COMPLETE

POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | NR Number 88-099-0 | Page - of -

NOTE: Block numbers on this form correspond to paragraph numbers of Procedure QP 3-1. The use of black ink is required.

2.6 MODIFICATION REQUEST INITIATION.

☐ UNIT 1 ☐ UNIT 2 ☒ COMMON FACILITIES

System: Aux Feedwater Location: Aux Feed Pump Room

Print Nos. M-217

Reason for Modification (Concise description of actual problem. List applicable reference documents):

☐ Plant Betterment ☐ Safety Issue ☒ Regulatory Requirement ☐ ALARA

☐ Other (Specify) _____

The existing minimum recirculation flowrate for each AFW pump is 30 gpm, equates to ~8% of the BEP for the electric driven AFW pumps and ~6% of the BE for the turbine driven AFW pumps. It is now recognized that to prevent inlet flo instabilities in centrifugal pumps that may lead to pump damage the minimum fl rate should be ~25% to 50% of the BEP. In response to NRC Bulletin 88-04 commitment was made to increase the minimum recirculation flow rate of the AFW pumps. The recommended flow rate will be provided by Byron Jackson, pump manufacturer.

Proposed Change (Include sketches, effects on other components/system alternate approaches, installation/acceptance/ completion date, if known.) Attach additional pages if needed.

Modify the AFW pump mini-recirc lines to provide the recommended flow rates.

Initiated By John A. Palmer Date 7/5/88

2.7 GROUP HEAD/SUPERVISOR Comments (include basis for due dates)

INITIAL EFFORT SHOULD INCLUDE ENSURING NRC HAS ACCEPTED 88-04 RESOLUTION RECOMMENDATIONS.

Priority: 1☐ 2☒ 3☐ 4☐ Required Due Date _____

☒ Recommended ☐ Not Recommended By W B Jones Date 7/5/88

2.8 MODIFICATION ENGINEER

10CFR50.59 Review Required

☒ Yes ☐ No Initials WBJ

QA STATUS A/55

QA SCOPE

MICROFILMED

JUL 9 1992

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Rev. 1

88-099*C

| POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | MR Number _____ | Page 2 of |
|---|---|---|

2.9 EQRS

QA Status: ☒ QA-scope ☐ Non QA-scope

Clarification:
RECIRC LINE PIPING AND COMPONENTS TO BE QA UP TO AND INCLUDING RECIRC ISOLATION VALVES (1AF-15, AF-27, AF-40, 2AF-53). FIRST RESTRAINT DOWNSTREAM OF RECIRC ISOLATION VALVES TO BE QA. PIPING DOWNSTREAM RECIRC ISOLATION VALVES NEED NOT BE QA.

Signature R Yuller Date 10/25/88

2.10 SUPERVISOR - ADMINISTRATIVE SERVICES:

Charge Account Number(s): ~~0400-530-23XX34601~~ #91-530-23XX36517 JAP

2.11 MANAGER - PBNP Preliminary Review (Also indicate required approvals in Block 2.

☒ Proposal Satisfactory ☐ Cancelled

Engineering Evaluation (includes conceptual design):

a. ☐ EQRS
b. ☐ NPERS
c. ☒ NSEAS
d. ☐ Other in plant (specify) _____
e. ☐ Contractor (specify) _____
f. ☐ Not require

Directed by a, b, c, d (circle appropriate)

Comments: IDENTIFY CHANGES THAT NEED TO BE MADE TO ACCOMODATE THE INCREASED FLOW. SRS

Assigned Responsible Engineer ~~JPA~~ JAP Liaison Engineer ~~JAP~~ HL

Signature [signature] Date 2/12/88

2.12 MODIFICATION ENGINEER Recommendations

(Also designate group engineering reviews in Block 2.14)

2.13 ENGINEERING EVALUATION/CONCEPTUAL DESIGN

See Form QP 3-1.4 if required

2.14 GROUP ENGINEERING EVALUATION REVIEWS

☒ M&C MJH ☐ C/HP ____ ☐ RE ____ ☐ NPERS ____ ☐ Other (spec) ____

☒ OPS JL ☒ I&C TAT ☒ ~~NPERS~~ 9/8 ☐ NSEAS ____ ☐ Not Required

Review Comments/Training Scope:

See attached comments 4/13/90

Scope of Training:

PLANT STATUS UPDATE - OPERATIONS PERSONNEL & JPA'S

Mod. Eng. Signature WBT Fanny Date 7/5/88

Form QP 3-1
Rev. 1

2.15 MODIFICATION ENGINEER - Review Routing PER 10CFR50.59

NRC Approval Required: ☐ No ☐ Yes (Contact NE)

2.16 REVIEWS AND APPROVALS

| | | | Approved | Disapproved |
|---|---|---|---|---|
| ☐ NPERS Review by | | Date | ☐ | ☐ |
| ☒ NSEAS Review by | | Date 10/24/89 | ☒ | ☐ |
| ☒ Manager's Supervisory Staff Review MSSM No. 90-13 by (for MSS) | | Date 07/10/90 | ☒ | ☐ |
| ☐ Other Reviews (specify) | | | | |
| by | | Date | ☐ | ☐ |
| by | | Date | ☐ | ☐ |
| by | | Date | ☐ | ☐ |
| by | | Date | ☐ | ☐ |

2.17 MANAGER - PBNP Approval

☒ Reviewed & Priority Satisfactory ☐ Reviewed & Changed Priority to _____

Responsibilities:

Final Design: NSEAS

Installation: M&C

Acceptance: OPS

Final Design Reviews (Manager - PBNP) to designate in Block 2.21; as a minimum should include groups responsible for operability and maintainability)

Scope of Training: ☒ Concur ☐ Change (Specify) _____

Modification Request ☒ Approved ☐ Disapproved _____

Date 07/10/90

2.18 DISTRIBUTION

Completed by MEB Date 7/17/90

2.19 RESPONSIBLE ENGINEER - Review

Establish schedule for completion of modification and related requirements. Identify design packages associated with this modification.

Modification Affects the Simulator: ☒ Yes (SRJ POSSIBLY) ☒ No

Responsible Engineer ~~Eddie Robinson~~ Date ~~3-29-91~~

6/14/91

PACKAGE 88-099*D - FOR THE REPLACEMENT OF AUX FEED WATER PUMP CONDUIT SUPPORTS P38A & P38B TO ALLOW FOR INSTALLATION OF NEW RECIRC LINE CONTROL VALVES.

| POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | MR NUMBER 88-099-D | Page 4 of 5 |
|---|---|---|

2.19

FINAL DESIGN

SCOPE: REPLACE EXISTING AUX FEEDWATER PUMP CONDUIT SUPPORTS (P38A & P38B) AS SHOWN ON DWG. SK-ELEC-012 SHT 1-16.

FINAL DESIGN DESCRIPTION:

SEE DRAWINGS SK-ELEC-012 SHT. 1-16

Final design by SARGENT & LUNDY Date 7/2/91

Design verification by [signature] Date 7/2/91
(reference QP 3-2)

2.19

| FINAL DESIGN REVIEW SIGNATURE | | DATE | COMMENTS | |
|---|---|---|---|---|
| ☐ MTR | | | ☐ None | ☐ Attached |
| ☒ OPS | [signature] | 7/3/91 | ☐ None | ☐ Attached |
| ☐ IRC | | | ☐ None | ☐ Attached |
| ☐ HSE | | | ☐ None | ☐ Attached |
| ☒ EIE | WATTS | 7-3-91 | ☒ None | ☐ Attached |
| ☐ NES | | | ☐ None | ☐ Attached |
| ☐ Other | | | ☐ None | ☐ Attached |
| ☐ Other | | | ☐ None | ☐ Attached |

2.20

☑ QA ☐ Non-QA; Champs code: 04

BASIS:

☐ Quality Engineer [signature] 7/3/91

FINAL DESIGN APPROVAL [signature] Date 6/16/92

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| POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | MR NUMBER 88-099&D | Page 5 of 5 |
|---|---|---|

2.21 MODIFICATION ENGINEER: Review/Update

Manager's Supervisory Staff Review ☒ Yes ☐ No

50.59 Review Required ☒ Yes ☐ No

Approved ✓ Disapproved _____

SER No. _____ MSSM No. 91-12

NRC Approval Required ☐ Yes ☒ No

2.22 RESPONSIBLE ENGINEER

Attach approved IWP:

Signature: _____ Date 7/3/91

2.22.10 MODIFICATION ENGINEER

Approve mod package and IWP:

Signature: _____ for WBF Date 6-17-92

2.23 GENERAL SUPERINTENDENT - MAINTENANCE

Installation Release

Final design, 10CFR50.59, and IWP are approved and adequate.

Signature: _____ Date 6/17/92

2.27 MODIFICATION CLOSEOUT:

MR complete including completion of the installation work plan and the closeout checklist.

Responsible Engineer: _____ Date 6/17/92

Modification Engineer: _____ Date 6/23/92

2.28 QUALITY ASSURANCE REVIEW:

☒ N/A ☒ Acceptance by _____ Date 6/25/92

2.34 SUPERVISOR - STAFF SERVICES

Completion:

Documentation updates submitted and records complete

Signature _____ Date 7/1/92

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Revision 8

| POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | MR NUMBER 98-0499*D | Page 1 of 6 |
|---|---|---|

2.27 DOCUMENTATION UPDATE SHEET AND CLOSEOUT CHECKLIST

| N/A | Required For Acceptance (Completion) | Required For Closeout (Submittal) | | Sign for Acceptance/ Closeout Requirements |
|---|---|---|---|---|
| | | | **A. TRAINING** | |
| X | — | | 1. Pre-acceptance training; describe or specify lesson plan(s). | |
| X | | — | 2. Post-acceptance training; describe or specify course of lesson plan(s). | |
| | | | **B. FINAL DESIGN ORGANIZATION** | |
| | | | 1. Drawings/Procedures | |
| X | — | | a. Logics, P&IDs, 499 series elementaries, MDB, Control Room drawings updated; specify drawing number(s). | |
| X | | — | b. DCNs initiated; specify drawing number(s) and/or DCN number with number of sheet(s). | |
| — | | X | c. New Drawings - to supervisor - Staff Services; specify drawing number(s). | MCB PBC-215 SHT 1-16/16 6/ |
| X | — | | d. Drawings Voided - to supervisor - Staff Services; specify drawing number(s). | |
| — | | X | e. Working Drawings Transferred/ ~~Voided~~ - to Drawing Control Personnel; specify drawing number(s). | on NEES-98-0554 WD. SK-ELEC-012 SHT 1-16/16 To SY P.D.S PBC-215 SHT. 1-16/16 6/ |
| X | — | | f. Green Line Diagrams - Update initiated: QP 6-1.7 form to QAS. | |
| — | | X | 2. Purchase orders - (also contract numbers); specify numbers. | P.O.# 168784 (PIEPER) P.O.# 167227 (SPL) (WPF No. 91-12) 6/2 |
| X | — | | 3. Specifications - list to supervisor - Staff Services; specify number(s). | |

| POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | MR NUMBER 92-099*D | Page 2 of 6 |
|---|---|---|

2.27 DOCUMENTATION UPDATE SHEET AND CLOSEOUT CHECKLIST

| N/A | Required For Acceptance (Completion) | Required For Closeout (Submittal) | | Sign for Acceptance/ Closeout Requirements |
|---|---|---|---|---|
| X | / | — | 4. Component Instruction Manuals (for issue, revision, deletion) - to supervisor - Staff Services; specify manual/instruction number(s) and vendor(s). | |
| X | / | — | 5. Cable and raceway schedule revisions - to sr. project engineer - Electrical Systems Engineering, NES. | |
| X | / | — | 6. EQ Master List revisions - to manager - Nuclear Safety, NTSS. | |
| X | / | — | 7. FPER revisions - to manager, NES. | |
| X | SJS 6/2/92 | X / | 8. Calculations added/deleted to file. | SJS 6/2/92 SOLCALC FILE T7.4 CALC # S-6504-28-CS |
| X | / | — | 9. Calculation file reviewed for updating because of modification. | |
| X | / | — | 10. FSAR - change; specify section(s) affected. | |
| X | / | — | 11. Technical Specification - change; specify section(s) affected and change request number if known. | |
| X | / | — | 12. Emergency Plan and EPIPs - change; specify section(s) affected. | |
| X | / | — | 13. Report major changes to radwaste treatment systems with annual FSAR update per PBNP Tech Spec 15.7.8.5. | |
| X | / | — | 14. NPRDS Update - report MR changes to the NPRDS coordinator. | |
| X | / | — | 15. Industrial Safety Review Committee Review - specify minutes. | |
| X | / | — | 16. ALARA Review - specify minutes or review document. | |

2.27 DOCUMENTATION UPDATE SHEET AND CLOSEOUT CHECKLIST

| N/A | Required For Acceptance (Completion) | Required For Closeout (Submittal) | | Sign for Acceptance Closeout Requirement |
|---|---|---|---|---|
| X | | | 17. Report major changes to the containment aluminum inventory list with FSAR update. | |
| | | X | 18. Other: ECR N-91-273 | ECR's N-91-27 |
| | | | ECR N-91-279 | N-91-27 |
| | | | **C. CHAMPS DATABASE** | |
| X | | | 1. Equipment Identification - additions assigned from CHAMPS/Detections; list description and number(s). | |
| X | | | 2. Permanent labeling - labels on new equipment. | |
| X | | | 3. Equipment Record - Update to CHAMPS coordinator specify change(s). | |
| X | | | 4. Equipment History - change/update to CHAMPS coordinator. List equipment number(s). | |
| X | | | 5. Spare parts stocking and scrapping inputs into CHAMPS. | |
| X | | | 6. Unused material removed from modification bin. | |
| X | | | 7. | |
| | | | **D. OPERATIONS** | |
| X | | | 1. Abnormal operating, normal operating, and refueling procedures - change; specify section(s) affected. | |
| X | | | 2. Operating Instructions and checklists - changes; specify section(s) affected. | |

2.27 DOCUMENTATION UPDATE SHEET AND CLOSEOUT CHECKLIST

| N/A | Required For Acceptance (Completion) | Required For Closeout (Submittal) | | Sign for Acceptance/ Closeout Requirements |
|---|---|---|---|---|
| X | ___ | ___ | 3. Alarm response and RMS alarm setpoint and response books - change; specify section(s) affected. | ___ |
| X | ___ | ___ | 4. Testing - TS, IT, ORT, other - change; specify test(s) affected. | ___ |
| X | ___ | ___ | 5. EOPs, ECAs, CSPs - change; specify section(s) affected. | ___ |
| X | ___ | ___ | 6. Periodic callups - change: specify section(s) affected. | ___ |
| X | ___ | ___ | 7. "Programs" - change: specify program and section affected. | ___ |
| X | ___ | ___ | 8. Fire protection procedure - specify section(s) affected. | ___ |
| X | ___ | ___ | 9. Other ___ | |
| | | | ___ | |
| | | | ___ | ___ |
| | | | E. MAINTENANCE | |
| X | ___ | ___ | 1. Maintenance procedures/instructions - change; specify section(s) affected. | ___ |
| X | | ___ | 2. Preventative maintenance - initiate/ revise CHAMPS callups. | ___ |
| X | ___ | ___ | 3. Other ___ | |
| | | | ___ | ___ |
| | | | F. INSTRUMENTATION AND CONTROL | |
| X | ___ | ___ | 1. ICPs - change; specify procedure(s) affected. | ___ |
| X | ___ | ___ | 2. Setpoint Document - change; specify section(s) affected. | ___ |

2.27 DOCUMENTATION UPDATE SHEET AND CLOSEOUT CHECKLIST

| N/A | Required For Acceptance (Completion) | Required For Closeout (Submittal) | | Sign for Acceptance/ Closeout Requirements |
|---|---|---|---|---|
| X | | ___ | 3. Preventive maintenance - initiate/revise CHAMPS callups. | ___ |
| X | ___ | ___ | 4. Other ___ | ___ |
| | | | G. SECURITY | |
| X | ___ | ___ | 1. Security Procedures - change; specify section(s) affected. | ___ |
| X | ___ | ___ | 2. Security Plan - update as required. | ___ |
| X | ___ | ___ | 3. Other ___ | ___ |
| | | | H. INSERVICE INSPECTION | |
| X | | ___ | 1. ISI program updated. | ___ |
| X | | ___ | 2. Miscellaneous HX ECT/Cleaning program updated. | ___ |
| X | ___ | ___ | 3. Other ___ | ___ |
| | | | I. TECHNICAL SERVICES | |
| X | ___ | ___ | 1. Reactor Engineering Instructions - change; specify section(s) affected. | ___ |
| X | ___ | ___ | 2. Reactor Engineering refueling procedures - change; specify section(s) affected. | ___ |
| X | ___ | ___ | 3. Refueling procedures - change; specify section(s) affected. | ___ |
| X | ___ | ___ | 4. Software control - specify system affected and software change request number. | ___ |
| Y | ___ | ___ | 5. Other ___ | ___ |

| POINT BEACH NUCLEAR PLANT MODIFICATION REQUEST | MR NUMBER 88-099 *D | Page 6 of 6 |
|---|---|---|

2.27 DOCUMENTATION UPDATE SHEET AND CLOSEOUT CHECKLIST

| N/A | Required For Acceptance (Completion) | Required For Closeout (Submittal) | J. OTHER (CHEM., HP, ETC.) | Sign for Acceptance/ Closeout Requirements |
|---|---|---|---|---|
| X | ✓ | ___ | ___ 1. _____ | _____ |
| X | ✓ | ___ | ___ 2. _____ | _____ |

Form QP 3-1.6
Revision 5

POINT BEACH NUCLEAR PLANT
STAFF DOCUMENT REVIEW

Page 1 of ____

DOCUMENT NAME NPD 10 CFR 50.59 REPORT
(MR 88-099-D) "REPLACEMENT OF AUX FEEDWATER PUMP P38A AND P38B COMPONENT SUPPORTS"

PROCDOC NO ____
REV NO ____
FILE NO ____
DATE ____

MSSM NO. 91-12
DATE 7-3-91
BY ____

Approved
Manager [signature]

Date 7-3-91

REVIEW REQUIRED

| MSSM QUORUM | | |
|---|---|---|
| POSITION | INIT | DATE |
| Manager | | |
| Gen Supt-OPS | | |
| Reg Eng | | |
| Gen Supt-MTN | [signature] | 7-3-91 |
| Supt-OPS | [signature] | 7/3/91 |
| Supt-TRN | | |
| Supt-CHEM | | |
| Supt-HP | | |
| Supt-MTN | [signature] | 7/3/91 |
| Supt-I&C | | |
| Supt-TCS | | |
| MOE Engr (A) | [signature] | 7/3/91 |
| MSE Engr | | |
| EIE Engr (A) | [signature] | 7-3-91 |
| IIE Engr | | |
| | | |
| | | |
| | | |
| AS-RES | | |

NOTES:

1. The provisions of 10 CFR 50.59 apply to all changes and must be evaluated and documented in accordance with QP 3-3, "Authorization of Changes, Tests, and Experiments." Attach QP 3-3.1 if review is required.

2. Technical Specification 15.6.8 applies for all procedural changes. A quorum of MSS members (four) must review the proposed change prior to approval by the manager.

3. For the purpose of review by an MSS quorum, only two alternate MSS members may be designated. They should be identified by placing an "A" adjacent to their position titles

| COMMENTS | INIT/DATE | RESOLUTION | INIT DATE |
|---|---|---|---|
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RETURN TO DOCUMENT CONTROL UPON COMPLETION

PBF 0026d
(12-89)

# NUCLEAR POWER DEPARTMENT
# 10 CFR 50.59 REPORT

Reference Document(s) # MOD REQUEST 88-099*D

Title of Proposed Modification,
Procedure Change, Test or Experiment REPLACEMENT OF AUX FEEDWATER PUMP P38A AND P38B CONDUIT SUPPORTS

Prepared by STEPHEN ST. AMOUR Date 6/25/91

Reviewed by _____ Date 7/2/91

For the MSS PBF 0026d MSS # _____

Manager - PBNP Approval _____ Date _____

In lieu of MSS and Manager signature, attached EQR-26d if serial review has been conducted. (MSS and manager approval are not necessary for a determination of non-applicability.)

## Section 1
## Screening - Determination if Safety Evaluation is Required

A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

MODIFICATION/DESIGN PACKAGE 88-099*D REPLACES THE EXISTING CONDUIT SUPPORT FOR AUX FEEDWATER PUMPS P38A AND P38B. THE CONDUIT SUPPORTS ARE LOCATED IN THE AUX FEEDWATER PUMP ROOM BETWEEN COLUMNS E - F AND 10 - 12. THE EXISTING SUPPORTS ARE ATTACHED TO THE CONCRETE WALLS AT AN APPROXIMATE ELEVATION OF 15'-1". THE CONDUIT SUPPORTS ARE BEING REPLACED TO PROVIDE ADDITIONAL SPACE NEEDED FOR THE INSTALLATION, OPERATION, AND MAINTENANCE OF NEW CONTROL VALVES ON THE AUX FEEDWATER RECIRC LINE

THE EXISTING CONDUIT SUPPORTS FOR EACH TRAIN, SHALL AT ALL TIMES REMAIN IN SERVICE UNTIL THE INSTALLATION OF THE NEW CONDUIT SUPPORTS REQUIRED FOR A GIVEN TRAIN, OR THE INSTALLATION OF TEMPORARY CONDUIT SUPPORTS FOR A GIVEN TRAIN IS COMPLETE.

B.

| | | | |
|---|---|---|---|
| 1. | Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures be altered? (Ref. 2.1.2 for exception. This question may be answered "no" although the SSC is described in the FSAR.) | ___ Yes | x No |
| 2. | Could, within reasonable possibility, the proposed change affect the intended design, operation, function or method of function, of an SSC important to safety which is described in the PBNP FSAR? | x Yes | ___ No |
| 3. | Will any procedure described in the PBNP FSAR be altered? | ___ Yes | x No |
| 4. | Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function or method of function, of an SSC important to safety which is described in the PBNP FSAR? | ___ Yes | x No |
| 5. | Will implementation of a prior documented technical commitment to the NRC pertaining to the design, operation, function or method of function, of an SSC important to safety which is described in the PBNP FSAR be altered? | ___ Yes | x No |
| 6 | Is an evaluation required (are any of the above questions answered yes)? NOTE: If no, then provide basis for decision in Part C. If yes, complete Sections 2-4. | x Yes | ___ No |

## Section 2
## Determination if an Unreviewed Safety Question is Involved

A. List the licensing basis documents and sections where the system, structure, component, procedure, test, or experiment is described.

- PBNP FSAR SECTIONS 10.2.2 - "DESIGN FEATURES OF THE AUXILIARY FEEDWATER SYSTEM"

- TS 15.3.4.A.2.A, TS 15.3.4.C.1

---

B. 1. Does the proposed activity increase the probability of occurrence of an accident previously evaluated in the PBNP FSAR? ___ Yes _x_ No

THIS MODIFICATION SIMPLY REPLACES CONDUIT SUPPORTS. THESE CONDUITS PROVIDE POWER TO THE AUX FEEDWATER PUMPS AND PRESSURE SWITCHES FOR AUX FEEDWATER PUMPS P38A AND P38B. AS THE AUX FEEDWATER SYSTEM IS USED TO MITIGATE CERTAIN ACCIDENTS, THIS CHANGE CAN IN NO WAY AFFECT THE PROBABILITY OF OCCURRENCE OF ANY PREVIOUSLY EVALUATED ACCIDENTS.

2. Does the proposed activity increase the consequences of an accident previously evaluated in the PBNP FSAR? ___ Yes _x_ No

THE INSTALLATION OF NEW CONDUIT SUPPORTS FOR THE AUX FEEDWATER PUMP WILL ENHANCE THE STRUCTURAL INTEGRITY OF THE EXISTING CONDUITS; THEREFORE THE POSTULATED RADIOACTIVE RELEASE FROM PREVIOUSLY ANALYZED ACCIDENTS IS UNCHANGED. THE SYSTEMS AND STRUCTURES WHICH MITIGATE THE POSTULATED RELEASE ARE ALSO UNAFFECTED (SEE SUMMARY).

3 Does the proposed activity increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the PBNP FSAR? ___ Yes _x_ No

AS STATED IN SECTION 2.B.1 OF THIS DOCUMENT, THIS MODIFICATION SIMPLY REPLACES CONDUIT SUPPORTS WITH NEW SUPPORTS OF EQUAL OR GREATER STRENGTH. THEREFORE THIS PROBABILITY IS NOT INCREASED. INTERIM CONDITIONS DURING INSTALLATION ARE ADDRESSED IN THE SUMMARY OF THIS DOCUMENT.

4. Does the proposed activity increase the consequences of a malfunction of equipment important to safety previously evaluated in the PBNP FSAR? ___ Yes _x_ No

AS STATED IN SECTION 2.B.1 OF THIS DOCUMENT, THIS MODIFICATION SIMPLY REPLACES CONDUIT SUPPORTS WITH NEW SUPPORTS OF EQUAL OR GREATER STRENGTH. THEREFORE RADIOLOGICAL RELEASE RESULTING FROM THE FAILURE OF IMPORTANT TO SAFETY EQUIPMENT IS NOT INCREASED. INTERIM CONDITIONS DURING INSTALLATION ARE ADDRESSED IN THE SUMMARY OF THIS DOCUMENT

## Section 2 - Continuation

5 Does the proposed activity create the possibility of an accident of a different type than any previously evaluated in the PBNP FSAR? ___ Yes x No

AS STATED IN SECTION 2 B.1 OF THIS EVALUATION, REPLACEMENT OF THE AFFECTED CONDUIT SUPPORTS BY SUPPORTS OF EQUAL OR GREATER STRENGTH CAN IN NO WAY CREATE ANY NEW, CREDIBLE ACCIDENTS

6 Does the proposed activity create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the PBNP FSAR? ___ Yes ___ No

AS STATED IN SECTION 2.B 1 OF THIS EVALUATION, REPLACEMENT OF THE AFFECTED CONDUIT SUPPORTS BY SUPPORTS OF EQUAL OR GREATER STRENGTH CAN IN NO WAY CREATE ANY NEW TYPE OF MALFUNCTION OF IMPORTANT TO SAFETY EQUIPMENT.

7. Does the proposed activity reduce the margin of safety defined in the Basis for any Technical Specification? ___ Yes x No

TECHNICAL SPECIFICATIONS REQUIRE THAT ALL MOTOR DRIVEN AUX FEEDWATER PUMPS BE IN SERVICE AT ALL TIMES WHEN BOTH UNITS ARE OPERATING EXCEPT THAT ONE AUX FEEDWATER PUMP MAY BE TAKEN OUT OF SERVICE FOR UP TO SEVEN (7) DAYS WITH A LCO THE WORK IN THIS MODIFICATION DOES NOT REQUIRE A SEVEN (7) DAY LCO IN ORDER TO BE COMPLETED. THEREFORE, ALL PUMPS WILL REMAIN IN SERVICE RESULTING IN NO REDUCTION IN THE MARGIN OF SAFETY AS DEFINED IN THE BASIS FOR ANY TECHNICAL SPECIFICATION.

---

DOES THE CHANGE, TEST OR EXPERIMENT INVOLVE AN UNREVIEWED SAFETY QUESTION? (IS THE ANSWER TO ANY OF THE ABOVE QUESTIONS YES?) ___ Yes x No

---

## Section 3
## Determination if a Technical Specification Change is Involved

Does the change, test or experiment involve a change in the Technical Specification? ___ Yes x No

If a change is required, briefly describe what the change should be and why it is required.

## Section 4
## Evaluation Summary

MODIFICATION/DESIGN PACKAGE 88-099*D REPLACES THE EXISTING CONDUIT SUPPORT FOR TH MOTOR DRIVEN AUX FEEDWATER PUMPS P38A AND P38B. THE CONDUIT SUPPORTS ARE LOCATED IN THE AUX FEEDWATER PUMP ROOM BETWEEN COLUMNS E - F AND 10 - 12. THE EXISTING SUPPORTS ARE ATTACHED TO THE CONCRETE WALLS AT AN APPROXIMATE ELEVATIC OF 15'-1". ALL AFFECTED CONDUIT SUPPORTS AND CONDUIT FOR P38A AND P38B ARE CLASSIFIED AS SEISMIC AND SAFETY RELATED.

THE CONDUIT SUPPORTS ARE BEING REPLACED TO PROVIDE ADDITIONAL SPACE NEEDED FOR TI INSTALLATION, OPERATION, AND MAINTENANCE OF NEW CONTROL VALVES ON THE AUX FEEDWATER RECIRC LINE.

THE EXISTING CONDUIT SUPPORTS FOR EACH TRAIN, SHALL AT ALL TIMES REMAIN IN SERVICE UNTIL THE INSTALLATION OF THE NEW CONDUIT SUPPORTS REQUIRED FOR A GIVEN TRAIN, OR THE INSTALLATION OF TEMPORARY CONDUIT SUPPORTS FOR A GIVEN TRAIN IS COMPLETE. AFTER INSTALLATION OF THE NEW CONDUIT SUPPORTS FOR A GIVEN TRAIN IS COMPLETE, THE OLD CONDUIT SUPPORTS FOR THAT PARTICULAR TRAIN SHALL BE REMOVED. THE OPERABILITY OF PUMPS P38A AND P38B IS UNAFFECTED DURING INSTALLATION.

IWP NUMBER 88-099*D

Page 1 of

INSTALLATION WORK PLAN

ORIGINAL

PBNP MINOR PROCEDURE ☐ Applicable

MAINTENANCE WORK REQUEST WORK PLAN ☒

FOR MODIFICATION # MR 88-099 (DESIGN PACKAGE 88-099), MWR # 91-2810 91-2809

INSTALLATION WORK PLAN TITLE

REPLACEMENT OF AUX FEEDWATER PUMP P38A AND P38B CONDUIT SUPPORTS

UNIT 0 ☒ QA-SCOPE ☐ NON QA-SCOPE

Originator H. Arnow Date 6/20/91

Reviewer B. D. Sam Date 7/2/91

Design Group Superintendent W B Franny for ALG Date 7/3/91

Quality Engineer J Selock Date 7/3/91

Installation Group Superintendent Carl Albers Date 7-3-91

Superintendent Operations [illegible] Date 7/3/91

NOTE: Changes to this work plan must be done with the concurrence of the responsible engineer and the installation supervisor, or as delineated within the IWP.

Form 37.3a1
Revision 1

# REPLACEMENT OF AUX FEEDWATER PUMP P-38A AND P-38B CONDUIT SUPPORTS

## 1.0 SCOPE

The scope of this IWP is to describe the actions necessary to replace the conduit support for the Aux Feedwater Pumps P-38A and P-38B. The conduit supports are located in the Aux Feedwater Pump Room between column lines E - F and 10 - 12. The existing supports are attached to concrete walls at an approximate elevation of 15'1". The conduit supports for the Aux Feedwater Pumps are being replaced to provide additional space needed for the installation, operation, and maintenance of new control valves on for the Aux Feedwater Recirc line. This work is required to be completed prior to July 15, 1991 in order to meet a NRC commitment.

The existing conduit supports for each train, shall at all times remain in service until the installation of the new conduit supports required for a given train, thus, P-38A or P-38B operability will not be affected

This work described in this IWP is QA.

## 2.0 PRE-INSTALLATION REQUIREMENTS

### 2.1 References

2.1.1 Wisconsin Electric working drawing SK-ELEC-012 Sheets 1 - 16.

2.1.2 Bechtel permanent drawing E-117 Sheet 1 (Job No. 6118).

2.1.3 Copes - Vulcan, Inc. drawing D-166085 Revision 9.

2.1.4 Modification Request 88-099, Design Package 88-099*D.

2.1.5 Wisconsin Electric Specification PB-220, Specification For Safety Related Electrical Installation.

2.1.6 PBNP Nuclear Safety Related Seismic Class I Conduit Support Design Manual, DG-E02.

2.1.7 Responsible engineer has assured that all appropriate references have been forwarded to the Installation group in accordance with the pertinent Quality Assurance Procedures.

R.E. _____ Date 7/9/91

### 2.2 Pre-installation Activities

2 2.1 Installer shall verify that all material and equipment required for substantial completion is on-site. Material required for installation is shown on SK-ELEC-012 Sheets 1 - 16.

2 2.2 Installer shall verify that personnel performing the work have the proper security clearance in order to access the Aux Feedwater Pump Room.

2 2.3 Installer shall determine prior to the start of the construction work if the erection c staging/scaffolding will be required to complete the construction work. If staging/scaffolding is required, install in compliance with PBNP 3 4.16.

2.2.4 Installer shall provide temporary measures (i.e., signs, barricades, etc.) to ensure continued safe plant environment.

2.2.5 Installer shall take the necessary precautions to prevent debris from falling on equipment which is below the work area.

2.3 Identification of Permits

*NOTE: The existing conduit supports for each train (P-38A and P-38B), shall at all times remain in service until the installation of the new conduit supports required for a given train is complete.*

2.3.1 MWR 91-2809 - As described in IWP 88-099*D, replace existing conduit support for Aux Feedwater pump for P38A line.

2.3.2 MWR 91-2810 - As described in IWP 88-099*D, replace existing conduit support for Aux Feedwater pump for P38B line.

2.3.3 This work requires an Ignition control permit.

2.3.4 This work may require the installation of scaffolding.

2.4 Personnel Safety Concerns

Material Safety Data Sheets shall be provided for as required and attached to this IWP prior to the commencement of the installation/construction process.

2.5 Pre-installation Discussion

2.5.1 A field walkdown was performed to establish the constructability of the work identified in this IWP.

2.5.2 A pre-installation discussion will be held with all appropriate parties.

Date of meeting 7/9/91 Attendees R.W. King, S. Gracius

2.6 Plant Conditions

No work shall be performed within the Aux Feedwater Pump Room during the operation of either of the Aux Feedwater pumps (P38A and/or P38B) unless authorized by the DSS

REPLACEMENT OF AUX FEEDWATER PUMP P-38A
AND P-38B CONDUIT SUPPORTS

2.7 Release for Installation

*NOTE: This installation includes welding in the Aux Feedwater Pump Room - appropriate precautions must be taken to prevent an inadvertent Halon release.*

The pre-installation requirements have been met and it is acceptable to proceed with the installation.

R.E. Ruby for SAS Date 7/9/91

DSS [illegible] Date 7/9/91

3 0 INSTALLATION DESCRIPTION

*NOTE: The existing conduit supports for each train (P-38A and P-38B), shall at all times remain in service until the installation of the new conduit supports required for a given train is complete.*

3.1 All welding to be in accordance with WP-5 and applicable provisions of AWS D-1 1, current revision or contractor equivalent.

3.2 Hilti bolt installation shall be in accordance with MI 7.1 and as modified by ECR NE-91-067 for Hilti Kwik-bolt II's.

3.3 Installer is prohibited from cutting or nicking any rebar without prior written approval from Wisconsin Electric. The same rebar cut more than once by the same anchor base plate attachment is considered to be one cut rebar.

3.4 All conduit work shall be in accordance with PBNP Specification For Safety Related Electrical Installation, PB-220.

3 5 Install new conduit supports and as described on SK-ELEC-012 Sheets 1 - 16 and in this IWP.

Installer Q.C. Jim DeBaker Date 2-6-92

R.E. Ruby WBA for SAS Date 6-23-92

3 6 Remove existing conduit supports as described on SK-ELEC-012 Sheets 1 - 16 and in this IWP

3.7 An as-built description of all cut rebar is required

3 8 Installer shall provide an as-built sketch of those items not installed in accordance with MR 88-099*D.

4 0 TESTING

No special testing is required

REPLACEMENT OF AUX FEEDWATER PUMP P-38A
AND P-38B CONDUIT SUPPORTS

5 0 RESTORATION

No special restoration is required

5.1 All conduit supports shall be installed prior to final acceptance.

5.2 All conduits shall be fastened to new supports prior to final acceptance.

5.3 All old/existing conduit supports which have been replaced shall be removed prior to final acceptance.

5.4 All cleanup in the work area shall be completed prior to final acceptance.

6 0 ACCEPTANCE

Responsible engineer shall ensure that the installation is complete and in compliance with the provisions of this IWP.

DSS or RE _____ Date 6/4/92

NOTES:

1) All work shown in the notes and sketches on Drawing SK-ELEC-012 Sheet 1 - 16 is seismic and safety-related and shall be in accordance with all applicable QA requirements.

2) All structural steel shall conform to ASTM A-36 unless noted otherwise in the notes and sketches on drawing SK-ELEC-012 Sheet 1 - 16.

3) All structural tube steel shall conform ASTM A500 Grade B unless noted otherwise in the notes and sketches on drawing SK-ELEC-012 Sheet 1 - 16.

4) All strut material shall be "Unistrut" as manufactured by Unistrut Building Systems, GTE Products Corporation.

5) All unistrut shall be fabricated from ASTM A446 Grade A unless noted otherwise in the notes and sketches on drawing SK-ELEC-012 Sheet 1 - 16.

6) All unistrut shall have a coating in accordance with ASTM A575 Grade 90.

7) All 3/8" diameter spring nuts shall be fabricated from and conform to ASTM A675 Grade 50 material.

8) All 1/4" diameter spring nuts shall be fabricated from and conform to ASTM A675 Grade 33 material.

9) All bolts shall be fabricated from and conform to SAE 1429 Grade 2 or A307 Grade A unless noted otherwise in the notes and sketches on drawing SK-ELEC-012 Sheet 1 - 16.

10) All clamps shall be fabricated from and conform to ASTM A575 material.

11) All spring nuts, clamps, and bolts shall have an Electro Galvanized Coating in accordance with ASTM A164 Type RS.

PROJ. IDENT. _____

| MICROFORM NO | Wisconsin Electric | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099*D<br>SHEET 1 OF 16 | | AUX FEEDWATER PUMP Co<br>SUPPORTS P38A AND P38B |
| DRAWN S+L DATE | APPRVD. DATE 7/2/91 | A |
| CHECKED 7/2/91 | APPRVD. | |
| DRAFTG. | APPRVD. | SCALE RELEASE DATE |

TELEDYNE POST

8808 080

12) All washers shall conform to the following specifications as applicable:

a) Flat Washer - ANSI B18.22.1 or ASTM F844.

b) Beveled washer - ANSI B18.23.1 or ASTM F844.

c) Lockwasher - ANSI B.18.21.1 or SAE J489.

13) Unistrut torque values shall be as follows:

a) 1/4" diameter bolt - 6 foot-pounds.

b) 3/8" diameter bolt - 19 foot-pounds.

14) All welding shall utilize the SMAW process with E70XX electrodes and conform to the applicable requirements of the AWS Code(s), current revision and WP-5, current revision as applicable.

15) Hilti Kwik-Bolt II (HKB-II) expansion anchors shall be installed using the new "matched tolerance" (e.g., type TE-C+ or TE-FY-S) Hilti drill bits.

16) HKB-II minimum embedment depths ($L_e$) shall be as indicated in bill of material and sketches on drawing SK-ELEC-012 Sheet 1 - 16. The minimum anchor bolt length shall be the length as indicated in MI 7.1 as modified by ECR NE-91-067.

17) Dry torque (i.e., torque with non-lubricated threads) for HKB-II anchor bolts is as follows:

a) 3/4" diameter - dry torque = 230 - 270 (ft-lbs).

b) 5/8" diameter - dry torque = 130 - 150 (ft-lbs).

b) 1/2" diameter - dry torque = 65 - 75 (ft-lbs).

18) The cutting or nicking of any concrete reinforcement is <u>prohibited</u> without prior written approval from Wisconsin Electric. The same rebar cut more than once by the same anchor base plate attachment is considered to be one cut rebar. An as-built description of all cut rebar is required.

PROJ. IDENT. _____

| MICROFORM NO | Wisconsin Electric | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099*D<br>SHEET 2 OF 16 | | AUX FEEDWATER PUMP CON<br>SUPPORTS P38A AND P38B |
| DRAWN SHL DATE<br>CHECKED 7/2/91<br>DRAFTG. | APPRVD DJS 7/2/91<br>APPRVD<br>APPRVD | A<br>SCALE |

TELEDYNE POST N37691

PRFD PRFD PRFD

19) All conduit work shall be in accordance with PBNP Specification for Safety Related Electrical Installation, PB-220 and PBNP Nuclear Safety Related Seismic Class I Conduit Support Design Manual, DG-E02.

20) <u>The existing conduit supports for each train, shall at all times remain in service until the installation of the new conduit supports required for a given train, or the installation of temporary conduit supports for a given train is complete.</u> As indicated on the design drawings, the existing/old supports on a particular train shall be removed after the installation of the new conduit supports for that particular train is complete

21) After installation, all scratched unistrut and/or cut ends of unistrut shall be touched up with one of the following:

    a) Carbo Zinc SP81.

    b) Sprayon #00740.

    c) LPS Instant Cold Galvanizing.

22) All structural steel (i.e., tube steel, base plates, etc.) except anchor bolts and unistrut shall be primed with one coat of "Glid-Guard #5205" primer after fabrication and grinding are complete. After installation, primed surfaces that are nicked or scratched shall be touched up with primer prior to application of the finish coat of paint.

23) All primed structural steel shall receive two (2) finish coats of Glidden Lifemaster II, 6900 Series water reducing acrylic enamel or equivalent after installation is complete. The finish coat color(s) shall match the color(s) of existing structural steel conduit supports in the Aux Feedwater Pump Room. The dry film thickness of each finish coat shall be 1-1/2 mils.

24) Cone overlap of conduit support expansion anchor attachments and the 4" embedded channels (shown in the plan elevation sketches on drawing SK-ELEC-012 Sheet 1 - 16) has been evaluated in the design calculations and is acceptable if installed as shown on drawing SK-ELEC-012 Sheet 1 - 16.

PROJ IDENT._____

| | | | |
|---|---|---|---|
| MICROFORM NO | | Wisconsin Electric | TITLE |
| SK-ELEC-012/MR 88-099*D<br>SHEET 3 OF 16 | | | AUX FEEDWATER PUMP CONDU<br>SUPPORTS P38A AND P38B |
| DRAWN SKL DATE | APPRVD. BOS 7/2/91 | A | |
| CHECKED SKL 7/2/91 | APPRVD. | | |
| DRAFTG. | APPRVD. | SCALE | RELEASE DATE |

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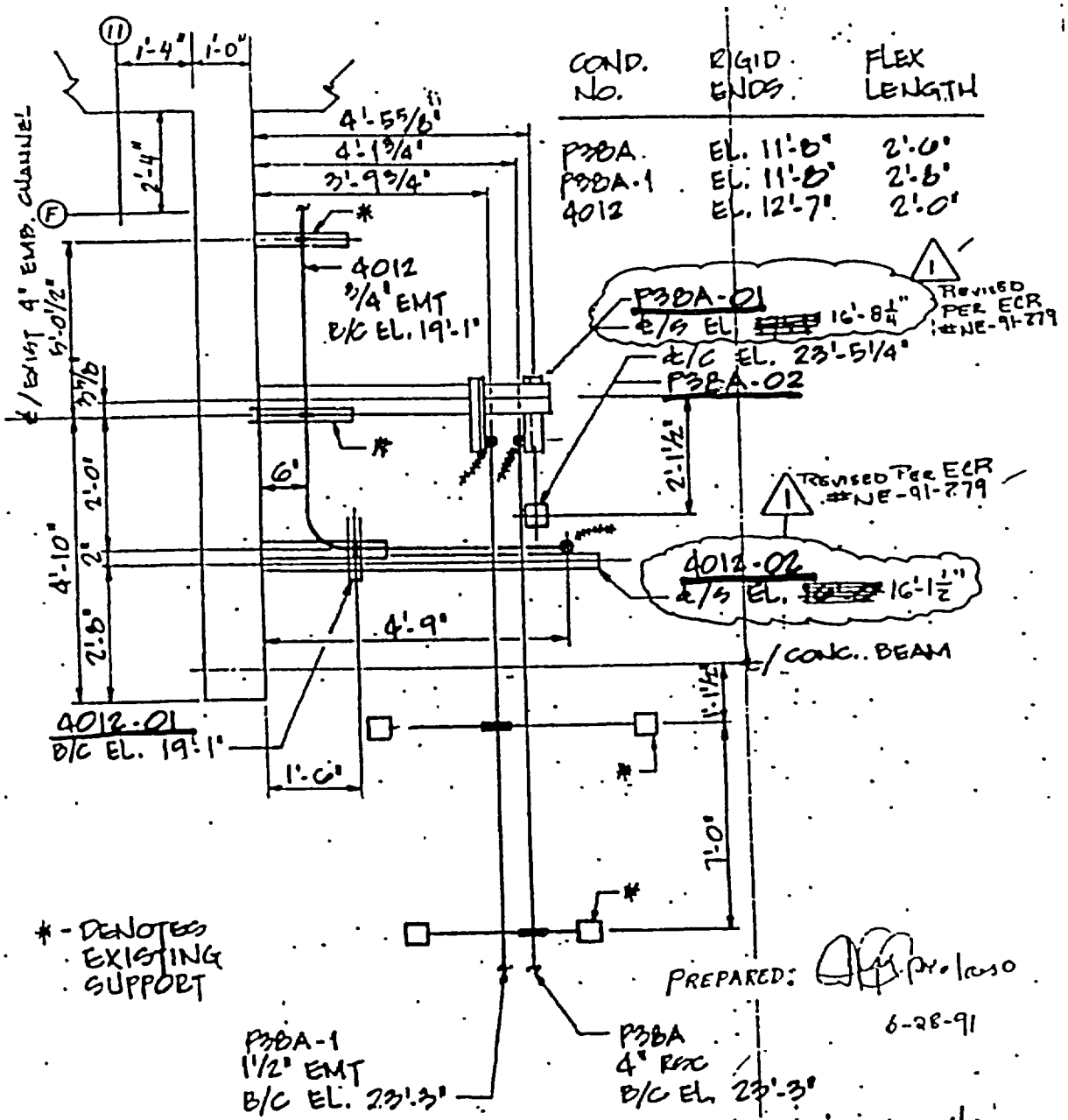



| COND. NO. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38A | EL. 11'-6" | 2'-0" |
| P38A-1 | EL. 11'-6" | 2'-6" |
| 4012 | EL. 12'-7" | 2'-0" |

PREPARED: Pr. Iaso 6-28-91

REVD:- RD Zoffke 6-28-91

NORTH

# PLAN ELEVATION 8'-0"

(P38A)

W.E. REVISIONS

| REV. NO. | DATE | DESCRIPTION | BY | CHKD | APPD |
|---|---|---|---|---|---|
| 1 | 6-28-91 | REVISED PER ECR #NE-91-279 | RBS | | |

PROJ IDENT.

MICROFORM NO

SK-ELEC-012/MR 88-099RD

SHEET 4 OF 16

Wisconsin Electric

TITLE

AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B

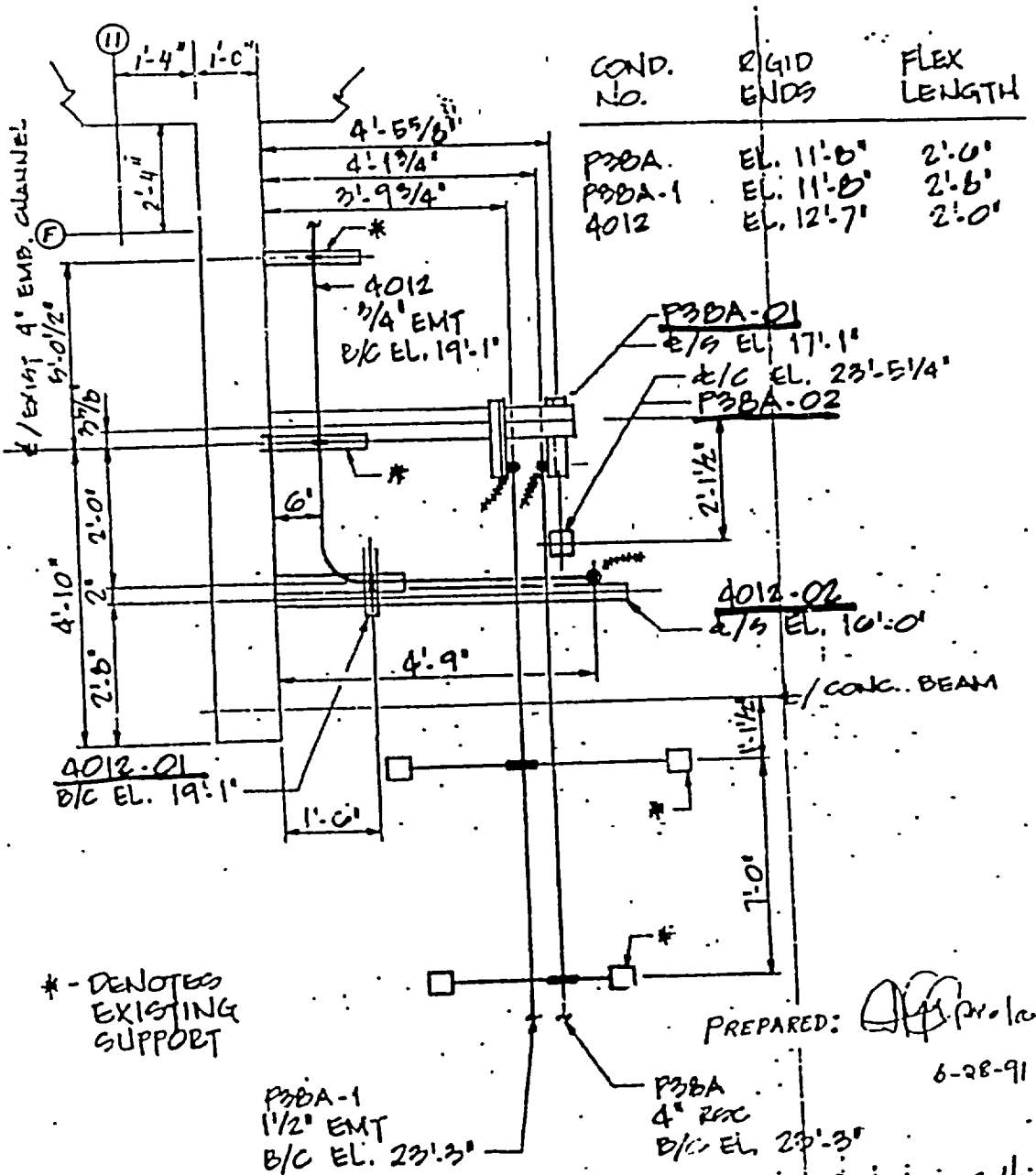
| DRAWN | DATE | APPRVD | DATE |
|---|---|---|---|
| SAL | | RBS | 7/24/91 |
| CHECKED | 7/24/91 | APPRVD. | |
| DRAFTG. | | APPRVD. | |

A

SCALE

RELEASE DATE

YELLOWSTONE POST M37693




| COND. NO. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38A. | EL. 11'-6" | 2'-0" |
| P38A-1 | EL. 11'-8" | 2'-6" |
| 4012 | EL. 12'-7" | 2'-0" |

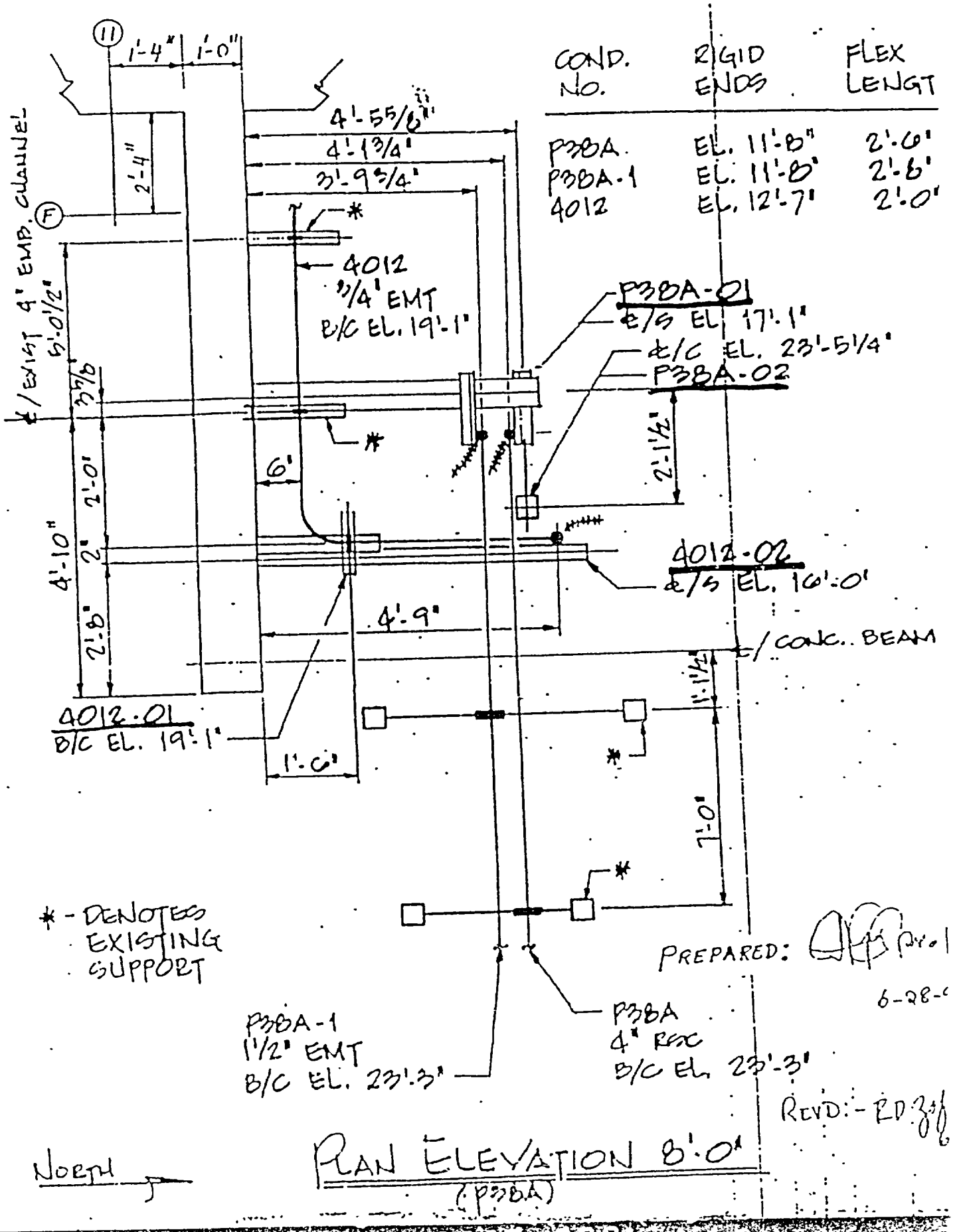
PREPARED: [signature] P. Iaso 6-28-91

REVD: - R.D. Zaffiri 6-28-91

# PLAN ELEVATION 8'-0" (P38A)

PROJ. IDENT. _____

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099*D<br>SHEET 4 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SL DATE 7/2/91 APPRVD. [signature] DATE 7/3/91<br>CHECKED [signature] 7/2/91 APPRVD.<br>DRAFTG. APPRVD | A<br>SCALE | RELEASE DATE |




| COND. NO. | RIGID ENDS | FLEX LENGT |
|---|---|---|
| P38A | EL. 11'-8" | 2'-0" |
| P38A-1 | EL. 11'-8" | 2'-6" |
| 4012 | EL. 12'-7" | 2'-0" |

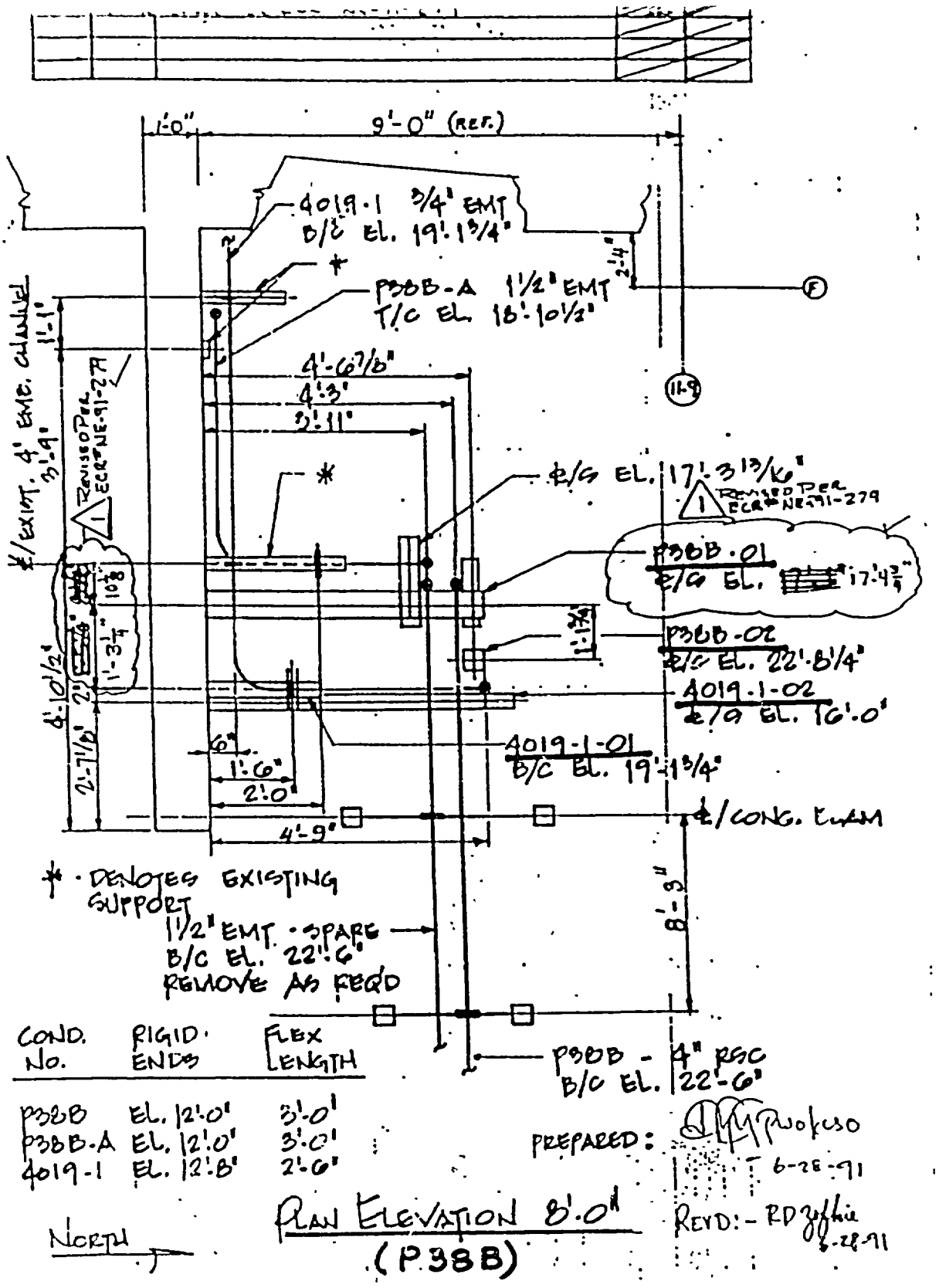
PREPARED:

6-28-

REVD:- ED 3/

# PLAN ELEVATION 8'-0"

(P38A)




| COND. No. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38B | EL. 12'-0" | 3'-0" |
| P38B-A | EL. 12'-0" | 3'-0" |
| 4019-1 | EL. 12'-8" | 2'-6" |

PREPARED: [signature] 6-26-91

REVD: - RD Zoffie 6-28-91

PLAN ELEVATION 8'-0"
(P38B)

PROJ. IDENT. _____

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099RD<br>SHEET 5 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SL DATE 7/2/91 · APPROVD. [signature] 7/2/91 · CHECKED [signature] 7/2/91 · APPROVD. · DRAFTG. · APPROVD. | A | SCALE · RELEASE DATE |

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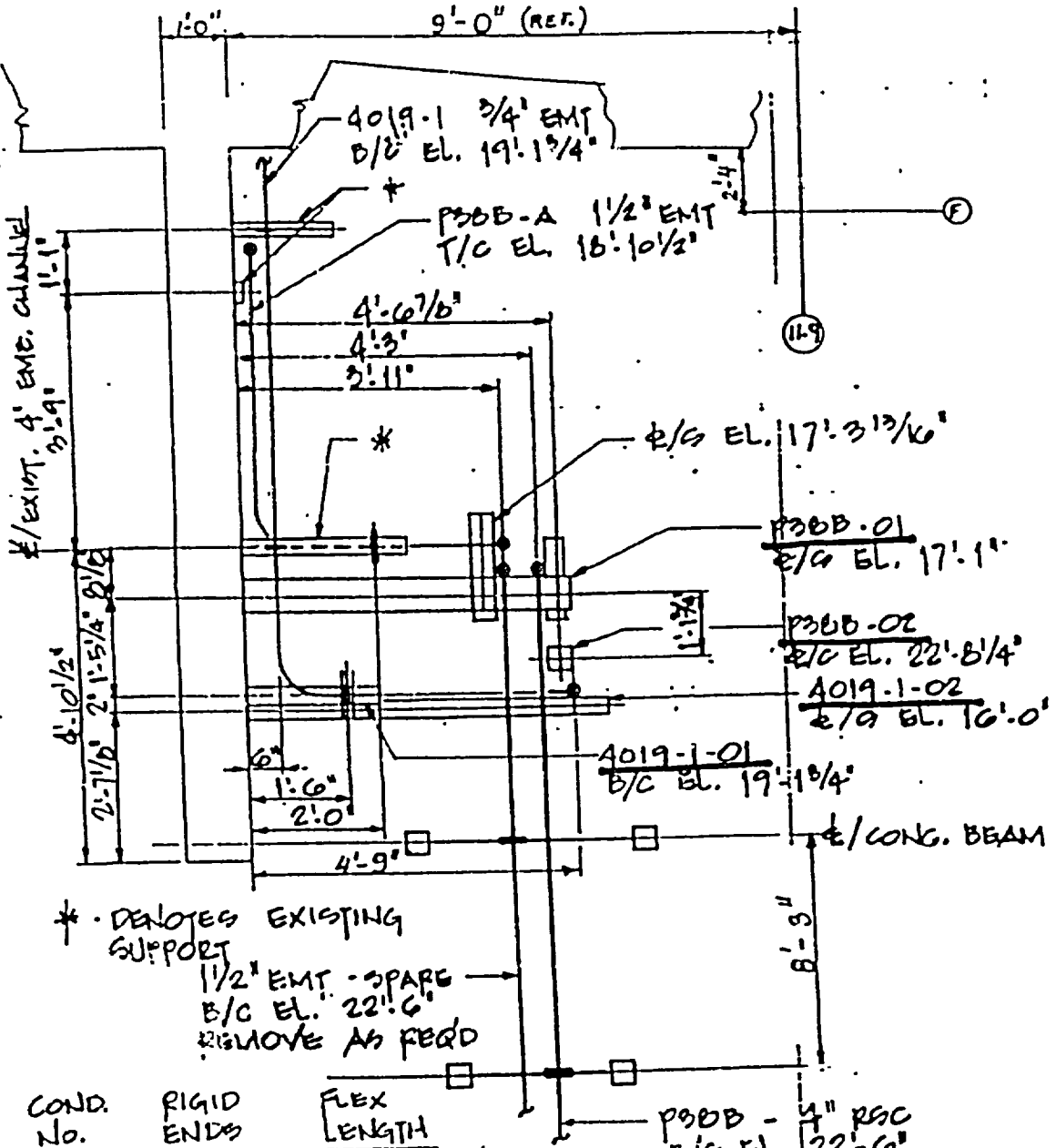



| COND. No. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38B | EL. 12'-0" | 3'-0" |
| P38B-A | EL. 12'-0" | 3'-0" |
| 4019-1 | EL. 12'-6" | 2'-6" |

PREPARED: JMP Ruokuso 6-28-91

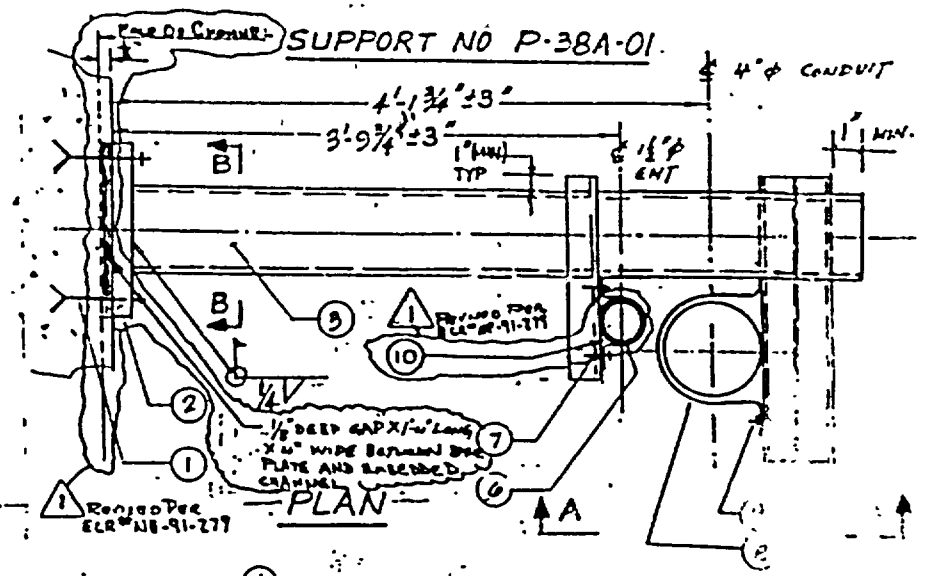
REVD:- RD Zoffka 6-28-91

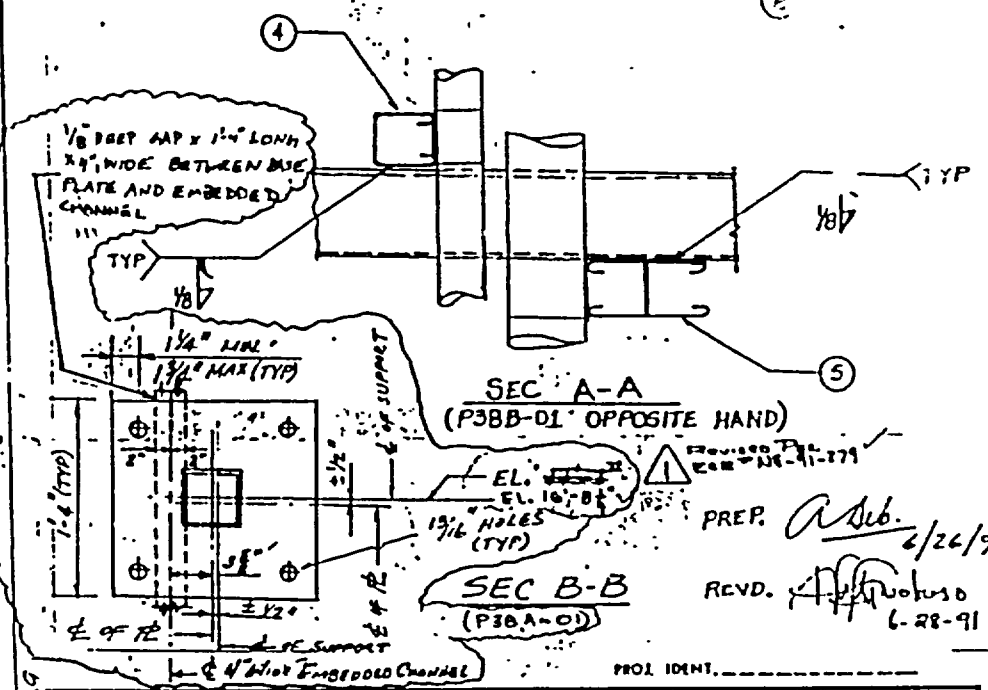
North

PLAN ELEVATION 8'-0"
(P38B)

PROJ. IDENT.

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099*D<br>SHEET 5 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN GL DATE | APPRVD. BDS 7/2/91 | A |
| CHECKED 7/2/91 | APPRVD. | |
| DRAFTG. | APPRVD. | SCALE RELEASE DATE |




| REV. NO. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 1 | 6-28-91 | REVISED PER ECR-NE-91-279 |

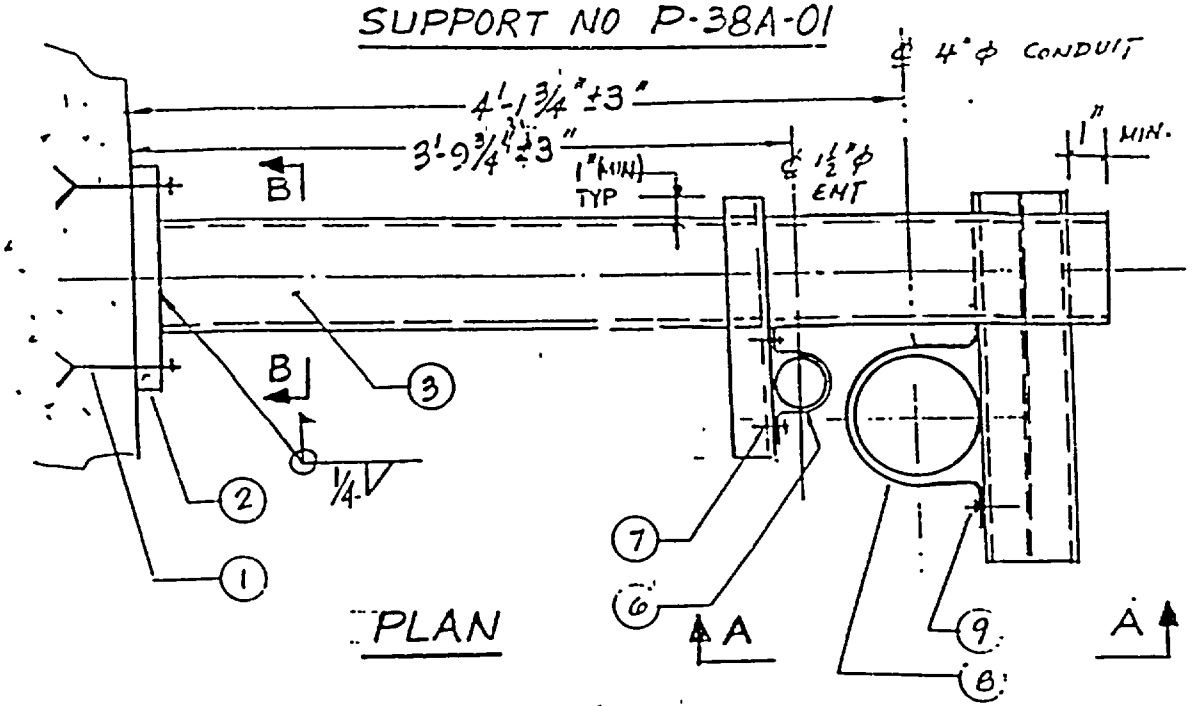
PREP. A Sub. 6/26/91

REVD. [illegible] 6-28-91

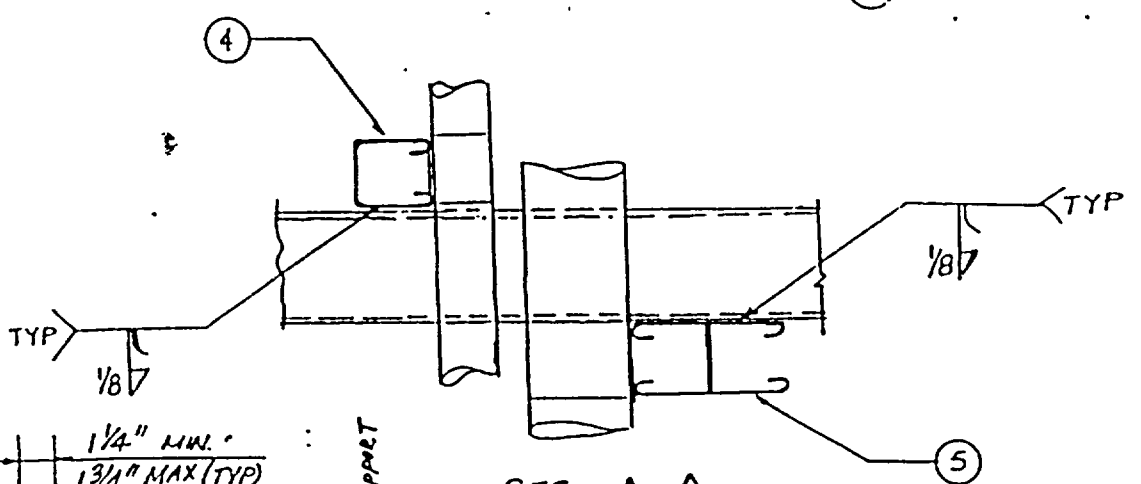
PROJ. IDENT.

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR-88-011RD<br>SHEET 6 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN RL DATE | APPROV. 7/2/91 | A |
| CHKD DATE 7/2/91 | APPROV. | |
| DRAFTG. | APPROV. | SCALE RELEASE DATE |

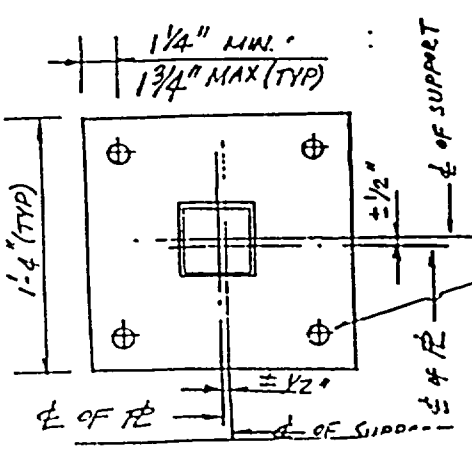
# SUPPORT NO P-38A-01




PLAN




SEC A-A
(P38B-01 OPPOSITE HAND)




SEC B-B

PREP. [signature] 6/26/91

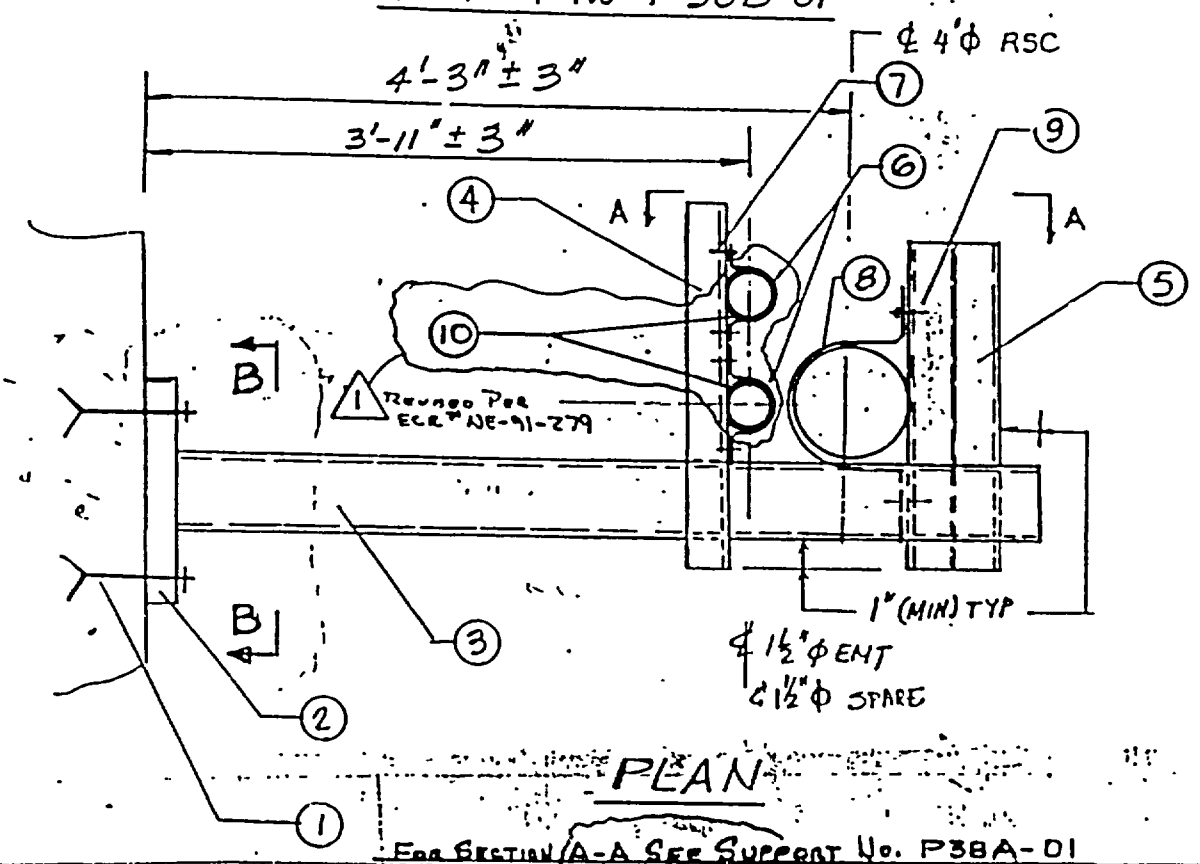
REVD. [signature] 6-28-91

PROJ. IDENT. _____

| | | | |
|---|---|---|---|
| MICROFORM NO<br>SK-ELEC-012/MR 88-099KD<br>SHEET 6 OF 16 | Wisconsin Electric | TITLE<br>AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B | |
| DRAWN SL DATE<br>CHECKED 7/2/91<br>DRAFTG. | APPROVD 7/2/91<br>APPROVD.<br>APPROVD | A<br>SCALE | RELEASE DATE |

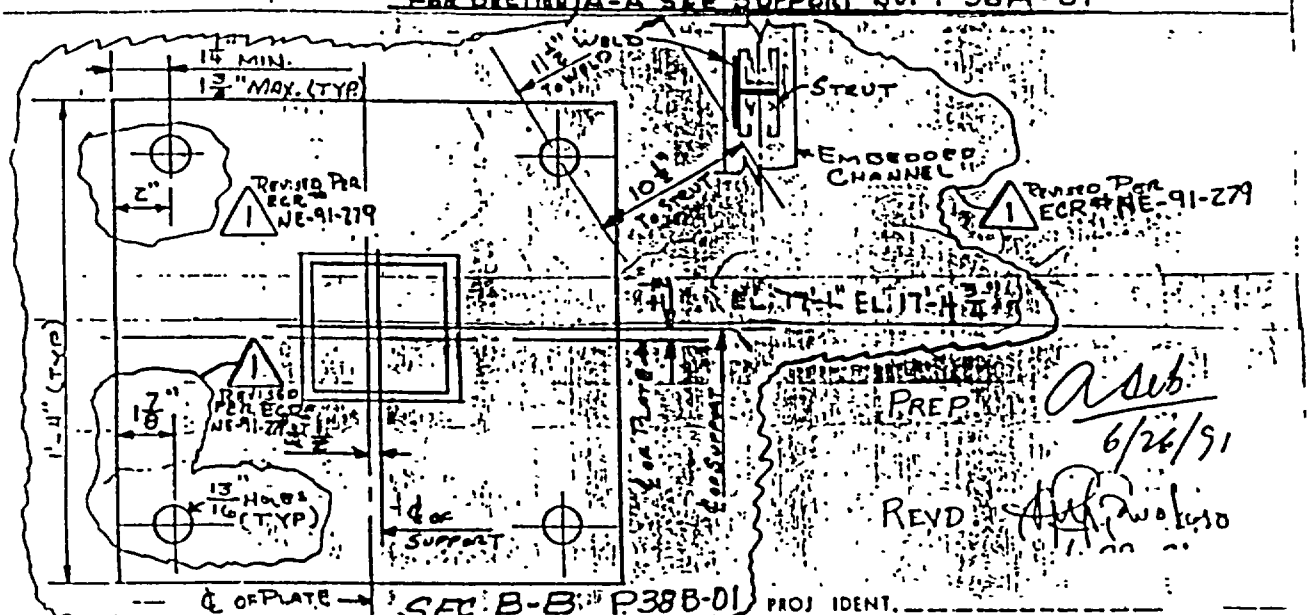
| REV. NO. | DATE | REVISION DESCRIPTION | APP'D |
|---|---|---|---|
| 1 | 01-06-92 | REVISED PER ECR # NE-91-279. | J.O.K. CRS |

# SUPPORT NO P38B-01




## PLAN

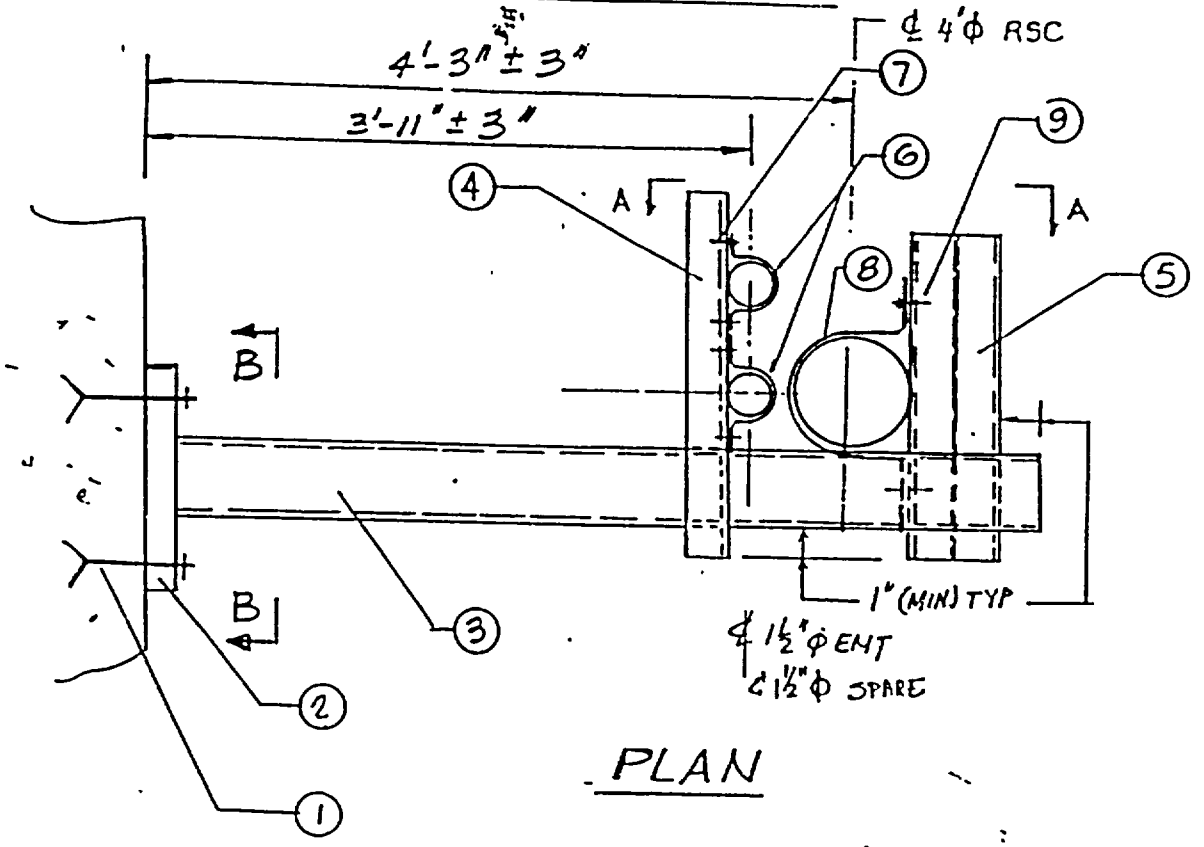
FOR SECTION A-A SEE SUPPORT NO. P38A-01




PROJ IDENT.

| | | | |
|---|---|---|---|
| MICROFORM NO | | | TITLE |
| SK-ELEC-012/MR 88-099*D | | Wisconsin Electric | AUX. FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| SHEET 7 OF 16 | | | |
| DRAWN SJL DATE | APPVD. BJS 7/2/91 | A | |
| CHECKED 7/2/91 | APPVD. | | |
| DRAFTS. | APPVD | SCALE | RELEASE DATE |

# SUPPORT NO P38B-01




PLAN

FOR SECTIONS A-A & B-B SEE SUPPORT NO. P38A-01

PREP. A Sub. 6/26/91

REVD. [illegible]

PROJ IDENT. _____

| MICROFORM NO | | | TITLE |
|---|---|---|---|
| SK-ELEC-012/MR 88-099*D<br>SHEET 7 OF 16 | | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN S&L DATE | APPRVD. BDS 7/2/91 | | |
| CHECKED 7/2/91 | APPRVD. | | |
| DRAFTG. | APPRVD. | A | |
| | | SCALE | RELEASE DATE |

| | | | | |
|---|---|---|---|---|
| 1 | 6-5-91 | Revised Per ECR # NE-91-279 | [illegible] | |
| | | | | |
| | | | | |
| | | | | |

# BILL OF MATERIAL

## SUPPORT NOS. P38A-01 AND P38B-01

| ITEM No. | NO. REQD. | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 3/4" DIA. | - | HILTI KWIK BOLT II MIN. Le = 5" |
| ② | 2 | 3/4" x 16" x 1'-4" | A-36 | PLATE |
| ③ | 2 | 1/4" x 4" x 4" x 5'-6" | A-500 GR. B | STRUCTURAL TUBE STEEL (CUT TO SUIT) |
| ④ | 2 | 1'-6" | - | P1000 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | 1'-6" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑥ | 3 | P2558-15 | - | UNISTRUT PIPE CLAMP |
| ⑦ | 6 | 1/4" ϕ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRUT SPRING NUT |
| ⑧ | 2 | P2558-40 | - | UNISTRUT PIPE CLAMP |
| ⑨ | 4 | 3/8" ϕ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1008 : UNISTRUT SPRING NUT |
| ⑩ | 3 | 1" EMT + 1 1/2" LONG 3/8" SLOT SPLIT LENGTHWISE | - | SPACER BETWEEN CONDUIT AND PIPE CLAMP |

Le = MINIMUM EMBEDMENT

1 Revision Per ECR #NE-91-279

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS.

PREP. [signature] 6/26/91

REVD. [signature] 6-28-91

PROJ. IDENT. _____

| | | |
|---|---|---|
| MICROFORM NO | | TITLE |
| SK-ELEC-012/MR 88-099KD<br>SHEET 8 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SJL DATE<br>CHECKED [signature] 7/2/91<br>DRAFTG. | APPRVD. [signature] 7/2/91<br>APPRVD.<br>APPRVD. | A<br>SCALE RELEASE DATE |

# BILL OF MATERIAL

## SUPPORT NOS. P38A-01 AND P38B-01

| ITEM NO. | NO. REQD. | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 3/4" DIA. | - | HILTI KWIK BOLT II MIN. Le = 5" |
| ② | 2 | 3/4" x 16" x 1'-4" | A-36 | PLATE |
| ③ | 2 | 1/4" x 4" x 4" x 5'-6" | A-500 GR. B | STRUCTURAL TUBE STEEL (CUT TO SUIT) |
| ④ | 2 | 1'-6" | - | P1000 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | 1'-6" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑥ | 3 | P2558-15 | - | UNISTRUT PIPE CLAMP |
| ⑦ | 6 | 1/4" Φ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRUT SPRING NUT |
| ⑧ | 2 | P2558-40 | - | UNISTRUT PIPE CLAMP |
| ⑨ | 4 | 3/8" Φ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1008 : UNISTRUT SPRING NUT |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS.

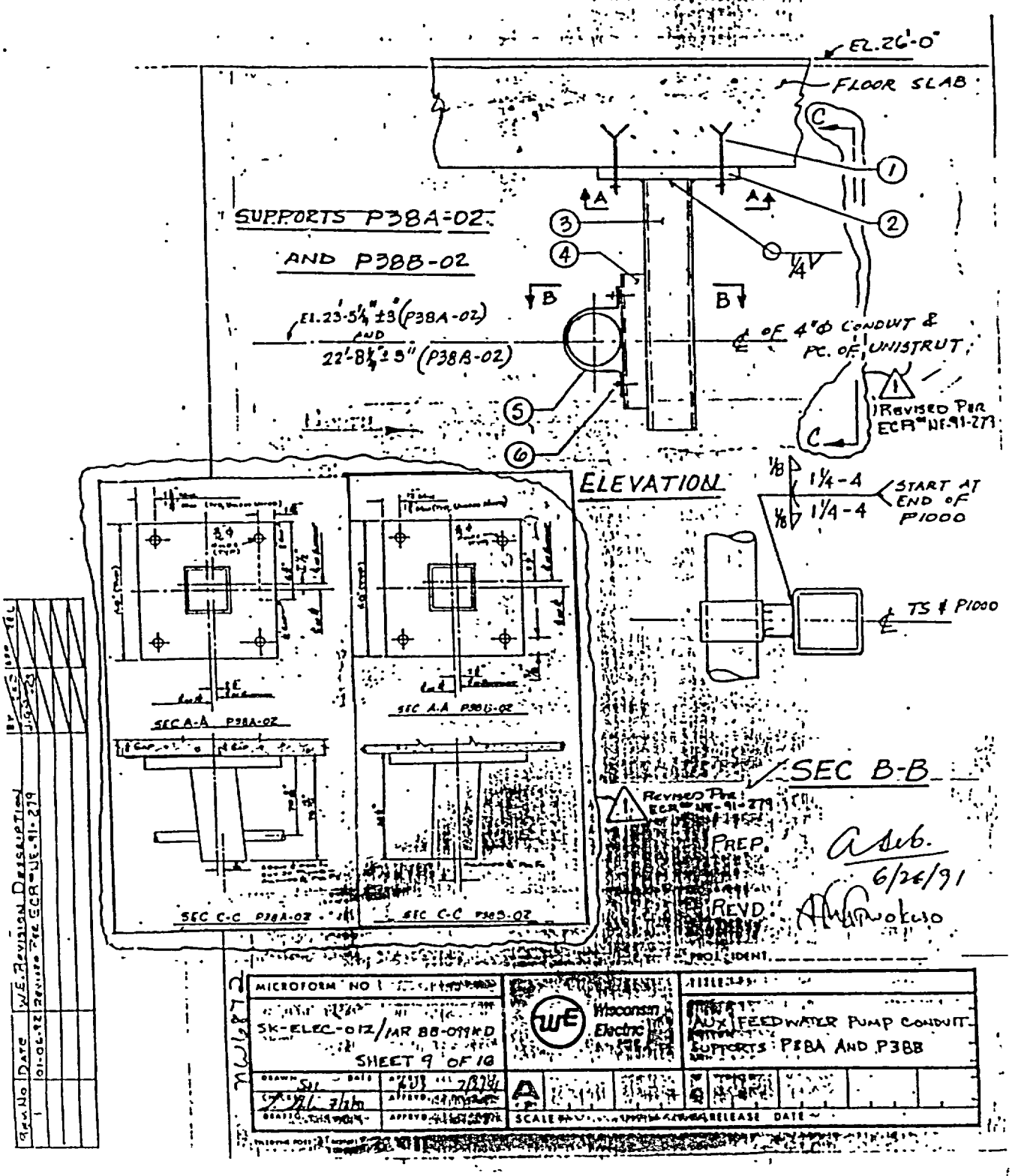
PREP. A Seb. 6/26/91

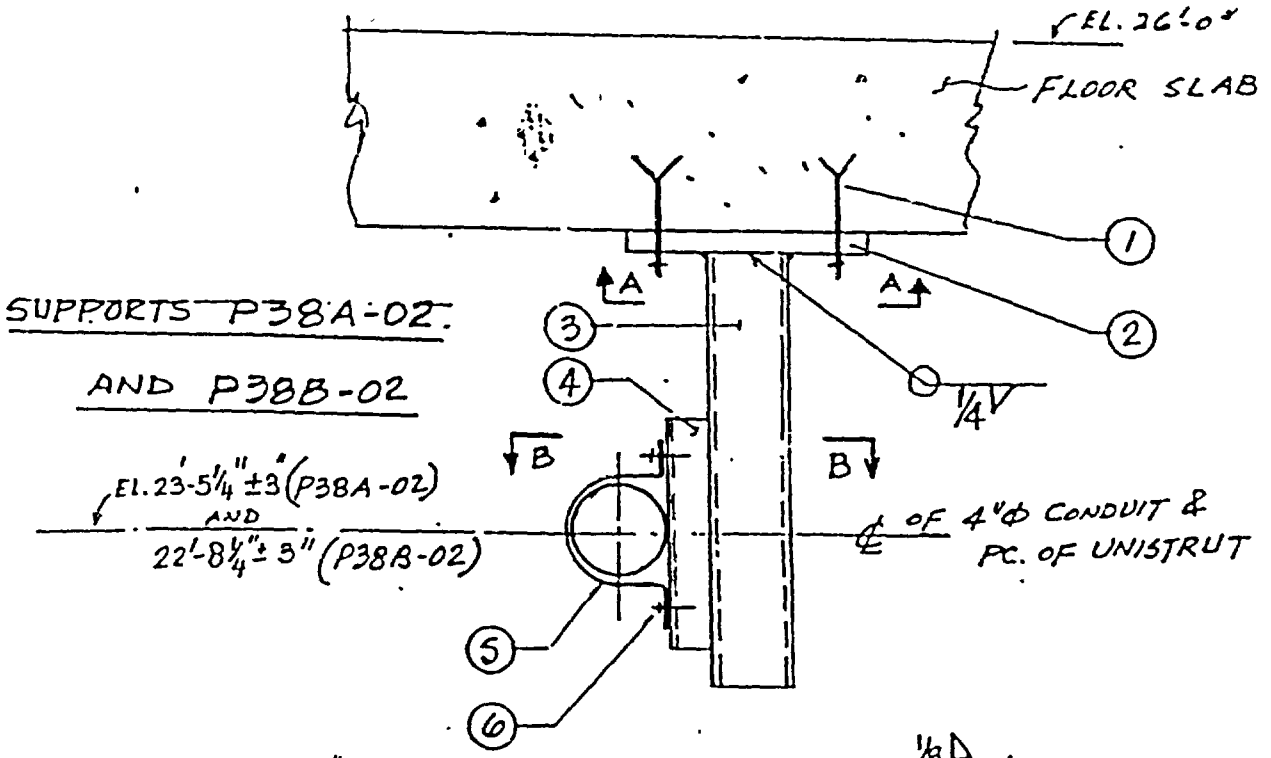
REVD. [signature] 6-28-91

PROJ. IDENT. _____

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099#D SHEET 8 OF 16 | Wisconsin Electric | AUX. FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SAL DATE | APPRVD. BCS DATE 7/2/91 | A |
| CHECKED 7/2/91 | APPRVD. | |
| DRAFTG. | APPRVD. | SCALE RELEASE DATE |

TELEDYNE POST M7501

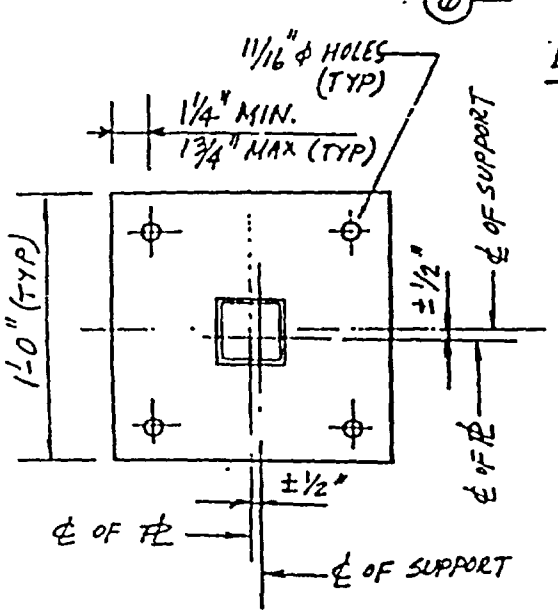

EL. 26'-0"
FLOOR SLAB
SUPPORTS P38A-02
AND P38B-02
EL. 23'-5 1/4" ±3" (P38A-02)
AND
22'-8 1/4" ± 3" (P38B-02)
℄ OF 4"Ø CONDUIT &
PC. OF UNISTRUT
Revised Per ECR# WE-91-279
ELEVATION
1/8 1 1/4-4
1/8 1 1/4-4
START AT END OF P1000
TS # P1000
SEC A-A P38A-02
SEC A-A P38B-02
SEC B-B
SEC C-C P38A-02
SEC C-C P38B-02
Revised Per ECR# WE-91-279
PREP.
REVD.
6/26/91
PROJECT
MICROFORM NO.
SK-ELEC-012/MR 88-099RD
SHEET 9 OF 10
Wisconsin Electric
TITLE
AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B
DRAWN
APPROVED
SCALE
RELEASE DATE
W.E. Revision Description
No. Date
1 01-06-92 Revised Per ECR-WE-91-279



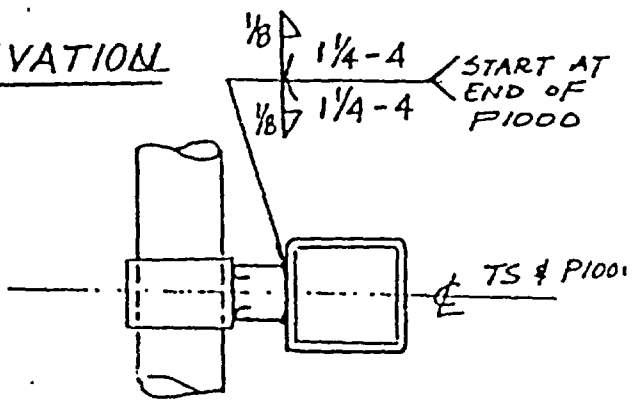

SUPPORTS P38A-02

AND P38B-02

ELEVATION




SEC A-A




SEC B-B

PREP. A Sub. 6/26/91

REVD. A Matsukuso

PROJ. IDENT.

| | | |
|---|---|---|
| MICROFORM NO<br>SK-ELEC-012/MR 88-099RD<br>SHEET 9 OF 16 | Wisconsin Electric | TITLE<br>AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SLL DATE 7/2/91 APPRVD. 7/3/91<br>CHECKED 7/2/91 APPRVD.<br>TRAFFIC. APPRVD. | A<br>SCALE | RELEASE DATE |

ENGLEHARD POST M37001

# BILL OF MATERIAL

SUPPORT NO: P38A-02
AND P38B-02

| ITEM No. | NO. REQD. | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| (1) | 8 | 5/8" DIA. | – | HILTI KWIK BOLT II Le = 4" |
| (2) | 2 | 3/4" x 12" x 1'-0" | A-36 | PLATE |
| (3) | 2 | 1/4" x 3" x 3" x 3'-0" | A-500 GR. B | STRUCTURAL TUBE STEEL (CUT TO SUIT) |
| (4) | 2 | 0'- 10" | – | P1000 : UNISTRUT |
| (5) | 2 | P2558-40 | – | UNISTRUT PIPE CLAMP |
| (6) | 4 | 3/8" x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | – | P1008 : UNISTRUT SPRING NUT |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

PREP. 6/26/91

REVD. 6-28-91

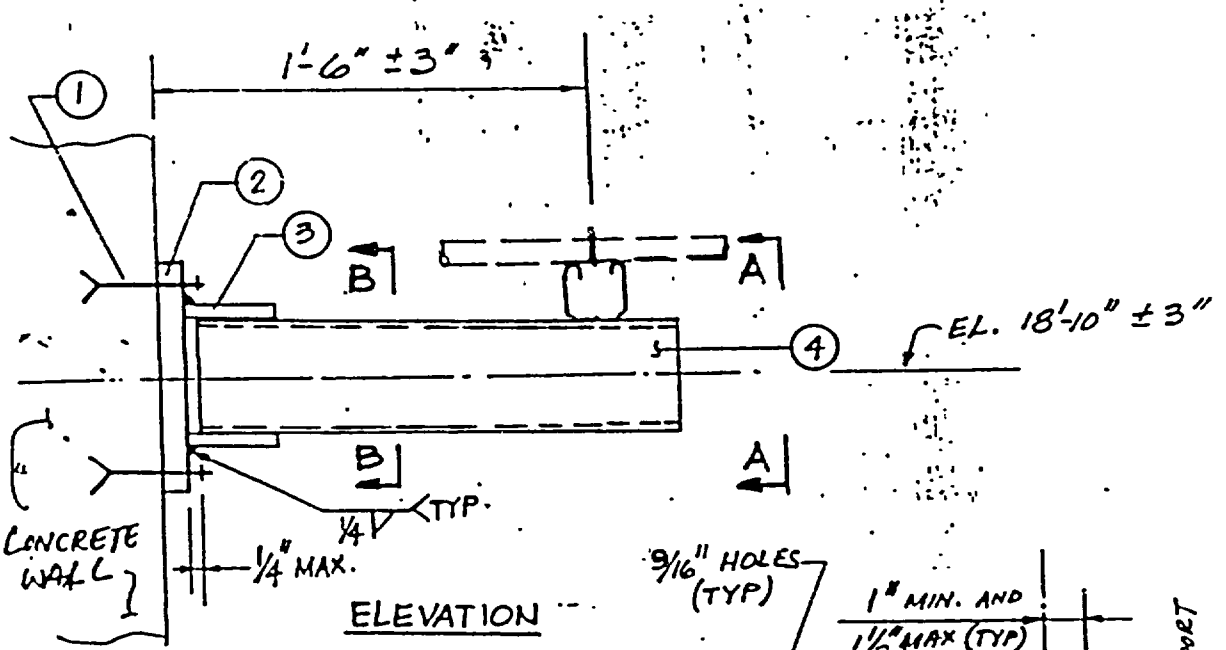
PROJ. IDENT.

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099KD SHEET 10 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SAL DATE | APPRVD. DJS 7/2/91 DATE | |
| CHECKED 7/2/91 | APPRVD. | |
| DRAFTG. | APPRVD. | |
| | A | |
| | SCALE | RELEASE DATE |

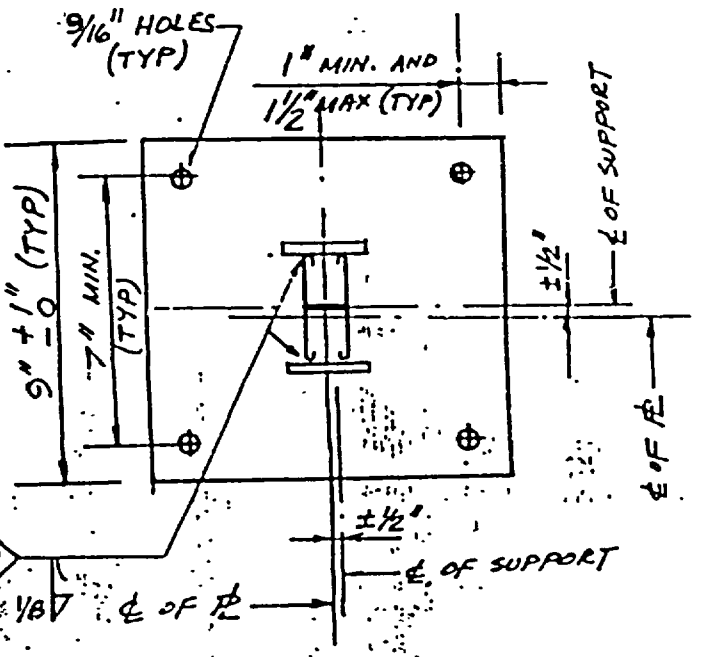
TELEDYNE POST M37691

| | | | | |
|---|---|---|---|---|
| 1 | 01-04-92 | Revised Per ECR # NE-91-279 | | |
| | | | | |
| | | | | |
| | | | | |

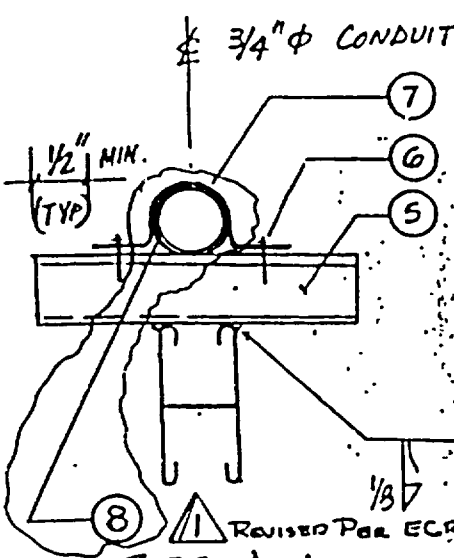
# SUPPORTS 4012-01 & 4019-1-01




ELEVATION




SEC B-B




1 Revised Per ECR # NE-91-279

SEC A-A

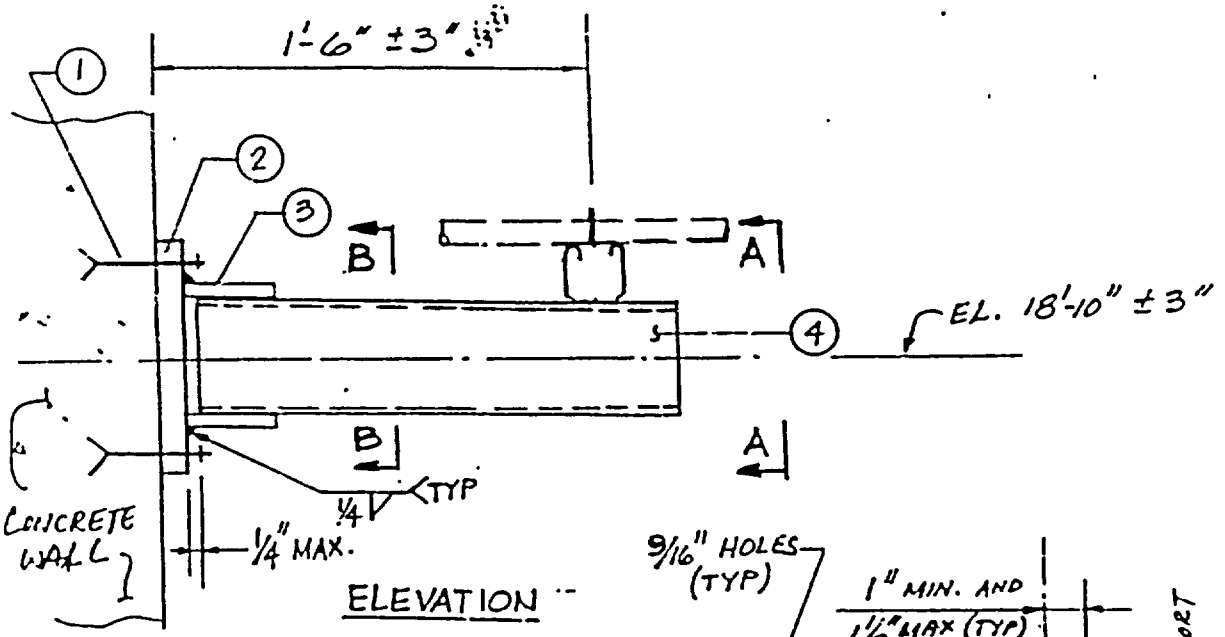
PREP. A.S.E.B. 6/26/91

REVIN [illegible] 10-91

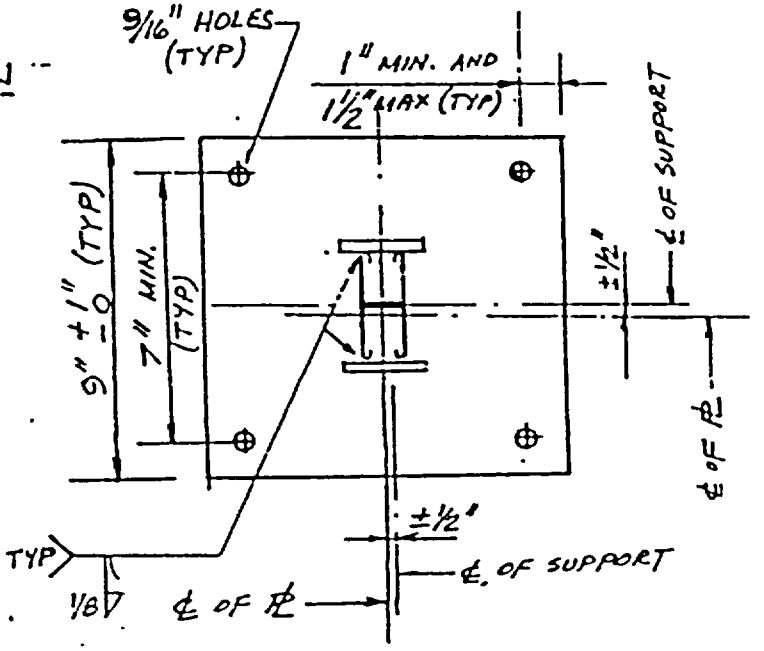
PROJ. IDENT. _____

| | | |
|---|---|---|
| MICROFORM NO | Wisconsin Electric | TITLE |
| SK-ELEC-012/MR 88-099-D<br>SHEET 11 OF 16 | | AUX. FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SH DATE 7/2/91 · APPROVD DAS DATE 7/2/91 · CHECKED 7/2/91 · APPROVD. | | |

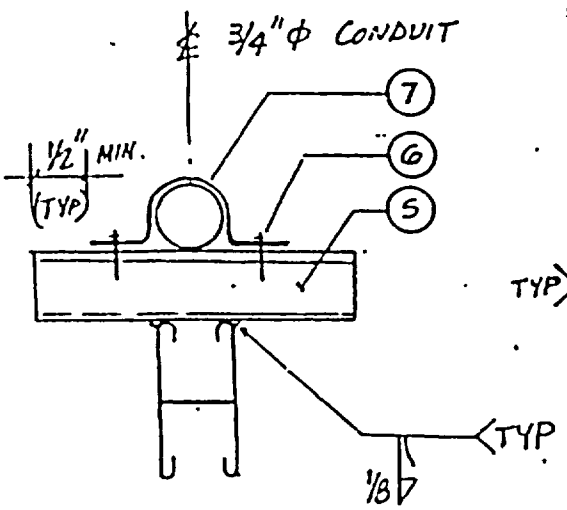
# SUPPORTS 4012-01 & 4019-1-01




ELEVATION




SEC B-B




SEC A-A

PREP. [signature] 6/26/91

REVD [signature] 10.91

PROJ. IDENT. _____

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099*D<br>SHEET 11 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SHL DATE 7/2/91 APPRVD. DAS DATE 7/2/91<br>CHECKED [signature] 7/2/91 APPRVD.<br>DRAFTG. APPRVD. | A | SCALE RELEASE DATE |

| NO. | DATE | W.E. REVISION DESCRIPTION | DRN | CHKD | APD |
|---|---|---|---|---|---|
| 1 | 01-06-92 | REVISED PER ECR # NE-91-279 | JCA | TAJ | |
| | | | | | |
| | | | | | |
| | | | | | |

# BILL OF MATERIAL

SUPPORT NOS. 4012-01
AND 4019-1-01

| ITEM NO. | NO. REQD. | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | – | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4" x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 2'-0" | – | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | 0'-5" | – | P1000 : UNISTRUT (CUT TO SUIT) |
| ⑥ | 4 | 1/4"Φ x 1 1/2 HEX HEAD CAP SCREW WITH SPRING NUTS | – | P1006-1420 : UNISTRUT SPRING NUT |
| ⑦ | 2 | P2558-7 | – | UNISTRUT PIPE CLAMP |
| ⑧ | 2 | 3/4" EMT - 1 5/8" LONG OF THE SPLIT LENGTHWISE | – | SPACER BETWEEN CONDUIT AND PIPE CLAMP |
| ○ | | ⚠1 REVISION PER ECR # NE-91-279 | | |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

PREP. [signature] 6/26/91

REVD. [signature] 6-26-91

PROJ. IDENT.

| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099 R D<br>SHEET 12 OF 16 | Wisconsin Electric | AUX. FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN DATE APPROVD. DATE<br>CHKD APPROVD. | | |

# BILL OF MATERIAL

SUPPORT NOS. 4012-01
AND 4019-1-01

| ITEM NO. | NO. REQD. | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| (1) | 8 | 1/2" DIA. | - | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| (2) | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| (3) | 4 | 1/4" x 4" x 0'-4" | A-36 | PLATE |
| (4) | 2 | 2'-0" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| (5) | 2 | 0'-5" | - | P1000 : UNISTRUT (CUT TO SUIT) |
| (6) | 4 | 1/4"φ x 1 1/2 HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420: UNISTRUT SPRING NUT |
| (7) | 2 | P2558-7 | - | UNISTRUT PIPE CLAMP |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

PREP. 6/26/91

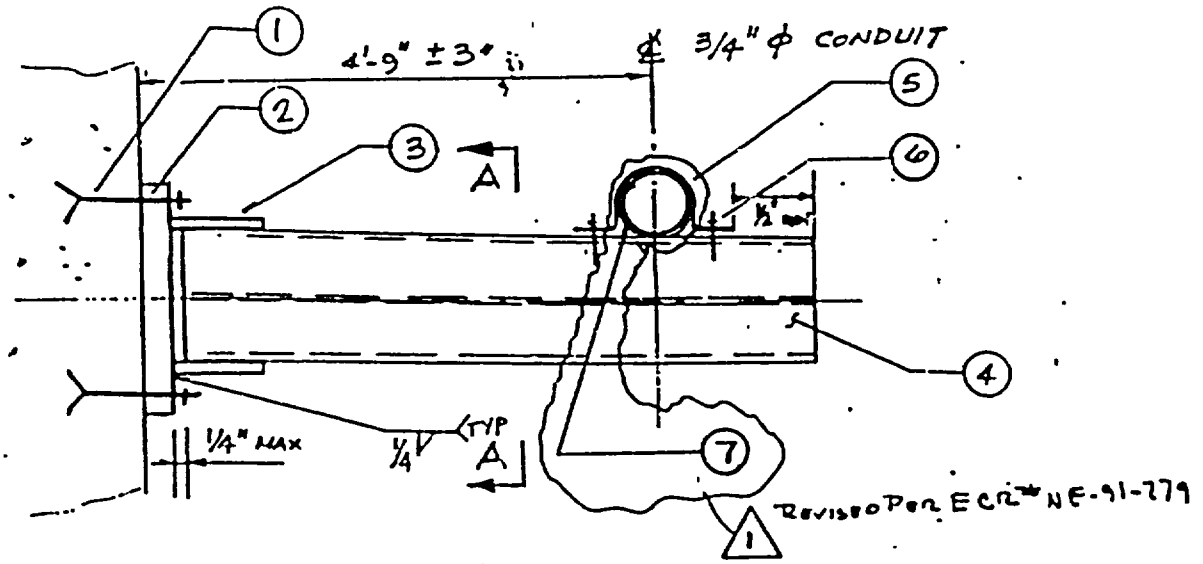
REVD. 6-26-91

PROJ. IDENT.

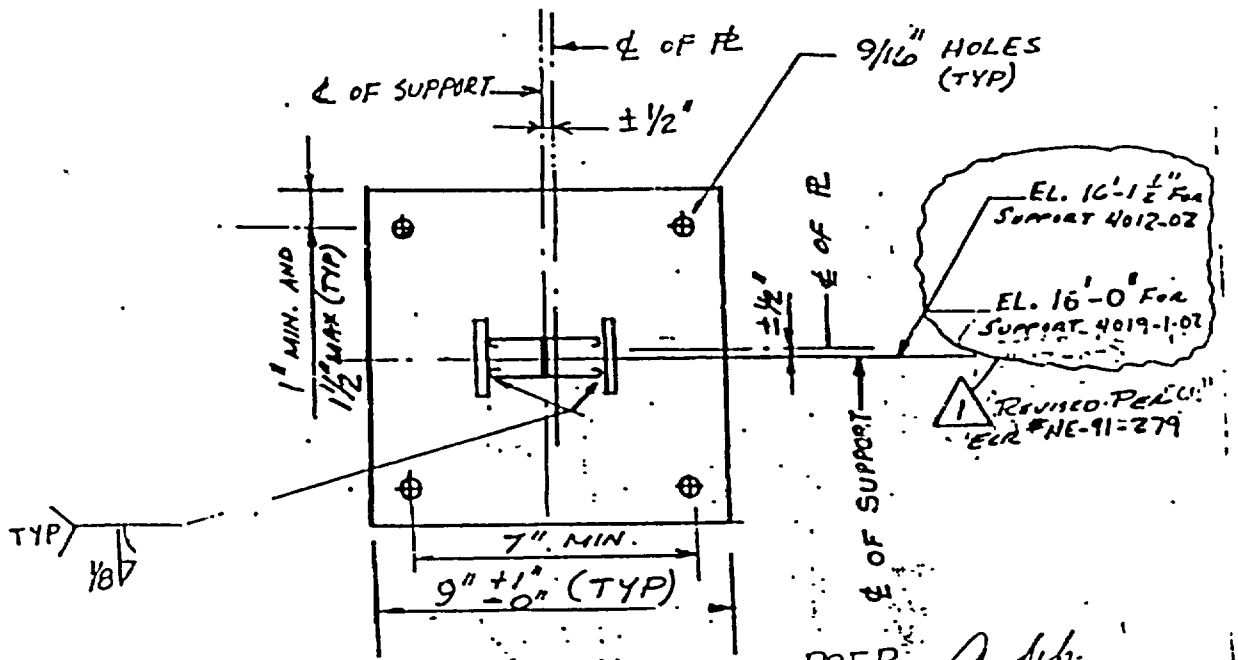
| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099#D<br>SHEET 12 OF 16 | Wisconsin Electric | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN DATE 7/2/91 APPRVD. BOS 7/2/91<br>CHKED APPRVD.<br>QUALITY. APPRVD. | A<br>SCALE | RELEASE DATE |

TELEDYNE POST M27691

## SUPPORTS 4012-02 & 4019-1-02




PLAN




PREP. A deb. 6/26/91

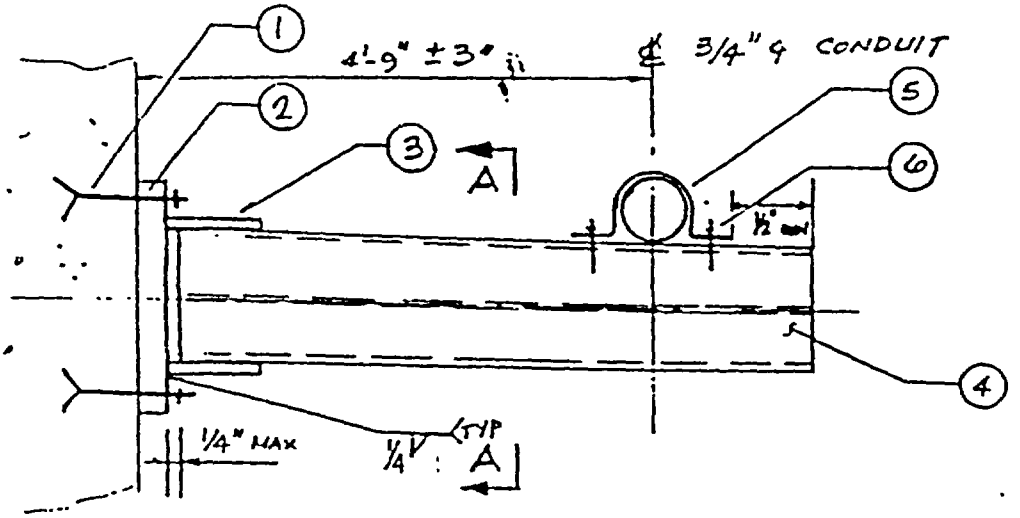
REVD. [signature] 6-28-91

SEC A-A

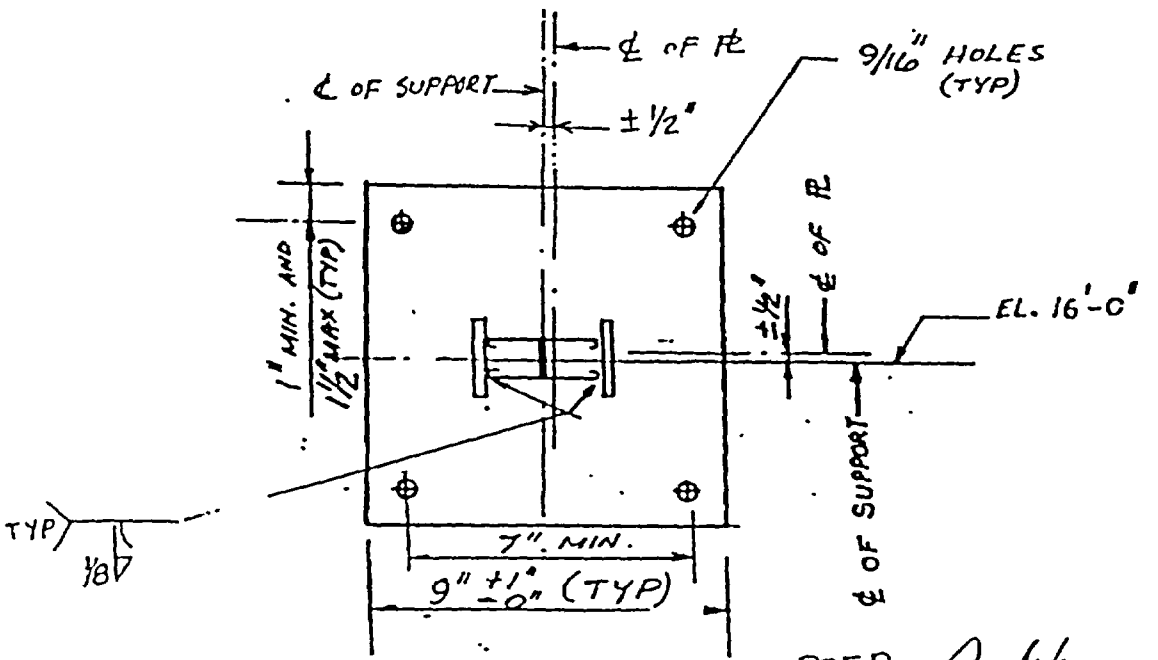
PROJ. IDENT.

| | | |
|---|---|---|
| MICROFORM NO<br>SK-ELEC-012/MR 88-099*D<br>SHEET 13 OF 16 | Wisconsin Electric | TITLE<br>AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SL DATE<br>CHECKED 7/8/91<br>DRAFTG. | APPRVD. BDS 7/12/91<br>APPRVD.<br>APPRVD. | A<br>SCALE<br>RELEASE DATE |

# SUPPORTS 4012-02 & 4019-1-02




## PLAN




PREP. A dub. - 6/26/91

REVD. [signature] 6-28-91

## SEC A-A

PROJ. IDENT.

| | | |
|---|---|---|
| MICROFORM NO<br>SK-ELEC-012/MR 88-099*D<br>SHEET 13 OF 16 | Wisconsin Electric | TITLE<br>AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SAL DATE 7/2/91 APPRVD. BOS<br>CHECKED APPRVD.<br>DRAFTG APPRVD. | A | SCALE RELEASE DATE |

# BILL OF MATERIAL

SUPPORT NOS. 4012-02
AND 4019-1-02

| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | — | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4 x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 5'-6" | — | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | P2558-7 | — | UNISTRUT PIPE CLAMP |
| ⑥ | 4 | 1/4"Φ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | — | P1006-1420 : UNISTRUT SPRING NUT |
| ⑦ | 2 | 3/4" EMT — 1 5/8" LONG SPLIT LENGTHWISE | — | SPACER BETWEEN CONDUIT AND PIPE CLAMP |
| | | 1 REVISED PER ECR NC-91-279 | | |
| | | | | |
| | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

PREP. 6/26/91

REVD. 6-28-91

PROJ IDENT.

| | | |
|---|---|---|
| MICROFORM NO | Wisconsin Electric | TITLE |
| SK-ELEC-012/MR 88-099KD | | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| SHEET 14 OF 16 | | |
| DRAWN DATE / APPRVD DATE 7/2/91 | A | |
| CHKD 7/2/91 / APPRVD | | |
| DRAFTG. / APPRVD | SCALE | RELEASE DATE |

# BILL OF MATERIAL

SUPPORT NOS. 4012-02
AND 4019-1-02

| ITEM NO. | NO. REQD. | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | – | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4 x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 5'-6" | – | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | P2558-7 | – | UNISTRUT PIPE CLAMP |
| ⑥ | 4 | 1/4"Φ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | – | P1006-1420 : UNISTRUT SPRING NUT |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

PREP. 6/26/91

REVD. 6-28-91

PROJ IDENT.

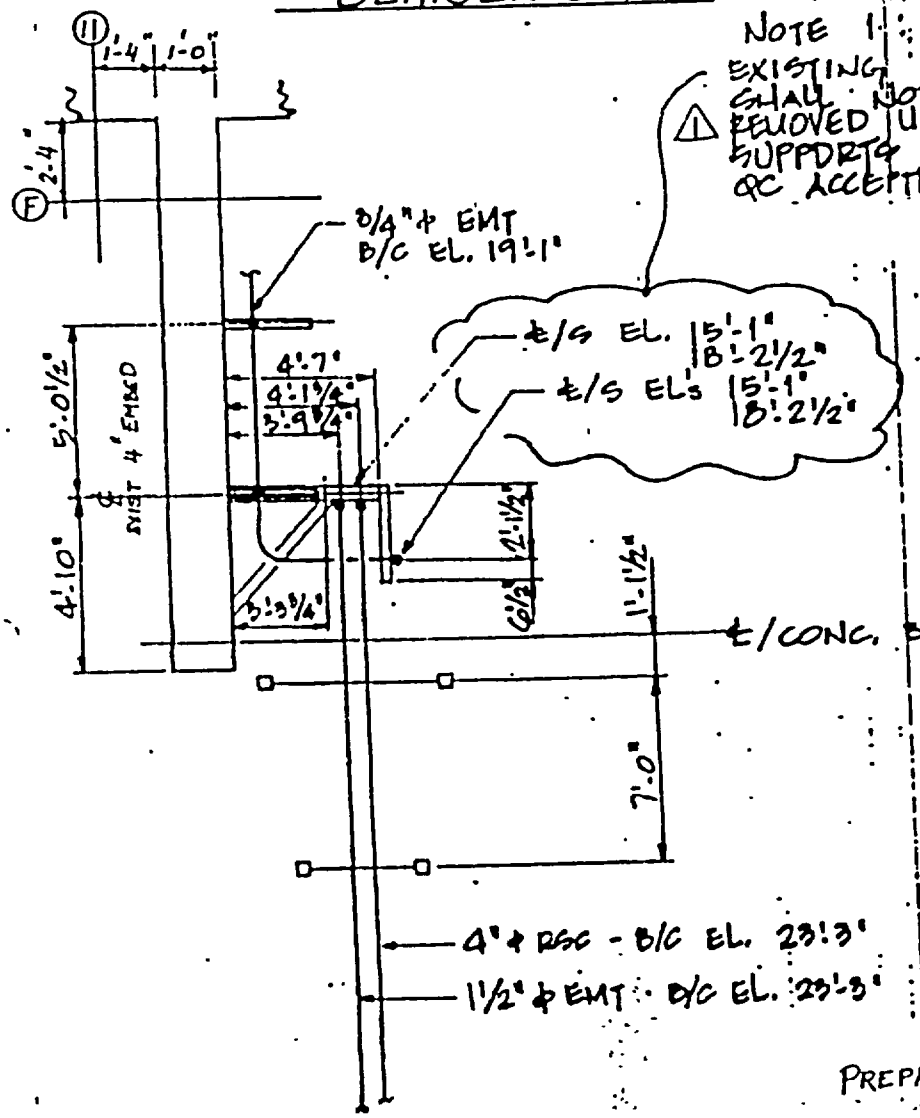
| MICROFORM NO | | TITLE |
|---|---|---|
| SK-ELEC-012/MR 88-099*D SHEET 14 OF 16 | Wisconsin Electric | AUX. FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |

| DRAWN | DATE | APPRVD. | DATE |
|---|---|---|---|
| CHKD. | 7/3/91 | APPRVD. | |
| DRAFTG. | | APPRVD. | |

A

SCALE RELEASE DATE

# DEMOLITION




PREPARED: - [signature] 6-26-91

REVIEWED: - RD Zoffka 6-28-91

## PLAN EL. 8'-0"

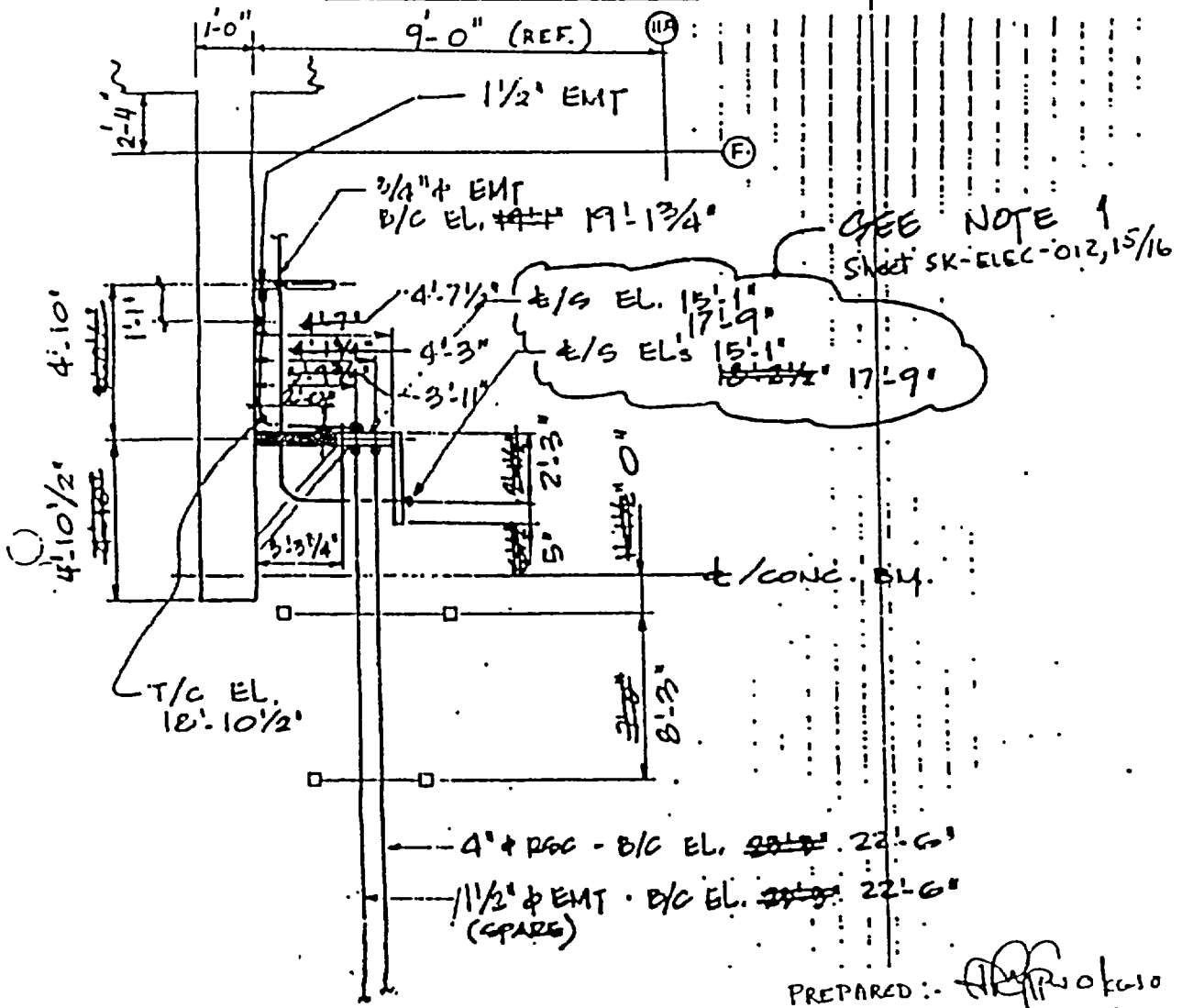
P38A PUMP CUBICLE

| W.R. REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | DATE | DESCRIPTION | BY | CKD | APP'D |
| 1 | 7/29/91 | REVISED NOTE 1 | SRS | [illegible] | [illegible] |

PROJ. IDENT.

| | | |
|---|---|---|
| MICROFORM NO | Wisconsin Electric | TITLE |
| SK-ELEC-012/MR 88-099RD | | AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| SHEET 15 OF 16 | | |
| DRAWN SH DATE | APPRVD. [illegible] DATE 7/2/91 | A |
| CHKED [illegible] DATE 7/2/91 | APPRVD. | |
| DRAFTG. | APPRVD. | SCALE RELEASE DATE |

# DEMOLITION




PREPARED: [signature] 6-28-91

REVIEWED: R.D. Zoffuie 6-29-91

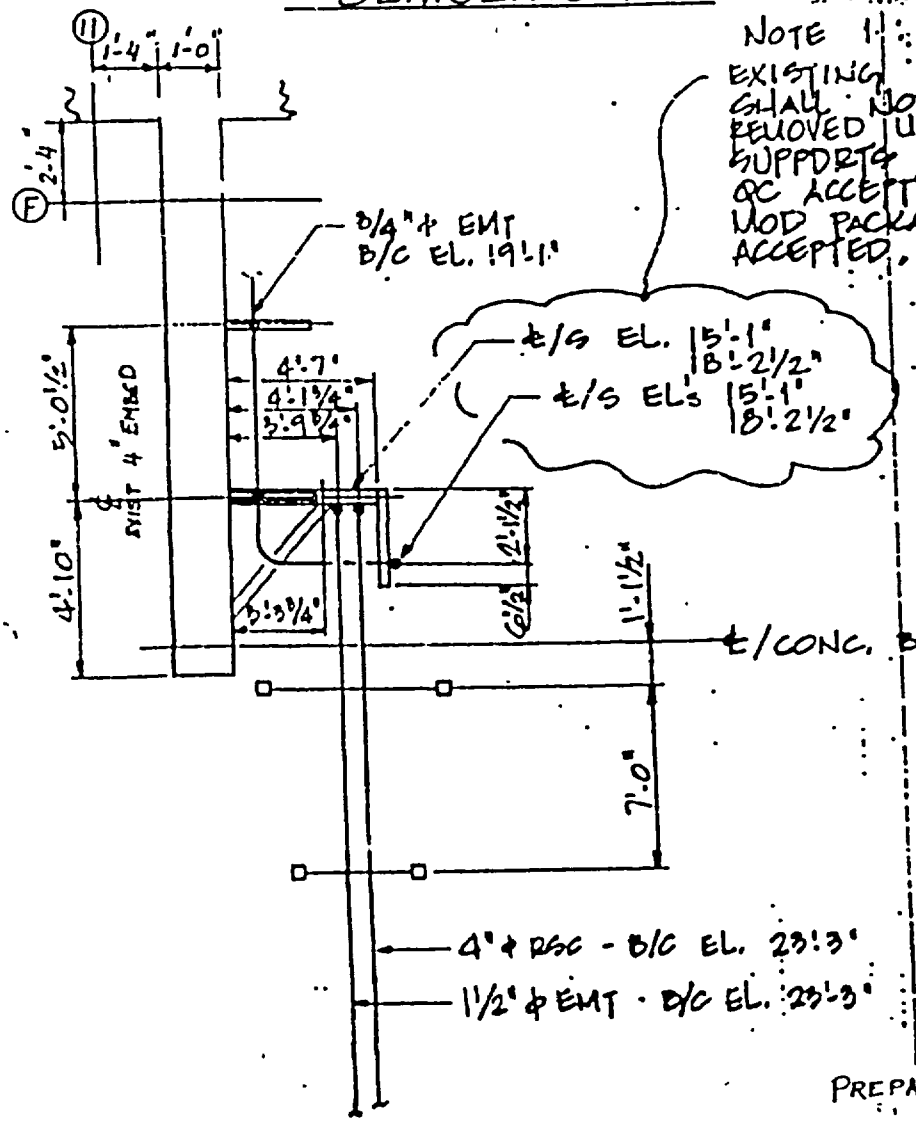
## PLAN EL. 8'-0"

P38B PUMP CUBICLE

PROJ. IDENT.

| | | |
|---|---|---|
| MICROFORM NO<br>SK-ELEC-012/MR 88-099*D<br>SHEET 16 OF 16 | Wisconsin Electric | TITLE<br>AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SL DATE<br>CHECKED 7/2/91<br>DRAFTG. | APPRVD DATE 7/2/91<br>APPRVD.<br>APPRVD. | A<br>SCALE RELEASE DATE |

# DEMOLITION




PREPARED: - [signature] 6-28-91

REVIEWED: - [signature] 6-28-91

## PLAN EL. 8'-0"

P38A PUMP CUBICLE

PROJ. IDENT.

| | | |
|---|---|---|
| MICROFORM NO<br>SK-ELEC-012/MR 88-099*D<br>SHEET 15 OF 16 | Wisconsin Electric | TITLE<br>AUX FEEDWATER PUMP CONDUIT SUPPORTS P38A AND P38B |
| DRAWN SH DATE 7/2/91 APPRVD. [illegible] DATE 7/2/91<br>CHKD [illegible] 7/2/91 APPRVD.<br>DRAFTG. APPRVD. | A | SCALE RELEASE DATE |

# DESIGN VERIFICATION NOTICE

Title of Document MODIFICATION REQUEST / DESIGN PACKAGE

Document No. MR 88-099 Rev. _____ Date _____

DESIGN PACKAGE 88-099XD
Design Verification Method: ☒ Design Review ☐ Alternate Calcs

☐ Qualification Testing

Reviewer: STEPHEN ST-AMOUR

## REVIEW CHECKLIST CONSIDERATIONS:

| | YES | NO | N/A |
|---|---|---|---|
| 1. Were the inputs correctly selected and incorporated into design? | X | | |
| 2. Are assumptions necessary to perform the design activity adequately described and reasonable? Where necessary, are the assumptions identified for subsequent reverifications when the detailed design activities are completed? | X | | |
| 3. Are the appropriate quality and quality assurance requirements specified? | X | | |
| 4. Are the applicable codes, standards, and regulatory requirements including issue and addenda properly identified and are their requirements for design met? | X | | |
| 5. Have applicable construction and operating experience been considered? | X | | |
| 6. Have the design interface requirements been satisfied? | X | | |
| 7. Was an appropriate design method used? | X | | |
| 8. Is the output reasonable compared to inputs? | X | | |
| 9. Are the specified parts, equipment and processes suitable for the required application? | X | | |
| 10. Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed? | X | | |
| 11. Have adequate maintenance features and requirements been specified? | X | | |
| 12. Are accessibility and other design provisions adequate for performance of needed maintenance and repair? | X | | |

## DESIGN VERIFICATION NOTES (continued)

| | | | |
|---|---|---|---|
| 13. | Has adequate accessibility been provided to perform the inservice inspection expected to be required during the plant life? | X | |
| 14. | Has the design properly considered radiation exposure to the public and plant personnel? | X | |
| 15. | Are the acceptance criteria incorporated in the design documents sufficient to allow verification that design requirements have been satisfactorily accomplished? | X | |
| 16. | Have adequate pre-operational and subsequent periodic test requirements been appropriately specified, including acceptance criteria? | X | |
| 17. | Are adequate handling, storage, cleaning, and shipping requirements specified? | X | |
| 18. | Are adequate identification requirements specified? | X | |
| 19. | Are requirements for records adequately specified? | X | |
| 20. | Will the change remain within the analyzed or specified capabilities of any affected equipment? | X | |
| 21. | Has a field inspection been done? | X | |
| 22. | Have impacts on other systems been identified? | X | |

COMMENTS: None X Attached _____ (Use Form QP 5-3.1)

Reviewed by: [signature] Date 7/2/91

Approval by: [signature] Date 7/2/91

# FINAL DESIGN CHECKLIST

Title of Document MODIFICATION REQUEST / DESIGN PACKAGE

Document No. MR 88-099 Rev. — Date _____

DESIGN PACKAGE 88-099*D

## INSTRUCTIONS:

A. Answer all questions in the checklist: (Note: if an entire section is not applicable, the section heading (e.g. 2.0 Mechanical Design Criteria) may be mar "NA" and a line drawn through the other items.)

B. A short explanation should be provided for the following two cases: (1) questic marked (*) which are answered No and (2) questions not marked (*) answered Yes. The explanation may be noted on this checklist or on QP 3-2.3, Final Design Checklist Explanation Sheet. Designer indicates answers using an (X). Reviewer indicates answers using a (✓).

## REVIEW CHECKLIST CONSIDERATIONS:

| | YES | NO | N |
|---|---|---|---|
| 1. Are any of the general design criteria (FSAR, Section 1.3) applicable? | ___ | X ✓ | — |
| 2. Mechanical Design Criteria | | | X |
| Will the change: | | | |
| a. Affect seismic boundaries? | ___ | ___ | — |
| b. Affect seismically qualified equipment? | ___ | ___ | — |
| c. Require seismic category "2 over 1" analysis? | ___ | ___ | — |
| d. Affect the assigned system design pressure or temperature? | ___ | ___ | — |
| *e. Be of a material compatible with the existing installation? | ___ | ___ | — |
| f. Require identification of applicable ASME B&PV codes and standards? | ___ | ___ | — |
| g. Require State of Wisconsin Administrative code permits/approvals? | ___ | ___ | — |
| *h. Have materials, protective coatings, and corrosion characteristics compatible with existing plant components? | ___ | ___ | — |

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| | YES | NO | N/A |
|---|---|---|---|
| i. Add a system/component to be included in the ASME B&V Section XI Inservice Inspection Program? | ___ | ___ | ___ |
| j. Require a new penetration in a primary system boundary? | ___ | ___ | ___ |
| k. Increase the potential for flooding? | ___ | ___ | ___ |
| l. Degrade existing flood barriers? | ___ | ___ | ___ |
| **3. Electrical Design Criteria** | | | ___ |
| Will the change: | | | |
| a. Affect the station electrical system? | ___ | ___ | X ✓ |
| b. Affect the station grounding or lightning protection system? | ___ | ___ | X ✓ |
| *c. Be compatible with existing electrical insulation and wiring? | ___ | ___ | X ✓ |
| d. Create an electrical problem in any of its failure modes? | ___ | ___ | X ✓ |
| *e. Be compatible with service transformer capacity? | ___ | ___ | X ✓ |
| f. Make any vital circuit susceptible to ground? | ___ | ___ | X ✓ |
| g. Require redundancy, diversity, and separation? | ___ | ___ | X ✓ |
| h. Require State of Wisconsin Administrative Code permits/approval? | ___ | ___ | X ✓ |
| i. Be seismically qualified? | X ✓ | ___ | ___ |
| **4. Mechanical Service System** | | | X ✓ |
| Will the change: | | | |
| a. Require service water? | ___ | ___ | ___ |
| b. Require closed loop cooling? | ___ | ___ | ___ |
| c. Require instrument air? | ___ | ___ | ___ |
| d. Require service air? | ___ | ___ | ___ |
| e. Increase heating, ventilation, or air conditioning (HVAC) loading? | ___ | ___ | ___ |

| | YES | NO | N/A |
|---|---|---|---|
| f. Require demineralized water? | ____ | ____ | ____ |
| g. Require raw water? | ____ | ____ | ____ |
| h. Affect any other mechanical service system? | ____ | ____ | ____ |
| i. Require lubrication? | ____ | ____ | ____ |
| j. Require an independent means of pressure relief? | ____ | ____ | ____ |
| 5. Electrical Distribution System | | | X |
| Will the change: | | | |
| a. Affect electrical system capacity, output, or voltage? | ____ | ____ | ____ |
| b. Add more emergency diesel and/or station battery loading? | ____ | ____ | ____ |
| c. Add load to a vital bus? | ____ | ____ | ____ |
| d. Add load to a non-vital bus? | ____ | ____ | ____ |
| e. Add new raceways? | ____ | ____ | ____ |
| f. Add cables to existing electrical raceways? | ____ | ____ | ____ |
| g. Be routed through a fire wrapped cable tray? | ____ | ____ | ____ |
| *h. Comply with thermal and electrical separation requirements? | ____ | ____ | ____ |
| *i. Comply with protective relaying requirements of equipment and systems? | ____ | ____ | ____ |
| 6. Fire Protection | | | X |
| Will the change: | | | |
| a. Affect fire protection requests listed in Section 6.1.1 of the FPER? | ____ | ____ | ____ |
| b. If the answer to "a" is yes, an evaluation must be performed per Section 6.2.2 of the FPER. | ____ | | ____ |
| c. Affect access to a fire zone, fire protection equipment or Appendix R safe shutdown equipment? | ____ | ____ | ____ |
| d. Open a fire barrier? | ____ | ____ | ____ |

| | YES | NO | N/A |
|---|---|---|---|
| e. Affect fire protection system performance? | | | |
| f. Increase combustible loading in a room? | | | |
| g. Based on FPER Section 7.3, will the change affect the existing fire protection features of an Appendix R safe shutdown fire zone? | | | |
| h. Based on FPER Sections 4.4 and 4.5, will the change add to, delete from, or revise the listed systems and components? | | | |
| i. If the answer to any item c through h is yes, a reevaluation must be performed per Section 6.2.10 of the FPER. | | | |
| **7. Security System** | | | |
| Will the change: | | | |
| a. Be in a vital area? | X | | |
| b. Require work near a vital area? | X | | |
| c. Require work within 20' of fence? | | | X |
| d. Affect security equipment and documents (including those containing safeguards information)? | | | X |
| e. Affect access controls? | | | X |
| **8. Structural Design Criteria** | | | |
| Will the change: | | | |
| a. Add weight between existing pipe supports, hangars, or foundations? | | X | |
| b. Require addition of new supports, hangers, or foundations? NEW CONDUIT SUPPORTS WILL BE ADDED | X | | |
| c. Affect stress calculations of pipe? | | X | |
| d. Affect the loading or load capabilities of existing embeds or other anchor points? CONCRETE WALL/EMBED WILL BE ANALYZED FOR ADD'L LOAD IF USED | X | | |
| e. Require changes to existing equipment foundations? | | | X |
| f. Affect accessibility of any equipment? | | | X |

| | | YES | NO | N/A |
|---|---|---|---|---|
| g. | Require a floor or wall loading analysis? NEW SUPPORTS MAY REQUIRE CONCRETE CUBICLES TO BE ANALYZED FOR ADD'L LOADS | X | | |
| h. | Affect or be impacted by masonry block walls? | | | X |
| i. | Decrease free volume of containment? | | | X |
| j. | Change the amount of exposed aluminum in containment? | | | X |
| *k. | Introduce materials into containment that could affect sump performance or lead to equipment degradation? | | | X |
| l. | Create an external or internal missile hazard? | | | X |
| m. | Be affected by winds or storms? | | | X |
| n. | Add a dynamic or potentially dynamic load to the system? | | | X |
| o. | Affect wall stress calculations for concrete cubicles or structures? MAY AFFECT WALL STRESS IF REBAR CUT, ANALYSIS OF SAID EVENT WILL BE PERFORMED | X | | |
| p. | Require core drills, expansion anchors, or EPOXIED re-bar cuts? CEA'S REQUIRED TO ATTACH SUPPORTS TO WALL | X | | |
| q. | Require clearance review for seismic movement or thermal expansion considerations? | | | X |
| r. | Change plant drainage/backfill requirements? | | | X |
| s. | Require protection from high energy line break jet? | | | X |
| t. | Require a penetration in the containment boundary? | | | X |
| u. | Require State of Wisconsin Administrative Code permits/approvals? | | | X |

9. Operability

Will the change:

| | | YES | NO | N/A |
|---|---|---|---|---|
| *a. | Require construction verification and/or start-up (operability) testing? | | | |
| b. | Require additional operations or maintenance staff? | | | |
| c. | Require specially trained operators or maintenance personnel? | | | |
| d. | Require procedure changes? | | | |

| | YES | NO | N/A |
|---|---|---|---|
| e. Require a testability review? | ___ | X | |
| f. Require special testing procedures or equipment or impact other systems during testing? | ___ | X | |
| g. Potentially impact other systems, components, or structures. | ___ | X | |
| 10. Hydraulic Design Criteria | | | X |
| Will the change: | | | |
| a. Affect pump NPSH? | ___ | ___ | ___ |
| b. Affect calculated pipe pressure drop? | ___ | ___ | ___ |
| c. Affect fluid pressure? | ___ | ___ | ___ |
| d. Affect fluid velocity? | ___ | ___ | ___ |
| e. Affect system capacity or output? | ___ | ___ | ___ |
| 11. Chemistry Effects | | | X |
| Will the change: | | | |
| a. Be a potential source of chemical contaminants? | ___ | ___ | ___ |
| b. Require establishment of chemistry limits? | ___ | ___ | ___ |
| c. Require any routine chemical analyses? | ___ | ___ | ___ |
| d. Require provisions for sampling? | ___ | ___ | ___ |
| e. Require chemical additives? | ___ | ___ | ___ |
| f. Affect presently established chemistry limits? | ___ | ___ | ___ |
| 12. ALARA Considerations | | | X |
| Will the change: | | | |
| a. Require an ALARA review be completed? | ___ | ___ | ___ |
| b. Increase radiation hazards? | ___ | ___ | ___ |

| | YES | NO | N/A |
|---|---|---|---|
| 13. Environmental Conditions | | | X |
| Will the change: | | | |
| a. Require special handling, shipping, or environmental conditions for storage or construction? | ___ | ___ | |
| b. Be subject to adverse environmental conditions during storage or construction? | ___ | ___ | |
| *c. Require environmental qualification (EQ)? | ___ | ___ | |
| d. Be attached to an EQ system/component? | ___ | ___ | |
| e. Modify HVAC requirements in the area? | ___ | ___ | |
| f. Change environmental parameters (e.g., temperature radiation, humidity)? | ___ | ___ | |
| 14. Industrial Safety | | | |
| Will the change: | | | |
| a. Create a personnel hazard? | ___ | X | |
| b. Introduce hazardous material into the plant? PAINT FOR STEEL | X | ___ | |
| c. Affect evacuation routes? | ___ | X | |
| d. Require that electrical equipment be grounded? WELDING MACHINES MUST BE GROUNDED | X | ___ | |
| e. Meet OSHA regulations? | X | ___ | |
| 15. Instrumentation and Control | | | X |
| Will the change: | | | |
| *a. Have sufficient instruments for operators to monitor the process? | ___ | ___ | ___ |
| *b. Have appropriate instrument scales? | ___ | ___ | ___ |
| *c. Have the instruments, control switches, and indicating devices been appropriately located for human factors (both for operational and maintenance)? | ___ | ___ | ___ |
| *d. Have alarms for off-normal conditions? | ___ | ___ | ___ |
| *e. Be capable of or require remote and/or automatic operation? | ___ | ___ | ___ |

| | YES | NO | N/A |
|---|---|---|---|
| *f. Be capable of or require manual operation? | ___ | ___ | ___ |
| g. Require calibration and maintenance requirements for the instruments to be specified? | ___ | ___ | ___ |
| *h. Have specified the instruments with proper range and accuracy? | ___ | ___ | ___ |

16. Failures Modes and Effects Analysis

*Note: This section is applicable to all modifications. See IEEE 352-1975 "IEEE Guide for General Principles of Reliability Analysis of Nuclear Power Generating Station Protective System"*

Is it necessary that the design consider:

| | | | |
|---|---|---|---|
| a. | How each portion of the configuration change may conceivably fail? | X | ___ |
| b. | What mechanisms might produce these modes of failure? | X | ___ |
| c. | What the effects could be if the failure did occur? | X | ___ |
| d. | If the postulated failure is in a safe or unsafe direction? | X | ___ |
| e. | How the failure would be detected? CONDUITS WOULD COLLAPSE | X | ___ |
| f. | What inherent provisions are included to compensate for the failure? CONDUIT SUPPORTS, WALL, CEA'S, AND CONDUIT ARE DESIGNED TO RESIST ALL POSTULATED LOADS. | X | ___ |

17. Installation

Will the change:

| | | | |
|---|---|---|---|
| a. | Present installation impacts on plant operations? PLANT PERSONNEL WILL MONITOR CONSTRUCTION | X | ___ |
| b. | Present impacts on plant operations due to the sequence of activities? | ___ | X |
| c. | Present impacts on plant operations due to the sequence of installation? | ___ | X |
| d. | Will the installation activities increase the probability for, or consequences of flooding? | ___ | X |

| | YES | NO | N/A |
|---|---|---|---|
| 18. QA Requirements | | | |
| Will the change: | | | |
| a. Affect QA-scope systems or boundaries? ELECTRIC SUPPLY FOR AUX FEEDWATER PUMPS (CONDUIT SUPPORTS) | X | | |
| b. Require material certification? STEEL FOR SUPPORTS, CLIPS, CLAMPS MUST BE QA QUALIFIED | X | | |
| c. Require personnel qualifications? - WELDERS QUALIFIED TO QP 3-2.2 | X | | |
| 19. Operating Experience | | | |
| Will the change: | | | |
| a. Incorporate new types/modes of equipment not presently used at PBNP? | | X | |
| b. Benefit from a database search of the NODIL, NPRDS, CHAMPS, INPO Keywords, or other databases? | | X | |

Designed by: [signature] (S&L) Date 7/2/91

Reviewed by: [signature] Date 7/2/91

Comments: ☒ None ☐ Attached on QP 5-3.1

Resolution by: _____ Date _____

POINT BEACH NUCLEAR PLANT

## FIRE PROTECTION CONFORMANCE CHECKLIST

MR Number 88-099*D Unit 1 _____ Unit 2 _____ Common Facilities X

System AUX FEEDWATER LINE Location PUMP ROOM, ELV 8'-0" COLUMN LINES F TO F; 10-12

NOTE: FPER 6.2.2.1 Complete Sections 1.0 - 4.6 for industrial fire safety.
FPER 6.2.2.2 Complete Sections 1.0 - 10.5 for Appendix R compliance.

### 1.0 PLANT ACCESS

1.1 Does the modification add/delete/revise any doors, walls, structures or equipment that may impede or alter access to a fire?

☐ Yes, go to 1.2
☒ No, go to 1.3

**Comments:** _____

1.2 Are alternate access routes available to the area of concern?

☐ Yes, go to 1.3
☐ No, go to 1.8, complete actions and resume at 1.3.

**Comments:** _____

1.3 Does the modification add/revise/remove ventilation that may either directly or indirectly alter air flow within an area or from area to area to impede access to a fire?

☐ Yes, go to 1.8, complete actions and resume at 1.4.
☒ No, go to 1.4

**Comments:** _____

1.4 Does the modification require installation of locks on previously unlocked doors or structural changes such as the addition/deletion/revision of walls, stairways, or doors?

☐ Yes, go to 1.5
☒ No, go to 1.6

**Comments:** _____

1.5 Does the installation of locks or structural changes affect the existing access/egress routes for fire fighting activity, safe shutdown equipment operations, and/or post-fire repairs?

☐ Yes, go to 1.8, complete actions and resume at 1.6.
☐ No, go to 1.6

**Comments:** _____

1.6 Does the modification affect the Appendix R safe shutdown timelines (time and motion study for AOP-10A and AOP-10B contained in FPER Section 4.7)?

☐ Yes, go to 1.8, complete actions and resume at 1.7.
☒ No, go to 1.7

Comments: _____

1.7 Does the modification block safe shutdown equipment or a local control station required to be accessible for safe shutdown?

☐ Yes, go to 1.8, complete actions and resume at 2.1.
☒ No, go to 2.1

Comments: _____

1.8 The modification affects plant accessibility. List the access effect(s) and refer to FPER, Section 6.2.10, RESUME checklist completion.

Access Effects: _____

2.0 APPENDIX R BARRIERS

2.1 Does the modification delete any fire barriers/area appearing in FPER, Section 3.0?

☐ Yes, go to 2.2
☒ No, go to 2.3

Comments: _____

2.2 Has a new barrier/area been defined?

☐ Yes, go to 2.3
☐ No, go to 2.14, complete actions and resume at 2.3.

Comments: _____

2.3 Does the modification revise any existing fire barriers (e.g., changes to supporting structural steel, barrier thickness or material, etc.)?

☐ Yes, go to 2.14, complete actions and resume at 2.4.
☒ No, go to 2.4

Comments: _____

2.4 Does the modification add/delete/revise any penetrations to fire barriers due to cables or pipes?

☐ Yes, go to 2.5
☒ No, go to 2.6

**Comments:** _____

2.5 Are the appropriate barrier penetration procedures specified?

☐ Yes, go to 2.6
☐ No, go to 2.14, complete actions and resume at 2.6.

**Comments:** _____

2.6 Does the modification add or replace any fire doors, frames or dampers?

☐ Yes, go to 2.7
☒ No, go to 2.8

**Comments:** _____

2.7 Do the new/replaced dampers/doors/frames meet requirements for rated fire barriers in the fire area and fire damper installation configurations as specified in FPER Section 7.3?

☐ Yes, go to 2.8
☐ No, go to 2.15, complete actions and resume at 2.8.

**Comments:** _____

2.8 Does the modification add or relocate any cable raceways to a location which presents intervening combustibles between redundant safe shutdown trains?

☐ Yes, go to 2.9
☒ No, go to 2.10

**Comments:** _____

2.9 Does the modification include installation of approved fire stops?

☐ Yes, go to 2.10
☐ No, go to 2.5, complete actions and resume at 2.10.

**Comments:** _____

2.10 Does the modification add/delete/revise any cable to an existing raceway which presents intervening combustibles between redundant safe shutdown trains?

☐ Yes, go to 2.11
☒ No, go to 2.12

Comments: _____

2.11 Does the modification include installation/reinstallation of approved fire stops?

☐ Yes, go to 2.12
☐ No, go to 2.15, complete actions and resume at 2.12.

Comments: _____

2.12 Does the modification add/delete/revise any curb, dikes, or drains in the area as described in FPER Section 5?

☐ Yes, go to 2.14, complete actions and resume at 2.13.
☒ No, go to 2.13

Comments: _____

2.13 Does the modification obstruct, remove/revise any suppression system or water spray nozzles or plume impingement shields in the area?

☐ Yes, go to 2.14, complete actions and resume at 3.1.
☒ No, go to 3.1

Comments: _____

2.14 Do the affected barriers/fire areas protect safe shutdown components or cables?

☐ Yes, go to 2.15
☐ No, go to 2.16

Comments: _____

2.15 The modification impacts Appendix R compliance. List the affected items and refer to FPER, Section 6.2.10.1. RESUME checklist completion.

Affected Items: _____

2.16 The modification could impact fire protection commitments and/or codes. List the affected item and refer to FPER, Section 6.2.10.2. RESUME checklist completion.

Affected Items: _____

## 3.0 FIRE PROTECTION SYSTEMS

3.1 Does the modification affect any portion of the fire protection system?

☐ Yes, go to 3.2
☒ No, go to 3.4

Comments: _____

3.2 Is the affected portion of fire protection system required for Appendix R safe shutdown compliance?

☐ Yes, go to 3.3
☐ No, go to 3.4

Comments: _____

3.3 Will the modified portion of fire protection systems meet the requirements of Appendix R as stated in the technical evaluations FPER Section 7.3?

☐ Yes, go to 3.4
☐ No, to go 3.18, complete actions and resume at 3.4.

Comments: _____

3.4 Does the modification add/delete/revise any fire protection system electrical components?

☐ Yes, go to 3.5
☒ No, go to 3.6

Comments: _____

3.5 Does the modification add/delete/revise anything that could impede the required fire protection system function?

☐ Yes, go to 3.17, complete actions and resume at 3.6.
☐ No, go to 3.6

Comments: _____

3.6 Does the modification add/delete/revise any fire detectors?

☐ Yes, go to 3.17, complete actions and resume at 3.7.
☒ No, go to 3.7

Comments: _____

3.7 Does the modification revise any ventilation system flow patterns or structural arrangements which may affect fire detection/suppression capability?

☐ Yes, go to 3.17, complete actions and resume at 3.8.
☒ No, go to 3.8

Comments: _____

3.8 Does the modification affect the annunciator system of the fire detectors?

☐ Yes, go to 3.17, complete actions and resume at 3.9.
☒ No, go to 3.9

Comments: _____

3.9 Does the modification add any new suppression systems?

☐ Yes, go to 3.10
☒ No, go to 3.11

Comments: _____

3.10 Has a suppression effects analysis been performed?

☐ Yes, go to 3.11
☐ No, go to 3.18, complete actions and resume at 3.11.

Comments: _____

3.11 Does the modification delete any suppression systems?

☐ Yes, go to 3.17, complete actions and resume at 3.12.
☒ No, go to 3.12

Comments: _____

3.12 Does the modification revise any suppression systems (e.g., changes in size, spacing; or arrangement of nozzles, piping, or pipe hangers)?

☐ Yes, go to 3.17, complete actions and resume at 3.13.
☒ No, go to 3.13

Comments: _____

3.13 Does the modification affect discharge characteristics of gaseous systems due to changes in room volume or ventilation systems?

☐ Yes, go to 3.17, complete actions and resume at 3.14.
☒ No, go to 3.14

Comments: _____

3.14 Does the design change affect the discharge of sprinklers due to structural/mechanical changes?

☐ Yes, go to 3.17, complete actions and resume at 3.15.
☒ No, go to 3.15

Comments: _____

3.15 Does the modification remove/revise any hose stations, hydrants, or fire extinguishers?

☐ Yes, go to 3.17, complete actions and resume at 3.16.
☒ No, go to 3.16

Comments: _____

3.16 Does the design change add/delete/revise any local or remote alarm actuation systems?

☐ Yes, go to 3.17, complete actions and resume at 4.1.
☒ No, go to 4.1

Comments: _____

3.17 Are the affected detection/suppression actuation system components located in a fire area/zone for Appendix R compliance?

☐ Yes, go to 3.18
☐ No, go to 3.19

Comments: _____

3.18 The modification impacts on Appendix R compliance. List the affected components and refer to FPER Section 6.2.10.1. RESUME checklist completion.

Affected Components: _____

3.19 The modification could impact fire protection commitments and/or codes. List the affected components and refer to FPER, Section 6.2.10.1. RESUME checklist completion.

Affected Components: _____

## 4.0 COMBUSTIBLE LOADING/FIRE HAZARD

4.1 Does the modification increase combustible loading or fire hazard due to new cable installed in cable trays?

☐ Yes, go to 4.4, complete actions and resume at 4.2.
☒ No, go to 4.2

Comments: _____

4.2 Does the modification increase combustible loading or fire hazard due to lubricating oil or grease?

☐ Yes. go to 4.4, complete actions and resume at 4.3.
☒ No, go to 4.3.

Comments: _____

4.3 Does the modification increase the combustible loading or fire hazard due to the addition of ordinary combustibles or combustible liquids?

☐ Yes, go to 4.4
☒ No, fire protection checklist complete. Sign below item 4.6 or continue Appendix R checklist at item 5.1.

Comments: _____

4.4 Does the increase affect the established level of fire hazard for the given fire area stated in the technical evaluation contained in FPER Section 7.3? NOTE: Contact WE fire protection group if input is needed.

☐ Yes, go to 4.6, complete actions and resume at 4.5.
☐ No, go to 4.5

Comments: _____

4.5 Does the increase exceed the existing fire control design capabilities of fire protection features for the given fire area? NOTE: Contact WE fire protection group if input is needed.

☐ Yes, go to 4.6, complete actions and sign fire protection checklist complete or continue Appendix R checklist at item 5.1.
☐ No, fire protection checklist complete. Sign below item 4.6 or continue Appendix R checklist at item 5.1.

Comments: _____

4.6 The modification impacts fire protection compliance. List the fire area and refer to FPER, Section 6.2.10. RESUME checklist completion.

Fire Area: _____

_____

Conformance checklist completed in accordance with FPER Section 6.2.2.1.

By: _____ Date: 6/20/91

## 5.0 SAFE SHUTDOWN COMPONENTS

5.1 Does the modification require addition of a safe shutdown component?

☐ Yes, go to 5.2
☐ No, go to 5.5

Comments: _____

_____

5.2 Will the new component support other safe shutdown systems or component(s)?

☐ Yes, go to 5.3
☐ No, go to 5.4

Comments: _____

_____

5.3 Are the safe shutdown system(s) or component(s) which the new component will be supporting required to operate for a fire in the fire area in which the new component will be located?

☐ Yes, go to 5.18, complete actions and resume at 5.4.
☐ No, go to 5.4

Comments: _____

_____

5.4 Is a redundant component located either outside of the fire area or provided with Appendix R, Section III.G.2 separation?

☐ Yes, go to 5.5
☐ No, go to 5.18, complete actions and resume at 5.5.

Comments: _____

_____

5.5 Does the modification require deletion of a safe shutdown component?

☐ Yes, go to 5.6
☐ No, go to 5.7

Comments: _____

5.6 Does a safe shutdown component exist that will perform the same function for which the component under consideration was required by AOP-10A and/or AOP-10B?

☐ Yes, go to 5.7
☐ No, go to 5.18, complete actions and resume at 5.7.

Comments: _____

5.7 Does the modification require revision of a safe shutdown component?

☐ Yes, go to 5.8
☐ No, go to 5.9

Comments: _____

5.8 Will the revised shutdown component continue to perform its function required by AOP-10A and AOP-10B?

☐ Yes, go to 5.9
☐ No, go to 5.18, complete actions and resume at 5.9.

Comments: _____

5.9 Does the modification add/delete/revise safe shutdown equipment to the system flow path or boundary isolation from interconnecting systems?

☐ Yes, go to 5.11
☐ No, go to 5.10

Comments: _____

5.10 Does the modification add/delete/revise safe shutdown equipment to a connection to the system flow path or boundary isolation from interconnecting systems?

☐ Yes, go to 5.11
☐ No, go to 5.13

Comments: _____

5.11 Does the modification affect the operation of the system (e g., changes in system flow rate, change in normal positions, etc.)?

☐ Yes, go to 5.12
☐ No, go to 5.13

Comments: _____

5.12 Does the modification violate the safe shutdown systems performance goals as presented in FPER Section 4.0?

☐ Yes, go to 5.18, complete actions and resume at 5.13.
☐ No, go to 5.13

Comments: _____

5.13 Does the modification affect any mechanical sub- or support components of safe shutdown components not listed on the safe shutdown equipment list (e g., SOVs, check valves, etc.)?

☐ Yes, go to 5.14
☐ No, go to 5.16

Comments: _____

5.14 Does the modification to the sub- or support component affect the operability of the associated safe shutdown equipment?

☐ Yes, go to 5.15
☐ No, go to 5.16

Comments: _____

5.15 Will the safe shutdown equipment continue to perform its function required by AOP-10A and/or AOP-10B?

☐ Yes, go to 5.16
☐ No, go to 5.18, complete actions and resume at 5.16.

Comments: _____

5.16 Does the modification add/delete/revise any electrical sub- or support components which support the identified safe shutdown component(s) (e.g., power supplies, relays, switches, motor operators)?

☐ Yes, go to 5.17
☐ No, go to 6.1

Comments: _____

5.17 Do the sub- or support components impact the operability of associated safe shutdown equipment required by AOP-10A and/or AOP-10B?

☐ Yes, go to 5.18, complete actions and resume at 6.1.
☐ No, go to 6.1

Comments: _____

5.18 The addition/deletion/revision of safe shutdown components, sub- or support components affects safe shutdown. List the equipment and the affected systems and refer to FPER Section 6.2.10.1. RESUME checklist completion.

Safe Shutdown System(s), Components, Sub- or Support Component(s): _____

## 6.0 SAFE SHUTDOWN CABLE ASSOCIATED CIRCUITS AND SPURIOUS OPERATION

6.1 Does the modification require addition of a safe shutdown cable?

☐ Yes, go to 6.2
☐ No, go to 6.4

Comments: _____

6.2 Will the cable be routed in a fire area(s) where, if a fire is postulated, the associated safe shutdown component is required to be operable?

☐ Yes, go to 6.3
☐ No, go to 6.4

Comments: _____

6.3 Will the failure of the new cable cause the associated safe shutdown component to be inoperable?

☐ Yes, go to 6.19, complete actions and resume at 6.4.
☐ No, go to 6.4

Comments: _____

6.4 Does the modification require deletion of a safe shutdown cable?

☐ Yes, go to 6.5
☐ No, go to 6.7

Comments: _____

6.5 Will the deletion of the cable affect local and/or remote control or indication capability of the associated safe shutdown component?

☐ Yes, go to 6.6
☐ No, go to 6.7

Comments: _____

6.6 Is the affected local and/or remote control or indication capability of the associated safe shutdown component required for Appendix R safe shutdown by AOP-10A and/or AOP-10B?

☐ Yes, go to 6.19, complete actions and resume at 6.7.
☐ No, go to 6.7

Comments: _____

6.7 Does the modification require revision or rerouting of an existing safe shutdown cable?

☐ Yes, go to 6.8
☐ No, go to 6.10

Comments: _____

6.8 Does the rerouting of the cable maintain the separation of unique trains required by Appendix R to achieve safe shutdown?

☐ Yes, go to 6.9
☐ No, go to 6,19, complete actions and resume at 6.10

Comments: _____

6.9 Will the revision of the cable affect the operability of the associated safe shutdown component?

☐ Yes, go to 6.19, complete actions and resume at 6.10.
☐ No, go to 6.10

Comments: _____

6.10 Does the modification require addition or revision of a circuit connected or to be connected to safe shutdown power supply?

☐ Yes, go to 6.11
☐ No, go to 6.12

Comments: _____

6.11 Will adequate electrical coordination between the safe shutdown power supply feeder breaker and the added or revised component breaker of fuse exist?

☐ Yes, go to 6.12
☐ No, go to 6.19, complete actions and resume at 6.12.

Comments: _____

6.12 Does the modification require addition or revision of any non-safe shutdown circuits?

☐ Yes, go to 6.13
☐ No, go to 6.15

Comments: _____

6.13 Will the new or revised cables be equipped with circuit breakers, fuses or some kind of current limiting device?

☐ Yes, go to 6.15
☐ No, go to 6.14

Comments: _____

6.14 Will the new or revised cables share a common enclosure (raceway, panel, etc.) with safe shutdown cables?

☐ Yes, go to 6.19, complete actions and resume at 6.15.
☐ No, go to 6.15

Comments: _____

6.15 Does the modification add/delete/revise any safe shutdown components and/or high/low pressure interfaces which could operate spuriously?

☐ Yes, go to 6.16
☐ No, go to 6.17

Comments: _____

6.16 Could the addition/deletion/revision of the spurious safe shutdown components alter system operation and prevent the achievement of safe shutdown?

☐ Yes, go to 6.19, complete actions and resume at 6.17.
☐ No, go to 6.17

Comments: _____

6.17 Does the modification add/delete/revise the circuits of any safe shutdown equipment listed in FPER Spurious Operations Table 4.7-1?

☐ Yes, go to 6.18
☐ No, go to 7.1

Comments: _____

6.18 Will the recommended resolution for mitigating the spurious operation listed in the table remain applicable after the modification?

☐ Yes, go to 7.1
☐ No, go to 6.19, complete actions and resume at 7.1

Comments: _____

6.19 The modification impacts safe shutdown. List the safe shutdown circuits and associated components and refer to FPER Section 6.2.10.1. RESUME checklist completion.

Safe Shutdown Circuits and Components: _____

## 7.0 EFFECTS ON EXEMPTIONS/EVALUATIONS

7.1 Is the modification proposed to be implemented in a fire zone for which an exemption is noted in the technical evaluation in FPER Section 7.3?

☐ Yes, go to 7.6, complete actions and resume at 7.2.
☐ No, go to 7.2

Comments: _____

7.2 Does the modification add/delete/revise any safe shutdown or spurious components and/or cables?

☐ Yes, go to 7.6, complete actions and resume at 7.3.
☐ No, go to 7.3

Comments: _____

7.3 Does the modification increase the combustible loading or level of fire hazard (including intervening combustibles) in fire zone of concern?

☐ Yes, go to 7.6, complete actions and resume at 7.4
☐ No, go to 7.4

Comments: _____

7.4 Does the modification add/delete/revise a detection or suppression system in the fire zone of concern?

☐ Yes, go to 7.6, complete actions and resume at 7.5.
☐ No, go to 7.5

**Comments:** _____

_____

7.5 Does the modification affect any other means of fire protection (hatches, curbs, etc.)?

☐ Yes, go to 7.6, complete actions and resume at 7.7
☐ No, go to 7.7

**Comments:** _____

_____

7.6 Does the modification violate a basis for the requested exemption?

☐ Yes, go to 7.9
☐ No, RESUME Checklist Completion

**Comments:** _____

_____

7.7 Are the systems, components, or cables redundant to the systems, components, or cables affected by the modification located in fire zones for which other exemptions are noted in the technical evaluations in FPER Section 7.3?

☐ Yes, go to 7.8
☐ No, go to 8.1

**Comments:** _____

_____

7.8 Does the modification violate a basis for these other exemption(s) (accessibility, low combustible loading, barriers, equipment location, etc.)?

☐ Yes, go to 7.9, complete actions and resume at 8.1.
☐ No, go to 8.1

**Comments:** _____

_____

7.9 The modification violates the basis for an exemption or evaluation. List the basis affected and refer to FPER Section 6.2.10.1. RESUME checklist completion.

**Cables and Components:** _____

_____

## 8.0 EMERGENCY LIGHTING

8.1 Does the modification add/delete,revise safe shutdown component(s) for which manual operation is required by AOP-10A?

☐ Yes, go to 8.2
☐ No, go to 8.4

Comments: _____

8.2 Is emergency lighting which meets the requirements of Appendix R, Section III.J provided at the component(s) and access/egress routes thereto?

☐ Yes, go to 8.4
☐ No, go to 8.3

Comments: _____

8.3 Does the modification add emergency lighting which meets the requirements of Appendix R, Section III.J at the added component(s) and access/egress routes thereto?

☐ Yes, go to 8.4
☐ No, go to 8.11, complete action and resume at 8.4

Comments: _____

8.4 Does the modification add/delete/revise an emergency lighting system or any emergency lights?

☐ Yes, go to 8.5
☐ No, go to 8.7

Comments: _____

8.5 Is the affected portion of the emergency lighting system required for Appendix R safe hot shutdown and/or fire fighting purposes?

☐ Yes, go to 8.6
☐ No, go to 8.7

Comments: _____

8.6 Does the affected portion of emergency lighting system meet the requirements for intensity, coverage, and required battery capacity of the technical evaluation of emergency lighting capability at Point Beach Nuclear Plant, FPER Section 7.3?

☐ Yes, go to 8.7
☐ No, go to 8.11, complete action and resume at 8.7.

Comments: _____

_____

8.7 Does the modification downgrade the ability to perform firefighting/safe shutdown activities efficiently during a blackout?

☐ Yes, go to 8.11, complete action and resume at 8.8.
☐ No, go to 8.8

Comments: _____

_____

8.8 Does the modification involve any structural changes or equipment installations that may block the illumination path of an emergency light?

☐ Yes, go to 8.9
☐ No, go to 9.1

Comments: _____

_____

8.9 Is the affected emergency light required for safe shutdown (e.g., required for illumination of safe shutdown component, local control station, or access/egress routes thereto)?

☐ Yes, go to 8.10
☐ No, go to 9.1

Comments: _____

_____

8.10 Does the affected emergency light still meet the requirements of the technical evaluation of emergency lighting capability at Point Beach Nuclear Plant, FPER Section 7.3?

☐ Yes, go to 9.1
☐ No, go to 8.11, complete action and resume at 9.1.

Comments: _____

_____

8.11 The modification impacts on Appendix R safe shutdown compliance. List the affected position of emergency lighting system and refer to FPER Section 6.2.10.1. RESUME checklist completion.

Emergency Lighting System: _____

_____

## 9.0 PLANT COMMUNICATIONS

9.1 Does the modification add/delete/revise plant communication systems?

☐ Yes, go to 9.2
☐ No, go to 9.4

Comments: _____

9.2 Is the affected portion of plant communication system require for Appendix R safe shutdown and/or fire fighting purposes?

☐ Yes, go to 9.3
☐ No, go to 9.4

Comments: _____

9.3 Does the modification add/delete/revise anything (e.g., antenna system, repeaters, power supplies, etc.) that could impede plant communications including radio transmission or reception?

☐ Yes, go to 9.6, complete action and resume at 9.4.
☐ No, go to 9.4

Comments: _____

9.4 Does the modification involve any structural changes that may impede radio transmission, reception, or other communication means?

☐ Yes, go to 9.5
☐ No, go to 10.1

Comments: _____

9.5 Will the affected communication system still perform its function?

☐ Yes, go to 10.1
☐ No, go to 9.6, complete actions and resume at 10.1.

Comments: _____

9.6 The modification impacts on safe shutdown. List the affected portion of plant communication system and refer to FPER Section 6.2.10.1. RESUME checklist completion.

Plant Communication System: _____

## 10.0 REACTOR COOLANT PUMP OIL COLLECTION SYSTEM

10.1 Does the modification affect any portion of the RCP oil collection system?

☐ Yes, go to 10.2
☐ No, Sign checklist complete below item 10.5.

**Comments:** _____

_____

10.2 Does the modification affect the quantity of oil in the reactor coolant pumps?

☐ Yes, go to 10.5, complete actions and resume at 10.3.
☐ No, go to 10.3

**Comments:** _____

_____

10.3 Does the modification affect the seismic design of the RCP oil collection system?

☐ Yes, go to 10.5, complete actions and resume at 10.4.
☐ No, go to 10.4

**Comments:** _____

_____

10.4 Does the modification require the temporary removal of the RCP oil collection system during unit operation?

☐ Yes, go to 10.5, complete actions and sign checklist complete.
☐ No, sign checklist complete below item 10.5.

**Comments:** _____

_____

10.5 The modification impacts on safe shutdown compliance. List the components of the affected portion of the RCP lube oil collection system and refer to FPER Section 6.2.10.1. RESUME checklist completion.

**Components:** _____

_____

Conformance checklist completed in accordance with FPER Section 6.2.2.2.

By: _____ Date: _____

# NUCLEAR POWER DEPARTMENT CONDITION REPORT

See Instructions on Reverse

2.2.1 CR Tracking # (RES)

2.1.1 Description

DURING CLOSEOUT OF MR 88-099*D IT WAS DISCOVERED THAT SECTION 2.20 (FINAL DESIGN APPROVAL), SECTION 2.21, SECTION 2.22.10, AND SECTION 2.23 (FORM QP3-1.3 REV5) FOR MR 88-099*D WERE NOT COMPLETED AND SIGNED FOR APPROVAL PRIOR TO THE INSTALLATION OF MR 88-099*D. IWP 88-099*D AND 50.59 EVALUATION WERE COMPLETED AND APPROVED PRIOR TO INSTALLATION OF MR 88-099*D.

2.1.2 Significance

POTENTIAL EXISTS FOR MODIFICATIONS TO BE INSTALLED WITHOUT PROPER APPROVAL AND THUS IN VIOLATION OF QP3-1.

2.1.3 Corrective Actionn Completed and/or Recommended (Include Immediate Notification of Regulatory Agencies)

1. MR 88-099*D WILL BE ROUTED FOR SIGNATURES/APPROVALS PRIOR TO CLOSEOUT.
2. MOD DOCUMENTATION WILL BE REVIEWED TO DETERMINE WHERE THE BREAKDOWN IN THE PROCEDURE OCCURRED.
3. AFFECTED PERSONNEL AND THOSE RESPONSIBLE FOR THE WORK ON MR 88-099*D WILL BE NOTIFIED OF THE PROCEDURE VIOLATION.
4. TRAINING ON QP2-1 SHOULD EMPHASIZE IMPORTANCE OF CHECKING MOD PACKAGE TO ASSURE THAT ALL APPROVAL SIGNATURES ARE OBTAINED PRIOR TO THE INSTALLATION OF A MOD.

2.1.4 References

QP 3-1

2.1.5 Initiator print name & date

STEPHEN ST. AMOUR 6/15/92

Forward to Supt. RES immediately for continued processing

2.2 Supt. RES Review sign/date

2.2 RES Assignment

2.6.3 RES Summary of Actions Taken

2.6.2 RES/QAS Close Out

White - Supt. RES; Yellow - Immediate Supervisor; Pink - Originator

Form QP 15-3.1 (front), Revison C

SARGENT & LUNDY WORK
REQUEST FORM

Issue Date: 6/14/91 WRF NO: 91-12

AUX FEED WATER PUMP 36517

Project Title: CONDUIT SUPPORTS Account: 532-03 ~~37132~~

Description of Work to be Performed:

PROVIDE NEW CONDUIT SUPPORT DESIGN AND SKETCHES FOR AUX FEED WATER PUMP CONDUIT SUPPORTS (P38A & P38B). NEW SUPPORT DESIGN SHALL BE SUCH AS TO ALLOW INSTALLATION OF THE NEW SUPPORT PRIOR TO THE REMOVAL OF THE EXISTING/OLD SUPPORTS. NEW SUPPORT DESIGN SHALL PROVIDE A MINIMUM 6" CLEAR DISTANCE BETWEEN TOP OF THE VALVE HANDWHEEL AND CONDUIT SUPPORT MEMBERS. IDEALLY, THE CLEAR DISTANCE BETWEEN THE TOP OF THE VALVE HANDWHEEL AND CONDUIT SUPPORT MEMBERS SHOULD BE EQUAL TO THE VALVE HEIGHT (IE 51½"). DESIGN OF THE NEW CONDUIT SUPPORTS SHALL BE IN ACCORDANCE WITH DESIGN GUIDE DG-E02 WHERE APPLICABLE.

(70)

Authorized Hours: 70 Actual Hours:

Requested Completion Date: 6/28/91 Actual Completion Date:

Requestor

WE QA

Receipient

WE Approval

S&L Approval

SARGENT & LUNDY WORK
REQUEST FORM

Issue Date: 6/25/91 WRF NO: 91-12 REV 1

AUX FEEDWATER PUMP

Project Title: CONDUIT SUPPORTS Account: 532-03-36517

Description of Work to be Performed:

SUPPLEMENTAL MANHOURS REQUIRED TO RESOLVE WRF 91-12.
REFERENCE WRF NO 91-12 (REV 0) DATED 6/14/91 FOR WORK
DESCRIPTION

Authorized Hours:
(ADDITIONAL) 55

Actual Hours:

Requested Completion Date:
6/28/91

Actual Completion Date:

Requestor

WE · QA

Receipient

WE Approval

S&L Approval

SARGENT & LUNDY
ENGINEERS
FOUNDED 1891
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
(312) 269-2000

DOCUMENT CONTROL
LIFETIME
NON-PERMANENT
FILE NO. 73.3
A10.1

PHILIP A. GAZDA
ASSOCIATE
312 269 7305

June 26, 1991
Project No. 6904-28
(PAG-154)

SRB

Wisconsin Electric Power Company
Point Beach Nuclear Plant - Units 1 & 2

Conduit Supports in Auxiliary
Feedwater Pump Room
Work Request: WE 9112

Mr. S. St. Amour
Wisconsin Electric Power Company
333 West Everett Street
P. O. Box 2046
Milwaukee, WI 53201

Dear Mr. St. Amour:

In accordance with your request, we have developed the attached conduit support details for use in pump rooms P38A and P38B. It is our understanding that these supports are required to replace an existing support in each room in order to allow adequate clearance for the maintenance of valves which are located below the existing supports.

The supports were developed using the Wisconsin Electric Power Company (WEPCo) Seismic Conduit Support Design Manual DG-E02. In addition, we have avoided attaching to the existing embedded channels per your direction.

After we receive your comments, we will issue the supports for your use. We understand that you will develop the modification package required to issue these supports to the station.

If you have any questions or comments, please contact me or Mr. R. Knoebel.

Yours very truly,

P. A. Gazda

P. A. Gazda
Senior Structural
Project Engineer

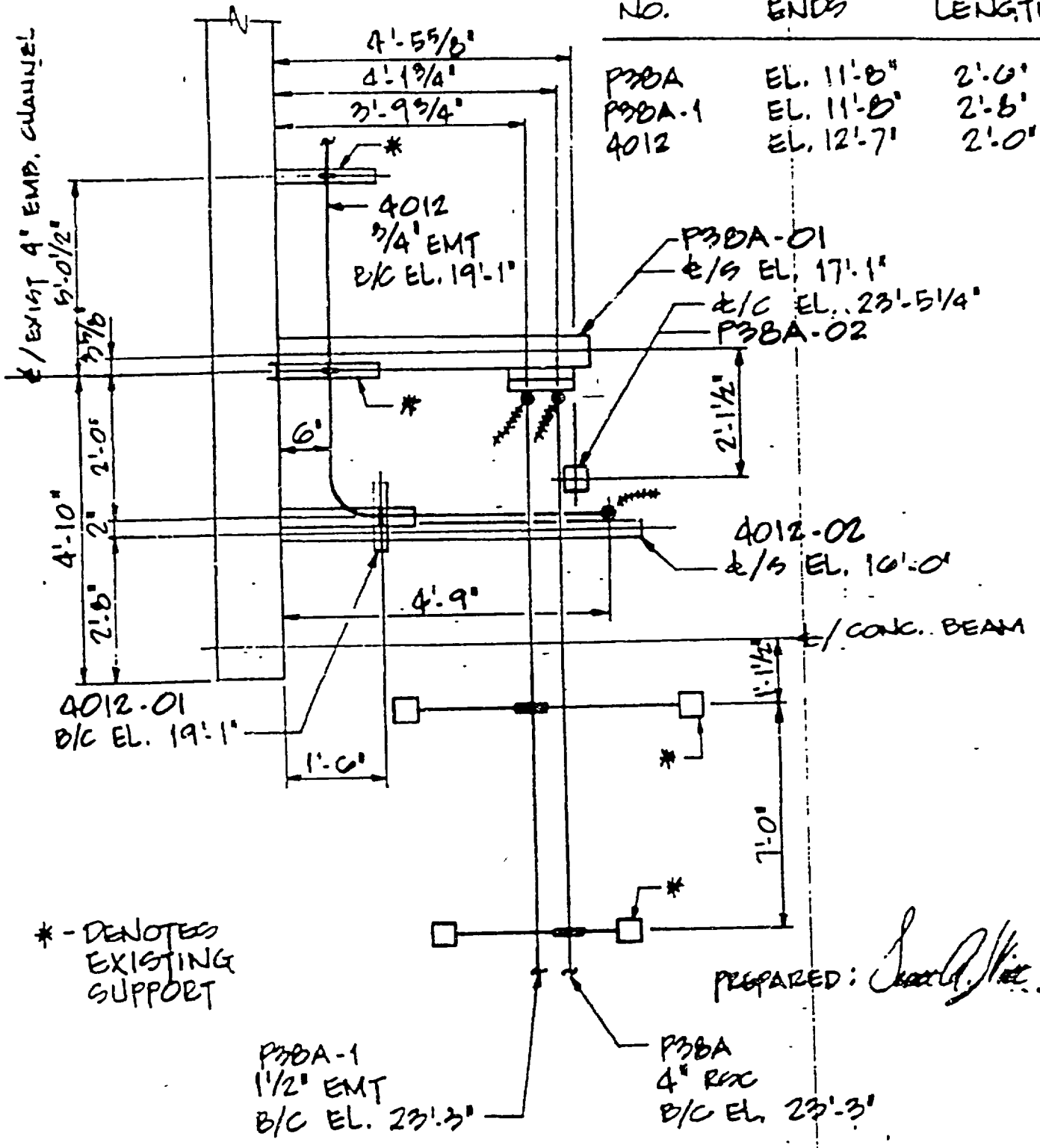
PAG:tmk
Attachment
Copies per distribution on page 2

JUL 3 1991

9108080083

Copies:
B. O. Sasman
R. Knoebel
A. Szechowcyz
a:\letters\pag-154.tmk

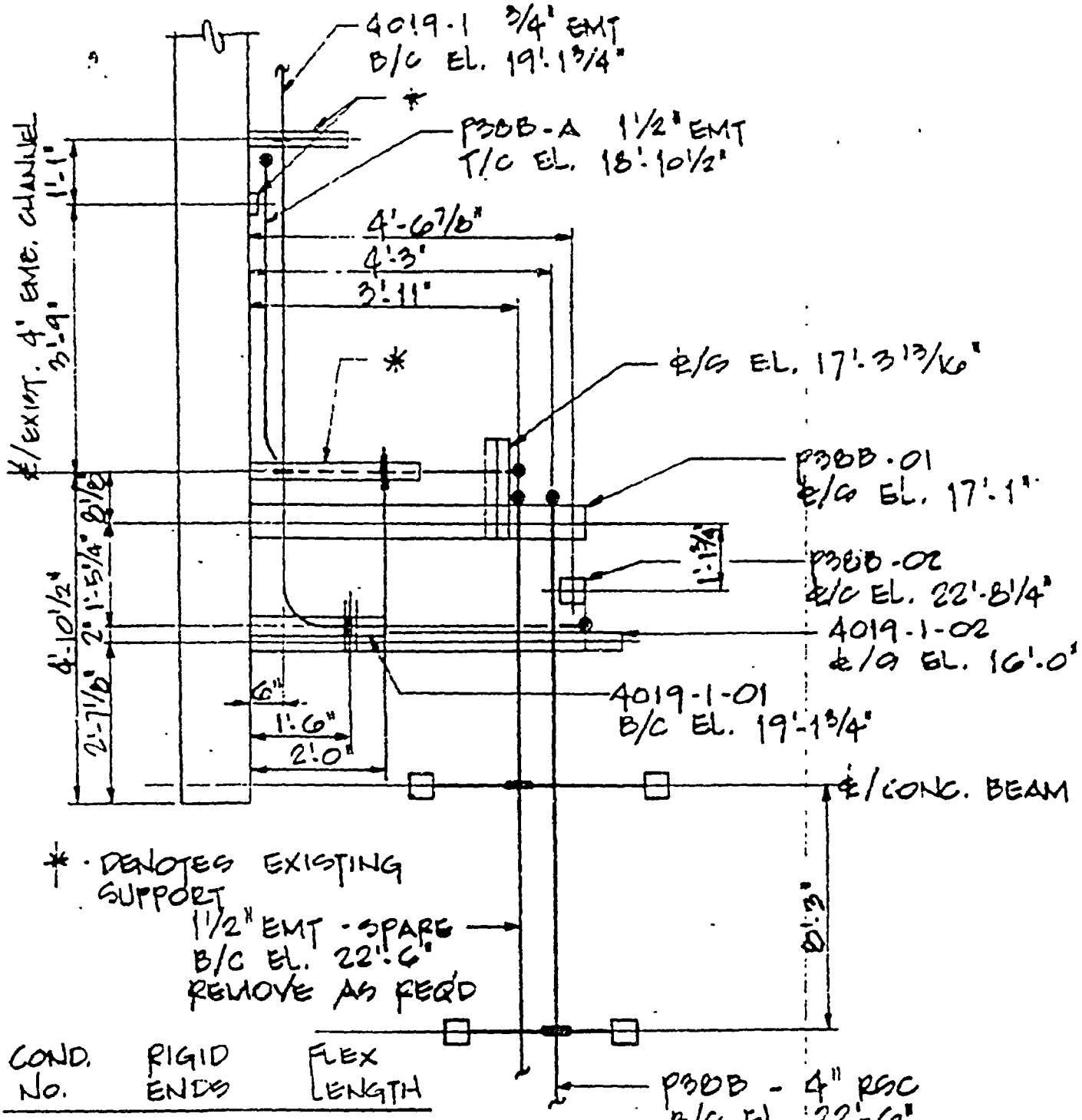
| COND. NO. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38A | EL. 11'-8" | 2'-0" |
| P38A-1 | EL. 11'-8" | 2'-6" |
| 4012 | EL. 12'-7" | 2'-0" |




PREPARED: [signature] 6/21/

NORTH

# PLAN ELEVATION 8'-0"
(P38A)




| COND. No. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38B | EL. 12'-0" | 3'-0" |
| P38B-A | EL. 12'-0" | 3'-0" |
| 4019-1 | EL. 12'-8" | 2'-6" |

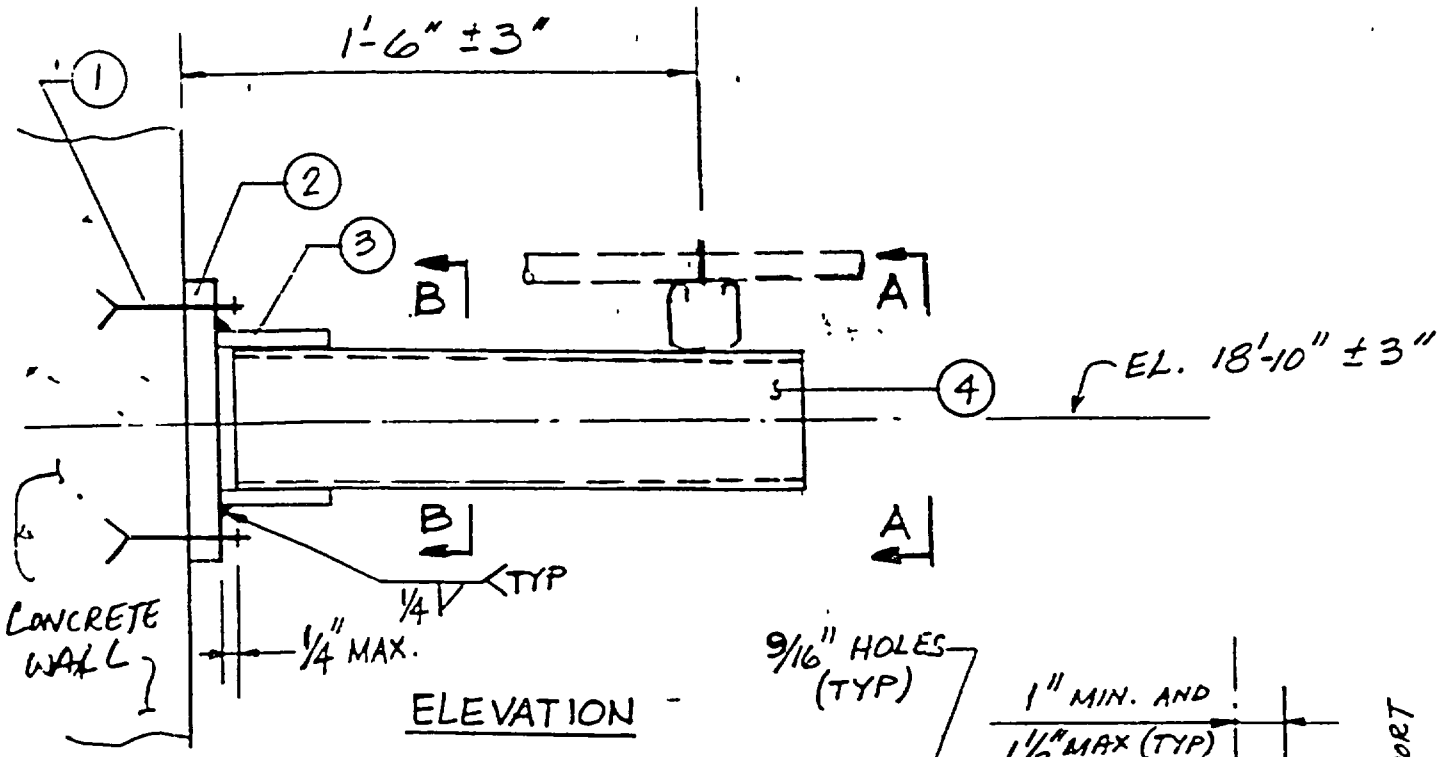
PREPARED: [signature] 6/21/

NORTH

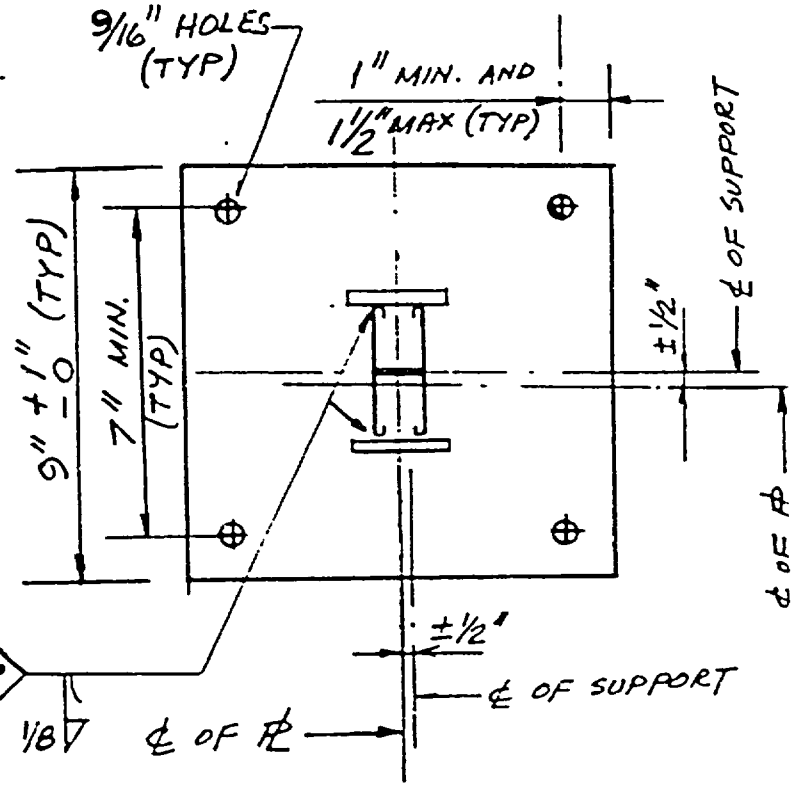
PLAN ELEVATION 8'-0"

(P38B)

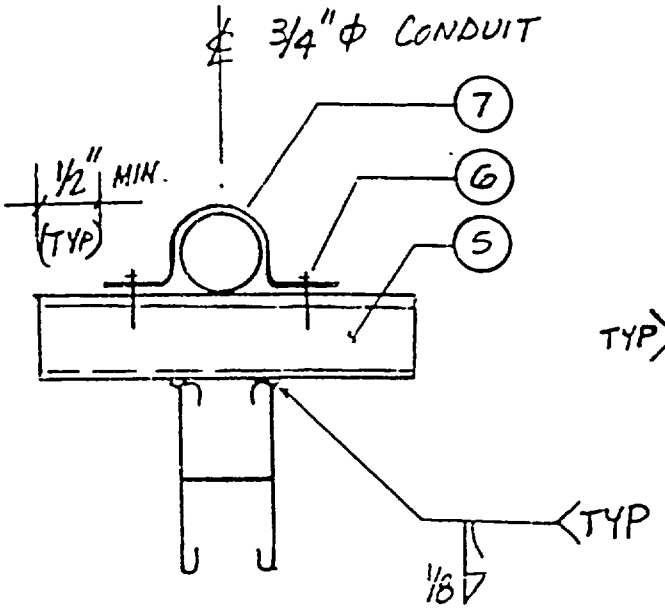
# SUPPORTS 4.012-01 & 4019-1-01




ELEVATION




SEC B-B




SEC A-A

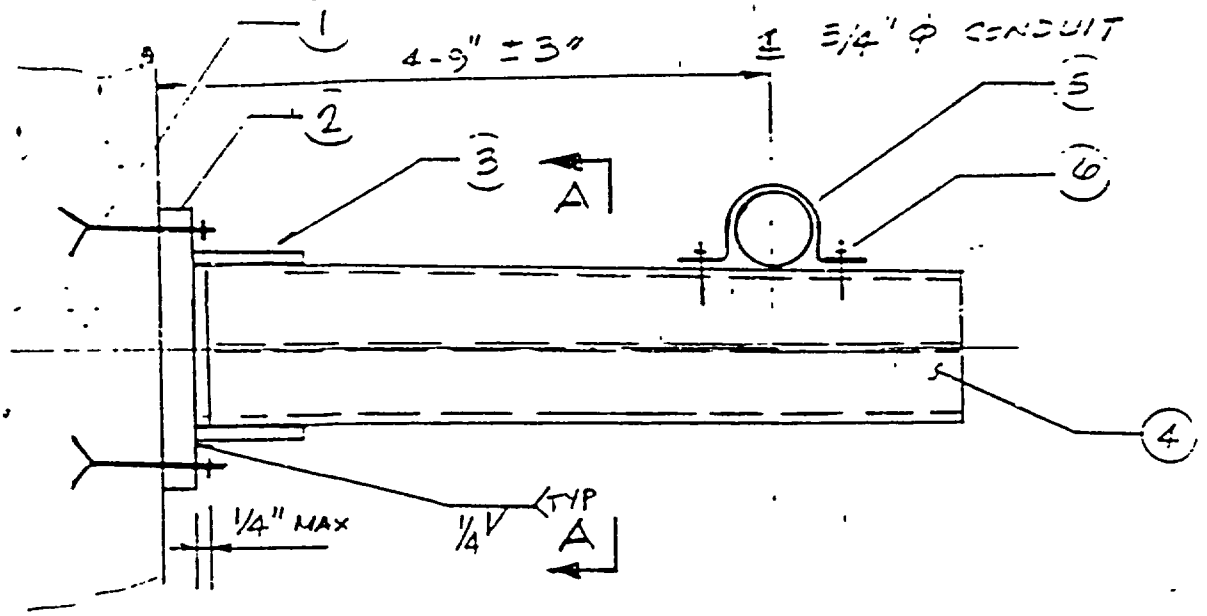
# BILL OF MATERIAL

## SUPPORT NOS. 4012-01 AND 4019-1-01

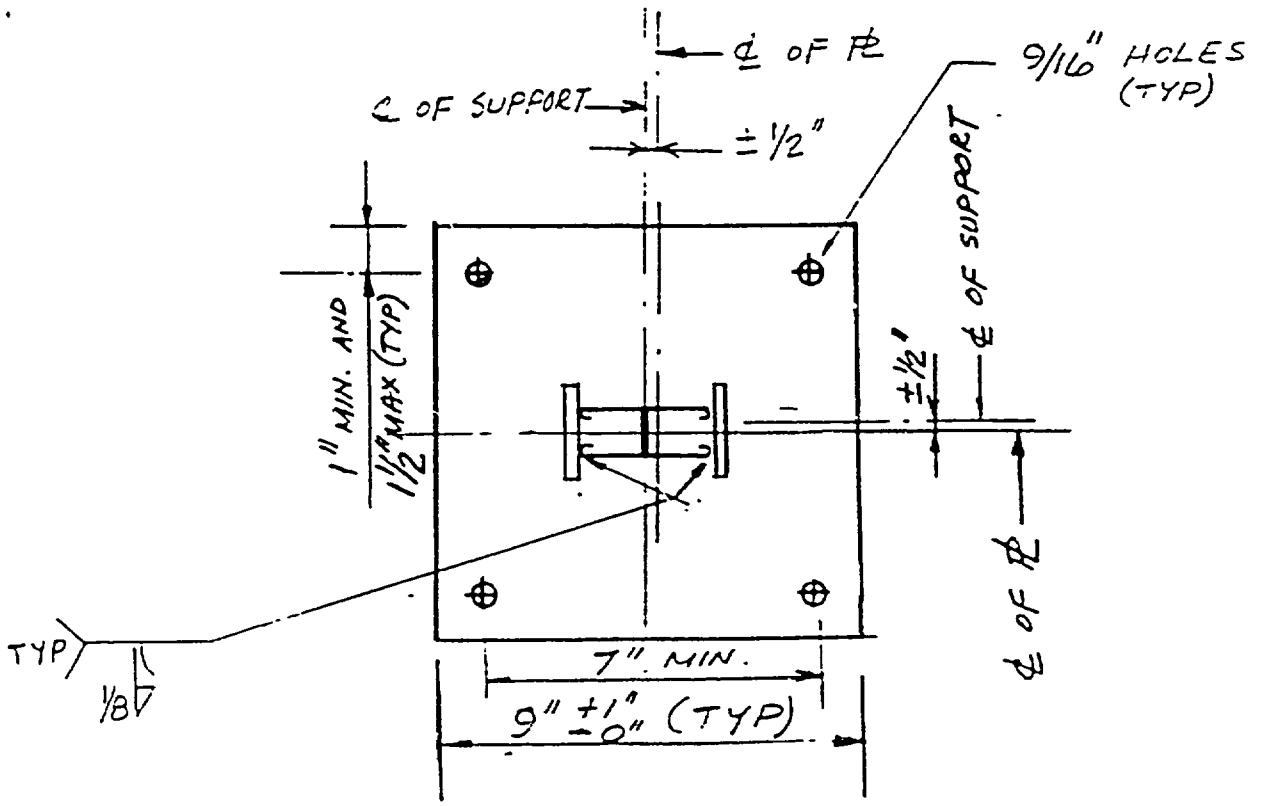
| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | – | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4" x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 2'-0" | – | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | 0'-5" | – | P1000 : UNISTRUT (CUT TO SUIT) |
| ⑥ | 4 | 1/4"Φ x 1 1/2 HEX HEAD CAP SCREW WITH SPRING NUTS | – | P1006-1420 : UNISTRUT SPRING NUT |
| ⑦ | 2 | P2558-7 | – | UNISTRUT TYPE CLAMP |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

# SUPPORTS 4012-02 & 4019-1-02




## PLAN



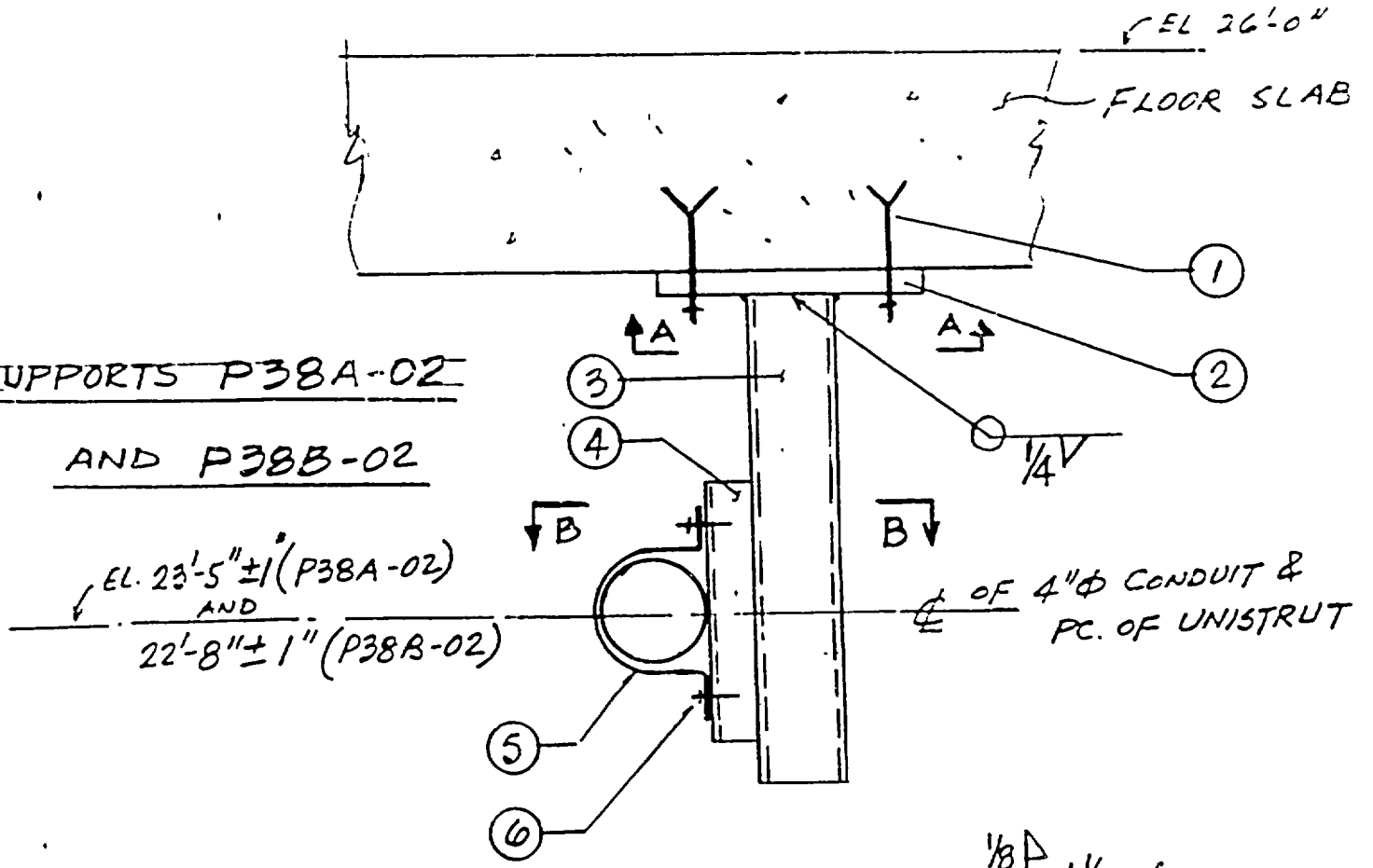

## SEC A-A

# BILL OF MATERIAL

SUPPORT NOS. 4012-02
AND 4019-1-02

| ITEM No. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | - | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4 x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 5'-6" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | P2558-7 | - | UNISTRUT PIPE CLAMP |
| ⑥ | 4 | 1/4"Φ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRUT SPRING NUT |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

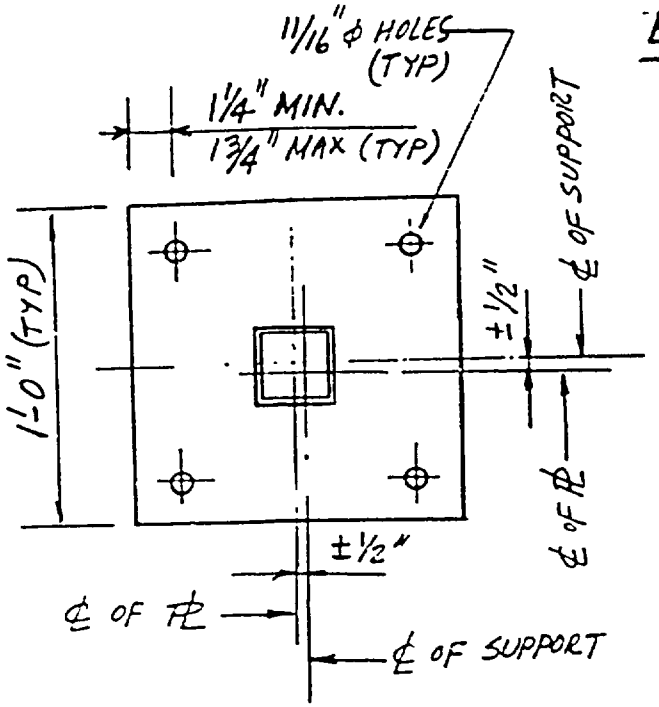
Le = MINIMUM EMBEDMENT



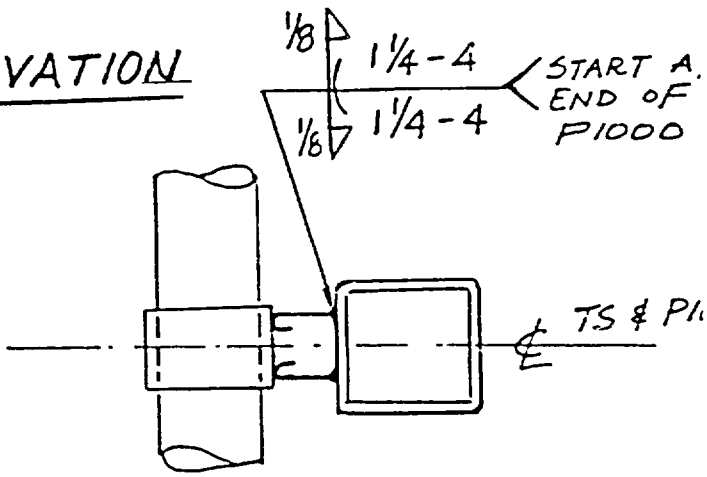

SUPPORTS P38A-02

AND P38B-02

ELEVATION




SEC A-A



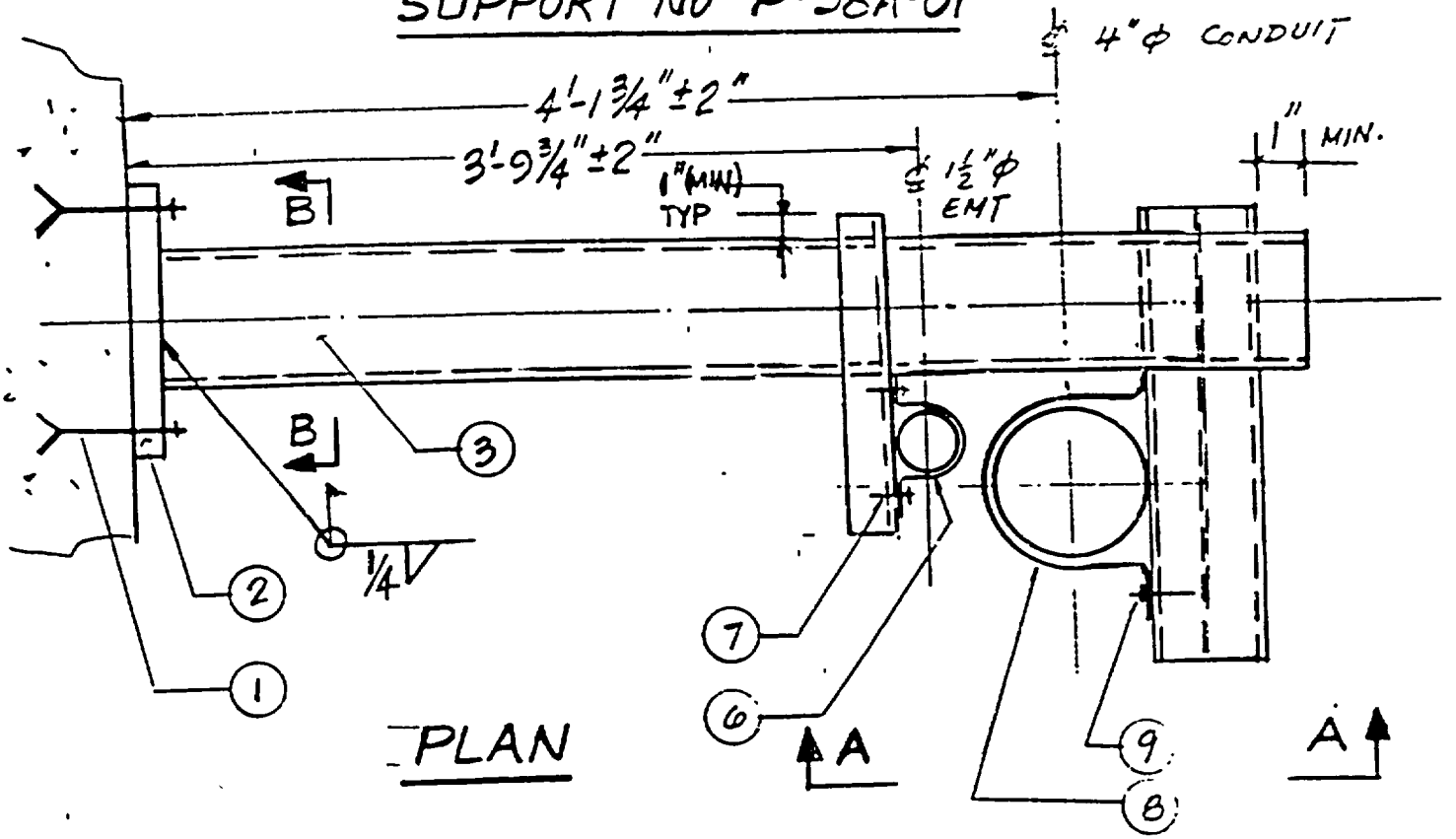

SEC B-B

# BILL OF MATERIAL

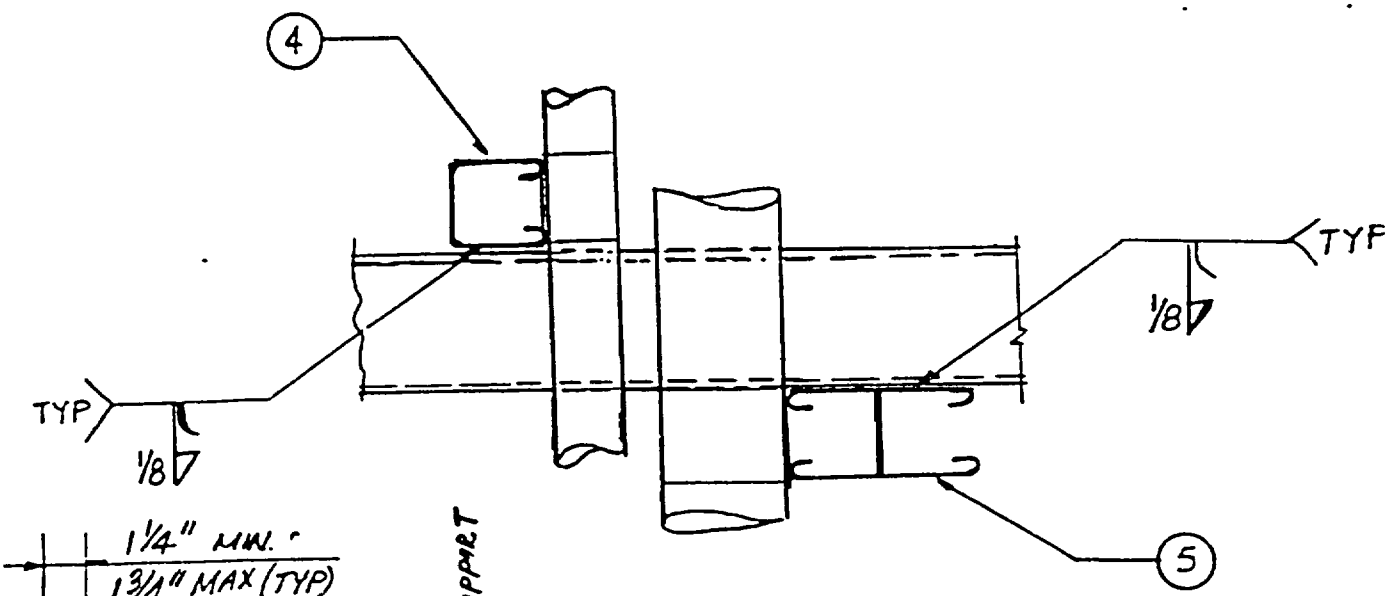
SUPPORT NO: P38A-02
AND P38B-02

| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 5/8" DIA. | – | HILTI KWIK BOLT II Le = 4" |
| ② | 2 | 3/4" x 12" x 1'-0" | A-36 | PLATE |
| ③ | 2 | 1/4" x 3" x 3" x 3'-0" | A-500 GR. B | STRUCTURAL TUBE STEE (CUT TO SUIT) |
| ④ | 2 | 0'- 10" | – | P1000 : UNISTRUT |
| ⑤ | 2 | P2558-40 | – | UNISTRUT PIPE CLAM |
| ⑥ | 4 | 3/8" x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | – | P1008 : UNISTRUT SPRING NUT |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

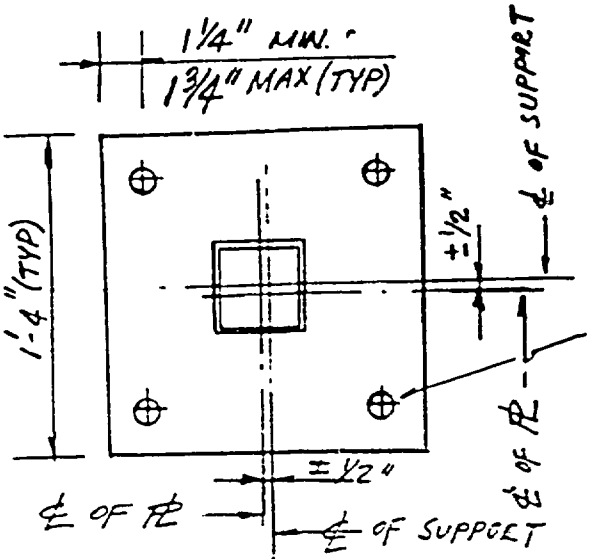
# SUPPORT NO P-38A-01




PLAN

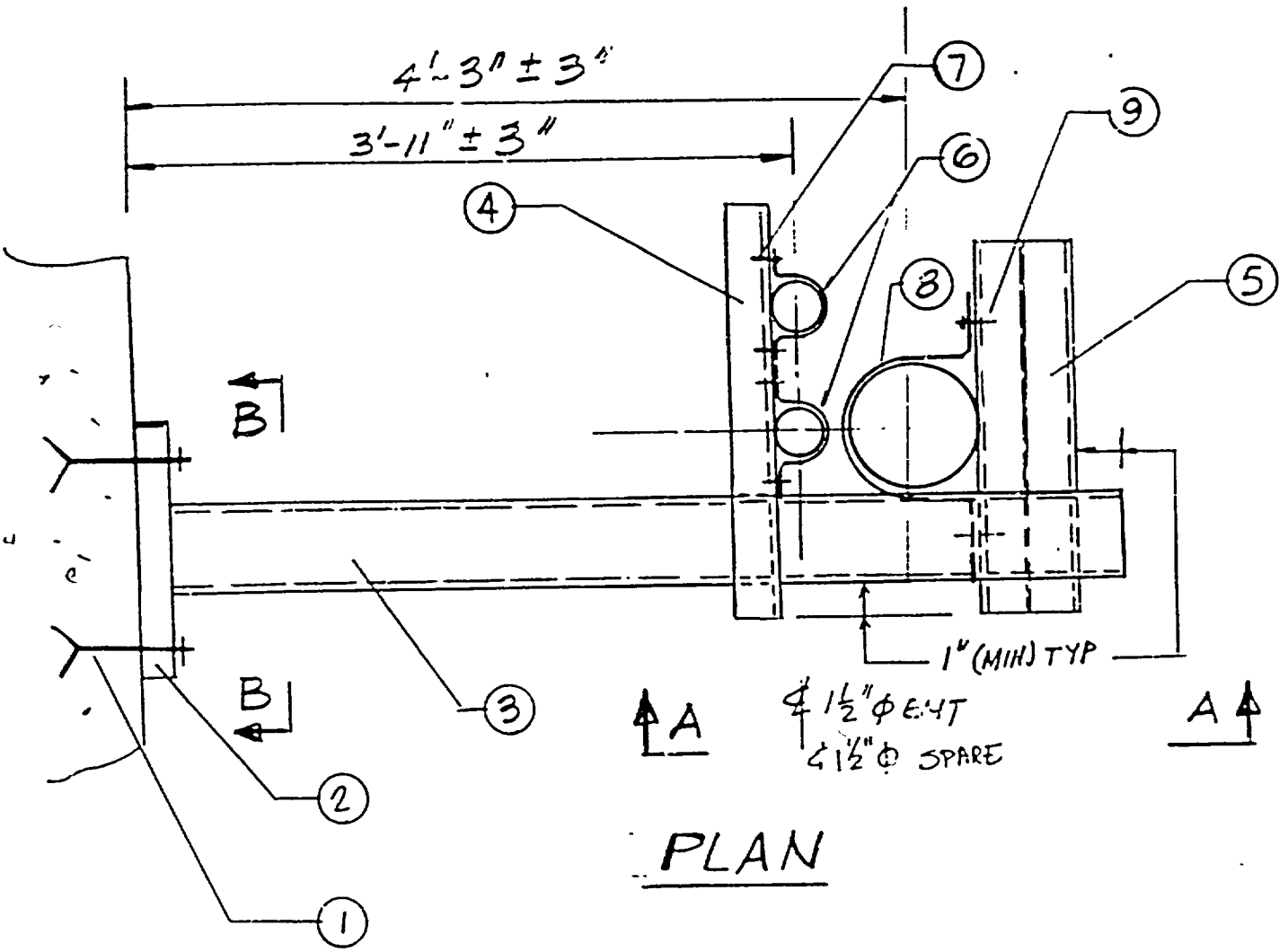



SEC A-A




SEC B-B

# SUPPORT NO P38B-01




## PLAN

FOR SECTIONS A-A & B-B SEE SUPPORT No. P38A-01

# BILL OF MATERIAL

SUPPORT NOS. P38A-01
AND P38B-01

| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 3/4" DIA. | - | HILTI KWIK BOLT II MIN. Le = 5" |
| ② | 2 | 3/4" x 16" x 1'-4" | A-36 | PLATE |
| ③ | 2 | 1/4" x 4" x 4" x 5'-6" | A-500 GR. B | STRUCTURAL TUBE STEEL (CUT TO SUIT) |
| ④ | 2 | 1'-6" | - | P1000 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | 1'-6" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑥ | 3 | P2558-15 | - | UNISTRUT PIPE CLAMP |
| ⑦ | 6 | 1/4" ϕ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRUT SPRING NUT |
| ⑧ | 2 | P2558-40 | - | UNISTRUT PIPE CLAMP |
| ⑨ | 4 | 3/8" ϕ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1008 : UNISTRUT SPRING NUT |
| ○ | | | | |

SARGENT & LUNDY
ENGINEERS
FOUNDED 1891
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603
(312) 269-2000



PHILIP A. GAZDA
ASSOCIATE
312 269-7305

June 28, 1991
Project No. 6904-28
(PAG-155)

Wisconsin Electric Power Company
Point Beach Nuclear Plant - Units 1 & 2

Conduit Supports in Auxiliary
Feedwater Pump Room
Work Request: WE 9112

Mr. S. St. Amour
Wisconsin Electric Power Company
333 West Everett Street
P. O. Box 2046
Milwaukee, WI 53201

Dear Mr. St. Amour:

We have developed the attached conduit support details for use in pump rooms P38A and P38B. It is our understanding that these supports are required to replace an existing support in each room in order to allow adequate clearance for the maintenance of valves which are located below the existing supports. These supports were sent to you for comment on 6-26-91. We have incorporated your comments, we are issuing the supports for your use. We understand that you will develop the modification package required to issue these supports to the station.

The calculations for this work will be sent at a later date as directed by you.

If you have any questions or comments, please contact me or Mr. R. Knoebel.

Yours very truly,

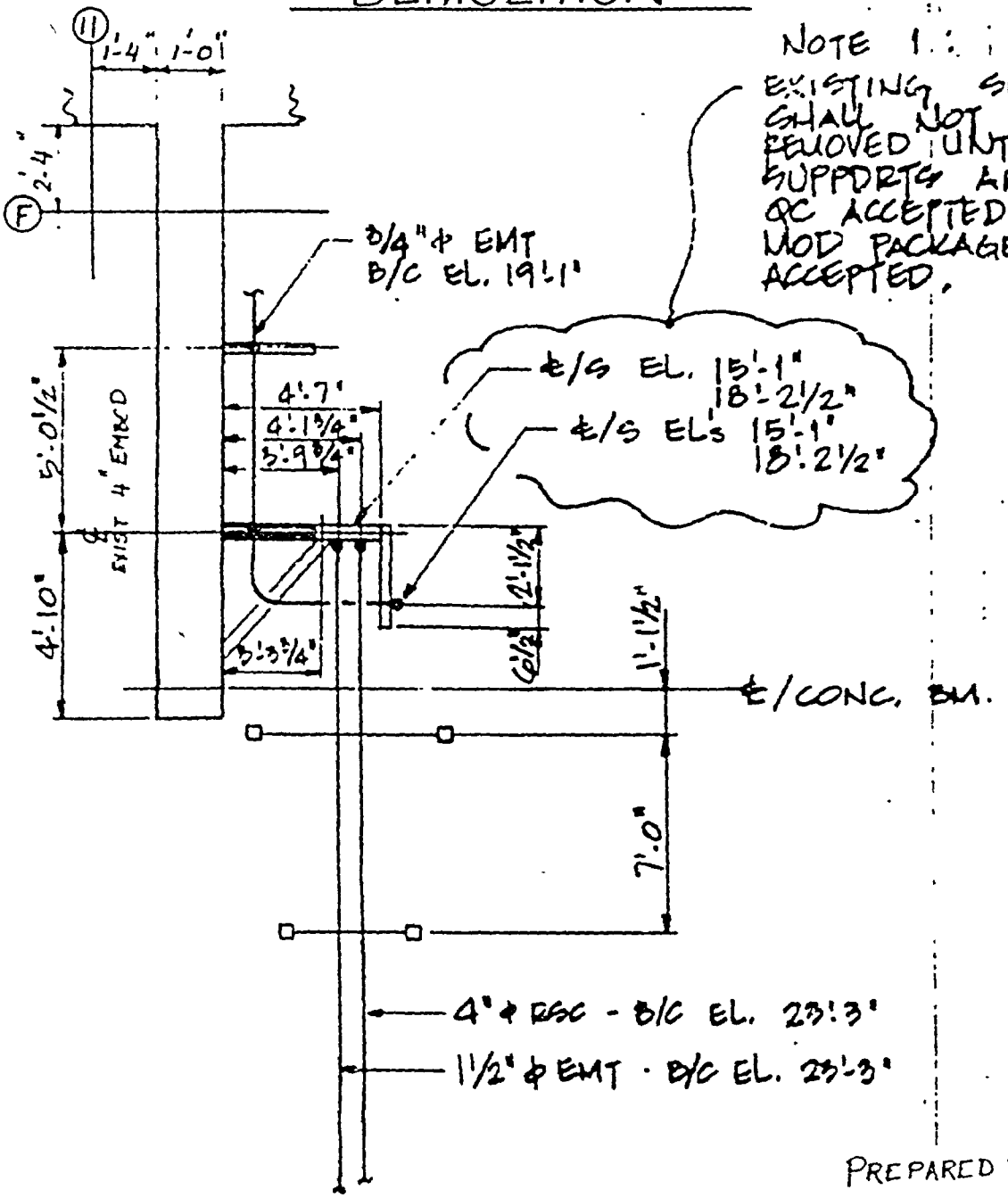
P. A. Gazda

P. A. Gazda
Senior Structural
Project Engineer

PAG:tmk
Attachment
Copies per distribution on page 2

Copies:
B. O. Sasman
A. Reimer
R. Knoebel
A. Szechowcyz
a:\letters\pag-155.tmk

# DEMOLITION



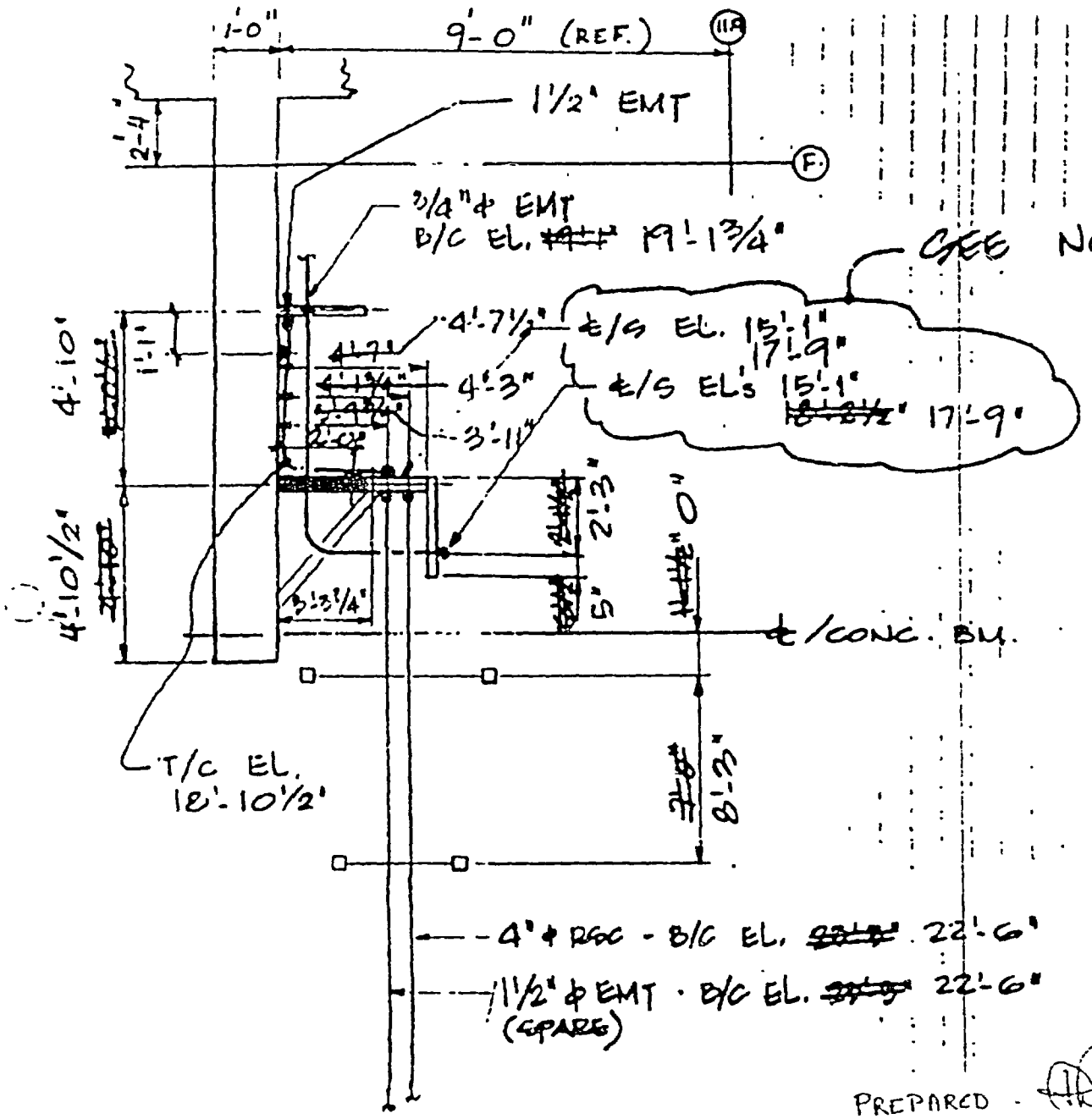

PREPARED: - [signature] 6-28-

REVIEWED: - RD Zyskie 6-28-

## PLAN EL. 8'-0"

PMBA PUMP CUBICLE

# DEMOLITION

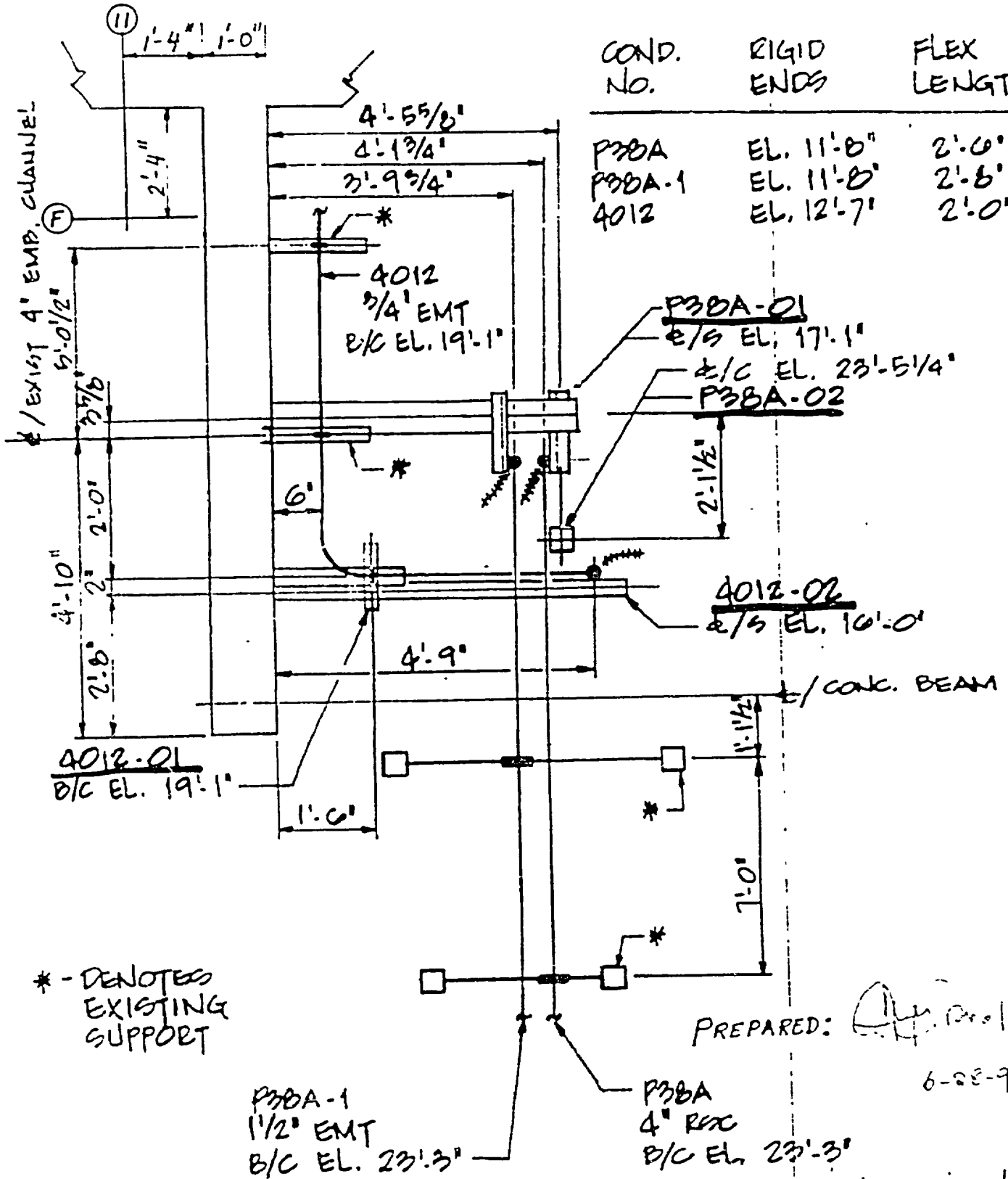



PREPARED - [signature] 6-28-91

REVIEWED: RD Zafke 6-28-91

## PLAN EL. 8'-0"

P38B PUMP CUBICLE




| COND. NO. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38A | EL. 11'-8" | 2'-0" |
| P38A-1 | EL. 11'-8" | 2'-8" |
| 4012 | EL. 12'-7" | 2'-0" |

* - DENOTES EXISTING SUPPORT

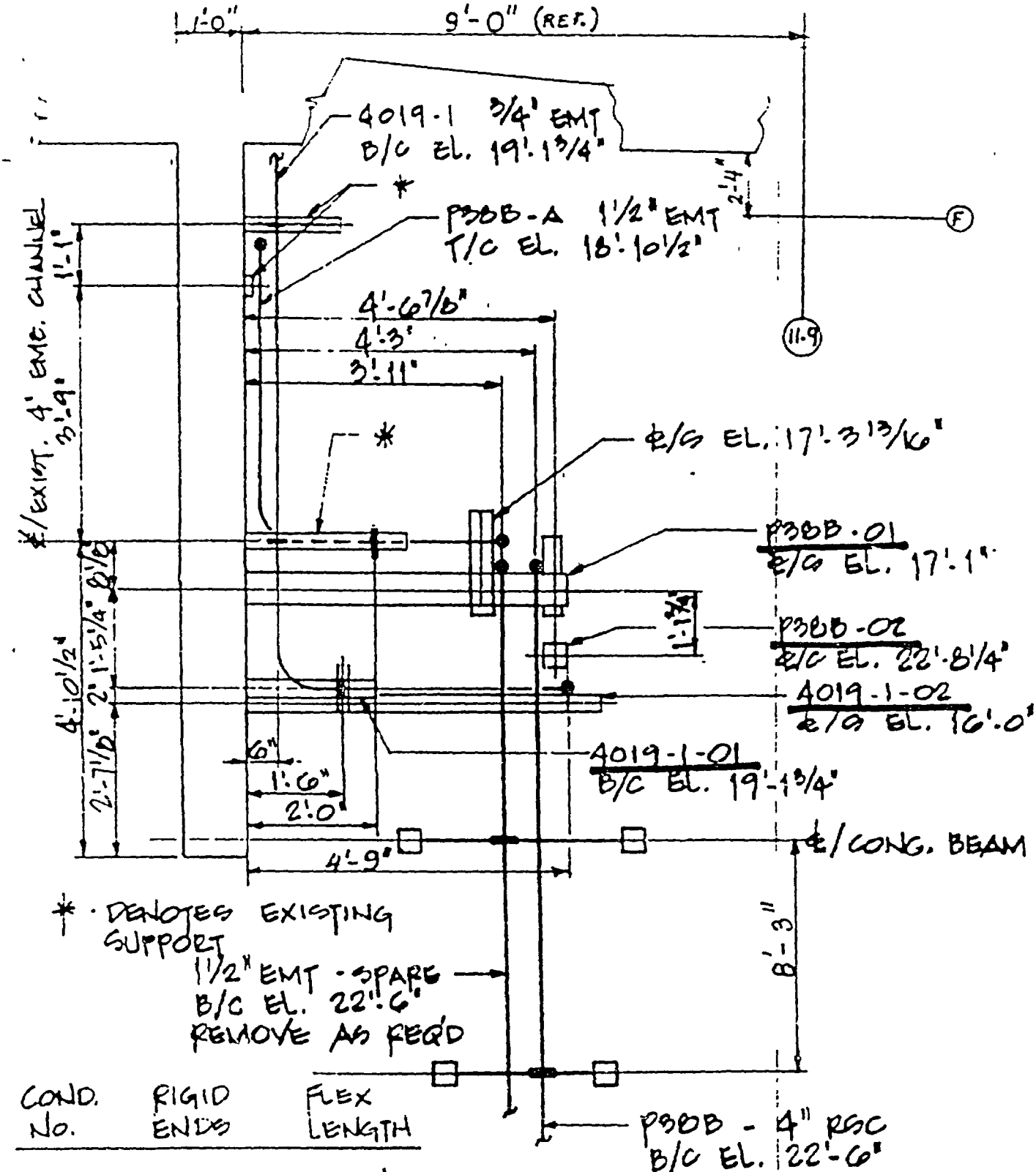
PREPARED: A. Prolasso 6-28-91

REVD: - RD Zoffoli 6-28-91

NORTH

# PLAN ELEVATION 8'-0"

(P38A)




| COND. No. | RIGID ENDS | FLEX LENGTH |
|---|---|---|
| P38B | EL. 12'-0" | 3'-0" |
| P38B-A | EL. 12'-0" | 3'-0" |
| 4019-1 | EL. 12'-8" | 2'-6" |

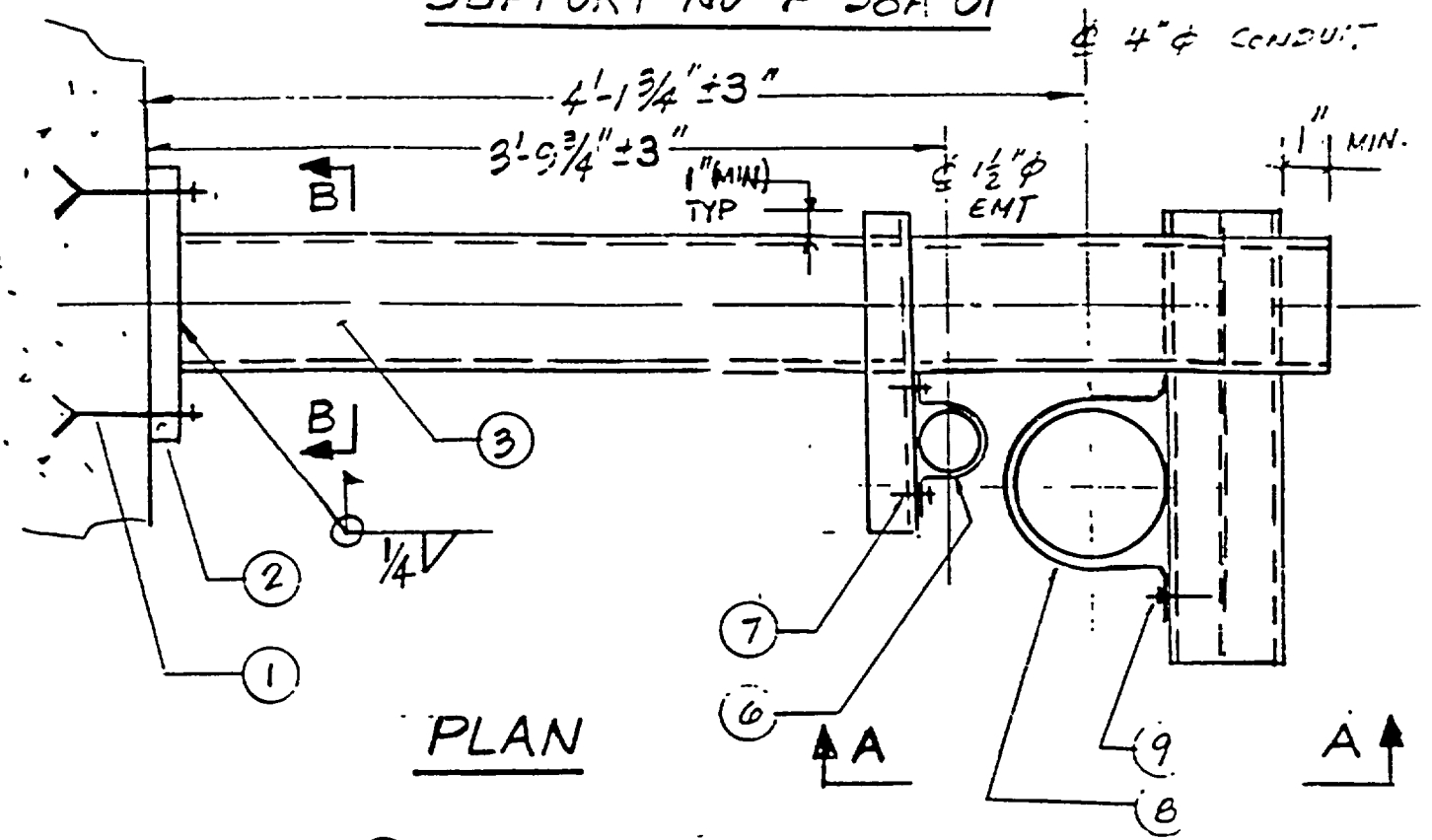
PREPARED: [signature] 6-28-91

NORTH

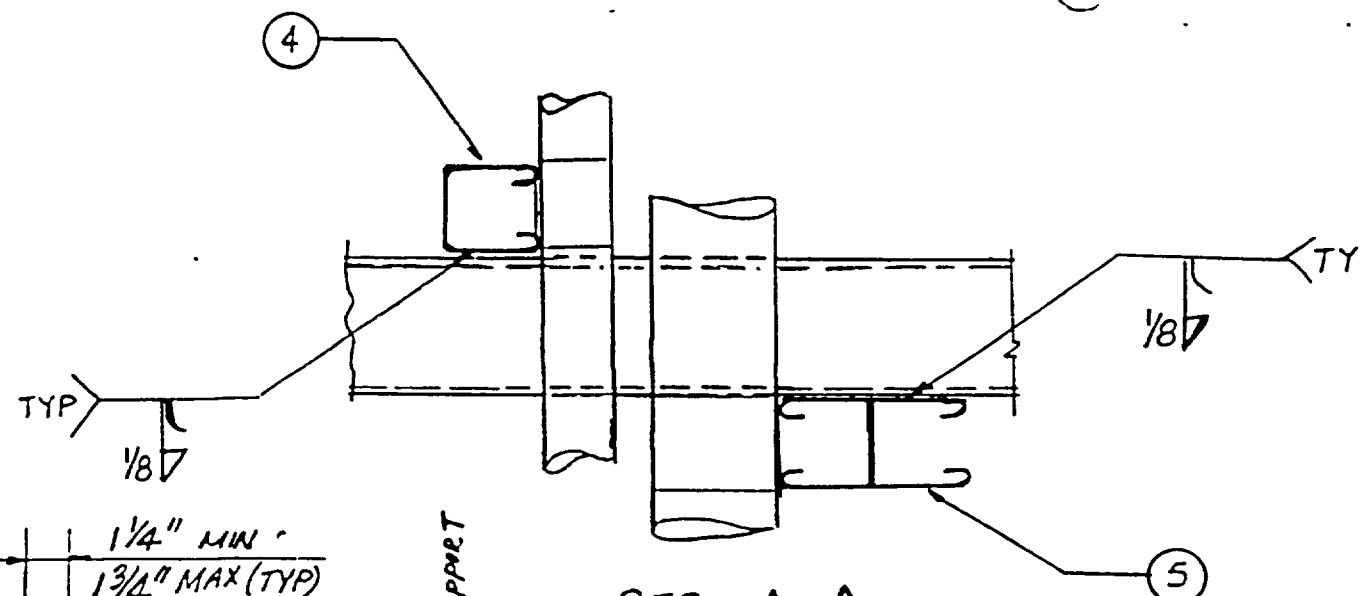
# PLAN ELEVATION 8'-0"
# (P38B)

REV'D - RD Zoffuto 6-28-9

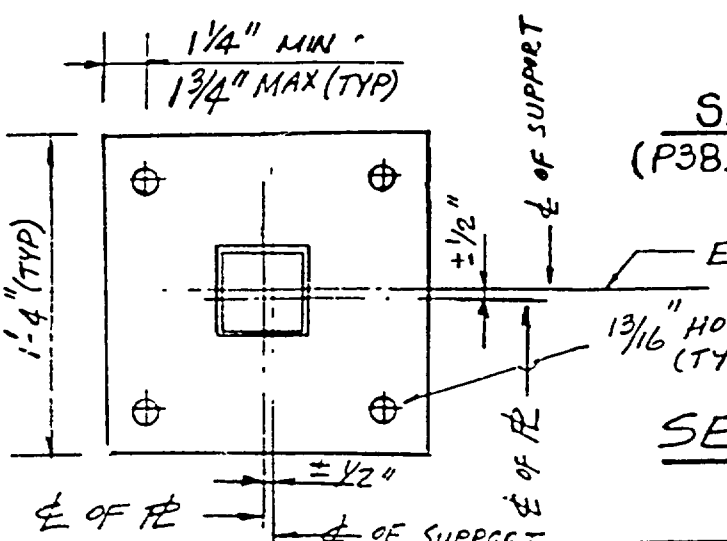
# SUPPORT NO P-38A-01




PLAN




SEC A-A
(P38B-01 OPPOSITE HAND)

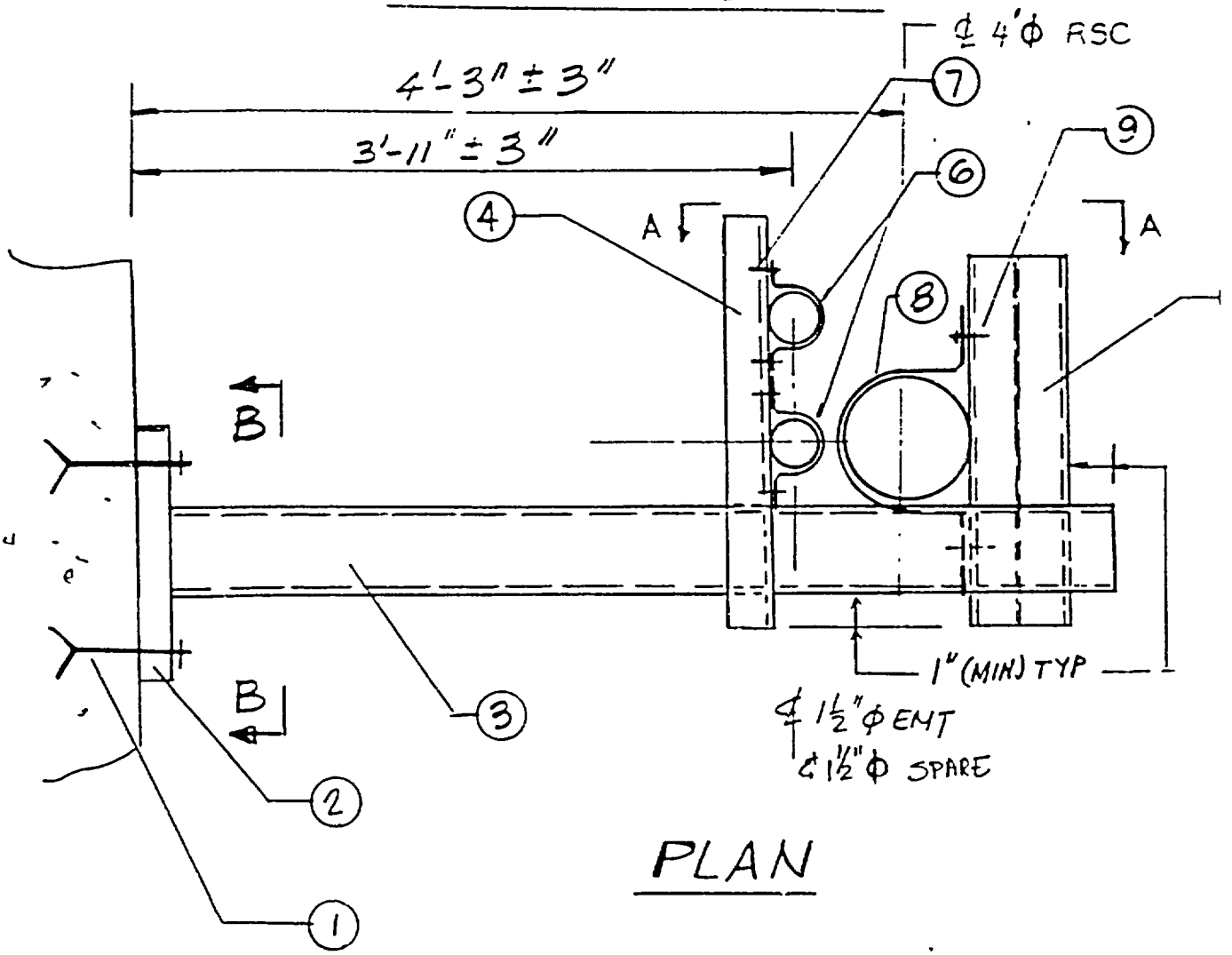



SEC B-B

PREP. [signature] 6/2

REVD. [signature] 4-28-

# SUPPORT NO P38B-01




PLAN

FOR SECTIONS A-A & B-B SEE SUPPOR NO P38A-01

PREP. 6/2

REVD. 6-88-

# BILL OF MATERIAL

## SUPPORT NOS. P38A-01 AND P38B-01

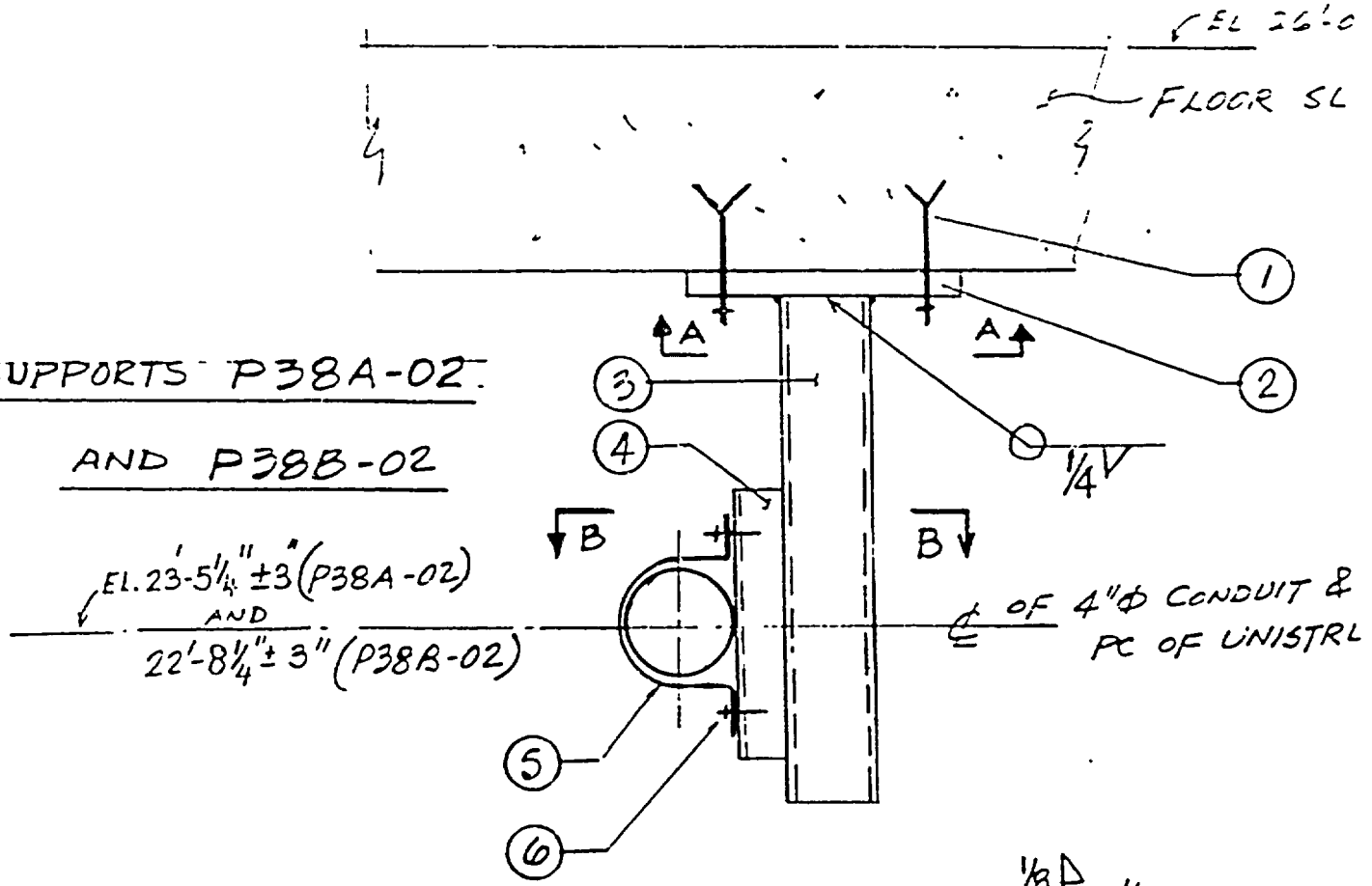
| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 3/4" DIA. | - | HILTI KWIK BOLT I MIN. Le = 5" |
| ② | 2 | 3/4" x 16" x 1'-4" | A-36 | PLATE |
| ③ | 2 | 1/4" x 4" x 4" x 5'-6" | A-500 GR. B | STRUCTURAL TUBE 5; (CUT TO SUIT) |
| ④ | 2 | 1'-6" | - | P1000 : UNISTRU (CUT TO SUIT) |
| ⑤ | 2 | 1'-6" | - | P1001 : UNISTRU, (CUT TO SUIT) |
| ⑥ | 3 | P2558-15 | - | UNISTRUT PIPE CLA |
| ⑦ | 6 | 1/4"ϕ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRU SPRING N |
| ⑧ | 2 | P2558-40 | - | UNISTRUT PIPE CLA |
| ⑨ | 4 | 3/8"ϕ x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1008 : UNISTRU SPRING NU |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS.

PREP. [signature] 6/26/91

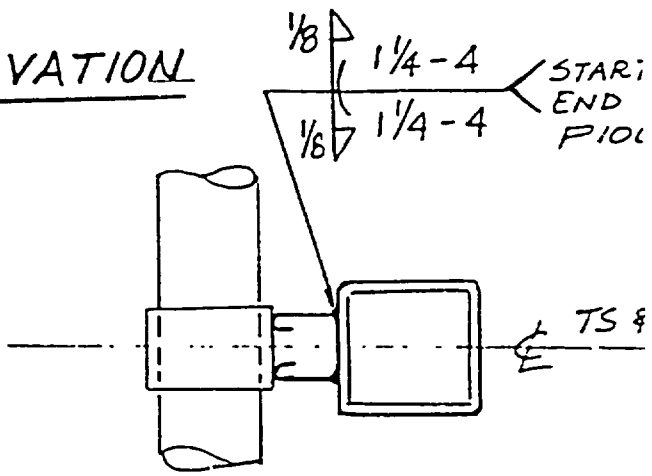
REVD. [signature] 6-28-91

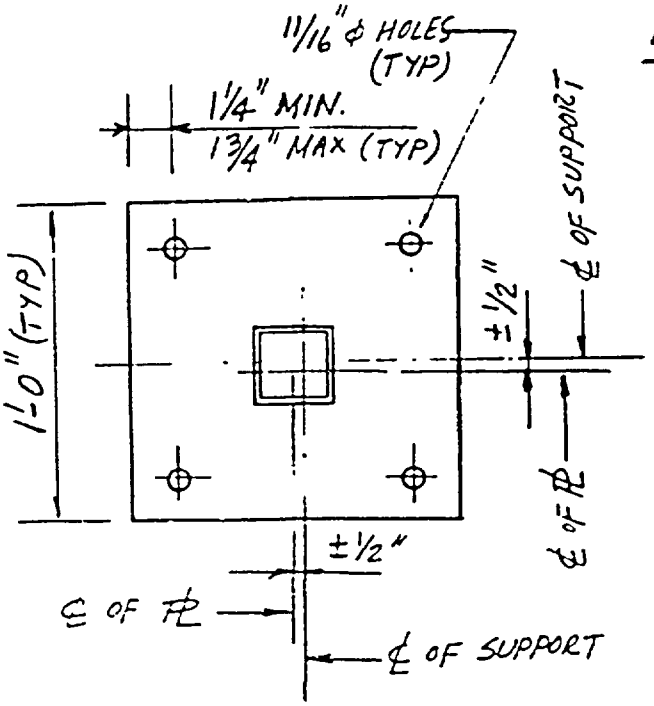



SUPPORTS P38A-02

AND P38B-02

ELEVATION




SEC A-A

SEC B-B

PREP. 6/26/

REVD. 6-28-

# BILL OF MATERIAL

SUPPORT NO: P38A-02
AND P38B-02

| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 5/8" DIA. | – | HILTI KWIK BOLT II Le = 4" |
| ② | 2 | 3/4" x 12" x 1'-0" | A-36 | PLATE |
| ③ | 2 | 1/4" x 3" x 3" x 3'-0" | A-500 GR. B | STRUCTURAL TUBE STE (CUT TO SUIT) |
| ④ | 2 | 0'- 10" | – | P1000 : UNISTRUT |
| ⑤ | 2 | P2558-40 | – | UNISTRUT PIPE CLA |
| ⑥ | 4 | 3/8" x 1 1/2" HEX HEAD CAP SCREW WITH SPRING NUTS | – | P1008 : UNISTRUT SPRING NUT |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

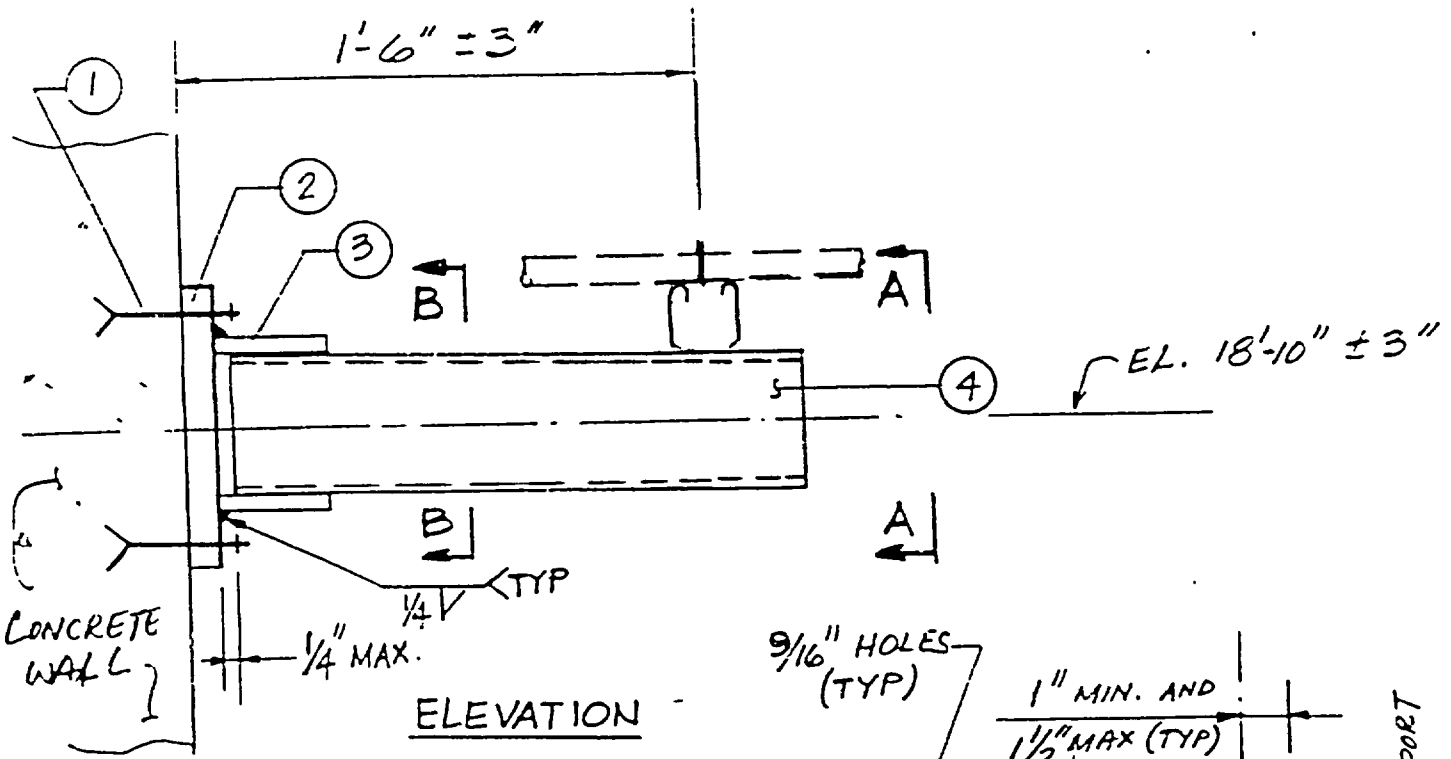
Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

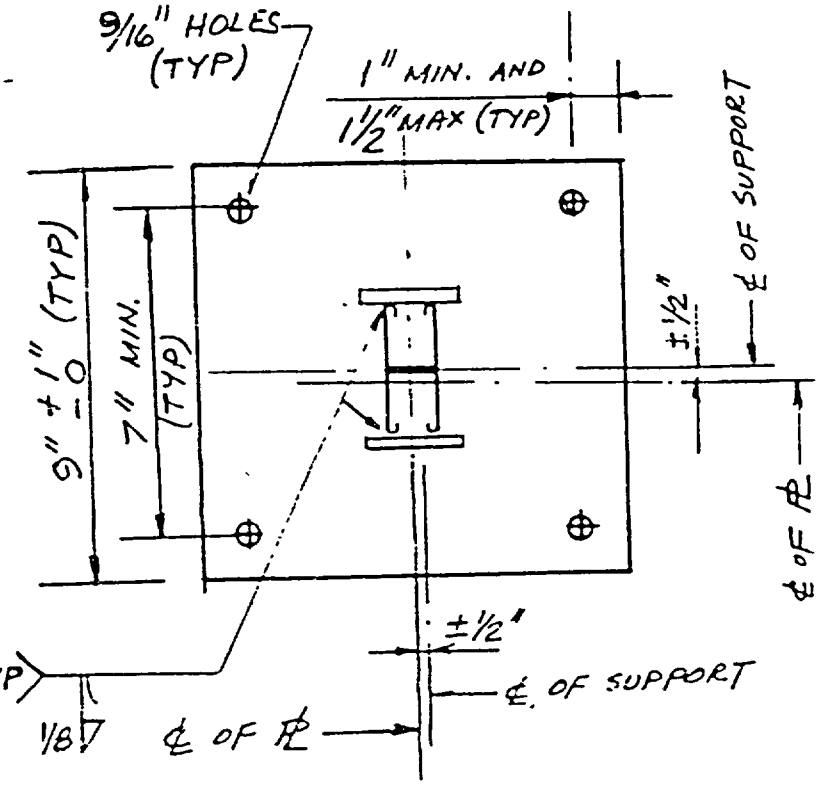
PREP. 6/26

REVD. 6-28

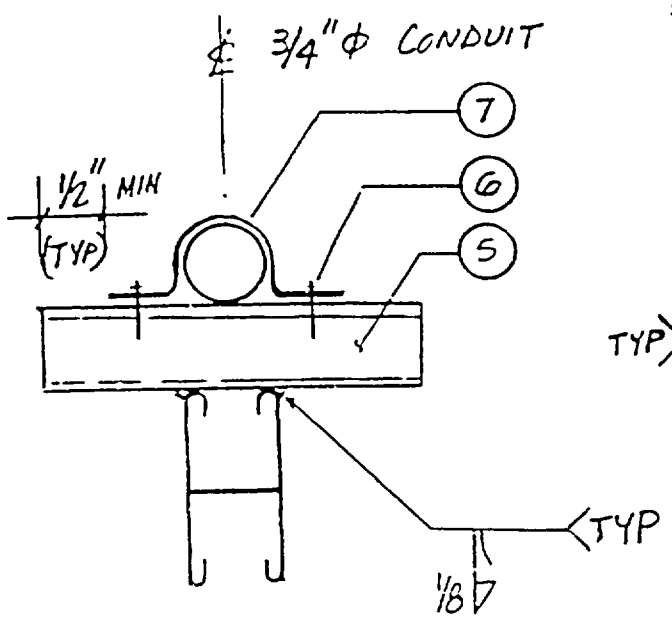
# SUPPORTS 4012-01 & 4019-1-01




ELEVATION




SEC B-B




SEC A-A

PREP. A. Lee 6/26/9.

REVD.

# BILL OF MATERIAL

SUPPORT NOS. 4012-01
AND 4019-1-01

| ITEM No. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | - | HILTI KWIK BOLT II MIN Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4" x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 2'-0" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | 0'-5" | - | P1000 : UNISTRUT (CUT TO SUIT) |
| ⑥ | 4 | 1/4"Φ x 1 1/2 HEX HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRUT SPRING NUT |
| ⑦ | 2 | P2558-7 | - | UNISTRUT PIPE CLAMP |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

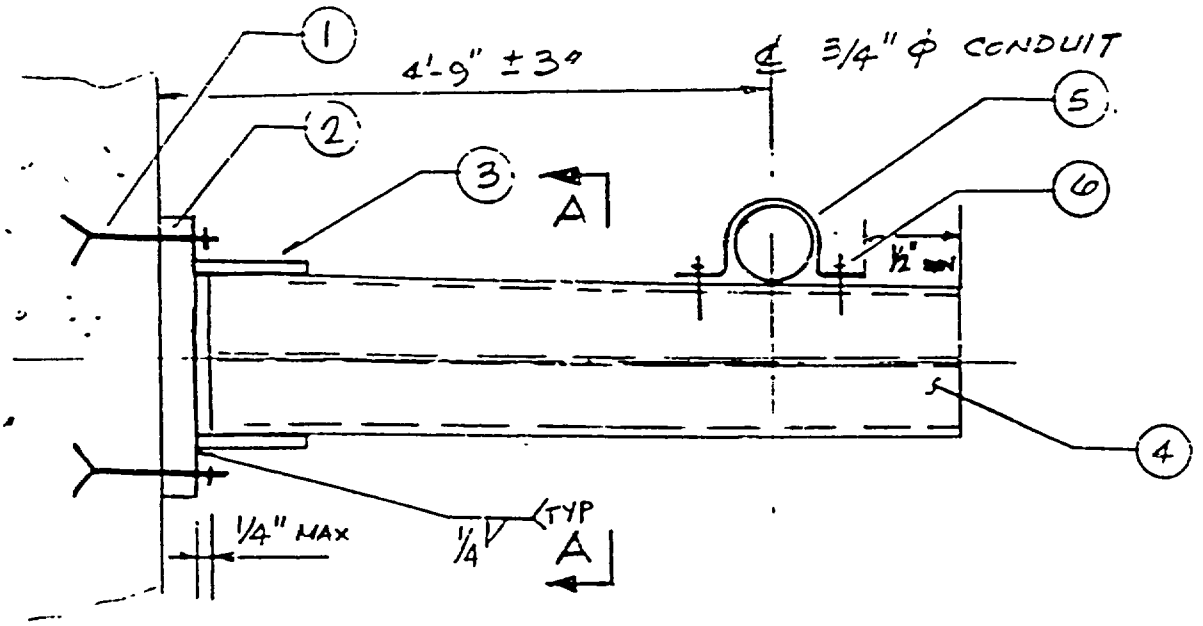
Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

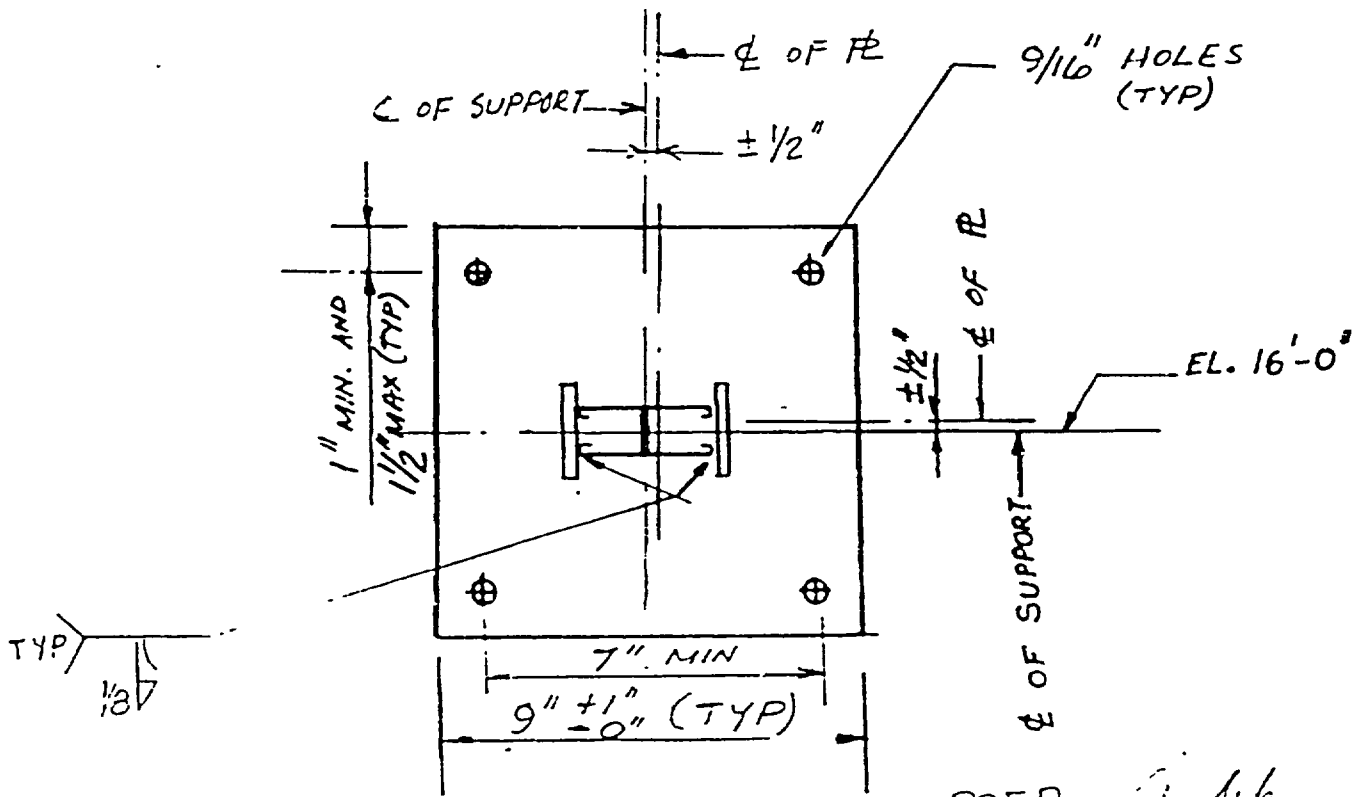
PREP. 6/26/91

REVD. 6-28-91

# SUPPORTS 4012-02 & 4019-1-02




## PLAN




PREP. 6/26/9.

REVD. 6-28-

## SEC A-A

# BILL OF MATERIAL

SUPPORT NOS. 4012-02
AND 4019-1-02

| ITEM NO. | NO. REQD | SIZE / LENGTH | MATERIAL | DESCRIPTION |
|---|---|---|---|---|
| ① | 8 | 1/2" DIA. | - | HILTI KWIK BOLT II MIN. Le = 3 1/2" |
| ② | 2 | 1/2" x 9" x 0'-9" | A-36 | PLATE |
| ③ | 4 | 1/4 x 4" x 0'-4" | A-36 | PLATE |
| ④ | 2 | 5'-6" | - | P1001 : UNISTRUT (CUT TO SUIT) |
| ⑤ | 2 | P 2558-7 | - | UNISTRUT PIPE CLAMP |
| ⑥ | 4 | 1/4"Φ x 1 1/2" HEX. HEAD CAP SCREW WITH SPRING NUTS | - | P1006-1420 : UNISTRUT SPRING NUT |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |
| ○ | | | | |

Le = MINIMUM EMBEDMENT

NOTE:- B-LINE COMPONENTS MAY BE SUBSTITUTED FOR UNISTRUT ITEMS

PREP. 6/26/91

REVD. 6-28-91

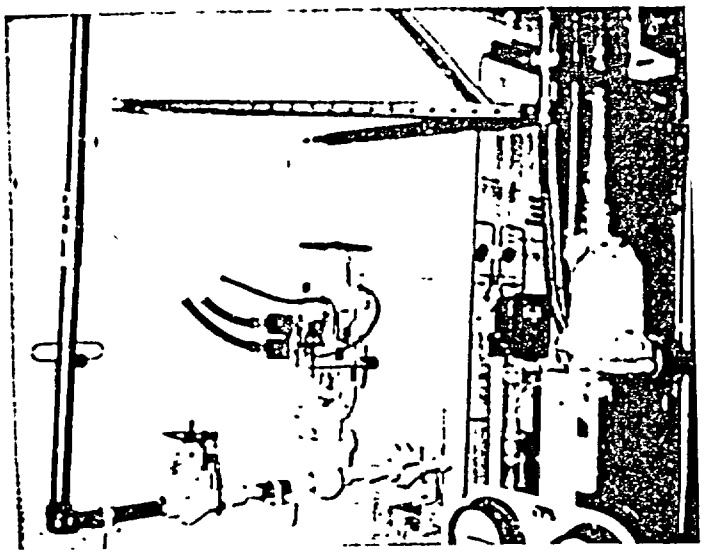
SARGENT & LUNDY ENGINEERS

| | | | |
|---|---|---|---|
| Calcs. For | PUMPS P32A & P32B | Calc. No. | |
| | | Rev. | Date |
| ✓ Safety-Related | Non-Safety-Related | Page | of |

| | | | |
|---|---|---|---|
| Client | WEPCO | Prepared by | Date 6-28-9 |
| Project | POINT BEACH | Reviewed by | Date |
| Proj No. | 6904-28 Equip. No. | Approved by | Date |

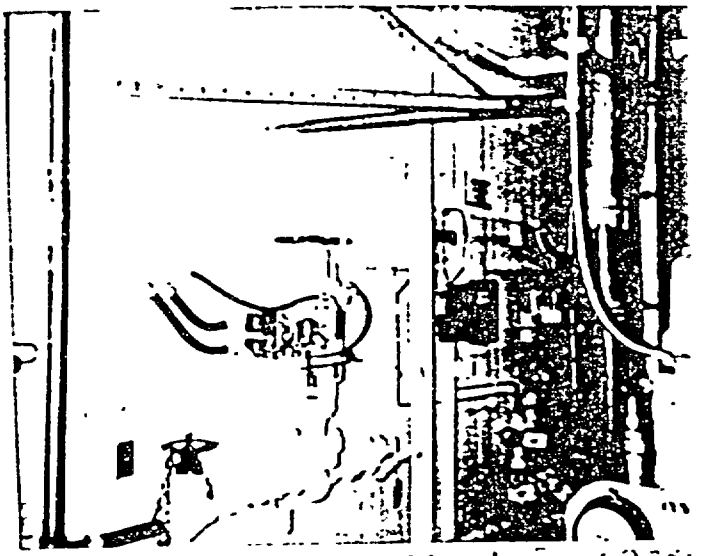
# 8.0 ATTACHMENTS

Form CO-3 08.1 Rev. 2



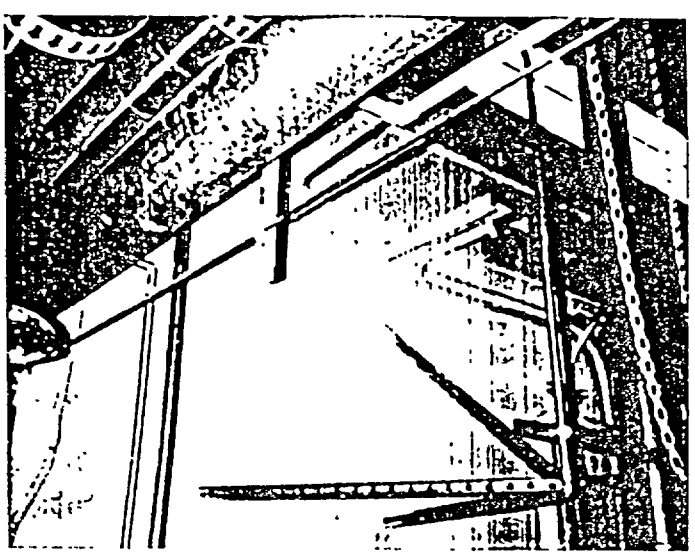
P37A

Mod 88-099*D

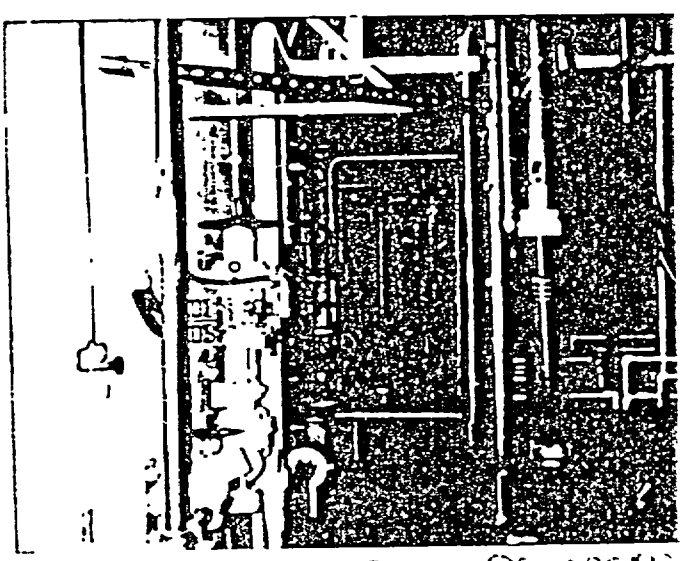


P38B

Mod 88-099*D



Mod 88-099*D

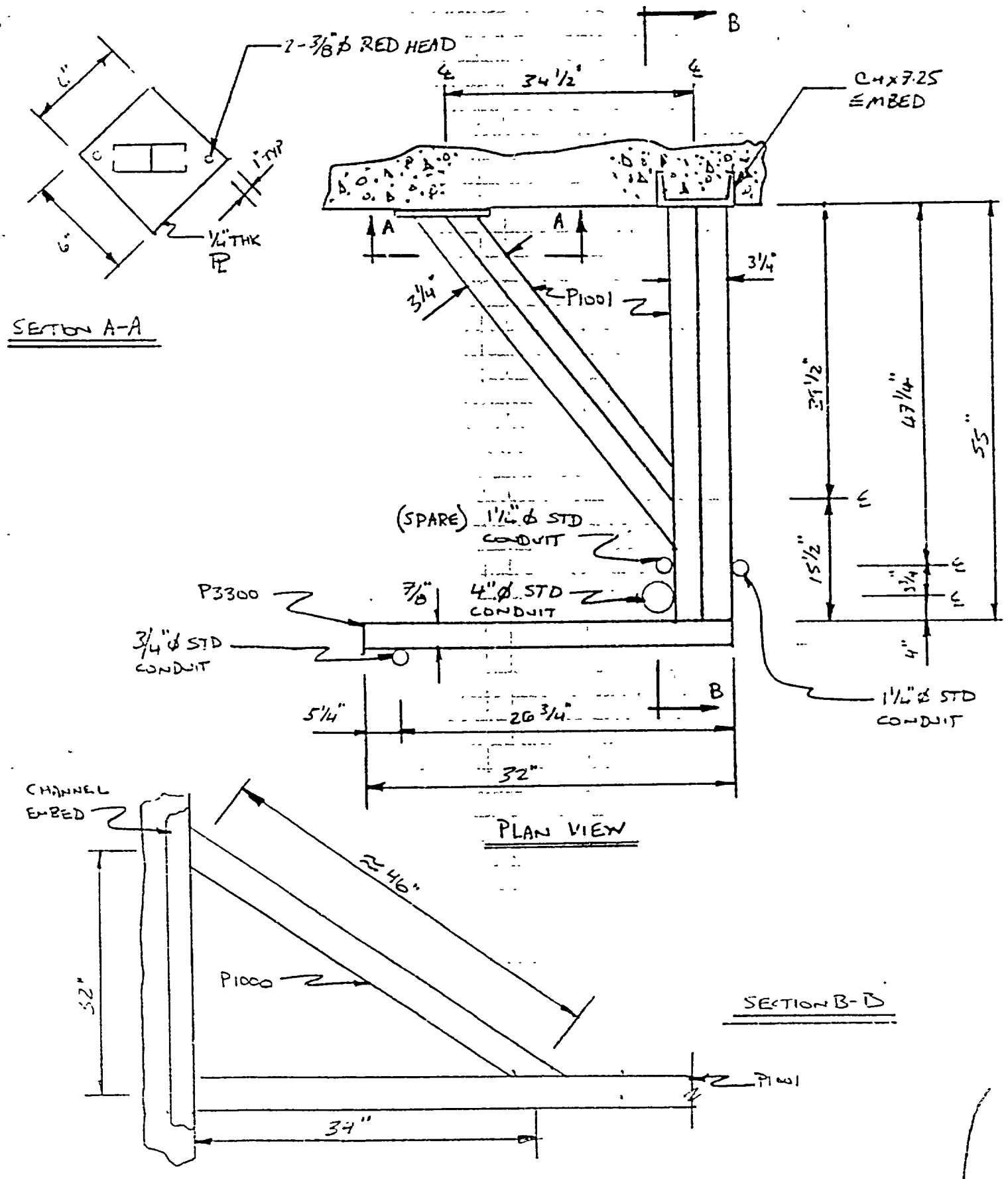


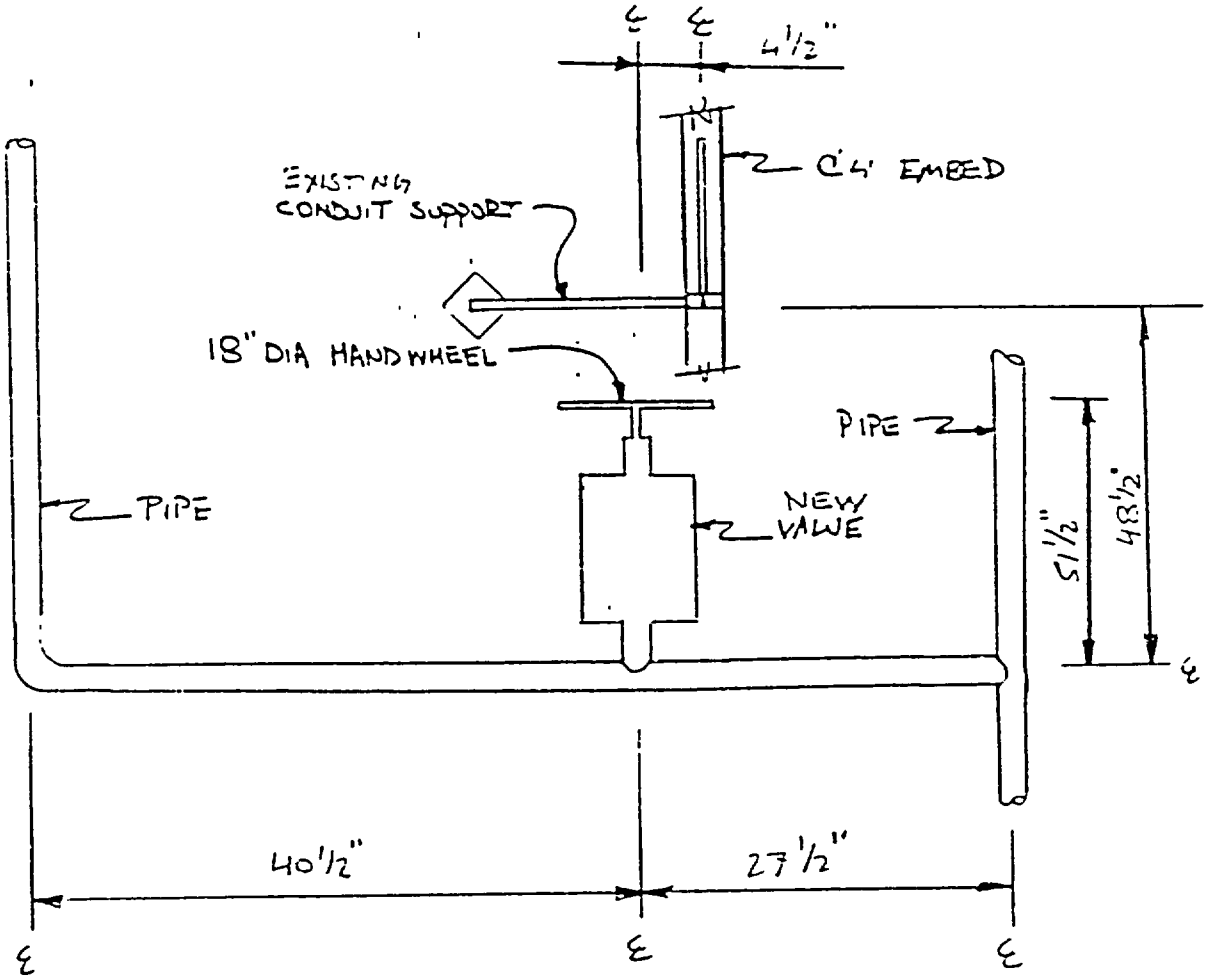
Mod 88-099*D

# ASBUILT OF SUPPORTS TO BE REMOVED / RELOCATED



P383

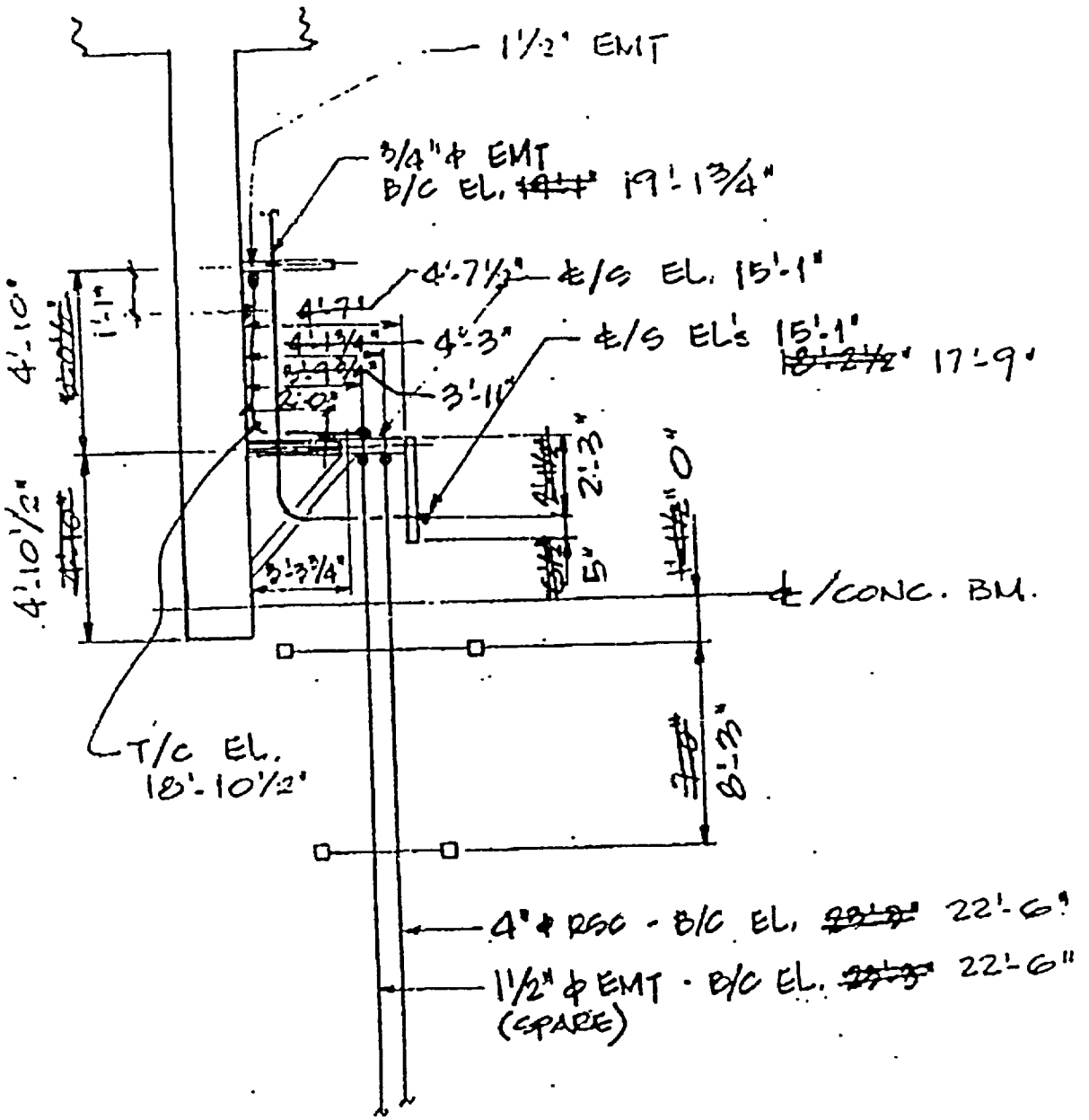





ELEVATION VIEW LOOKING SOUTH

(P38B)

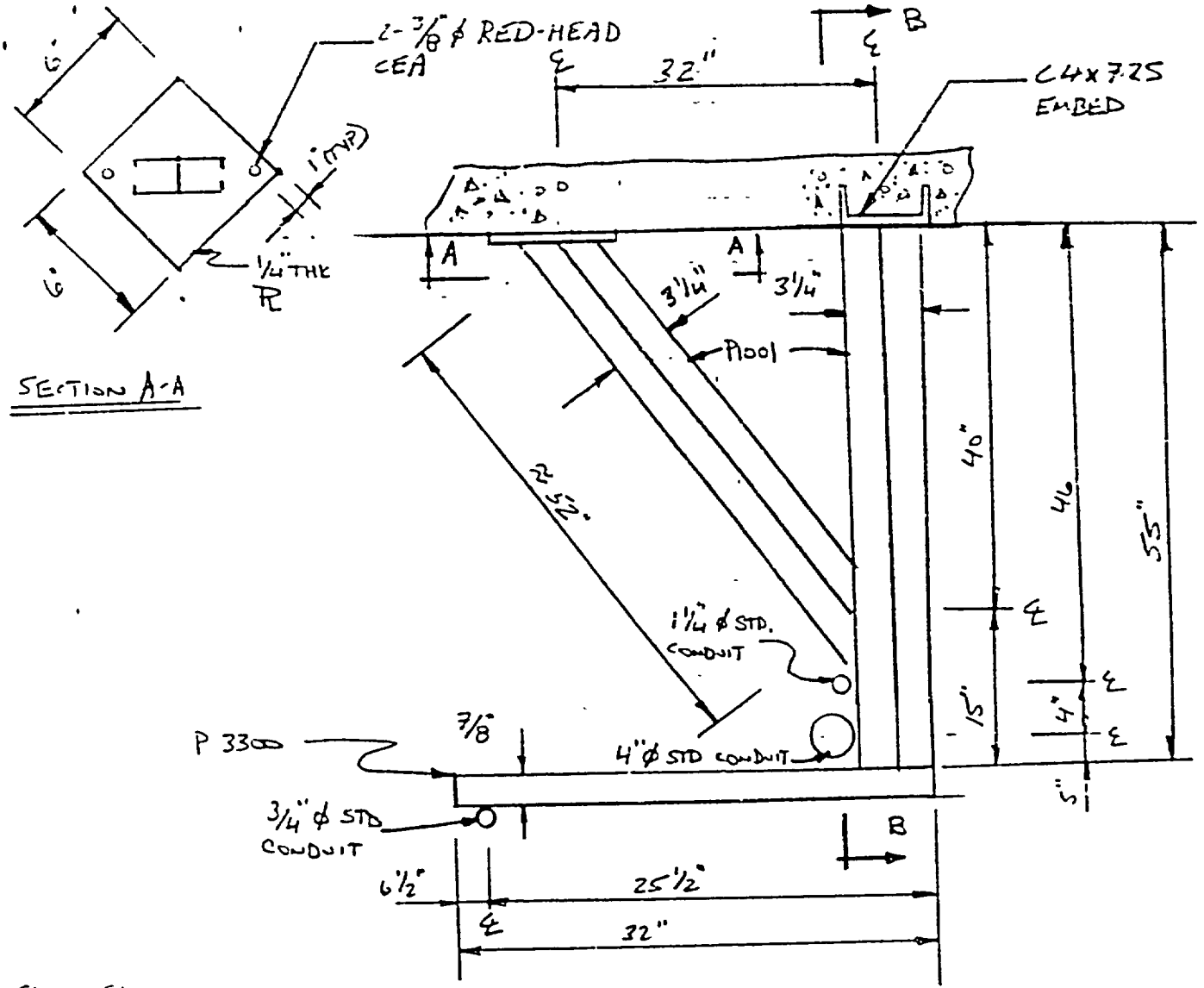
3/L

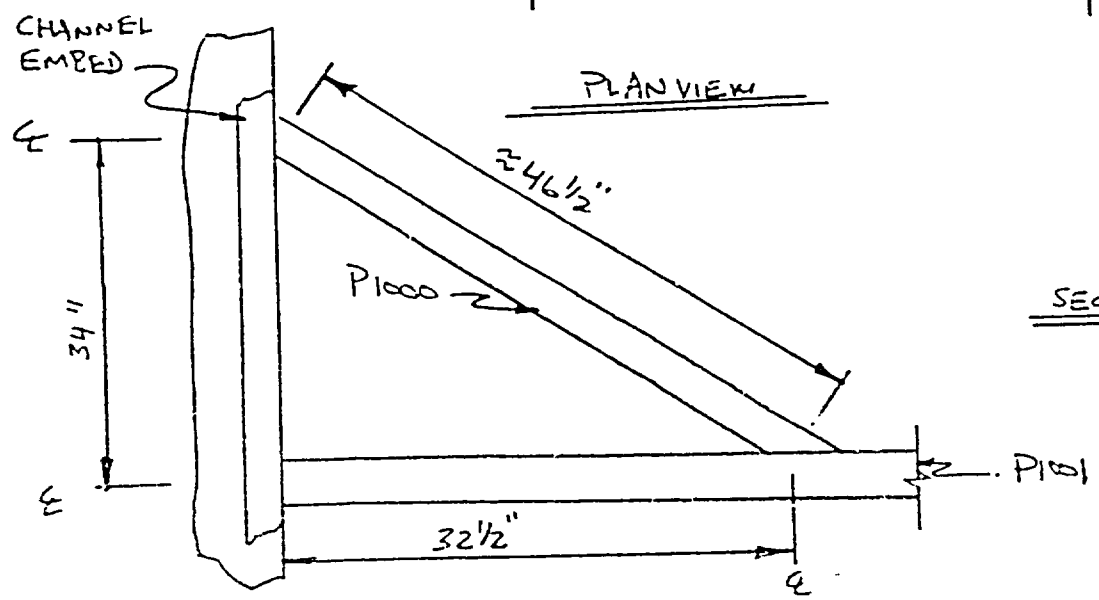


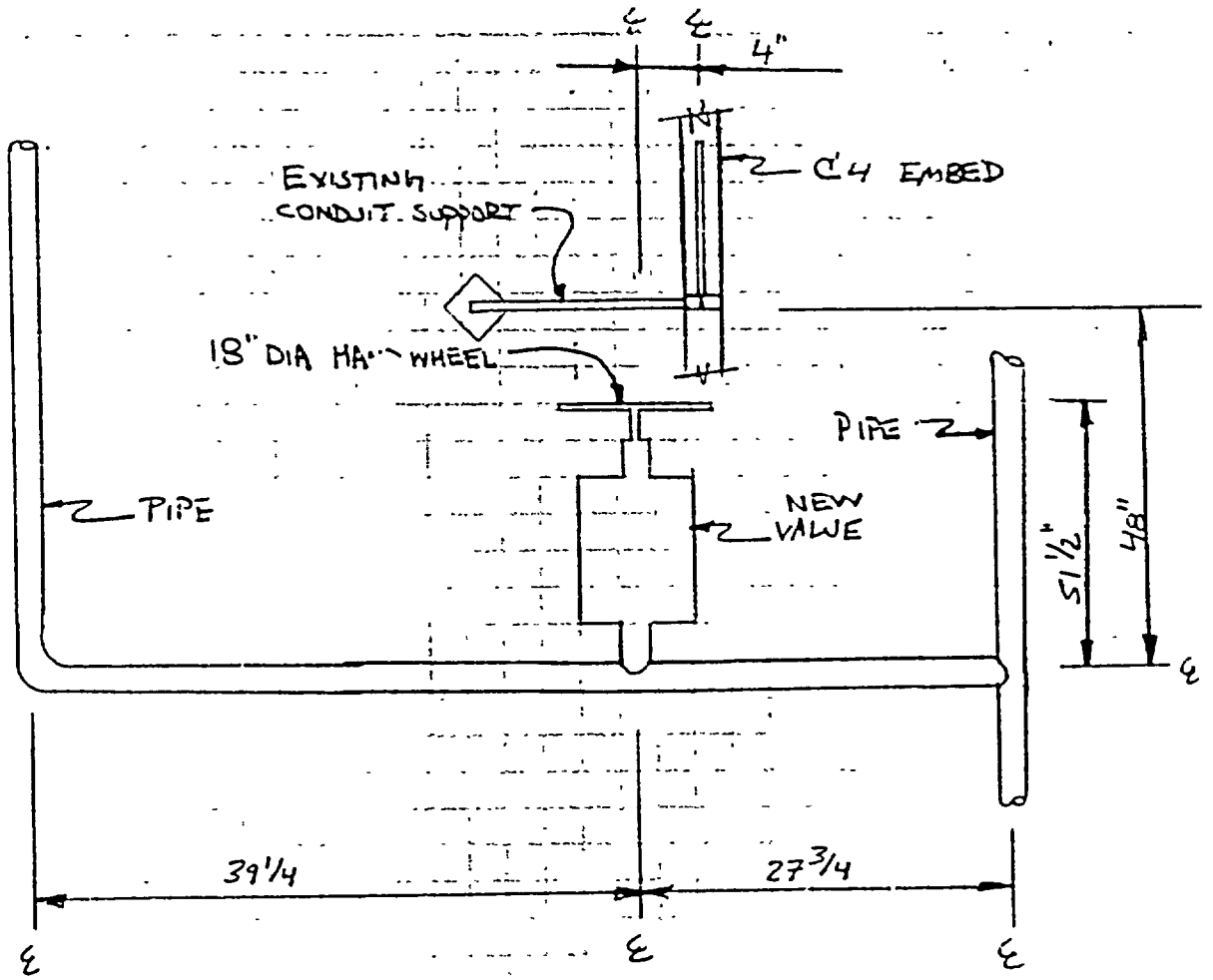

PLAN EL. 8'-0"

~~P38A~~ PUMP CUBICLE
P38B

# P39A

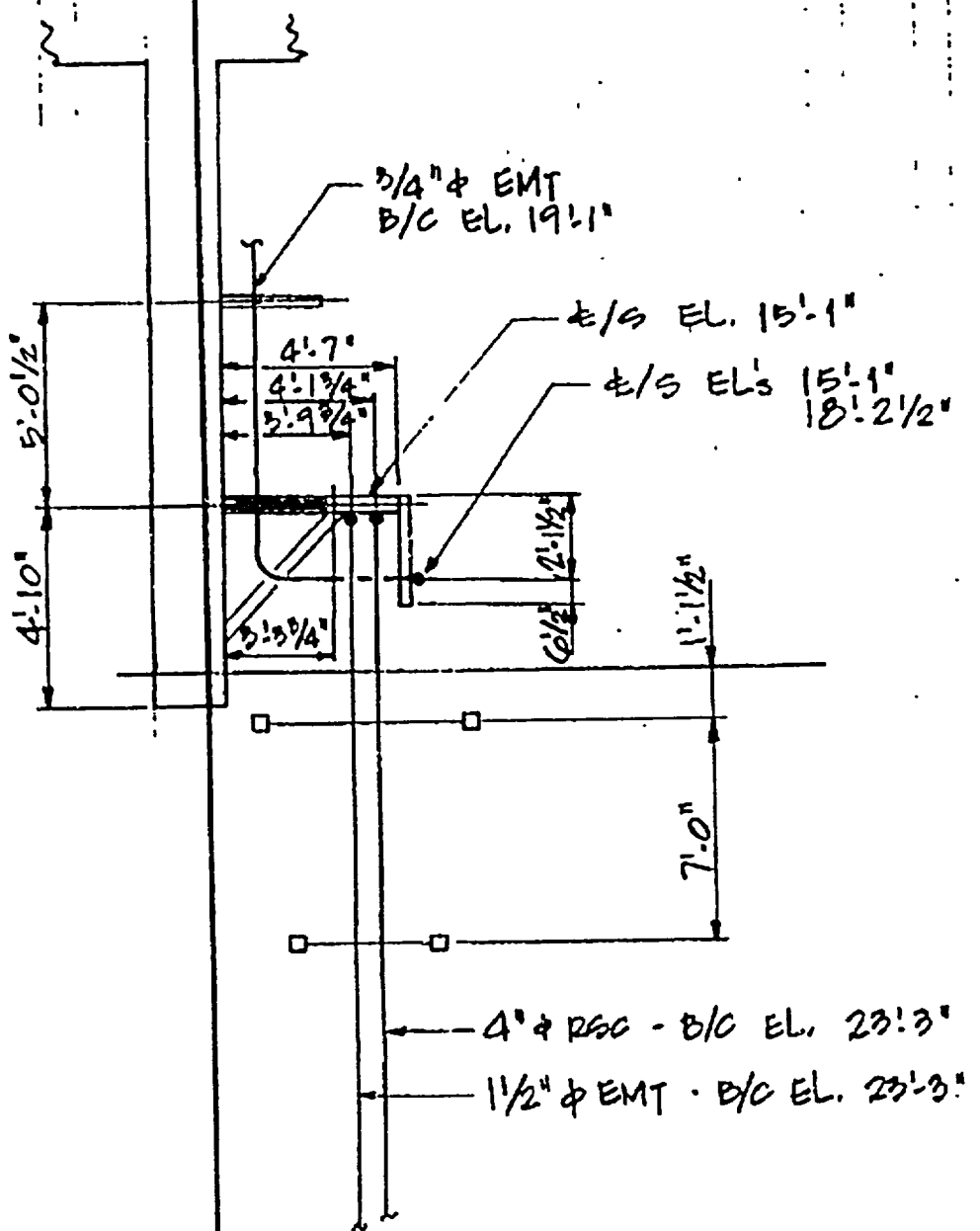

2-3/8 ϕ RED-HEAD CEA
6"
6"
1" (TYP)
1/4" THK PL
SECTION A-A
B
℄
32"
C4x7.25 EMBED
A
A
3 1/4"
3 1/4"
P1001
≈52"
40"
46
55"
1 1/4 ϕ STD. CONDUIT
7/8"
P 3300
4" ϕ STD CONDUIT
3/4" ϕ STD CONDUIT
15"
4"
5"
B
6 1/2"
25 1/2"
℄
32"


CHANNEL EMBED
PLAN VIEW
℄
≈46 1/2"
P1000
34"
℄
P1001
32 1/2"
℄
SECTION B-B



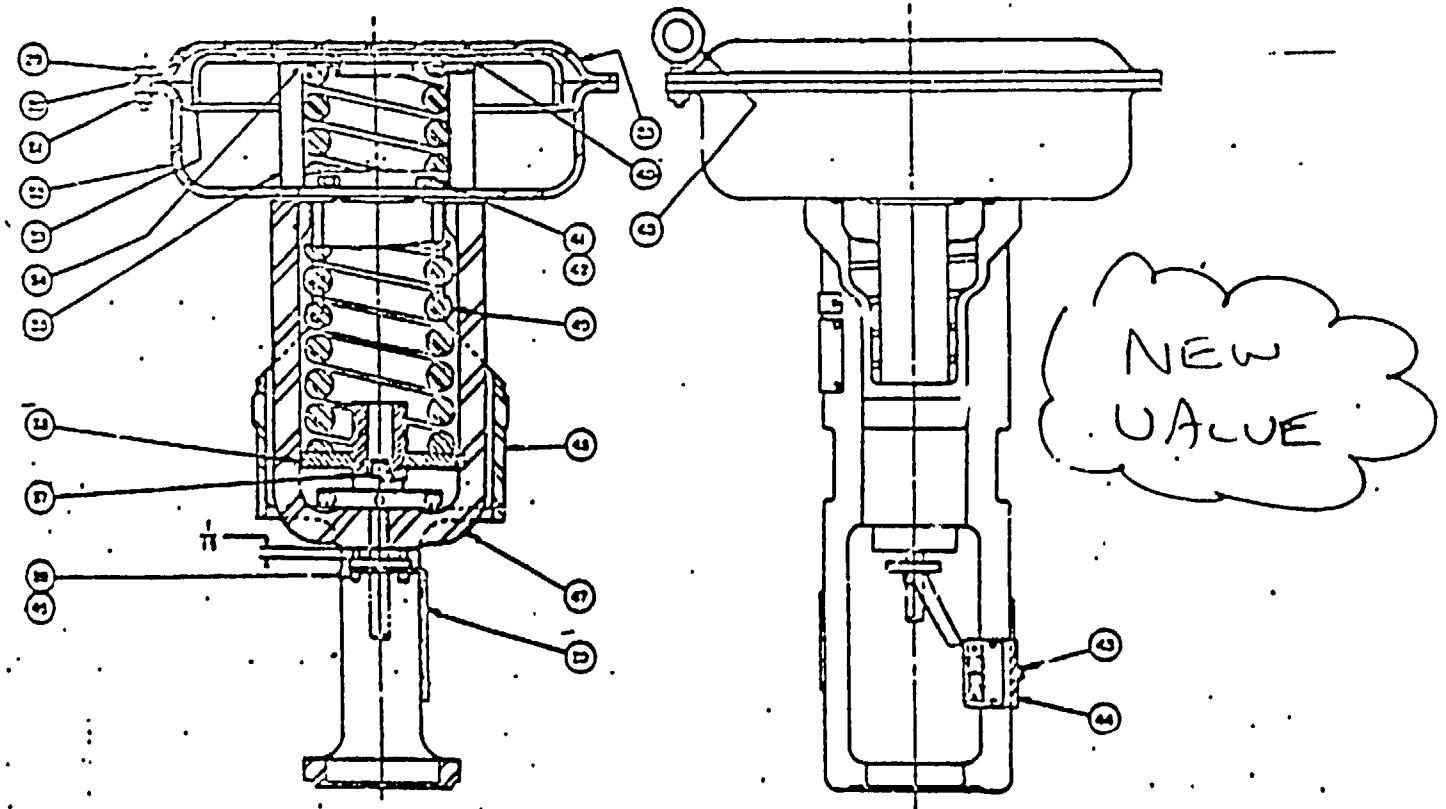

ELEVATION NEW LOOKING SOUTH

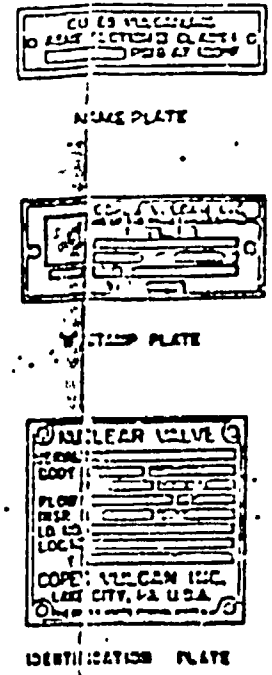
(P38A)




PLAN EL. 8'-0"

PMBA PUMP CUBICLE




NAME PLATE

IDENTIFICATION PLATE

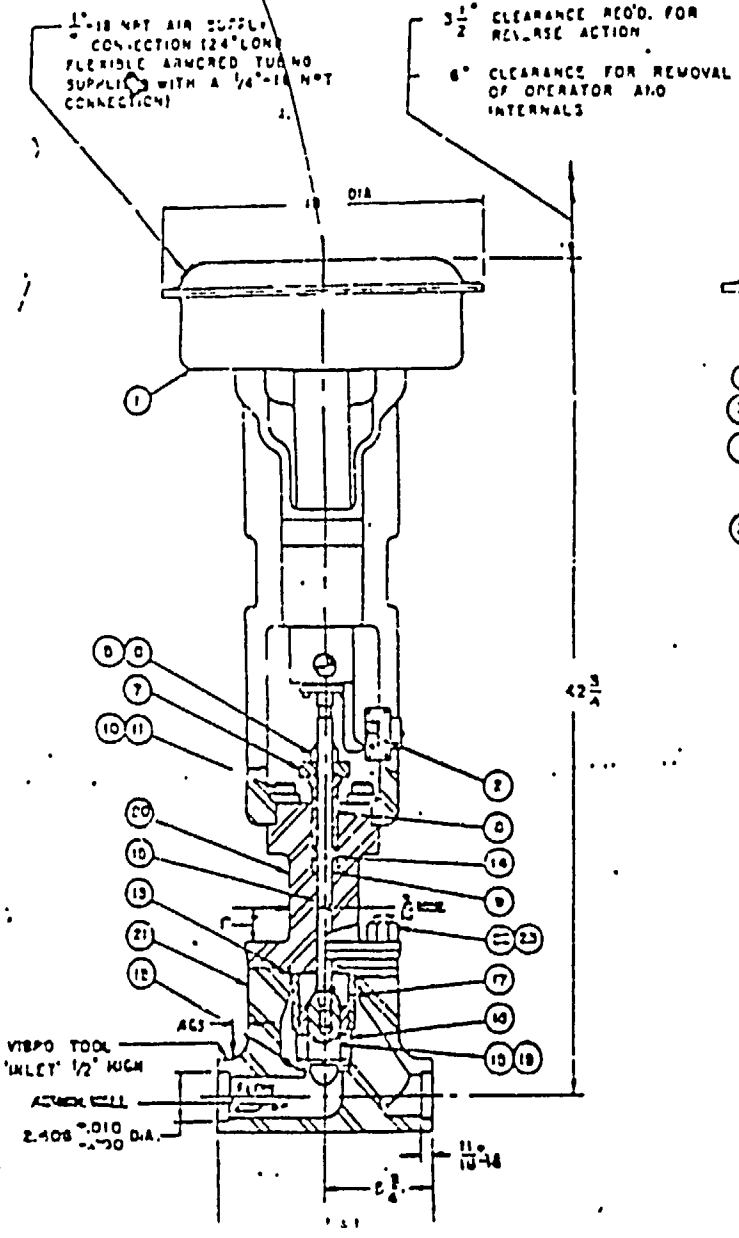
# FOR INFORMATION ONLY

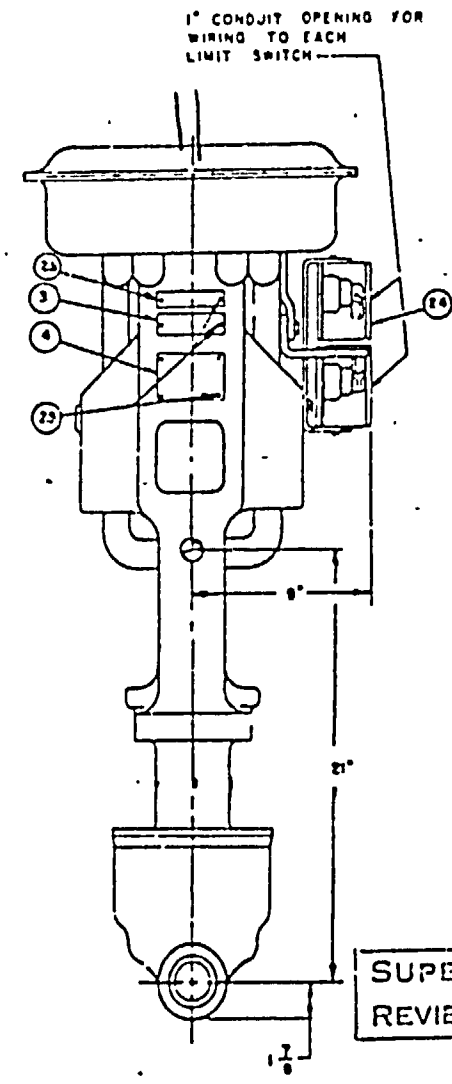
| NO | DATE | REVISIONS | BY | CHK |
|---|---|---|---|---|
| 6 | 10-21-76 | ADDED BASE MAT'L TO NUT IN NOTE #4, PRESS CLASS WAS 1500, MIN. WALL WAS .140" | | |
| 7 | 2-11-77 | REVISED ITEM #1A MODEL NO. CAMO-11306 WAS D-24006. | | |
| B | | DELETED ONE SOLENOID VALVE FROM INSTALLATION SCHEMATIC | V.C. | |
| B | | ADDED 5.0 LBS TO VALVE WEIGHT | | |

14 13 12 11 10 9 8 7 6

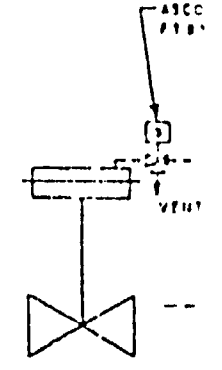
E D C B A

FOR INFORMATION ONLY




NEW VALVE



INSTALLATION SCHEMATIC

REVIEWED FOR
RAMBLE HILL
NUCLEAR GENERATING STATION
UNITS 1 & 2
PUBLIC SERVICE INDIANA
SARGENT & LUNDY
ENGINEERS

1. ☒ NO EXCEPTION TAKEN CONTRACTOR MAY PROCEED WITH FABRICATION OR CONSTRUCTION IN ACCORDANCE WITH SPECIFICATION.
2. ☐ CONTRACTOR MAY PROCEED IN ACCORDANCE WITH SPECIFICATION BASED ON MARKED REVISIONS

SUPERSEDES PRINT
REVIEWED 10/14/80