

ELECTRICAL SYMBOLS	
*-○-	STREET LIGHT, STEEL POLE, 250W HIGH PRESSURE SODIUM LUMINAIRE, MULTIPLE CIRCUIT, ANCHOR BASE, SEE SHT E-9
*-●-	STREET LIGHT, STEEL POLE, 150W HIGH PRESSURE SODIUM LUMINAIRE, MULTIPLE CIRCUIT, ANCHOR BASE, SEE SHT E-9
○-○-	NEW WOOD POLE W/ STREET LIGHT, SEE SHT E-11
○-○-	NEW STREET LIGHT FOR MOUNTING ON WOOD POLE, SEE SHT E-11
*-○-	ANCHOR BASE SEE SHT E-9
*-○-	SLIP BASE SEE SHT E-10
○-○-	EXST. ST. LIGHT ON STEEL POLE TO REMAIN
○-○-	EXST. ST. LIGHT ON WOOD POLE TO REMAIN
○-○-	EXST. ST. LIGHT & BRACKET ARM TO BE REMOVED
○-○-	EXST. ST. LIGHT & POLE TO BE REMOVED
○	EXST. WOOD POLE
○TL	EXST. TRAFFIC SIGNAL LIGHT
* □	ST. LTG. SYSTEM PULLBOX TYPE
□	EXST. PULLBOX TYPE "B"
---	EXST. ST. LTG. OVERHEAD SERIES CIRCUIT WIRING TO BE REMOVED
---	EXST. ST. LTG. UNDERGROUND CIRCUIT TO BE ABANDONED
-L-	ST. LTG. UNDERGROUND CONDUIT & WIRING
-G-	EXST. GUY WIRE
-TS-	EXST. TRAFFIC SIGNAL SYSTEM UNDERGROUND CONDUIT OR LINES
-W-	EXST. WATER LINE
-S-	EXST. SEWER
-EU-	EXST. UNDERGROUND ELECTRICAL LINE
-TU-	EXST. UNDERGROUND TELEPHONE LINE
-MC-	AERIAL ST. LT. CONDUCTORS
-	CONDUIT STUBBED & CAPPED
-x-x-x-	CHAIN LINK FENCE
-	GUARD RAIL
○→	GUY & ANCHOR FOR WP, SEE SHT E-11
*	ST. LTG. SYSTEM PULL BOX TYPE "B" IS NOT SHOWN ON PLAN AT EACH POLE, BUT IS REQUIRED AT EACH NEW STEEL LIGHT POLE. ADJUST LOCATION TO SUIT FIELD CONDITIONS

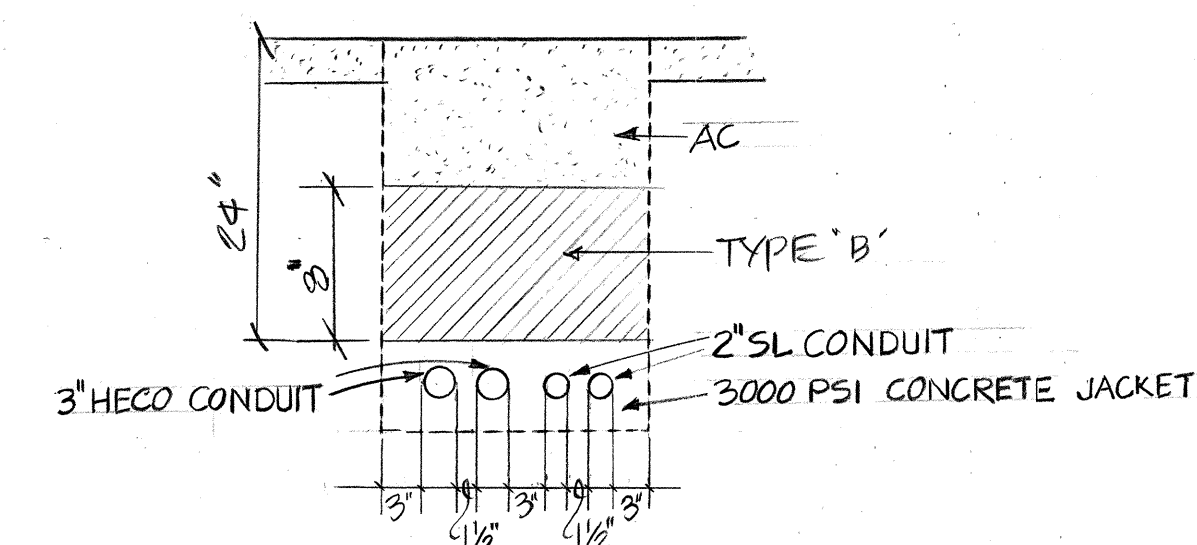
ABBREVIATIONS	
EP	ELECTRIC POLE
JP	JOINT POLE
SP	STEEL POLE
TP	TELEPHONE POLE
WP	WOOD POLE
QUAD	QUADRUPLX
I.C.	INTERCHANGE
AC	ASPHALT CONCRETE

CONSTRUCTION

- CONSTRUCTION WORK SHALL BE SCHEDULED IN SUCH A MANNER THAT STREET LIGHTING IS PROVIDED DURING ALL HOURS OF DARKNESS EITHER WITH NEW OR EXISTING LUMINAIRES, OR A COMBINATION THEREOF. TEMPORARY CONNECTIONS SHALL BE MADE TO ACCOMPLISH THIS END. THE CONTINUITY OF SERIES STREET LIGHTING CIRCUITS SHALL BE MAINTAINED UNTIL THE EXISTING SERIES STREET LIGHTING FIXTURES ARE READY FOR REMOVAL.
- WHERE EXISTING SERIES CIRCUIT HIGHWAY LIGHTING LUMINAIRES ON METAL STANDARDS ARE INDICATED TO BE REMOVED, THE LUMINAIRE AND POLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. THE FOUNDATION SHALL BE DEMOLISHED TO 6" BELOW GRADE AND THE SURFACES AFFECTED SHALL BE RESTORED TO MATCH THE SURROUNDINGS.
- EXISTING AERIAL ELECTRICAL & TELEPHONE LINES HAVE BEEN OMITTED ON THE DRAWINGS FOR CLARITY. SUCH LINES EXIST WHEREVER EPS, TPs, & JPs ARE SHOWN.
- NEW POLE LOCATIONS SHALL BE STAKED. APPROVAL OF LOCATIONS SHALL BE OBTAINED FROM THE ENGINEER BEFORE EXCAVATION IS STARTED. ADJUSTMENT OF POLE LOCATIONS IN THE FIELD WILL BE REQUIRED TO CLEAR UNDERGROUND & AERIAL UTILITY LINES.

NOTES

- SEE SPECIFICATIONS FOR LANE CLOSURE REQUIREMENTS ON WILIKINA DRIVE & KUNIA ROAD. WHERE LANE CLOSURES INVOLVING GATES TO SCHOFIELD BARRACKS MILITARY RESERVATION & WHEELER AIR FORCE BASE ARE REQUIRED, SUCH CLOSURES SHALL BE SCHEDULED IN ADVANCE & SCHEDULED IN WRITING WITH THE ARMY OR AIR FORCE. CLOSURE OF PRIVATE DRIVEWAYS SHALL BE COORDINATED WITH THE PARTY CONCERNED.
- SEE SHEET E-9 FOR ADDITIONAL CONSTRUCTION NOTES



DUCT SECTION FOR HECO PRIMARY DUCT LINE & SL CONDUITS

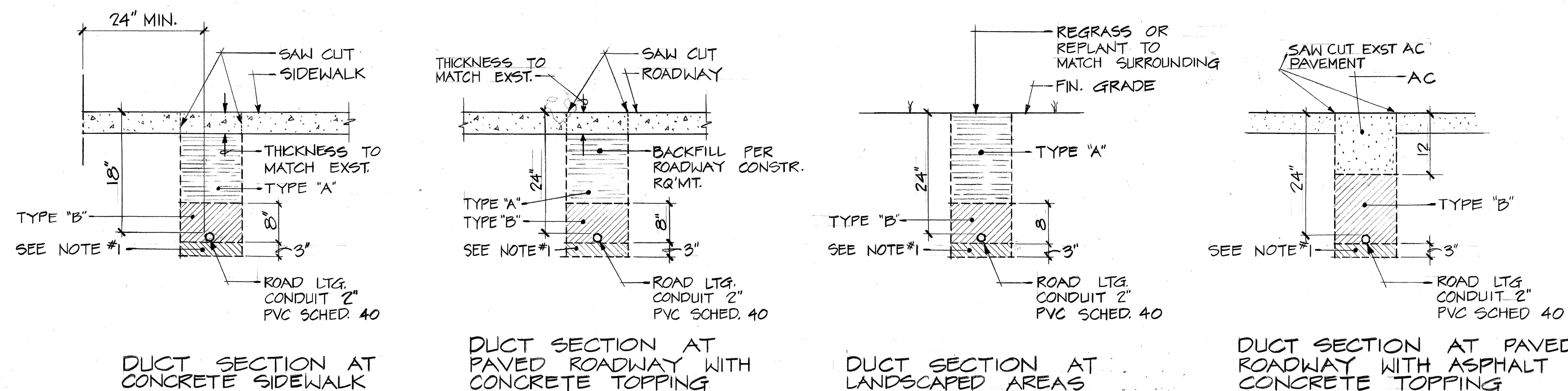
BACKFILL DATA

TYPE "A" - BEACH SAND EARTH OR EARTH & GRAVEL USED MAX. ROCK SIZE SHALL BE 1" & MIXTURE SHALL CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES

TYPE "B" - SAME AS TYPE "A" EXCEPT THAT IF EARTH & GRAVEL USED MIXTURE MUST PASS 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES

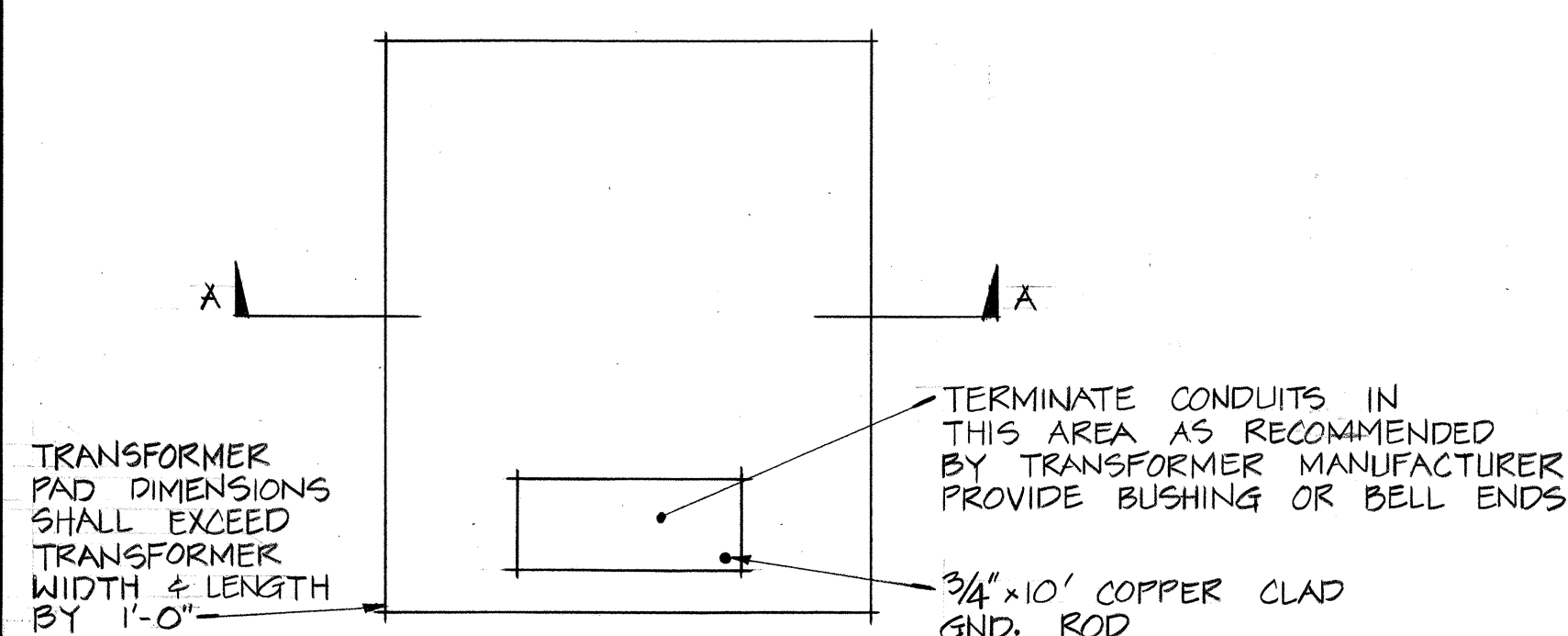
NOTE:

- IF THE NORMAL MATERIAL IN BOTTOM OF TRENCH IS NOT TYPE "B" AN ADDED 3" SHALL BE EXCAVATED & TYPE "B" BACKFILL SHALL BE PROVIDED.

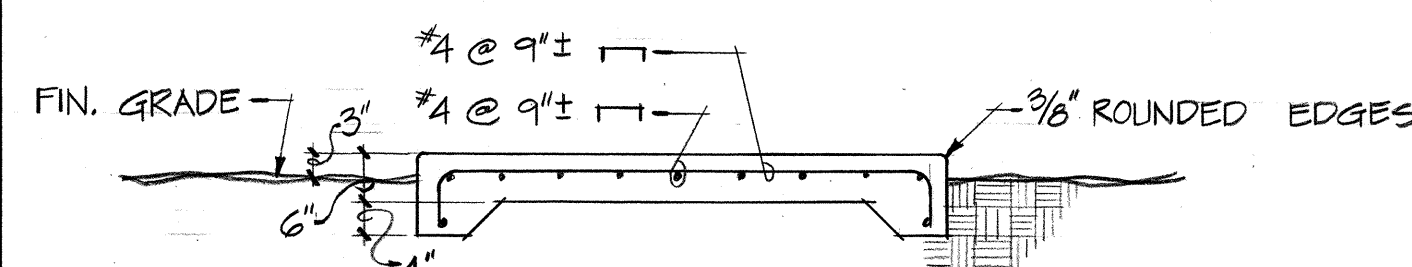


TYPICAL DUCT SECTIONS

NOT TO SCALE

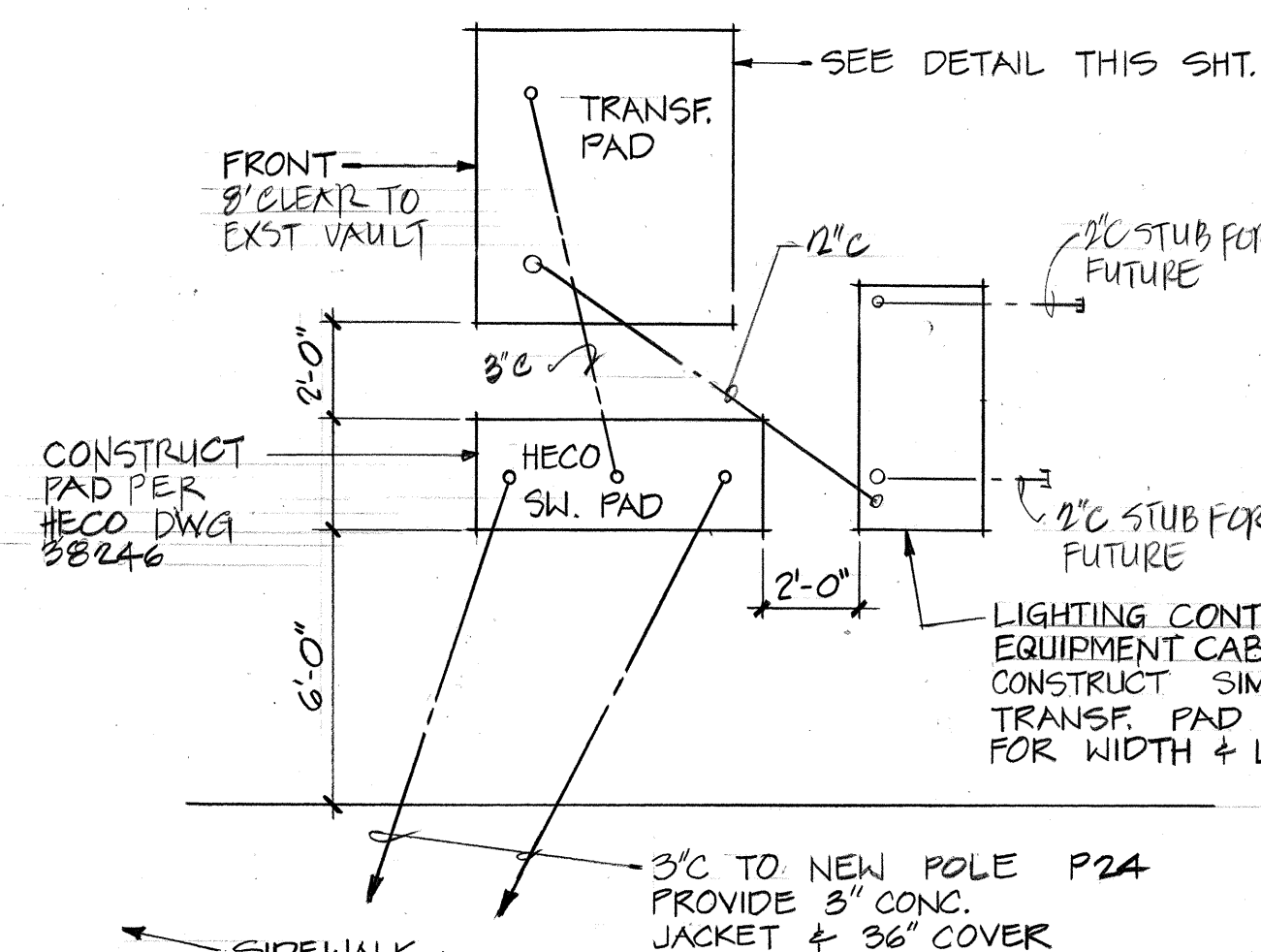


PLAN



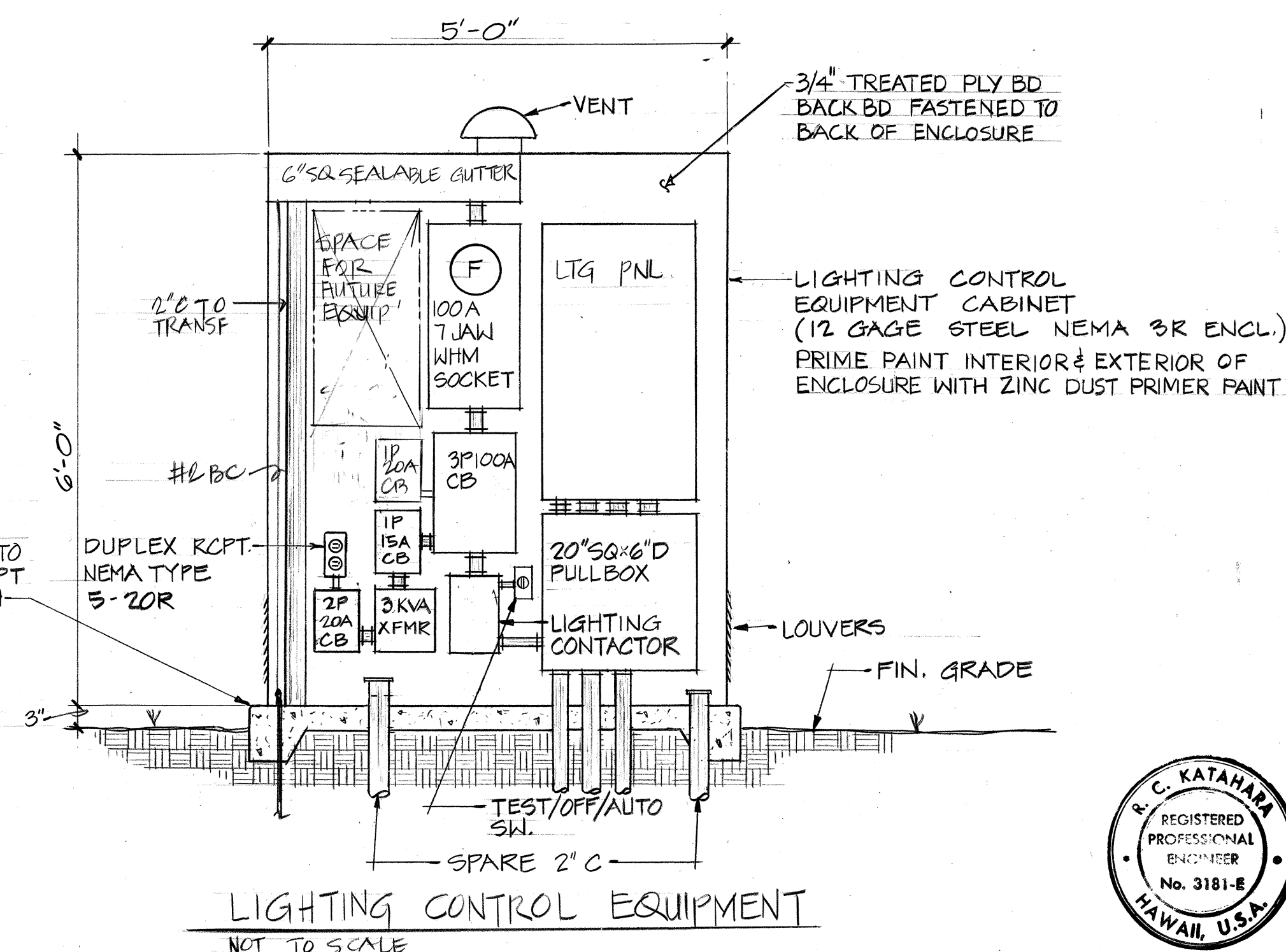
SECTION "A-A"

TRANSFORMER PAD DETAIL
NOT TO SCALE



WILIKINA DRIVE

PAD LAYOUT DETAIL
NOT TO SCALE



WILIKINA DRIVE

LIGHTING CONTROL EQUIPMENT
NOT TO SCALE

NOTES

- TRANSFORMER AND LIGHTING CABINET PAD SHALL BE FINISH PAINTED "TRANSFORMER GREEN" COLOR
- COAT THE BOTTOM 4" OF THE TRANSFORMER & LIGHTING CONTROL CABINET ENCLOSURES (INCLUDING SURFACE RESTING ON CONCRETE) WITH 2 COATS OF ASPHALTIC BASE PAINT (APPLY OVER FINISH PAINT)
- SUBMIT SHOP DRAWINGS OF THE LIGHTING CONTROL CABINET FOR APPROVAL.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELEC. SYMBOLS; DUCT SECTIONS; DETAILS

HIGHWAY LIGHTING IMPROVEMENTS, OAHU
PROJECT NO. RS-0750(5)
KUNIA ROAD, WILIKINA DRIVE - TOWARD WAIKALUA
PROJECT NO. HWY-0-01-81 (UNIT 1)
WILIKINA DRIVE, WAIKALUA I.C. - TOWARD WAIKALUA

SCALE: NONE
SHEET NO. E-1 OF 13 SHEETS