

GENERAL NOTES

- 1. Location of reinforced concrete driveways & drop curbing, will be according to that as shown on plans.
- 2. Approval of these plans are contingent upon the owner acquiring all necessary easements and rights of ways from other property owners.
- 3. All curb return elevations are at 4/4's except as otherwise noted.

SEWER NOTES

- 1. All sewer construction shall be done in accordance with the City & County Standard Specifications approved by the Chief Engineer on Aug. 12, 1957.
- 2. In event that any changes in alignment or grade for the proposed sewers are required due to unforeseen conflict with other underground utilities, the engineer in charge or the maker of the plans shall be responsible for the required changes which are to be presented to the Division of Sewers for approval.
- 3. Minimum slope of all laterals shall be 1.00%.
- 4. Location of existing sewer mains and appurtenances shown on the plans are approximate only. On all existing sewer manholes which are to be adjusted to new grade, remove all or a portion of existing manhole walls and rebuild with either cast-in-place concrete or brick or precast manhole walls.
- 5. In the event that any existing sewer laterals, either shown or not shown on the plans are not in use, they should be abandoned and plugged with the approval of the Division of Sewers.
- 6. Wherever existing manholes are abandoned, reuse the manhole frames and cover if they conform to the standard size frames and covers of the Division of Sewers. All non-conforming manhole frames and covers from existing manholes shall be taken to the Division of Sewers Maintenance Yard at Koula St.
- 7. Sewer easements to be granted to the City & County of Honolulu.

WATER NOTES

- 1. Material and construction of water mains and appurtenances shall be in accordance with the standards of the Board of Water Supply, unless otherwise specified below.
- 2. Connections to existings water mains and chlorination of the new mains shall be done by the Board of Water Supply and paid for by the Contractor.
- 3. The Contractor shall be responsible for all damages to existing water mains and appurtenances.
- 4. Locations of existing water mains and appurtenances shown on the plans are approximate only. In the event that any changes in alignment, grade or location are required due to unforeseen conflict with the proposed subdivision improvements, the subdivider shall be responsible for such alterations, including the costs thereof.
- 5. Where rubble masonry, tile or concrete wall is to be constructed, the Contractor shall provide, at his own expense, adequate size sleeves in wall at locations approved by the Board of Water Supply. Engineer to facilitate consumer water pipe extension into the property.
- 6. Wherever a corporation cock, shown tapping into a new main, is larger than that allowed by the BWS Standards, a double hub fittings with boss tapped for appropriate size corporation shall be used.
- 7. Wherever connections to existing mains are shown on the plans, the Contractor shall expose the existing mains prior to excavation of main trenches to verify their locations and depths.
- 8. New water system shall be tested to 150 psi unless otherwise requested by the Engineer.
- 9. The minimum clearance between fire hydrants and utility poles, or light standards shall be 3.0 feet.
- 10. The Contractor shall notify the Board of Water Supply in writing one week prior to commencing work on the water system.
- 11. Approval of these plans by the Board of Water Supply is for the water system facilities only. Drainage and other features of this subdivision are the responsibilities of others.
- 12. The contractor shall arrange with the Board of Water Supply to cut off existing unused water laterals, remove meter boxes & appurtenances, prior to commencement of clearing and grading operations. Contractor to provide all necessary excavation.
- 13. Contractor shall permit the BWS to install temporary risers adjacent to certain valves for chlorination purposes prior to start of backfill. After the water mains have been certified by the BWS Bacteriology Section, the risers shall be removed by the BWS. All necessary excavation to expose the risers & the final backfill work shall be performed by the Contractor.
- 14. Unless noted otherwise all laterals shall be 1 1/2" with Type "C-1" connection, 1 1/4" laterals shall be Type "B".
- 15. All water meter boxes shall be Type "X" and will be furnished by the BWS at the Board's Kalihi Corp. Yard. Contractor shall pick up, haul to job site & install the meter boxes in place complete at his own expense.
- 16. Approval of these plans by the BWS is based only on the adequacy of the water system facilities. All other features of the water system such as lines, grades, fittings, etc., shall be the responsibility of the Engineer who prepared the plans.
- 17. Water service will not be available to the Subdivision until the completion of the source and storage facilities.

STREET LIGHT NOTES

Street lights shall be installed in accordance with Ordinance No. 1638 as amended by Ordinance No. 1770. Install street lights as shown on the plan - X for the layout indicated according to the street lighting details, Sheet 59.

DRAINAGE NOTES

- 1. All pipe culverts shall have the grooved ends of the pipes at the entrance or upstream headwalls.
- 2. Crushed rock shall be placed under all pipe culverts crossing the roadway unless otherwise noted on the plans. The width shall be the trench width for excavation; the depth shall be 3'-0" in all cases; and the length shall be from headwall to headwall.

- 18. The standard dimensions of the Federal Specification WW-P-421b, or ASA Specification A21.6-1953 or A21.8-1953, centrifugally cast and cement lined cast iron pipes to be furnished as follows:

SIZE (INCH)	CLASS	THICKNESS (INCH)	O.D. (INCH)	AWWA PATTERN
4	250	0.35	4.80	"A"
6	250	0.38	6.90	"A"
8	250	0.41	8.05	"A-B"
12	200 OR 250	0.48 OR 0.52	13.20	"A-B"
16	150 OR 250	0.54 OR 0.63	17.40	"A-B" MECH., SLIP-ON, OR LEAD JOINT

Type of Pipe joint may be lead joint, mechanical joint, slip-on joint, or as specified in the plans.

- 19. Cast iron fittings 12 inch and under shall be bell and bell (lead joint) Class "D" for AWWA and Class 250 for short pattern, or Class 250 for mechanical joint, and shall conform to the requirements as specified in the BWS Construction Standard Specifications (Section 80). For 16-inch C.I. pipes and larger, the following types of fittings are required for each particular pattern of pipe:

16" Class 150, "A-B" pattern, use either Class "D" fittings (lead joint) or Class 150 mech. joint fittings
16" Class 250, "A-B" pattern, use Class "D" fittings (lead joint) only.

PROPERTY OF DIVISION OF ENGINEERING

JOB NO. 12-63

June 10, 1963	Additional St. Light Note	G. J. Y.	W. J. Y.
REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED			
CIVIL ENGINEERS - SURVEYORS - CONSULTANT PLANNERS			
DEPARTMENT OF PUBLIC WORKS			
CITY AND COUNTY OF HONOLULU			
DIVISION OF ENGINEERING			
IMPROVEMENT DISTRICT NO. 162			
KAHALU CUTOFF ROAD			
KANEHE, HEBIA, AHUIMANU & KAHALU, KOOLAPOKO, OAHU			
GENERAL NOTES			
ENGINEER	STF	DATE	8-1-62
DRAFTSMAN	R.A.	CHECKED BY	M.H.I.
SCALE		TRACER	R.A.
APPROVED		APPROVED	9/20/62
CHIEF ENGINEER		ASST. DIRECTOR, DIVISION OF ENGINEERING	W. J. Y.
W.S.	PROFILE	C.E.	
CR. SEC.	F.B.	S.B.	
WM. BY:		S.B.Y.	
APPROVED: George H. Hightailing			
REG. ENGR. CERT. NO. 4701-E			

W. J. Y. Asst. Chief Engineer BWS
W. J. Y. Deputy Traffic Engineer 8/19/62