

**APPLICATION AND AGREEMENT FOR USE OF
HIGHWAY RIGHT-OF-WAY FOR UTILITIES ACCOMMODATION**

FOR DEPARTMENT USE ONLY

Permit Number <u>910-2014-034</u>	Highway Number <u>92</u>	County <u>WARREN</u>
DOT Project Number <u>WASX-092-5(61)-3H-91</u>		Expiration/Completion Date <u>9-30-2014</u>

APPLICANT (INDIVIDUAL OR COMPANY)

First Name	Middle	Last Name	Phone Number	Ext.
Company Name Indianola Municipal Utilities			Phone Number (515) 961-9444	Ext.
Street Address P.O. Box 356, 111 South Buxton St.	City/Town Indianola	State IA	ZIP Code 50125	

INSTALLATION TO BE ACCOMMODATED

Approval is hereby requested to enter within the state highway right-of-way for the accommodation of a utility installation as detailed on the attachments and further described as follows.

The installation shall consist of:

Underground electric cable crossing Hwy 92 in (3) - 5" HDPE conduit for transmission of electricity at 69 KV nominal. Method of burial will be directional boring of conduit.

Cables and conduits shall cross hwy 92 at Hwy. Sta. 384+70

Installation of 1 manhole on DOT ROW 125' north centerline at Hwy Sta. 384+72.

Underground cable in concrete encased 3 - 6" duct bank longitudinally run 130' from the centerline on the north side of hwy 92 from the manhole to 387+30 where it enters the IMU substation property. Min. 4' below finished grade

Traffic control plan: TC-202 for Hwy 92 if necessary

See drawing:

E8958-P15, for the plan view.

E8958-P16, for the profile view.

E8958-U120 for manhole details.

and shall be located as shown on the detailed plan attached hereto. (See current Iowa Department of Transportation Utility Accommodation Policy for submittal of detailed plan requirements.)

WORK SITE LOCATION

The proposed work as described above is located in Section 27, Twp. 76N
Range 24W on Highway No. Hwy. 92 generally located 0.0 (miles) within
(direction) from Indianola, IA (city, county line, or other land line). Work proposed is more
specifically located as being from 128+38 (Milepost #) and 384+70 (Highway Station)
to 128+43 (Milepost #) and 387+30 (Highway Station) on the Both side of highway.

Applicant Signature and Agreement

I have read this Agreement, understand its provisions, and agree to abide by it and the utility accommodation policy of the Iowa Department of Transportation

Name of Agent (Print or Type) Bob Miller	Agent/Owner (Signature) 	Title <u>Electric Superintendent</u>
Name of Owner (Print or Type) Indianola Municipal Utilities	<u>Robert Miller</u>	Date <u>4/28/14</u>

CITY ACTION (IF PROPOSED WORK IS WITHIN AN INCORPORATED CITY, CITY ACTION IS REQUIRED)

"The undersigned city joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned city and recommends action on said permit application as noted below by the delegated city official".

Recommend Approval Do Not Recommend Approval None Required

Handwritten Signature 	Title <u>Dir of Com Dev.</u>	Date <u>3-17-14</u>
Type or Print Name <u>CHARLES BUEKIN</u>	Authorized Official for the City of Indianola IA	

COUNTY ACTION (IF PROPOSED WORK CROSSES COUNTY RIGHT-OF-WAY, COUNTY ACTION IS REQUIRED)

"The undersigned county joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned county and recommends action on said permit application as noted below by the delegated county official".

Recommend Approval Do Not Recommend Approval None Required

Handwritten Signature 	Title <u>County Engineer</u>	Date <u>3-19-14</u>
Type or Print Name <u>J. Brian Morrissey</u>	Authorized Official for the County of <u>WARREN</u>	

FOR DEPARTMENT USE ONLY

Special Requirements - in addition to the stipulations below, the following special requirements shall apply to this permit:

FEDERAL HIGHWAY ADMINISTRATION ACTION (WHEN REQUIRED)

Recommend Approval Do Not Recommend Approval None Required

Authorized FHWA Representative Signature

Date

DEPARTMENT OF TRANSPORTATION FINAL ACTION

Application Approved Application Denied

Permit Number: 91U-2014-034

Authorized Highway District Representative
Dale O'Brien

Signature

Date

Notice of intention to start construction or maintenance activities on the highway right-of-way shall be made to:

Local DOT Contact Person (Type or Print Name)
Scott Sommers, P.E.

Phone Number
641-774-5056

Street Address
21922 480th St

City/Town
Chariton

State ZIP Code
IA 50049

AGREEMENTS

The utility company, corporation, applicant, permit holder or licensee, (hereinafter referred to as the Permit Holder) agrees with the Iowa Department (hereafter referred to as Department) that the following stipulations and those special requirements as listed on this page shall govern under this permit.

A. General

1. The installation shall meet the requirements of local municipal, county, state, and federal Iowa franchise rules and regulations, regulations and directives of the Iowa State Commerce Commission; the Department of Natural Resources, all rules and regulations of the Department and any other laws or regulations applicable.
2. The Permit Holder shall be fully responsible for any future adjustments of the facilities within the established highway right-of-way caused by highway construction or maintenance operations.
3. Non-compliance with any of the terms of the Department's policy, permit or agreement, may be considered cause for shut-down of utility construction operations or withholding of relocation reimbursement until compliance is assured, or revocation of the permit. The cost of any work caused to be performed by the State in removal of non-complying construction will be assessed against the Permit Holder.

B. Construction and Maintenance

1. The location, construction and maintenance of the utility installation covered by this application shall be in accordance with the current Department's Utility Accommodation Policy.
2. Before beginning any work in the highway right-of-way, it is the responsibility of the Permit Holder to obtain an easement from the drainage district if necessary. The Department assumes no responsibility for advising the Permit Holder of each location of a drainage district crossing. It is the Permit Holder's responsibility to locate these crossings and obtain any necessary easements or permission from the drainage district. See Code of Iowa, Chapter 468 for additional information.
3. A copy of the approved permit shall be available on the job site at all times for examination by Department officials.
4. All traffic control including sign placement and flagging are the responsibility of the Permit Holder. The original placement of signs and their removal upon completion of the work shall be accomplished by the Permit Holder.
5. Operations in the construction and maintenance of said utility installation shall be carried on in such a manner as to cause minimum interference to or distraction of traffic on said highway.
6. After November 24, 2008, all personnel in the highway right-of-way shall wear ANSI 107 Class 2 apparel at all times when exposed to traffic or construction equipment.

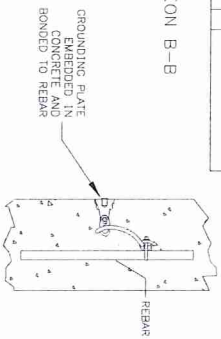
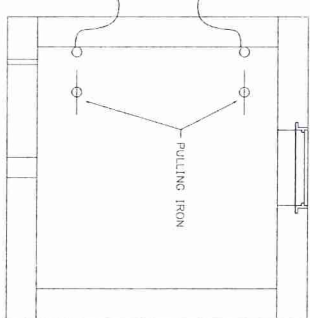
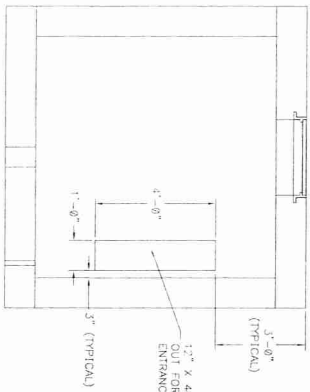
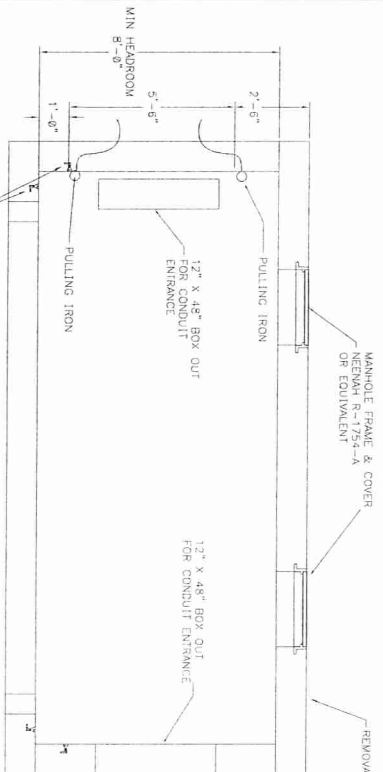
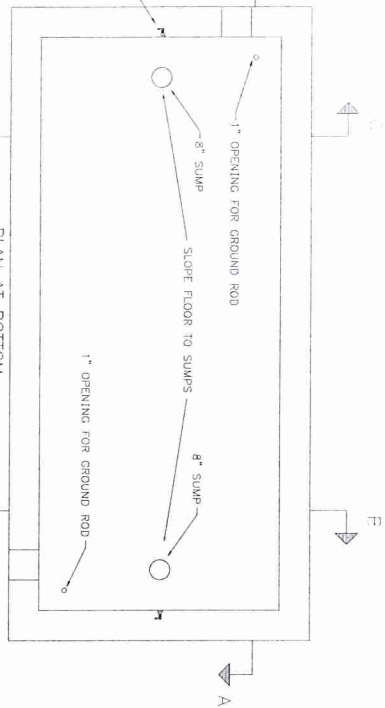
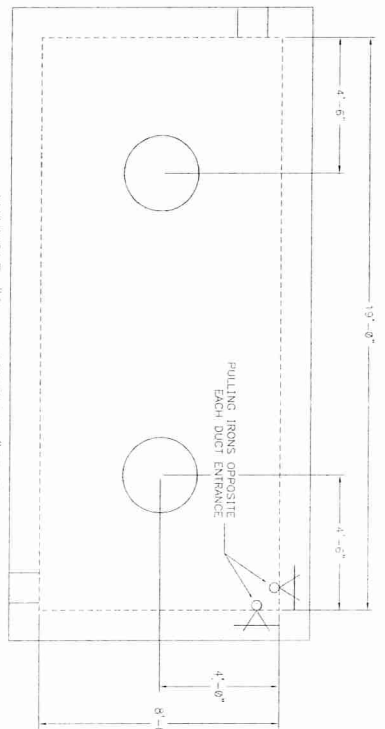
C. Liability

1. The Permit Holder shall indemnify and save harmless the State of Iowa, its agencies and employees, from any and all causes of action, suits at law or in equity, for losses, damages, claims or demands, and from any and all liability and expense of whatsoever nature, arising out of or in connection with the Permit Holder's use or occupancy of the public highway.
2. The state of Iowa and the Department assume no responsibility for damages to the Permit Holder's property occasioned by any construction or maintenance operations on said highway if Permit Holder has been notified in accordance with stipulation number D.3. or if the facilities are not located in accordance with this permit.
3. The State of Iowa, its agencies or employees, will be liable for expense incurred by the Permit Holder in its use and occupancy of the highway right-of-way only when negligence of the State, its agencies or employees, is the sole proximate cause of such expense. Whether in contract, tort or otherwise, the liability of the State, its agencies and employees, is limited to the reasonable, direct expense to repair damaged utilities, and in no event will such liability extend to loss of profits or business, indirect, special, consequential or incidental damages.

D. Notification

1. The Permit Holder is responsible for contacting Iowa One-Call (1-800-292-8989) and request the location of any underground utilities forty-eight (48) hours before excavation. Before beginning work in the highway right-of-way, the Permit Holder shall also contact any other known utility located in the area of the proposed work.
2. The Permit Holder agrees to give the Department forty-eight hours notice of its intention to start construction or to perform routine maintenance on the highway right-of-way. Said notice shall be made to the contact person whose name is shown on this page.
3. The Department shall give the Permit Holder at least forty-eight hours notice of any proposed construction or maintenance work, on either existing or newly acquired right-of-way when the proposed work will be ten feet of a utility location as previously approved by the Department by permit or written agreement. The Permit Holder shall be responsible within this time frame to arrange to protect its facilities.

Disclosure Statement: The information furnished on this form will be used by the Department of Transportation to determine approval or denial of the application. Failure to provide all information will result in denial of the application. Information furnished is public information and copies may be provided to the public upon request.



SECTION A-A
(LOOKING EAST)

SECTION C-C

SECTION B-B

- FABRICATION NOTES
1. MANHOLE DESIGN SHALL BE SUITABLE FOR INSTALLATION ALONG STATE HIGHWAYS AND WITH REQUIREMENTS OF AASHTO H-20.
 2. PROVIDE PULLING EYES (CONDUX GREAS 101 OR EQUIVALENT) AND MANHOLE FRAMES & COVERS AS NOTED.
 3. PROVIDE KNOCKOUT AREAS AS NOTED. KNOCK OUT AREAS SHALL BE VOID OF REBAR AND SHALL HAVE NO MORE THAN A 3" THICKNESS OF CONCRETE.
 4. PRE-CAST SUPPLIER IS RESPONSIBLE FOR STRUCTURAL DESIGN OF MANHOLE.
 5. SEE SPECIFICATION PARAGRAPH 17.0 IN SECTION 167222 FOR ADDITIONAL REQUIREMENTS.

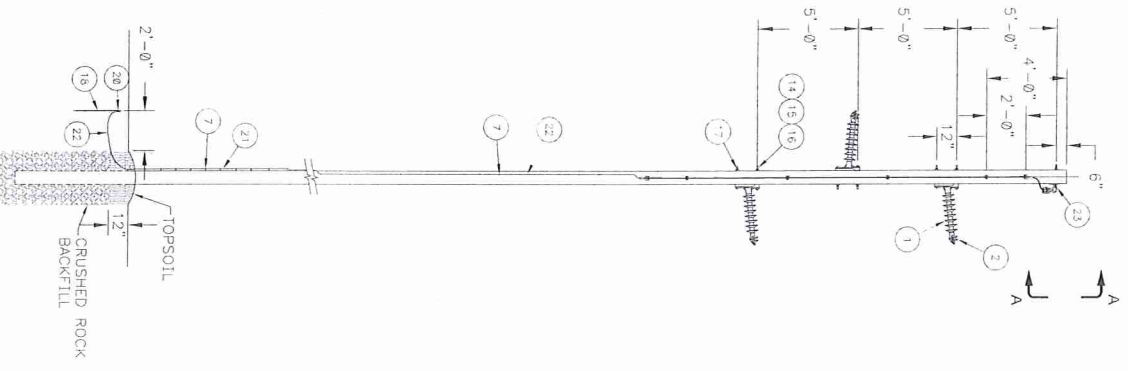
PRELIMINARY
NOT FOR CONSTRUCTION

REV	DATE	BY	CHKD	DESCRIPTION
1	01-08-12	DMC	DMC	DESIGN
2	01-08-12	DMC	DMC	REVISED

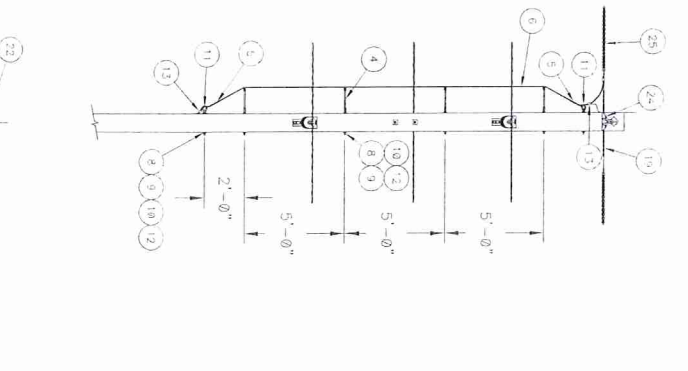
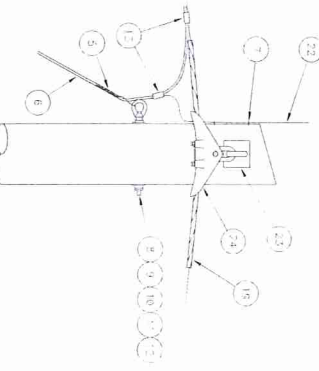
INDIANOLA MUNICIPAL UTILITIES
 HOHMAN 92 DOT PROJECT
 PREFABRICATED MANHOLE CONSTRUCTION LOCATION 02UG

DATE: 01-08-12
 DESIGNED BY: DMC
 APPROVED BY: DMC

INDIANOLA MUNICIPAL UTILITIES
 HOHMAN 92 DOT PROJECT
 PREFABRICATED MANHOLE CONSTRUCTION LOCATION 02UG
 SCALE: AS NOTED
 REV: 8
 DMC NO: E8958-U120



VIEW A-A
NOT TO SCALE



159-021
69KV TANGENT STRUCTURE, T3 CONDUCTOR

ITEM	QTY	UNIT	DESCRIPTION
1	2	EA	INSULATOR, 100KZ LINE POST, 69 KV, GAIN BASIC CLAMP TOP, 1225 LB RCL
2	1	EA	INSULATOR, 100KZ LINE POST, 69 KV, GAIN BASIC CLAMP TOP, 1225 LB RCL
3	2	EA	INSULATOR, 100KZ LINE POST, 69 KV, GAIN BASIC CLAMP TOP, 1225 LB RCL
4	4	EA	INSULATOR, 100KZ LINE POST, 69 KV, GAIN BASIC CLAMP TOP, 1225 LB RCL
5	2	EA	INSULATOR, 100KZ LINE POST, 69 KV, GAIN BASIC CLAMP TOP, 1225 LB RCL
6	25	EA	CRIP (END-END), PREFORMED, 1/8" ACSF, AWC, 444C
7	40	EA	CONDUCTOR, #1/8" ACSF, BARE
8	6	EA	SHARL, ROUND WIRE, 2" X 5/8"
9	17	EA	ROIT, DOUBLE ABATING, 5/8" GALVANIZED, VARIOUS LENGTHS
10	6	EA	WASHER, SQUARE, FLAT 5/8" GALVANIZED
11	2	EA	LOCKNUT, 5/8" GALVANIZED
12	3	EA	WASHER, SQUARE, FLAT 5/8" GALVANIZED
13	5	EA	CONNECTOR, AL COMPRESSION, H-TA, VARIOUS SIZES
14	6	EA	BOLT, MACHINE, 3/4" GALVANIZED, VARIOUS LENGTHS
15	6	EA	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"
16	6	EA	LOCKNUT, 3/4" GALVANIZED
17	6	EA	WASHER, TWIN COILS, 3/4"
18	1	EA	POD, ROUND, 5/8" X 1.8, COPPERWELD, THREADED RECTANGULAR
19	1	EA	POD, ROUND, 5/8" X 1.8, COPPERWELD, THREADED RECTANGULAR
20	1	EA	POD, ROUND, 5/8" X 1.8, COPPERWELD, THREADED RECTANGULAR
21	8	EA	MOLDING, GROUND WIRE, 1.2" ELASTIC
22	59	EA	WIRE, #4 SOLID COPPER, SD BASE
23	1	EA	SUPPORT, SHIELD WIRE, SIDE MOUNTED, 5/8" X 12"
24	1	EA	CLAMP, SUSPENSION, 3/8" EHS (WITH ANKOR ROD)
25	7	EA	DAMPER, VIBRATION, SPIRAL, 0.577-0-40"

PRELIMINARY
NOT FOR CONSTRUCTION

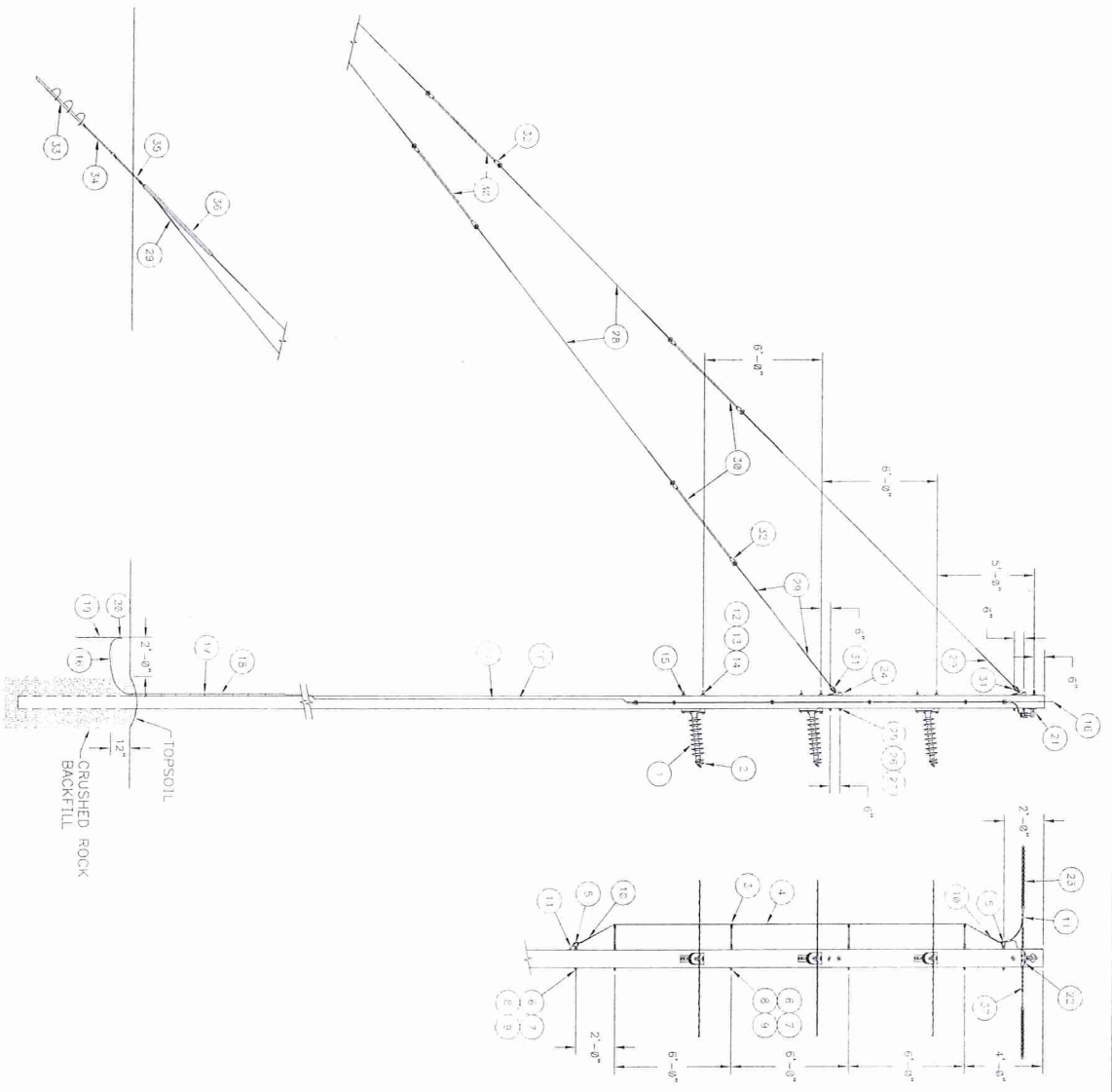
REV	DATE	BY	CHKD	APP	DESCRIPTION
1	01-11-11	WJC	WJC		

J. N. E. ENGINEERING CO.
1000 N. 10th St.
Tulsa, Oklahoma 74103
Phone: 918-438-1111
Fax: 918-438-1112
www.jne.com

DATE	SCALE	REV
05-16-12	NONE	A

DESIGNED: F&L
DRAWN: MJB
APPROVED: JWE
69KV TANGENT STRUCTURE T3 CONDUCTOR

SCALE: NONE
REV: A
DWG NO: 159-021



ITEM	QTY	MAID	UNIT	DESCRIPTION
1	3	16680	EA	INSULATOR HREQ 11NF POST 69 KV GAIN PASF CLAMP TOP 1225 LB ROT
2	2	16192	EA	CLAMP FRUITION CLAMP TOP 266-12 1472-15 ACSF8
3	2	16810	EA	INSULATOR DOWN LEAD FIBERGLASS 5/8" X 2'
4	2	16810	EA	CONDUCTOR #1 GALV. PLATE
5	6	12542	EA	BOLT SQUARE ANCHOR 5/8" GALVANIZED VARIOUS LENGTHS
6	12	12193	EA	WASHER SQUARE FLAT 5/8" GALVANIZED
7	12	12542	EA	LOCKNUT 5/8" GALVANIZED
8	6	12542	EA	WASHER 1/2" COILS 5/8"
9	6	12542	EA	WASHER 1/2" COILS 5/8"
10	2	14205	EA	SNIP, DEVG-CNS, PERFORMER 1/8" ACSF, VAG. A/C
11	3	14205	EA	CONNECTOR, 4L COMPRESSION, H-7R, VARIOUS SIZES
12	6	12542	EA	BOLT, MACHINE, 3/4" GALVANIZED, VARIOUS LENGTHS
13	6	12542	EA	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"
14	6	12542	EA	LOCKNUT, 3/4" GALVANIZED
15	6	12510	EA	WASHER, TWIN COILS, 3/4"
16	6	0266	EA	WIRE, #4 SOLID COPPER, SD SHAE
17	48	17550	EA	START, GROUND WIRE, 1/2" X 5/8"
18	8	16410	EA	ROD, SCHEDULE 30/8 X 10' COPPERWELD, THREADED SECTIONAL
19	1	18282	EA	CLAMP, COMPRESSION, 5/8" FEM, (RHTLN HANGUP HO)
20	21	18158	EA	CLAMP, COMPRESSION, 5/8" FEM, (RHTLN HANGUP HO)
21	1	18282	EA	CLAMP, COMPRESSION, 5/8" FEM, (RHTLN HANGUP HO)
22	1	18282	EA	CLAMP, COMPRESSION, 5/8" FEM, (RHTLN HANGUP HO)
23	2	10751	EA	PLATE, POLE EYE, 5"
24	2	10201	EA	BOLT, MACHINE, 7/8", VARIOUS LENGTHS
25	4	12005	EA	WASHER, SQUARE, CURVED, GALVANIZED, 7/8"
26	4	12405	EA	LOCKNUT, 7/8", GALVANIZED
27	4	12405	EA	WIRE, GUY, 7/16" 7 STR, CLASS A GALVANIZED, EHS STEEL
28	120	05702	EA	SNIP, GUY, PERFORMED, 7/16"
29	2	16282	EA	INSULATOR, GUY, FIBERGLASS, 5/4", 36000 POUND, 3/4" PINS, ONE ROLLER
30	4	16282	EA	INSULATOR, GUY, FIBERGLASS, 5/4", 36000 POUND, 3/4" PINS, ONE ROLLER
31	2	16511	EA	ROLLER, GUY, 13/16" X 2-3/8" DIA, 3/4" PIN
32	4	16511	EA	ANCHOR, 8-10" TRIPLE HELIX
33	1	18212	EA	ROD, ANCHOR, 1-1/2" X 5"
34	2	18212	EA	ROD, ANCHOR, 1-1/2" X 5"
35	1	18212	EA	ROD, ANCHOR, 1-1/2" X 5"
36	1	18212	EA	ROD, ANCHOR, 1-1/2" X 5"

DATE	09-16-12	SCALE	NONE	REV	A
DESIGNED	DRB	APPROVED	APB	DATE	07-20-11
DRAWN	MBS	DATE	07-20-11	REV	A
APPROVED	JWC	DATE	07-20-11	REV	A
APPROVED	APB	DATE	07-20-11	REV	A

69KV LIGHT ANGLE-GUYED T2 CONDUCTOR

T69-022

SCALE: NONE

REV: A

DWG NO: T69-022

DATE: 09-16-12

DESIGNED: DRB

DRAWN: MBS

APPROVED: APB

APPROVED: JWC

APPROVED: APB

DATE: 07-20-11

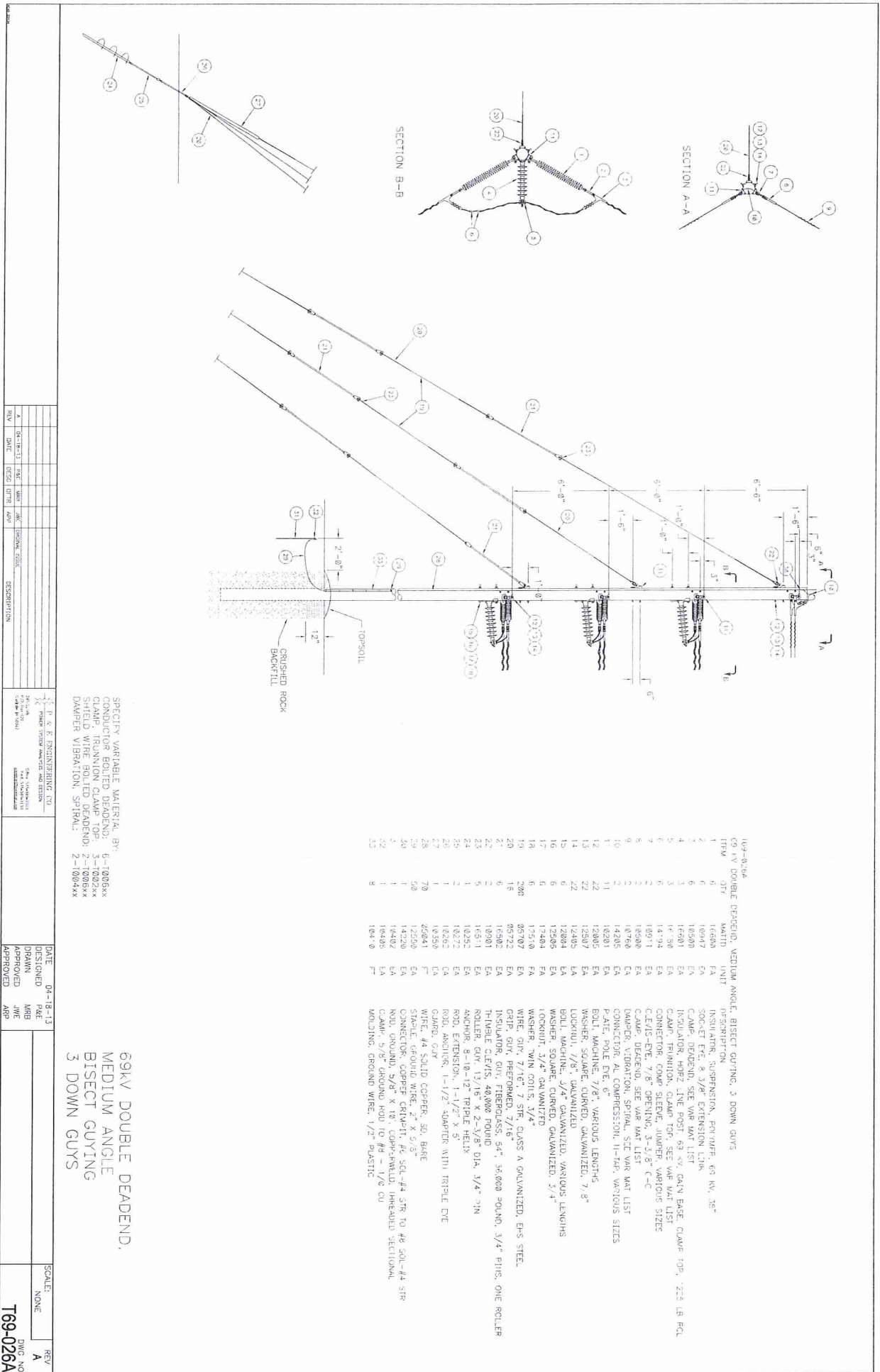
REV: A

DATE: 07-20-11

REV: A

DATE: 07-20-11

REV: A



69KV DOUBLE DEADEND,
MEDIUM ANGLE
BISECT GUYING
3 DOWN GUYS

REV	DATE	BY	CHKD	DESCRIPTION
A	04-18-13	MBB	JMC	DESIGN
				APPROVED

DATE	SCALE	REV
04-18-13	NONE	A

169-026A

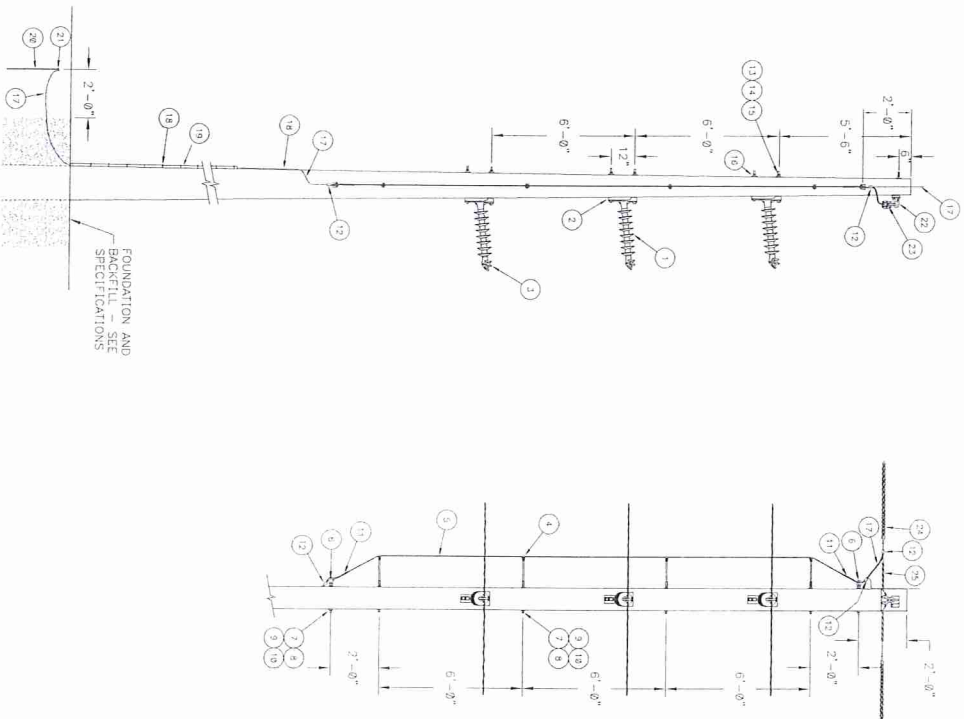
ITEM	QTY	DESCRIPTION	UNIT
1	6	INSULATOR, SUSPENSION, EGYPTIAN, 60 KV, 35"	EA
2	6	SOCKET EYE, 3/4" EXTENSION LINK	EA
3	6	CAMP, DEADEND, SEE WIRE MAT LIST	EA
4	3	INSULATOR, HORIZ. LINE POST, 69 KV, GAIN BASE, CLAMP TOP, 225 LB PCL	EA
5	3	CAMP, TRIMMING, CLAMP TOP, SEE WIRE MAT LIST	EA
6	3	CONNECTOR, COMP. SLEEVE, JUMPER, VARIOUS SIZES	EA
7	3	CLEVIS-EYE, 7/8" OPENING, 3-5/8" C-C	EA
8	3	CLEVIS-EYE, SEE WIRE MAT LIST	EA
9	3	CAMP, DEADEND, SEE WIRE MAT LIST	EA
10	3	CAMP, DEADEND, SEE WIRE MAT LIST	EA
11	1	CONNECTOR, COMP. SLEEVE, JUMPER, VARIOUS SIZES	EA
12	22	WASHER, SQUARE, CURVED, GALVANIZED, 7/8"	EA
13	22	WASHER, SQUARE, CURVED, GALVANIZED, 7/8"	EA
14	22	LOCKWASH, 7/8" GALVANIZED	EA
15	6	BOLT, MACHINE, 3/4" GALVANIZED	EA
16	6	WASHER, SQUARE, CURVED, VARIOUS LENGTHS	EA
17	6	LOCKWASH, 3/4" GALVANIZED	EA
18	6	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"	EA
19	6	WASHER, TWIN COILS, 3/4"	EA
20	200	GRIP, GUY, PERFORMED, 7/16"	EA
21	6	INSULATOR, GUY, FIBERGLASS, 54", 36,000 POUND	EA
22	2	INSULATOR, GUY, FIBERGLASS, 54", 36,000 POUND, 3/4" PINS, ONE ROLLER	EA
23	2	ANCHOR, 8-10-12 TRIPLE HELIX	EA
24	1	ROLLER, GUY, 13/16" X 2-5/8" DIA, 3/4" PIN	EA
25	1	ROD, EXTENSION, 1-1/2" X 3'	EA
26	1	ROD, EXTENSION, 1-1/2" DIAMETER WITH TRIPLE DYE	EA
27	1	ROD, EXTENSION, 1-1/2" DIAMETER WITH TRIPLE DYE	EA
28	70	WIRE, #4 GALV. COPPER, SO. BASE	EA
29	50	WIRE, #4 GALV. COPPER, SO. BASE	EA
30	50	CONNECTOR, COPPER, GRIP-TIT, 1/2" SQ-#4 STR TO 48 SQ-#4 STR	EA
31	1	ROD, GROUND, 3/8" X 12", CORNER-FLAT, HEMMED SECTIONAL	EA
32	1	CAMP, 5/8" GROUND ROD TO #4 - 1/2" CU	EA
33	8	MOLDING, GROUND WIRE, 1/2" PLASTIC	EA

SPECIFY VARIABLE MATERIAL, 90°
CONDUCTOR, 48,000 POUND
CLAMP, TRIMMING, CLAMP TOP
SHIELD WIRE, BOLTED DEADEND
DAMPEN VIBRATION, SPIRAL

DATE 04-18-13
DESIGNED MBB
DRAWN JMC
APPROVED

SCALE NONE
REV A

169-026A



169-064
69KV, LIGHT ANGLE, LAMINATED WOOD POLE

ITEM	QTY	MAT'D	UNIT	DESCRIPTION
1	3	16621	EA	INSULATOR, HORZ LINE POST, 69 KV, GAIN BASE, CLAMP TOP, 1225 LB PCL
2	3	120713	EA	SHIM, TO ADAPT GAIN BASE INSULATOR TO FLAT, XX" BOLT SPACING
3	3	16190	EA	CLAMP, TRUNION, CLAMP TOP, SEE VAR MAT LIST
4	4	16610	EA	INSULATOR, DOWN LEAD, FIBERGLASS, 5/8" x 12"
5	25	05023	FT	CONDUCTOR, #17/8 ACSR, BARE
6	2	12453	EA	EYE NUT, 5/8" GALVANIZED
7	6	12103	EA	BOLT, DOUBLE ARMING, 5/8" GALVANIZED, VARIOUS LENGTHS
8	12	12503	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
9	6	12403	EA	WASHER, TWIN COILS, 5/8"
10	6	12509	EA	WASHER, TWIN COILS, 5/8"
11	2	10701	EA	CRIP, DEAD-END, PREFORMED, 1/8" ACSR, AAC, AAC
12	3	14205	EA	CONNECTOR, AL COMPRESSION, H-TAP, VARIOUS SIZES
13	6	12004	EA	BOLT, MACHINE, 3/4" GALVANIZED, VARIOUS LENGTHS
14	6	12504	EA	WASHER, SQUARE, FLAT, 3/4" GALVANIZED
15	6	12404	EA	WASHER, SQUARE, FLAT, 3/4" GALVANIZED
16	6	12510	EA	WASHER, TWIN COILS, 3/4"
17	50	05041	FT	WIRE, #4 SOLID COPPER, SO, BARE
18	40	12540	EA	STAPLE, GROUND WIRE, 2" x 5/8"
19	8	10410	EA	MOLDING, GROUND WIRE, 1/2" PLASTIC
20	1	10402	EA	ROD, GROUND, 5/8" x 10', COPPERWELD, THREADED SECTIONAL
21	1	10405	EA	CLAMP, 5/8" GROUND ROD TO #8 - 1/8" CU
22	1	10157	EA	SUPPORT, SHIELD WIRE, SIDE MOUNTED, 5/8" x 14", FLAT BASE
23	1	10540	EA	CLAMP, SUSPENSION, SEE VAR MAT LIST
24	2	10750	EA	DAMPER, VIBRATION, SPIRAL, SEE VAR MAT LIST
25	1	10780	EA	ROD, ARMOR, SEE VAR MAT LIST

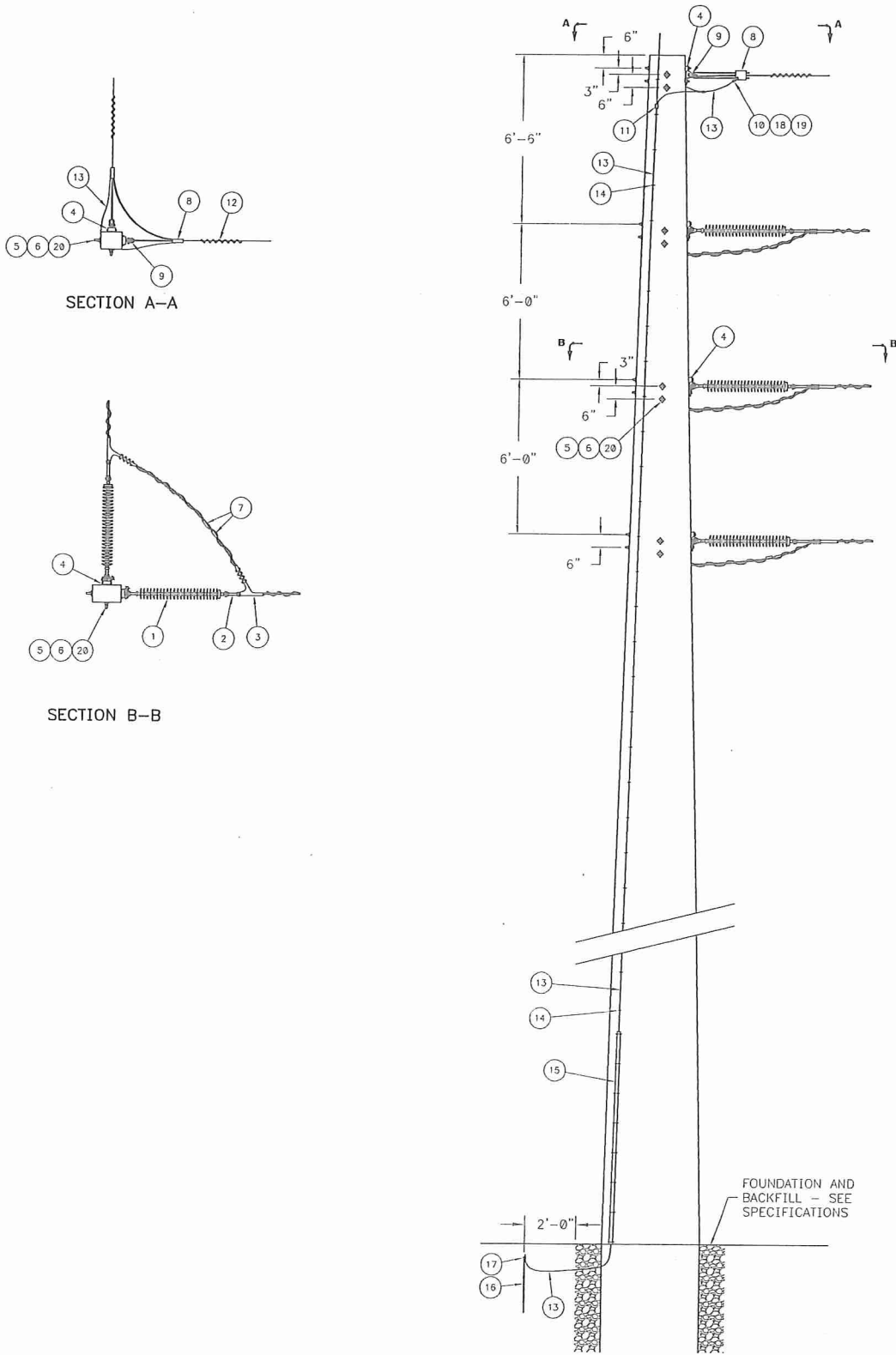
SPECIFY VARIABLE MATERIAL BY:
 ARMOR ROD 1-1001XX
 CLAMP, TRUNION, CLAMP TOP 3-1002XX
 SUSPENSION CLAMP 1-1003XX
 DAMPER, VIBRATION, SPIRAL 2-1004XX

PRELIMINARY
 NOT FOR CONSTRUCTION

REV	DATE	BY	CHKD	APP	DESCRIPTION
A	04-02-13				

DATE: 04-02-13
 DRAWN BY: [Signature]
 APPROVED BY: [Signature]


SCALE: AS NOTED
 REV: A
 DWG NO: 169-064



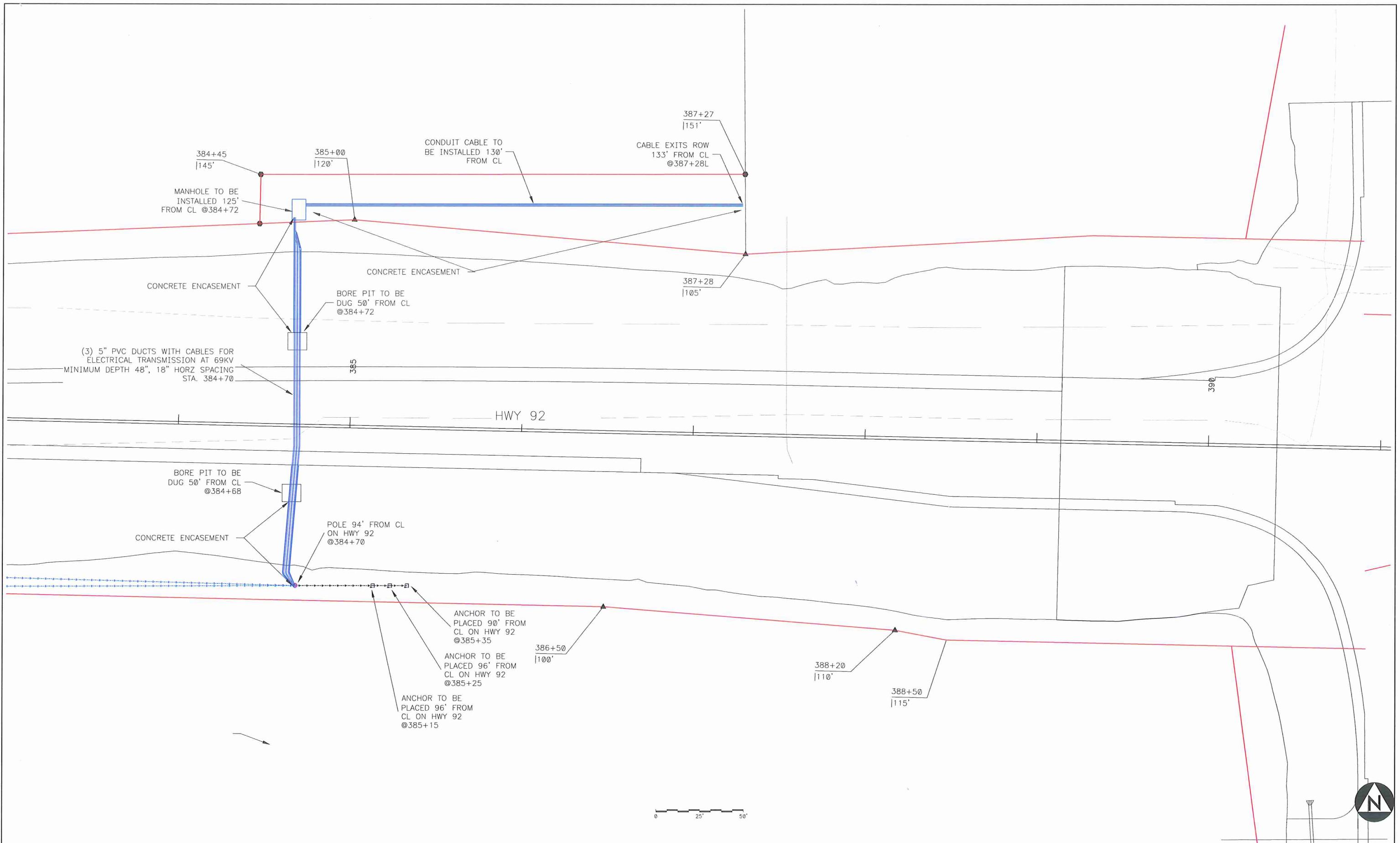
69kV DEADEND
 90° CORNER
 TENSION CHANGE
 LAMINATED WOOD POLE

SPECIFY VARIABLE MATERIAL BY:
 VIBRATION DAMPER: 2-T004xx
 SHIELD WIRE DEADEND CLAMP: 2-T006xx
 CONDUCTOR DEADEND CLAMP: 6-T006xx

SCALE	N.T.S.
DATE	12-12-11
DESIGNED	P&E
DRAWN	DAW
APPROVED	JWE
APPROVED	ARP


P & E ENGINEERING CO.
 POWER SYSTEM ANALYSIS AND DESIGN

SECTION	DRAWING NO.
T	T69-169



**PRELIMINARY
NOT FOR CONSTRUCTION**

REV	DATE	DESIG	DFTIR	APP	DESCRIPTION
B	08-05-13	P&E	RMB	ARP	ADDED OVERHEAD LINETYPE
A	07-16-13	P&E	RMB	ARP	ORIGINAL ISSUE

P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN
245 S. 5th
P.O. Box 620
Carlisle, IA 50047
Office: 515-859-3083
FAX: 515-859-3138
psa@pe-engineer.com

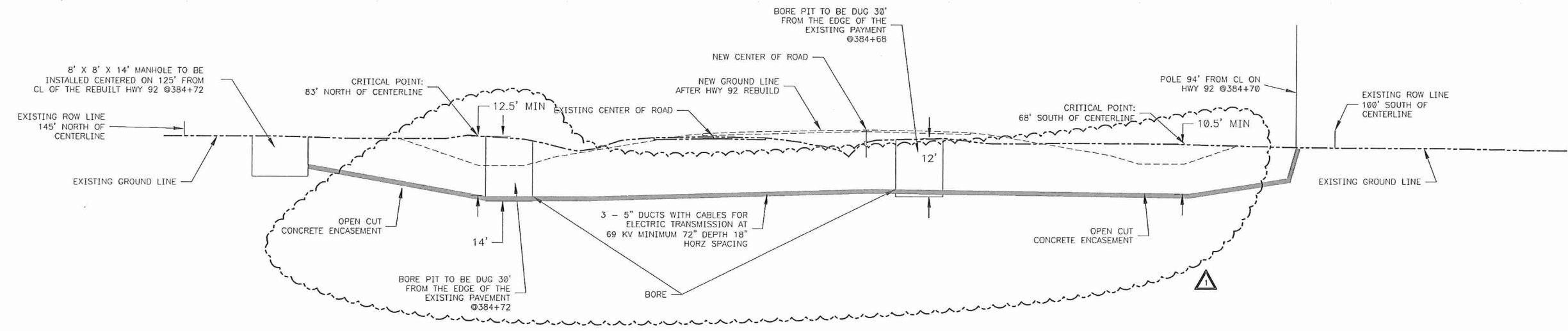


DATE	01-08-12
DESIGNED	P&E
DRAWN	RMB
APPROVED	JWE
APPROVED	ARP

INDIANOLA MUNICIPAL UTILITIES
HIGHWAY 92 DOT PROJECT
HWY 92 PERMIT DRAWINGS

SCALE: AS NOTED
REV B
DWG NO E8958-P-15

NOTE: MAINTAIN A MINIMUM 6' BURIAL DEPTH FROM THE NEW DOT FINISHED GRADE. WHERE DUCTS ARE OUTSIDE OF GRADING LIMITS, MAINTAIN 4' BURIAL DEPTH FROM EXISTING GRADE.



HWY 92 UNDERGROUND ROAD CROSSING DETAIL

LEGEND

- EXISTING GROUND LINE
- NEW GROUND LINE AFTER REBUILD
- 3 - 5" DUCTS WITH CABLES FOR THE TRANSMISSION OF ELECTRICITY AT 69KV
- BORE PIT / MANHOLE



ISSUED FOR CONSTRUCTION

REV	DATE	DESIGNED	DFTR	APP	DESCRIPTION
1	07-02-14	P&E	RWB	ARP	BURIAL DEPTH CHANGED TO 6' UNDER GRADING AREA
0	06-17-14	P&E	RWB	ARP	ISSUED FOR CONSTRUCTION

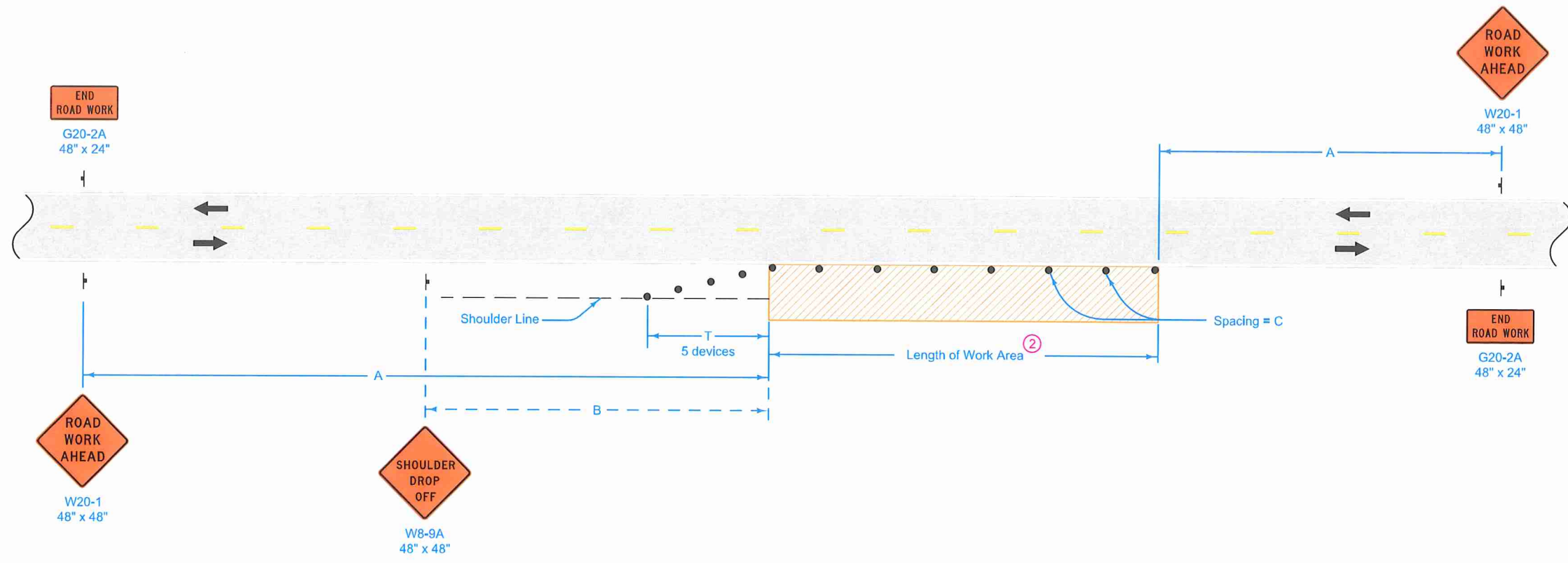
P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN
245 S. 5th
P.O. Box 620
Carlisle, IA 50047
Office: 515-689-3083
Fax: 515-689-3138
peconat@peconat.com

INDIANOLA MUNICIPAL UTILITIES
IMU
Electric • Network Services • Water

DATE 06-17-14
DESIGNED P&E
DRAWN RWB
APPROVED JWE
APPROVED ARP

INDIANOLA MUNICIPAL UTILITIES
HIGHWAY 92 DOT PROJECT
HWY 92 UNDERGROUND DUCT PROFILE

SCALE: AS NOTED
REV 1
DWG NO E8958-U150



LEGEND

- Traffic Sign
- 42" Channelizer
- Work Area
- Direction of Traffic

SPEED LIMIT (mph)	A	B	C ^②	T
35 or less	500'	250'	40'	100'
40 - 45	700'	350'	80' ^①	200'
50 or greater	1000'	500'	100' ^①	200'

When a pavement edge drop-off exists, install a SHOULDER DROP-OFF sign.

No pavement edge drop-offs greater than pavement depth will be allowed during non-working hours.

Shoulder edge drop-offs shall be mitigated according to Article 1107.08.L2 of the Standard Specifications.

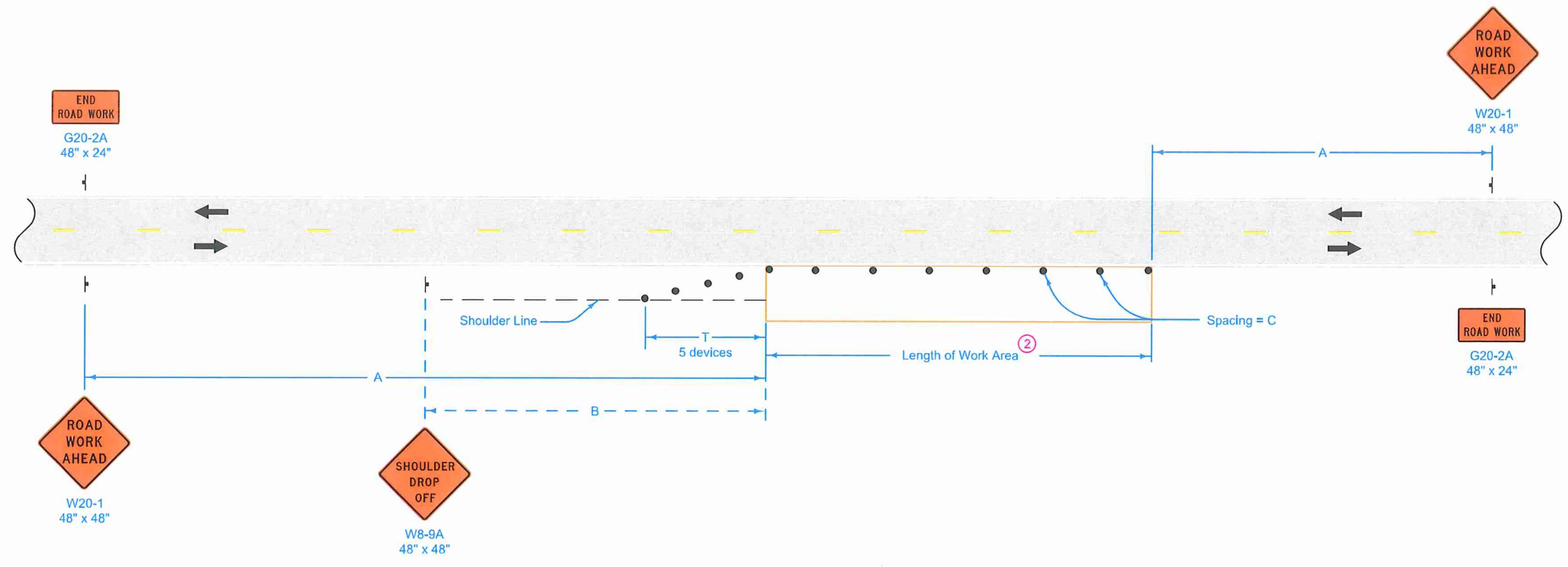
^① When the length of a pavement edge drop-off is 1000 feet or less, the temporary fillet requirement of Article 1107.08 of the Standard Specifications does not apply. Reduce channelizer spacing to 40 feet.

^② For work areas less than 200 feet long, use channelizers spaced at 20 foot centers or use a vehicle with an amber revolving light or amber strobe light.

Possible Contract Item:
Traffic Control

Iowa Department of Transportation STANDARD ROAD PLAN	REVISION
	7 10-15-13
TC-202	
SHEET 1 of 1	
REVISIONS: Modified circle note 1.	
Brian Smith APPROVED BY DESIGN METHODS ENGINEER	

**SHOULDER CLOSURE
(ONE LANE)**



LEGEND

- Traffic Sign
- 42" Channelizer
- Work Area
- Direction of Traffic

SPEED LIMIT (mph)	A	B	C ^②	T
35 or less	500'	250'	40'	100'
40 - 45	700'	350'	80' ^①	200'
50 or greater	1000'	500'	100' ^①	200'

When a pavement edge drop-off exists, install a SHOULDER DROP-OFF sign.

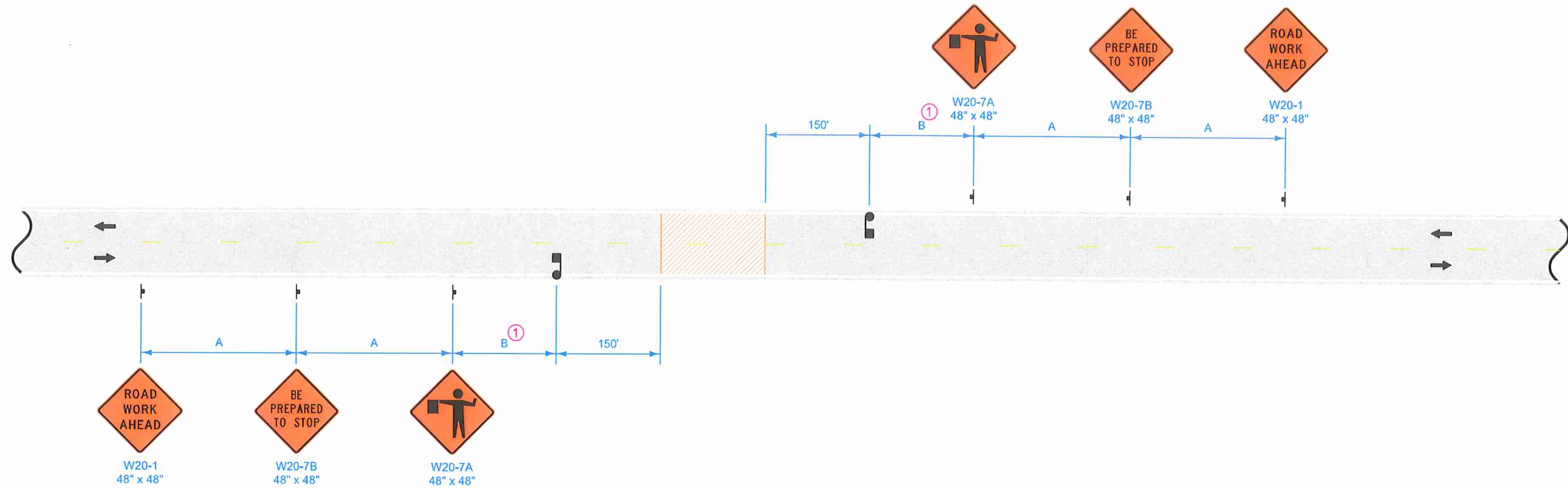
No pavement edge drop-offs greater than pavement depth will be allowed during non-working hours.

Shoulder edge drop-offs shall be mitigated according to Article 1107.08.L2 of the Standard Specifications.

- ① When the length of a pavement edge drop-off is 1000 feet or less, the temporary fillet requirement of Article 1107.08 of the Standard Specifications does not apply. Reduce channelizer spacing to 40 feet.
- ② For work areas less than 200 feet long, use channelizers spaced at 20 foot centers or use a vehicle with an amber revolving light or amber strobe light.

Possible Contract Item:
Traffic Control

Iowa Department of Transportation	REVISION
	7 10-15-13
STANDARD ROAD PLAN	TC-202
SHEET 1 of 1	
REVISIONS: Modified circle note 1.	
 APPROVED BY DESIGN METHODS ENGINEER	
SHOULDER CLOSURE (ONE LANE)	



LEGEND

- Traffic Sign
- Work Area
- Flagger
- Direction of Traffic

SPEED LIMIT (mph)	A	B ^① (minimum)
35 or less	250'	250'
40 - 45	350'	350'
50 or greater	500'	500'

This layout is intended for a preplanned closure of 20 minutes or less.

^① The Engineer will determine the storage length, B, necessary to accommodate stopped traffic during the closure.

Possible Contract Item:

- Traffic Control
- Flaggers

	REVISION
	2 04-17-12
STANDARD ROAD PLAN	TC-251
REVISIONS: No significant changes. Changed to color.	
 APPROVED BY DESIGN METHODS ENGINEER	
TEMPORARY ROAD CLOSURE	