

| SHEET NO. | TOTAL SHEETS |
|-----------|--------------|
| 1 | 6 |

CITY OF WICHITA, KANSAS

JAMES L. ARMOUR, P.E., ACTING CITY ENGINEER

TRAFFIC SIGNAL IMPROVEMENTS

FOR
MAIZE ROAD AND CENTRAL PARK
 CITY OF WICHITA PROJECT NO. 472-83957
 OCA NO. 765858

INDEX OF SHEETS

1. TITLE SHEET
2. BENEFIT DISTRICT
3. TRAFFIC SIGNAL PLAN
4. TRAFFIC SIGNAL BILL OF MATERIALS
5. MARKING PLAN
- 6-9. TRAFFIC SIGNAL DETAILS

GENERAL NOTES

UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR AND APPROVED AS NOTED BELOW.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

CONTRACTOR SHALL SATISFY HIMSELF OF SURFACE AND SUBSURFACE CONDITIONS PRIOR TO BIDDING.

CONTRACTOR SHALL PROVIDE A MINIMUM FORTY-EIGHT (48) HOUR ADVANCE NOTICE (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO BEGINNING ANY EXCAVATION, TO KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ALL EXISTING LINES WITHIN THE PROJECT AREA: AQUILA NETWORK, WESTAR ENERGY, KANSAS GAS SERVICE COX COMMUNICATIONS, SBC, CITY OF WICHITA SEWER MAINTENANCE AND CITY OF WICHITA WATER DEPARTMENT.

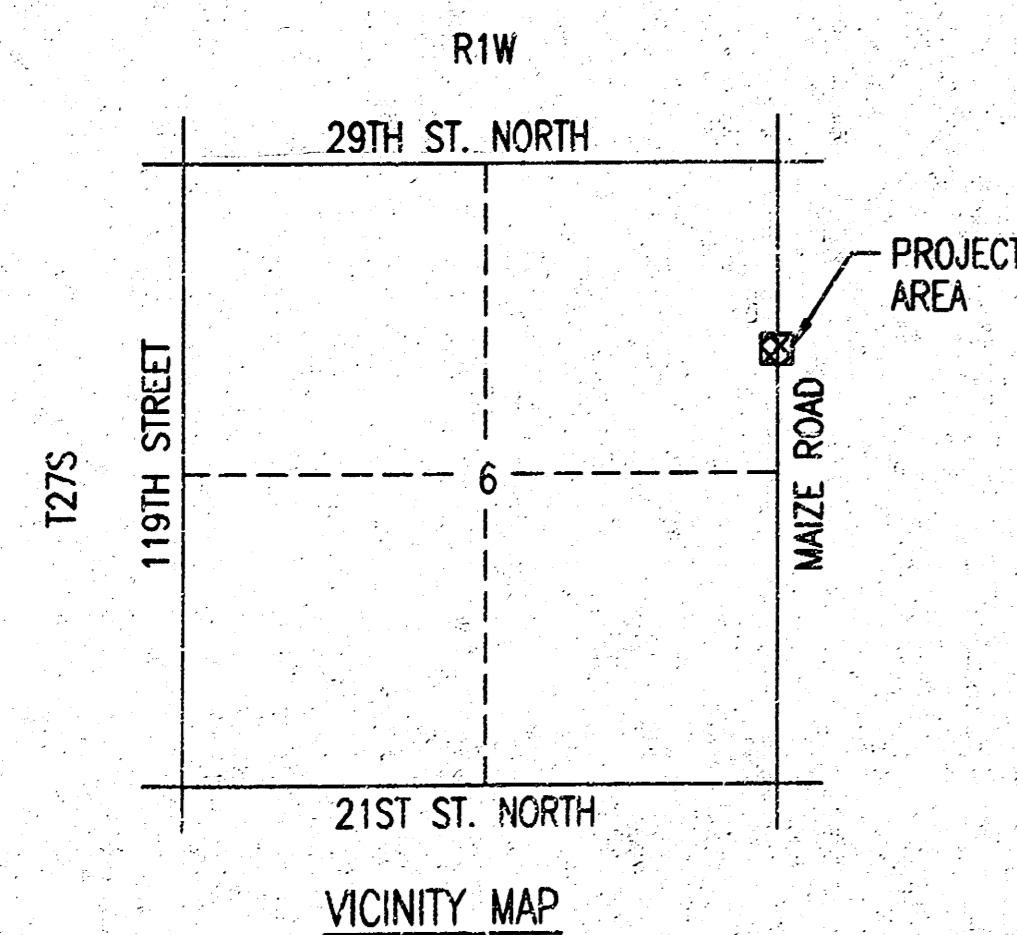
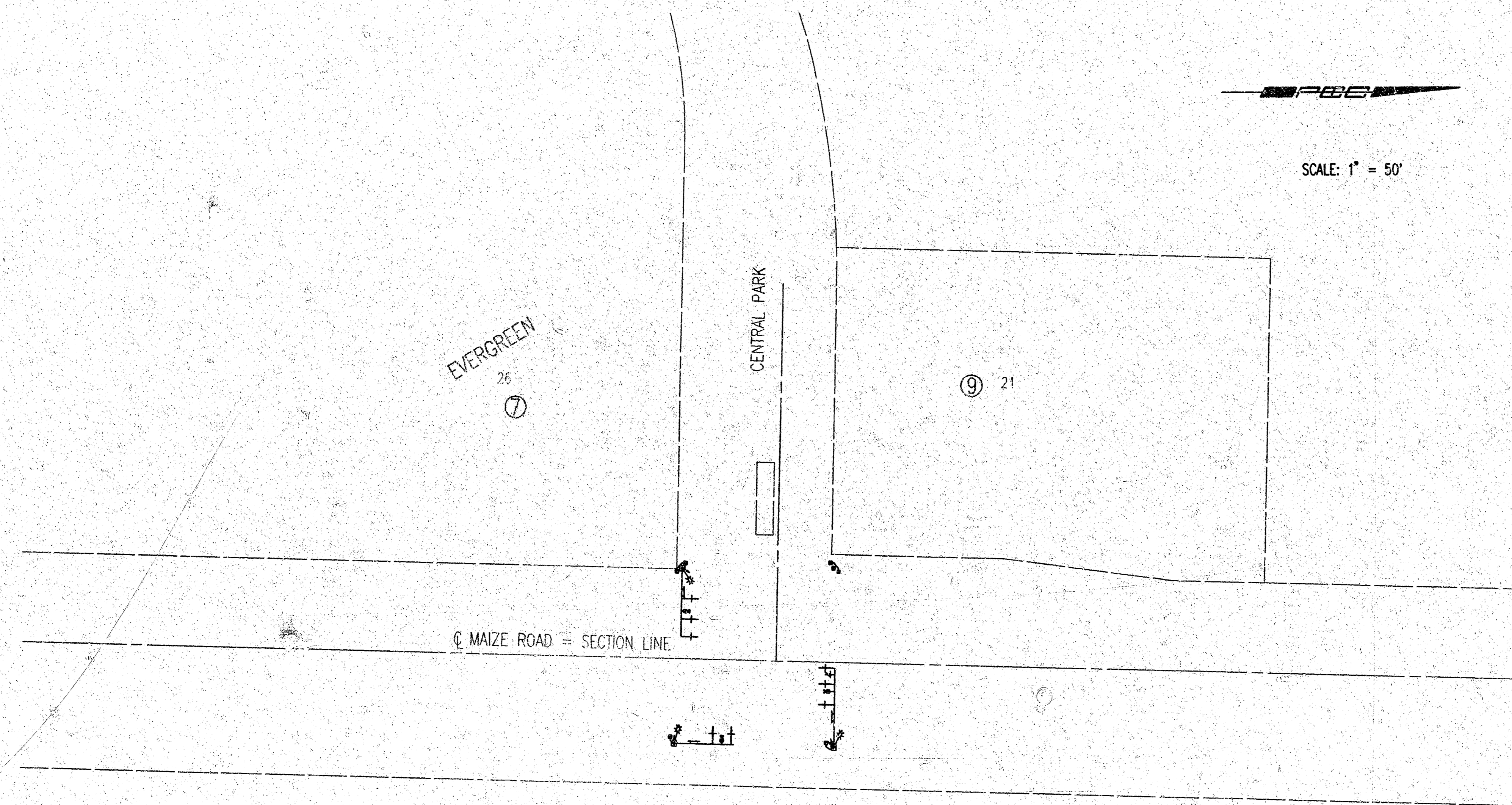
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

THE CONTRACTOR SHALL ADJUST WATER VALVE BOXES AS DIRECTED BY THE ENGINEER. THIS WORK TO BE SUBSIDIARY TO OTHER BID ITEMS.

THE CONTRACTOR SHALL INSTALL CONDUIT UNDER EXISTING PAVEMENT USING DIRECTIONAL BORING METHODS. THE CONTRACTOR SHALL COORDINATE W/WESTAR FOR INSTALLATION AND LOCATION OF THE POWER FEED AND METER. ALL COSTS FOR THE INSTALLATION OF THE POWER FEED, INCLUDING SERVICE AND INSPECTION FEES SHALL BE BORNE BY THE CONTRACTOR.

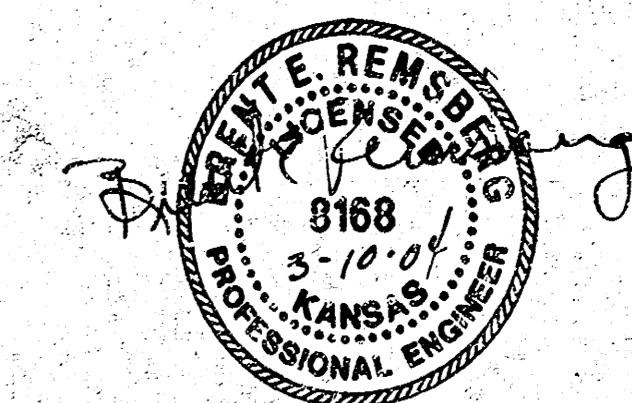
EXISTING STOP SIGN SHALL REMAIN IN PLACE. CONTRACTOR SHALL REMOVE STOP SIGN AT THE TIME THE TRAFFIC SIGNAL IS FULLY FUNCTIONAL.



MARCH 2004

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

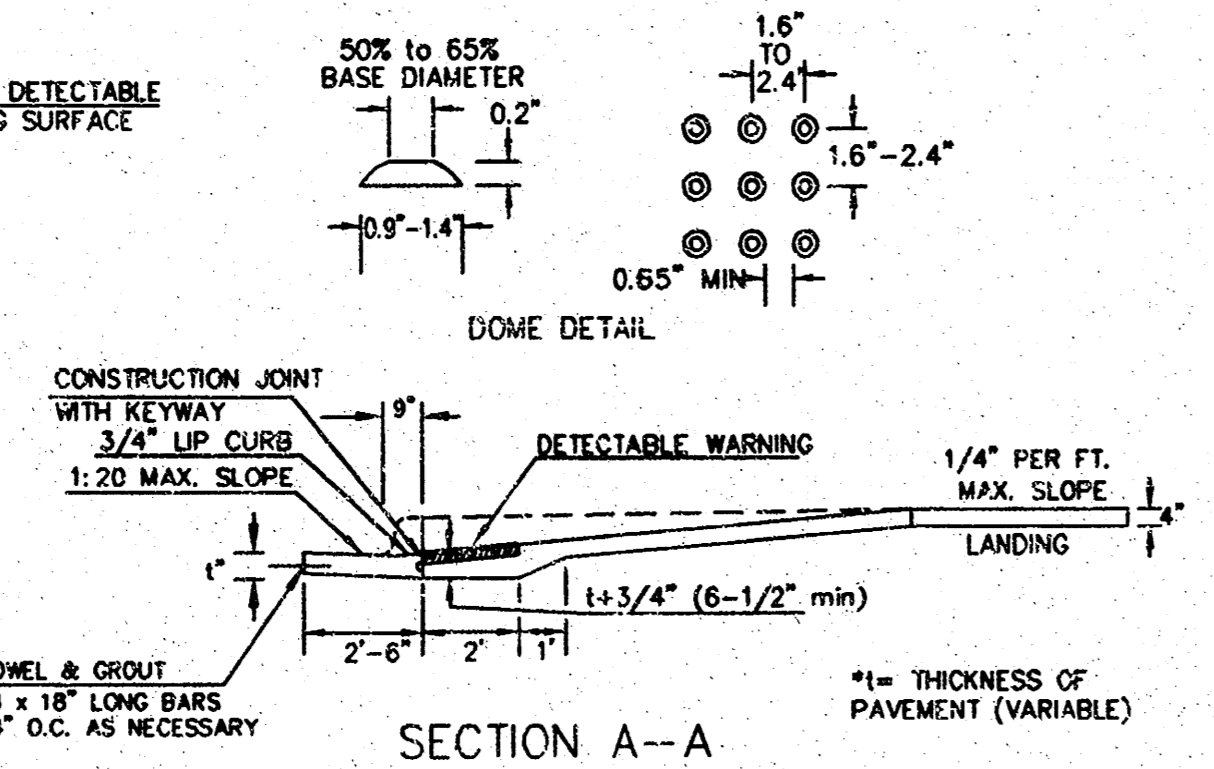
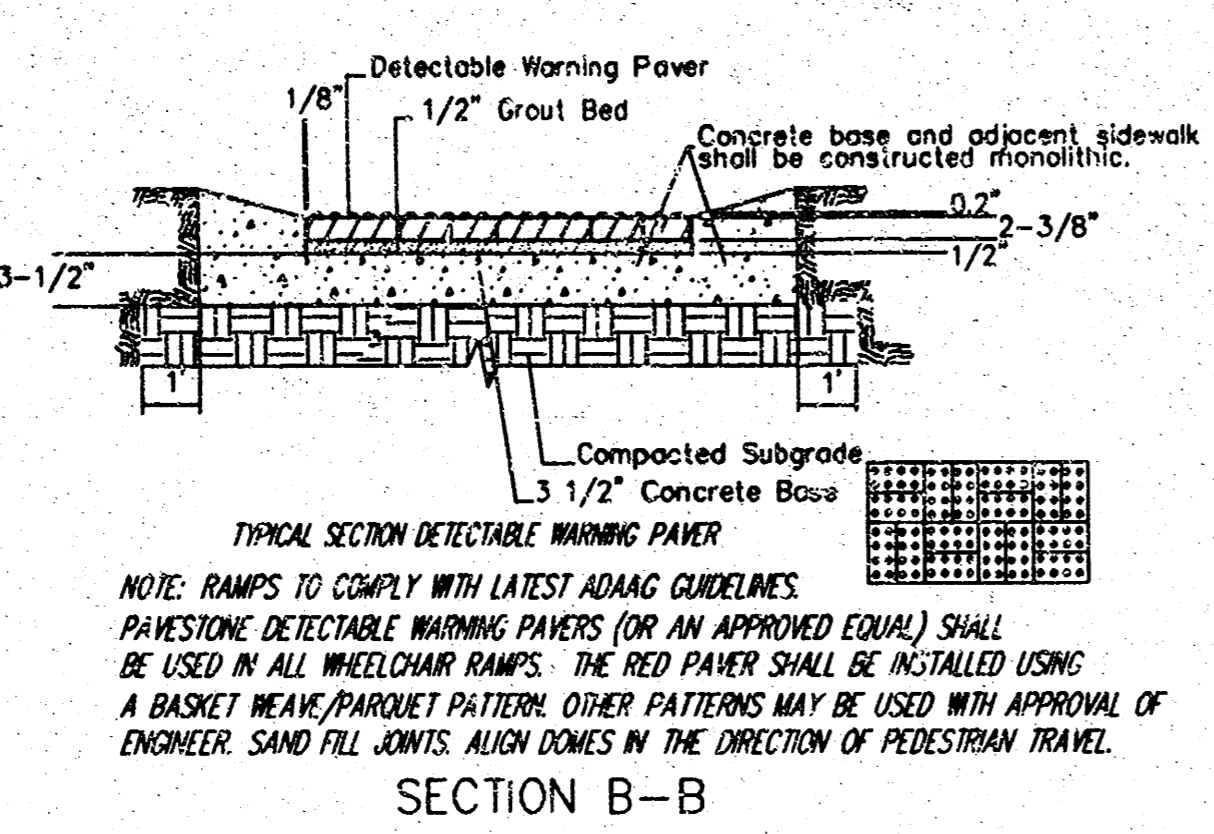
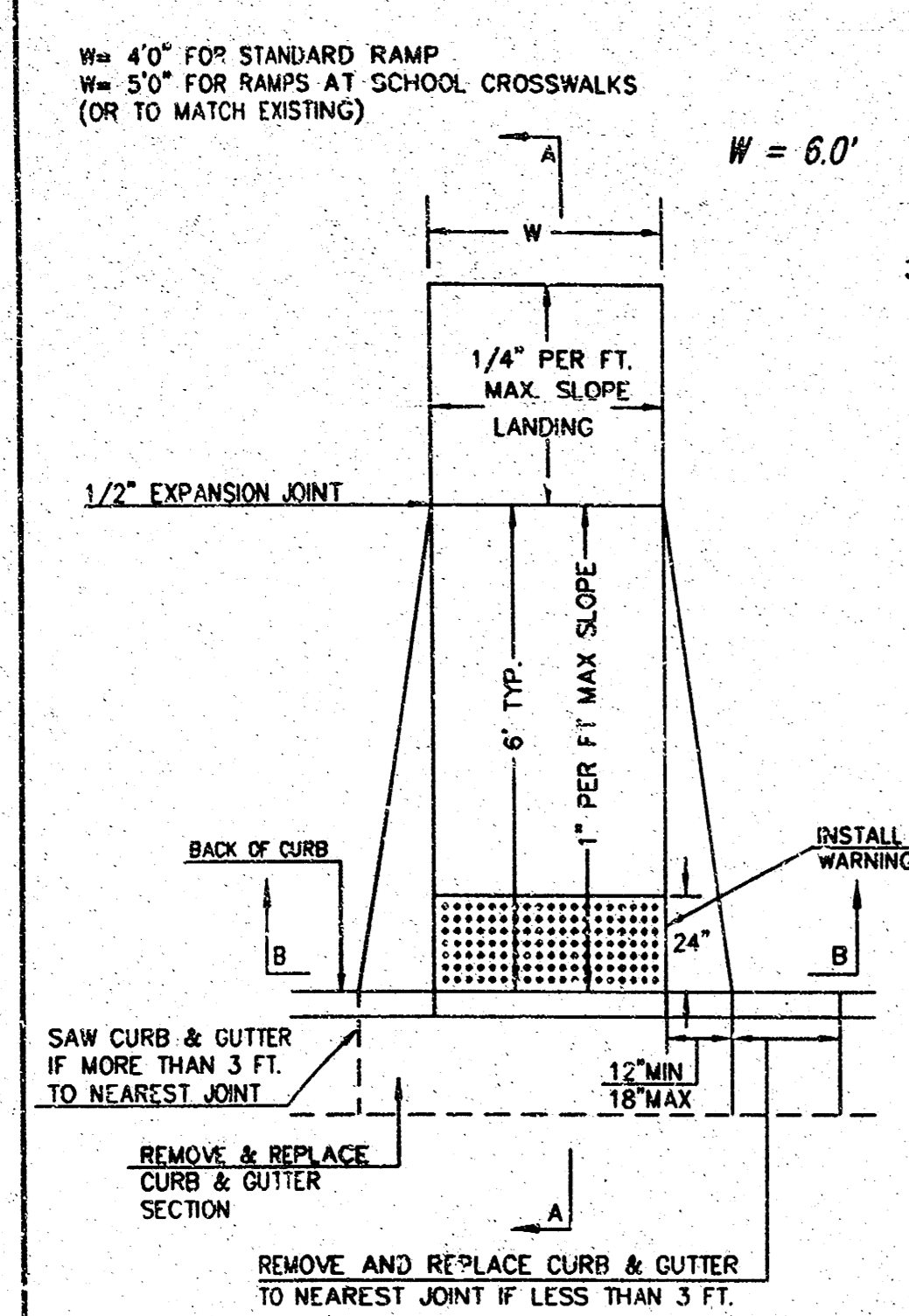


| | | |
|-------------|-----------|--------------|
| PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| 472-83957 | 3 | 9 |

CONTROLLER DESCRIPTION

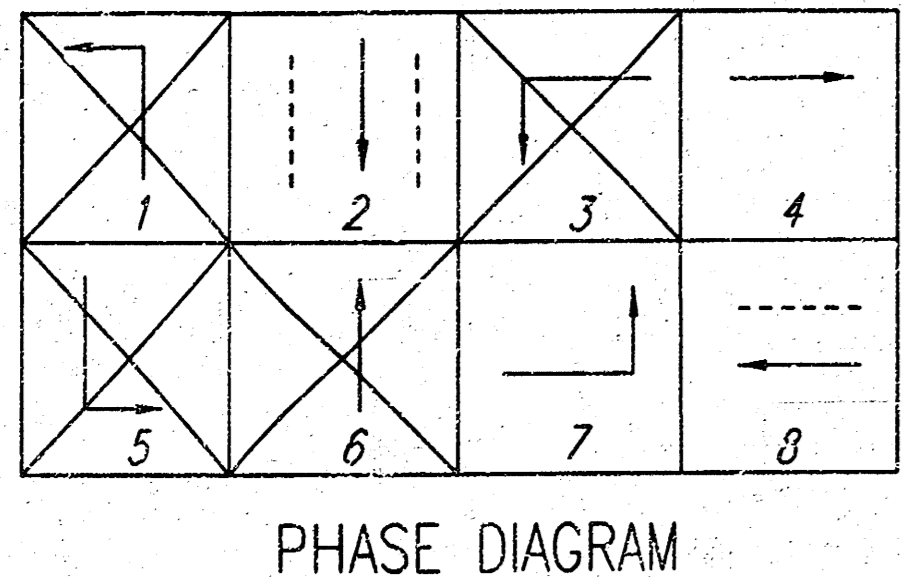
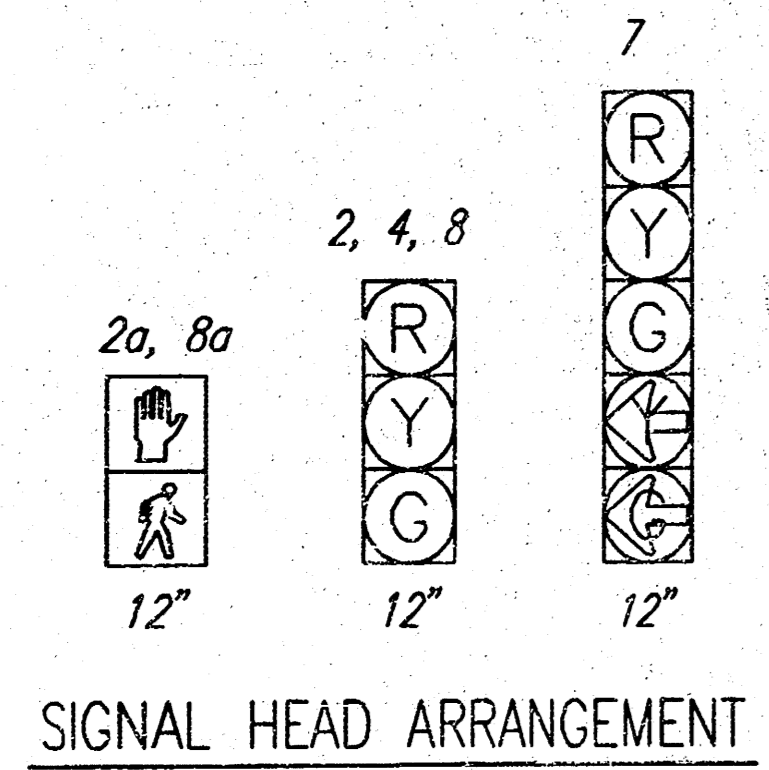
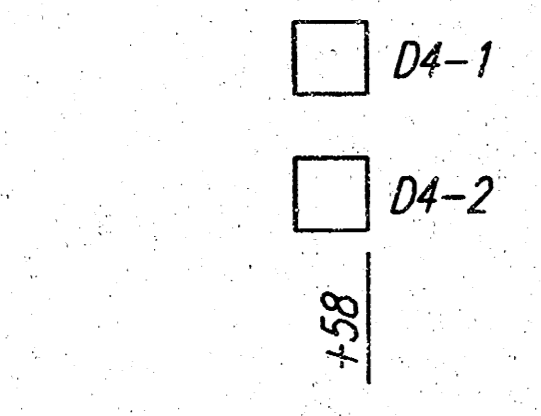
The Traffic Signal Controller shall comply with the requirements defined in the Specifications for a Type 170E Controller with 412b2 prom module and a 400 modem. It shall be furnished and installed with a Model 332 cabinet, 3-type 242 isolator units, 1 video detection unit, 6 switch packs, 2-type 204 flashers, 4 flash transfer relay, and a Model 210P conflict monitor MS or or ECL. The Controller shall also be furnished with WAJKS Verson 58

- LEGEND**
- ☐ Traffic Signal Pole with Mast Arm
 - ☐ Traffic Signal Pedestal
 - ☐ Traffic Signal Camera
 - ☐ Traffic Signal Camera
 - ☐ Luminaire with Arm
 - ☐ Traffic Signal Head
 - ☐ Traffic Signal Head with Backplate
 - ☐ Pedestrian Signal Head
 - ☐ Controller with pad
 - ☐ Service Box (Pre-Fab)
 - ☐ (PHASE) Detector Zone
 - ☐ Detector Zone
 - ☐ R10-12 Sign
 - ☐ Conduit
 - ☐ Signal Phase
 - ☐ Signal Pole Reference Humber
 - ☐ Street Name Sign
 - ☐ Construct Std. Wheelchair Ramp
 - ☐ Concrete Removal
 - ☐ Curb and Gutter Removal



(TYPE A) STANDARD WHEELCHAIR RAMP
WITH DETECTABLE WARNING
CONSTRUCTION DETAIL FOR STREETS
WITH COMBINED CURB & GUTTER

Maize Rd. = Sta. 10+00.00 =
S.E. Corner
Sec. 6, T27S, R1W



| FUNCTION | PHASE | | | | | | | |
|-----------------|-------|------|---|------|---|---|-----|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| MAX. I | - | 30 | - | 80 | - | - | 30 | 80 |
| MAX. II/HFDW | - | 30 | - | 80 | - | - | 30 | 80 |
| WALK | - | 8 | - | - | - | - | - | 8 |
| FLASH DW | - | 25 | - | - | - | - | - | 20 |
| MAX. INITIAL | - | 8.0 | - | 8.0 | - | - | 6.0 | 8.0 |
| MIN. GREEN | - | 10.0 | - | 10.0 | - | - | 6.0 | 10.0 |
| T T R | - | - | - | 25 | - | - | 1.0 | - |
| T T R | - | - | - | 15 | - | - | 1.0 | - |
| OBSERVE GAP | - | - | - | - | - | - | - | - |
| PASSAGE | - | 1.0 | - | 2.0 | - | - | 1.0 | 2.0 |
| MIN. GAP | - | 1.0 | - | 1.0 | - | - | 1.0 | 1.0 |
| ADDED ACTUATION | - | 2.0 | - | 2.0 | - | - | 1.0 | 2.0 |
| YELLOW | - | 3.5 | - | 4.0 | - | - | 3.0 | 4.0 |
| RED CLEAR | - | 2.0 | - | 2.0 | - | - | 1.0 | 2.0 |
| RED REVERT | - | - | - | - | - | - | - | - |
| WALK II | - | - | - | - | - | - | - | - |

The signal shall dwell green in 44 & 48.

| FUNCTION | PHASE | | | | | | | |
|-------------------|-------|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| VEHICLE RECALL | - | - | - | X | - | - | - | X |
| PED RECALL | - | - | - | - | - | - | - | - |
| RED LOCK | - | - | - | - | - | - | - | - |
| YELLOW LOCK | X | - | - | - | - | - | X | - |
| PERMIT | - | X | - | X | - | - | X | X |
| PED PHASES | - | X | - | - | - | - | - | X |
| LEAD PHASES | X | - | X | - | X | - | X | - |
| DOUBLE ENTRY | - | - | - | X | - | - | - | X |
| SEQUENTIAL TIMING | - | - | - | - | - | - | - | - |
| START-UP YELLOW | - | X | - | - | - | - | - | - |
| OVERLAP A | - | - | - | - | - | - | - | - |
| OVERLAP B | - | - | - | - | - | - | - | - |
| OVERLAP C | - | - | - | - | - | - | - | - |
| OVERLAP D | - | - | - | - | - | - | - | - |
| EXCLUSIVE | - | - | - | - | - | - | - | - |
| SIMULTANEOUS GAP | - | - | - | - | - | - | - | - |

| CAMERA NO. | DETECTION ZONE | MODE | SIZE (LxW) | PHASE CALLED | PHASE EXTENDED | DELAY/STRETCH TIMER | INITIAL SETTING (SEC.) |
|------------|----------------|----------|------------|--------------|----------------|---------------------|------------------------|
| 1 | D7-1 | PRESENCE | 60x6 | 7 | 7 | - | - |
| 1 | D4-11a4 | PULSE | 6x6 | 4 | 4 | S | 1.0 |
| 1 | D4-5&6 | PRESENCE | 60x6 | 4 | 4 | - | - |
| 2 | D2-1 | PRESENCE | 60x6 | 2 | 2 | - | - |
| 2 | D2-2 | PRESENCE | 60x6 | 2 | 2 | D | 3.0 |
| 3 | D8-11a4 | PULSE | 6x6 | 8 | 8 | S | 1.0 |
| 3 | D8-5&6 | PRESENCE | 60x6 | 8 | 8 | - | - |
| 3 | D8-7 | PRESENCE | 60x6 | 8 | 8 | D | 3.0 |

SEE SHEET NO. 4 FOR WIRING DIAGRAM

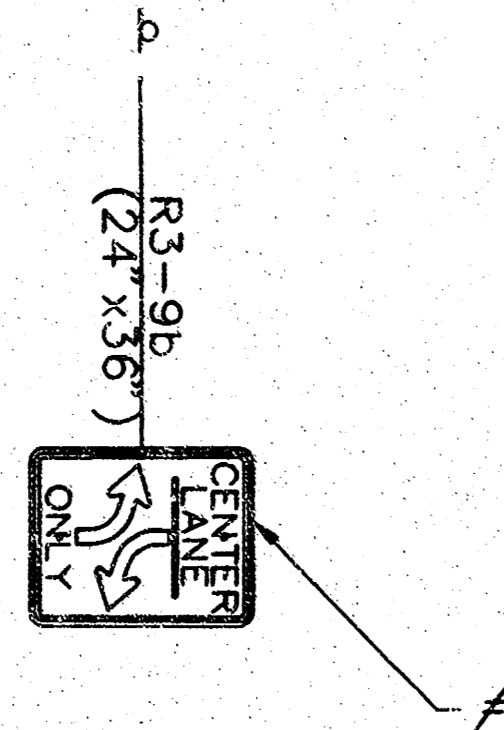
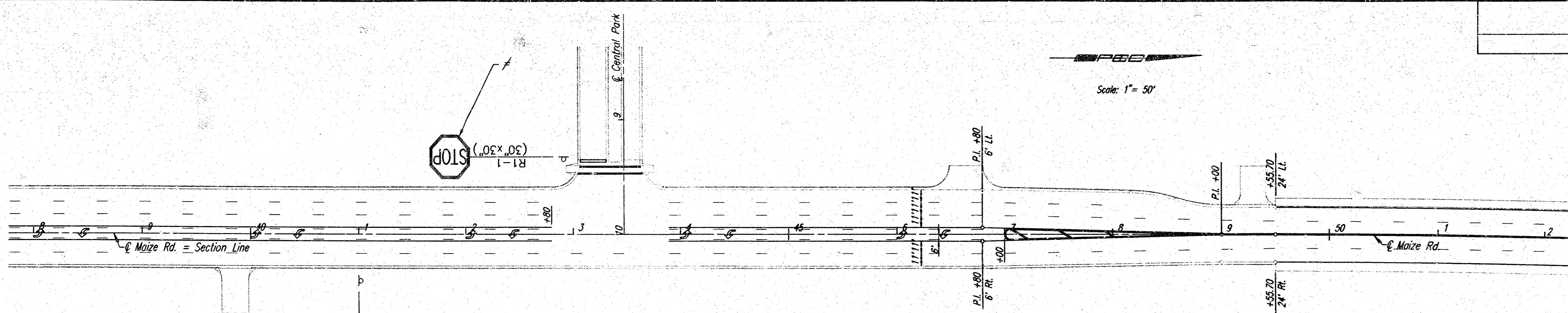
CENTRAL PARK AND MAIZE ROAD

TRAFFIC SIGNAL PLAN

Professional Engineering Consultants, P.A.
303 S. TOPEKA - WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

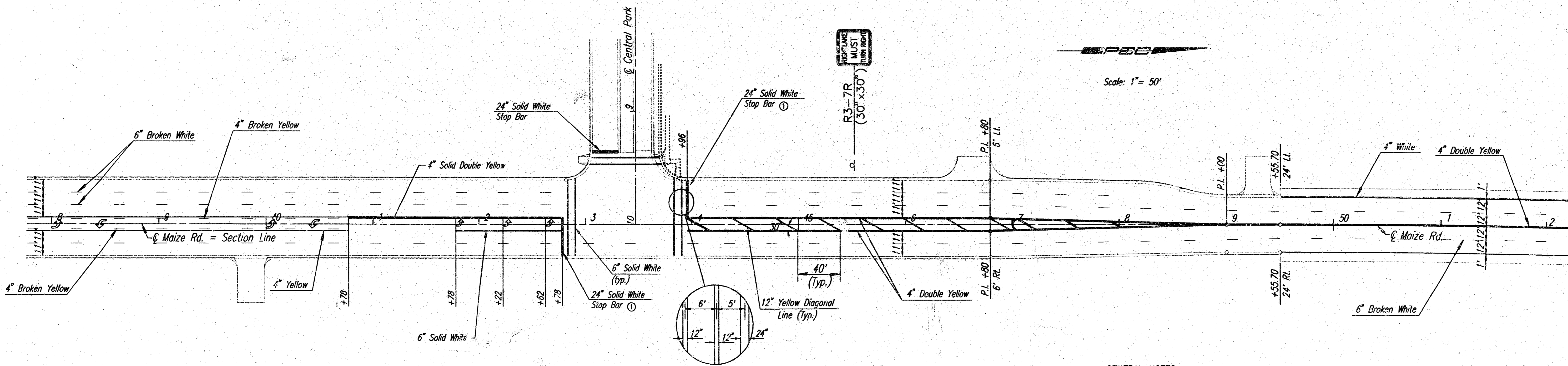
Designed by: BER Checked by: _____
Drawn by: CSL Date: FEBRUARY 2004 Job No. 04094

DSNR: BER OPER. CSI. SCALE: 1"=20.00
01/2004\04094\TrafSignalPlan 03-10-2004 02:39:19 pm



EXISTING MARKING PLANS

Sign and post to be removed by contractor and salvaged. Material to be delivered to City of Wichita Central Maintenance Facility. This work shall not be paid for separately, but shall be considered incidental to "Traffic Signal Installation".



PROPOSED MARKING PLANS

GENERAL NOTES

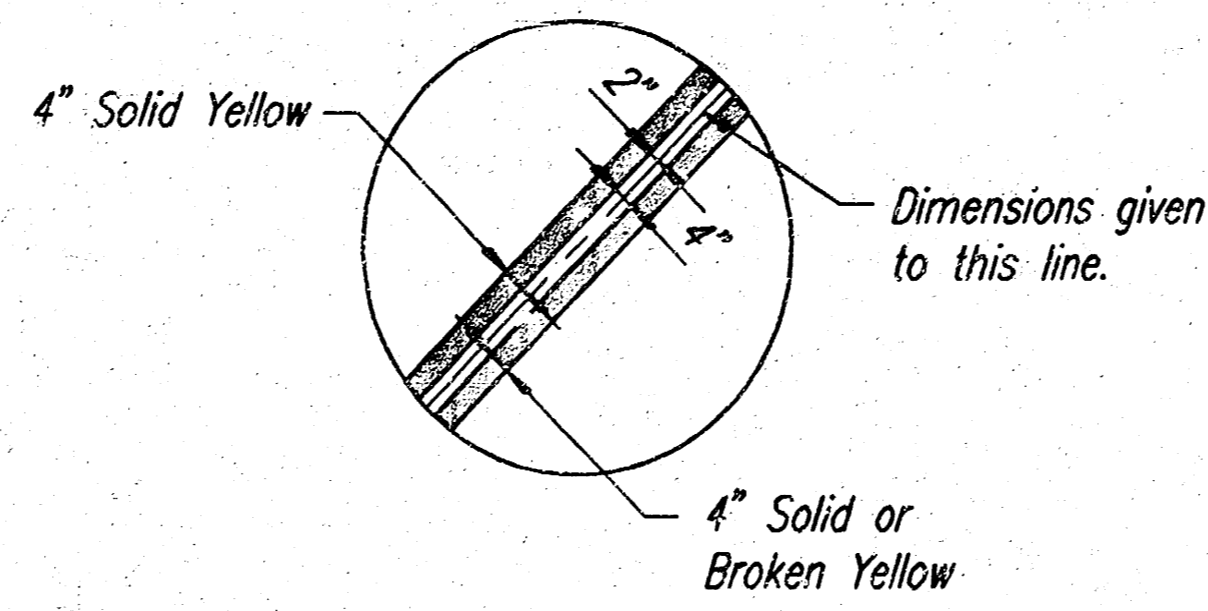
- Striping dimensions are from centerline of stripe to centerline of stripe.
- All single line dimensions are to centerline of stripe.
- All double line dimensions are to center of space between stripes. (See Detail)
- Existing markings consistent with the proposed marking plan shall remain.
- Existing markings which conflict with the proposed marking plan shall be completely removed. Removal methods shall be approved by the Engineer. Removal of existing markings shall be subsidiary.
- * All markings on Bituminous Pavement shall be Thermoplastic Pavement Marking except as noted below.
- ** All symbols and all markings on Concrete Pavement shall be Heat-fused Preformed Thermoplastic Pavement Marking.

Heat-fused Preformed Thermoplastic Pavement Marking placed over a joint line in concrete pavement shall be sliced and removed along the joint edges after placement.

| SUMMARY OF PAVEMENT MARKINGS | | |
|---|-------|----------|
| ITEMS | TOTAL | UNITS |
| PAVEMENT MARKING (THERMOPLASTIC) (WHITE) (6") | 539 | LIN. FT. |
| PAVEMENT MARKING (THERMOPLASTIC) (YELLOW) (4") | 1524 | LIN. FT. |
| PAVEMENT MARKING (THERMOPLASTIC) (YELLOW) (12") | 176 | LIN. FT. |
| PAVEMENT MARKING SYMBOL (THERMOPLASTIC) (WHITE LEFT ARROWS) | 3 | EACH |
| PAVEMENT MARKING (THERMOPLASTIC) (WHITE) (12") | - | LIN. FT. |
| PAVEMENT MARKING (THERMOPLASTIC) (WHITE) (24") | 67 | LIN. FT. |

FOR INFORMATION ONLY - BID ITEM "PAVEMENT MARKING" IS PAID AS LUMP SUM.

① THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE 24" WHITE STOP BARS WITH THE TRAFFIC SIGNAL CONTRACTOR. THE 24" WHITE STOP BARS SHALL NOT BE PLACED UNTIL THE TRAFFIC SIGNAL IS INSTALLED AND FUNCTIONING.



DETAIL OF DOUBLE YELLOW STRIPING

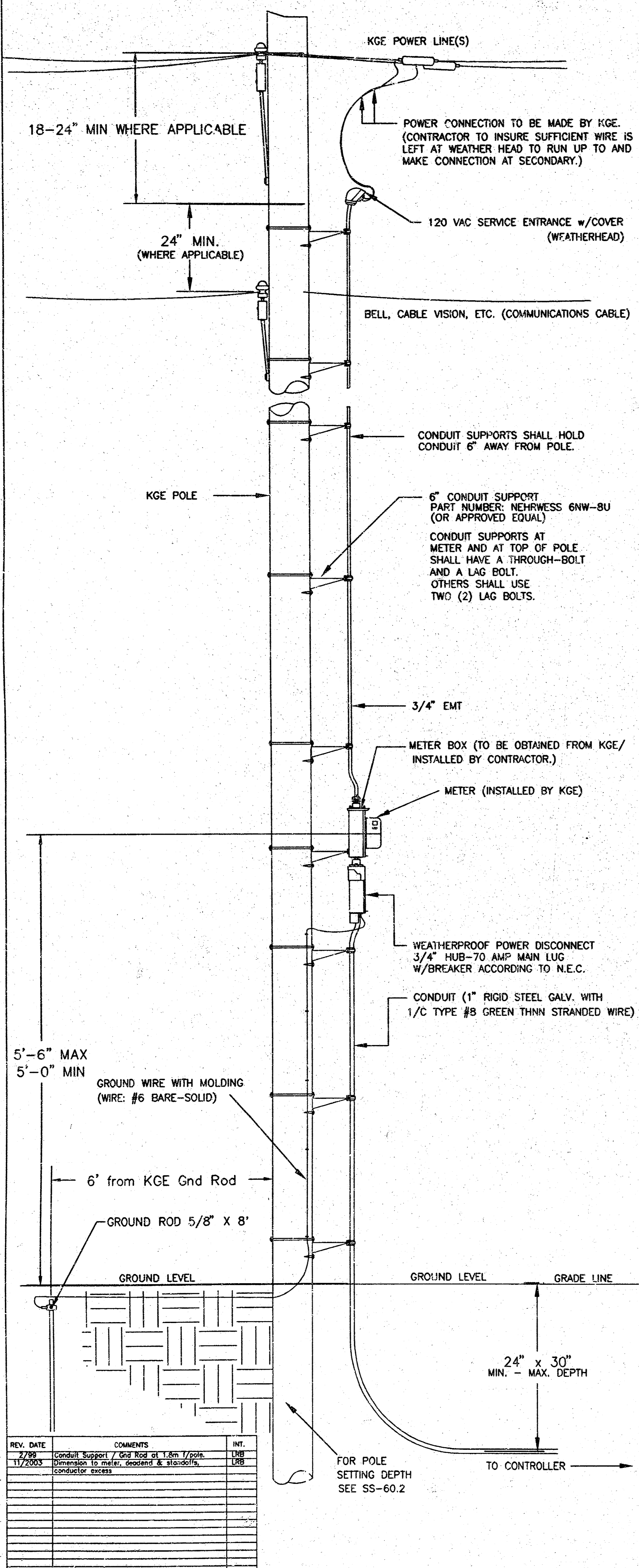
CENTRAL PARK AND MAIZE ROAD

MARKING PLAN

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

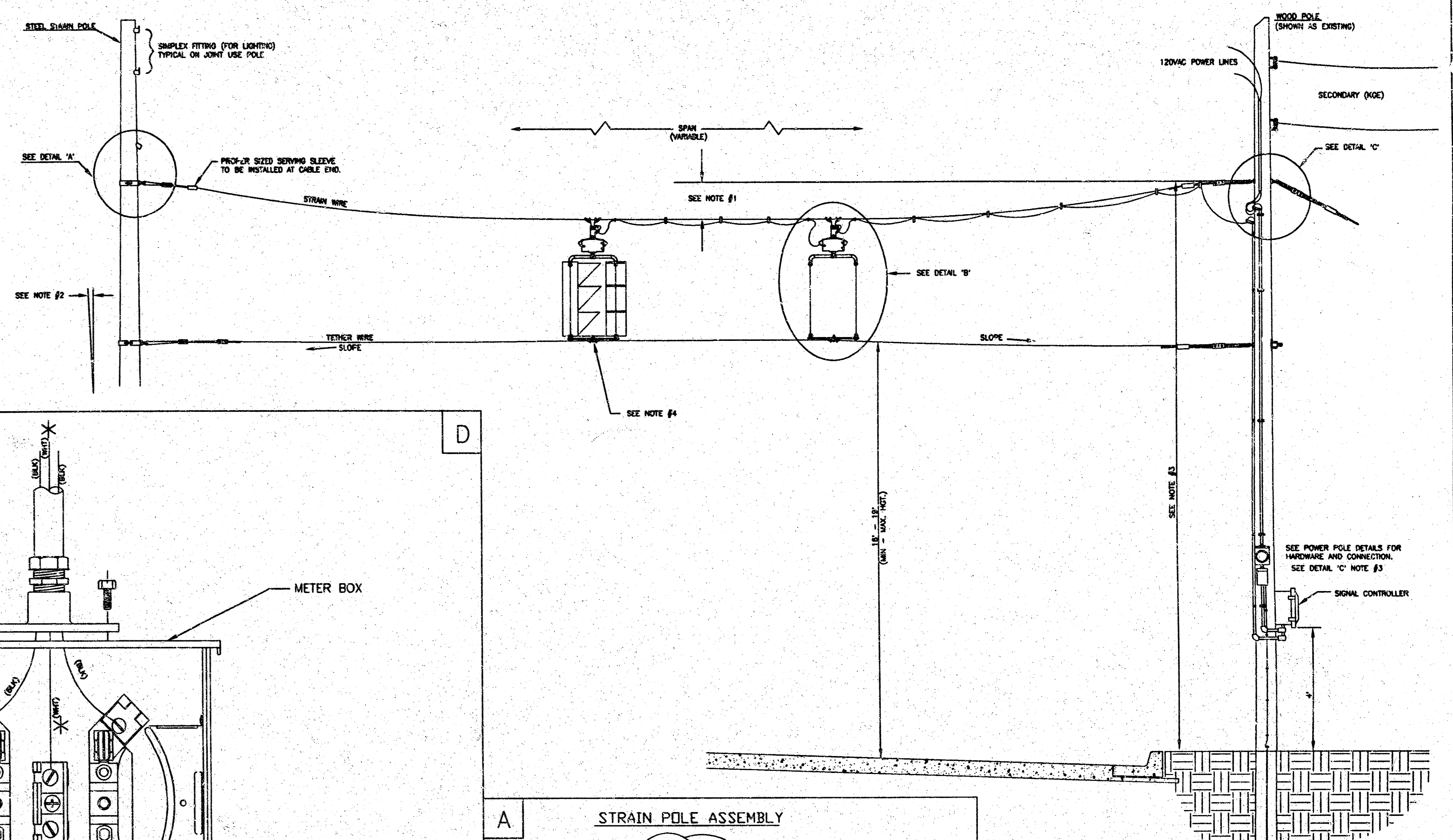
| | |
|--------------------|-----------------------|
| Designed by BER | Checked by |
| Drawn by CSL | Date FEBRUARY 2004 |
| Job No. 35-04094 | |

POWER POLE DETAILS



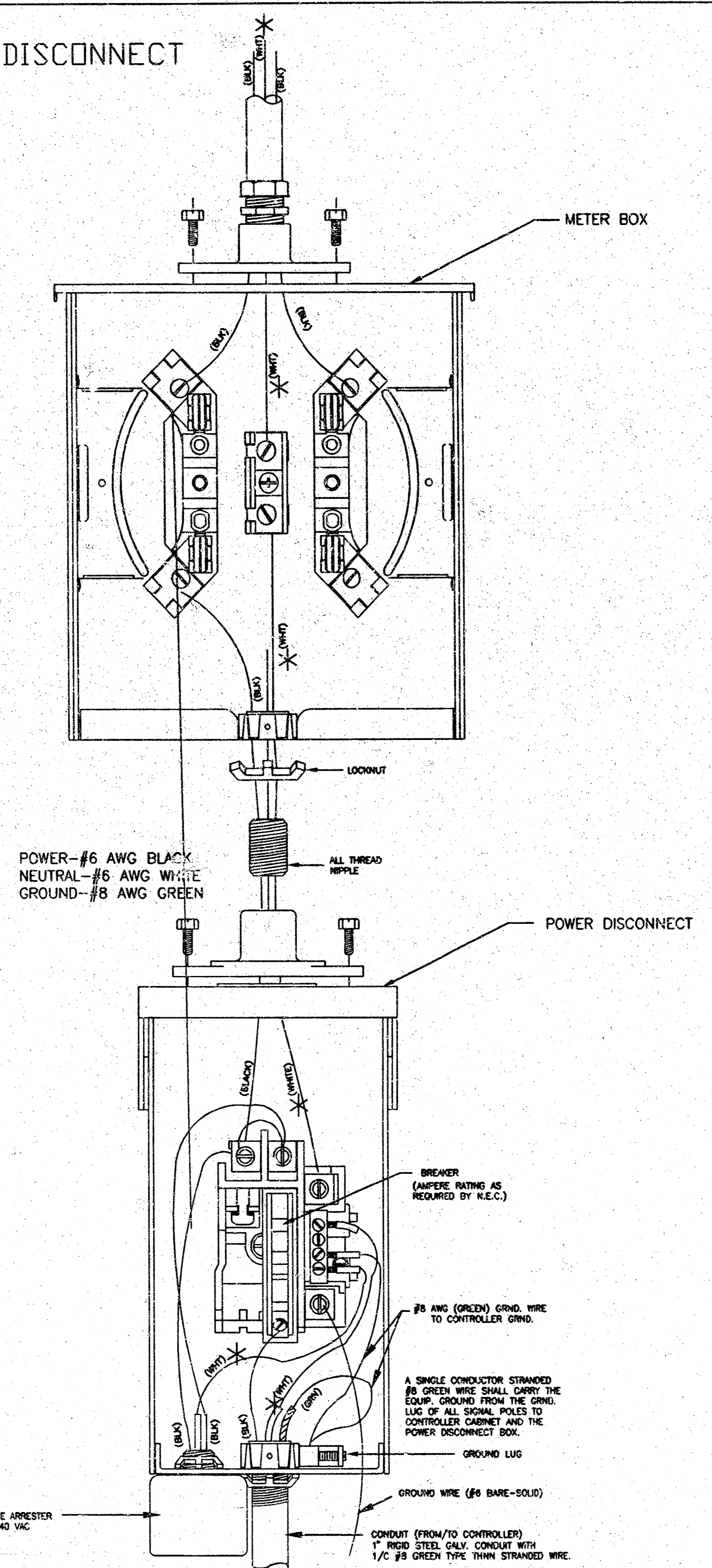
SPANWIRE ASSEMBLY DETAILS

1. MAX. SAG = 5% OF SPAN.
2. STANDARD BACKRAKE = 1.5%
3. HEIGHT OF STRAIN WIRE HOOK-UP TO BE DETERMINED BY FIELD ENGINEER. TRAFFIC SIGNAL CABLE TO BE SECURED TO STRAIN (SPAN) WIRE WEATHERABLE NYLON CABLE HANGERS (12" CTR.) DETAIL 'B'
4. TETHER CLAMP TO BE DESIGNED TO RELEASE UNDER 'HIGH WIND LOAD' TO PERMIT SIGNAL 'FREE SWING'.

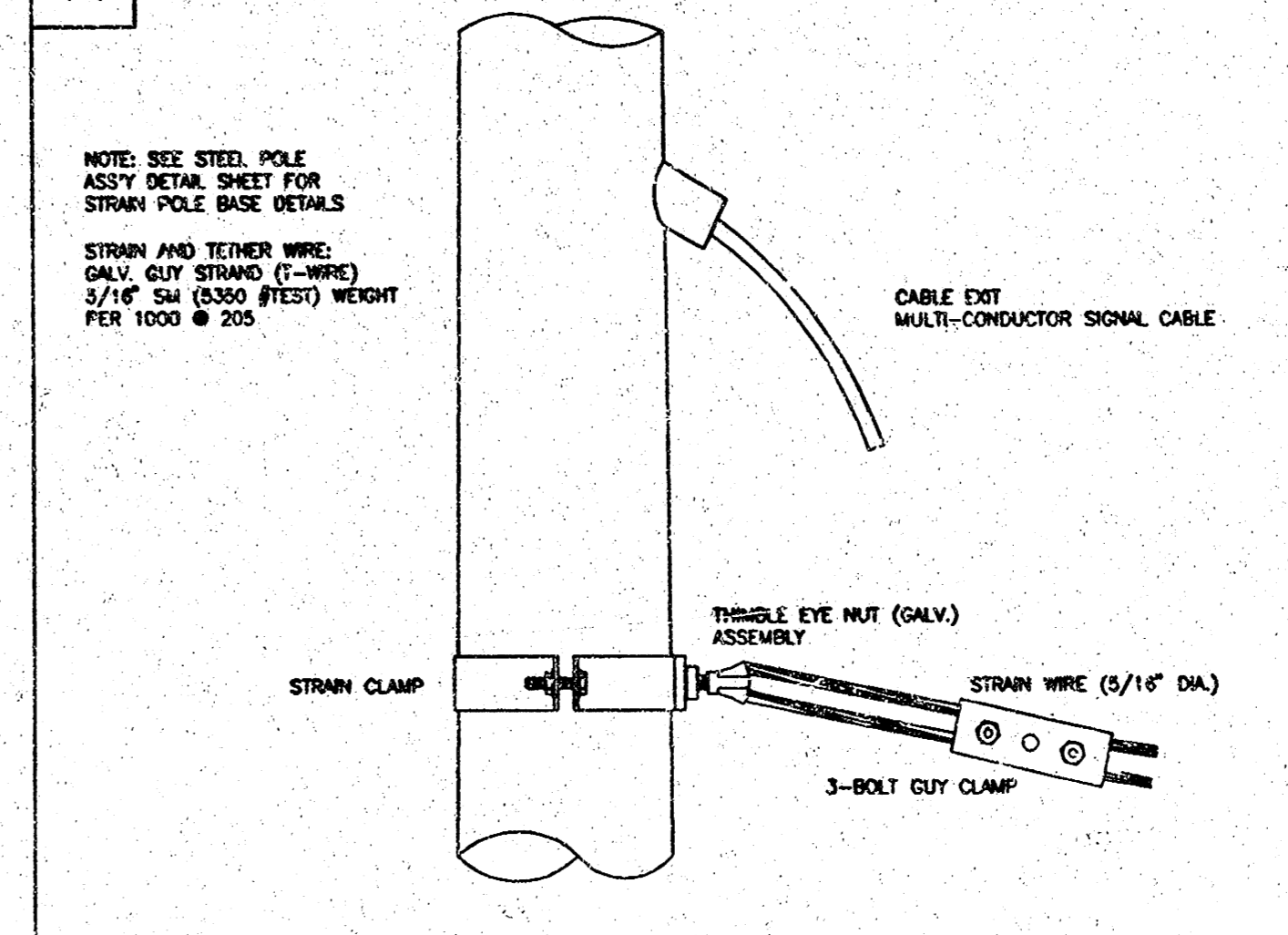


METER BOX & POWER DISCONNECT DETAILS

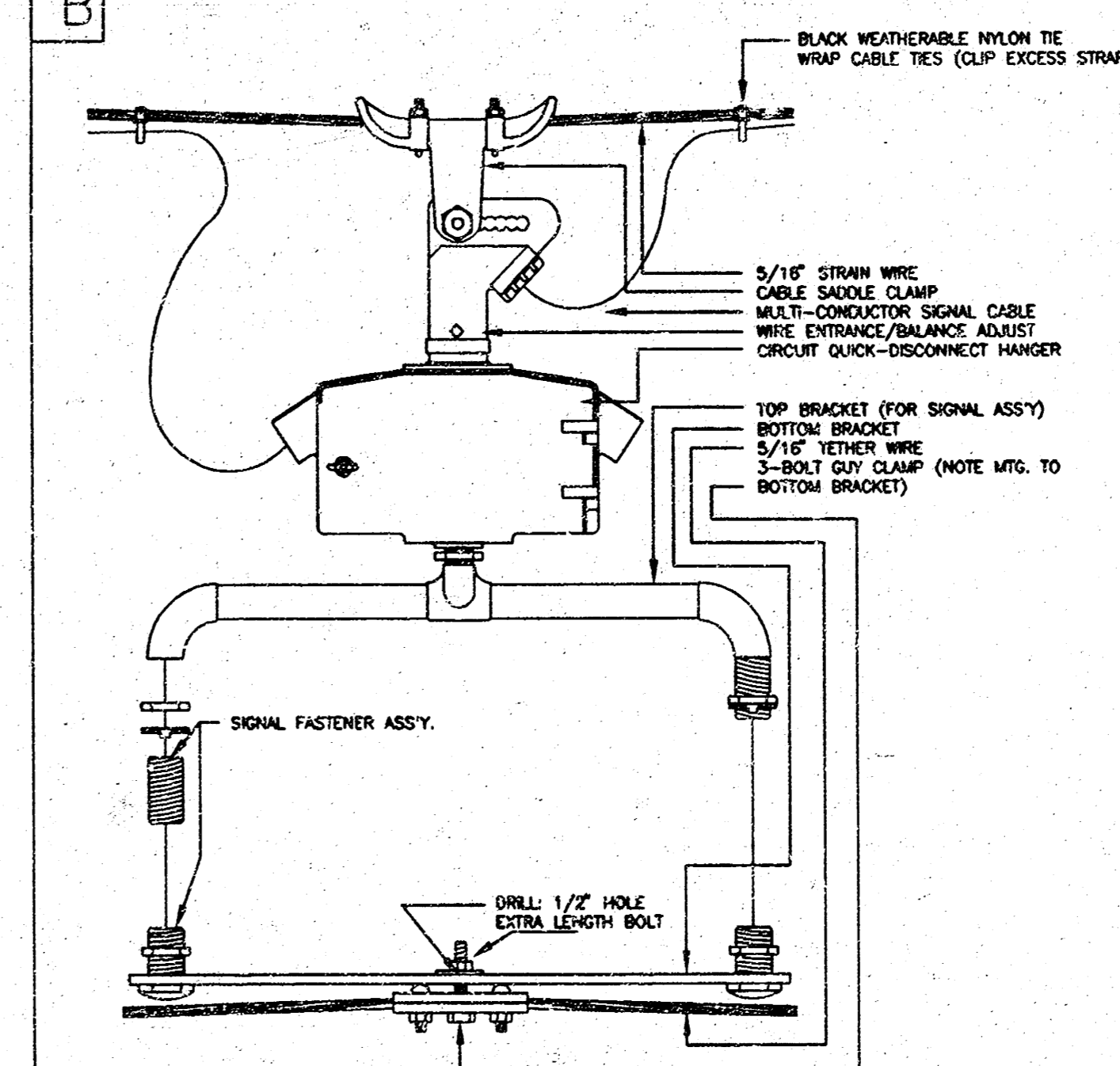
NOTE:
* TO BE MARKED WITH WHITE TAPE



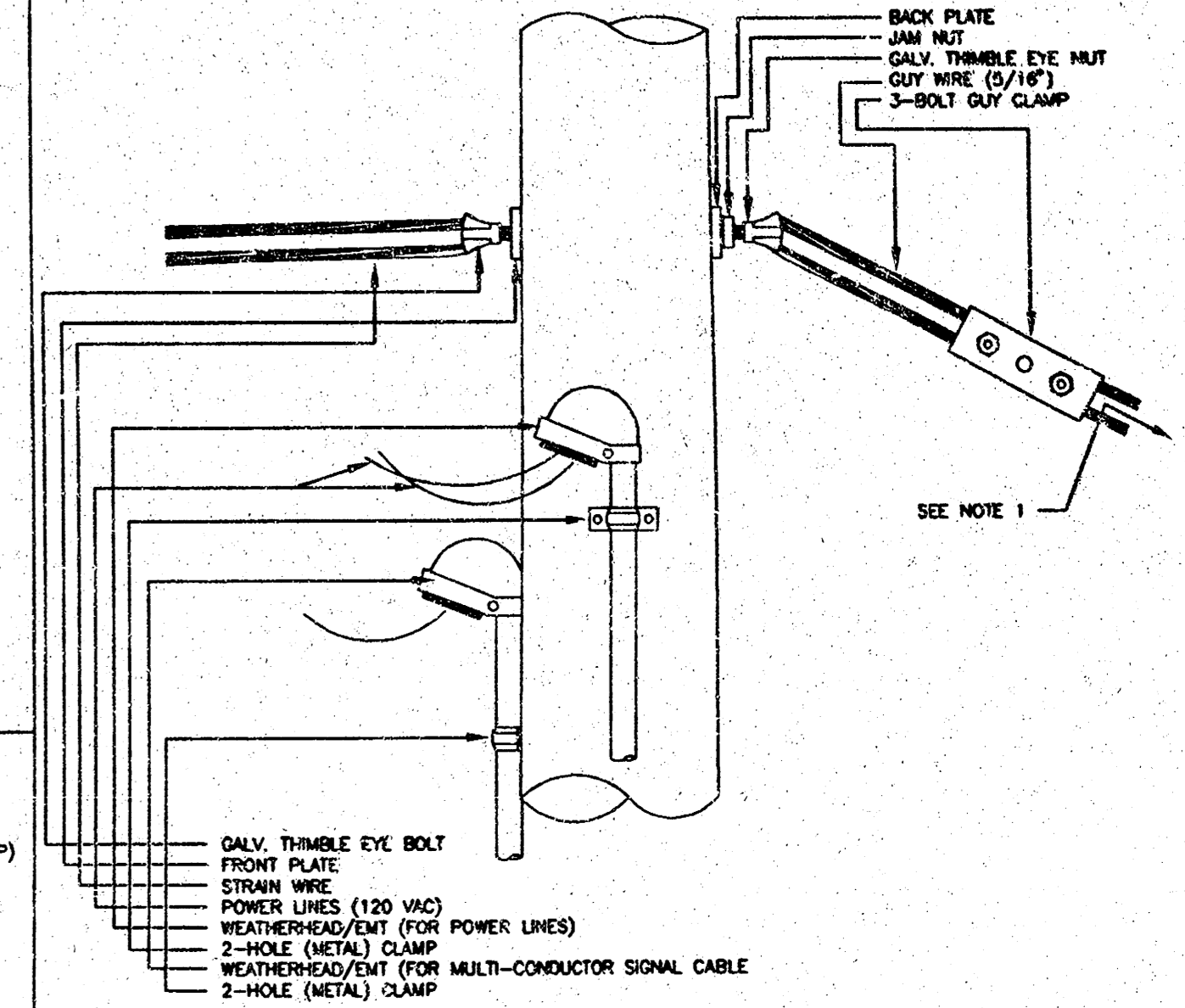
A STRAIN POLE ASSEMBLY



B SIGNAL BRACKET ASSEMBLY DETAILS



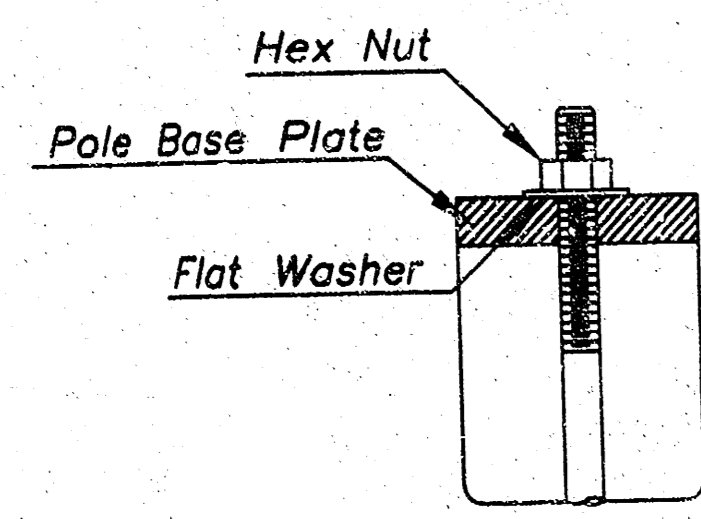
C WOOD POLE ASSEMBLY DETAILS KGE POLE EXCLUDED



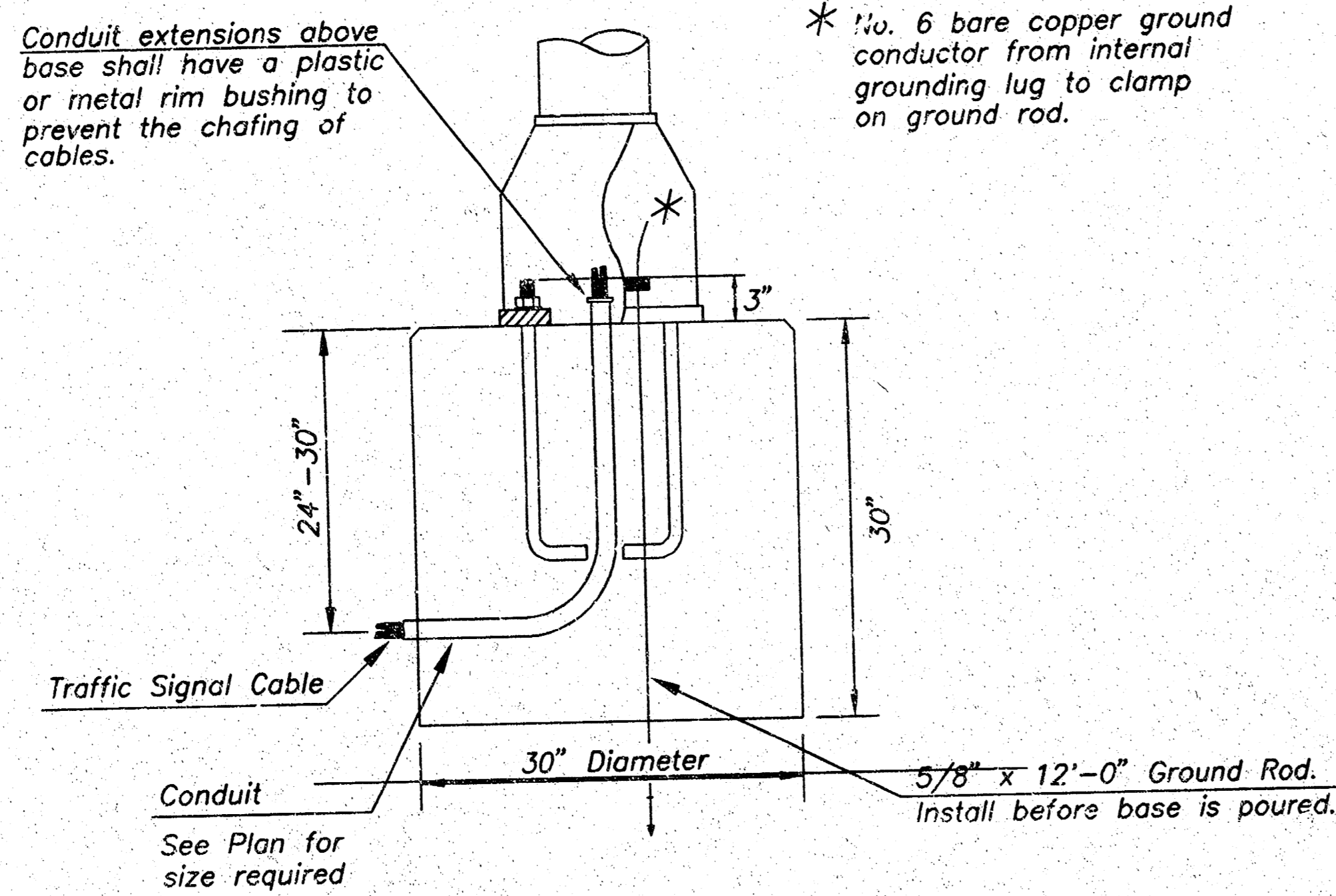
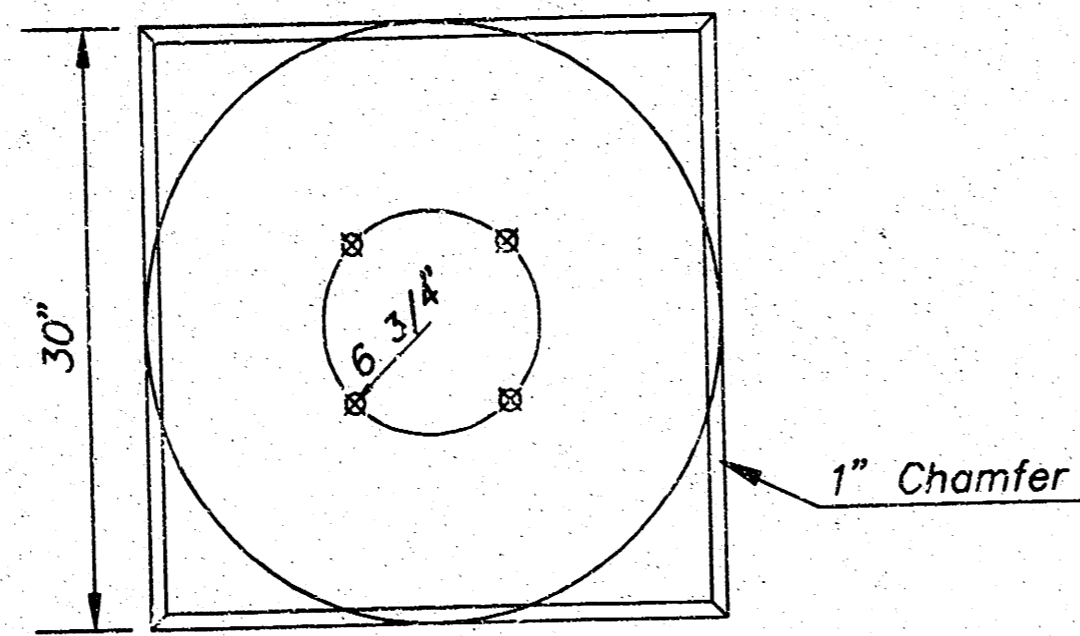
- NOTE:
1. GALV. THIMBLE EYE ANCHOR BOLT AND EXPANDING ANCHOR (NOT SHOWN) TO STABILIZE WOOD POLE (WHERE APPLICABLE).
 2. ANY COMBINATION OF ROUND/THIMBLE EYE BOLTS AND NUTS MAY BE UTILIZED AS APPLICATION MAY VARY. FIELD ENGINEER TO DETERMINE TYPE OF HARDWARE USED.
 3. HARDWARE SHOWN IS TRANSFERABLE TO STEEL POLE IN WHOLE OF PART WHERE STEEL STRAIN POLE IS USED. (POWER, SIGNAL, CABLE, METER, ETC.) FIELD ENGINEER TO MAKE DETERMINATION. STEEL STRAIN POLE APPLICATIONS MAY VARY AS TO MOUNTING ON POLE USE OF CLAMPS, BANDED BRACKETS, ETC. ARE STD. - FIELD ENGINEER TO DETERMINE BEST TYPE APPLICATIONS.

| | | |
|--|-------------------|-------------------|
| CENTRAL PARK AND MAZE ROAD | | |
| POWER POLE AND SPAN POLE ASSEMBLY DETAILS | | |
| PROJECT NUMBER 472-83957 | | |
| DRAWN BY: T.M. | SCALE NO SCALE | REVISED BY: L. B. |
| DATE: FEB. 96 | | DATE: 2/26/99 |
| CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS | | |
| DIVISION OF TRAFFIC ENGINEERING WM. G. MCKINLEY P.E. TRAFFIC ENGINEER | | SHEET 5 OF 9 |

Use Keystone "No-Weld Number 1 Anti-Seize Compound" on all bolts & nuts.

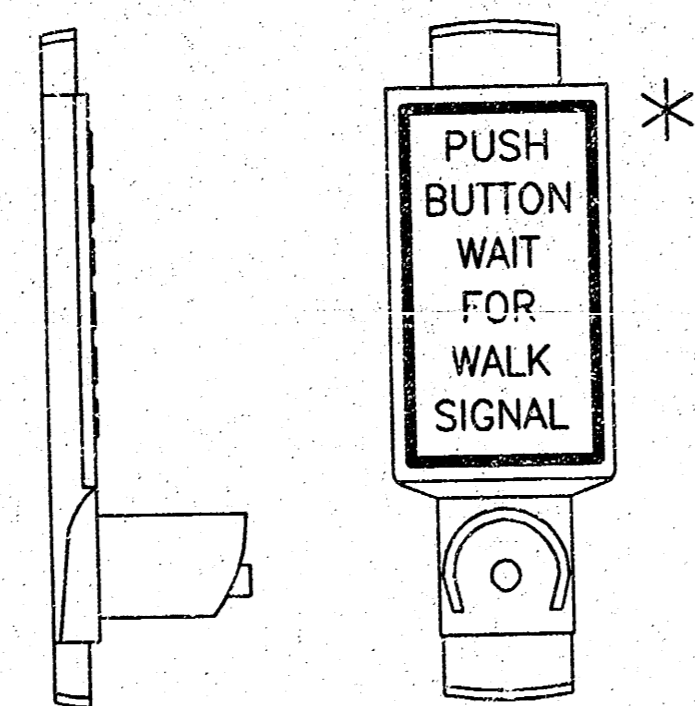


ANCHOR BOLT DETAIL



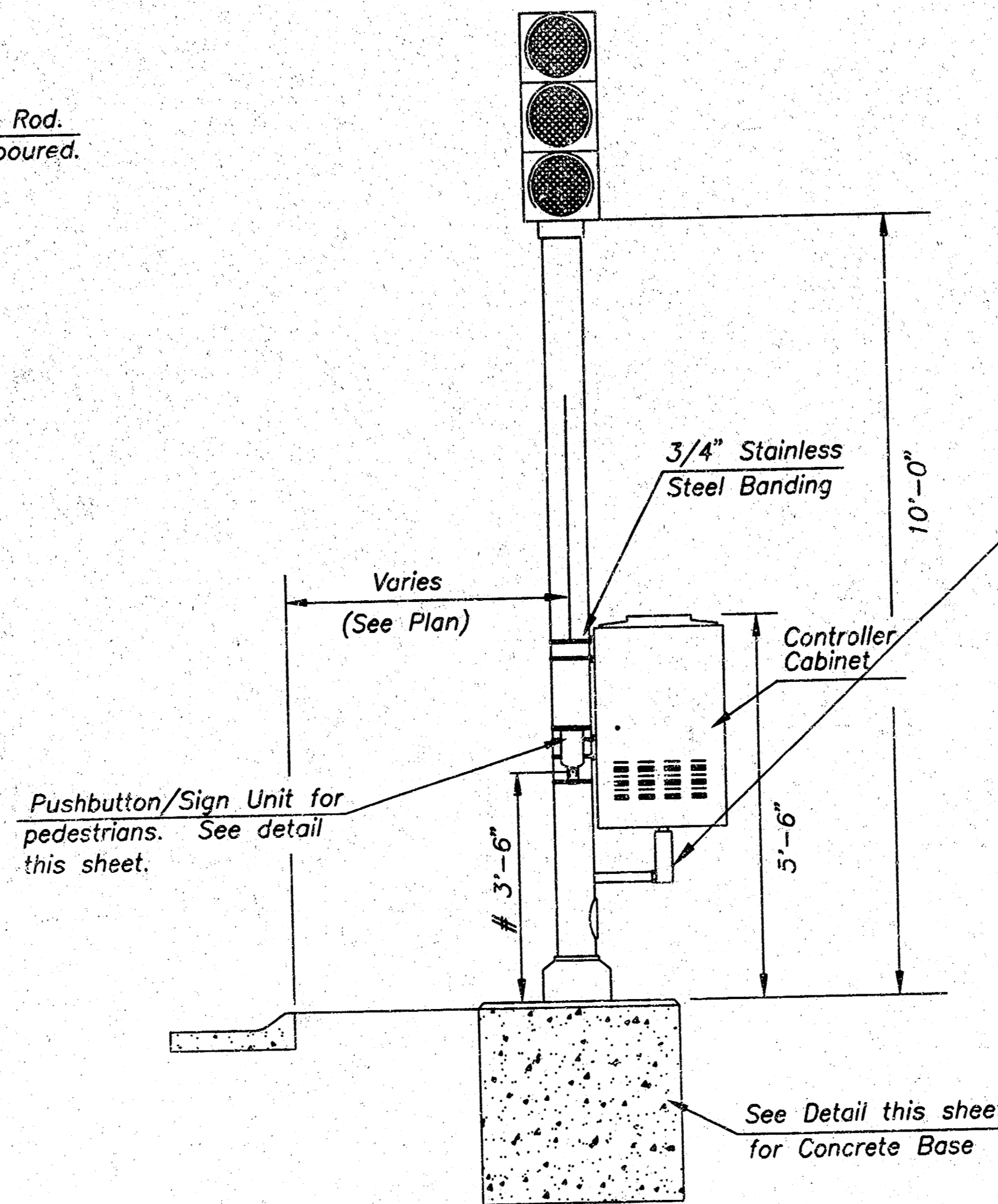
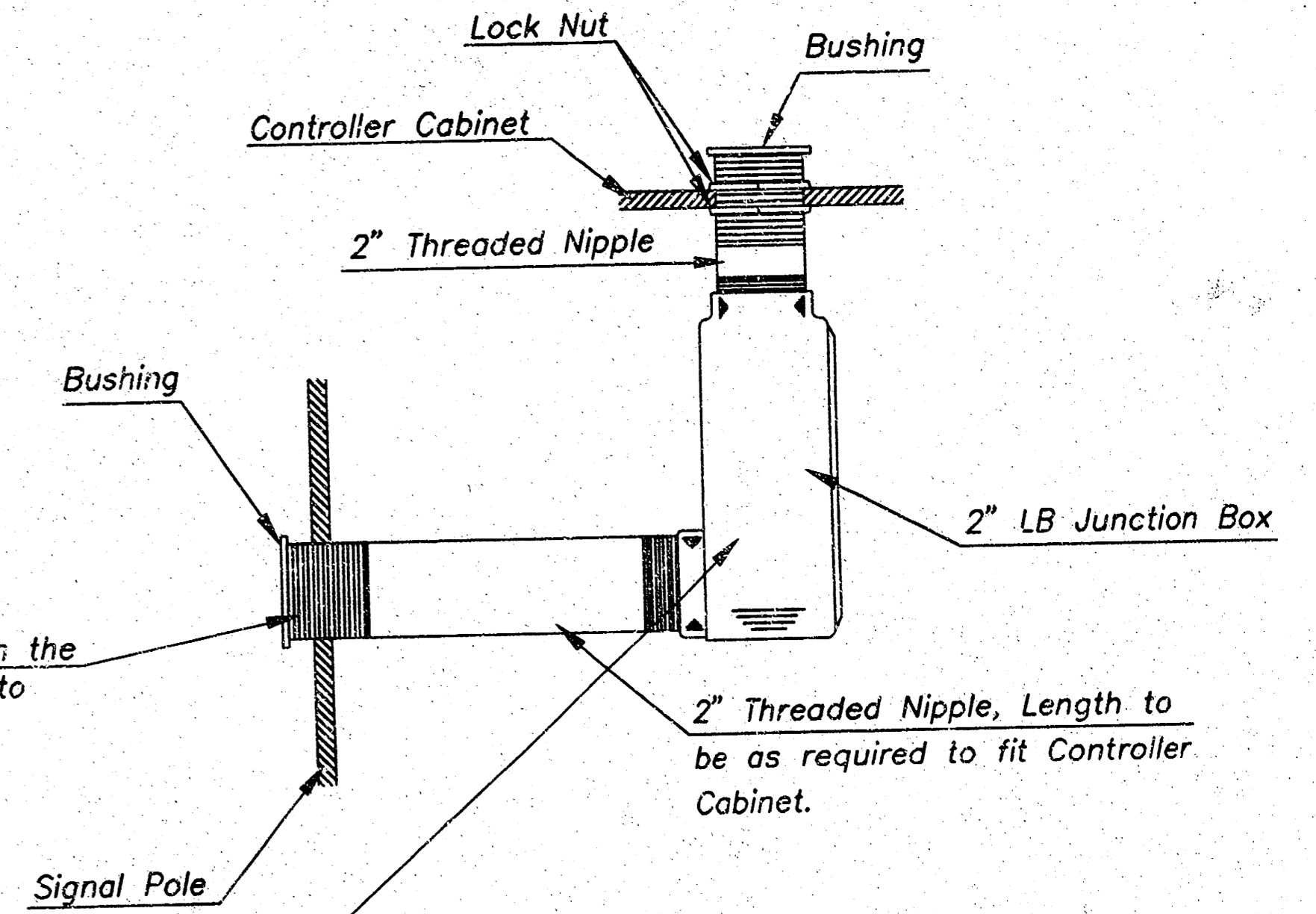
CONCRETE BASE DETAIL

*NOTE: MESSAGE TO BE CAST WITH HOUSING (ONE PIECE)



PEDESTRIAN PUSHBUTTON/SIGN UNIT DETAIL

INSTALL PEDESTRIAN PUSHBUTTON UNDERNEATH CORRESPONDING PEDESTRIAN SIGNAL HEAD ON SIDE OF POLE NEAREST CROSSWALK. UNIT SHALL BE FIRMLY ATTACHED TO THE SIDE OF POLE WITH 3/4" STEEL BANDS. SHARP ENDS SHALL BE FOLDED UNDER TO PREVENT INJURY TO PEDESTRIANS.



TRAFFIC SIGNAL PEDESTAL

From Sidewalk Finish Grade to Center of Pushbutton.

DSNR: BER OPER: CSL SCALE: 1=1.00 02:36:58 pm 01/2004/0409A/PEDESTAL 03-10-2004

| | | | |
|--|---|-------------------|-------------|
| <p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4001 (316) 268-1114 FAX</p> | CENTRAL PARK AND WADE ROAD | | |
| | TRAFFIC SIGNAL PEDESTAL & CONCRETE BASE DETAIL SHEET | | |
| | PROJECT NUMBER 472-83957 | | |
| | DRAWN BY: T.M. | SCALE NO SCALE | REVISED BY: |
| DATE: MAY 97 | | DATE: | |
| CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS | | | |
| DIVISION OF TRAFFIC ENGINEERING WIL. G. MCKINLEY P.E. TRAFFIC ENGINEER | | SHEET 9 OF 9 | |

14-08-80-14