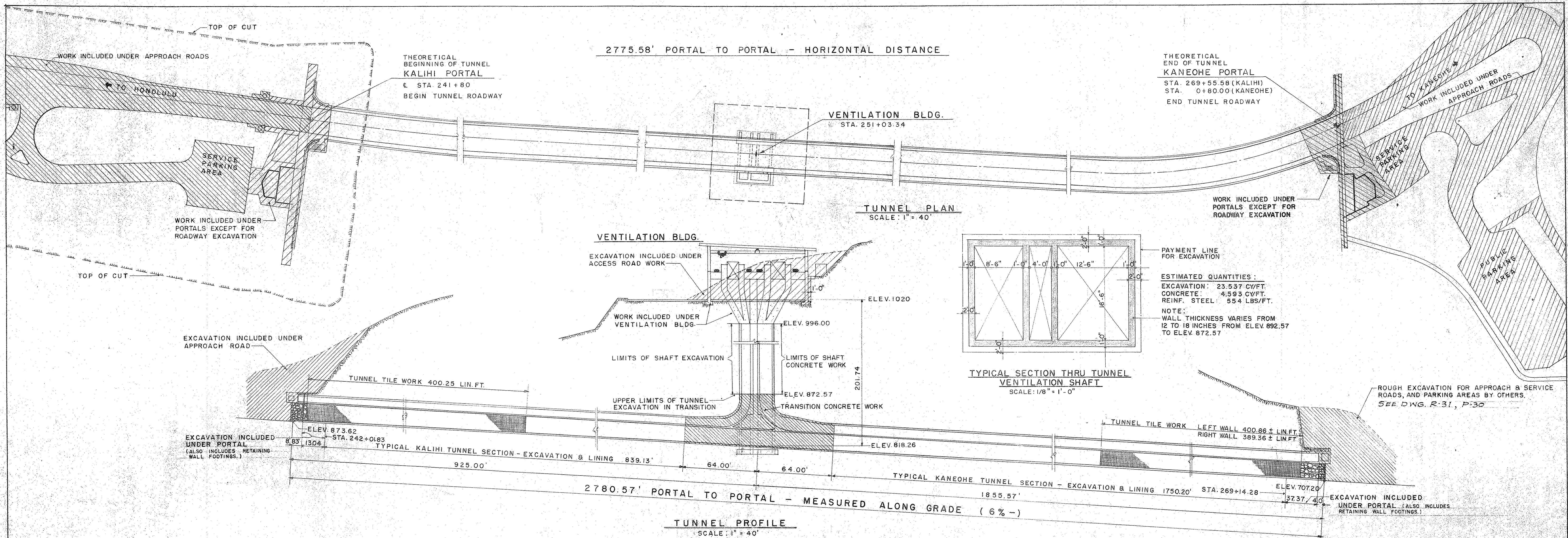
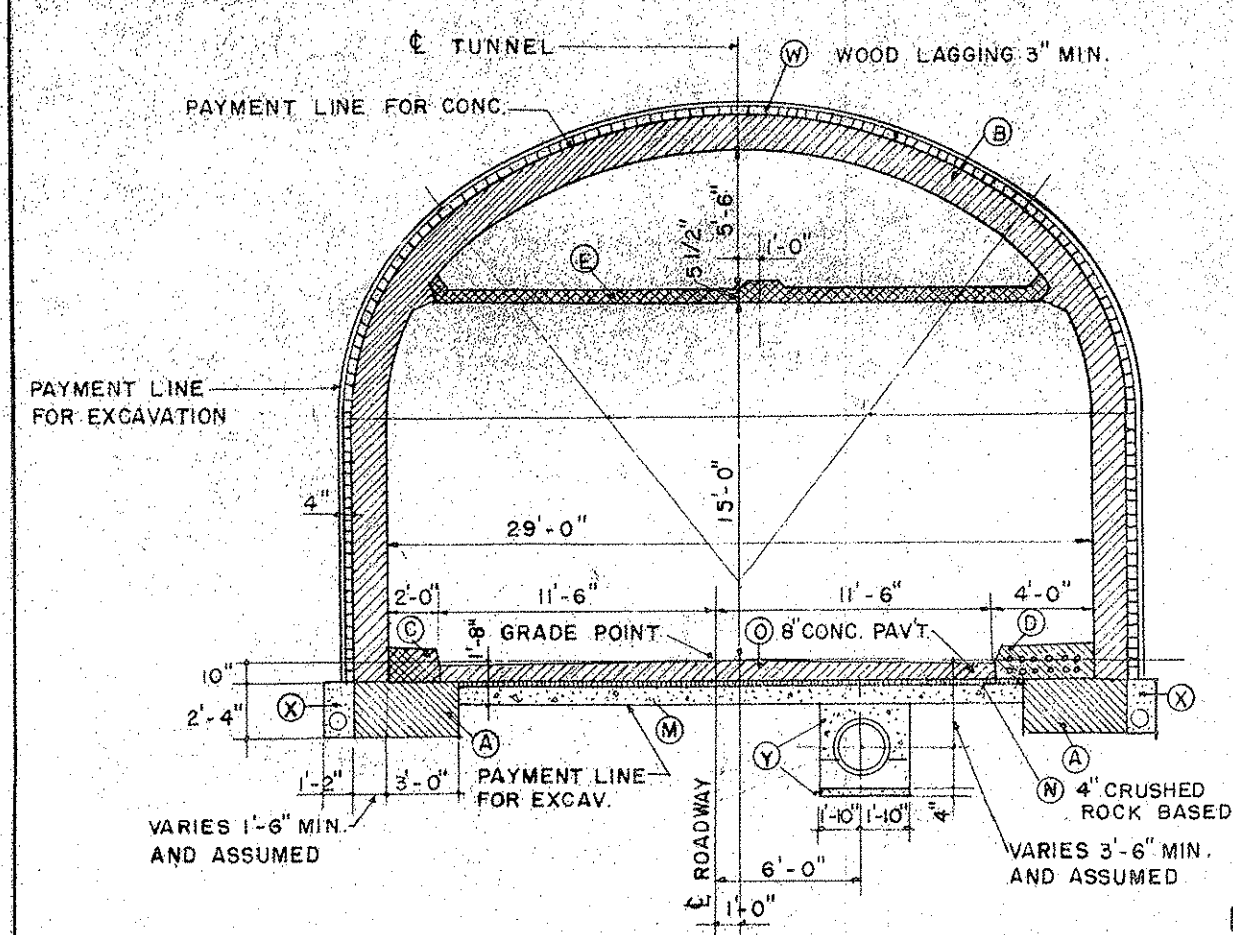
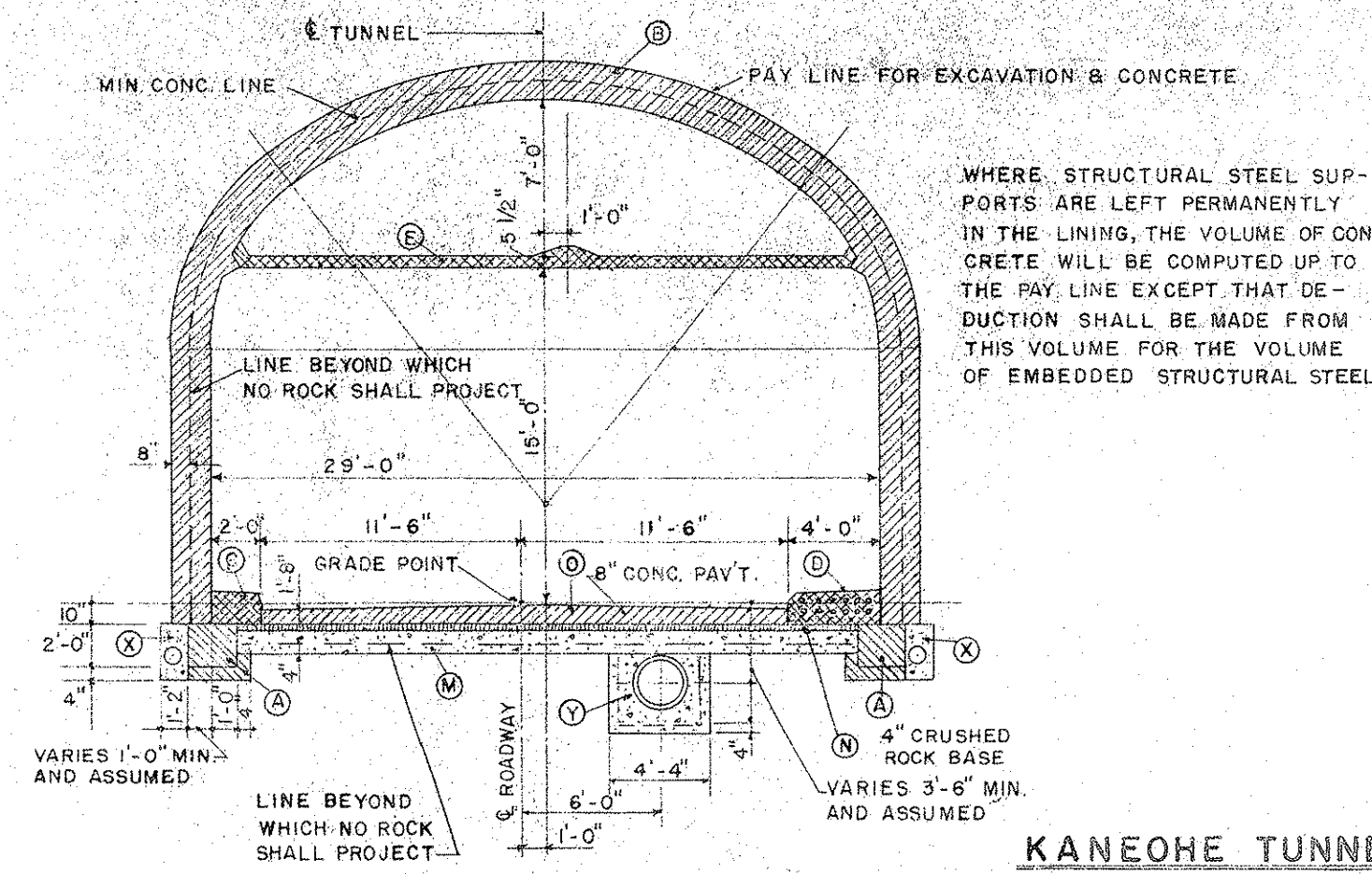




- NOTES:**
1. THIS SHEET OUTLINES IN GENERAL THE LIMITS OF SOME OF THE MAJOR ITEMS OF WORK. FOR MORE SPECIFIC DETAILS SEE PLANS - PROPOSAL & SPECIFICATIONS.
 2. ALL EXCAVATION SHALL BE UNCLASSIFIED WHETHER IT IS EARTH, ROCK, CINDERS OR OTHER MATERIALS.



TUNNEL QUANTITIES		
(W)	TUNNEL EXCAVATION	27,872 CY/FT
(W)	WOOD LAGGING	201.1 BD. FT/FT
TUNNEL LINING		
(A) X 2	CONCRETE FOOTINGS	0.778 CY/FT
(B)	CONC. ARCH AND SIDE WALLS	3.893 CY/FT
(C)	CONC. FOR LEFT SIDE WALK	0.102 CY/FT
(D)	CONC. FOR RIGHT SIDE WALK	0.165 CY/FT
	(Minus nominal area of ducts)	
(E)	CONC. FOR CEILING SLAB	0.462 CY/FT
(X) X 2	POROUS FILL	0.176 CY/FT
	(Minus nominal area of pipe)	
TUNNEL ROADWAY, DRAINAGE, BASE COURSE PAVING		
(M)	BALLAST COURSE	0.915 CY/FT
(N)	CRUSHED ROCK BASE	0.284 CY/FT
(O)	CONCRETE PAVING	0.568 CY/FT
(V)	POROUS ROCK FILL	0.237 CY/FT
	(Minus outside dia. pipe and cradle)	



TUNNEL QUANTITIES		
	TUNNEL EXCAVATION	29,605 CY/FT
TUNNEL LINING		
(A) X 2	CONCRETE FOOTINGS	0.375 CY/FT
(B)	CONC. ARCH AND SIDE WALLS	4.191 CY/FT
(C)	CONC. FOR LEFT SIDE WALK	0.102 CY/FT
(D)	CONC. FOR RIGHT SIDE WALK	0.165 CY/FT
	(Minus nominal area of ducts)	
(E)	CONC. FOR CEILING SLAB	0.489 CY/FT
(X) X 2	POROUS FILL	0.176 CY/FT
	(Minus nominal area of pipe)	
TUNNEL ROADWAY, DRAINAGE, BASE COURSE PAVING		
(M)	BALLAST COURSE	0.938 CY/FT
(N)	CRUSHED ROCK BASE	0.333 CY/FT
(O)	CONCRETE PAVING	0.568 CY/FT
(V)	POROUS ROCK FILL	0.418 CY/FT
	(Minus outside dia. pipe)	

PARTIAL LIST OF QUANTITIES FOR TYPICAL TUNNEL SECTIONS

NOTE: THE TUNNEL DIMENSIONS AND QUANTITIES TABULATED ABOVE FOR ONE LINEAR FOOT OF TUNNEL ARE APPROXIMATE ONLY, BEING GIVEN AS A CONVENIENCE TO THE CONTRACTOR AND AS A BASIS FOR THE COMPARISON OF BIDS. THE CITY & COUNTY DOES NOT, EXPRESSLY OR BY IMPLICATION, AGREE THAT THE ACTUAL AMOUNT OF WORK WILL CORRESPOND THEREWITH.

ESTIMATED OVERHAUL:
ESTIMATED TUNNEL & TRANSITION EXCAVATION = 81,870 C.Y.
47,870 C.Y. FREE HAUL.
20,000 X 10 STA. = 200,000 STA. YARD OVERHAUL.
14,000 X 0.5 MILE = 7,000 MILE YARD OVERHAUL.

APPROVED:	ENGINEER, KALIHI TUNNEL	PROFILE	F.W. BY	C.B.	S.B.

SECTION C JOB NO. 26-53 DWG. X-9

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FILE 7 POCKET 5 FOLDER 1 NO. 9

LAW & WILSON
ARCHITECTS & ENGINEERS

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
BUREAU OF PLANS

KALIHI TUNNEL
INFORMATION
GENERAL LIMITS OF TUNNEL
& PORTAL WORK

ENGINEER: S.H. Wilson
DRAFTSMAN: W.T. K.M.
SCALE: AS NOTED
APPROVED: [Signature]
CHIEF ENGINEER

DATE: JULY 15, 1959
CHECKED BY: W.T. K.M.
TRACER: [Signature]
APPROVED: [Signature]
BUREAU ENGINEER

W.S.	PROFILE	C.B.
CR. SEC.	F.W. BY	S.B.
W.M. BY		