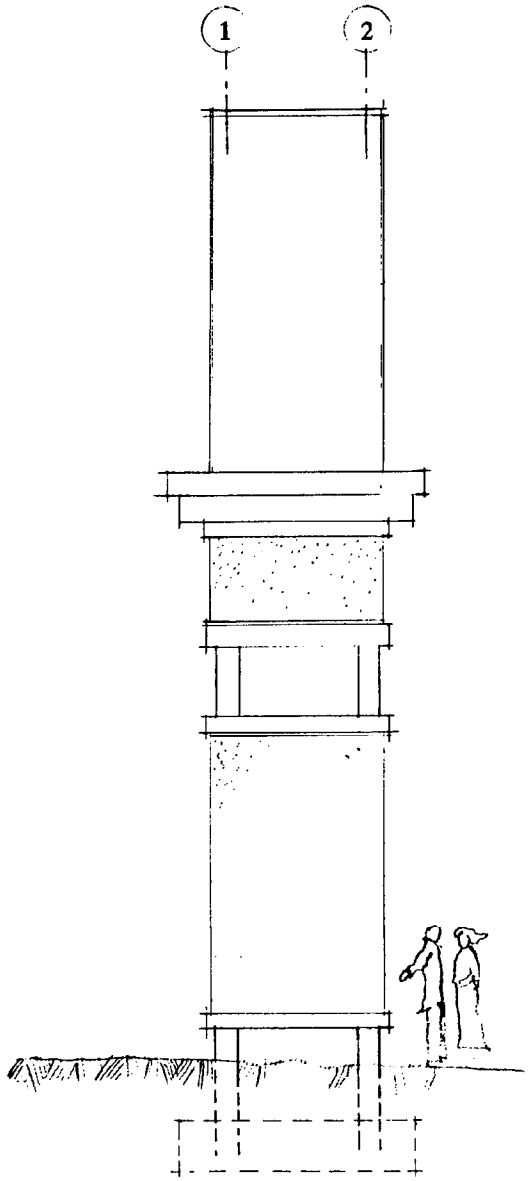
Morrison Park Entry Sign



Morrison Park Entry Sign



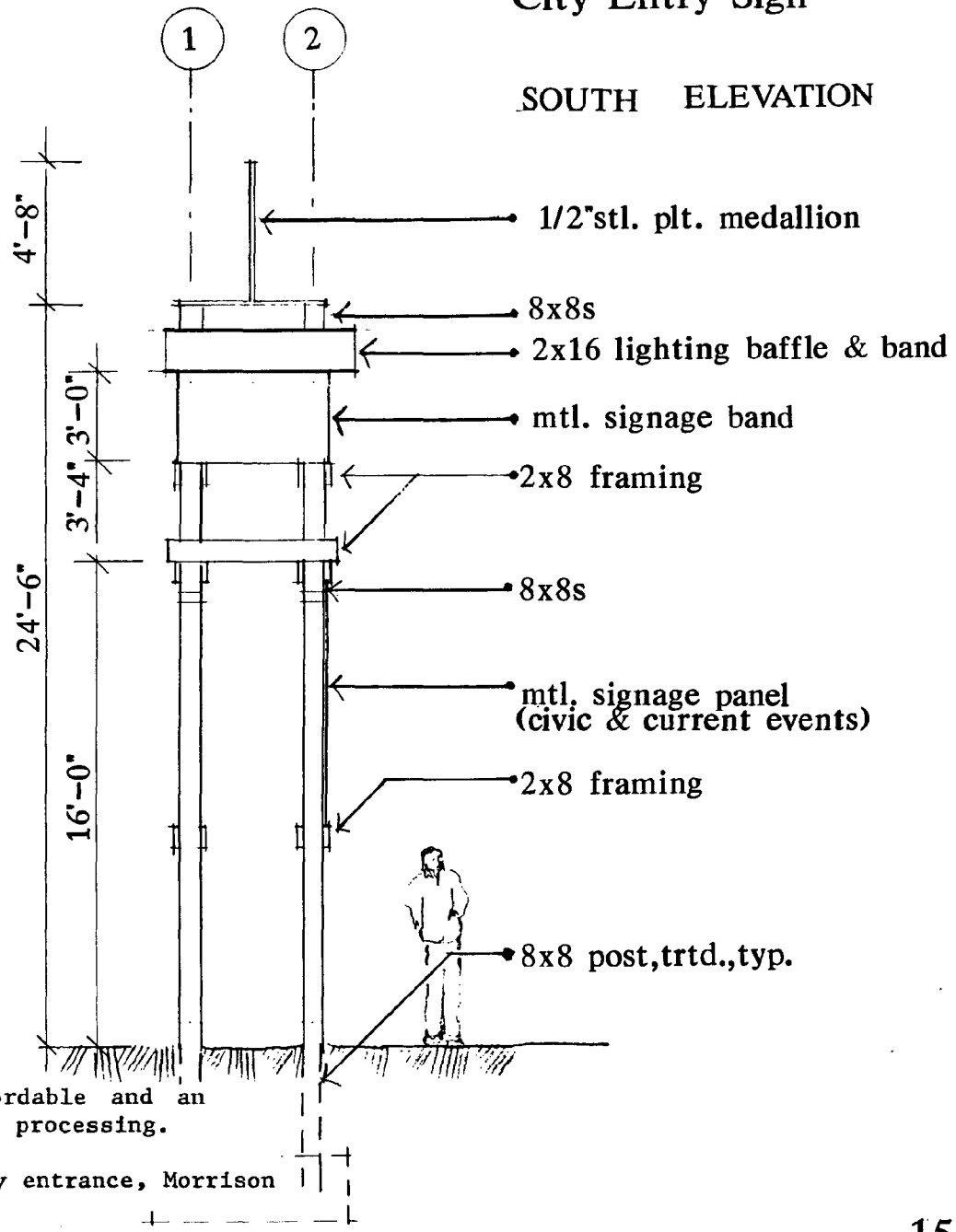
EAST ELEVATION (opposite hand similar)



SOUTH ELEVATION

NOTE: this drawing describes design intent; details will require further analysis; field verify conditions

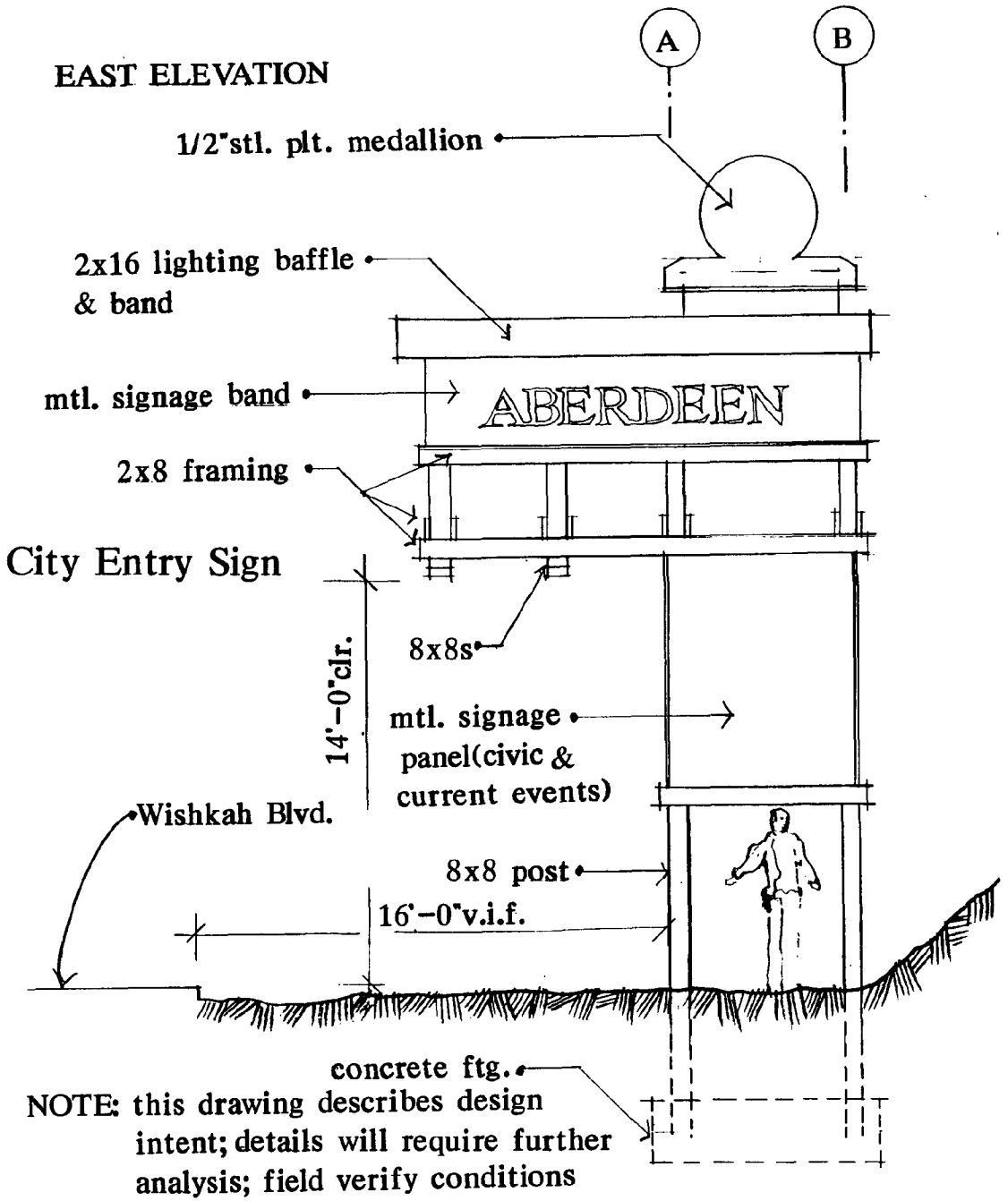
City Entry Sign



The "double-framed" wood construction depicted is affordable and an appropriate reference to Aberdeen's historical role in wood processing.

A logo profile or medallion could be used to mark the city entrance, Morrison Park, and other important locations.

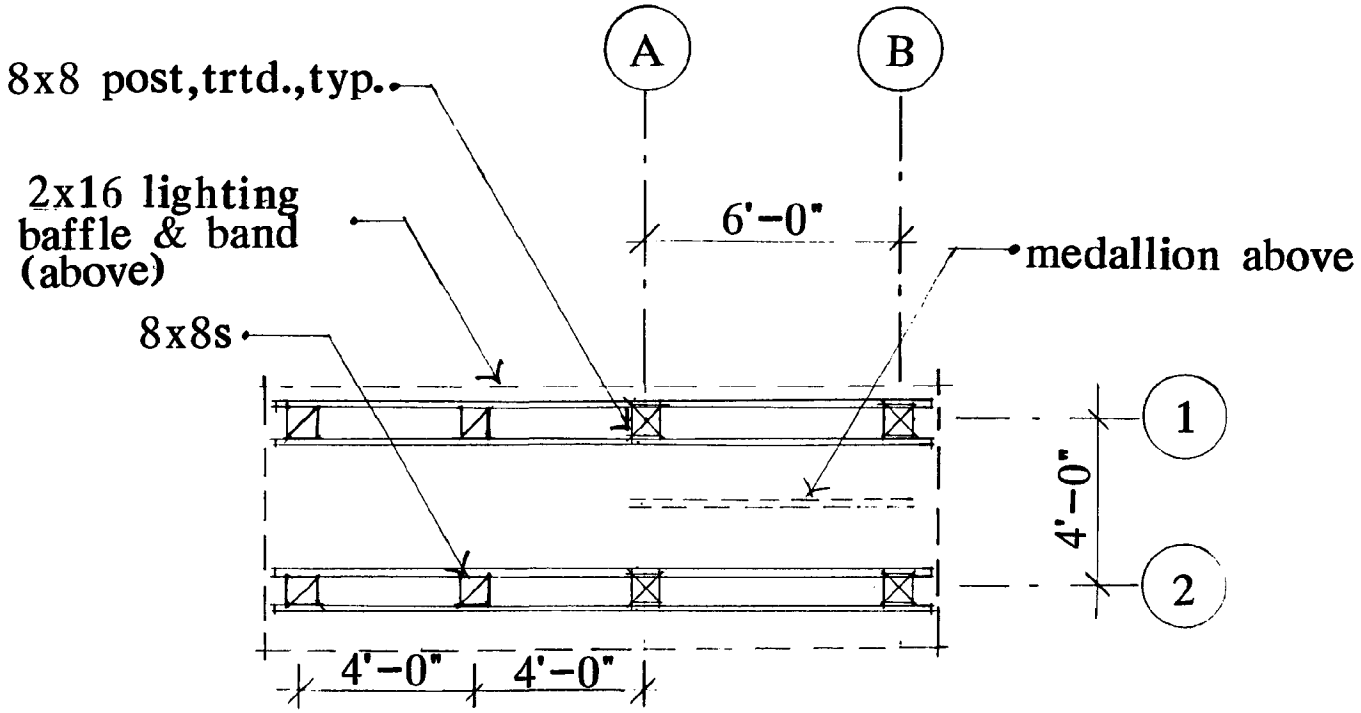
SITE 4
Approach to East Aberdeen



NOTE: this drawing describes design intent; details will require further analysis; field verify conditions

City Entry Sign

PLAN



This sign is intended for the northern right of way on the highway into East Aberdeen. Except for this sign the right of way should be cleared of signage, the telephone and utility poles should be, to the extent possible, removed and services buried. Alder and brush should be cut back dramatically.

ABERDEEN ENTRANCE SIGN

Cost Estimate

SITE CLEARING			
10 x 20 = 200 S.F. @ $.40/S.F.	=	$ 80.00	
FOOTING			
6 x 2 - 16 L.F. @ $30.00/L.F.	=	$ 480.00	
8 x 8 POSTS			
144 L.F. @ $12.00/L.F.	=	$ 1,728.00	
2 x 8 FRAME			
288 L.F. @ $6.00/L.F.	=	$ 1,728.00	
2 x 16 BAFFLE			
44 L.F. @ $8.00/L.F.	=	$ 352.00	
SIGN PANEL			
100 S.F. @ $10.00/S.F.	=	$ 1,000.00	
ELECTRICAL			
3 fixtures @ $250.00/ea.	=	$ 750.00	
MEDALLION			
½" stl. plt., embossed, painted	=	$ 500.00	
		$ 6,618.00	SUBTOTAL
GENERAL CONDITIONS			
7%		463.26	
CONTRACTORS FEE			
8%		529.44	
		$ 7,610.70	TOTAL

This cost includes both materials and labor.

After rounding the crest at the bend of the highway visitors and citizens will have the broad overview of commercial activity along the Chehalis to the south and the public waterfront improvement of Morrison Park to the west.

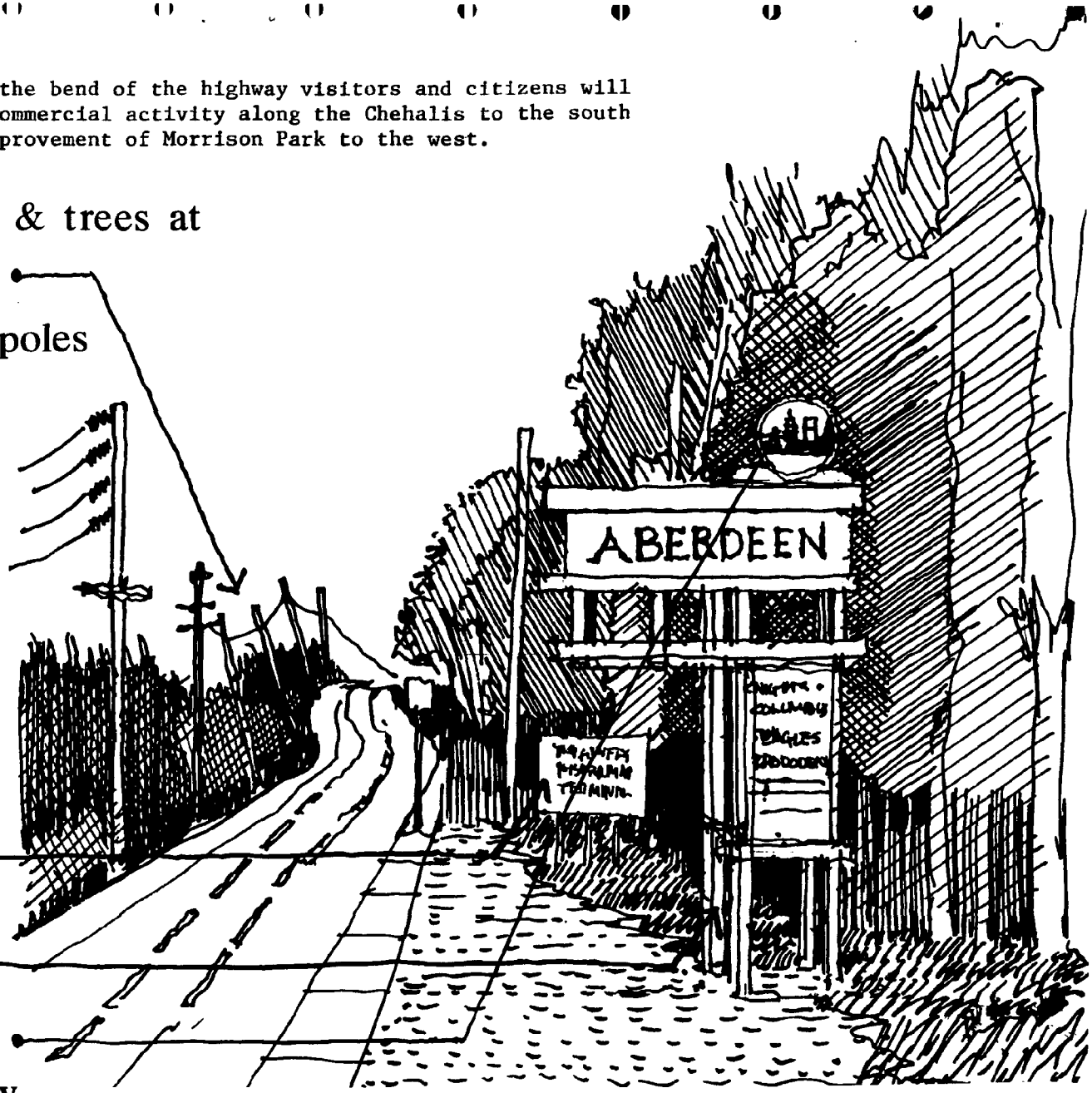
clear & maintain vegetation & trees at both south & north r.o.w.s

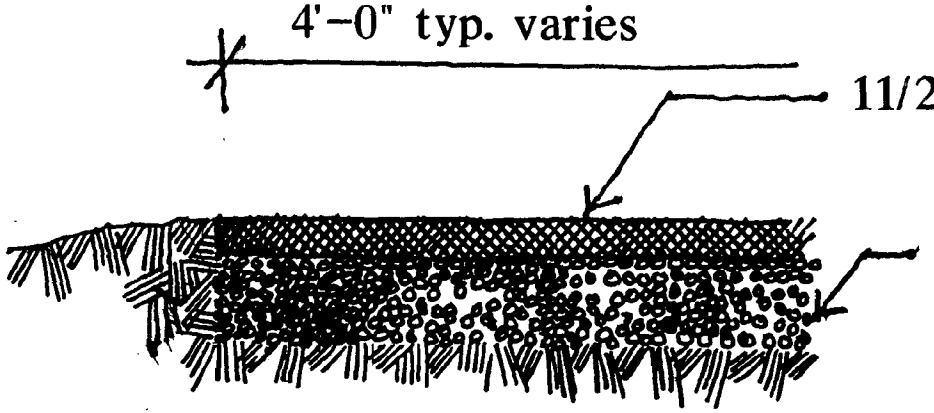
remove telephone & utility poles

eliminate miscellaneous signage from r.o.w.

new entrance signage

establish logo medallion for repeated use throughout city





note:where soils are unconsolidated use 8"of in-situ soil compacted to a min. of 95% dry density

SECTION through PATH

EAST ABERDEEN WATERFRONT
Kasprisin Design Group

Cover Pg

CITY OF ABERDEEN

PUBLIC WORKS DEPARTMENT

BID PROPOSAL - SPECIFICATIONS

Entrance & Approach
Traffic Bridge & Footpath Bridge
Morrison Riverfront Park
E.P. No. 2S5/87

A project to construct an entrance & approach, traffic bridge & footpath bridge at Morrison Riverfront Park South of the intersection of Wishkah and Fleet Streets.

All work to be done in the City of Aberdeen, Grays Harbor County, State of Washington.

This project has been authorized for construction by the Aberdeen City Council.

The project costs will be paid in cash warrants of the City of Aberdeen issued on the account of Engineering Project No. 2S5/87 derived from funds authorized by the City Council.

NOTE TO BIDDERS

Please submit your bid proposal and bond as provided for in this bound set and return the complete bound set and specifications to the Finance Director City Hall, Aberdeen, WA, as your bid.

R. A. Salmon, P.E.
Public Works Director
533-4100
(SCAN) 384-1011

INDEX TO BIDDING DOCUMENTS

SECTION

Ad1

ADVERTISEMENT FOR BIDS

Engineering Project No. 2S5/87

Sealed bids for the Morrison Riverfront Park entrance & approach, traffic bridge & footpath bridge Project. Work to consist of: The construction of an entrance and approach to a traffic bridge; the construction of a traffic bridge and footpath bridge.

The sealed bids will be received by the Mayor and City Council at the office of the Finance Director, City Hall, Aberdeen, Washington, until P.M. Wednesday, . The bids will be publicly opened and read aloud in the City Council Chambers at 8 P.M. on the same date.

Contract documents may be examined at the following office:

City of Aberdeen Public Works Department
City Hall
Aberdeen, Washington

Associated General Contractors of America
Seattle and Tacoma, Washington

Copies of the plans and contract documents may be obtained at the Public Works Director's office upon payment of a $25.00 NONREFUNDABLE fee.

The Owner reserves the right to reject any and all bids and the award of contract, if made, will be to the lowest responsible bidder.

Prospective bidders shall actively solicit qualified minority group members for employment and subcontracting of goods or services. Prospective bidders shall be required to submit evidence of compliance with these requirements as a part of the bid.

A 5% bid security must be included with the submitted proposal.

Bidders shall comply with all laws of the United States, the State of Washington, and all ordinances of the City of Aberdeen relating to labor and employment. These laws and ordinances cover the limitation of hours on municipal work to eight hours per day, overtime, workmen's compensation insurance, selection of labor, payment of the prevailing wage rate of pay, and such other applicable governmental order affecting such work.

Published: The Daily World
The Daily Journal of Commerce
The Seattle Times

By the office of the Finance Director, City of Aberdeen, Washington.

INFORMATION FOR BIDDERS

1. SCOPE OF WORK:

The work involved for the Morrison Riverfront Park Entrance & Approach, Traffic Bridge & Footpath Bridge Project shall consist of:

- The construction of an entrance and approach to a traffic bridge with roadway items, drainage items, cement concrete items, asphalt concrete items, removal and disposal items, and miscellaneous items.

- The construction of a traffic bridge with traffic guardrail with embankment protection items, pile driving items, traffic bridge items, and traffic guardrail items.

- The construction of a footpath bridge with embankment protection items, pile driving items, footpath bridge items.

2. FEDERAL AND STATE LAWS

All applicable Federal and State laws, municipal ordinances, rules and regulations of all authorities having jurisdiction over construction of this project shall apply to the contract throughout and they will be deemed to be included in the contract the same as though herein written out in full. The bidder will be required to comply with such requirements at his expense.

3. SPECIFICATIONS

Specifications used on this project are:

1988 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION prepared by the Washington State Department of Transportation (WSDOT) and the 1988 APWA (American Public Works Association) AMENDMENTS TO DIVISION ONE OF THE 1988 WSDOT/APWA STANDARD SPECIFICATIONS.

American Society of Testing Materials (ASTM) Standards:
A36, A47, A123, A153, A307, D25, D390.

American Wood Preservers Association (AWPA) Standards:
C1, C2, M4, M4, P13.

American Wood Preservers Bureau (AWPB) Standards:
MP-2.

Western Wood Products Association (WWPA):
Grading Rules for Western Lumber.

Federal Specifications:
FF-B-561C, FF-B-575C, FF-N-105B, FF-N-836C.

4. **GENERAL:**

The bidder must bid on each bid item, and indicate his total bid as provided and called for in the bid proposal.

Bidders are notified that all bids are likely to be rejected if the lowest responsive bid received exceeds the Engineer's estimate by an unreasonable amount. In the event all bids are rejected for this reason, this project may be deferred for readvertising for bids until a more competitive situation exists.

No award will be made until necessary investigations are made by the Owner as to the responsibility of the bidder to satisfactorily perform the work as specified and within the time limit set.

The Contractor shall perform with his own organization, under his immediate supervision, work amounting to not less than 40 percent of the total original contract costs.

5. **BID DOCUMENTS**

As stated in the Advertisement for Bids, sealed bids will be received at the office of the Finance Director until 5 P.M. Wednesday,

Plainly mark the outside of the sealed envelope as follows:

"BID: Morrison Riverfront Park Entrance & Approach,
Traffic Bridge & Footpath Bridge Project"

SPECIAL REMINDER TO ALL BIDDERS

PLEASE NOTE: Be sure you have complied with all specifications and requirements and have signed or have caused to be signed all required instruments.

The following forms must be executed in full before the bid is submitted:

1. SCHEDULE OF BID PRICES

   The unit prices bid must be shown in the space provided. Be sure to check your computations for omissions and errors.

2. PROPOSAL SIGNATURE SHEET

   Non-Collusion Certificate and Minority Employee and Business Certification statements are included in the Bid Proposal. Signature of the Bid Proposal shall constitute a signature of these forms.

   The signature sheet shall be completed, signed by the bidder, and be subscribed and sworn to before a Notary Public.

3. BID BOND

   The Bid Bond must be executed by the person legally authorized to sign the bid, and must also be properly signed by the representatives of the surety company unless the bid is accompanied by a certified check. If a Bid Bond is submitted, the form furnished by the City must be followed - no variation from the language thereof will be accepted. The amount of the Bid Bond must be not less than 5% of the total bid.

   FAILURE TO COMPLETE THE ABOVE FORMS SHALL BE DUE CAUSE FOR REJECTION OF BID.

For the bidder's information, the following forms are to be executed within 10 calendar days after the contract is awarded:

1. CONTRACT: Must be executed by the successful bidder.

2. PERFORMANCE BOND: Must be executed by the successful bidder and his surety company.

3. CERTIFICATE OF INSURANCE: Comprehensive general liability insurance meeting the requirements set forth in the Standard Specifications must be purchased. The City must be named as an additional insured.

Unit prices for all items, all extensions, and total amount of bid shall be shown. All prices shall be in figures only, in ink or typed.

ITEM NO.	APPROX. QTY.	ITEM DESCRIPTION	UNIT PRICES	AMOUNT
E N T R A N C E A N D T R A F F I C B R I D G E A P P R O A C H				
		ROADWAY ITEMS		
1	5 CY	ROADWAY EXCAVATION, INCLUDING HAUL, PER CUBIC YARD		
2	90 TN	CRUSHED SURFACING, BASE COURSE, IN PLACE, PER TON		
		DRAINAGE ITEMS		
3	70 CY	STORM SEWER TRENCH EXCAVATION, INCLUDING HAUL, PER CUBIC YARD		
4	30 TN	STORM SEWER PIPE BEDDING, RIVER RUN GRAVEL, IN PLACE, PER TON		
5	230 LF	8" DIA. PVC GASKETED STORM SEWER PIPE, IN PLACE, PER LINEAR FOOT		
6	2 EA	CB-15 INLET W/FRAME & GRATE, IN PLACE, PER EACH		
7	1 EA	CB-15 INLET W/1-12" EXTENSION, FRAME & GRATE, IN PLACE, PER EACH		
8	1 EA	CB-15 INLET W/2-12" EXTENSIONS, FRAME & GRATE, IN PLACE, PER EACH		
9	90 TN	STORM SEWER TRENCH BACKFILL, RIVER RUN GRAVEL, IN PLACE, PER TON		
		CEMENT CONCRETE ITEMS		
10	300 LF	CEMENT CONCRETE CURB, IN PLACE, PER LINEAR FOOT		
11	125 LF	INTEGRAL CEMENT CONCRETE CURB, IN PLACE, PER LINEAR FOOT		
12	65 SY	INTEGRAL CEMENT CONCRETE SIDEWALK, IN PLACE, PER SQUARE YARD		

Unit prices for all items, all extensions, and total amount of bid shall be shown. All prices shall be in figures only, in ink or typed.

ITEM NO.	APPROX. QTY.	ITEM DESCRIPTION	UNIT PRICES	AMOUNT
		ASPHALT CONCRETE ITEMS		
13	0.1 TN	ASPHALT TACK COAT, IN PLACE, PER TON		
14	200 TN	ASPHALT CONCRETE PAVEMENT BASE, CLASS "F", IN PLACE, PER TON		
15	140 TN	ASPHALT CONCRETE PAVEMENT, CLASS "G", IN PLACE, PER TON		
		REMOVAL AND DISPOSAL ITEMS		
16	50 LF	REMOVAL AND DISPOSAL OF EXTRUDED CEMENT CONCRETE CURB, PER LINEAR FOOT		
17	210 SY	REMOVAL AND DISPOSAL OF ASPHALT CONCRETE PAVEMENT, PER SQUARE YARD		
		MISCELLANEOUS ITEMS		
18	120 CY	SANDY LOAM SOIL, IN PLACE, PER CUBIC YARD		
		TRAFFIC BRIDGE WITH TRAFFIC GUARDRAIL		
		EMBANKMENT PROTECTION ITEMS		
19	80 LF	REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD, PER LINEAR FOOT		
20	125 CY	STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL, PER CUBIC YARD		
21	25 TN	6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE, PER TON		
22	4 EA	9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE, PER EACH		

Unit prices for all items, all extensions, and total amount of bid shall be shown. All prices shall be in figures only, in ink or typed.

ITEM NO.	APPROX. QTY.	ITEM DESCRIPTION	UNIT PRICES	AMOUNT
23	18 EA	6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE, PER EACH		
24	70 TN	ANGULAR BASALT RIP RAP, IN PLACE, PER TON		
25	1 LS	TWO CEMENT CONCRETE BULKHEADS, IN PLACE, PER LUMP SUM		
26	160 TN	BANK RUN GRAVEL, IN PLACE, PER TON		
27	10 TN	CRUSHED SURFACING, BASE COURSE, IN PLACE, PER TON		
		PILE DRIVING ITEMS		
28	1 LS	MOBILIZATION OF PILE DRIVING EQUIPMENT, PER LUMP SUM		
29	16 EA	MARINE PILES, CLASS A, TREATED, 90 FT, IN PLACE, PER EACH		
30	16 EA	PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE, PER EACH		
		TRAFFIC BRIDGE ITEMS		
31	1 LS	TIMBER BEAMS, 14x18's, TREATED, IN PLACE, PER LUMP SUM		
32	1 LS	TIMBER STRINGERS, 14x22's, TREATED, IN PLACE, PER LUMP SUM		
33	1 LS	TIMBER DECKING, 6x12's, TREATED, IN PLACE, PER LUMP SUM		
34	1 LS	ROUND TIMBER CURBS, TREATED, IN PLACE, PER LUMP SUM		
		TRAFFIC GUARDRAIL ITEMS		
35	1 LS	BEAM GUARD RAIL TYPE W BEAM, IN PLACE, PER LUMP SUM		

Unit prices for all items, all extensions, and total amount of bid shall be shown. All prices shall be in figures only, in ink or typed.

ITEM NO.	APPROX. QTY.	ITEM DESCRIPTION	UNIT PRICES	AMOUNT
FOOTPATH BRIDGE				
		EMBANKMENT PROTECTION ITEMS		
36	40 LF	REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD, PER LINEAR FOOT		
37	90 CY	STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL, PER CUBIC YARD		
38	10 TN	6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE, PER TON		
39	4 EA	9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE, PER EACH		
40	4 EA	6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE, PER EACH		
41	30 TN	ANGULAR BASALT RIP RAP, IN PLACE, PER TON		
42	1 LS	TWO CEMENT CONCRETE BULKHEADS, IN PLACE, PER LUMP SUM		
43	50 TN	BANK RUN GRAVEL, IN PLACE, PER TON		
44	2 TN	CRUSHED SURFACING, BASE COURSE, IN PLACE, PER TON		
		PILE DRIVING ITEMS		
45	1 LS	MOBILIZATION OF PILE DRIVING EQUIPMENT, PER LUMP SUM		
46	6 EA	MARINE PILES, CLASS A, TREATED, 60 FT, IN PLACE, PER EACH		
47	6 EA	PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE, PER EACH		

Unit prices for all items, all extensions, and total amount of bid shall be shown. All prices shall be in figures only, in ink or typed.

ITEM NO.	APPROX. QTY.	ITEM DESCRIPTION	UNIT PRICES	AMOUNT
		FOOTPATH BRIDGE ITEMS		
48	1 LS	TIMBER BEAMS, 12x14's, TREATED, IN PLACE, PER LUMP SUM		
49	1 LS	TIMBER STRINGERS, 8x16's, TREATED, IN PLACE, PER LUMP SUM		
50	1 LS	TIMBER DECKING, 4x12's, TREATED, IN PLACE, PER LUMP SUM		
51	1 LS	TIMBER GUARDRAIL POSTS, 6x6's, TREATED, IN PLACE, PER LUMP SUM		
52	1 LS	TIMBER G R TOP SIDE RAILS, 2x6's, TREATED, IN PLACE, PER LUMP SUM		
53	1 LS	TIMBER G R BOTTOM SIDE RAILS, 2x6's, TREATED, IN PLACE, PER LUMP SUM		
54	1 LS	TIMBER GUARDRAIL BALUSTERS, 2x6's, TREATED, IN PLACE, PER LUMP SUM		
55	1 LS	TIMBER GUARDRAIL TOP RAILS, 2x8's, TREATED, IN PLACE, PER LUMP SUM		
			SUBTOTAL =	
			Sales Tax _____% =	
			TOTAL =	

NCollusion

NON-COLLUSION AFFIDAVIT

State of Washington)
)
County of * _____)

I, the undersigned, an authorized representative of *_____ _____, being first duly sworn on oath, do hereby certify that said person(s), firm, association or corporation has(have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

I further acknowledge that by signing the proposal signature page of the proposal, I am deemed to have signed and have agreed to the provisions of this non-collusion affidavit.

* Fill in space

MINORITY EMPLOYEE AND BUSINESS CERTIFICATION

The undersigned agrees to actively solicit the employment of minority group members and will provide proof of such solicitation to the City of Aberdeen if requested.

The undersigned has actively solicited bids for the subcontracting of goods or services from the following minority businesses and further agrees to consider the grant of subcontracts to said minority bidders on the basis of substantially equal proposals in the light most favorable to said minority businesses.

	NAME OF MBE ADDRESS	CERTIFICATION ID. #
1.	_____	
	_____	_____
2.	_____	
	_____	_____
3.	_____	
	_____	_____
4.	_____	
	_____	_____
5.	_____	
	_____	_____

Signature

The bidder is hereby advised that by signature of this proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein.

The undersigned hereby agrees to pay to labor not less than the prevailing rates of wages as set forth in the special provisions for this project.

A proposal guaranty in an amount of five percent (5%) of the total bid, based upon the approximate estimate of quantities at the above prices and in the form as indicated below, is attached hereto:

CASH $_____ CASHIER'S CHECK $_____
(payable to the Finance Director)

BID BOND $_____ CERTIFIED CHECK $_____
(5% of the Bid)

Receipt is hereby acknowledged of the following addenda:

No._____ Dated_____

No._____ Dated_____

SIGNATURE OF AUTHORIZED OFFICIAL(S)
NOTE: Proposal must be signed

Signature....._____

(Signature)....._____

Firm Name....._____

Address....._____

_____

_____
CONTRACTOR'S REGISTRATION AND LICENSE NUMBER

Sworn to before me this _____ day of _____, 19___

_____
NOTARY PUBLIC

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we _____, as Principal,

and _____, as Surety,

are held and firmly bound unto the City of Aberdeen, as Obligee, in the penal sum of _____

for the payment of which the Principal and the surety bind themselves, their heirs, executors, administrators, successors and assigns jointly and severally, by these presents.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for Engineering Project No. 2S5/87, Morrison Riverfront Park Entrance & Approach, Traffic Bridge & Footpath Bridge, according to the terms of the proposal or bid made by the Principal therefore, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with Surety or Sureties approved by the Obligee; or if the Principal shall, in case of failure so to do, pay and forfeit to the Obligee the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the surety shall forthwith pay and forfeit to the Obligee, as penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS _____ DAY OF _____, 19___.

_____
Principal

_____
Surety

_____, 19___

(SEAL)

Attorneys-in-fact, who sign bid bonds or contract bonds, must file with each bond, a certified and effectively dated copy of their power of attorney.

CONTRACT

THIS AGREEMENT, made and entered into this day of _____, 19___, by and between the City of Aberdeen, Washington, a municipal corporation, hereinafter called the Owner, and _____ _____ whose address is _____, County of _____ State of _____, hereinafter called the Contractor.

WITNESSETH:

That in consideration of the terms and conditions contained herein and attached and made a part of this agreement, the parties hereto covenant and agree as follows:

I. The Contractor shall do all work and furnish all tools, materials, and equipment for Engineering Project No. 255/87, MORRISON RIVERFRONT PARK ENTRANCE APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE, in accordance with and as described in the attached plans and specifications, and the standard specifications of the Washington State Department of Transportation as amended by the American Public Works Association which are by this reference incorporated herein and made part hereof and, shall perform any changes in the work in accordance with the Contract Documents.

The Contractor shall provide and bear the expense of all equipment, work, and labor of any sort whatsoever that may be required for the transfer of materials and for constructing and completing the work provided for in these Contract Documents except those items mentioned therein to be furnished by the City of Aberdeen.

The Contractor hereby agrees to commence work under this project within 10 calendar days of the date specified in a written "Notice to Proceed" of the Owner and to fully complete the project within 60 consecutive working days thereafter.

If said work is not completed within the time specified, the Contractor agrees to pay the owner the sum of $500.00 for each working day said work remains uncompleted after expiration of the specified time, as liquidated damages.

II. The City of Aberdeen hereby promises and agrees with the Contractor to employ, and does employ the Contractor to provide the materials and to do and cause to be done the above described work and to complete and finish the same in accordance with the attached plans and specifications and the terms and conditions herein contained and hereby contracts to pay for the same according to the attached specifications and the schedule of unit or itemized prices at the time and in the manner and upon the conditions provided for in this contract.

III. The City of Aberdeen agrees to pay the Contractor in cash warrants issued on the account of Engineering Project No. 255/87, MORRISON RIVERFRONT PARK ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE, and such other funds as the City Council may authorize. Such payments shall be for the performance of the contract, subject to additions and deductions, as provided for in the contract documents and to make payments on account thereof as provided in the documents.

IV. The Contractor for himself, and for his heirs, executors, administrators, successors, and assigns, does hereby agree to the full performance of all the covenants herein contained upon the part of the Contractor.

V. It is further provided that no liability shall attach to the City of Aberdeen by reason of entering into this contract, except as expressly provided herein.

IN WITNESS WHEREOF, the parties to these presents have executed this contract in four (4) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

SIGNED:

CITY OF ABERDEEN by:

_____
Mayor

ATTEST:

_____
Finance Director Date

(Seal)

Approved as to Form:

_____
Corporation Counsel Date
City of Aberdeen

CONTRACTOR by:

_____
Officer

ATTEST:

_____

_____ _____
Title Date

(Seal)

Perf Bondl

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____

_____ as Principal, and

_____ a corporation

organized and existing under the laws of the State of _____,

as a surety corporation, and qualified under the laws of the State of Washington to become surety upon bonds of contractors with municipal corporations, as surety, are jointly and severally held and firmly bound to the CITY OF ABERDEEN in the penal sum of_____

Dollars ($_____) for the payment of which sum on demand we bind ourselves and our successors, heirs, administrators or personal representatives, as the case may be.

This obligation is entered into in pursuance of the statutes of the State of Washington and the Ordinances of the City of Aberdeen.

Dated at _____, Washington, this _____ of _____, 19___.

WHEREAS, the City Council of the City of Aberdeen has let or is about to let to the above bounden Principal, a contract for Engineering Project No. 255/87, MORRISON RIVERFRONT PARK ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE, said contract is referred to herein and is made a part hereof as though attached hereto, and

WHEREAS, the said Principal has accepted, or is about to accept, the said contract and undertake to perform the work therein provided for in the manner and within the time set forth;

NOW THEREFORE, if the said Principal shall faithfully perform all provisions of said contract in the manner and within the time therein set forth, or within such extensions of time as may be granted under said contract, and shall pay all laborers, mechanics, sub-contractors, and all persons who shall supply said principal or sub-contractors with provisions and supplies for the carrying on of said work, and shall hold the City of Aberdeen harmless from any damage or expense by reason of failure of per-

formance as specified in said contract or from defects appearing or developing in the material or workmanship provided or performed under said contract within a period of one year after its acceptance thereof by the City of Aberdeen, then and in that event this obligation shall be void; but otherwise it shall be and remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for the value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract, to the work to be performed thereunder, or in the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract, to the work, or to the specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four (4) counterparts, each one of which shall be deemed an original, the _____ day of _____, 19___.

SIGNED:

(Surety)

_____
Officer

_____ _____
Attorney-in-Fact Date

_____
Address
(Attach certified copy of Power of Attorney)

ATTEST:

_____

_____ _____
Title Date

(Seal)

(Contractor)

_____
Officer

ATTEST:

_____

_____ _____
Title Date

(Seal)

SPECIFICATIONS

Where referred to herein and elsewhere in the contract documents the term "Standard Specifications" shall mean the 1988 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, prepared by the Washington State Department of Transportation (WSDOT) and the 1988 APWA (American Public Works Association) AMENDMENTS TO DIVISION ONE OF THE 1988 WSDOT/APWA STANDARD SPECIFICATIONS. These specifications were adopted by the City of Aberdeen on February 10, 1988.

Inasmuch as Contractors engaged in the construction of municipal work in the State of Washington have copies of said specifications and presumably are familiar with the contents thereof, this office has adopted them by reference.

The Standard Specifications and the APWA amendments can be obtained from:

State Aid Organization
Transportation Building, Mailstop KF-01
Olympia, Washington 98504
Telephone: (206) 753-3020

APPLICABLE STANDARDS PUBLICATIONS

The latest publications of the following issues listed below, and as later referred to in these special provisions form a part of the specifications to the extent noted:

1. American Society of Testing Materials (ASTM) Standards:

A36	Specifications for Structural Steel
A47	Specifications for Malleable Iron Castings
A123	Specifications for Zinc Coatings (double hot-dipped) on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strips
A153	Specifications for Zinc Coating (hot-dipped) on Iron and Steel Hardware

A307	Specifications for Carbon Steel Externally and Internally Threaded Standard Fasteners
D25	Standard Specifications for Round Timber Piles
D390	Specifications for Creosote

2. American Wood Preservers Association (AWPA) Standards:

C1	All Timber - Preservative Treatment by Pressure Processes
C2	Preservative Treatment for Lumber
M4	Standard Instructions for the Care of Pressure-Treated Wood after Treatment
M4	Standard for the Care of Pressure-Treated Wood Products
P13	Standard for Coal Tar Creosote to be Used in the Treatment for Marine (Coastal Waters) Piles and Timbers

3. American Wood Preservers Bureau (AWPB) Standards:

MP-2	Standard for Marine Piling Treated with Creosote for Use in Marine Waters

4. Western Wood Products Association (WWPA): Grading Rules for Western Lumber

5. Federal Specifications:

FF-B-561C	Bolts, (Screw), Lag
FF-B-575C	Bolts, Hexagon and Square
FF-N-105B	Nails, Brads, Staples and Spikes: Wire, Cut and Wrought
FF-N-836C	Nut, Square, Hexagon, Cap, Slotted, Castellated, Clinch Knurled, and Welding

SPECIAL PROVISIONS TO THE SPECIFICATIONS

The following special provisions are to be used in conjunction with the Standard Specifications and are hereby made a part of this contract.

The special provisions hereinafter contained shall supersede any conflicting provisions of the Standard Specifications.

SP- / PAYMENTS TO CONTRACTOR:

The Contractor will be paid in cash warrants issued on the account of Engineering Project No. 255/87, MORRISON RIVERFRONT PARK ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE, and such other funds as the City Council may authorize. Payment will be made on the basis of progress payments scheduled as outlined in the specifications with a retained percentage of five percent (5%) of such payments.

SP-2 WAGE RATE FORMS

Section 1-07.9 of the standard specifications is revised by replacing the subsection titled Required Documents with the following:

Before payment is made by the Local Agency of any sums due under this contract, the Local Agency must receive from the contractor and each subcontractor a copy of "Statement of Intent to Pay Prevailing Wages" (Form L&I Number 700-29) approved by the Washington State Department of Labor and Industries.

Upon completion of this contract, the Local Agency must receive from the contractor and each subcontractor a copy of "Affidavit of Wages Paid" (Form L&I Number 700-7) approved by the State Department of Labor and Industries. In addition, the Local Agency must receive from the prime contractor a copy of "Release for the Protection of Property Owners and General Contractors" (Form L&I Number 206-83) approved by the State Department of Labor and Industries. These affidavits will be required before any funds retained, according to the provisions of RCW 60.28.010, are released to the Contractor. Forms may be obtained from the Department of Labor and Industries. A fee of $12.50 per each "Statement of Intent to Pay Prevailing Wages" and "Affidavit of Wages Paid" is required to accompany each form submitted to the Department of Labor and Industries. The Contractor is responsible for payment of these fees and shall make all applications directly to the Department of Labor and Industries. These fees shall be incidental to all the bid items of this contract.

SP-3 STATE SALES TAX:

Portions of the work on this contract are to be performed outside the street or road right-of-way.

Any retail sales tax paid on the purchase or rental of tools, equipment, or consumable supplies shall be included in the various unit bid prices.

As noted in Section 1-07.2(2) of the Standard Specifications, State Department of Revenue Rule 170 shall apply to this contract. The Contractor shall collect from the City retail sales tax on the full contract price. The City will automatically add this sales tax to each payment to the Contractor.

BUILDING PERMIT:

SP -4 BUSINESS AND OCCUPATION LICENSE AND TAXES:

The Contractor shall be required to have a current Aberdeen Business and Occupation License. This license is issued by the City of Aberdeen Finance Department.

As per City Code, Section 5.02.440, the final payment on this contract shall not be made until all Business and Occupation license fees and taxes have been paid.

The Contractor shall obtain, at no cost, necessary building permit from the City of Aberdeen Building Department.

SP-5 TRAFFIC CONTROL:

The Contractor shall have a designated employee who shall be responsible for traffic control on the project. This individual shall see to it that all required traffic controls and devices are in place at all times, specifically on weekends and holidays. The name and phone number of this employee shall be given to the Engineer prior to beginning work on the project.

SP-6 PREVENTION OF ENVIRONMENTAL POLLUTION AND PRESERVATION OF NATURAL RESOURCES:

In addition to the requirements of section 1-07.1 of the standard specifications, the Contractor shall comply with the Olympic Air Pollution Control Authority's Regulation 1 which is made a part of the contract documents.

SP-7 UTILITIES AND SIMILAR FACILITIES:

The contractor is alerted to the existence of Chapter 19.122 RCW, a law relating to underground utilities. Any cost to the Contractor incurred as a result of this law shall be at the Contractor's expense.

No excavation shall begin until all known facilities, in the vicinity of the excavation area, have been located and marked.

The Contractor shall call the Underground Utilities Coordination Council, for field location, not less than two or more than ten business days before the scheduled date for commencement of excavation which may affect underground utility facilities, unless otherwise agreed upon by the parties involved. A business day is defined as any day other than Saturday, Sunday, or a legal local, State, or Federal holiday. The telephone number for the Grays Harbor Utility Coordinating Council is 532-3550.

PLACE
COORDINATING
COUNCIL
LABEL
HERE

8
SP - ● MINORITY EMPLOYEE AND BUSINESS PARTICIPATION:

In accordance with RCW 35.22.650, the following statement is added and deemed to be included in this contract:

> Contractor agrees that he shall actively solicit the employment of minority group members. Contractor further agrees that he shall actively solicit bids for the subcontracting of goods or services from qualified minority businesses. Contractor shall furnish evidence of his compliance with these requirements of minority employment and solicitation. Contractor further agrees to consider the grant of subcontracts to said minority bidders on the basis of substantially equal proposals in the light most favorable to said minority businesses. The Contractor shall be required to submit evidence of compliance with this section as part of the bid.
>
> The term "Minority Business" means a business at least fifty-one percent of which is owned by minority group members. Minority group members include, but are not limited to, Blacks, Women, Native Americans, Orientals, Eskimos, Aleuts, and Spanish Americans.

SP - 9 PERMITS:

A Corps of Engineers Permit and Washington State Departments of Fisheries and Game Hydraulic Permits have been granted to the City of Aberdeen for this project. All technical provisions contained in these permits are hereby incorporated into these Special Provisions.

Copies of these permits can be found ~~on the following pages.~~ in Appendix "A". As noted in the individual permits, copies of these documents are to be available at the job site at all times.

All contacts with the Corps of Engineers or the Departments of Fisheries and Game shall be through the Engineer.

SPBIDITM.P1-1

SP-10 BID ITEMS

General: Although most of the work covered by the Bid Items is covered in detail in the Standard Specifications or Applicable Standards Publications mentioned in the Standard Specifications Section of these contract documents, it is the purpose of this section to inform the Bidder in greater detail of what the work will cover or include and to inform him as to the method of measurement and payment as applies to this specific project.

Materials approval shall be made by the Engineer. Materials approval shall include approval of source, catalog excerpts (for electrical items), or for some materials, testing.

The section or standard numbers referred to in the following bid items are those in the Standard Specifications or Applicable Standards Publications.

Source of materials: No source has been provided for any construction materials required for this project. The Contractor shall make his own arrangements to obtain all materials at his own expense, and all costs of acquiring, producing, and placing materials in the finished work will be considered incidental to the unit items involved and included and absorbed in those unit bid prices.

Disposal of all Waste Materials: Waste materials shall be disposed of at a waste site maintained and operated by the Contractor.

ITEM 1 - ROADWAY EXCAVATION, INCLUDING HAUL:

DESCRIPTION

The work described in this item, regardless of the nature or type of the materials encountered, shall include all roadway excavation, excavation for curbs, sidewalks, driveways, wheelchair ramps, including haul, and disposal of all excavated material. All work shall be preformed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 2-03, Roadway Excavation and Embankment, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

EXCAVATION BELOW GRADE

Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall do the following work as directed by the Engineer:

> Excavation below grade, the work shall be performed as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per Bid Item - "Roadway Excavation, Including Haul", or "Storm Sewer Trench Excavation, Including Haul", as described elsewhere in these special provisions.
>
> OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

DISPOSAL OF EXCAVATED MATERIAL

Disposal of excavated material shall be at a waste site maintained and operated by the Contractor.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the roadway excavation, including haul and disposal, will be measured by the cubic yard in its original position.

PAYMENT

Payment for the roadway excavation, including haul and disposal, shall be per cubic yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 2 - CRUSHED SURFACING, BASE COURSE, IN PLACE

DESCRIPTION

The work described in this item shall consist of furnishing and placing one or more courses of crushed surfacing, base course, in place, upon an existing surface, or upon a properly prepared subgrade. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 4-04, Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Crushed surfacing, base course, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for the crushed surfacing, base course, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 3 - STORM SEWER TRENCH EXCAVATION, INCLUDING HAUL:

DESCRIPTION
The work described in this item, regardless of the nature or type of the materials encountered, shall include all storm sewer trench excavation, including haul, and disposal of all excavated materials. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. Additional excavation which is required for other drainage items, such as inlets, etc., is addressed in the appropriate Bid Item located elsewhere in these special provisions. If it is necessary to trench in an area where improvements exist, such as pavement, sidewalks, etc., the removal of the improvements is addressed in the appropriate Bid Item located elsewhere in these special provisions.

This item shall conform to Section 7-04, Storm Sewers, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

CONSTRUCTION REQUIREMENTS
The maximum permissible trench width from the bottom of the trench to the surface of the ground shall be as follows:

24" diameter and smaller.....ID + 24"

If the Contractor exceeds this width, he will be required to pay for any additional select backfill material, if required, and any additional surface and subsurface improvements as may be required. That portion to be paid for by the City shall be determined by calculating the percent of excavation overage, based on the volume of material which would have been excavated had the Contractor stayed within the limits of the maximum pay width, and reducing the total quantity of material used by that amount. The remaining materials shall be provided by the Contractor at his own expense.

In those locations where trench excavation lies within the proposed road area, the Contractor shall perform street excavation prior to trench excavation.

UNSUITABLE SUBGRADE
Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall be required to do the following work as directed by the Engineer:

Excavation below grade shall be performed as directed by the Engineer. Such excavation below grade shall be per cubic yard as per this bid item. The extra depth replacement material and compaction which is covered under its own separate Bid Item -"Storm Sewer Pipe Bedding, River Run Gravel, In Place", as described elsewhere in these special provisions.

OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item - "Construction Fabric, In Place", as described elsewhere in these special provisions.

DISPOSAL OF EXCAVATED MATERIAL

Disposal of excavated material shall be at a waste site maintained and operated by the Contractor. Such haul and disposal shall be considered as incidental to this bid item and all costs therefore shall be included in this unit price.

MEASUREMENT AND PAYMENT

MEASUREMENT

Storm sewer trench excavation, including haul, will be measured by the cubic yard, the volume shall be computed upon the following basis for the length, width, and depth of the trench:

LENGTH: The entire horizontal length of pipe laid measured along the centerline of the trench from the outside portion of any connecting structure and/or outfall.

WIDTH: Inside pipe diameter + 24 inches.

DEPTH: For trench excavation outside of any road excavation, the vertical measurement from the original ground or paved surface to a depth of 4 inches below the pipe invert. For trench excavation within any road excavation boundaries, the vertical measurement from the road excavation subgrade to a depth of 4 inches below the pipe invert.

PAYMENT

Payment for the storm sewer trench excavation, including haul, shall be per cubic yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 4 - STORM SEWER PIPE BEDDING, RIVER RUN GRAVEL, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and constructing one or more layers of river run gravel, in place, for the storm sewer pipe bedding. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 7-04, Storm Sewers, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

RIVER RUN GRAVEL

The river run gravel shall be naturally occurring material, excavated from an approved river bank. It shall consist of clean, inorganic river gravel free from roots, stumps, wood waste, trash, or other deleterious materials and conforming to the following graduation limits:

U.S. Standard Sieve Size	Percent Finer by Weight
1-1/2 inch	- 100
3/4 inch	87 - 100
1/2 inch	70 - 100
1/4 inch	40 - 100
No. 4	25 - 65
No. 10	5 - 35
No. 40	0 - 5
No. 100	0 - 3
No. 200	0 - 2

Material retained on a 1/4 inch square sieve shall contain not more than 0.20% by weight of wood waste.

Stabilometer resistance value ..... 68 min.
Swell pressure..... 0.3 psi max.

CONSTRUCTION REQUIREMENTS

UNSUITABLE SUBGRADE

Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall be required to do the following work as directed by the Engineer:

Excavation below grade shall be performed as directed by the Engineer. Such excavation below grade shall be per cubic yard which is covered under its own separate Bid Item - "Storm Sewer Trench Excavation, Including Haul", located elsewhere in these special provisions.

The river run gravel material required for replacement of unsuitable subgrade material, shall be per cubic yard as per this bid item. It shall be placed and compacted by using compaction equipment and methods approved by the Engineer.

OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item - "Construction Fabric, In Place", as described elsewhere in these special provisions.

PLACEMENT OF PIPE BEDDING MATERIAL

The bedding shall be placed in at least two lifts. The first lift, to provide at least 4 inches of thickness under the pipe, shall be placed before the pipe is installed. It shall be spread smoothly so that the pipe is uniformly supported along the barrel. The remaining material shall be installed up to mid-height of the pipe (springline). The material shall be brought up together on both sides of the pipe and shall be carefully worked under the pipe hauches by means of slicing with a shovel, vibration, or other procedure approved by the Engineer.

COMPACTION

The compaction of the bedding material shall be done by using compaction equipment and methods approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Storm sewer pipe bedding, river run gravel, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for storm sewer pipe bedding, river run gravel, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 5 - 8" DIA. PVC GASKETED STORM SEWER PIPE, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and constructing PVC gasketed storm sewer pipe, in place, in accordance with these special provisions, the construction plans, and/or as established by the Engineer. This work shall also include all the elbows, tees, or fittings as required to complete the storm sewer lines, EXCEPT, when a required fitting is covered under its own separate bid item, located elsewhere in these Special Provisions.

This item shall conform to Section 7-04, Storm Sewers, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

8" PVC PIPE

Polyvinyl Chloride (PVC) storm sewer pipe shall conform to the requirements of ASTM Designation D 3034, SDR 35. Joints for PVC pipe shall conform to ASTM Designation D 3212 using restrained gasket conforming to ASTM Designation F 477.

CONSTRUCTION REQUIREMENTS

TRENCH EXCAVATION

Trench excavation is covered under its own separate bid item, located elsewhere in these special provisions.

PIPE BEDDING AND COMPACTION

Pipe bedding and compaction is covered under its own separate bid item, located elsewhere in these special provisions.

PIPE LAYING

Shall not result in a level or reverse sloping invert, unless otherwise approved by the engineer.

RUBBER GASKETED JOINTS

Gasketed joints shall be assembled in strict accordance with the printed instructions furnished by the pipe manufacturer. Lubricants, where used, shall be of a type recommended and approved by the gasket manufacturer or pipe supplier.

TRENCH BACKFILL AND COMPACTION

Trench backfill and compaction is covered under its own separate bid item, located elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the PVC gasketed storm sewer pipe, in place, shall be by the linear foot of pipe laid and tested and shall be along the pipe through the tees and fittings, EXCEPT, when a tee or fitting is covered under its own separate bid item, located elsewhere in these special provisions. Measurements shall be from outside of manhole or inlet walls, or to the end of pipe at an outfall, etc., and shall be taken to the nearest foot.

PAYMENT

Payment for the PVC gasketed storm sewer pipe, in place, shall be per linear foot and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item in accordance with the construction plans and specifications set forth herein.

ITEM 6 - CB-15 INLET W/FRAME & GRATE, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing a precast concrete CB-15 inlet base section with cast metal frame and grate, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. This work shall also consist of excavation, haul, disposal, foundation material, bedding material, all pipe and connections, backfill material, compaction, accessories, and all other materials required to install the CB-15 inlet with frame and grate, in place.

This item shall conform to Section 8-04, Curbs, Gutter, Spillways, and Inlets, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

CONCRETE BASE SECTION

The precast concrete CB-15 inlet base section with 4 way knockouts for 12" or smaller pipes shall be the type sold by Cascade Materials, Inc., 412 South Park, Aberdeen, Washington or equivalent as approved by the Engineer.

FRAME & GRATE

The cast iron frame and grate Olympic Foundry #5435, shall be the type sold by Cascade Materials or equivalent as approved by the Engineer.

8" PVC PIPE

Polyvinyl Chloride (PVC) storm sewer pipe shall conform to the requirements of ASTM Designation D 3034, SDR35.

BEDDING AND BACKFILL MATERIAL

River run gravel bedding and backfill material shall conform to the same requirements and specifications as bid item - "Storm Sewer Pipe Bedding, River Run Gravel, In Place", as described elsewhere in these special provisions.

CONSTRUCTION REQUIREMENTS

DISPOSAL OF EXCAVATED MATERIAL

Disposal of excavated material shall be at a waste site maintained and operated by the Contractor.

FOUNDATION PREPARATION

Prior to installation of bedding the excavation bottom shall be brought to grade and strengthened as necessary by tamping, addition of foundation material, or by other means satisfactory to the Engineer.

BEDDING AND COMPACTION
River run gravel bedding shall be placed as shown on the construction plans extending to the limits of the excavation to prevent any lateral movement of the bedding when the weight of the inlet is placed upon it. The bedding courses shall be placed, compacted, made smooth and level to assure uniform contact and support.

GRADE ADJUSTMENT FOR FRAME
The frame shall be set flange down on the concrete inlet section or on adjustment blocks and mortared to proper grade.

PIPE CONNECTIONS
Pipe placed in the knockouts provided for openings in the precast concrete inlet base section shall be made flush with the inside surfaces, and the annular spaces grouted tight.

BACKFILL AND COMPACTION
The river run gravel backfill material shall be placed as follows:

Below the top 2 feet: Shall not exceed 8 inches in depth before compaction. Shall be compacted to 90 percent of the maximum density as determined by the compaction control tests.

The top 2 feet: Shall not exceed 4 inches in depth before compaction. Shall be compacted to 95 percent of the maximum density as determined by the compaction control tests.

COMPACTION CONTROL TESTS
The densities shall be determined by compaction control tests for the Washington Densometer method or Nuclear gauge as outlined in the WSDOT Construction Manual.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the precast concrete CB-15 inlet base section with cast metal frame and grate, in place, shall be per each.

PAYMENT
Payment for the CB-15 inlet with frame and grate, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 7 - CB-15 INLET W/1-12" EXTENSION, FRAME & GRATE, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing a precast concrete CB-15 inlet base section with one 12 inch precast concrete extension, cast metal frame and grate, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. This work shall also consist of excavation, haul, disposal, foundation material, bedding material, all pipe and connections, backfill material, compaction, accessories, and all other materials required to install the CB-15 inlet with one extension, frame and grate, in place.

This item shall conform to Section 8-04, Curbs, Gutter, Spillways, and Inlets, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

CONCRETE BASE SECTION

The precast concrete CB-15 inlet base section with 4 way knockouts for 12" or smaller pipes shall be the type sold by Cascade Materials, Inc., 412 South Park, Aberdeen, Washington or equivalent as approved by the Engineer.

CONCRETE EXTENSION

The one precast concrete 12 inch extension for the CB-15 inlet, shall be the type sold by Cascade Materials, Inc., 412 South Park, Aberdeen, Washington or equivalent as approved by the Engineer.

FRAME & GRATE

The cast iron frame and grate Olympic Foundry #5435, shall be the type sold by Cascade Materials or equivalent as approved by the Engineer.

8" PVC PIPE

Polyvinyl Chloride (PVC) storm sewer pipe shall conform to the requirements of ASTM Designation D 3034, SDR35.

BEDDING AND BACKFILL MATERIAL

River run gravel bedding and backfill material shall conform to the same requirements and specifications as bid item - "Storm Sewer Pipe Bedding, River Run Gravel, In Place", as described elsewhere in these special provisions.

CONSTRUCTION REQUIREMENTS

DISPOSAL OF EXCAVATED MATERIAL
Disposal of excavated material shall be at a waste site maintained and operated by the Contractor.

FOUNDATION PREPARATION
Prior to installation of bedding the excavation bottom shall be brought to grade and strengthened as necessary by tamping, addition of foundation material, or by other means satisfactory to the Engineer.

BEDDING AND COMPACTION
River run gravel bedding shall be placed as shown on the construction plans extending to the limits of the excavation to prevent any lateral movement of the bedding when the weight of the inlet is placed upon it. The bedding courses shall be placed, compacted, made smooth and level to assure uniform contact and support.

GRADE ADJUSTMENT FOR FRAME
The frame shall be set flange down on the concrete extension section or on adjustment blocks and mortared to proper grade.

PIPE CONNECTIONS
Pipe placed in the knockouts provided for openings in the precast concrete inlet base section shall be made flush with the inside surfaces, and the annular spaces grouted tight.

BACKFILL AND COMPACTION
The river run gravel backfill material shall be placed as follows:

Below the top 2 feet: Shall not exceed 8 inches in depth before compaction. Shall be compacted to 90 percent of the maximum density as determined by the compaction control tests.

The top 2 feet: Shall not exceed 4 inches in depth before compaction. Shall be compacted to 95 percent of the maximum density as determined by the compaction control tests.

COMPACTION CONTROL TESTS
The densities shall be determined by compaction control tests for the Washington Densometer method or Nuclear gauge as outlined in the WSDOT Construction Manual.

MEASUREMENT AND PAYMENT

CB15EXT1.P3-3

MEASUREMENT
Measurement for the precast concrete CB-15 inlet base section with one 12 inch precast concrete extension, and cast metal frame and grate, in place, shall be per each.

PAYMENT
Payment for the CB-15 inlet with one 12 inch extension, frame and grate, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 8 - CB-15 INLET W/2-12" EXTENSION, FRAME & GRATE, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing a precast concrete CB-15 inlet base section with two 12 inch precast concrete extensions, cast metal frame and grate, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. This work shall also consist of excavation, haul, disposal, foundation material, bedding material, all pipe and connections, backfill material, compaction, accessories, and all other materials required to install the CB-15 inlet with two extensions, frame and grate, in place.

This item shall conform to Section 8-04, Curbs, Gutter, Spillways, and Inlets, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

CONCRETE BASE SECTION

The precast concrete CB-15 inlet base section with 4 way knockouts for 12" or smaller pipes shall be the type sold by Cascade Materials, Inc., 412 South Park, Aberdeen, Washington or equivalent as approved by the Engineer.

CONCRETE EXTENSION

The two precast concrete 12 inch extension for the CB-15 inlet, shall be the type sold by Cascade Materials, Inc., 412 South Park, Aberdeen, Washington or equivalent as approved by the Engineer.

FRAME & GRATE

The cast iron frame and grate Olympic Foundry #5435, shall be the type sold by Cascade Materials or equivalent as approved by the Engineer.

8" PVC PIPE

Polyvinyl Chloride (PVC) storm sewer pipe shall conform to the requirements of ASTM Designation D 3034, SDR35.

BEDDING AND BACKFILL MATERIAL

River run gravel bedding and backfill material shall conform to the same requirements and specifications as bid item - "Storm Sewer Pipe Bedding, River Run Gravel, In Place", as described elsewhere in these special provisions.

CONSTRUCTION REQUIREMENTS

DISPOSAL OF EXCAVATED MATERIAL
Disposal of excavated material shall be at a waste site maintained and operated by the Contractor.

FOUNDATION PREPARATION
Prior to installation of bedding the excavation bottom shall be brought to grade and strengthened as necessary by tamping, addition of foundation material, or by other means satisfactory to the Engineer.

BEDDING AND COMPACTION
River run gravel bedding shall be placed as shown on the construction plans extending to the limits of the excavation to prevent any lateral movement of the bedding when the weight of the inlet is placed upon it. The bedding courses shall be placed, compacted, made smooth and level to assure uniform contact and support.

GRADE ADJUSTMENT FOR FRAME
The frame shall be set flange down on the concrete extension section or on adjustment blocks and mortared to proper grade.

PIPE CONNECTIONS
Pipe placed in the knockouts provided for openings in the precast concrete inlet base section shall be made flush with the inside surfaces, and the annular spaces grouted tight.

BACKFILL AND COMPACTION
The river run gravel backfill material shall be placed as follows:

Below the top 2 feet: Shall not exceed 8 inches in depth before compaction. Shall be compacted to 90 percent of the maximum density as determined by the compaction control tests.

The top 2 feet: Shall not exceed 4 inches in depth before compaction. Shall be compacted to 95 percent of the maximum density as determined by the compaction control tests.

COMPACTION CONTROL TESTS
The densities shall be determined by compaction control tests for the Washington Densometer method or Nuclear gauge as outlined in the WSDOT Construction Manual.

MEASUREMENT AND PAYMENT

CB15EXT2.P3-3

MEASUREMENT
Measurement for the precast concrete CB-15 inlet base section with two 12 inch precast concrete extensions, and cast metal frame and grate, in place, shall be per each.

PAYMENT
Payment for the CB-15 inlet with two 12 inch extensions, frame and grate, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 9 - STORM SEWER TRENCH BACKFILL, RIVER RUN GRAVEL, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing layers of storm sewer trench backfill, river run gravel, in place. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 7-04, Storm Sewers, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

BACKFILL MATERIAL

River run gravel backfill material shall conform to the same requirements and specifications as bid item - "Storm Sewer Pipe Bedding, River Run Gravel, In Place", as described elsewhere in these special provisions.

CONSTRUCTION REQUIREMENTS

DISTURBED BEDDING

Any disturbed bedding caused by pipe movement or the removal of shoring shall be reconsolidated prior to backfilling at the Contractor's expense, and/or as directed by the Engineer.

PLACEMENT AND COMPACTION

The river run gravel backfill material shall be placed as follows:

Below the top 2 feet: Shall not exceed 8 inches in depth before compaction. Shall be compacted to 90 percent of the maximum density as determined by the compaction control tests.

The top 2 feet: Shall not exceed 4 inches in depth before compaction. Shall be compacted to 95 percent of the maximum density as determined by the compaction control tests.

And/or, as approved by the Engineer.

COMPACTION CONTROL TESTS

The densities shall be determined by compaction control tests for the Washington Densometer method or Nuclear gauge as outlined in the WSDOT Construction Manual and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Storm sewer trench backfill, river run gravel, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for storm sewer trench backfill, river run gravel, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 10 - CEMENT CONCRETE CURB, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and constructing cement concrete curb, in place, in accordance with these special provisions, the construction plans, and/or as established by the Engineer.

This item shall conform to Section 8-04, Integral Cement Concrete Curb, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

PORTLAND CEMENT CONCRETE
Portland cement concrete for the cement concrete curb shall be air entrained concrete Class 5.5 (1-1/2) Ready-Mixed Concrete. Slump of the concrete mix shall not exceed 3-1/2 inches.

CONSTRUCTION REQUIREMENTS

EXCAVATION Excavation for the cement concrete curb is covered under its own separate Bid Item - "Roadway Excavation, Including Haul", located elsewhere in these special provisions.

FOUNDATION PREPARATION
Prior to installation of the cement concrete curb the excavation bottom shall be brought to grade and strengthened as necessary by tamping, addition of foundation material, or by other means satisfactory to the Engineer, so that the curb is uniformly supported.

BASE AND COMPACTION
Base and compaction for the cement concrete curb is covered under its own separate Bid Item - "Bank Run Gravel, In Place", located elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Cement concrete curb, in place, will be measured by the linear foot.

PAYMENT
Payment for the cement concrete curb, in place, shall be per linear foot and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 11 - INTEGRAL CEMENT CONCRETE CURB, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and constructing integral cement concrete curb, in place, with the sidewalks and/or driveways which are covered under their own separate bid item located elsewhere in these special provisions. This work shall also include the depressed curb integral with driveways and/or wheelchair ramps. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 8-05, Integral Cement Concrete Curb, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

PORTLAND CEMENT CONCRETE

Portland cement concrete for the integral cement concrete curb shall be air entrained concrete Class 5.5 (1-1/2) Ready-Mixed Concrete. Slump of the concrete mix shall not exceed 3-1/2 inches.

CONSTRUCTION REQUIREMENTS

EXCAVATION

Excavation for the integral cement concrete curb is covered under its own separate Bid Item - "Roadway Excavation, Including Haul", located elsewhere in these special provisions.

FOUNDATION PREPARATION

Prior to installation of the integral cement concrete curb the excavation bottom shall be brought to grade and strengthened as necessary by tamping, addition of foundation material, or by other means satisfactory to the Engineer, so that the curb is uniformly supported.

BASE AND COMPACTION

Base and compaction for the integral cement concrete curb is covered under its own separate Bid Item - "Bank Run Gravel, In Place", located elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT

Integral cement concrete curb, in place, will be measured by the linear foot along the face of the curb including driveways and wheelchair ramps. Depressed curbs for driveways and wheelchair ramps shall be per linear foot as per this bid item. The scoring 6 inches behind the face of the curb shall also be considered as incidental to this item.

PAYMENT

Payment for the integral cement concrete curb, in place, shall be per linear foot and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 12 - INTEGRAL CEMENT CONCRETE SIDEWALK, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and constructing cement concrete sidewalk, in place; with the integral curb which is covered under its own separate bid item located elsewhere in these special provisions. This work shall also include the depressed area for wheelchair ramps. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 8-14, Cement Concrete Sidewalks, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

PORTLAND CEMENT CONCRETE
Portland cement concrete for the integral cement concrete sidewalk shall be air entrained concrete Class 5.5 (1-1/2) Ready-Mixed Concrete. Slump of the concrete mix shall not exceed 3-1/2 inches.

CONSTRUCTION REQUIREMENTS

EXCAVATION
Excavation for the integral cement concrete sidewalk is covered under its own separate Bid Item - "Roadway Excavation, Including Haul", located elsewhere in these special provisions.

FOUNDATION PREPARATION
Prior to installation of the integral cement concrete sidewalk the excavation bottom shall be brought to grade and strengthened as necessary by tamping, addition of foundation material, or by other means satisfactory to the Engineer, so that the sidewalk is uniformly supported.

BASE AND COMPACTION
Base and compaction for the integral cement concrete sidewalk is covered under its own separate Bid Item - "Bank Run Gravel, In Place", located elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT

Integral cement concrete sidewalk, in place, will be measured by the square yard for all surface of concrete walk placed. Depressed sidewalks for wheelchair ramps shall be per square yard as per this bid item. Whenever the sidewalk is poured with integral curb, that portion lying between the face of the curb and the scoring 6 inches behind the face of the curb, shall be paid for under Bid Item -"Integral Cement Concrete Curb, In Place", located elsewhere in these special provisions.

PAYMENT

Payment for the integral cement concrete sidewalk, in place, shall be per square yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ASPHTACK.P1-1

ITEM 13 - ASPHALT TACK COAT, IN PLACE:

DESCRIPTION
The work described in this item, asphalt tack coat, in place, shall be applied prior to placing paving materials on existing pavement. Tack coat shall be applied to existing pavement only, unless otherwise directed by the Engineer.

This item shall conform to Section 5-04.3(5)A, Preparation of Existing Surfaces, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

ASPHALT FOR TACK COAT
The asphalt for tack coat shall be Chevron Asphalt Emulsion CSS-1 or an approved equivalent.

CONSTRUCTION REQUIREMENTS
The locations will be worked out by the Contractor and the Engineer prior to commencing this phase of the work.

MEASUREMENT AND PAYMENT

MEASUREMENT
The asphalt tack coat, in place, will be measured to the nearest 0.1 ton. In no event will payment be made in excess of the tonnage computed by taking the tack area and arriving at the tonnage by using the maximum of 0.08 gallon per square yard and 250 gallon/ton.

PAYMENT
Payment for the asphalt tack coat, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ASPHCLG.P1-1

ITEM 14 - ASPHALT CONCRETE PAVEMENT BASE, CLASS "F", IN PLACE:

DESCRIPTION

The work described in this item, shall consist of one or more courses of plant mixed asphalt concrete pavement base, class "F", in place, placed on a prepared foundation or base in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 5-04, Asphalt Concrete Pavement, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

GENERAL

The number of courses, thickness, and location shall be worked out by the Contractor and the Engineer prior to commencing this phase of the work.

PREPARATION OF EXISTING SURFACES

Asphalt tack coat is covered under its own separate bid item, located elsewhere in these special provisions.

COMPACTION CONTROL

Nuclear gauge tests or other methods for compaction control as approved by the Engineer.

PAVING UNDER TRAFFIC

The Contractor shall be required to post all necessary signs and barricades to handle the traffic and to protect the work until the pavement can withstand traffic. No traffic shall be allowed on any newly placed pavement without the approval of the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Asphalt concrete pavement base, class "F", in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for the asphalt concrete pavement base, class "F", in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 15 - ASPHALT CONCRETE PAVEMENT, CLASS "G", IN PLACE:

DESCRIPTION
The work described in this item, shall consist of one or more courses of plant mixed asphalt concrete pavement, class "G", in place, placed on a prepared foundation or base in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 5-04, Asphalt Concrete Pavement, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

GENERAL
The number of courses, thickness, and location will be worked out by the Contractor and the Engineer prior to commencing this phase of the work.

PREPARATION OF EXISTING SURFACES
Asphalt tack coat is covered under its own separate bid item, located elsewhere in these special provisions.

COMPACTION CONTROL
Nuclear gauge tests or other methods for compaction control as approved by the Engineer.

PAVING UNDER TRAFFIC
The Contractor shall be required to post all necessary signs and barricades to handle the traffic and to protect the work until the pavement can withstand traffic. No traffic shall be allowed on any newly placed pavement without the approval of the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT
Asphalt concrete pavement, class "G", in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT
Payment for the asphalt concrete pavement, class "G", in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

REMXCURB.P1-1

ITEM 16 - REMOVAL AND DISPOSAL OF EXTRUDED CEMENT CONCRETE CURB:

DESCRIPTION

The work described in this item, shall consist of removal and disposal of extruded cement concrete curb, including haul, where shown on the construction plans, and/or as designated by the Engineer. This work shall also include all the vertical saw cutting between any existing curb that is to remain and the portion to be removed.

This item shall conform to Section 2-02, Removal of Structures and Obstructions, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

Disposal of the existing extruded cement concrete curb material shall be at a waste site maintained and operated by the Contractor.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the removal and disposal of extruded cement concrete curb, including haul, will be measured on a linear foot basis of the curb in its original position.

PAYMENT

Payment for the removal and disposal of extruded cement concrete curb, including haul, shall be per linear foot and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

REMASPHP.P1-1

ITEM 17 - REMOVAL AND DISPOSAL OF ASPHALT CONCRETE PAVEMENT:

DESCRIPTION

The work described in this item, shall consist of removal and disposal of asphalt concrete pavement, including haul, where shown on the construction plans, and/or as designated by the Engineer. This work shall also include all the vertical saw cutting between any existing pavement that is to remain and the portion to be removed.

This item shall conform to Section 2-02, Removal of Structures and Obstructions, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

Disposal of the existing asphalt concrete pavement material shall be at a waste site maintained and operated by the Contractor.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the removal and disposal of asphalt concrete pavement, including haul, will be measured on a square yard basis of the pavement in its original position.

PAYMENT

Payment for the removal and disposal of asphalt concrete pavement, including haul, shall be per square yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

SLSOIL.P1-1

ITEM 18 - SANDY LOAM SOIL, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing sandy loam soil, in place. The work shall be perform in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. Seeding, fertilizing, and mulching shall be done by others.

This item shall conform to Section 8-01, Erosion Control, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

SANDY LOAM SOIL

Sandy loam soil shall be reasonably free from brush, roots, heavy clay, sticks, roots of noxious weeds or grasses and other litter, and shall contain no stones or gravel larger than 1/2 inch in diameter. It shall be free of toxic amounts of either acid or alkaline elements and be capable of sustaining healthy plant life. A sample of the sandy loam soil shall be submitted to the Engineer for approval prior to placement. This material shall be from sources provided by the Contractor.

CONSTRUCTION REQUIREMENTS

PLACEMENT AND COMPACTION

Immediately prior to placing sandy loam soil, the surface area upon which it is to be placed shall be cleaned of objectionable matter and the area be smoothed and compacted as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Sandy loam soil, in place, will be measured by the cubic yard in the haul conveyance at the point of delivery.

PAYMENT

Payment for the sandy loam soil, in place, shall be per cubic yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

REMBHEAD.P1-1

ITEM 19 - REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD:

DESCRIPTION

The work described in this item, shall consist of removal and disposal of existing wood bulkhead, including haul, where shown on the construction plans, and/or as designated by the Engineer. This work shall also include all the saw cutting between any existing bulkhead that is to remain and the portion to be removed.

This item shall conform to Section 2-02, Removal of Structures and Obstructions, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

Disposal of the existing wood bulkhead material shall be at a waste site maintained and operated by the Contractor.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the removal and disposal of existing wood bulkhead, including haul, will be measured on a linear foot basis of the bulkhead in its original position.

PAYMENT

Payment for the removal and disposal of existing wood bulkhead, including haul, shall be per linear foot and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 20 - STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL:

DESCRIPTION

The work described in this item, regardless of the materials encountered, shall include all structure excavation class A, including haul, and disposal of all excavated materials that must be removed to make way for all the structures shown in the construction plans. All work shall be preformed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. Unless removal of existing improvements is covered in their own separate bid item located elsewhere in these special provisions.

This item shall conform to Section 2-09, Structure Excavation, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

REMOVAL OF UNSTABLE BASE MATERIAL

Where the Engineer deems the base material to be unsatisfactory, the Contractor shall do the following work as directed by the Engineer:

Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per this Bid Item-"Structure Excavation Class A, Including Haul", as described herein.

Excavation below grade replacement material and compaction is covered under its own separate bid item - "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Bank Run Gravel, In Place", as described elsewhere in these special provisions.

AND/OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

DISPOSAL OF EXCAVATED MATERIAL

Disposal of excavated material shall be at a waste site maintained and operated by the Contractor.

BACKFILLING

Backfilling is covered under its own separate Bid Item located elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Structure excavation class A, including haul, and disposal will be measured by the cubic yard in its original position by cross sectioning.

PAYMENT
Payment for the structure excavation class A, including haul, and disposal shall be per cubic yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item in accordance with the construction plans and specifications set forth herein.

6MCRROCK.P1-1

ITEM 21 - 6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing 6" minus crushed rock for gabion bedding, in place, described elsewhere in these special provisions, the construction plans, and/or as established by the Engineer.

This item shall conform to Section 4-04, Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

6" MINUS CRUSHED ROCK

The 6" minus crushed rock shall be from a Newskah Pit or equivalent as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

FOUNDATION PREPARATION

Foundation preparation is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", per "Removal of Unstable Base Material" as described elsewhere in these special provisions.

PLACEMENT AND COMPACTION

The 6" minus crushed rock for gabion bedding shall be placed and compacted by any method at the option of the Contractor as approved by the Engineer. The 6" minus crushed rock for gabion bedding shall be placed to the dimensions shown on the construction plans extending to the limits of the excavation to prevent any lateral movement of the bedding when the weight of the gabions are placed upon it.

MEASUREMENT AND PAYMENT

MEASUREMENT

The 6" minus crushed rock for gabion bedding, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for the 6" minus crushed rock for gabion bedding, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 22 - 9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing 9'x3'x3' sea type gabion with rock, in place, as described elsewhere in these special provisions, the construction plans, and/or as directed by the Engineer.

This item shall conform to Section 6-09, Cribbing, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

SEA TYPE (PVC COATED) TYPE 2 GABIONS

9 foot by 3 foot by 3 foot sea type (PVC coated) type 2 gabions and/or as approved by the Engineer. Specifications are as follows:

Mesh opening: Hexagonal approximately 3 inches by 4 inches.

Mesh wire (netting wire): Not less than 12 gauge wire, plus not less than 0.148 inch of Polyvinyl Chloride (PVC) plastic coating.

Selvedge wire (perimeter wire): Not less than 10 gauge wire, plus not less than 0.180 inch of Polyvinyl Chloride (PVC) plastic coating.

Lacing wire (binding wire): Not less than 13 gauge wire, plus not less than 0.126 inch of Polyvinyl Chloride (PVC) plastic coating.

Zinc coating: Not less than 0.80 ounces of zinc per square foot. The galvanizing shall be done before weaving by the Hot Dip process.

Clips instead of lacing wire: Not less than 10 gauge 431 stainless steel wire. Clips may only be used on Type 2 baskets.

GABION ROCK

The rock used to fill gabions shall be sized 4 inches minimum to 9 inches maximum by a screening process approved by the Engineer.

CONSTRUCTION REQUIREMENTS

DIMENSIONS

Gabion basket dimensions shall be 9 feet (108 inches) by 3 feet (36 inches) by 3 feet (36 inches).

EXCAVATION FOR GABIONS
The excavation for gabions is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FILLING BASKETS
The gabion baskets shall be filled to a depth of 1 foot (12 inches), then 2 connecting wires shall be placed and looped around 2 meshes of the gabion wall in each compartment. The operation is repeated until the gabion is filled. The gabion baskets shall be filled by any method at the option of the Contractor as approved by the Engineer. Except, some manual stone adjustment during the filling operation is necessary to prevent undue voids.

BACKFILLING BEHIND OR AROUND GABIONS
Backfilling behind or around gabions is covered under its own separate bid item - "Angular Basalt Rip Rap, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Bank Run Gravel, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the 9'x3'x3' sea type gabion with rock, in place, will be per each.

PAYMENT
Payment for the 9'x3'x3' sea type gabion with rock, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 23 - 6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing 6'x3'x3' sea type gabion with rock, in place, as described elsewhere in these special provisions, the construction plans, and/or as directed by the Engineer.

This item shall conform to Section 6-09, Cribbing, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

SEA TYPE (PVC COATED) TYPE 2 GABIONS

6 foot by 3 foot by 3 foot sea type (PVC coated) type 2 gabions and/or as approved by the Engineer. Specifications are as follows:

Mesh opening: Hexagonal approximately 3 inches by 4 inches.

Mesh wire (netting wire): Not less than 12 gauge wire, plus not less than 0.148 inch of Polyvinyl Chloride (PVC) plastic coating.

Selvedge wire (perimeter wire): Not less than 10 gauge wire, plus not less than 0.180 inch of Polyvinyl Chloride (PVC) plastic coating.

Lacing wire (binding wire): Not less than 13 gauge wire, plus not less than 0.126 inch of Polyvinyl Chloride (PVC) plastic coating.

Zinc coating: Not less than 0.80 ounces of zinc per square foot. The galvanizing shall be done before weaving by the Hot Dip process.

Clips instead of lacing wire: Not less than 10 gauge 431 stainless steel wire. Clips may only be used on Type 2 baskets.

GABION ROCK

The rock used to fill gabions shall be sized 4 inches minimum to 9 inches maximum by a screening process approved by the Engineer.

CONSTRUCTION REQUIREMENTS

DIMENSIONS

Gabion basket dimensions shall be 6 feet (72 inches) by 3 feet (36 inches) by 3 feet (36 inches).

EXCAVATION FOR GABIONS
The excavation for gabions is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FILLING BASKETS
The gabion baskets shall be filled to a depth of 1 foot (12 inches), then 2 connecting wires shall be placed and looped around 2 meshes of the gabion wall in each compartment. The operation is repeated until the gabion is filled. The gabion baskets shall be filled by any method at the option of the Contractor as approved by the Engineer. Except, some manual stone adjustment during the filling operation is necessary to prevent undue voids.

BACKFILLING BEHIND OR AROUND GABIONS
Backfilling behind or around gabions is covered under its own separate bid item - "Angular Basalt Rip Rap, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place"; or "Bank Run Gravel, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the 6'x3'x3' sea type gabion with rock, in place, will be per each.

PAYMENT
Payment for the 6'x3'x3' sea type gabion with rock, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 24 - ANGULAR BASALT RIP RAP, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing angular basalt rip rap, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 8-15, Rip Rap, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

ANGULAR BASALT RIP RAP

Angular basalt rip rap shall be hard, durable, angular in shape, resistant to weathering. The rock shall be free from cracks or other defects conductive to accelerated weathering. The maximum dimension of the rock shall not be greater than three times the least dimension. The rip rap material shall be free from overburden, spoil, shale and organic material. Rounded stone or boulders will not be accepted. Shale or stone with shale seams are not acceptable. The stone shall conform to the following requirements:

Specific gravity	2.5	Min.
Percent absorption	2	Min.
Gradation (Maximum)	500	Lbs.
(Average)	100-250	Lbs.
(20%)	50	Lbs.

Sources from which the stone is obtained shall be selected well in advance of the time when the material will be required. The acceptability of the stone will be determined by previous use records or by tests as the Engineer determines to be appropriate. If testing is required, suitable samples of stone shall be furnished by the Contractor and taken in the presence of the Engineer at least 25 days in advance of the time when the placing of rip rap is expected to begin. The approval of some rip rap from a particular source shall not be construed as constituting the approval of all rip rap taken from that source.

CONSTRUCTION REQUIREMENTS

EXCAVATION FOR RIP RAP

Excavation for rip rap is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FOUNDATION PREPARATION
Before placing the rip rap, the slopes, subgrade and/or excavation bottom shall be brought to grade as indicated on the construction plans and/or as established by the Engineer.

Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall be required to do the following work as directed by the Engineer:

Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per Bid Item -"Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

Excavation below grade replacement material and compaction is covered under its own separate bid item - "Bank Run Gravel, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", as described elsewhere in these special provisions.

AND/OR, Construction Fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

PLACEMENT AND COMPACTION
Angular basalt rip rap shall be placed by any method at the option of the Contractor as approved by the Engineer. In such a manner that all relatively large stones shall be essentially in contact with each other and all voids filled with the finer materials as to provide a well graded, compact mass. The stone shall be placed in such a manner as will ensure the rip rap coming to its finished thickness in one operation. When placing, care shall be used so as not to disturb the underlying material. Placing in layers parallel to the grade will not be permitted. End dumping shall not be permitted.

MEASUREMENT AND PAYMENT

MEASUREMENT
Angular basalt rip rap, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT
Payment for the angular basalt rip rap, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 25 - TWO CEMENT CONCRETE BULKHEADS, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and constructing two cement concrete bulkheads, in place, as described elsewhere in these special provisions, the construction plans, and/or as directed by the Engineer.

This item shall conform to Section 6-02, Concrete Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

PORTLAND CEMENT CONCRETE
Portland cement concrete for the bulkheads shall be air-entrained concrete Class 5.5 (1-1/2) Ready-Mixed Concrete. Slump of the concrete mix shall not exceed 3 inches.

FORMS
Any bulkhead forms that will be left against the bridges shall be pressure treated wood and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

EXCAVATION
Excavation for the bulkheads is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FOUNDATION PREPARATION
Before construction begins on the bulkheads, the excavation bottom shall be brought to grade as indicated on the construction plans.

Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall be required to do the following work as directed by the Engineer:

> Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per Bid Item - "Structure Excavation Class, Including Haul", as described elsewhere in these special provisions.

Excavation below grade replacement material and compaction is covered under its own separate Bid Item - "Bank Run Gravel, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", as described elsewhere in these special provisions.

AND/OR, Construction Fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item - "Construction Fabric, In Place", as described elsewhere in these special provisions.

BACKFILLING

Backfilling for the bulkheads is covered under its own separate bid item - "Bank Run Gravel, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Angular Basalt Rip Rap, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the two cement concrete bulkheads, in place, will be per lump sum.

PAYMENT

Payment for the two cement concrete bulkheads, in place, will be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 26 - BANK RUN GRAVEL, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing bank run gravel, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 4-02, Gravel Base, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

BANK RUN GRAVEL

The bank run gravel shall be naturally occurring material and have such characteristics that it will compact readily to a firm, stable course. It shall be substantially free from roots, stumps, wood waste, trash, or other deleterious materials and conform to the following requirements:

Passing 2-1/2" sieve	100%
Passing 1/4" sieve	25% min., 75% max.
Passing U.S. No. 200 sieve	10% max.
Dust Ratio: $\frac{\%\ \text{Passing \#200 (wet sieving)}}{\%\ \text{Passing \#40}}$	2/3 max.
Sand Equivalent	30 min.

All percentages are by weight. Material retained on a 1/4 inch square sieve shall contain not more than 0.20% by weight of wood waste.

Stabilometer resistance value	72 min.
Swell pressure	0.3 psi max.

CONSTRUCTION REQUIREMENTS

GENERAL

The construction requirements for the bank run gravel, shall conform to the requirements of Section 4-04.3, Construction Requirements, for Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

EXCAVATION FOR BANK RUN GRAVEL

Excavation for bank run gravel is covered under its own separate bid item - "Roadway Excavation, Including Haul" or "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FOUNDATION PREPARATION

Before placing the bank run gravel, the subgrade and/or excavation bottom shall be brought to grade as indicated on the construction plans and/or as established by the Engineer.

Where the Engineer deems the subgrade and/or the excavation bottom material to be unsatisfactory, the Contractor shall do the following work as directed by the Engineer:

Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per bid item - "Roadway Excavation, Including Haul" or "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

The river run gravel material required for replacement of unsuitable subgrade material, shall be per cubic yard as per this bid item or excavation below grade replacement material and compaction is covered under its own separate bid item - "6" Minus Crushed Rock for Gabion Bedding, In Place", as described elsewhere in these special provisions.

AND/OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per bid item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

PLACEMENT AND COMPACTION

Placement and compaction of bank run gravel shall be as follows:

Below the top 2 feet: Shall not exceed 8 inches in depth before compaction. Shall be compacted to 90 percent of the maximum density as determined by the compaction control tests.

The top 2 feet: Shall not exceed 4 inches in depth before compaction. Shall be compacted to 95 percent of the maximum density as determined by the compaction control tests.

AND/OR, as approved by the Engineer.

COMPACTION CONTROL TESTS

The densities shall be determined by compaction control tests for the Washington Densometer method or Nuclear gauge as outlined in the WSDOT Construction Manual and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Bank run gravel, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for bank run gravel, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 27 - CRUSHED SURFACING, BASE COURSE, IN PLACE

DESCRIPTION

The work described in this item shall consist of furnishing and placing one or more courses of crushed surfacing, base course, in place, upon an existing surface, or upon a properly prepared subgrade. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 4-04, Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Crushed surfacing, base course, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for the crushed surfacing, base course, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

MOBEQUIP.P1-1

ITEM 28 - MOBILIZATION OF PILE DRIVING EQUIPMENT:

DESCRIPTION
The work described in this item, shall consist of supplying all materials, labor, tools and equipment required for mobilization of pile driving equipment and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the mobilization of pile driving equipment, will be per lump sum.

PAYMENT
Payment for the mobilization of pile driving equipment, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 29 - MARINE PILES, CLASS A, TREATED, 90 FT, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and driving marine piles, Class A, treated, 90 foot, in place. This work shall also include cutting piles to correct cut-off elevation. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-05, Piling, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

TIMBER PILING

Timber piles shall be New Pacific Coast Douglas Fir round timber marine piles, Class A, 15 inches minimum diameter 3 feet from the butt, 8 inches minimum diameter at the tip, and a length of 90 feet.

Physical characteristics of the timber piles shall be in accordance with ASTM D 25 for grade, quality, size, straightness, manufacture, seasoning, and tolerances.

Timber piles shall be pressure treated in accordance with AWPA Standards P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated piles in support of treatment plant compliance with AWPA Standards.

CONSTRUCTION REQUIREMENTS

PILE DRIVING EQUIPMENT

Pile driving hammers shall be capable of consistently delivering the dynamic energy required. Hammers shall deliver not less than 12,000 ft-lbs of energy per blow to the pile head. Drop hammers with not less than 2,500 lb ram may be used in the driving.

DRIVING

Install with tip down. Set piles, by driving the tip to a minimum depth of elevation minus seventy feet Mean Lower Low Water (-70.0' MLLW) City of Aberdeen Datum.

Misplaced or damaged piles shall be removed and replaced with a new pile at no additional cost to the City.

TREATMENT OF PILE HEADS
Treatment of pile heads is covered under its own separate bid item - "Pile Top Protection After Cut-off, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the marine piles, Class A, treated, 90 foot, in place, will be per each.

PAYMENT
Payment for the marine piles, Class A, treated, 90 foot, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

PILETOPR.P1-1

ITEM 30 - PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing pile top protection after cut-off, in place. This work shall also include shaving two sides of the pile top prior to installing pile top protection. All work shall be performed in accordance with the cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-05.3(2)D, Treatment of Pile Heads, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

After making final cut-off of the timber piles and shaving two sides of the pile top prior to installing pile top protection. The cut areas shall be saturated with one (1) application of hot creosote not less than one (1) hour later by a second saturation coat of hot creosote. After the second saturation of hot creosote, the cut areas shall be given a heavy application of hot coal tar pitch, followed by three (3) layers of tar-saturated fabric, each glued in place with coal tar pitch, and each overlapping the uncut side of the pile at least six (6) inches with edges glued down with coal tar pitch and tacked to the side of the pile. One (1) coat of coal tar pitch shall then be applied over the top layer of fabric.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the pile top protection after cut-off, in place. This also includes shaving two sides of the pile top prior to installing pile top protection, will be per each.

PAYMENT

Payment for the pile top protection after cut-off, in place. This also includes shaving two sides of the pile top prior to installing pile top protection, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 31 - TIMBER BEAMS, 14x18's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber beams, 14x18's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the beams. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER BEAMS

The beams shall be New Pacific Coast Douglas Fir 14x18's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,300 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The beams shall be creosote pressure treated in accordance with AWPA P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated beams in support of treatment plant compliance with AWPA Standards.

BEAM SPLICE PLATES AND FASTENERS

The beam splice plates shall be galvanized Simpson Strong Ties (Strap Tie #HST3) or equivalent as approved by the Engineer, and shall conform to the requirements of ASTM A36. The beam splice plates shall be galvanized (double hot-dipped) in accordance with ASTM A123 after fabrication.

The beam splice plate fasteners shall be galvanized 3/4"-10NC bolts by approximately 16 inches long, 3/4" spring lock washers, 3/4"-10NC nuts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

BEAM DRIFT PINS

The beam drift pins shall be galvanized 1-3/8 inch diameter bars by 44 inches long with one end tapered for driving into a 1-3/8 inch diameter hole, and shall conform to the requirements of ASTM A36. The beam drift pins shall be galvanized in accordance with ASTM A153.

BEAM MOUNTING PLATES AND FASTENERS

The beam mounting plates shall be galvanized Simpson Strong Ties (Strap Tie #HST6) or equivalent as approved by the Engineer, and shall conform to the requirements of ASTM A36. The beam mounting plates shall be galvanized (double hot-dipped) in accordance with ASTM A123 after fabrication.

The beam mounting plate fasteners shall be galvanized 3/4"-10NC bolts by approximately 16 inches long, 3/4" spring lock washers, 3/4"-10NC nuts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED
See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL
See the construction plans for Beam Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES
Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for bolts and drift pins shall be treated with the same type preservative used in the original treatment.

HOLES FOR BOLTS AND DRIFT PINS
See the construction plans for Beam Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction plans for bolts and drift pins. Prebored or drilled holes are required for all bolts and drift pins.

DRIFT PINS, BOLTS, WASHERS, AND OTHER HARDWARE
Vertical drift pins shall be driven flush to the top surfaces of the beams. Galvanized spring lock washers shall be used under all nuts. All bolts shall be effectively tightened when installed, and shall be gone over and re-tightened at job end.

FRAMING
Framing shall be as shown on the construction plans for Beam Installation Details. Insofar as is practicable all beams shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber beams, 14x18's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber beams, 14x18's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 32 - TIMBER STRINGERS, 14x22's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber stringers, 14x22's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the stringers. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER STRINGERS

The stringers shall be New Pacific Coast Douglas Fir 14x22's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,300 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The stringers shall be creosote pressure treated in accordance with AWPA P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated stringers in support of treatment plant compliance with AWPA Standards.

STRINGER MOUNTING ANGLES AND FASTENERS

The stringer mounting angles shall be galvanized Simpson Strong Ties (Heavy Angle #HL79) or equivalent as approved by the Engineer, and shall conform to the requirements of ASTM A36. The stringer mounting angles shall be galvanized (double hot-dipped) in accordance with ASTM A123 after fabrication.

The stringer mounting angle fasteners shall be galvanized 3/4"-10NC bolts by approximately 16 inches long, 3/4" spring lock washers, 3/4"-10NC nuts, 3/4" diameter by 9" long lag bolts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL
See the construction plans for Stringer Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES
Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for bolts and lag bolts shall be treated with the same type preservative used in the original treatment.

HOLES FOR BOLTS AND LAG BOLTS
See the construction plans for Stringer Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction plans for bolts and lag bolts. Prebored or drilled holes are required for all bolts and lag bolts.

LAG BOLTS, BOLTS, WASHERS, AND OTHER HARDWARE
Galvanized spring lock washers shall be used under all nuts. All lag bolts shall be wrenched into position and not driven. All bolts and lag bolts shall be effectively tightened when installed, and shall be gone over and re-tightened at job end.

FRAMING
Framing shall be as shown on the construction plans for Stringer Installation Details. Insofar as is practicable all stringers shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber stringers, 14x22's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber stringers, 14x22's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 33 - TIMBER DECKING, 6x12's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber decking, 6x12's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the decking. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER DECKING

The decking shall be New Pacific Coast Douglas Fir 6x12's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,300 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The decking shall be Chemonite pressure treated in accordance with AWPA C2 for marine application with a minimum retention of 0.60 pounds of Chemonite per cubic foot. The Contractor shall submit documentation prior to furnishing of treated decking in support of treatment plant compliance with AWPA Standards.

DECKING FASTENERS

The decking fasteners shall be galvanized 3/8" gauge round wire spikes 12" long, and shall conform to the requirements of FF-N-105B. The fasteners shall be galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Decking Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for spikes shall be treated with the same type preservative used in the original treatment.

HOLES FOR SPIKES
See the construction plans for Decking Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for spikes. Prebored or drilled holes are required for all spikes.

FRAMING
Framing shall be as shown on the construction plans for Decking Installation Details. Insofar as is practicable all decking shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber decking, 6x12's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber decking, 6x12's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 34 - ROUND TIMBER CURBS, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing round timber curbs, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the curbs. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

ROUND TIMBER CURBS

The curbs shall be New Pacific Coast Douglas Fir round timber curbs, 8 inch wide flat on bottom side before treatment, 12 inch maximum butt diameter, 10 inch minimum tip diameter, and a length of approximately 22 feet.

The curbs shall be creosote pressure treated in accordance with AWPA P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated round timber curbs in support of treatment plant compliance with AWPA Standards.

ROUND TIMBER CURB FASTENERS

The curb fasteners shall be galvanized 3/8" gauge round wire spikes 16" long, and shall conform to the requirements of FF-N-105B. The fasteners shall be galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Round Timber Curb Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for spikes shall be treated with the same type preservative used in the original treatment.

HOLES FOR SPIKES

See the construction plans for Round Timber Curb Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for spikes. Prebored or drilled holes are required for all spikes.

FRAMING

Framing shall be as shown on the construction plans for Round Timber Curb Installation Details. Insofar as is practicable all round timber curbs shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the round timber curbs, treated, in place, shall be per lump sum.

PAYMENT

Payment for the round timber curbs, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 35 - BEAM GUARD RAIL, TYPE W BEAM, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of constructing beam guard rail, type W beam, in place, with 6 posts attached to bridge. This work shall also consist of furnishing and installing connections and all other materials required to construct the guard rail. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 8-11, Guardrail, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

STRAIGHT, PARABOLA AND CURVED SECTIONS (RAIL ELEMENTS)
TERMINAL SECTIONS, DESIGNS "G" AND "F" (RAIL ELEMENTS)
STANDARD POSTS WITH AND WITHOUT BLOCKS
POSTS AND BLOCKS TO BE ATTACHED TO BRIDGE
The straight, parabola, and curved sections; terminal sections, designs "G" and "F"; standard posts with and without blocks; posts and blocks to be attached to bridge; all shall conform to WSDOT Standard Plan C-1 or C-7 except as modified herein.

The curved sections shall be formed in the shop prior to galvanizing.

The posts and blocks to be attached to bridge, shall be New Pacific Coast Douglas Fir 8x8"s, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,200 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

Fasteners required to fasten posts to bridge, shall be galvanized 1-1/2"-6NC bolts by approximately 26 inches long, 1-1/2" spring lock washers, 1-1/2" malleable iron washers, 1-1/2"-6NC nuts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED
See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

POSTS IN THE GROUND AND ATTACHED TO BRIDGE

Post in the ground and attached to bridge shall conform to WSDOT Standard Plan C-1 except as modified herein. Post locations in the ground and attached to bridge shall be as shown on the construction plans, plan view or Guard Rail Post Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES, ATTACHMENT TO BRIDGE
Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for bolts shall be treated with the same type preservative used in the original treatment.

HOLES FOR BOLTS, ATTACHMENT TO BRIDGE
See the construction plans for Guard Rail Post Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for bolts. Prebored or drilled holes are required for all bolts.

BOLTS, WASHERS, AND OTHER HARDWARE, FOR ATTACHMENT TO BRIDGE
Galvanized spring lock washers shall be used under all nuts. All bolts shall be effectively tightened when installed, and shall be gone over and re-tightened at job end.

FRAMING, ATTACHMENT TO BRIDGE
Framing of the posts to bridge shall be as shown on the construction plans for Guard Rail Post Installation Details. Insofar as is practicable all guard rail posts shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

ERECTION OF THE SECTIONS AND TERMINAL SECTIONS (ELEMENTS)
The sections and terminal sections shall conform to WSDOT Standard Plan C-1 or C-7. Locations of the rail and terminal sections shall be as shown on the construction plans, plan view.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the beam guard rail, type W beam, in place, with 6 posts attached to bridge, shall be per lump sum.

PAYMENT
Payment for the beam guard rail, type W beam, in place, with 6 posts attached to bridge, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

REMBHEAD.P1-1

ITEM 36 - REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD:

DESCRIPTION

The work described in this item, shall consist of removal and disposal of existing wood bulkhead, including haul, where shown on the construction plans, and/or as designated by the Engineer. This work shall also include all the saw cutting between any existing bulkhead that is to remain and the portion to be removed.

This item shall conform to Section 2-02, Removal of Structures and Obstructions, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

Disposal of the existing wood bulkhead material shall be at a waste site maintained and operated by the Contractor.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the removal and disposal of existing wood bulkhead, including haul, will be measured on a linear foot basis of the bulkhead in its original position.

PAYMENT

Payment for the removal and disposal of existing wood bulkhead, including haul, shall be per linear foot and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 37 - STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL:

DESCRIPTION

The work described in this item, regardless of the materials encountered, shall include all structure excavation class A, including haul, and disposal of all excavated materials that must be removed to make way for all the structures shown in the construction plans. All work shall be preformed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer. Unless removal of existing improvements is covered in their own separate bid item located elsewhere in these special provisions.

This item shall conform to Section 2-09, Structure Excavation, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

REMOVAL OF UNSTABLE BASE MATERIAL

Where the Engineer deems the base material to be unsatisfactory, the Contractor shall do the following work as directed by the Engineer:

Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per this Bid Item-"Structure Excavation Class A, Including Haul", as described herein.

Excavation below grade replacement material and compaction is covered under its own separate bid item - "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Bank Run Gravel, In Place", as described elsewhere in these special provisions.

AND/OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

DISPOSAL OF EXCAVATED MATERIAL

Disposal of excavated material shall be at a waste site maintained and operated by the Contractor.

BACKFILLING

Backfilling is covered under its own separate Bid Item located elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Structure excavation class A, including haul, and disposal will be measured by the cubic yard in its original position by cross sectioning.

PAYMENT
Payment for the structure excavation class A, including haul, and disposal shall be per cubic yard and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item in accordance with the construction plans and specifications set forth herein.

ITEM 38 - 6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and placing 6" minus crushed rock for gabion bedding, in place, described elsewhere in these special provisions, the construction plans, and/or as established by the Engineer.

This item shall conform to Section 4-04, Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

6" MINUS CRUSHED ROCK
The 6" minus crushed rock shall be from a Newskah Pit or equivalent as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

FOUNDATION PREPARATION
Foundation preparation is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", per "Removal of Unstable Base Material" as described elsewhere in these special provisions.

PLACEMENT AND COMPACTION
The 6" minus crushed rock for gabion bedding shall be placed and compacted by any method at the option of the Contractor as approved by the Engineer. The 6" minus crushed rock for gabion bedding shall be placed to the dimensions shown on the construction plans extending to the limits of the excavation to prevent any lateral movement of the bedding when the weight of the gabions are placed upon it.

MEASUREMENT AND PAYMENT

MEASUREMENT
The 6" minus crushed rock for gabion bedding, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT
Payment for the 6" minus crushed rock for gabion bedding, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 39 - 9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and placing 9'x3'x3' sea type gabion with rock, in place, as described elsewhere in these special provisions, the construction plans, and/or as directed by the Engineer.

This item shall conform to Section 6-09, Cribbing, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

SEA TYPE (PVC COATED) TYPE 2 GABIONS
9 foot by 3 foot by 3 foot sea type (PVC coated) type 2 gabions and/or as approved by the Engineer. Specifications are as follows:

Mesh opening: Hexagonal approximately 3 inches by 4 inches.

Mesh wire (netting wire): Not less than 12 gauge wire, plus not less than 0.148 inch of Polyvinyl Chloride (PVC) plastic coating.

Selvedge wire (perimeter wire): Not less than 10 gauge wire, plus not less than 0.180 inch of Polyvinyl Chloride (PVC) plastic coating.

Lacing wire (binding wire): Not less than 13 gauge wire, plus not less than 0.126 inch of Polyvinyl Chloride (PVC) plastic coating.

Zinc coating: Not less than 0.80 ounces of zinc per square foot. The galvanizing shall be done before weaving by the Hot Dip process.

Clips instead of lacing wire: Not less than 10 gauge 431 stainless steel wire. Clips may only be used on Type 2 baskets.

GABION ROCK
The rock used to fill gabions shall be sized 4 inches minimum to 9 inches maximum by a screening process approved by the Engineer.

CONSTRUCTION REQUIREMENTS

DIMENSIONS
Gabion basket dimensions shall be 9 feet (108 inches) by 3 feet (36 inches) by 3 feet (36 inches).

EXCAVATION FOR GABIONS
The excavation for gabions is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FILLING BASKETS
The gabion baskets shall be filled to a depth of 1 foot (12 inches), then 2 connecting wires shall be placed and looped around 2 meshes of the gabion wall in each compartment. The operation is repeated until the gabion is filled. The gabion baskets shall be filled by any method at the option of the Contractor as approved by the Engineer. Except, some manual stone adjustment during the filling operation is necessary to prevent undue voids.

BACKFILLING BEHIND OR AROUND GABIONS
Backfilling behind or around gabions is covered under its own separate bid item - "Angular Basalt Rip Rap, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Bank Run Gravel, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the 9'x3'x3' sea type gabion with rock, in place, will be per each.

PAYMENT
Payment for the 9'x3'x3' sea type gabion with rock, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 40 - 6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and placing 6'x3'x3' sea type gabion with rock, in place, as described elsewhere in these special provisions, the construction plans, and/or as directed by the Engineer.

This item shall conform to Section 6-09, Cribbing, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

SEA TYPE (PVC COATED) TYPE 2 GABIONS
6 foot by 3 foot by 3 foot sea type (PVC coated) type 2 gabions and/or as approved by the Engineer. Specifications are as follows:

Mesh opening: Hexagonal approximately 3 inches by 4 inches.

Mesh wire (netting wire): Not less than 12 gauge wire, plus not less than 0.148 inch of Polyvinyl Chloride (PVC) plastic coating.

Selvedge wire (perimeter wire): Not less than 10 gauge wire, plus not less than 0.180 inch of Polyvinyl Chloride (PVC) plastic coating.

Lacing wire (binding wire): Not less than 13 gauge wire, plus not less than 0.126 inch of Polyvinyl Chloride (PVC) plastic coating.

Zinc coating: Not less than 0.80 ounces of zinc per square foot. The galvanizing shall be done before weaving by the Hot Dip process.

Clips instead of lacing wire: Not less than 10 gauge 431 stainless steel wire. Clips may only be used on Type 2 baskets.

GABION ROCK
The rock used to fill gabions shall be sized 4 inches minimum to 9 inches maximum by a screening process approved by the Engineer.

CONSTRUCTION REQUIREMENTS

DIMENSIONS
Gabion basket dimensions shall be 6 feet (72 inches) by 3 feet (36 inches) by 3 feet (36 inches).

EXCAVATION FOR GABIONS
The excavation for gabions is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FILLING BASKETS
The gabion baskets shall be filled to a depth of 1 foot (12 inches), then 2 connecting wires shall be placed and looped around 2 meshes of the gabion wall in each compartment. The operation is repeated until the gabion is filled. The gabion baskets shall be filled by any method at the option of the Contractor as approved by the Engineer. Except, some manual stone adjustment during the filling operation is necessary to prevent undue voids.

BACKFILLING BEHIND OR AROUND GABIONS
Backfilling behind or around gabions is covered under its own separate bid item - "Angular Basalt Rip Rap, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Bank Run Gravel, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the 6'x3'x3' sea type gabion with rock, in place, will be per each.

PAYMENT
Payment for the 6'x3'x3' sea type gabion with rock, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 41 - ANGULAR BASALT RIP RAP, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing angular basalt rip rap, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 8-15, Rip Rap, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

ANGULAR BASALT RIP RAP

Angular basalt rip rap shall be hard, durable, angular in shape, resistant to weathering. The rock shall be free from cracks or other defects conductive to accelerated weathering. The maximum dimension of the rock shall not be greater than three times the least dimension. The rip rap material shall be free from overburden, spoil, shale and organic material. Rounded stone or boulders will not be accepted. Shale or stone with shale seams are not acceptable. The stone shall conform to the following requirements:

Specific gravity	2.5	Min.
Percent absorption	2	Min.
Gradation (Maximum)	500	Lbs.
(Average)	100-250	Lbs.
(20%)	50	Lbs.

Sources from which the stone is obtained shall be selected well in advance of the time when the material will be required. The acceptability of the stone will be determined by previous use records or by tests as the Engineer determines to be appropriate. If testing is required, suitable samples of stone shall be furnished by the Contractor and taken in the presence of the Engineer at least 25 days in advance of the time when the placing of rip rap is expected to begin. The approval of some rip rap from a particular source shall not be construed as constituting the approval of all rip rap taken from that source.

CONSTRUCTION REQUIREMENTS

EXCAVATION FOR RIP RAP

Excavation for rip rap is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FOUNDATION PREPARATION
Before placing the rip rap, the slopes, subgrade and/or excavation bottom shall be brought to grade as indicated on the construction plans and/or as established by the Engineer.

Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall be required to do the following work as directed by the Engineer:

Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per Bid Item -"Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

Excavation below grade replacement material and compaction is covered under its own separate bid item - "Bank Run Gravel, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", as described elsewhere in these special provisions.

AND/OR, Construction Fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

PLACEMENT AND COMPACTION
Angular basalt rip rap shall be placed by any method at the option of the Contractor as approved by the Engineer. In such a manner that all relatively large stones shall be essentially in contact with each other and all voids filled with the finer materials as to provide a well graded, compact mass. The stone shall be placed in such a manner as will ensure the rip rap coming to its finished thickness in one operation. When placing, care shall be used so as not to disturb the underlying material. Placing in layers parallel to the grade will not be permitted. End dumping shall not be permitted.

MEASUREMENT AND PAYMENT

MEASUREMENT
Angular basalt rip rap, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT
Payment for the angular basalt rip rap, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 42 - TWO CEMENT CONCRETE BULKHEADS, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and constructing two cement concrete bulkheads, in place, as described elsewhere in these special provisions, the construction plans, and/or as directed by the Engineer.

This item shall conform to Section 6-02, Concrete Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

PORTLAND CEMENT CONCRETE

Portland cement concrete for the bulkheads shall be air-entrained concrete Class 5.5 (1-1/2) Ready-Mixed Concrete. Slump of the concrete mix shall not exceed 3 inches.

FORMS

Any bulkhead forms that will be left against the bridges shall be pressure treated wood and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

EXCAVATION

Excavation for the bulkheads is covered under its own separate bid item - "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FOUNDATION PREPARATION

Before construction begins on the bulkheads, the excavation bottom shall be brought to grade as indicated on the construction plans.

Where the Engineer deems the subgrade material to be unsatisfactory, the Contractor shall be required to do the following work as directed by the Engineer:

> Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per Bid Item - "Structure Excavation Class, Including Haul", as described elsewhere in these special provisions.

Excavation below grade replacement material and compaction is covered under its own separate Bid Item - "Bank Run Gravel, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", as described elsewhere in these special provisions.

AND/OR, Construction Fabric shall be installed by the Contractor where and as directed by the Engineer as per Bid Item - "Construction Fabric, In Place", as described elsewhere in these special provisions.

BACKFILLING

Backfilling for the bulkheads is covered under its own separate bid item - "Bank Run Gravel, In Place", or "6" Minus Crushed Rock for Gabion Bedding, In Place", or "Angular Basalt Rip Rap, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the two cement concrete bulkheads, in place, will be per lump sum.

PAYMENT

Payment for the two cement concrete bulkheads, in place, will be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 43 - BANK RUN GRAVEL, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and placing bank run gravel, in place, in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 4-02, Gravel Base, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

BANK RUN GRAVEL

The bank run gravel shall be naturally occurring material and have such characteristics that it will compact readily to a firm, stable course. It shall be substantially free from roots, stumps, wood waste, trash, or other deleterious materials and conform to the following requirements:

Passing 2-1/2" sieve	100%
Passing 1/4" sieve	25% min., 75% max.
Passing U.S. No. 200 sieve	10% max.
Dust Ratio: $\frac{\%\ \text{Passing \#200 (wet sieving)}}{\%\ \text{Passing \#40}}$	2/3 max.
Sand Equivalent	30 min.

All percentages are by weight. Material retained on a 1/4 inch square sieve shall contain not more than 0.20% by weight of wood waste.

Stabilometer resistance value	72 min.
Swell pressure	0.3 psi max.

CONSTRUCTION REQUIREMENTS

GENERAL

The construction requirements for the bank run gravel, shall conform to the requirements of Section 4-04.3, Construction Requirements, for Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

EXCAVATION FOR BANK RUN GRAVEL

Excavation for bank run gravel is covered under its own separate bid item - "Roadway Excavation, Including Haul" or "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

FOUNDATION PREPARATION
Before placing the bank run gravel, the subgrade and/or excavation bottom shall be brought to grade as indicated on the construction plans and/or as established by the Engineer.

Where the Engineer deems the subgrade and/or the excavation bottom material to be unsatisfactory, the Contractor shall do the following work as directed by the Engineer:

Excavation below grade, where and to such depths as directed by the Engineer. Payment for excavation below grade shall be per cubic yard as per bid item - "Roadway Excavation, Including Haul" or "Structure Excavation Class A, Including Haul", as described elsewhere in these special provisions.

The river run gravel material required for replacement of unsuitable subgrade material, shall be per cubic yard as per this bid item or excavation below grade replacement material and compaction is covered under its own separate bid item - "6" Minus Crushed Rock for Gabion Bedding, In Place", as described elsewhere in these special provisions.

AND/OR, Construction fabric shall be installed by the Contractor where and as directed by the Engineer as per bid item -"Construction Fabric, In Place", as described elsewhere in these special provisions.

PLACEMENT AND COMPACTION
Placement and compaction of bank run gravel shall be as follows:

Below the top 2 feet: Shall not exceed 8 inches in depth before compaction. Shall be compacted to 90 percent of the maximum density as determined by the compaction control tests.

The top 2 feet: Shall not exceed 4 inches in depth before compaction. Shall be compacted to 95 percent of the maximum density as determined by the compaction control tests.

AND/OR, as approved by the Engineer.

COMPACTION CONTROL TESTS
The densities shall be determined by compaction control tests for the Washington Densometer method or Nuclear gauge as outlined in the WSDOT Construction Manual and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Bank run gravel, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for bank run gravel, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 44 - CRUSHED SURFACING, BASE COURSE, IN PLACE

DESCRIPTION

The work described in this item shall consist of furnishing and placing one or more courses of crushed surfacing, base course, in place, upon an existing surface, or upon a properly prepared subgrade. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans and/or as established by the Engineer.

This item shall conform to Section 4-04, Ballast and Crushed Surfacing, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT

Crushed surfacing, base course, in place, will be measured to the nearest 0.1 ton. Tare sheets indicating the results of such daily weighings shall be given to the Engineer or his representative at the time of material delivery.

PAYMENT

Payment for the crushed surfacing, base course, in place, shall be per ton and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

MOBEQUIP.P1-1

ITEM 45 - MOBILIZATION OF PILE DRIVING EQUIPMENT:

DESCRIPTION
The work described in this item, shall consist of supplying all materials, labor, tools and equipment required for mobilization of pile driving equipment and/or as approved by the Engineer.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the mobilization of pile driving equipment, will be per lump sum.

PAYMENT
Payment for the mobilization of pile driving equipment, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 46 - MARINE PILES, CLASS A, TREATED, 60 FT, IN PLACE:

DESCRIPTION
The work described in this item, shall consist of furnishing and driving marine piles, Class A, treated, 60 foot, in place. This work shall also include cutting piles to correct cut-off elevation. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-05, Piling, of the Standard Specifications except as modified herein and/or as approved by the Engineer .

MATERIALS

TIMBER PILING
Timber piles shall be New Pacific Coast Douglas Fir round timber marine piles, Class A, 14 inches minimum diameter 3 feet from the butt, 8 inches minimum diameter at the tip, and a length of 60 feet.

Physical characteristics of the timber piles shall be in accordance with ASTM D 25 for grade, quality, size, straightness, manufacture, seasoning, and tolerances.

Timber piles shall be pressure treated in accordance with AWPA Standards P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated piles in support of treatment plant compliance with AWPA Standards.

CONSTRUCTION REQUIREMENTS

PILE DRIVING EQUIPMENT
Pile driving hammers shall be capable of consistently delivering the dynamic energy required. Hammers shall deliver not less than 12,000 ft-lbs of energy per blow to the pile head. Drop hammers with not less than 2,500 lb ram may be used in the driving.

DRIVING
Install with tip down. Set piles, by driving the tip to a minimum depth of elevation minus seventy feet Mean Lower Low Water (-70.0' MLLW) City of Aberdeen Datum.

Misplaced or damaged piles shall be removed and replaced with a new pile at no additional cost to the City.

TREATMENT OF PILE HEADS
Treatment of pile heads is covered under its own separate bid item - "Pile Top Protection After Cut-off, In Place", as described elsewhere in these special provisions.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the marine piles, Class A, treated, 60 foot, in place, will be per each.

PAYMENT
Payment for the marine piles, Class A, treated, 60 foot, in place, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

PILETOPR.P1-1

ITEM 47 - PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing pile top protection after cut-off, in place. This work shall also include shaving two sides of the pile top prior to installing pile top protection. All work shall be performed in accordance with the cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-05.3(2)D, Treatment of Pile Heads, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

CONSTRUCTION REQUIREMENTS

After making final cut-off of the timber piles and shaving two sides of the pile top prior to installing pile top protection. The cut areas shall be saturated with one (1) application of hot creosote not less than one (1) hour later by a second saturation coat of hot creosote. After the second saturation of hot creosote, the cut areas shall be given a heavy application of hot coal tar pitch, followed by three (3) layers of tar-saturated fabric, each glued in place with coal tar pitch, and each overlapping the uncut side of the pile at least six (6) inches with edges glued down with coal tar pitch and tacked to the side of the pile. One (1) coat of coal tar pitch shall then be applied over the top layer of fabric.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the pile top protection after cut-off, in place. This also includes shaving two sides of the pile top prior to installing pile top protection, will be per each.

PAYMENT

Payment for the pile top protection after cut-off, in place. This also includes shaving two sides of the pile top prior to installing pile top protection, shall be per each and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 48 - TIMBER BEAMS, 12x14's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber beams, 12x14's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the beams. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER BEAMS

The beams shall be New Pacific Coast Douglas Fir 12x14's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,300 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The beams shall be creosote pressure treated in accordance with AWPA P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated beams in support of treatment plant compliance with AWPA Standards.

BEAM DRIFT PINS

The beam drift pins shall be galvanized 1 inch diameter bars by 30 inches long with one end tapered for driving into a 1 inch diameter hole, and shall conform to the requirements of ASTM A36. The beam drift pins shall be galvanized in accordance with ASTM A153.

BEAM MOUNTING PLATES AND FASTENERS

The beam mounting plates shall be galvanized Simpson Strong Ties (Strap Tie #HST6) or equivalent as approved by the Engineer, and shall conform to the requirements of ASTM A36. The beam mounting plates shall be galvanized (double hot-dipped) in accordance with ASTM A123 after fabrication.

The beam mounting plate fasteners shall be galvanized 3/4"-10NC bolts by approximately 16 inches long, 3/4" spring lock washers, 3/4"-10NC nuts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED
See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL
See the construction plans for Beam Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES
Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for bolts and drift pins shall be treated with the same type preservative used in the original treatment.

HOLES FOR BOLTS AND DRIFT PINS
See the construction plans for Beam Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction plans for bolts and drift pins. Prebored or drilled holes are required for all bolts and drift pins.

DRIFT PINS, BOLTS, WASHERS, AND OTHER HARDWARE
Vertical drift pins shall be driven flush to the top surfaces of the beams. Galvanized spring lock washers shall be used under all nuts. All bolts shall be effectively tightened when installed, and shall be gone over and re-tightened at job end.

FRAMING
Framing shall be as shown on the construction plans for Beam Installation Details. Insofar as is practicable all beams shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber beams, 12x14's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber beams, 12x14's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 49 - TIMBER STRINGERS, 8x16's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber stringers, 8x16's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the stringers. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER STRINGERS

The stringers shall be New Pacific Coast Douglas Fir 8x16's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,300 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The stringers shall be creosote pressure treated in accordance with AWPA P13 for marine application with a minimum retention of 25 pounds of creosote per cubic foot. The Contractor shall submit documentation prior to furnishing of treated beams in support of treatment plant compliance with AWPA Standards.

STRINGER MOUNTING ANGLES AND FASTENERS

The stringer mounting angles shall be galvanized Simpson Strong Ties (Heavy Angle #HL79) or equivalent as approved by the Engineer, and shall conform to the requirements of ASTM A36. The stringer mounting angles shall be galvanized (double hot-dipped) in accordance with ASTM A123 after fabrication.

The stringer mounting angle fasteners shall be galvanized 3/4"-10NC bolts by approximately 16 inches long, 3/4" spring lock washers, 3/4"-10NC nuts, 3/4" diameter by 9" long lag bolts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL
See the construction plans for Stringer Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES
Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for bolts and lag bolts shall be treated with the same type preservative used in the original treatment.

HOLES FOR BOLTS AND LAG BOLTS
See the construction plans for Stringer Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for bolts and lag bolts. Prebored or drilled holes are required for all bolts and lag bolts.

LAG BOLTS, BOLTS, WASHERS, AND OTHER HARDWARE
Galvanized spring lock washers shall be used under all nuts. All lag bolts shall be wrenched into position and not driven. All bolts and lag bolts shall be effectively tightened when installed, and shall be gone over and re-tightened at job end.

FRAMING
Framing shall be as shown on the construction plans for Stringer Installation Details. Insofar as is practicable all stringers shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber stringers, 8x16's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber stringers, 8x16's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 50 - TIMBER DECKING, 4x12's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber decking, 4x12's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the decking. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER DECKING

The decking shall be New Pacific Coast Douglas Fir 4x12's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,300 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The decking shall be Chemonite pressure treated in accordance with AWPA C2 for marine application with a minimum retention of 0.60 pounds of Chemonite per cubic foot. The Contractor shall submit documentation prior to furnishing of treated decking in support of treatment plant compliance with AWPA Standards.

DECKING FASTENERS

The decking fasteners shall be galvanized 60d common wire nails, and shall conform to the requirements of FF-N-105B. The fasteners shall be galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Decking Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for nails shall be treated with the same type preservative used in the original treatment.

HOLES FOR NAILS
See the construction plans for Decking Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for nails. Prebored or drilled holes are required for all nails.

FRAMING
Framing shall be as shown on the construction plans for Decking Installation Details. Insofar as is practicable all decking shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber decking, 4x12's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber decking, 4x12's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 51 - TIMBER GUARDRAIL POSTS, 6x6's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber guardrail posts, 6x6's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the posts. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER GUARDRAIL POSTS

The posts shall be New Pacific Coast Douglas Fir 6x6's, surfaced four sides (S4S), grading shall be No. 1 (F_b = 1,200 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The posts shall be chemonite pressure treated in accordance with AWPA C2 for marine application with a minimum retention of 0.60 pounds of Chemonite per cubic foot. The Contractor shall submit documentation prior to furnishing of treated posts in support of treatment plant compliance with AWPA Standards.

POST FASTENERS

The post fasteners shall be galvanized 7/8"-9NC bolts by approximately 16 inches long, 7/8" spring lock washers, 7/8"-9NC nuts, and shall conform to the requirements of ASTM A307. The fasteners shall be galvanized in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Post Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for bolts shall be treated with the same type preservative used in the original treatment.

HOLES FOR BOLTS

See the construction plans for Posts Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for bolts. Prebored or drilled holes are required for all bolts.

BOLTS, WASHERS, AND OTHER HARDWARE

Galvanized spring lock washers shall be used under all nuts. All bolts shall be effectively tightened when installed, and shall be gone over and re-tightened at job end.

FRAMING

Framing shall be as shown on the construction plans for posts Installation Details. Insofar as is practicable all posts shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the timber guardrail posts, 6x6's, treated, in place, shall be per lump sum.

PAYMENT

Payment for the timber guardrail posts, 6x6's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 52 - TIMBER G R TOP SIDE RAILS, 2X6's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber guardrail top side rails, 2x6's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the rails. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER GUARDRAIL TOP SIDE RAILS

The rails shall be New Pacific Coast Douglas Fir 2x6's, surfaced four sides (S4S), grading shall be appearance (F_b = 1,500 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The rails shall be Chemonite pressure treated in accordance with AWPA C2 for marilne application with a minimum retention of 0.60 pounds of Chemonite per cubic foot. The Contractor shall submit documentation prior to furnishing of treated rails in support of treatment plant compliance with AWPA Standards.

SIDE RAIL FASTENERS

The railing fasteners shall be galvanized 60d common wire nails, and shall conform to the requirements of FF-N-105B. The fasteners shall be galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Railing Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for nails shall be treated with the same type preservative used in the original treatment.

HOLES FOR NAILS

See the construction plans for Railing Installation Details. Prebored c drilled holes shall be to the diameters and depths as shown on th construction drawings for nails. Prebored or drilled holes are require for all nails.

FRAMING

Framing shall be as shown on the construction plans for Railin Installation Details. Insofar as is practicable all railing shall b precut prior to construction. All timbers and lumber shall be accuratel cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the timber guardrail top side rails, 2x6's, treated, i place, shall be per lump sum.

PAYMENT

Payment for the timber guardrail top side rails, 2x6's, decking, treated in place, shall be per lump sum and shall be full compensation fc providing all materials, labor, tools, equipment, and all other item necessary and incidental to the completion of this bid item.

ITEM 53 - TIMBER G R BOTTOM SIDE RAILS, 2x6's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber guardrail bottom side rails, 2x6's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the rails. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER GUARDRAIL BOTTOM SIDE RAILS

The rails shall be New Pacific Coast Douglas Fir 2x6's, surfaced four sides (S4S), grading shall be appearance (F_b = 1,500 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The rails shall be Chemonite pressure treated in accordance with AWPA C2 for marine application with a minimum retention of 0.60 pounds of Chemonite per cubic foot. The Contractor shall submit documentation prior to furnishing of treated railing in support of treatment plant compliance with AWPA Standards.

SIDE RAIL FASTENERS

The railing fasteners shall be galvanized 16d common wire nails, and shall conform to the requirements of FF-N-105B. The fasteners shall be galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Side Railing Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for nails shall be treated with the same type preservative used in the original treatment.

HOLES FOR NAILS

See the construction plans for Side Railing Installation Details. Prebore or drilled holes shall be to the diameters and depths as shown on th construction drawings for nails. Prebored or drilled holes are require for all nails.

FRAMING

Framing shall be as shown on the construction plans for Side Railin Installation Details. Insofar as is practicable all railing shall b precut prior to construction. All timbers and lumber shall be accurate cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the timber guardrail bottom side rails, 2x6's, treated, i place, shall be per lump sum.

PAYMENT

Payment for the timber guardrail bottom side rails, 2x6's, treated, i place, shall be per lump sum and shall be full compensation for providin all materials, labor, tools, equipment, and all other items necessary an incidental to the completion of this bid item.

ITEM 54 - TIMBER GUARDRAIL BALUSTERS, 2x6's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installin timber guardrail balusters, 2x6's, treated, in place. This work shall als consist of furnishing and installing connections and all other material required to install the balusters. All work shall be performed i accordance with the alignment, grades, and cross sections shown on th construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standar Specifications except as modified herein and/or as approved by th Engineer.

MATERIALS

TIMBER GUARDRAIL BALUSTERS

The balusters shall be New Pacific Coast Douglas Fir 2x6's, surfaced fou sides (S4S), grading shall be No. 1 (F_b = 1,200 psi.) or better i accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The balusters shall be Chemonite pressure treated in accordance with AWP C2 for marine application with a minimum retention of 0.60 pounds o Chemonite per cubic foot. The Contractor shall submit documentation prio to furnishing of treated balusters in support of treatment plant complianc with AWPA Standards.

BALUSTER FASTENERS

The baluster fasteners shall be galvanized 16d common wire nails, and shal conform to the requirements of FF-N-105B. The fasteners shall b galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Baluster Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordanc with AWPA M4. Two brush coats of the same type of preservative used in th original treatment shall be applied to all cut surfaces. Prebored o drilled holes for nails shall be treated with the same type preservativ used in the original treatment.

HOLES FOR NAILS
See the construction plans for Baluster Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for nails. Prebored or drilled holes are required for all nails.

FRAMING
Framing shall be as shown on the construction plans for Baluster Installation Details. Insofar as is practicable all balusters shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT
Measurement for the timber guardrail balusters, 2x6's, treated, in place, shall be per lump sum.

PAYMENT
Payment for the timber guardrail balusters, 2x6's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

ITEM 55 - TIMBER GUARDRAIL TOP RAILS, 2x8's, TREATED, IN PLACE:

DESCRIPTION

The work described in this item, shall consist of furnishing and installing timber guardrail top rails, 2x8's, treated, in place. This work shall also consist of furnishing and installing connections and all other materials required to install the rails. All work shall be performed in accordance with the alignment, grades, and cross sections shown on the construction plans, and/or as established by the Engineer.

This item shall conform to Section 6-04, Timber Structures, of the Standard Specifications except as modified herein and/or as approved by the Engineer.

MATERIALS

TIMBER GUARDRAIL TOP RAILS

The top rails shall be New Pacific Coast Douglas Fir 2x8's, surfaced four sides (S4S), grading shall be appearance (F_b = 1,500 psi.) or better in accordance with WCLB No. 16 Standard Grading Rules for Western Lumber.

The top rails shall be Chemonite pressure treated in accordance with AWPA C2 for marine application with a minimum retention of 0.60 pounds of Chemonite per cubic foot. The Contractor shall submit documentation prior to furnishing of treated top rails in support of treatment plant compliance with AWPA Standards.

TOP RAIL FASTENERS

The top rail fasteners shall be galvanized 16d common wire nails, and shall conform to the requirements of FF-N-105B. The fasteners shall be galvanized (hot-dipped) in accordance with ASTM A153.

APPROXIMATE QUANTITY OF MATERIALS REQUIRED

See the construction plans for the approximate list of materials required.

CONSTRUCTION REQUIREMENTS

GENERAL

See the construction plans for Top Rail Installation Details.

FIELD TREATMENT OF CUT SURFACES AND HOLES

Care of preservative treated timbers and lumber, shall be in accordance with AWPA M4. Two brush coats of the same type of preservative used in the original treatment shall be applied to all cut surfaces. Prebored or drilled holes for nails shall be treated with the same type preservative used in the original treatment.

HOLES FOR NAILS

See the construction plans for Top Rail Installation Details. Prebored or drilled holes shall be to the diameters and depths as shown on the construction drawings for nails. Prebored or drilled holes are required for all nails.

FRAMING

Framing shall be as shown on the construction plans for Top Rail Installation Details. Insofar as is practicable all top rails shall be precut prior to construction. All timbers and lumber shall be accurately cut and framed.

MEASUREMENT AND PAYMENT

MEASUREMENT

Measurement for the timber guardrail top rails, 2x8's, treated, in place, shall be per lump sum.

PAYMENT

Payment for the timber guardrail top rails, 2x8's, treated, in place, shall be per lump sum and shall be full compensation for providing all materials, labor, tools, equipment, and all other items necessary and incidental to the completion of this bid item.

PROJPLAN.P1-1

PROJECT PLANS

Drawing No.	Sheet No.	Description
E68L	1 of 6	Summary of Quantities, Vicinity Map, Index, Abbreviations, Symbols, City Datum
E69L	2 of 6	Plan View
E70L	3 of 6	Section Views
E71L	4 of 6	Material Lists & Details
E72L	5 of 6	Details
E73L	6 of 6	Details

ESTIMATED COST MORRISON PARK ENTRANCE E.P. 255/87

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	SUB-TOTALS	TOTALS
ENTRANCE AND TRAFFIC BRIDGE APPROACH						
	ROADWAY ITEMS					
1	ROADWAY EXCAVATION,INCLUDING HAUL	5	CY	17.50	87.50	87.50
2	CRUSHED SURFACING,BASE COURSE,IN PLACE	90	TN	27.50	2,475.00	2,475.00
	DAINAGE ITEMS					
3	STORM SEWER TRENCH EXCAVATION,INCLUDING HAUL	70	CY	15.00	1,050.00	1,050.00
4	STORM SEWER PIPE BEDDING,RIVER RUN GRAVEL,IN PLACE	30	TN	16.00	480.00	480.00
5	8"DIA PVC GASKETED STORM SEWER PIPE,IN PLACE	230	LF	12.50	2,875.00	2,875.00
6	CB-15 INLET W/FRAME & GRATE,IN PLACE	2	EA	850.00	1,700.00	1,700.00
7	CB-15 INLET W/ONE 12" EXT, FRAME & GRATE,IN PLACE	1	EA	1,000.00	1,000.00	1,000.00
8	CB-15 INLET W/TWO 12" EXT, FRAME & GRATE,IN PLACE	1	EA	1,150.00	1,150.00	1,150.00
9	STORM SEWER TRENCH BACKFILL,R RUN GRAVEL,IN PLACE	90	TN	16.00	1,440.00	1,440.00
	CEMENT CONCRETE ITEMS					
10	CEMENT CONCRETE CURB,IN PLACE	300	LF	9.00	2,700.00	2,700.00
11	INTEGRAL CEMENT CONCRETE CURB,IN PLACE	125	LF	9.50	1,187.50	1,187.50
12	INTEGRAL CEMENT CONCRETE SIDEWALK,IN PLACE	65	SY	18.50	1,202.50	1,202.50
	ASPHALT CONCRETE ITEMS					
13	ASPHALT TACK COAT,IN PLACE	0.10	TN	700.00	70.00	70.00
14	ASPHALT CONCRETE PAVEMENT BASE, CLASS "F",IN PLACE	200	TN	52.00	10,400.00	10,400.00
15	ASPHALT CONCRETE PAVEMENT, CLASS "G",IN PLACE	140	TN	55.00	7,700.00	7,700.00
	REMOVAL AND DISPOSAL ITEMS					
16	REMOVAL & DISPOSAL OF EXTRUDED CEMENT CONCRETE CURB	50	LF	7.00	350.00	350.00
17	REMOVAL & DISPOSAL OF ASPHALT CONCRETE PAVEMENT	210	SY	5.50	1,155.00	1,155.00
	MISCELLANEOUS ITEMS					
18	SANDY LOAM SOIL,IN PLACE	120	CY	35.00	4,200.00	4,200.00
TRAFFIC BRIDGE WITH TRAFFIC GUARDRAIL						
	EMBANKMENT PROTECTION ITEMS					
19	REMOVAL & DISPOSAL OF EXIST WOOD BULKHEAD	80	LF	27.50	2,200.00	2,200.00

ESTIMATED COST MORRISON PARK ENTRANCE E.P. 255/87

20	STRUCTURE EXCAVATION CLASS "A", INCLUDING HAUL	125	CY	12.50	1,562.50	1,562.50
21	6" MINUS CRUSHED ROCK FOR GABION BEDDING,IN PLACE	25	TN	45.00	1,125.00	1,125.00
22	9'x3'x3' SEA TYPE GABION WITH ROCK,IN PLACE	4	EA	525.00	2,100.00	2,100.00
23	6'x3'x3' SEA TYPE GABION WITH ROCK,IN PLACE	18	EA	350.00	6,300.00	6,300.00
24	ANGULAR BASALT RIP RAP,IN PLACE	70	TN	27.50	1,925.00	1,925.00
25	TWO CEMENT CONCRETE BULKHEADS,IN PLACE	1 LUMP	SUM		2,560.00	2,560.00
	CEM CONC 8"x7'-6"x64'-0" TOTAL FOR BOTH BULKHEADS	12	CY	100.00	1,200.00	
	#4 REBAR TOTAL FOR BOTH BULKHEADS	1120	LF	0.50	560.00	
	BULKHEAD FORMS (FORMS LEFT AGAINST BRIDGE TREATED)	2	EA	400.00	800.00	
26	BANK RUN GRAVEL,IN PLACE	160	TN	12.50	2,000.00	2,000.00
27	CRUSHED SURFACING,BASE COURSE,IN PLACE	10	TN	27.50	275.00	275.00
	PILE DRIVING ITEMS					
28	MOBILIZATION OF PILE DRIVING EQUIPMENT	1 LUMP	SUM	3,000.00	3,000.00	3,000.00
29	MARINE PILES,CLASS "A",TREATED,90' LONG,IN PLACE	16	EA	1,150.00	18,400.00	18,400.00
30	PILE TOP PROTECTION AFTER CUT-OFF,IN PLACE	16	EA	37.50	600.00	600.00
	TRAFFIC BRIDGE ITEMS					
31	TIMBER BEAMS, 14x18's,TREATED,IN PLACE	1 LUMP	SUM		5,580.00	5,580.00
	TIMBER BEAMS, (2) 14"x18" x 18'-0" = 36 LF	756	BF	1.20	907.20	
	TIMBER BEAMS, (2) 14"x18" x 14'-0" = 28 LF	588	BF	1.20	705.60	
	GALV STRAP TIE #HST3, SIMPSON STRONG TIES OR EQUIV	8	EA	41.50	332.00	
	PREBORED HOLES,13/16"DIA x 13-1/2" THRU	16	EA	3.31	52.96	
	GALV 3/4"-10NC x 16" LONG BOLTS	16	EA	5.18	82.88	
	GALV 3/4" SPRING LOCK WASHERS	16	EA	0.22	3.52	
	GALV 3/4"-10NC NUTS	16	EA	0.28	4.48	
	PREBORED HOLES,1-3/8"DIA x 45" DEEP	16	EA	12.14	194.24	
	GALV DRIFT PINS,1-3/8"DIA x 44" LONG	16	EA	23.43	374.88	
	GALV STRAP TIE #HST6, SIMPSON STRONG TIES OR EQUIV	32	EA	55.36	1,771.52	
	PREBORED HOLES,13/16"DIA x 13-1/2" THRU	128	EA	3.31	423.68	
	GALV 3/4"-10NC x 16" LONG BOLTS	128	EA	5.18	663.04	
	GALV 3/4" SPRING LOCK WASHERS	128	EA	0.22	28.16	
	GALV 3/4"-10NC NUTS	128	EA	0.28	35.84	
32	TIMBER STRINGERS, 14x22's,TREATED,IN PLACE	1 LUMP	SUM		9,537.44	9,537.44
	TIMBER STRINGERS (8) 14"x22" x 22'-0" = 176 LF	4518	BF	1.20	5,421.60	
	HEAVY ANGLE #HL7S,SIMPSON STRONG TIES OR EQUIV	32	EA	64.84	2,074.88	
	PREBORED HOLES,13/16"DIA x 13-1/2" THRU	64	EA	3.31	211.84	
	GALV 3/4"-10NC x 16" LONG BOLTS	64	EA	5.18	331.52	
	GALV 3/4" SPRING LOCK WASHERS	64	EA	0.22	14.08	
	GALV 3/4"-10NC NUTS	64	EA	0.28	17.92	
	PREBORED HOLES,3/4"DRILL x4"DP,THEN 1/2"DRILL x9"DP	128	EA	4.97	636.16	
	GALV 3/4"DIA x 9" LONG LAG BOLTS	128	EA	6.48	829.44	
33	TIMBER DECKING, 6x12's,TREATED,IN PLACE	1 LUMP	SUM		7,970.16	7,970.16
	TIMBER DECKING, (14) 6"x12" x 16'-0" = 224 LF	1344	BF	1.20	1,612.80	
	TIMBER DECKING, (22) 6"x12" x 12'-0" = 264 LF	1584	BF	1.20	1,900.80	
	TIMBER DECKING, (16) 6"x12" x 8'-0" = 128 LF	768	BF	1.20	921.60	

	PREBORED HOLES,21/64" DIA DRILL x 12" DEEP	618	EA	2.48	1,532.64	
	GALV 3/8" GAUGE ROUND WIRE SPIKES x 12" LONG	618	EA	3.24	2,002.32	
34	ROUND TIMBER CURBS,TREATED,IN PLACE	1 LUMP	SUM		711.64	711.64
	RD TIMBERS, (2) 12"DIA x 22'-0" LONG = 44 LF	415	BF	1.20	498.00	
	PREBORED HOLES, 21/64"DIA DRILL x 16" DEEP	28	EA	3.31	92.68	
	GALV 3/8" GAUGE ROUND WIRE SPIKES x 16" LONG	28	EA	4.32	120.96	
	TRAFFIC GUARDRAIL ITEMS					
35	BEAM GUARD RAIL TYPE W BEAM,IN PLACE	1 LUMP	SUM		4,798.32	4,798.32
	STRAIGHT SECTIONS W/FASTENERS (5) 12'-6" LF	62.5	LF	20.00	1,250.00	
	37'-6" PARABOLA SECTIONS W/FASTENERS (3) 37'-6" LF	112.5	LF	20.00	2,250.00	
	47'-0"RAD CURVED SECTIONS W/FASTENERS (2) 12'-6" LF	25	LF	20.00	500.00	
	15'-0"RAD CURVED SECTIONS W/FASTENERS (2) 12'-6" LF	25	LF	20.00	500.00	
	BEAM GUARDRAIL TERMINAL SECTIONS DESIGN "G"	3	EA			
	BEAM GUARDRAIL TERMINAL SECTION DESIGN "F"	1	EA			
	8x8 x 6'-0" TREATED POSTS AND BLOCKS W/FASTENERS	28	EA			
	8x8 x 6'-0" TREATED POSTS W/O BLOCKS W/FASTENERS	3	EA			
	8x8 x 4'-7" TREATED POSTS AND BLOCKS W/FASTENERS + BRIDGE FASTENERS AS FOLLOWS:	6	EA			
	PREBORED HOLES, 1-5/8" DIA DRILL x 21" THRU	12	EA	5.67	68.04	
	GALV 1-1/2"-6NC x 26" LONG BOLTS	12	EA	13.85	166.20	
	GALV 1-1/2" SPRING LOCK WASHERS	12	EA	1.22	14.64	
	GALV 1-1/2" MALLEABLE IRON WASHERS	12	EA	2.84	34.08	
	GALV 1-1/2"-6NC NUTS	12	EA	1.28	15.36	
FOOTPATH BRIDGE						
	EMBANKMENT PROTECTION ITEMS					
36	REMOVAL & DISPOSAL OF EXIST WOOD BULKHEAD	40	LF	27.50	1,100.00	1,100.00
37	STRUCTURE EXCAVATION CLASS "A",INCLUDING HAUL	90	CY	12.50	1,125.00	1,125.00
38	6" MINUS CRUSHED ROCK FOR GABION BEDDING,IN PLACE	10	TN	45.00	450.00	450.00
39	9'x3'x3' SEA TYPE GABION WITH ROCK,IN PLACE	4	EA	525.00	2,100.00	2,100.00
40	6'x3'x3' SEA TYPE GABION WITH ROCK,IN PLACE	4	EA	350.00	1,400.00	1,400.00
41	ANGULAR BASALT RIP RAP,IN PLACE	30	TN	27.50	825.00	825.00
42	TWO CEMENT CONCRETE BULKHEADS,IN PLACE	1 LUMP	SUM		830.00	830.00
	CEM CONC 8"x7'-6"x20'-0" TOTAL FOR BOTH BULKHEADS	4	CY	100.00	400.00	
	#4 REBAR TOTAL FOR BOTH BULKHEADS	360	LF	0.50	180.00	
	BULKHEAD FORMS (FORMS LEFT AGAINST BRIDGE TREATED)	2	EA	125.00	250.00	
43	BANK RUN GRAVEL,IN PLACE	50	TN	12.50	625.00	625.00
44	CRUSHED SURFACING,BASE COURSE,IN PLACE	2	TN	27.50	55.00	55.00
	PILE DRIVING ITEMS					
45	MOBILIZATION OF PILE DRIVING EQUIPMENT	1 LUMP	SUM	3,000.00	3,000.00	3,000.00
46	MARINE PILES,CLASS "A",TREATED, 60' LONG,IN PLACE	6	EA	770.00	4,620.00	4,620.00
47	PILE TOP PROTECTION AFTER CUT-OFF,IN PLACE	6	EA	37.50	225.00	225.00

FOOTPATH BRIDGE ITEMS

48	TIMBER BEAMS, 12x14's,TREATED,IN PLACE	1	LUMP	SUM		1,523.16	1,523.16
	TIMBER BEAMS, (2) 12"x14" x 10'-0" = 20'-0" LF	280	BF		1.20	336.00	
	PREBORED HOLES, 1"DIA x 31" DEEP	6	EA		8.36	50.16	
	GALV DRIFT PINS,1"DIA x 30" LONG	6	EA		15.98	95.88	
	GALV STRAP TIE #HST6, SIMPSON STRONG TIES OR EQUIV	12	EA		55.36	664.32	
	PREBORED HOLES,13/16"DIA x 11-1/2" THRU	48	EA		2.82	135.36	
	GALV 3/4"-10NC x 14" LONG BOLTS	48	EA		4.53	217.44	
	GALV 3/4" SPRING LOCK WASHERS	48	EA		0.22	10.56	
	GALV 3/4-10NC NUTS	48	EA		0.28	13.44	
49	TIMBER STRINGERS, 8x16's,TREATED,IN PLACE	1	LUMP	SUM		2,184.48	2,184.48
	TIMBER STRINGERS, (3) 8"x16" x 22'-0" = 66 LF	704	BF		1.20	844.80	
	GALV HEAVY ANGLE #HL79,SIMPSON STRONG TIES OR EQUIV	12	EA		64.84	778.08	
	PREBORED HOLES,13/16"DIA DRILL x 7-1/2" THRU	24	EA		1.84	44.16	
	GALV 3/4"-10NC x 10" LONG BOLTS	24	EA		3.24	77.76	
	GALV 3/4" SPRING LOCK WASHERS	24	EA		0.22	5.28	
	GALV 3/4"-10NC NUTS	24	EA		0.28	6.72	
	PREBORED HOLES,3/4"DIA x4"DP,THEN 1/2"DIA x 7"DP	48	EA		3.87	185.76	
	GALV 3/4" DIA x 7" LONG LAG BOLTS	48	EA		5.04	241.92	
50	TIMBER DECKING, 4x12's,TREATED,IN PLACE	1	LUMP	SUM		1,011.12	1,011.12
	TIMBER DECKING, (22) 4"x12" x 6'-0" = 132 LF	528.00	BF		1.20	633.60	
	PREBORED HOLES, 3/16"DIA x 6" DEEP	132	EA		1.24	163.68	
	GALV 60d COMMON WIRE NAILS	132	EA		1.62	213.84	
51	TIMBER GUARDRAIL POSTS, 6x6's,TREATED,IN PLACE	1	LUMP	SUM		536.40	536.40
	TIMBER POSTS, (12) 6"x6" X 5'-0" = 60 LF	180	BF		1.20	216.00	
	PREBORED HOLES, 15/16"DIA x 13" THRU	24	EA		4.14	99.36	
	GALV 7/8"-9NC x 16" LONG BOLTS	24	EA		6.48	155.52	
	GALV 7/8" MALLEABLE IRON WASHERS	48	EA		1.05	50.40	
	GALV 7/8" SPRING LOCK WASHERS	24	EA		0.28	6.72	
	GALV 7/8"-9NC NUTS	24	EA		0.35	8.40	
52	TIMBER G R TOP SIDE RAILS, 2x6's,TREATED,IN PLACE	1	LUMP	SUM		127.74	127.74
	TIMBER RAILS, (2) 2"x6" x 14'-0" = 28 LF	28	BF		1.20	33.60	
	TIMBER RAILS, (2) 2"x6" x 10'-0" = 20 LF	20	BF		1.20	24.00	
	PREBORED HOLES, 7/64" DIA x 3-1/2" DEEP	42	EA		0.72	30.24	
	GALV 16d COMMON WIRE NAILS	42	EA		0.95	39.90	
53	TIMBER G R BOTTOM SIDE RAILS,2x6's,TREATED,IN PLACE	1	LUMP	SUM		127.74	127.74
	TIMBER RAILS, (2) 2"x6" x 14'-0" = 28 LF	28	EA		1.20	33.60	
	TIMBER RAILS, (2) 2"x6" x 10'-0" = 20 LF	20	EA		1.20	24.00	
	PREBORED HOLES, 7/64" DIA x 3-1/2" DEEP	42	EA		0.72	30.24	
	GALV 16d COMMON WIRE NAILS	42	EA		0.95	39.90	
54	TIMBER G R BALUSTERS, 2x6's,TREATED,IN PLACE	1	LUMP	SUM		556.80	556.80
	TIMBER BALUSTERS, (40) 2"x6" x 3'-2-1/2" = 130 LF	130	BF		1.20	156.00	
	PREBORED HOLES, 7/64" DIA x 3" THRU	240	EA		0.72	172.80	
	GALV 16d COMMON WIRE NAILS	240	EA		0.95	228.00	
55	TIMBER G R TOP RAILS, 2x8's,TREATED,IN PLACE	1	LUMP	SUM		401.98	401.98
	TIMBER RAILS, (2) 2"x8" x 14'-0" = 28 LF	38	BF		1.20	45.60	
	TIMBER RAILS, (2) 2"x8" x 10'-0" = 20 LF	27	BF		1.20	32.40	
	PREBORED HOLES, 7/64" DIA x 3-1/2" DEEP	194	EA		0.72	139.68	
	GALV 16d COMMON WIRE NAILS	194	EA		0.95	184.30	

ESTIMATED COST MORRISON PARK ENTRANCE E.P. 2S5/87

S U B - T O T A L		134,691.98
SALES TAX (7.8%)	0.078	10,505.97
S U B - T O T A L		145,197.95
CONSTRUCTION ENGINEERING (15%)	0.15	21,779.69
CONTINGENCY (15%)	0.15	21,779.69
P R O J E C T T O T A L		$188,757.34

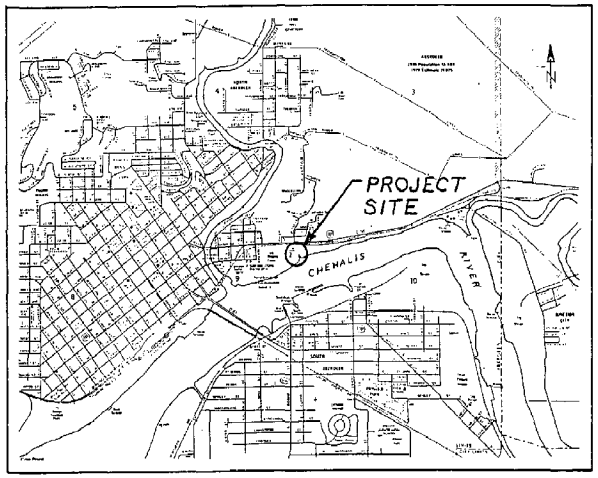
DATE: FEBRUARY 23, 1988 BY: WALT BAILEY CITY ENGINEER: by R. H. Meeks 2/24/88

ENTRANCE & APPROACH
TRAFFIC BRIDGE & FOOTPATH BRIDGE
MORRISON RIVERFRONT PARK
ENGINEERING PROJECT No. 2S5/87
CITY OF ABERDEEN — STATE OF WASHINGTON

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS
	ENTRANCE AND TRAFFIC BRIDGE APPROACH		
	ROADWAY ITEMS		
1	ROADWAY EXCAVATION, INCLUDING HAUL	5	CY
2	CRUSHED SURFACING, BASE COURSE, IN PLACE	90	TN
	DRAINAGE ITEMS		
3	STORM SEWER TRENCH EXCAVATION, INCLUDING HAUL	70	CY
4	STORM SEWER PIPE BEDDING, RIVER RUN GRAVEL, IN PLACE	30	TN
5	8" DIA. PVC GASKETED STORM SEWER PIPE, IN PLACE	230	LF
6	CB-15 INLET W/FRAME & GRATE, IN PLACE	2	EA
7	CB-15 INLET W/1-12" EXTENSION, FRAME & GRATE, IN PLACE	1	EA
8	CB-15 INLET W/2-12" EXTENSIONS, FRAME & GRATE, IN PLACE	1	EA
9	STORM SEWER TRENCH BACKFILL, RIVER RUN GRAVEL, IN PLACE	90	TN
	CEMENT CONCRETE ITEMS		
10	CEMENT CONCRETE CURB, IN PLACE	300	LF
11	INTEGRAL CEMENT CONCRETE CURB, IN PLACE	125	LF
12	INTEGRAL CEMENT CONCRETE SIDEWALK, IN PLACE	65	SY
	ASPHALT CONCRETE ITEMS		
13	ASPHALT TACK COAT, IN PLACE	0.1	TN
14	ASPHALT CONCRETE PAVEMENT BASE, CLASS "F", IN PLACE	200	TN
15	ASPHALT CONCRETE PAVEMENT, CLASS "D", IN PLACE	140	TN
	REMOVAL AND DISPOSAL ITEMS		
16	REMOVAL AND DISPOSAL OF EXTRUDED CEMENT CONCRETE CURB	30	LF
17	REMOVAL AND DISPOSAL OF ASPHALT CONCRETE PAVEMENT	210	SY
	MISCELLANEOUS ITEMS		
18	SANDY LOAM SOIL, IN PLACE	120	CY
	TRAFFIC BRIDGE WITH TRAFFIC GUARDRAIL		
	EMBANKMENT PROTECTION ITEMS		
19	REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD	80	LF
20	STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL	125	CY
21	6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE	25	TN
22	9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE	4	EA
23	6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE	18	EA
24	ANGULAR BASALT RIP RAP, IN PLACE	70	TN
25	TWO CEMENT CONCRETE BULKHEADS, IN PLACE	1	LS
26	BANK RUN GRAVEL, IN PLACE	160	TN
27	CRUSHED SURFACING, BASE COURSE, IN PLACE	10	TN
	PILE DRIVING ITEMS		
28	MOBILIZATION OF PILE DRIVING EQUIPMENT	1	LS
29	MARINE PILES, CLASS A, TREATED, 90 FT, IN PLACE	16	EA
30	PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE	16	EA
	TRAFFIC BRIDGE ITEMS		
31	TIMBER BEAMS, 14x18"s, TREATED, IN PLACE	1	LS
32	TIMBER STRINGERS, 14x22"s, TREATED, IN PLACE	1	LS
33	TIMBER DECKING, 6x12"s, TREATED, IN PLACE	1	LS
34	ROUND TIMBER CURBS, TREATED, IN PLACE	1	LS
	TRAFFIC GUARDRAIL ITEMS		
35	BEAM GUARD RAIL TYPE W BEAM, IN PLACE	1	LS
	FOOTPATH BRIDGE		
	EMBANKMENT PROTECTION ITEMS		
36	REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD	40	LF
37	STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL	90	CY
38	6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE	10	TN
39	9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE	4	EA
40	6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE	4	EA
41	ANGULAR BASALT RIP RAP, IN PLACE	30	TN
42	TWO CEMENT CONCRETE BULKHEADS, IN PLACE	1	LS
43	BANK RUN GRAVEL, IN PLACE	50	TN
44	CRUSHED SURFACING, BASE COURSE, IN PLACE	2	TN
	PILE DRIVING ITEMS		
45	MOBILIZATION OF PILE DRIVING EQUIPMENT	1	LS
46	MARINE PILES, CLASS A, TREATED, 60 FT, IN PLACE	6	EA
47	PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE	6	EA
	FOOTPATH BRIDGE ITEMS		
48	TIMBER BEAMS, 12x14"s, TREATED, IN PLACE	1	LS
49	TIMBER STRINGERS, 8x14"s, TREATED, IN PLACE	1	LS
50	TIMBER DECKING, 4x12"s, TREATED, IN PLACE	1	LS
51	TIMBER GUARDRAIL POSTS, 6x6"s, TREATED, IN PLACE	1	LS
52	TIMBER G R TOP SIDE RAILS, 2x6"s, TREATED, IN PLACE	1	LS
53	TIMBER G R BOTTOM SIDE RAILS, 2x6"s, TREATED, IN PLACE	1	LS
54	TIMBER GUARDRAIL BALUSTERS, 2x6"s, TREATED, IN PLACE	1	LS
55	TIMBER GUARDRAIL TOP RAILS, 2x8"s, TREATED, IN PLACE	1	LS

VICINITY MAP



INDEX

INDEX - PLANS

INDEX - SECTIONS & DETAILS

ABBREVIATIONS & SYMBOLS

APPROX.	= APPROXIMATE	FT.	= FEET OR FOOT	STA.	= STATION
APWA	= AMERICAN PUBLIC WORKS ASSOCIATION	GA.	= GAUGE	S/W	= SIDEWALK
		GALV.	= GALVANIZED	SY	= SQUARE YARDS
ASTM	= AMERICAN SOCIETY FOR TESTING AND MATERIALS	HOR.	= HORIZONTAL	TN	= TONS
		H/T	= HUB AND TACK	TYP.	= TYPICAL
AWPA	= AMERICAN WOOD PRESERVERS ASSOCIATION	LF	= LINEAR FEET	VAC.	= VACATED
		LS	= LUMP SUM	VERT.	= VERTICAL
AWPB	= AMERICAN WOOD PRESERVERS BUREAU	MAX.	= MAXIMUM	W	= WEST
		MIN.	= MINIMUM	W/	= WITH
CEM.	= CEMENT	MLLW	= MEAN LOWER LOW WATER	WCLB	= WEST COAST LUMBER BUREAU
C.I.	= CAST IRON	MON.	= MONUMENT		
C/O	= CUT-OFF	NC	= NATIONAL COURSE THREADS	W.I.E.	= WEST INVERT ELEVATION
CONC.	= CONCRETE			W/R	= WHEELCHAIR RAMP
CY	= CUBIC YARDS	N.I.E.	= NORTH INVERT ELEVATION	WSDOT	= WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
d	= PENNY	N/R	= NAIL AND RISEON		
DIA.	= DIAMETER	O.C.	= ON CENTERS	WWPA	= WESTERN WOOD PRODUCTS ASSOCIATION
DISP.	= DISPOSAL	ORD.	= ORDINANCE		
DWG.	= DRAWING	PAV'T.	= PAVEMENT		
E	= EAST	PCF	= POUNDS PER CUBIC FOOT		
EA	= EACH	psi	= POUNDS PER SQUARE INCH		
E.I.E.	= EAST INVERT ELEVATION	PVC	= POLYVINYL CHLORIDE	@	= AT
EL.	= ELEVATION	QTY.	= QUANTITY	±	= PLUS OR MINUS
ELEV.	= ELEVATION	R.	= RADIUS	'	= FEET OR FOOT
E.P.No.	= ENGINEERING PROJECT NUMBER	REF.	= REFERENCE	"	= INCHES OR INCH
		REM.	= REMOVAL	&	= NUMBER
EQUIV.	= EQUIVALENT	REQ'D.	= REQUIRED	+	= PLUS
EXIST.	= EXISTING	RND.	= ROUND	-	= AND
EXT.	= EXTENSION	S	= SOUTH	℄	= CENTERLINE
Fb	= EXTREME FIBER IN BENDING	S.I.E.	= SOUTH INVERT ELEVATION	=	= EQUALS
		S4S	= SURFACED FOUR SIDES	%	= PERCENT

CITY DATUM

DATUM

ELEVATIONS BASED ON CITY OF ABERDEEN'S OFFICIAL CITY HALL BENCH MARK #5-01 AS EL. 15.10 ABOVE MLLW

ACKNOWLEDGEMENT

THE PREPARATION OF THESE PLANS WAS FINANCIALLY AIDED THROUGH A GRANT FROM THE WASHINGTON STATE DEPARTMENT OF ECOLOGY WITH FUNDS OBTAINED FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND APPROPRIATED FOR SECTION 306b OF THE COASTAL ZONE MANAGEMENT ACT OF 1972.

SUMMARY OF QUANTITIES, VICINITY MAP, INDEX, ABBREVIATIONS & SYMBOLS, CITY DATUM, ACKNOW.

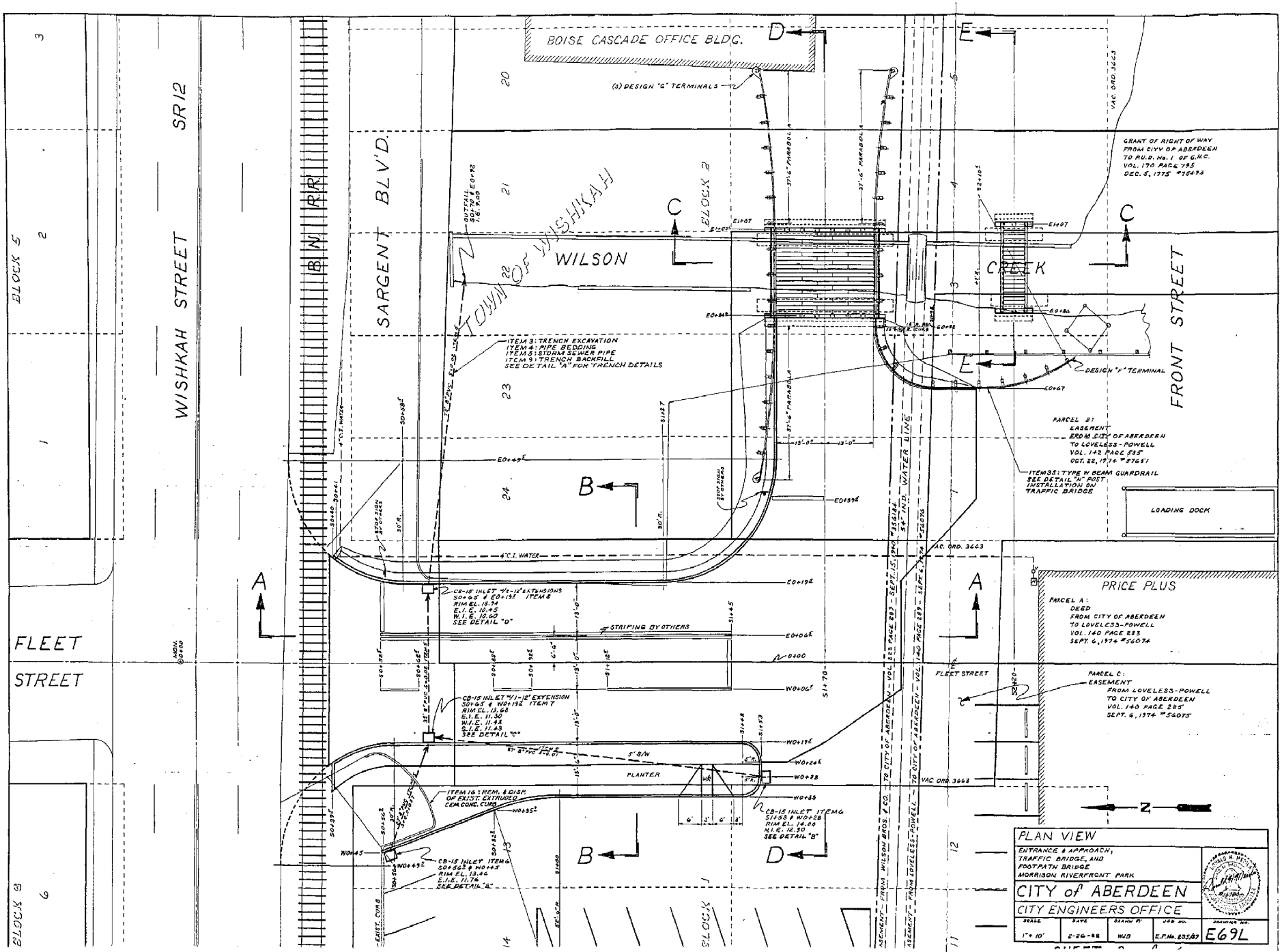
ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE

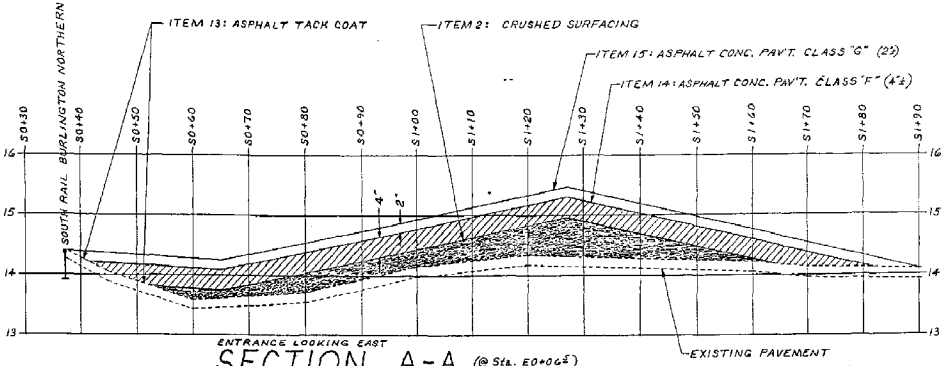
MORRISON RIVERFRONT PARK

CITY of ABERDEEN

CITY ENGINEERS OFFICE

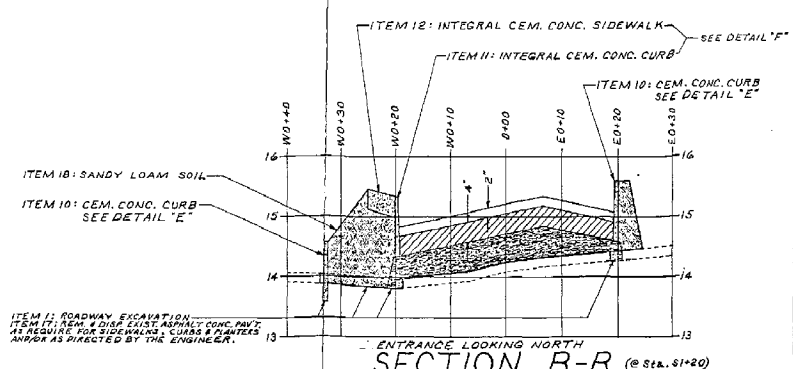
SCALE	DATE	DRAWN BY	JOB NO.	DRAWING NO.
NONE	4-1-88	WJB	E.P.No. 2S5/87	E68L


BOISE CASCADE OFFICE BLDG.
(3) DESIGN "G" TERMINALS
WISHKAH STREET
SR 12
SARGENT BLV'D.
TOWN OF WISHKAH
WILSON
CREEK
FRONT STREET
FLEET STREET
BLOCK 5
BLOCK 2
BLOCK 3
ITEM 3: TRENCH EXCAVATION
ITEM 4: PIPE BEDDING
ITEM 5: STORM SEWER PIPE
ITEM 9: TRENCH BACKFILL
SEE DETAIL "A" FOR TRENCH DETAILS
DESIGN "F" TERMINAL
GRANT OF RIGHT OF WAY FROM CITY OF ABERDEEN TO P.U.D. No. 1 OF G.H.C. VOL. 170 PAGE 795 DEC. 5, 1975 #76473
PARCEL B: EASEMENT FROM CITY OF ABERDEEN TO LOVELESS-POWELL VOL. 142 PAGE 585 OCT. 22, 1974 #37651
ITEM 35: TYPE W BEAM GUARDRAIL SEE DETAIL "N" POST INSTALLATION ON TRAFFIC BRIDGE
LOADING DOCK
VAC. ORD. 3663
4" C.I. WATER
CB-15 INLET W/6-12" EXTENSIONS
STRIPING BY OTHERS
CB-15 INLET W/1-12" EXTENSION
ITEM 7
5' S/W
PLANTER
ITEM 16: REM. & DISP. OF EXIST. EXTRUDED CEM. CONC. CURB
CB-15 INLET ITEM 6
CB-15 INLET ITEM 6
PRICE PLUS
PARCEL A: DEED FROM CITY OF ABERDEEN TO LOVELESS-POWELL VOL. 140 PAGE 283 SEPT. 6, 1974 #36074
PARCEL C: EASEMENT FROM LOVELESS-POWELL TO CITY OF ABERDEEN VOL. 140 PAGE 285 SEPT. 6, 1974 #36075
EASEMENT - FROM WILSON BROS. & CO. - TO CITY OF ABERDEEN - VOL. 283 PAGE 283 - SEPT. 15, 1941
EASEMENT - FROM LOVELESS-POWELL - TO CITY OF ABERDEEN - VOL. 140 PAGE 289 - SEPT. 6, 1974
PLAN VIEW
ENTRANCE & APPROACH, TRAFFIC BRIDGE, AND FOOTPATH BRIDGE MORRISON RIVERFRONT PARK
CITY of ABERDEEN
CITY ENGINEERS OFFICE
SCALE 1" = 10'
DATE 2-26-88
DRAWN BY WJB
JOB NO. E.P. No. 235/87
DRAWING NO. E69L



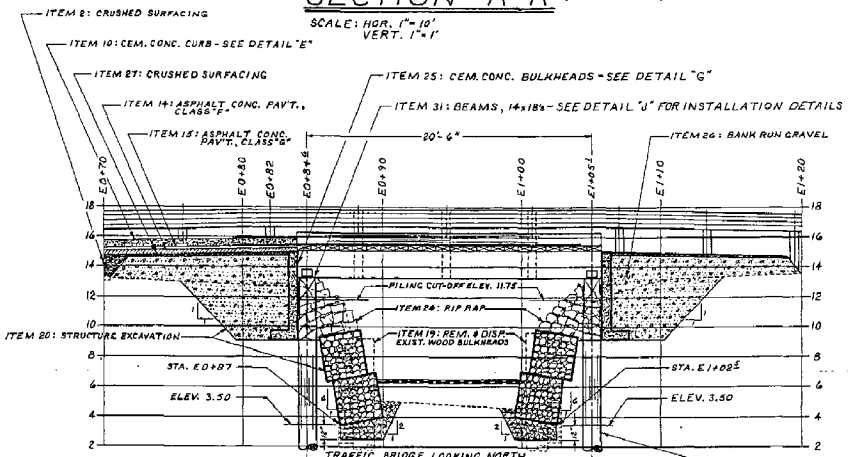
SECTION A-A (@ Sta. E0+04½)

SCALE: HOR. 1"=10'
VERT. 1"=1'



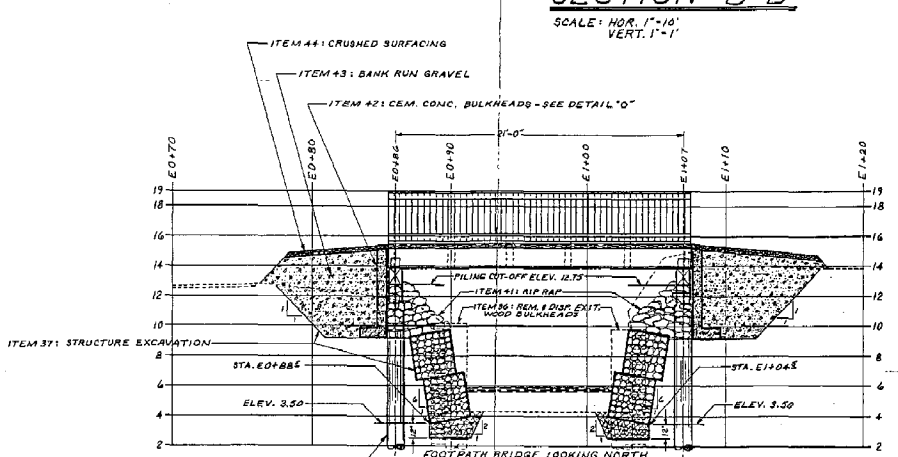
SECTION B-B (@ Sta. S1+20)

SCALE: HOR. 1"=10'
VERT. 1"=1'



SECTION D-D (@ Sta. S1+70)

SCALE: ¼" = 1'-0"

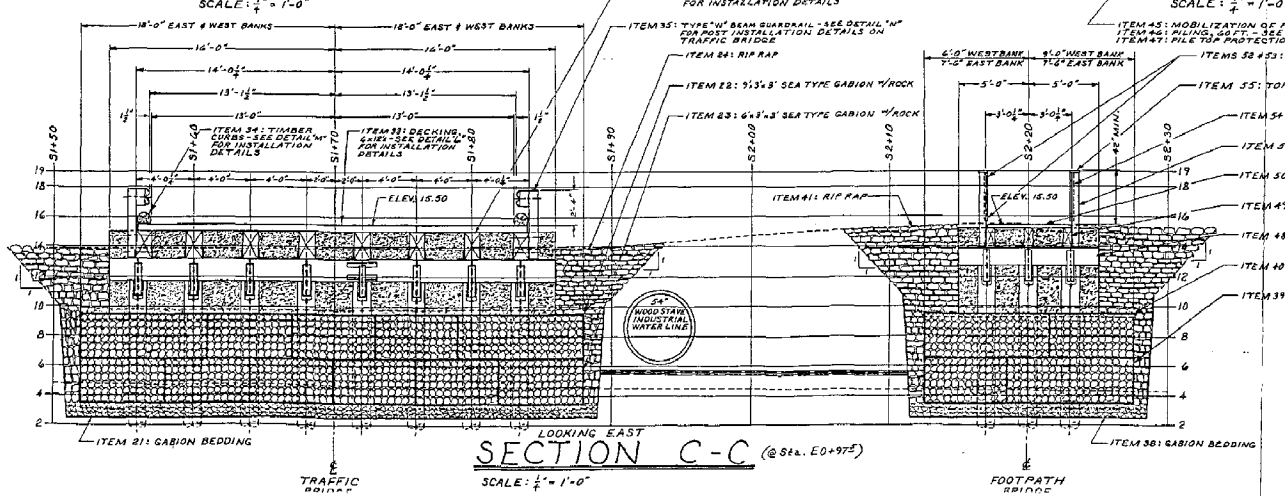


SECTION E-E (@ Sta. 92+20)

SCALE: ¼" = 1'-0"

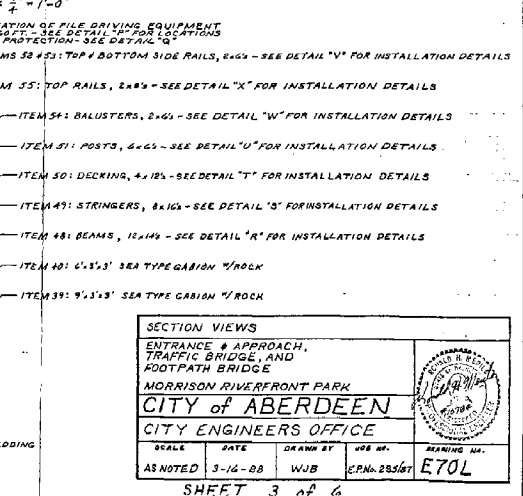
ITEM 28: MOBILIZATION OF PILE DRIVING EQUIPMENT
ITEM 29: PILING, 90'± - SEE DETAIL "H" FOR LOCATIONS
ITEM 30: PILE TOP PROTECTION - SEE DETAIL "I"

ITEM 45: MOBILIZATION OF PILE DRIVING EQUIPMENT
ITEM 46: PILING, 60'± - SEE DETAIL "H" FOR LOCATIONS
ITEM 47: PILE TOP PROTECTION - SEE DETAIL "I"



SECTION C-C (@ Sta. E0+97½)

SCALE: ¼" = 1'-0"



SECTION VIEWS
ENTRANCE & APPROACH, TRAFFIC BRIDGE, AND FOOTPATH BRIDGE
MORRISON RIVERFRONT PARK
CITY of ABERDEEN
CITY ENGINEERS OFFICE

SCALE	DATE	DRAWN BY	JOB NO.	DRAWING NO.
AS NOTED	3-14-88	WJB	E.P.No. 2351&7	E70L

SHEET 3 of 6

NOTE : THE FOLLOWING IS A LIST OF MATERIALS REQUIRED FOR THE ENTRANCE AND TRAFFIC BRIDGE APPROACH. THE QUANTITIES AND LENGTHS ARE APPROXIMATE ONLY WITH NO GUARANTEED ACCURACY. THE CONTRACTOR SHALL VERIFY THESE FOR HIMSELF, FROM THE PROJECT CONSTRUCTION DRAWINGS AND SPECIFICATIONS.

MATERIAL LIST
ENTRANCE AND TRAFFIC BRIDGE APPROACH

BID ITEMS	APPROX. QTY.	ITEM DESCRIPTION
		ROADWAY ITEMS
1	5 CY	ROADWAY EXCAVATION, INCLUDING HAUL
2	90 TN	CRUSHED SURFACING, BASE COURSE, IN PLACE
		DRAINAGE ITEMS
3	70 CY	STORM SEWER TRENCH EXCAVATION, INCLUDING HAUL
4	30 TN	STORM SEWER PIPE BEDDING, RIVER RUN GRAVEL, IN PLACE
5	230 LF	8" DIA. PVC GASKETED STORM SEWER PIPE, IN PLACE
6	2 EA	CB-15 INLET WITH FRAME AND GRATE, IN PLACE
7	1 EA	CB-15 INLET WITH 1-12" EXTENSION, FRAME AND GRATE, IN PLACE
8	1 EA	CB-15 INLET WITH 2-12" EXTENSIONS, FRAME AND GRATE, IN PLACE
9	90 TN	STORM SEWER TRENCH BACKFILL, RIVER RUN GRAVEL, IN PLACE
		CEMENT CONCRETE ITEMS
10	300 LF	CEMENT CONCRETE CURB, IN PLACE
11	125 LF	INTEGRAL CEMENT CONCRETE CURB, IN PLACE
12	85 SY	INTEGRAL CEMENT CONCRETE SIDEWALK, IN PLACE
		ASPHALT CONCRETE ITEMS
13	0.1 TN	ASPHALT TACK COAT, IN PLACE
14	200 TN	ASPHALT CONCRETE PAVEMENT BASE, CLASS "F", IN PLACE
15	140 TN	ASPHALT CONCRETE PAVEMENT, CLASS "G", IN PLACE
		REMOVAL AND DISPOSAL ITEMS
16	50 LF	REMOVAL AND DISPOSAL OF EXTRUDED CEMENT CONRETE CURB
17	210 SY	REMOVAL AND DISPOSAL OF ASPHALT CONCRETE PAVEMENT
		MISCELLANEOUS ITEMS
18	120 CY	SANDY LOAM SOIL, IN PLACE

NOTE : THE FOLLOWING IS A LIST OF MATERIALS REQUIRED FOR THE TRAFFIC BRIDGE WITH TRAFFIC GUARDRAIL. THE QUANTITIES AND LENGTHS ARE APPROXIMATE ONLY WITH NO GUARANTEED ACCURACY. THE CONTRACTOR SHALL VERIFY THESE FOR HIMSELF, FROM THE PROJECT CONSTRUCTION DRAWINGS AND SPECIFICATIONS.

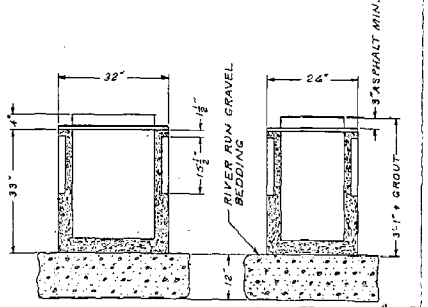
MATERIAL LIST
TRAFFIC BRIDGE WITH TRAFFIC GUARDRAIL

BID ITEMS	APPROX. QTY.	ITEM DESCRIPTION
		EMBANKMENT PROTECTION ITEMS
19	80 LF	REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD
20	125 CY	STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL
21	25 TN	6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE
22	4 EA	9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE
23	18 EA	6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE
24	70 TN	ANGULAR BASALT RIP RAP, IN PLACE
25	1 LS 12 CY 1,120 LF 2 EA	TWO CEMENT CONCRETE BULKHEADS, IN PLACE CEMENT CONCRETE 8" x 7'-6" x 84'-0" TOTAL FOR BOTH BULKHEADS #4 REBAR TOTAL FOR BOTH BULKHEADS BULKHEAD FORMS (FORMS LEFT AGAINST BRIDGE SHALL BE TREATED)
26	160 TN	BANK RUN GRAVEL, IN PLACE
27	10 TN	CRUSHED SURFACING, BASE COURSE, IN PLACE
		PILE DRIVING ITEMS
28	1 LS	MOBILIZATION OF PILE DRIVING EQUIPMENT
29	16 EA	MARINE PILES, PACIFIC COAST DOUGLAS FIR ROUND TIMBER, CLASS A, 13" MIN DIA 3 FT FROM BUTT, 8" MIN TIP DIA, 90 FT LONG, 25 PCF PRESSURE CREOSOTE TREATED, IN PLACE
30	16 EA	PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE
		TRAFFIC BRIDGE ITEMS
31	1 LS 2 EA 2 EA 8 EA 16 EA 16 EA 16 EA 16 EA 16 EA 32 EA 128 EA 128 EA 128 EA	TIMBER BEAMS, 14x18's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,300 psi., 25 PCF PRESSURE CREOSOTE TREATED, IN PLACE TIMBER BEAMS, 14x18's x 18'-0" LONG TIMBER BEAMS, 14x18's x 34'-0" LONG STRAP TIE #HST3, SIMPSON STRONG TIE OR EQUIV, SPECIAL ORDER: DOUBLE HOT-DIPPED GALV PREBORED HOLES, 13/16" DIA DRILL 13-1/2" THRU BEAMS FOR BOLTS GALV 3/4"-10NC x APPROX 18" LONG BOLTS GALV 3/4" SPRING LOCK WASHERS GALV 3/4"-10NC NUTS PREBORED LEAD HOLES, 1-3/8" DIA DRILL x 45" DEEP, THRU BEAM AND INTO PILES FOR DRIFT PINS DRIFT PINS, 1-3/8" DIA x 44" LONG WITH ONE END TAPERED FOR DRIVING INTO A 1-3/8" DIA HOLE, DOUBLE HOT-DIPPED GALV STRAP TIE #HST6, SIMPSON STRONG TIE OR EQUIV, SPECIAL ORDER: DOUBLE HOT-DIPPED GALV PREBORED HOLES, 13/16" DIA DRILL 13-1/2" THRU BEAMS AND PILES FOR BOLTS GALV 3/4"-10NC x APPROX 16" LONG BOLTS GALV 3/4" SPRING LOCK WASHERS GALV 3/4"-10NC NUTS
32	1 LS 8 EA 32 EA 64 EA 64 EA 64 EA 128 EA 128 EA	TIMBER STRINGERS, 14x22's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,300 psi., 25 PCF PRESSURE CREOSOTE TREATED, IN PLACE TIMBER STRINGERS, 14x22's x 22'-0" HEAVY ANGLE #HL79, SIMPSON STRONG TIE OR EQUIV, SPECIAL ORDER: DOUBLE HOT-DIPPED GALV PREBORED HOLES, 13/16" DIA DRILL 13-1/2" THRU STRINGERS FOR BOLTS GALV 3/4"-10NC x APPROX 16" LONG BOLTS GALV 3/4" SPRING LOCK WASHERS GALV 3/4"-10NC NUTS PREBORED LEAD HOLES, 3/4" DIA DRILL x 4" DEEP, THEN 1/2" DIA DRILL x 5" DEEP MIN, INTO BEAMS FOR LAG BOLTS GALV 3/4" DIA x 9" LONG LAG BOLTS
33	1 LS 14 EA 22 EA 18 EA 616 EA 618 EA	TIMBER DECKING, 6x12's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,300 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE TIMBER DECKING, 6x12's x 16'-0" TIMBER DECKING, 6x12's x 12'-0" TIMBER DECKING, 6x12's x 8'-0" PREBORED LEAD HOLES, 21/64" DIA DRILL x 12" DEEP MIN, THRU DECKING AND INTO STRINGERS FOR NAILS GALV 3/8" GAUGE ROUND WIRE SPIKES 12" LONG
34	1 LS 2 EA 28 EA 28 EA	ROUND TIMBER CURBS, PACIFIC COAST DOUGLAS FIR, 25 PCF PRESSURE TREATED, IN PLACE TIMBER CURBS, 9" WIDE FLAT ON BOTTOM SIDE, 12" MAX BUTT DIA, 10" MIN TIP DIA, 12'-0" LONG PREBORED LEAD HOLES, 21/64" DIA DRILL x 18" DEEP MIN, THRU CURBS, DECKING AND INTO STRINGERS FOR SPIKES GALV 3/8" GAUGE ROUND WIRE SPIKES 16" LONG
		TRAFFIC GUARDRAIL ITEMS
35	1 LS 5 EA 3 EA 2 EA 2 EA 3 EA 1 EA 28 EA 3 EA 6 EA 12 EA 12 EA 24 EA 12 EA	BEAM GUARD RAIL TYPE W BEAM, IN PLACE STRAIGHT SECTIONS WITH FASTENERS 37'-6" PARABOLA SECTIONS WITH FASTENERS 47'-6" RADIUS CURVED SECTIONS WITH FASTENERS 12'-0" RADIUS CURVED SECTIONS WITH FASTENERS BEAM GUARDRAIL TERMINAL SECTIONS DESIGN "G" BEAM GUARDRAIL TERMINAL SECTION DESIGN "F" 8x8 x 6'-0" CREOSOTE TREATED POSTS AND BLOCKS WITH FASTENERS 8x8 x 6'-0" CREOSOTE TREATED POSTS WITHOUT BLOCKS WITH FASTENERS 8x8 x 4'-7" CREOSOTE TREATED POSTS AND BLOCKS WITH FASTENERS PLUS BRIDGE FASTENERS AS FOLLOWS: PREBORED HOLES, 1-5/8" DIA DRILL 21" THRU POSTS AND STRINGERS FOR BOLTS GALV 1-1/2"-6NC x APPROX 26" LONG BOLTS GALV 1-1/2" SPRING LOCK WASHERS GALV 1-1/2" MALLEABLE IRON WASHERS GALV 1-1/2"-6NC NUTS

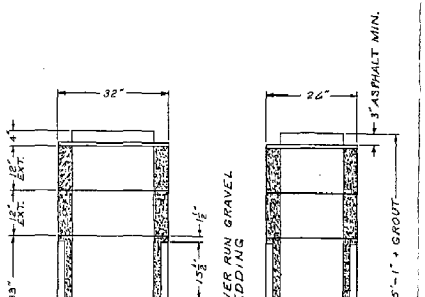
NOTE : THE FOLLOWING IS A LIST OF MATERIALS REQUIRED FOR THE FOOTPATH BRIDGE. THE QUANTITIES AND LENGTHS ARE APPROXIMATE ONLY WITH NO GUARANTEED ACCURACY. THE CONTRACTOR SHALL VERIFY THESE FOR HIMSELF, FROM THE PROJECT CONSTRUCTION DRAWINGS AND SPECIFICATIONS.

MATERIAL LIST
FOOTPATH BRIDGE

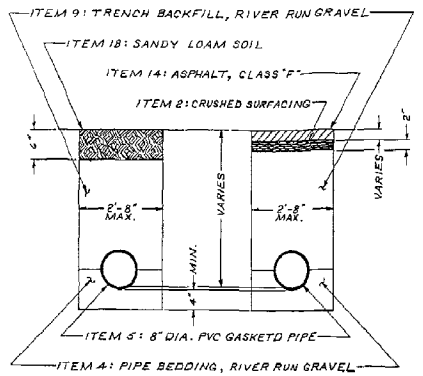
BID ITEMS	APPROX. QTY.	ITEM DESCRIPTION
		EMBANKMENT PROTECTION ITEMS
36	40 LF	REMOVAL AND DISPOSAL OF EXIST WOOD BULKHEAD
37	90 CY	STRUCTURE EXCAVATION CLASS A, INCLUDING HAUL
38	10 TN	6" MINUS CRUSHED ROCK FOR GABION BEDDING, IN PLACE
39	4 EA	9'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE
40	4 EA	6'x3'x3' SEA TYPE GABION WITH ROCK, IN PLACE
41	30 TN	ANGULAR BASALT RIP RAP, IN PLACE
42	1 LS 4 CY 360 LF 2 EA	TWO CEMENT CONCRETE BULKHEAD, IN PLACE CEMENT CONCRETE 8" x 7'-6" x 20'-0" TOTAL FOR BOTH BULKHEADS #4 REBAR TOTAL FOR BOTH BULKHEADS BULKHEAD FORMS (FORMS LEFT AGAINST BRIDGE SHALL BE TREATED)
43	50 TN	BANK RUN GRAVEL, IN PLACE
44	2 TN	CRUSHED SURFACING, BASE COURSE, IN PLACE
		PILE DRIVING ITEMS
45	1 LS	MOBILIZATION OF PILE DRIVING EQUIPMENT
46	6 EA	MARINE PILES, PACIFIC COAST DOUGLAS FIR ROUND TIMBER, CLASS A, 13" MIN DIA 3 FT FROM BUTT, 8" MIN TIP DIA, 60 FT LONG, 25 PCF PRESSURE CREOSOTE TREATED, IN PLACE
47	6 EA	PILE TOP PROTECTION AFTER CUT-OFF, IN PLACE
		FOOTPATH BRIDGE ITEMS
48	1 LS 3 EA 12 EA 24 EA 24 EA 24 EA 24 EA 48 EA 48 EA 48 EA	TIMBER BEAMS, 12x14's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,300 psi., 25 PCF PRESSURE CREOSOTE TREATED, IN PLACE TIMBER BEAMS, 12x14's x 10'-0" HEAVY ANGLE #HL79, SIMPSON STRONG TIE OR EQUIV, SPECIAL ORDER: DOUBLE HOT-DIPPED GALV PREBORED HOLES, 13/16" DIA DRILL 7-1/2" THRU STRINGERS FOR BOLTS GALV 3/4"-10NC x APPROX 10" LONG BOLTS GALV 3/4" SPRING LOCK WASHERS GALV 3/4"-10NC NUTS PREBORED LEAD HOLES, 3/4" DIA DRILL x 4" DEEP, THEN 1/2" DIA DRILL x 7" DEEP MIN, INTO BEAMS FOR LAG BOLTS GALV 3/4" DIA x 7" LONG LAG BOLTS
49	1 LS 3 EA 12 EA 24 EA 24 EA 24 EA 24 EA 48 EA 48 EA 48 EA	TIMBER STRINGERS, 8x16's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,300 psi., 25 PCF PRESSURE CREOSOTE TREATED, IN PLACE TIMBER STRINGERS, 8x16's x 22'-0" HEAVY ANGLE #HL79, SIMPSON STRONG TIE OR EQUIV, SPECIAL ORDER: DOUBLE HOT-DIPPED GALV PREBORED HOLES, 13/16" DIA DRILL 7-1/2" THRU STRINGERS FOR BOLTS GALV 3/4"-10NC x APPROX 10" LONG BOLTS GALV 3/4" SPRING LOCK WASHERS GALV 3/4"-10NC NUTS PREBORED LEAD HOLES, 3/4" DIA DRILL x 4" DEEP, THEN 1/2" DIA DRILL x 7" DEEP MIN, INTO BEAMS FOR LAG BOLTS GALV 3/4" DIA x 7" LONG LAG BOLTS
50	1 LS 23 EA 152 EA 132 EA	TIMBER DECKING, 4x12's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,300 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE TIMBER DECKING, 4x12's x 6'-0" PREBORED LEAD HOLES, 3/16" DIA x 6" DEEP MIN, THRU DECKING AND INTO STRINGERS FOR NAILS GALV 60d COMMON WIRE NAILS
51	1 LS 12 EA 24 EA 24 EA 48 EA 24 EA	TIMBER GUARDRAIL POSTS, 6x8's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,200 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE TIMBER GUARDRAIL POSTS, 6x8's x 6'-0" PREBORED HOLES, 15/16" DIA x 15" THU GALV 7/8"-9NC x 16" LONG BOLTS GALV 7/8" MALLEABLE IRON WASHERS GALV 7/8" SPRING LOCK WASHERS GALV 7/8"-9NC NUTS
52	1 LS 2 EA 2 EA 42 EA 42 EA	TIMBER GUARDRAIL TOP SIDE RAILS, 2x6's, PACIFIC COAST DOUGLAS FIR, APPEARANCE, F_b = 1,500 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE TIMBER GUARDRAIL TOP SIDE RAILS, 2x6's x 14'-0" TIMBER GUARDRAIL TOP SIDE RAILS, 2x6's x 10'-0" PREBORED HOLES, 7/64" DIA x 3-1/2" DEEP GALV 16d COMMON WIRE NAILS
53	1 LS 2 EA 2 EA 42 EA 42 EA	TIMBER GUARDRAIL BOTTOM SIDE RAILS, 2x6's, PACIFIC COAST DOUGLAS FIR, APPEARANCE, F_b = 1,500 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE TIMBER GUARDRAIL TOP SIDE RAILS, 2x6's x 14'-0" TIMBER GUARDRAIL TOP SIDE RAILS, 2x6's x 10'-0" PREBORED HOLES, 7/64" DIA x 3-1/2" DEEP GALV 16d COMMON WIRE NAILS
54	1 LS 34 EA 204 EA 204 EA	TIMBER GUARDRAIL BALUSTERS, 2x6's, PACIFIC COAST DOUGLAS FIR, No. 1, F_b = 1,200 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE TIMBER GUARDRAIL BALUSTERS, 2x6's x 3'- 2-1/2" PREBORED HOLES, 7/64" DIA x 3" THRU GALV 16d COMMON WIRE NAILS
55	1 LS 2 EA 2 EA 188 EA 188 EA	TIMBER GUARDRAIL TOP RAILS, 2x8's, PACIFIC COAST DOUGLAS FIR, APPEARANCE, F_b = 1,500 psi., 0.60 PCF PRESSURE CHEMONITE TREATED, IN PLACE. TIMBER GUARDRAIL TOP RAILS, 2x8's x 14'-0" TIMBER GUARDRAIL TOP RAILS, 2x8's x 10'-0" PREBORED HOLES, 7/64" DIA x 3-1/2" DEEP GALV 16d COMMON WIRE NAILS



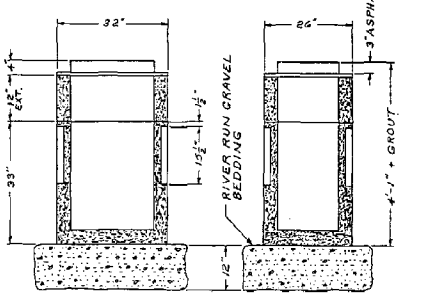
ITEM 6: CB-15 INLET DETAIL "B"
SCALE: NONE



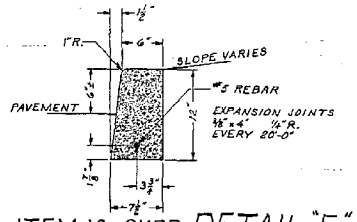
ITEM 8: CB-15 INLET +2 EXT. DETAIL "D"
SCALE: NONE



TRENCHES DETAIL "A"
SCALE: NONE



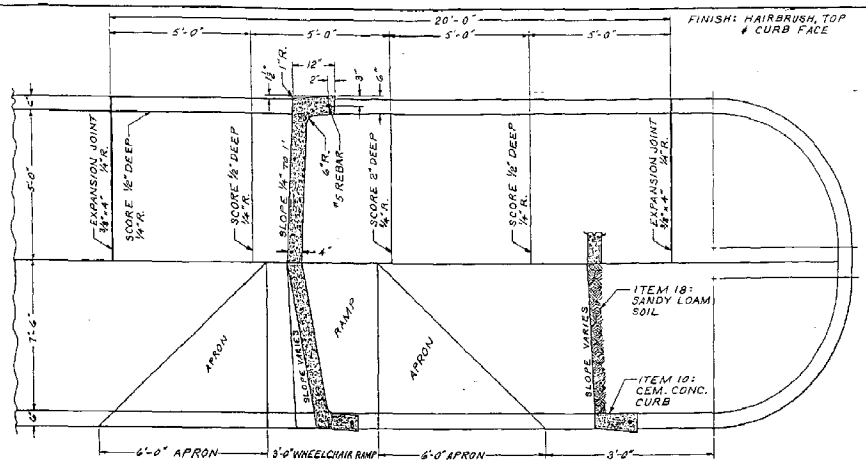
ITEM 7: CB-15 INLET +1 EXT. DETAIL "C"
SCALE: NONE



ITEM 10: CURB DETAIL "E"
SCALE: NONE

MATERIAL LISTS & DETAILS
ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE
MORRISON RIVERFRONT PARK
CITY of ABERDEEN
CITY ENGINEER'S OFFICE

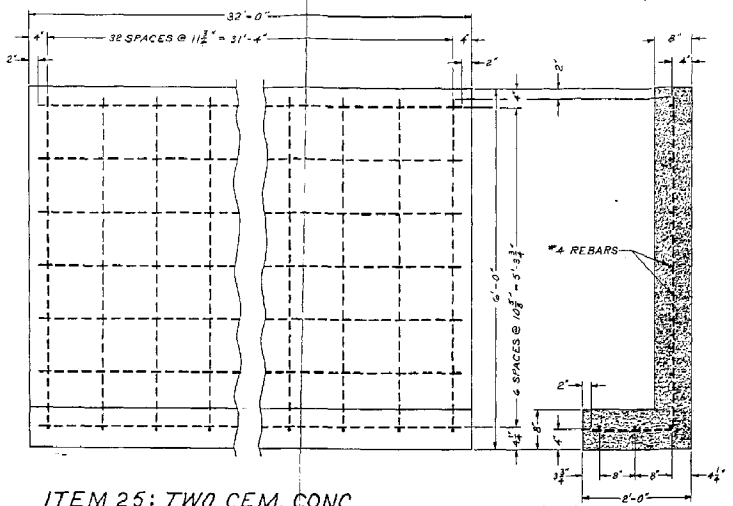
SCALE	DATE	DRAWN BY	JOB NO.	DRAWING NO.
AS NOTED	3-17-88	WJB	E.P.No.255/87	E71L



ITEMS 11 & 12: INTEGRAL CEM. CONC. CURB, SIDEWALK & WHEELCHAIR RAMP

DETAIL "F"

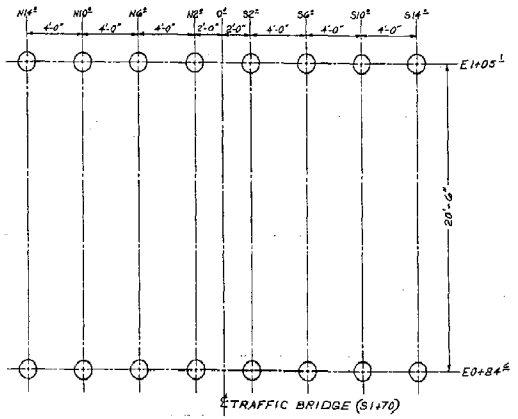
SCALE: NONE



ITEM 25: TWO CEM. CONC. BULKHEADS

DETAIL "G"

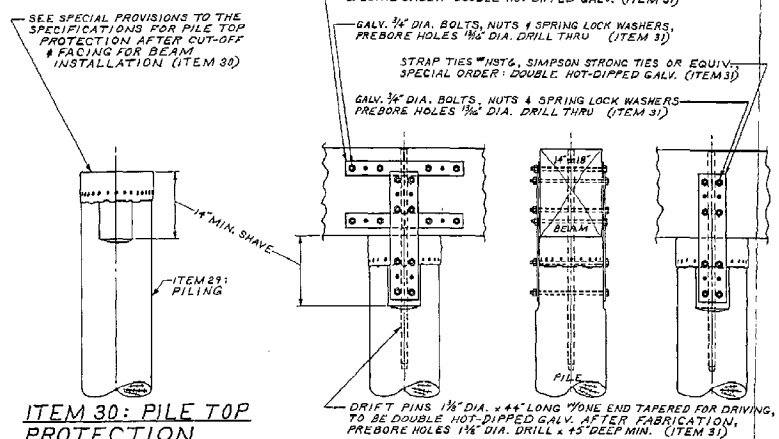
SCALE: 1"=1'-0"



ITEM 29: PILING LOCATIONS

DETAIL "H"

SCALE: ½"=1'-0"



ITEM 30: PILE TOP PROTECTION

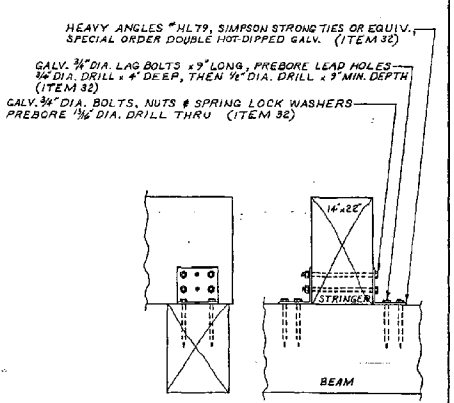
DETAIL "I"

SCALE: NONE

ITEM 31: BEAM INSTALLATION

DETAIL "J"

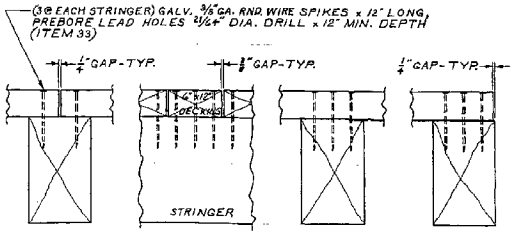
SCALE: 1"=1'-0"



ITEM 32: STRINGER INSTALLATION

DETAIL "K"

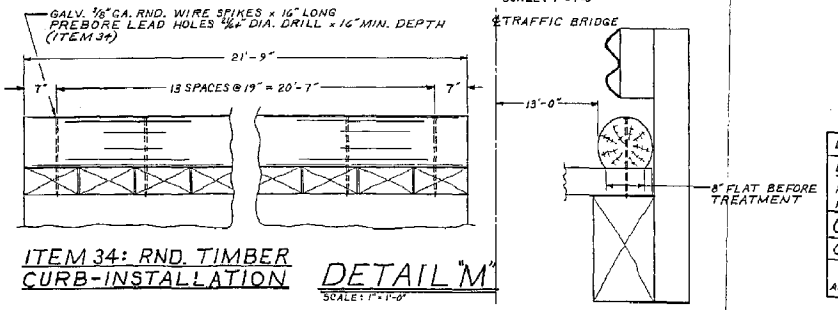
SCALE: 1"=1'-0"



ITEM 33: DECKING INSTALLATION

DETAIL "L"

SCALE: 1"=1'-0"



ITEM 34: RND. TIMBER CURB-INSTALLATION

DETAIL "M"

SCALE: 1"=1'-0"

DETAILS

ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE

MORRISON RIVERFRONT PARK

CITY of ABERDEEN

CITY ENGINEER'S OFFICE

SCALE	DATE	DRAWN BY	JOB NO.	DRAWING NO.
AS NOTED	3-23-92	WJB	E.P.No. 285/87	E72L

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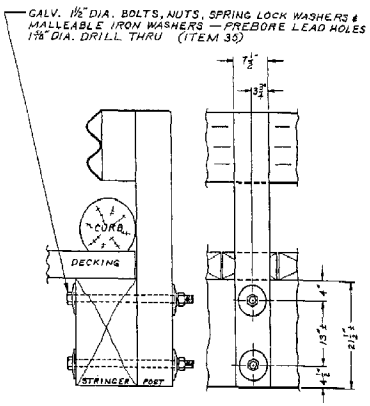
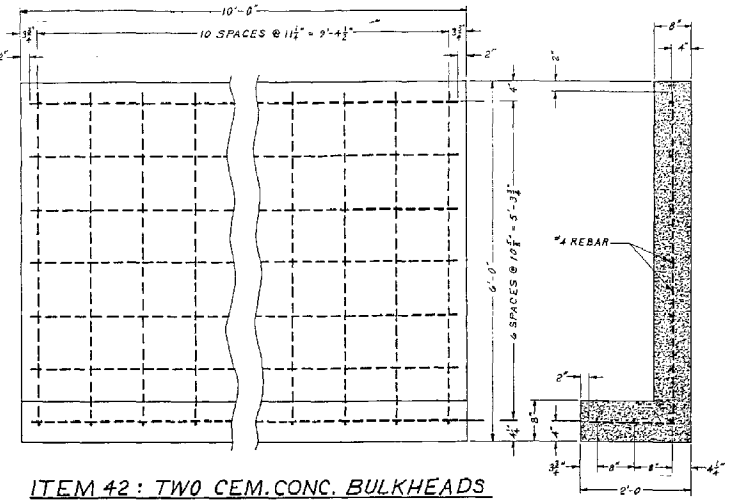


ITEM 35: TRAFFIC GUARDRAIL POST INSTALLATION

DETAIL "N"

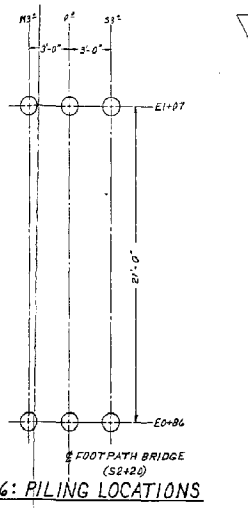
SCALE: 1"=1'-0"



ITEM 42: TWO CEM. CONC. BULKHEADS

DETAIL "O"

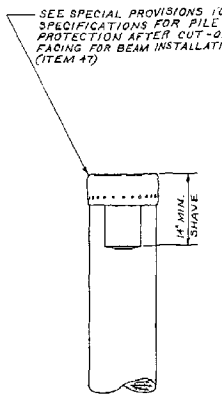
SCALE: 1"=1'-0"



ITEM 46: PILING LOCATIONS

DETAIL "P"

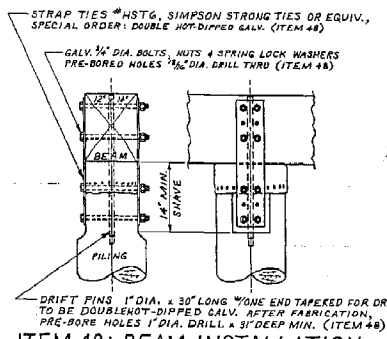
SCALE: ¼"=1'-0"



ITEM 47: PILE TOP PROTECTION

DETAIL "Q"

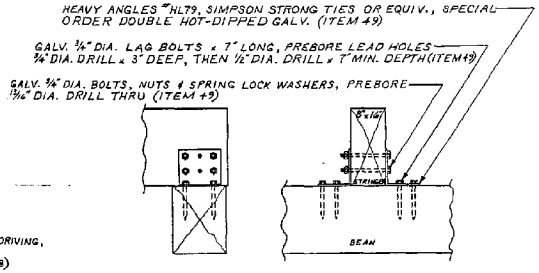
SCALE: NONE



ITEM 48: BEAM INSTALLATION

DETAIL "R"

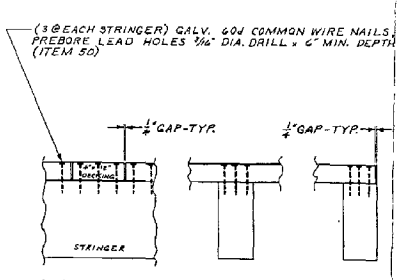
SCALE: 1"=1'-0"



ITEM 49: STRINGER INSTALLATION

DETAIL "S"

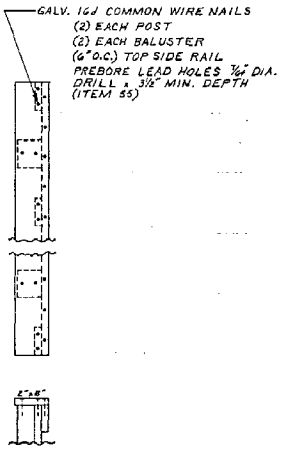
SCALE: 1"=1'-0"



ITEM 50: DECKING INSTALLATION

DETAIL "T"

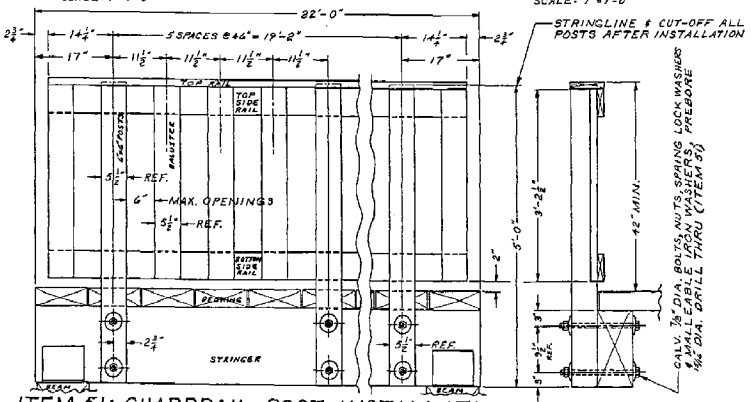
SCALE: 1"=1'-0"



ITEM 55: TOP RAIL INSTALLATION

DETAIL "X"

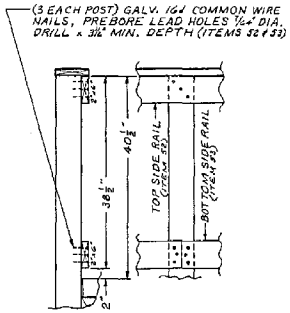
SCALE: 1"=1'-0"



ITEM 51: GUARDRAIL POST INSTALLATION

DETAIL "U"

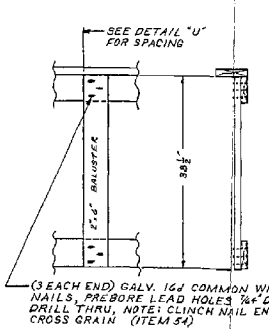
SCALE: 1"=1'-0"



ITEMS 52 & 53: SIDE RAIL INSTALLATION

DETAIL "V"

SCALE: 1"=1'-0"



ITEM 54: BALUSTER INSTALLATION

DETAIL "W"

SCALE: 1"=1'-0"

DETAILS

ENTRANCE & APPROACH, TRAFFIC BRIDGE & FOOTPATH BRIDGE

MORRISON RIVERFRON PARK

CITY of ABERDEEN

CITY ENGINEERS OFFICE

SCALE	DATE	DRAWN BY	JOB NO.	DRAWING NO.
AS NOTED	3-30-88	WJB	E.P.No. 2855/87	E73L

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