

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**TRU-80-10.90A**

REST AREA TOURIST  
INFORMATION CENTER

TRUMBULL COUNTY  
HUBBARD TOWNSHIP

TRUMBULL COUNTY  
TRU-80-10.90A  
INFORMATION CENTER  
IR 80-5(4)246

OHIO  
FMWA  
REGION 5  
FEDERAL  
PROJECT

1  
18

IR-80-5(4)246

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Transportation in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

1985 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes listed in the proposal and supplemental and special specifications shall govern this improvement.

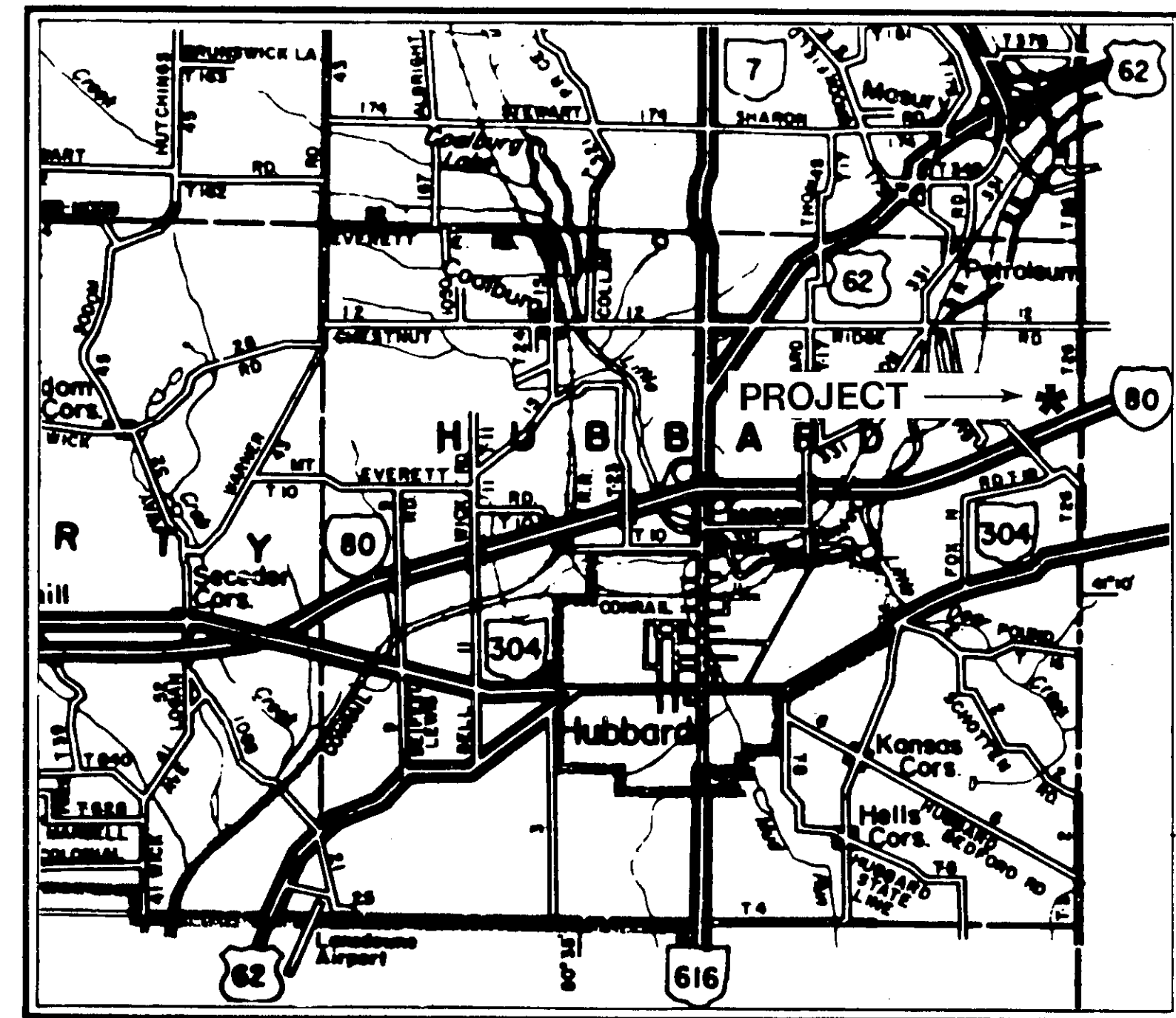
I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway, except for the affected Rest Areas, and that provisions for maintenance and safety of traffic will be set forth in these plans and estimate.

**CONVENTIONAL SIGNS**

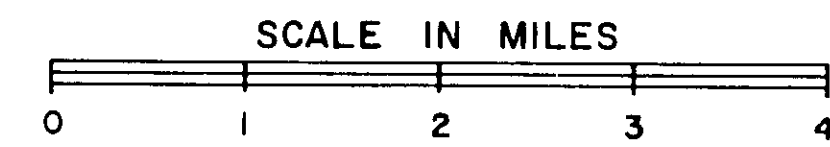
County Line _____	Limited Access (only) _____ LA _____
Township Line _____	Right of Way (only) _____ RW _____
Section Line _____	Limited Access & Right of Way _____ LA & RW _____
Corporation Line _____ or _____	Existing Right of Way _____
Fence Line (existing) - x - (proposed) - x -	Property Line - # - (in existing fence) - x - # - x -
Center Line _____	Railroad _____ or _____
Trees ( ), Stumps ( ), (to be removed) ( ) ( )	Guardrail (existing) - m - m - (proposed) - m - m -
Utility Poles: Telephone φ, Power φ, Light φ	Storm Sewer - Inlet _____ STS _____
Telephone - Pull Box _____ T _____	Sanitary Sewer - Manhole _____ SAS _____
Telephone Booth _____	Secondary Electric - Pull Box _____ E _____
Water Line _____ W _____	Primary Electric - Transformer _____ PE _____

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LOCATION MAP



**UNDERGROUND UTILITIES**

2 WORKING DAYS  
**BEFORE YOU DIG**  
Call 800-362-2764 (Toll Free)  
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS  
MUST BE CALLED DIRECTLY

Portion to be improved \_\_\_\_\_ \*  
State & Federal Routes \_\_\_\_\_  
Other Roads \_\_\_\_\_

**SUPPLEMENTAL SPECIFICATIONS**

SPECIAL: STANDARD SPECIFICATIONS  
FOR REST AREA TOURIST INFORMATION  
CENTER ADDITION 7-22-85

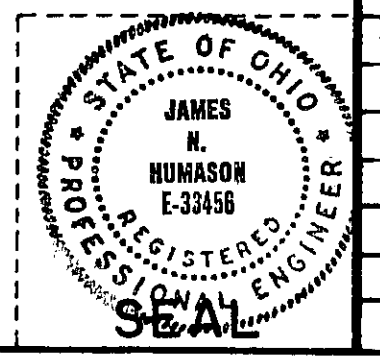
**LINE DATA**

NET LENGTH OF PROJECT = 0.00 LIN. FT. OR 0.00 MILE  
BEGIN WORK \_\_\_\_\_ 11+60  
END WORK \_\_\_\_\_ 14+40  
TOTAL NET LENGTH OF WORK = 280 LIN. FT. OR 0.053 MILE

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-4	1-11-85	LA-1	6-1-79		
BP-6	6-1-65	LA-2	6-1-79		
MC-5	6-12-75				

Plan Prepared By:  
BURGESS & NIPLE, LIMITED-ENGINEERS & ARCHITECTS  
5085 REED ROAD, COLUMBUS, OHIO 43220 2581



*James N. Humason*

Project: TRU-80-10.90A  
Date of Letting \_\_\_\_\_ 19\_\_\_\_, Contract No. \_\_\_\_\_

Approved *Francis V. Fischer*  
Date 6-17-85 District Deputy Director of Transportation

Approved *Wayne H. Kaula*  
Date 8-7-85 Chief Engineer, Planning and Design

Approved *Warren J. Smith*  
Date 8-7-85 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE

# GENERAL NOTES

CALC BY: QAS	OHIO
DATE: 1/85	
CHKD BY: JNH	FHWA REGION 5
DATE: 1/85	

TRU-80-10.90A

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## FIELD OFFICE

THE GENERAL CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

## UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

## UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

### ELECTRIC:

OHIO EDISON COMPANY  
730 SOUTH AVENUE  
YOUNGSTOWN, OHIO 44502  
TEL. NO. (216) 747-2071

### TELEPHONE:

OHIO BELL TELEPHONE COMPANY  
2405 MARKET STREET  
YOUNGSTOWN, OHIO 44507  
TEL. NO. (216) 744-6450

## HIGHWAY LIGHTING:

OHIO DEPARTMENT OF TRANSPORTATION  
DISTRICT 4 OFFICE  
FRED JAMES  
705 OAKWOOD STREET  
RAVENNA, OHIO 44266  
TEL. NO. (216) 297-0801

## CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. (THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.)

## SPECIFICATIONS

ALL OPERATIONS NOT HEREIN COVERED SHALL BE IN ACCORDANCE WITH THE CURRENT "STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS."

## APPROVALS

ALL APPROVALS OR CHANGES MADE BY THE ENGINEER SHALL BE MADE IN CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURIST.

## COOPERATION

THE CONTRACTOR IS HEREBY ADVISED THAT THERE MAY BE OTHER CONTRACTORS OPERATING IN CERTAIN AREAS OF THIS PROJECT AT THE SAME TIME WORK IS BEING CARRIED ON UNDER THIS CONTRACT. THE CONTRACTORS SHALL COOPERATE ONE WITH THE OTHER SO THAT INTERFERENCE AND INCONVENIENCE TO EACH BE HELD TO A MINIMUM.

## ESTIMATED QUANTITIES AND BID ITEMS

THE ESTIMATED QUANTITIES OF THE VARIOUS SPECIFIC AND SPECIAL ITEMS LISTED THROUGHOUT THESE PLANS ARE APPROXIMATE. THESE QUANTITIES ARE SUBSEQUENTLY INCLUDED IN THE BID ITEMS LISTED ON THE GENERAL SUMMARY SHEET AND IN OTHER CONTRACT DOCUMENTS.

## APPROVED EQUAL MANUFACTURERS OR COMPANIES

IT IS INTENDED THAT IN THOSE LOCATIONS THROUGHOUT THE PLANS AND SPECIAL SPECIFICATIONS WHERE MANUFACTURING COMPANIES OR SOURCES OF MATERIALS ARE LISTED, THE CONTRACTORS MAY UTILIZE OTHER MANUFACTURING COMPANIES OR SOURCES OF MATERIALS PROVIDED THE INTENT OF THE PLANS AND SPECIAL SPECIFICATIONS IS FOLLOWED.

THE ACCEPTANCE OF THE CONTRACTORS' PROPOSED ALTERNATES WILL BE DETERMINED BY THE SUBMISSION AND APPROVAL OF THE CONTRACTORS' SHOP DRAWINGS OR MATERIAL SELECTIONS.

## ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S. GEOLOGICAL SURVEY (USGS) DATUM.

## STORAGE OF MATERIALS AND EQUIPMENT

ALL MATERIAL, EQUIPMENT AND VEHICLES MAY TYPICALLY BE STORED WITHIN THE CONFINES OF THE REST AREA AS DESIGNATED BY THE ENGINEER. THE CONTRACTOR WILL BE ALLOWED TO USE ONE-THIRD OF THE PASSENGER CAR PARKING AREA FOR THIS PURPOSE. PUBLIC INGRESS AND EGRESS TO AND FROM THE REST AREA PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL RESTORE ALL STORAGE AREAS TO THE ORIGINAL CONDITION WHEN NO LONGER IN USE. GRASS AREAS SHALL BE SEEDED IN ACCORDANCE WITH ITEM 659. (SEE RENOVATION OF EXISTING GRASS AREAS NOTE.)

## MAINTENANCE OF REST AREA FACILITIES

IT IS THE INTENT OF ODOT TO CONTINUOUSLY PROVIDE THE TRAVELING PUBLIC WITH TOILET FACILITIES, TOURIST INFORMATION TRAILERS, TELEPHONES AND DRINKING WATER DURING THE CONSTRUCTION OF THE NEW TOURIST INFORMATION CENTER. ACCESS TO THE EXISTING MOTORIST SERVICES BUILDING, TOURIST INFORMATION TRAILER AND TELEPHONES SHALL BE MAINTAINED. WATER, SANITARY, ELECTRIC AND TELEPHONE SERVICE TO THESE FACILITIES SHALL BE MAINTAINED.

THE CONTRACTOR SHALL ERECT AND MAINTAIN SIGNS, FENCE AND BARRIERS TO RESTRICT THE PUBLIC FROM THE CONSTRUCTION AREAS, AND MAKE ANY OTHER NECESSARY PROVISIONS TO PROTECT THE PUBLIC, SUBJECT TO THE APPROVAL OF THE ENGINEER.

## ITEM 660 - SODDING, AS PER PLAN

WHERE SHOWN ON THE PLAN, NEW CONCRETE WALKS AND DRIVES WITHIN THE REST AREA SHALL HAVE A 3-FOOT BORDER OF SOD ON EACH SIDE. ADDITIONAL AREAS OF SODDING WILL BE SHOWN AS PER PLAN. SOD SHALL BE LAID IN ACCORDANCE WITH ITEM 660 EXCEPT THAT IT SHALL BE KENTUCKY BLUEGRASS, WEED FREE, AND BE COMMERCIALY CULTIVATED (NURSERY GROWN).

## ITEM 201 - CLEARING AND GRUBBING

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, EXCEPT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION IS INDICATED BY THE ENGINEER IN CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURIST. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	1"-12"	13"-24"	25"-36"
No. TREES	0	0	0
No. STUMPS	0	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION, BUT WITHIN 50 FEET OF THE TOURIST INFORMATION CENTER ADDITION. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

## ITEM SPECIAL - SNOW FENCE - TREE PROTECTION

SNOW FENCE SHALL CONSIST OF WOOD PICKETS 1/2" x 1-1/2" x 4'-0" NOMINAL SIZE, PAINTED RED, AND WOVEN WITH FIVE DOUBLE STRANDS OF 12 GAUGE STEEL WIRE SPACED APPROXIMATELY 2 INCHES APART. THE FENCE SHALL BE SUPPORTED BY STEEL OR WOOD POSTS OF ADEQUATE SIZE AND SPACING. USED FENCE AND POSTS IN GOOD CONDITION MAY BE USED AS APPROVED BY THE ENGINEER.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF SNOW FENCE FURNISHED, ERECTED, AND SUBSEQUENTLY REMOVED, INCLUDING ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO PERFORM THE WORK. (SEE ESTIMATED QUANTITIES SHT. 7)

# GENERAL NOTES

## TREE PROTECTION

NO WORK WILL BE PERMITTED WHERE TREES, SHRUBS, OR UTILITIES ARE PRESENT WITHIN THE WORK LIMITS OF THE REST AREA PROJECT PRIOR TO STAKING BY THE GENERAL CONTRACTOR OF THE LIMITS OF THE TOURIST INFORMATION CENTER ADDITION, SERVICE DRIVES, SIDEWALKS, GRADING WORK, AND EXISTING AND PROPOSED UTILITY LINES.

THE METHOD FOR MARKING TREES AND SHRUBS TO BE SALVAGED, PROTECTED, OR REMOVED WILL BE ESTABLISHED BY THE ENGINEER, DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURIST, AND THE GENERAL CONTRACTOR PRIOR TO WORK AROUND ANY EXISTING TREES, SHRUBS, AND UTILITY LINES.

TREE AND ROOT PROTECTION USING SNOW FENCE SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AS INDICATED ON THE PLAN AND AS DIRECTED BY THE ENGINEER. TREE ROOT AREAS EQUAL TO THE BRANCH SPREAD SHALL BE PROTECTED AS PER STANDARD DRAWING LA-1.

ONLY PNEUMATIC TIRED EQUIPMENT SHALL BE USED WITHIN THE REST AREAS OUTSIDE THE PARKING LOTS UNLESS SPECIFICALLY PERMITTED BY THE PROJECT ENGINEER. CARE SHALL BE TAKEN BY THE VARIOUS CONTRACTORS NOT TO OPERATE EQUIPMENT OR OTHER VEHICLES WHEN THE GROUND IS WET OR SOFT IN ORDER TO AVOID DEEP RUTTING, SOIL COMPACTION, AND OTHER DESTRUCTION OF TREE ROOT SYSTEMS.

TREES TO BE SALVAGED THAT ARE DAMAGED AT ANY TIME DURING THE CONTRACT SHALL BE REPAIRED OR REPLACED (AT THE CONTRACTOR'S EXPENSE) AS DETERMINED BY THE ENGINEER AFTER CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURIST. DAMAGED TREES THAT CAN BE REPAIRED SHALL BE PRUNED AND THE DAMAGE REPAIRED WITH PAINT OR WOUND DRESSING AS PER 663.14. REPLACEMENT SHALL BE, IN QUANTITY AND QUALITY, SUFFICIENT TO COMPENSATE FOR SIZES OF TREES LOST. THE WORK SHALL BE COMPLETED AS PER ITEM 665 WITH TREES OF THE SIZE AND VARIETY, AS DIRECTED BY THE ENGINEER IN CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURIST.

## TOPSOIL REMOVAL

THE UPPER 6"-12" ± OF SOIL AREAS ARE SOD AND TOPSOIL. ALL OF THESE MATERIALS SHALL BE REMOVED WITHIN THE LIMITS OF SERVICE DRIVE EXTENSIONS, RELOCATED SIDEWALKS, AND THE EMBANKMENT AREAS FOR EACH OF THESE ITEMS. THE TOPSOIL SHALL BE STOCKPILED ON THE REST AREA SITE AS DIRECTED BY ENGINEER. COST OF REMOVING AND STOCKPILING THE TOPSOIL SHALL BE INCLUDED IN THE PRICE BID FOR EACH RESPECTIVE ITEM.

## ITEM 452-7" PLAIN CONCRETE PAVEMENT, AS PER PLAN:

SUBGRADE UNDER SERVICE DRIVES SHALL BE COMPACTED TO A DEPTH OF 6 INCHES AS DESCRIBED IN 203.13. JOINTS SHALL BE PLACED AT MAXIMUM 10-FOOT INTERVALS AND CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING BP-6. THE COST OF JOINTS, GRADING, EXCAVATION, AND COMPACTION SHALL BE INCLUDED IN ITEM 452, 7-INCH PLAIN CONCRETE PAVEMENT, AS PER PLAN.

## ITEM 659- REPAIR SEEDING AND MULCHING

IN ADDITION TO THE REPAIR SEEDING AND MULCHING QUANTITY SHOWN ON SHEET 10, THE FOLLOWING QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY FOR USE WITH THIS ITEM. THE QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 659	REPAIR SEEDING AND MULCHING	500 S.Y.
ITEM 659	AGRICULTURAL LIMING	0.05 TON
ITEM 659	COMMERCIAL FERTILIZER	0.23 TON

## REMOVAL OF FOUNDATIONS AND SLABS

THIS WORK SHALL CONSIST OF THE REMOVAL OF EXISTING FOUNDATIONS, CONCRETE SLABS, AND WALKS IN CONFORMANCE WITH THE PROVISIONS OF SECTION 202. THE GENERAL CONTRACTOR SHALL REMOVE: ONE MOTORIST SERVICE BUILDING EXTERIOR SLAB AND FOUNDATION, AS WELL AS MISCELLANEOUS WALKS.

## ITEM 603, ENCASEMENT CONDUIT, TYPE D, AS PER PLAN

THIS ITEM SHALL CONSIST OF ENCASING, WITH CORRUGATED STEEL PIPE, THE FOUR EXISTING 2-INCH WATER LINES LOCATED LEFT OF STATION 13+38, AND THE EXISTING 2-INCH WATER LINE LOCATED LEFT OF STATION 12+96, AS SHOWN IN THE PLANS. MATERIAL FURNISHED FOR THIS ITEM SHALL BE BITUMINOUS COATED GALVANIZED CORRUGATED STEEL NESTABLE PIPE. THE MINIMUM GAGE SHALL BE 14. THE PIPE AND COATING SHALL MEET THE APPROPRIATE MATERIAL REQUIREMENTS OF 707 EXCEPT THAT THE PIPE SECTIONS SHALL BE HELD TOGETHER BY STITCHES, BOLTS, OR OTHER METAL FASTENERS IN ACCORDANCE WITH RECOMMENDATIONS AND DETAILS OF THE MANUFACTURER. LENGTH OF PIPE SECTIONS, AND BASE METAL COMPOSITION OF THE FASTENING DEVICES, SHALL ALSO BE IN ACCORDANCE WITH DETAILS OF THE MANUFACTURER.

THE WORK OF INSTALLING THE ENCASEMENT PIPE SHALL BE SO PROSECUTED THAT A MINIMUM LENGTH OF THE EXISTING WATER OR SANITARY SEWER LINE SHALL BE UNSUPPORTED AT ANY ONE TIME. THE EXISTING WATER OR SANITARY SEWER LINE SHALL BE SUPPORTED WITHIN THE ENCASEMENT PIPE BY BLOCKING OR BRACING APPROVED BY THE ENGINEER, OR BY BEDDING THE LINE IN SAND OR OTHER GRANULAR MATERIAL APPROVED BY THE ENGINEER. BEDDING MATERIAL, IF USED, SHALL OCCUPY AT LEAST 85 PERCENT OF THE CROSS-SECTIONAL AREA OF THE ENCASEMENT PIPE OUTSIDE THE LINE. PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT FOR THE RESPECTIVE ENCASEMENT CONDUIT.

## UNINVOLVED EXISTING FACILITIES

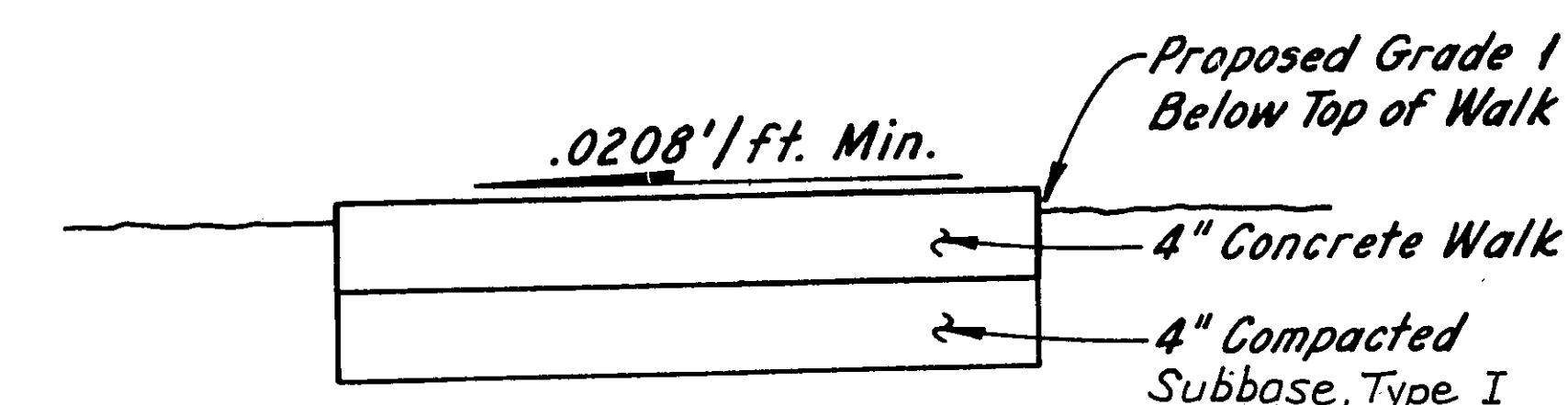
THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER THAT WILL MINIMIZE DAMAGE OR DISTURBANCE TO EXISTING REST AREA FACILITIES NOT DESIGNATED FOR REMOVAL OR REPLACEMENT BY THIS PLAN, OR LYING OUTSIDE THE PROJECT WORK AREA.

AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL REPLACE IN KIND, OR RESTORE TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE PROJECT WAS STARTED, ALL SUCH REST AREA FACILITIES THAT HAVE BEEN DAMAGED OR DISTURBED BY HIS OPERATIONS. WORK TO REPLACE OR RESTORE DAMAGED FACILITIES SHALL BE PERFORMED IN A TIMELY MANNER TO MINIMIZE PUBLIC INCONVENIENCE.

THE CONTRACTOR SHALL MAKE ANY NECESSARY PROVISIONS TO PROTECT THE PUBLIC DURING THIS WORK, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, ETC. REQUIRED TO PERFORM THIS WORK, AT NO ADDITIONAL COST TO THE STATE.

## ITEM 608 - 4-INCH CONCRETE WALK, AS PER PLAN

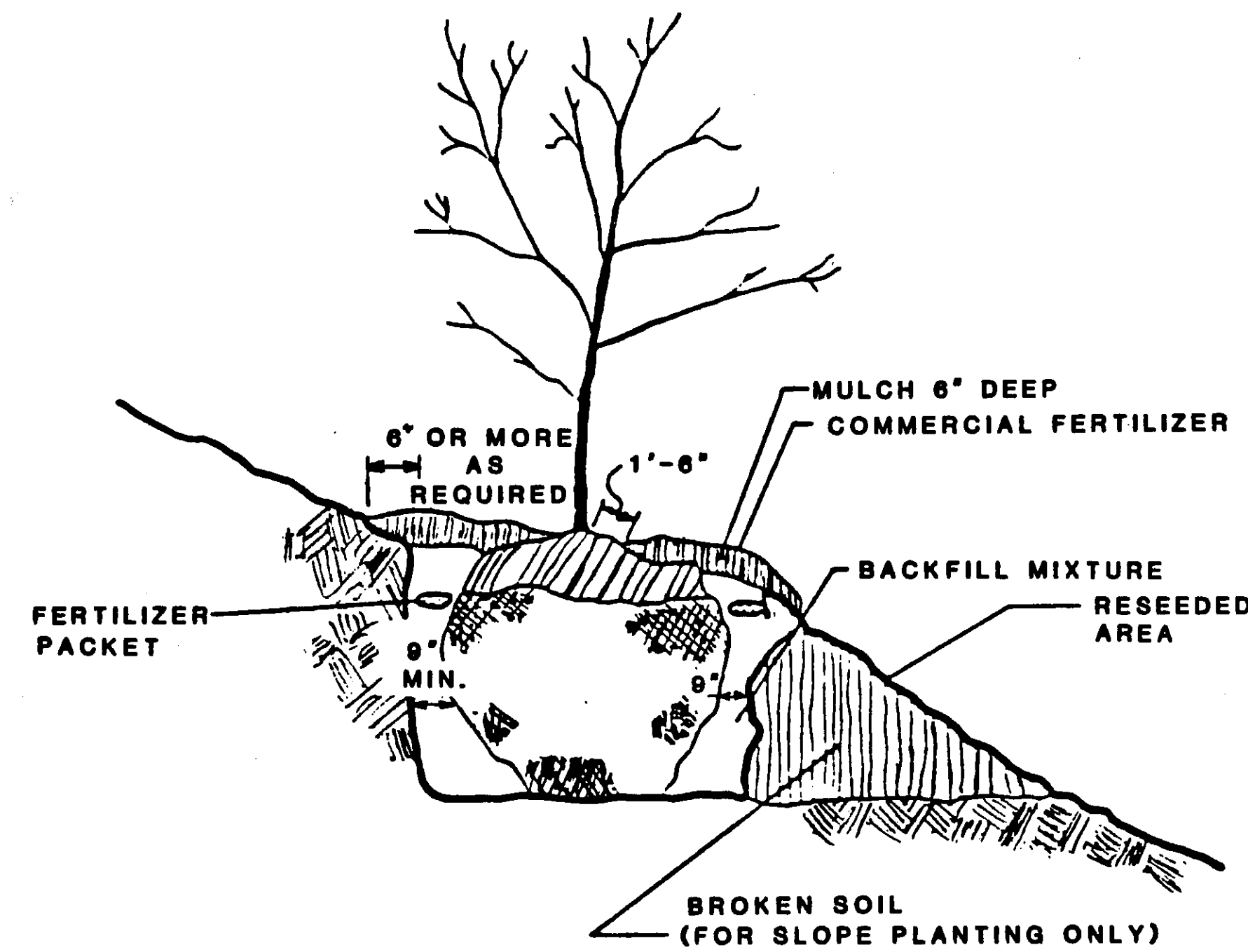
4-INCH CONCRETE WALKS SHALL HAVE 4" OF 310 SUBBASE AS SHOWN BELOW. EXCAVATION FOR 4 INCHES OF SUBBASE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 203. EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION. EMBANKMENT FOR WALK AREAS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 203, EMBANKMENT.



4" CONCRETE SIDEWALK DETAIL

# GENERAL NOTES

## PLANTING DETAIL



THE TOP OF THE ROOT BALL SHALL BE 1 INCH ABOVE THE NORMAL GROUND LINE IN AVERAGE SOILS, 3 INCHES IN HEAVY CLAY SOILS AND 6 INCHES WHERE IMPERMEABILITY IS ENCOUNTERED.

ON SLOPES WHERE HEAVY CLAY AND IMPERMEABLE SOILS ARE PRESENT THE DOWN HILL SIDE OF THE POCKET HOLE SHALL BE BROKEN OR LOOSENED AND RETURNED TO ITS NATURAL GRADE TO PROVIDE DRAINAGE FOR THE HOLE.

### PLANTING HOLE AND BED PREPARATION

AFTER THE LAYOUT IS APPROVED BY THE ENGINEER, SHRUB BEDS SHALL BE CULTIVATED TO A MINIMUM DEPTH OF SIX (6) INCHES BY A PLOW, HARROW OR DISC, OR OTHER METHOD APPROVED BY THE ENGINEER. THE CULTIVATION SHALL TAKE PLACE AS FAR IN ADVANCE OF THE PLANTING OPERATION AS POSSIBLE. WHERE SHRUBS ARE SHOWN, INDIVIDUAL HOLES SHALL BE DUG ON CENTERS AS SHOWN ON THE PLANS. THESE HOLES SHALL ALLOW FOR A MINIMUM OF NINE (9) INCHES OF BACKFILL MIXTURE AROUND THE SIDES OF THE BALLS. THE BOTTOM OF THE HOLE SHALL BE NO DEEPER THAN THE BALL TO BE PLANTED. THE MATERIAL REMOVED FROM THE HOLES SHALL BE TAKEN FROM THE PROJECT IF IT IS FOUND TO BE UNACCEPTABLE FOR USE AS BACKFILL AS DETERMINED BY THE ENGINEER. THE PLANT SHALL THEN BE SET AND THE HOLE FILLED WITH BACKFILL MIXTURE, AND THE PLANTING OPERATION PERFORMED AS SPECIFIED IN ITEMS 662.17 AND 662.18. ALL EXCESS DIRT SHALL BE REMOVED FROM THE SITE.

EXISTING TREES AND SHRUBS SHALL TAKE PRIORITY OVER PROPOSED PLANTINGS. THE LOCATIONS OF THE PROPOSED TREES AND SHRUBS ARE APPROXIMATE AND MAY BE REARRANGED AT THE DIRECTION OF THE ENGINEER WHEN OBSTRUCTIONS ARE ENCOUNTERED.

IF AN AUGER IS USED IN DIGGING POCKET HOLES AND POLISHED (SHINY) SIDES OCCUR IN CLAY OR HEAVY SOILS. THE USE OF SUCH AN AUGER SHALL BE DISCONTINUED AND THE HOLES SHALL BE DUG WITH A BACKHOE OR ANOTHER APPROVED METHOD.

BACKFILL No. 1 - THE BACKFILL MIXTURE USED TO FILL POCKET HOLES IN LIGHT AND MEDIUM SOILS (SAND AND AVERAGE) SHALL CONSIST BY VOLUME OF 2 PARTS SOIL CONDITIONER, 2 PARTS COMPRESSED SPHAGNUM PEAT OR 3 PARTS SEDGE PEAT, AND 2 PARTS APPROVED TOPSOIL.

BACKFILL No. 2 - THE BACKFILL MIXTURE USED TO FILL POCKET HOLES IN HEAVY SOILS (CLAY AND SHALE) SHALL CONSIST BY VOLUME OF 1 PART SOIL CONDITIONER, 1 PART COMPRESSED SPHAGNUM PEAT OR 2 PARTS SEDGE PEAT, AND 2 PARTS APPROVED TOPSOIL.

A SOIL CONDITIONER SUCH AS "TURFACE," "LUSOIL," "TERRAGREEN," OR AN APPROVED EQUAL SHALL BE USED. THE PARTICLE SIZE GRADATION OF THE SOIL CONDITIONER SHALL BE AT LEAST 80% PASSING A No. 6 SIEVE AND NOT MORE THAN 5% PASSING A No. 50 SIEVE. ALTERNATE SHALL BE HORTICULTURAL PERLITE.

INCORPORATE THOROUGHLY INTO THE BACKFILL MIXTURES 5 LBS. OF COMMERCIAL FERTILIZER (0-20-20) PER CUBIC YARD. THE ENGINEER, AFTER CONSULTATION WITH THE DISTRICT HORTICULTURIST OR LANDSCAPE ARCHITECT SHALL DETERMINE THE LOCATIONS WHERE THE BACKFILL MIXTURES SHALL BE USED.

### SCHEDULING

ALL DIGGING AND PLANTING OF DECIDUOUS PLANTS SHALL BE DONE AFTER OCTOBER 1, AND BEFORE JUNE 1. EVERGREENS SHALL BE DUG AND PLANTED AFTER MARCH 15, AND BEFORE JUNE 1.

### PLANT MATERIALS

ALL TREES AND SHRUBS SHALL BE SPECIMEN (No. 1 GRADE) PLANTS WITH GROWTH AND BRANCHING HABIT TYPICAL OF THE SPECIES SPECIFIED. NO PARK GRADE (No. 2 OR 3 GRADE) PLANTS WILL BE ACCEPTED.

ALL PLANT MATERIALS SHALL CONFORM TO THE SIZES AND REMARKS LISTED IN THE PLANT SCHEDULE SHOWN ON THE LANDSCAPING PLAN. NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL FROM THE DISTRICT HORTICULTURIST OR LANDSCAPE ARCHITECT.

### FERTILIZER

FOUR OUNCE (8 YEAR) COMMERCIAL FERTILIZER PACKETS USED IN PLANTING OPERATION SHALL BE DELIVERED DRY IN ORIGINAL, UNOPENED CONTAINERS. FERTILIZER ANALYSIS SHALL BE 16% NITROGEN, 8% PHOSPHORIC ACID AND 16% POTASH. FERTILIZER SHALL BE OF A SLOW RELEASE TYPE IN A POLYETHYLENE PERFORATED PACKET WITH MICROPORE HOLES.

THE PACKETS SHALL BE PLACED 6 TO 8 INCHES DEEP AND EVENLY SPACED AROUND THE PERIMETER OF THE PLANTING HOLE. ADJACENT TO THE BALL OR ROOT MASS BUT NOT IN DIRECT CONTACT WITH THE ROOTS. THE PACKETS SHALL NOT BE CUT, RIPPED OR DAMAGED.

EACH SHRUB OR TREE SHALL BE FERTILIZED ACCORDING TO THE FOLLOWING SCHEDULE:

VINES	1'-2'	1 PACKET
SHRUBS	1'-3'	2 PACKETS
SHRUBS	3'-4'	3 PACKETS
TREES	5'-6'	3 PACKETS
TREES	6'-8'	4 PACKETS
TREES	1 1/2"-2" CAL.	2 PACKETS
TREES	2"-2 1/2" CAL.	3 PACKETS
TREES	2 1/2"-3" CAL.	4 PACKETS
TREES	4"-3 1/2" CAL.	5 PACKETS

IF IT BECOMES NECESSARY TO REMOVE AND REPLACE MISSING, DEAD OR UNHEALTHY PLANTS, ALL OLD (USED) PACKETS SHALL BE REPLACED WITH NEW PACKETS.

THE FOUR OUNCE 16-8-16 FERTILIZER PACKETS SHALL BE DESIGNATED BY THE MANUFACTURER TO BE EFFECTIVE FOR EIGHT YEARS. PACKETS SUCH AS "EESY GROW," "THE UNIQUE FEEDER" OR AN APPROVAL EQUAL SHALL BE USED.

### WATERING

WATER SHALL BE FURNISHED BY THE CONTRACTOR AND ALL PLANT MATERIAL SHALL BE WATERED THOROUGHLY AT THE TIME OF PLANTING IN ACCORDANCE WITH 661.21 REGARDLESS OF AMPLE MOISTURE CONTENT OF THE SURROUNDING SOIL. SUSPENSION OF WATERING OPERATIONS BECAUSE OF RAINFALL WILL BE DETERMINED BY THE ENGINEER IN CONSULTATION WITH THE DISTRICT HORTICULTURIST OR LANDSCAPE ARCHITECT. AN AVERAGE OF ONE INCH OF RAINFALL PER WEEK SHALL BE CONSIDERED ADEQUATE. DETERMINATION OF RAINFALL SHALL BE BASED UPON THE USE OF A RAIN GAUGE APPROVED BY THE PROJECT ENGINEER AND PROVIDED BY THE CONTRACTOR.

# GENERAL NOTES

## MULCH

MULCH SHALL BE AS PER ITEM 661.04 WITH THE FOLLOWING EXCEPTIONS: WOOD SHAVINGS OR PEAT MOSS OR CORN COBS SHALL NOT BE USED AS A TOP MULCH. WOOD CHIPS SHALL BE AGED (STOCKPILED) AT LEAST 6 MONTHS PRIOR TO PLACEMENT AROUND PLANTS. MULCH SHALL BE SIX INCHES LOOSE MEASUREMENT. AFTER MULCHING, COMMERCIAL FERTILIZER (12-12-12) SHALL BE APPLIED AS SPECIFIED IN ITEM 662.18.

## PRUNING

ALL PLANTS SHALL BE PRUNED WITHIN SEVEN DAYS AFTER PLANTING. THE PRUNING SHALL BE DONE ACCORDING TO SELECTED TYPICAL PLANTS OF EACH SPECIES PRUNED AND USED AS A SAMPLE AS DIRECTED BY THE ENGINEER.

ANY CANDLE GROWTH ON NEEDLE EVERGREENS WHICH EXCEED 3 INCHES AT PLANTING TIME SHALL BE CUT BACK TO THAT LENGTH IMMEDIATELY.

## STORAGE AREAS

THE CONTRACTOR MAY STORE PLANT MATERIALS AND EQUIPMENT 30 FEET FROM PAVEMENT, BEHIND GUARDRAIL AND WITHIN OR ADJACENT TO THE PROJECT LIMITS BY OBTAINING OFFICIAL PERMISSION OF THE ENGINEER. NO PEDESTRIAN OR VEHICULAR TRAFFIC MAY BE IMPEDED NOR HAZARDOUS CONDITION CREATED AS A RESULT OF SUCH STORAGE.

THE STORAGE OF ALL NEW OR SALVAGED DUG PLANTS SHALL CONFORM TO 661.14 WHETHER WITHIN THE PROJECT LIMITS, ADJACENT THERETO, OR AT SOME OTHER LOCATION. THESE AREAS SHALL BE DESIGNATED PRIOR TO ACTUAL PLANT STORAGE AND SHALL BE OPEN TO INSPECTION UPON REQUEST OF THE ENGINEER.

## STAKING MATERIALS

ALL TREES SHALL BE STAKED AS SHOWN IN THE STANDARD DRAWING LA-2. STAKING OF SMALL ORNAMENTAL TREES SHALL BE SIMILAR TO THAT OF EVERGREENS. ALL DECIDUOUS TREE TRUNKS ARE TO BE TREATED WITH LINDANE SPRAY BEFORE WRAPPING.

## TOPSOIL TESTING

TOPSOIL FAILING CURRENT TEST STANDARDS MAY BE ALTERED, UPON APPROVAL OF THE ENGINEER, BY ADDING APPROVED CONDITIONERS TO CORRECT THE DEFICIENCIES. TOPSOIL SHALL BE FREE OF JOHNSON GRASS AND CONFORM TO ITEM 653 AS DETERMINED BY THE ENGINEER.

## PLANTING PERIOD OF ESTABLISHMENT

BEFORE FINAL INSPECTION, ALL PLANTINGS SHALL BE IN PLACE AND UNDER THE CARE OF THE CONTRACTOR FOR A PERIOD OF ESTABLISHMENT. THIS PERIOD SHALL BEGIN IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATION FOR ANY PLANT OR SPECIES GROUP AND CONTINUE UNTIL OCTOBER 1. IN NO CASE SHALL IT BE LESS THAN ONE GROWING SEASON, JUNE 1 TO OCTOBER 1.

DURING THIS PERIOD OF ESTABLISHMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW SUCH HORTICULTURAL PRACTICES AS REQUIRED TO ASSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. THIS CARE SHALL INCLUDE WATERING, REMULCHING, RESTAKING, GUYING AND CULTIVATING. THERE SHALL BE A MINIMUM OF TWO WEEDING AND MOWING (BED EDGES, AROUND TREES AND GUY STAKES) PROGRAMS OF SUCH INTENSITY AS TO COMPLETELY RID THE PLANTED AND MULCHED AREAS OF WEEDS AND GRASSES. THE FIRST PROGRAM SHALL BEGIN ON OR ABOUT JUNE 15 AND THE OTHER APPROXIMATELY 8 WEEKS LATER.

EACH PLANT SHALL HAVE SUFFICIENT WATER TO KEEP IT IN A HEALTHY, GROWING CONDITION. IF LOCAL WEATHER CONDITIONS WARRANT, THE ENGINEER MAY REQUIRE WEEKLY WATERINGS. WHEN WATERING IS REQUIRED, A SCHEDULE FOR WATERING EACH PLANT SHALL BE SUPPLIED TO AND APPROVED BY THE ENGINEER. THE WATER SHALL BE APPLIED IN SUCH A MANNER AS TO SATURATE THE ROOT AND MULCHED AREA OF EACH PLANT WITHOUT CAUSING RUNOFF (SEE WATERING TABLE). IN CASE OF FALL PLANTINGS, THESE WATERINGS SHALL CONTINUE UNTIL SOIL FREEZE-UP AND RECOMMENCE AFTER THE SPRING THAW UNLESS OTHERWISE DIRECTED.

ON OR ABOUT SEPTEMBER 15, THE ENGINEER SHALL INSPECT THE PLANTING AND SUPPLY THE CONTRACTOR WITH A LISTING OF THOSE PLANTS HAVING DIED, DIED BACK BEYOND NORMAL PRUNING LINES OR ARE MISSING FROM THE PLANTING. THE CONTRACTOR SHALL MAKE THE REPLANTING AS REQUIRED AND IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE ORIGINAL MATERIAL. THESE REPLACEMENTS ARE NOT SUBJECT TO THE PERIOD OF ESTABLISHMENT. HOWEVER, PLANTS PLANTED INITIALLY IN THE FALL WHICH HAVE DIED BEFORE THE SPRING PLANTING SEASON SHALL BE REPLACED IMMEDIATELY AND ARE SUBJECT TO THE ESTABLISHMENT PERIOD.

AFTER REPLACEMENTS HAVE BEEN PLANTED, THE FINAL INSPECTION SHALL BE MADE AND THE ACTUAL COUNT OF LIVE PLANTS OF EACH VARIETY AND SPECIES LISTED FOR PAYMENT.

PLANTS SALVAGED FROM THE SITE UNDER ITEM 664 SHALL BE TAGGED IN A UNIQUE MANNER TO MAKE EASY DISTINCTION BETWEEN SALVAGED PLANTS AND NEW PLANTS PROVIDED UNDER ITEMS 661, 662, OR 663. THE REQUIREMENTS OF THESE NOTES AND THE SPECIFICATIONS SHALL APPLY TO THE SALVAGED PLANTS AS THOUGH THEY WERE NEW PLANTS EXCEPT THE CONTRACTOR WILL NOT BE REQUIRED TO MAKE A REPLANTING OF THOSE SALVAGED PLANTS WHICH HAVE DIED DURING THE PERIOD OF ESTABLISHMENT.

## WATERING TABLE

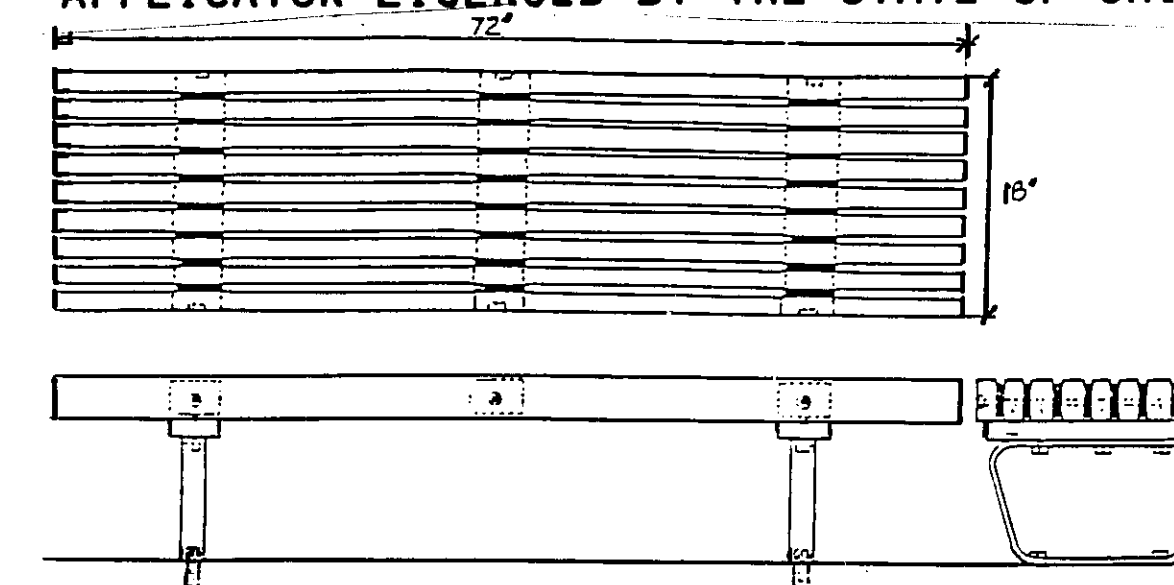
VINES	1' - 2' SIZE	2 GALLONS PER PLANT
SHRUBS	1' - 3' SIZE	4 GALLONS PER PLANT
SHRUBS	4' - 5' SIZE	7 GALLONS PER PLANT
TREES	5' - 6' SIZE	10 GALLONS PER PLANT
TREES	1 1/4" - 1 1/2" CAL.	15 GALLONS PER PLANT
TREES	1 1/2" - 2" CAL.	20 GALLONS PER PLANT
TREES	2" - 3" CAL.	25 GALLONS PER PLANT
TREES	3" - 4" CAL.	30 GALLONS PER PLANT

THE METHOD OF MEASUREMENT FOR SUMMER WATERING SHALL BE BY APPROVED METERING FROM TANKS OR BY INDIVIDUALLY MEASURED CONTAINERS TO EACH PLANT TO BE WATERED.

PAYMENT FOR PLANTING PERIOD OF ESTABLISHMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS 661, 662, 663, AND 664.

## HERBICIDES

AFTER PLANTING AND FERTILIZING HAVE BEEN COMPLETED AND APPROVED, THE AREA OF THE BED SHALL BE TREATED WITH SIMAZINE, DYMID, OR AN APPROVED EQUAL HERBICIDE. RATE AND METHOD OF APPLICATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS AND UNDER THE DIRECT SUPERVISION OF A PESTICIDE APPLICATOR LICENSED BY THE STATE OF OHIO.



WOOD BENCH - TYPICAL DETAIL

## ITEM SPECIAL - WOOD BENCH

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING WOOD BENCHES AS SHOWN ON THE PLANS. BENCHES SHALL BE MADE OF CLEAR HEARTWOOD REDWOOD, APPROXIMATELY 72" LONG BY 18" WIDE, SEAT PLANKS SET ON EDGE, SURFACE MOUNTED WITH GALVANIZED VANDALPROOF FASTENERS AS PER MANUFACTURER'S RECOMMENDATIONS AND APPROVAL OF THE ENGINEER. BENCHES SHALL BE AS MANUFACTURED BY THE FOLLOWING COMPANIES OR APPROVED EQUAL:

- "MACOTTIA" MB 7220
- "VAUGHAN & ASSOC." F17003R
- "TIMBERFORM" 2160-6

THE COST OF ALL OF THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR EACH ITEM SPECIAL - WOOD BENCH.

# GENERAL SUMMARY

SHEET NUMBER										ITEM	TOTAL	UNIT	DESCRIPTION
2	3	7	8	9	10								
													GENERAL CONTRACT
						lump					201	lump	Clearing and Grubbing
											202	1	Each Motorist Services Building Exterior Slab and Foundation Removed
											202	1080	Sq. Ft. Walk Removed
											203	lump	Excavation Not Including Embankment Construction
											203	lump	Embankment
											452	67	Sq. Yd. 7" Plain Concrete Pavement, as per Plan ✓
											601	6	Lin. ft. Paved Gutter, Standard Type 2, Modified as per Plan
											603	30	Lin. ft. 4" Encasement Conduit, Type D
											603	32	Lin. ft. 10" Encasement Conduit, Type D
											659	2410	Sq. Yd. Repair Seeding and Mulching
											659	0.91	Ton Agricultural Liming
											608	1910	Sq. Ft. 4" Concrete Walk, as per Plan ✓
											659	0.41	Ton Commercial Fertilizer
											660	40	Sq. Yd. Sodding, as per Plan ✓
											<i>Botanical Name ~ Common Name      Size Condition</i>		
											24	662	24 Each <i>Euonymus alatus 'compacta' ~ Dwarf Winged Euonymus 2 1/2' Hgt. No. 3 Cont.</i>
											6	662	6 Each <i>Juniperus chinensis 'Sea Green' ~ Sea Green Juniper 18"-24" Sp. No. 3 Cont.</i>
											10	662	10 Each <i>Juniperus hor. plum. comp. 'Youngstown' ~ Youngstown Andorra Jun. 18"-24" Sp. No. 3 Cont.</i>
											5	662	5 Each <i>Viburnum dentatum ~ Arrowwood Viburnum 2'-3' Hgt. No. 3 Cont.</i>
											5	663	5 Each <i>Crataegus vit. 'Winterking' ~ Winterking Hawthorn 2" 2 1/2" Cal. B &amp; B 28"</i>
											4	663	4 Each <i>Gleditsia inar. 'Skyline' ~ Skyline Honeylocust 2 1/2"-3" Cal. B &amp; B 32"</i>
											2000	664	2000 Each Planting Salvaged Vines
											65	664	65 Each Planting Salvaged Shrubs
											1	664	1 Each Planting Salvaged Trees
											2	663	2 Each <i>Aesculus Carnea - Buckeye 6'-8' Hgt. B &amp; B 14"</i>
											4	SPEC	4 Each <i>Wood Bench</i>
											1	SPEC	1 Each Rest Area Tourist Information Center Addition (except Electrical Work)
											320	SPEC	320 Lin. ft. Snow Fence - Tree Protection ✓
											1	SPEC	1 Each Flagpole
											619	Lump	Field Office
											623	Lump	Construction Layout Stakes
											624	Lump	Mobilization
											TOTAL		GENERAL CONTRACT

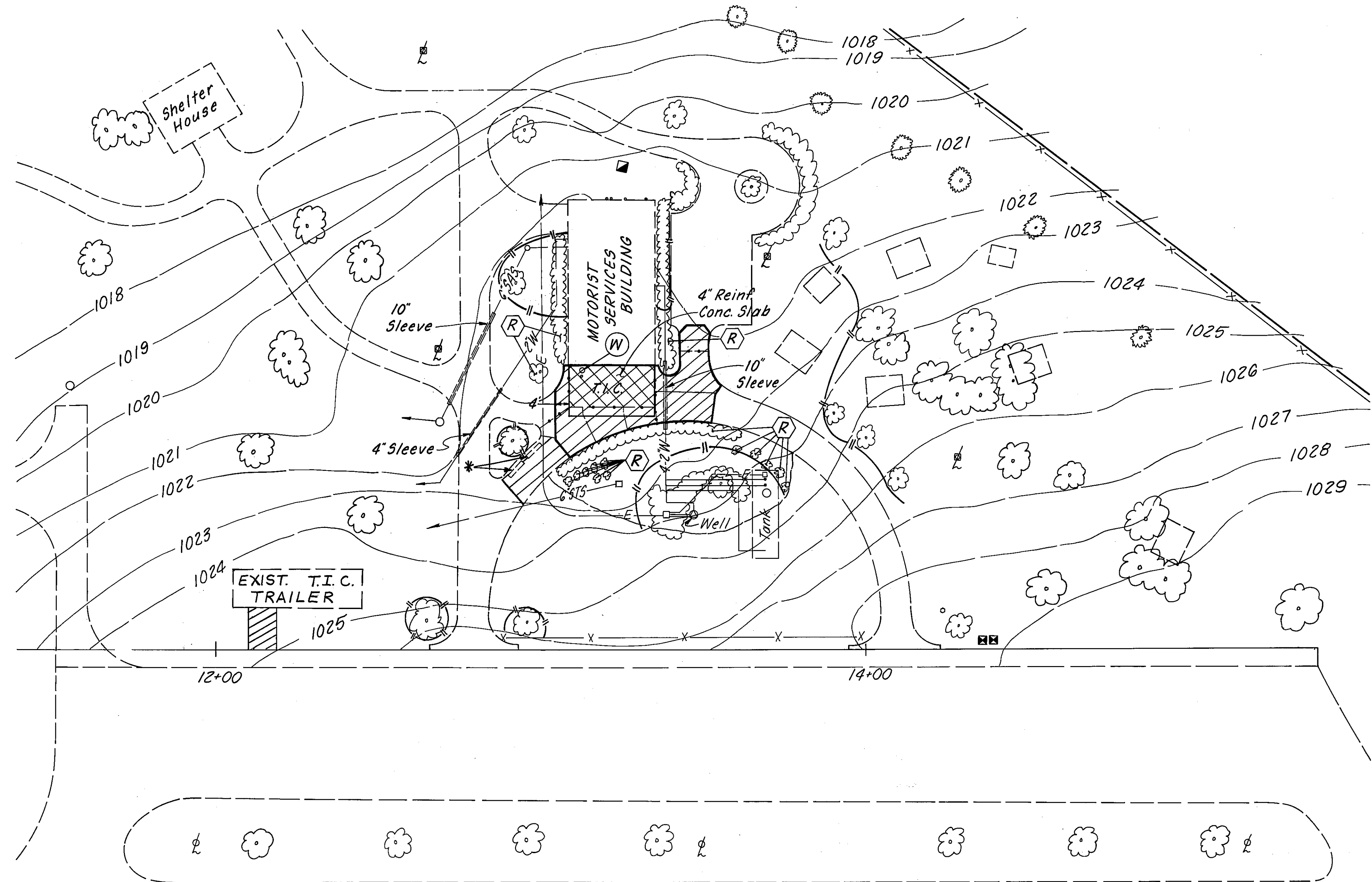
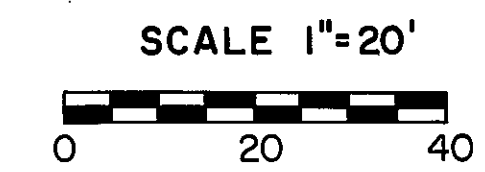
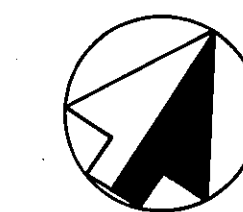
SHEET NUMBER										ITEM	TOTAL	UNIT	DESCRIPTION
8													
													ELECTRICAL CONTRACT
											624	lump	Mobilization
											1	SPEC	1 Each Rest Area Tourist Information Center Addition (Electrical Only)
											TOTAL		ELECTRICAL CONTRACT

ITEM NO.	DESCRIPTION	QUANTITY
<b>GENERAL CONTRACT</b>		
Special	Snow Fence - Tree Protection	320 L.F.
202	Motorist Services Bldg. Exterior Slab & Foundation Removed	1 Ea.
202	Walk Removed	1080 S.F.

TRU-80-10.90A

**LEGEND**

- - Sidewalk Control Joint
- - - Sidewalk Expansion Joint
- - - Snow Fence for Tree Protection
- (R) - Item Removed or Relocated (See Landscaping Plan)
- (W) - For details of relocating exterior drinking fountain & drain see building plans
- [Hatched Box] - Concrete Slab & Foundation Removed



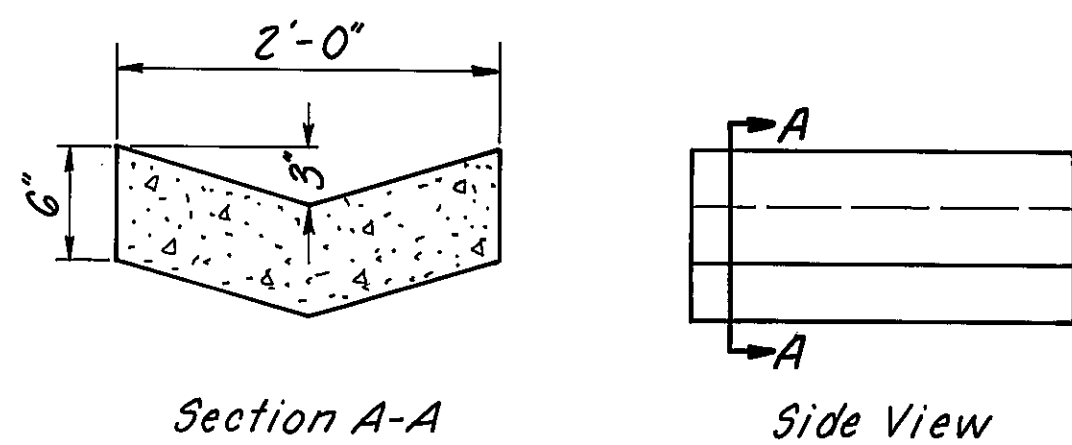
\* = EXISTING WOOD BENCH (2) TO BE SET IN NEW CONC. WALK. COST INCLUDED WITH ITEM 608

THE TOURIST INFORMATION TRAILER (40'x12') SHALL BE DELIVERED TO THE ODOT OFFICE IN RAVENNA, OHIO AFTER THE MOTORIST SERVICE BUILDING IS COMPLETED & OPEN. THE EXIST. TRAILER IS NOT TO BE USED AS THE CONSTRUCTION FIELD OFFICE.

ITEM NO.	DESCRIPTION	QUANTITY
<b>GENERAL CONTRACT</b>		
Special	Rest Area Tourist Information Center Addition (Except Electrical Work)	1 Ea.
203	Excavation not including Embankment Construction	Lump
203	Embankment	Lump
452	7" Plain Concrete Pavement, as per plan	67 S.Y.
601	Paved Gutter, Type 2, Modified as per plan	6 L.F.
608	4" Concrete Walk, as per plan	1910 S.F.
659	Commercial Fertilizer	0.01 ton
660	Sodding, as per plan	40 S.Y.
624	Mobilization	Lump

<b>ELECTRICAL CONTRACT</b>		
Special	Rest Area Tourist Information Center Addition (Electrical Only)	1 Ea.
624	Mobilization	Lump

\* AFTER REMOVAL OF TRAILER, THE AREA SHALL BE FILLED WITH 203 EMBANKMENT, (ESTIMATED DEPTH OF 3 FT ±) GRADED TO DRAIN & SEED. CARE SHOULD BE USED SO THE EXISTING 6" STORM SEWER IS NOT DAMAGED.

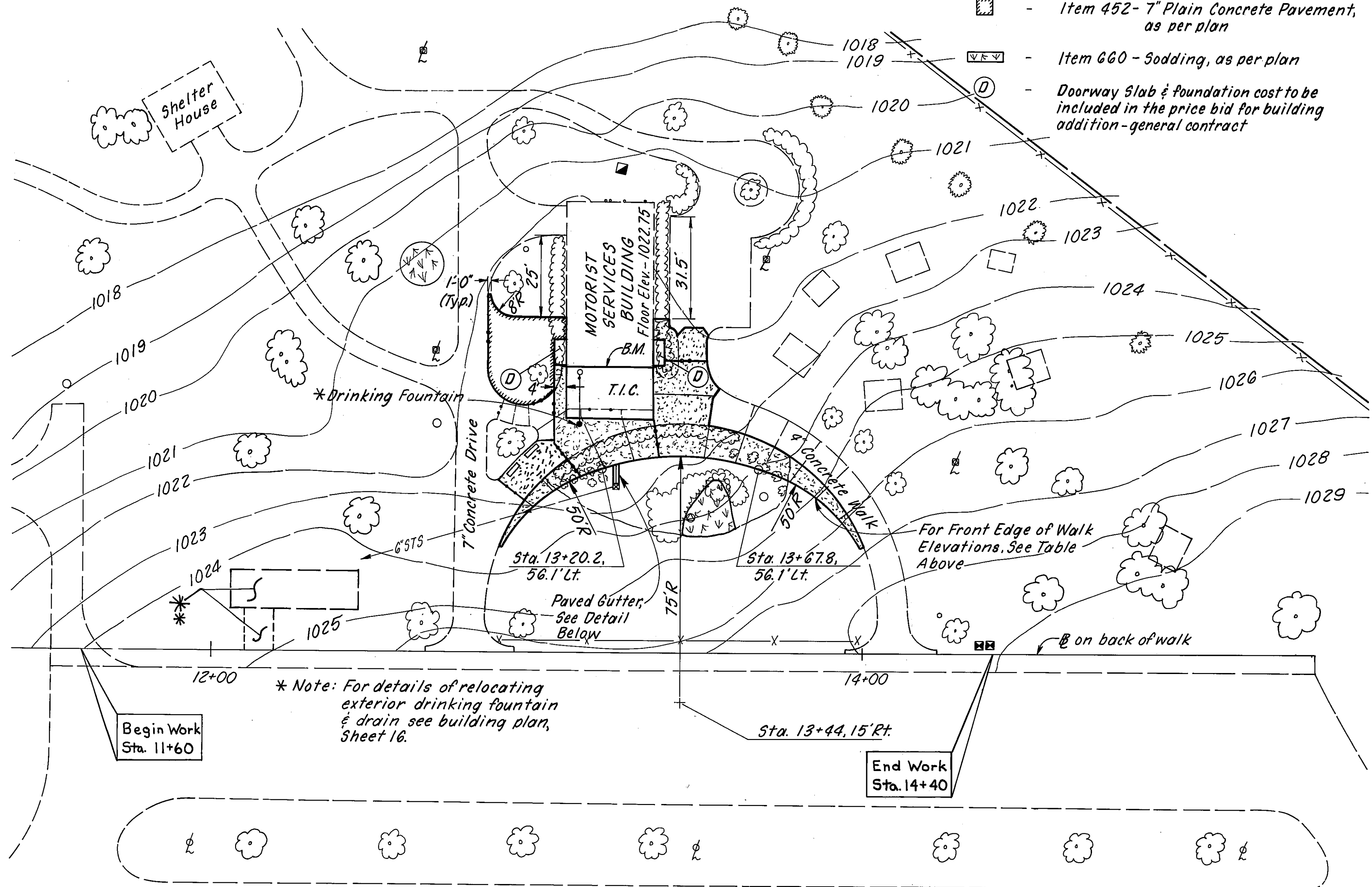
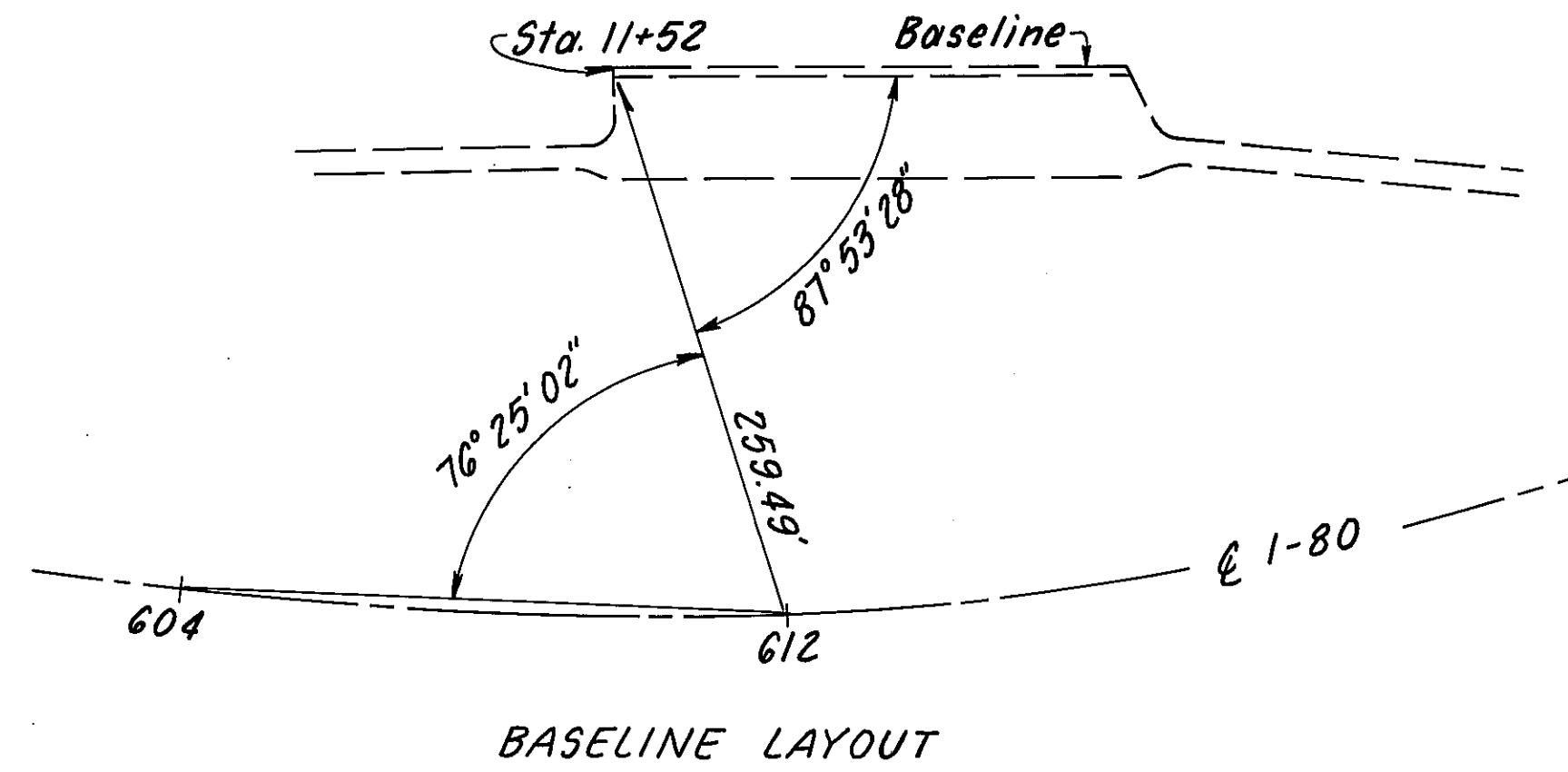


**TYPE 2  
PAVED GUTTER**  
Modified, As Per Plan

WALK ELEVATIONS	
Station	Elevation
13+10	1022.09
13+25	1021.89
13+50	1022.43
13+75	1023.78

BENCH MARK: 1st Floor @  
Main Entrance, SE Side of  
Motorist Services Building  
Elev. 1022.75

CALC BY: DAS	OHIO	8 18
DATE: 1/85	FHWA REGION: 5	
CHKD BY: JWH	TRU-80-10.90A	
DATE: 1/85		



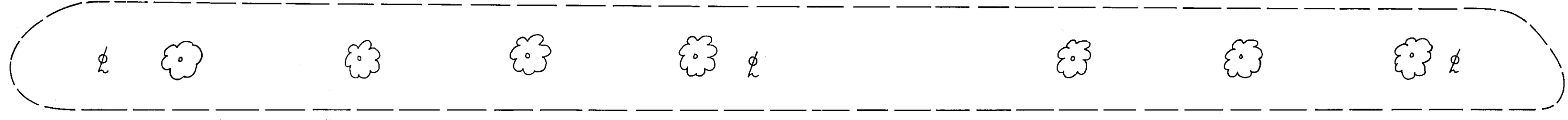
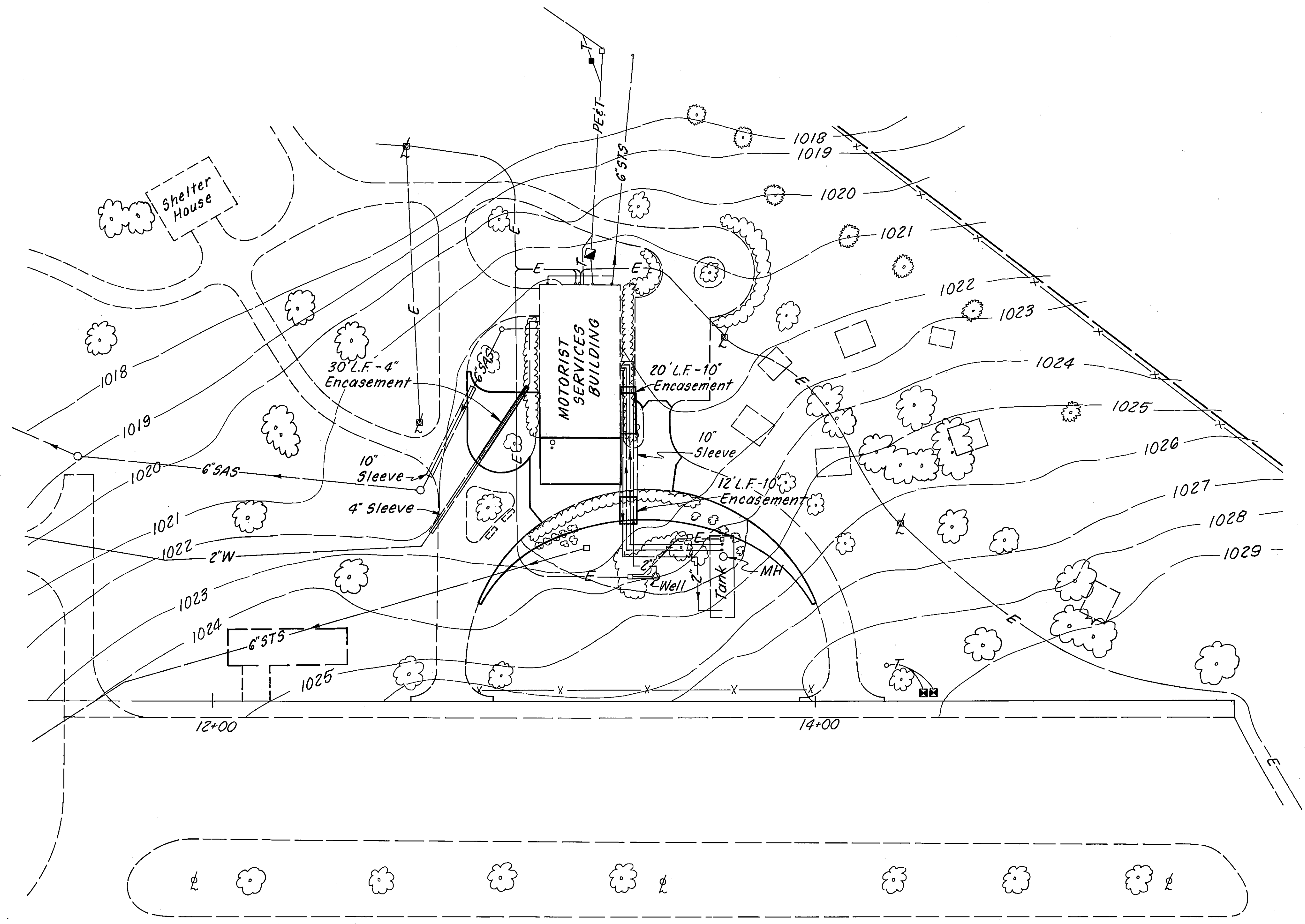
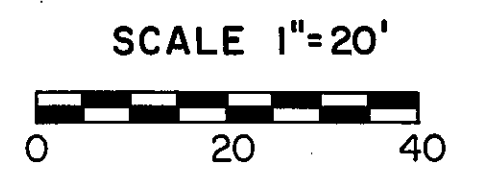
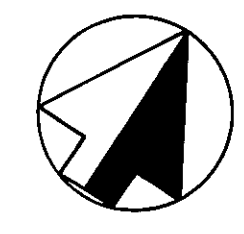
Begin Work  
Sta. 11+60

End Work  
Sta. 14+40

**SITE WORK**



ITEM NO.	DESCRIPTION	QUANTITY
<b>GENERAL CONTRACT</b>		
603	4" Encasement Conduit, Type D	30 L.F.
603	10" Encasement Conduit, Type D	32 L.F.



UNDERGROUND

CALC BY OAS  
 DATE 1/85  
 CHKD BY JWH  
 DATE 1/85

TRU-80-10.90A

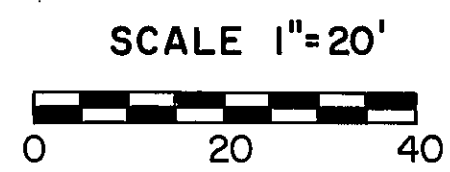
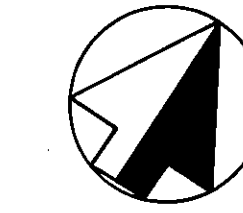
OHIO  
 FHWA REGION 5

10  
 18

**GENERAL CONTRACT**

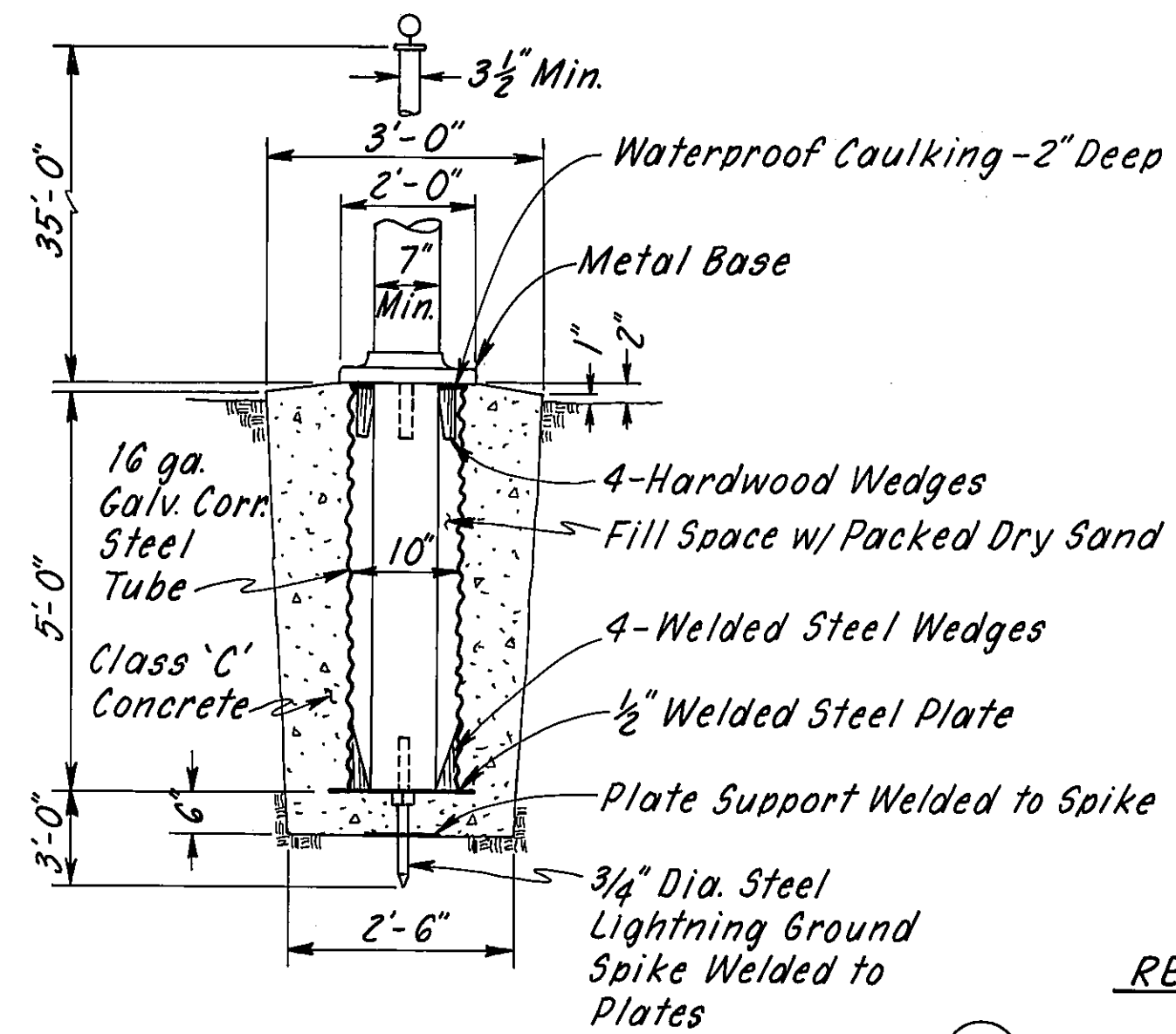
ITEM	DESCRIPTION	QUAN.	SIZE & ROOT	SPACING	REMARKS
662	Juniperus Hor. Plumosa compacta 'Youngstown' - Youngstown And. Jun.	10	18"-24" Sp., No. 3 Container	4" O.C.	Matched heights
662	Euonymus alatus 'compacta' - Dwarf Winged Euonymus	24	2 1/2'-3' Hgt., B & B 12" or No. 3 Cont.	5" O.C.	
664	Planting Salvaged Vines	2,000		6" O.C.	
664	Planting Salvaged Shrubs	65		See Landscaping Item References	
664	Planting Salvaged Trees	1		As per plan	
662	Juniperus chinensis 'Sea Green' - Sea Green Juniper	6	18"-24" Sp., No. 3 Container	" " "	
Spec.	Flagpole	1		As per plan	
662	Viburnum dentatum - Arrowwood Viburnum	5	2'-3' Hgt., No. 3 Container	" " "	
663	Crataegus vir. 'Winterking' - Winterking Hawthorn	5	2'-2 1/2' Cal., B & B 28"	" " "	
663	Gleditsia iner 'Skyline' - Skyline Honeylocust	4	2 1/2'-3' Cal., B & B 32"	" " "	
SPEC.	Wood Bench	4	72" x 18"	located as directed by the Engineer	See note on sheet No. 5
659	Repair Seeding & Mulching	*		Location As Per Below	See Note This Sheet
663	Aesculus Carnea - Buckeye	2	6' To 8', B & B 14"		

\* SEE QUANTITIES ON THIS SHEET



**LEGEND**

- Existing Landscaping
- Proposed Landscaping
- Landscaping Removed to be Relocated
- Plant existing shrubs in this area until construction of items 452 & 608 are completed. Relocation of existing shrubs is indicated below. Area to be sodded after relocation.
- Landscaping Item
- Proposed Wood Bench - New
- 659 Repair Seeding & Mulching

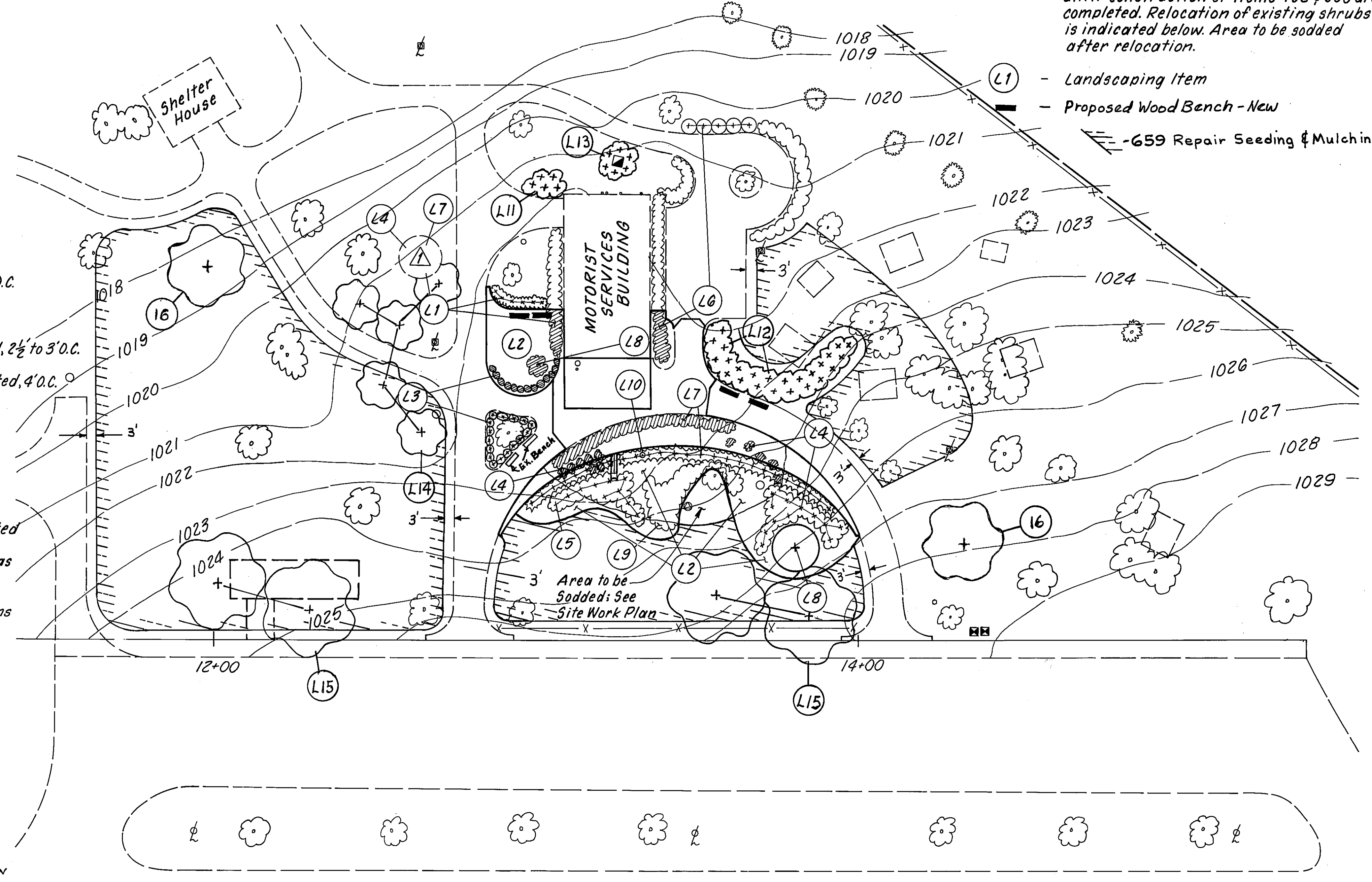


**FLAG POLE DETAIL**

**REFERENCES**

- (L1) 5-Winged Euonymus - Relocated, 3' O.C.
- (L2) 2,000- Ivy - Relocated
- (L3) 16- Cotoneaster Apiculata - Relocated, 2 1/2 to 3' O.C.
- (L4) 12- Andorra Creeping Juniper - Relocated, 4' O.C.
- (L5) 10- Youngstown Andorra Juniper - New
- (L6) 6- Maries Doublefile Viburnum - Relocated, 4 1/2 to 5' O.C.
- (L7) 26- Ward's Yew - Relocated, 4' O.C.
- (L8) 1- Allegheny Service Berry - Relocated
- (L9) 30- Existing Cotoneaster - to remain as placed
- (L10) 1- Flagpole - For flagpole specifications see Rest Area Tourist Information Center Specifications; Division 10, Section 10350 (Sheets 1-4).
- (L11) 5- Arrowwood Viburnum - New
- (L12) 24- Dwarf Winged Euonymus - New
- (L13) 6- Sea Green Juniper - New
- (L14) 5- Winterking Hawthorn - New
- (L15) 4- SKyline Honeylocust - New
- (L16) 2- Aesculus Carnea (Buckeye) - New

ITEM 659-REPAIR SEEDING & MULCHING  
 THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.  
 659-REPAIR SEEDING & MULCHING - 1910 S.Y.  
 659-COMMERCIAL FERTILIZER - 0.17 TON  
 659-AGRICULTURAL LIMING - 0.86 TON



### ROOM FINISH SCHEDULE

ROOM NO.	DESCRIPTION	FLOORS		WALLS		CEILING			REMARKS
		MAT'L	BASE	MATERIAL	FINISH	MAT'L	FIN.	HT.	
101	MOTORIST SERVICES	*	Q.T.	STONE VENEER/DRYWALL	*	*	PT.	—	* SEE NOTE 1
102	TOURIST INFORMATION	Q.T.	Q.T.	DRYWALL	PT.	P.C. CONC.	PT.	—	
103	MEN	*	*	*	*	*	*	—	* SEE NOTE 2
104	WOMEN	*	*	*	*	*	*	—	* SEE NOTE 2
105	OFFICE	Q.T.	Q.T.	DRYWALL	PT.	SUSP. ACOUS.	PT.	—	
106	OFFICE	Q.T.	Q.T.	DRYWALL	PT.	SUSP. ACOUS.	PT.	—	

### DOOR SCHEDULE

DOOR NO.	DOOR			FRAME			HARDWARE SET NO.	REMARKS	
	SIZE	MATERIAL	TYPE	GLASS TYPE	MATERIAL	DETAIL			
	W	H	T		H	J	S		
101	3'-0"	6'-8"	1 3/4"	ALUM.	1	2	ALUM.	1	PAIR OF DOORS W/ REM MULLION
105	3'-0"	6'-8"	1 3/4"	HOLLOW METAL	2	—	HOLLOW METAL	3	
106	3'-0"	6'-8"	1 3/4"	ALUM.	3	4	ALUM.	2	
102	3'-0"	6'-8"	1 3/4"	ALUM.	1	2	ALUM.	1	PAIR OF DOORS
107				CALV. STEEL				4	ROLLING OVERHEAD GRILLE

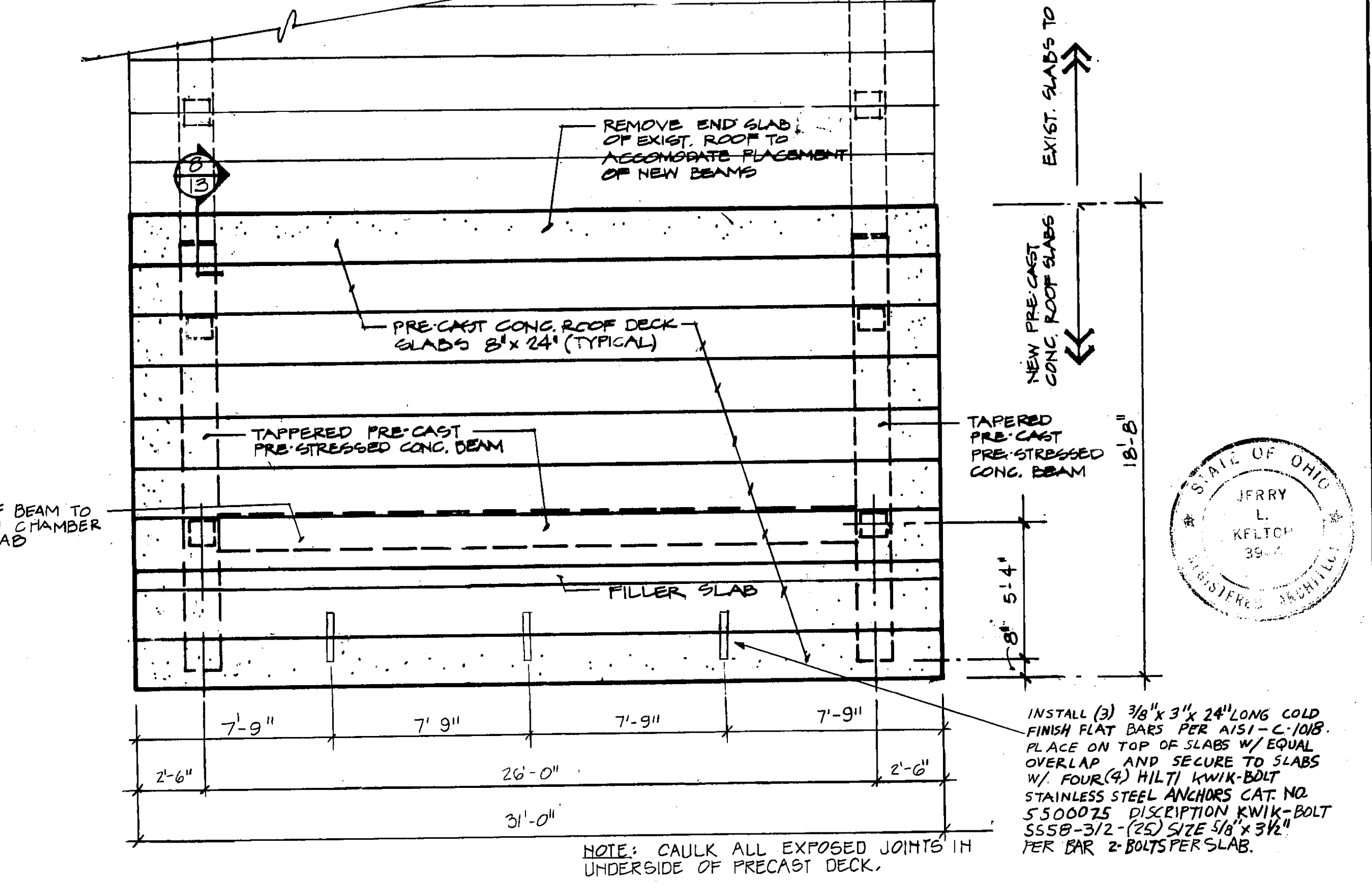
ABBREVIATIONS: Q.T. - QUARRY TILE, ALUM. - ALUMINUM, PT. - PAINT, P.C. CONC. - PRECAST CONCRETE

ROOM FINISH SCHEDULE NOTES:  
 1 - EXIST. QUARRY TILE FLOOR TO REMAIN, REPAINT EXIST. CEILING, CONC. BEAMS & COLUMNS, NEW QUARRY TILE BASE, STONE VENEER & DRYWALL WALLS, PAINT DRYWALL.  
 2 - EXIST. QUARRY TILE FLOOR TO REMAIN, EXIST. TILE WALLS TO REMAIN EXCEPT WHERE NEW STONE IS SHOWN ON THE FLOOR PLAN AT TOILET ROOM ENTRANCES, EXIST. CEILING TO REMAIN.

### GLASS SCHEDULE

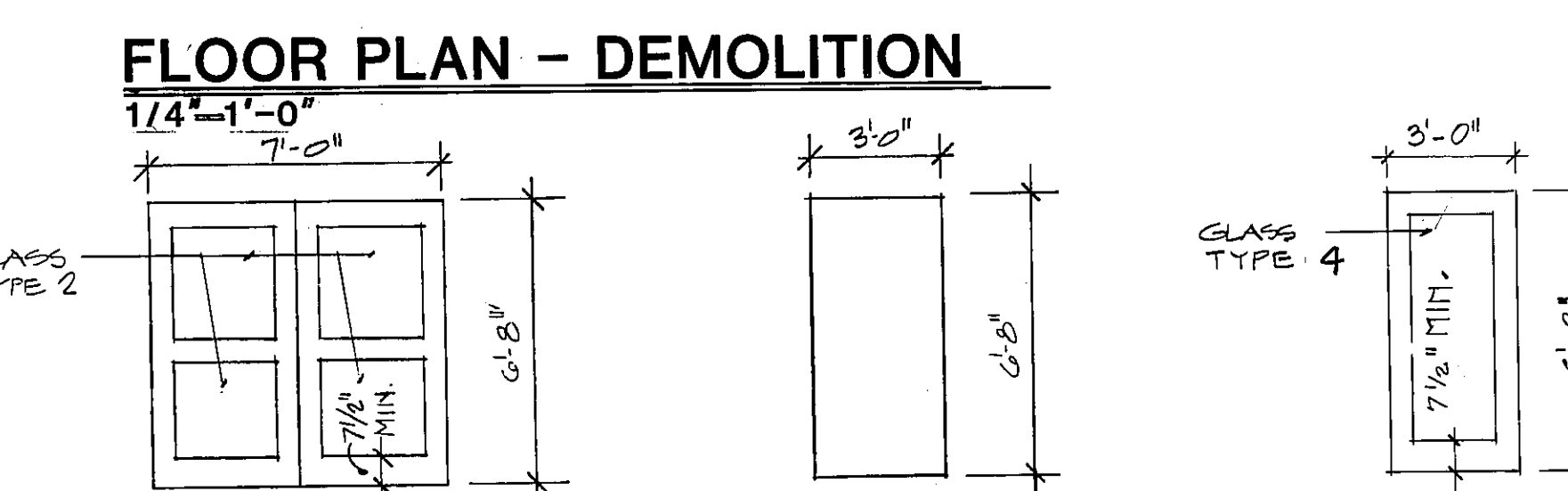
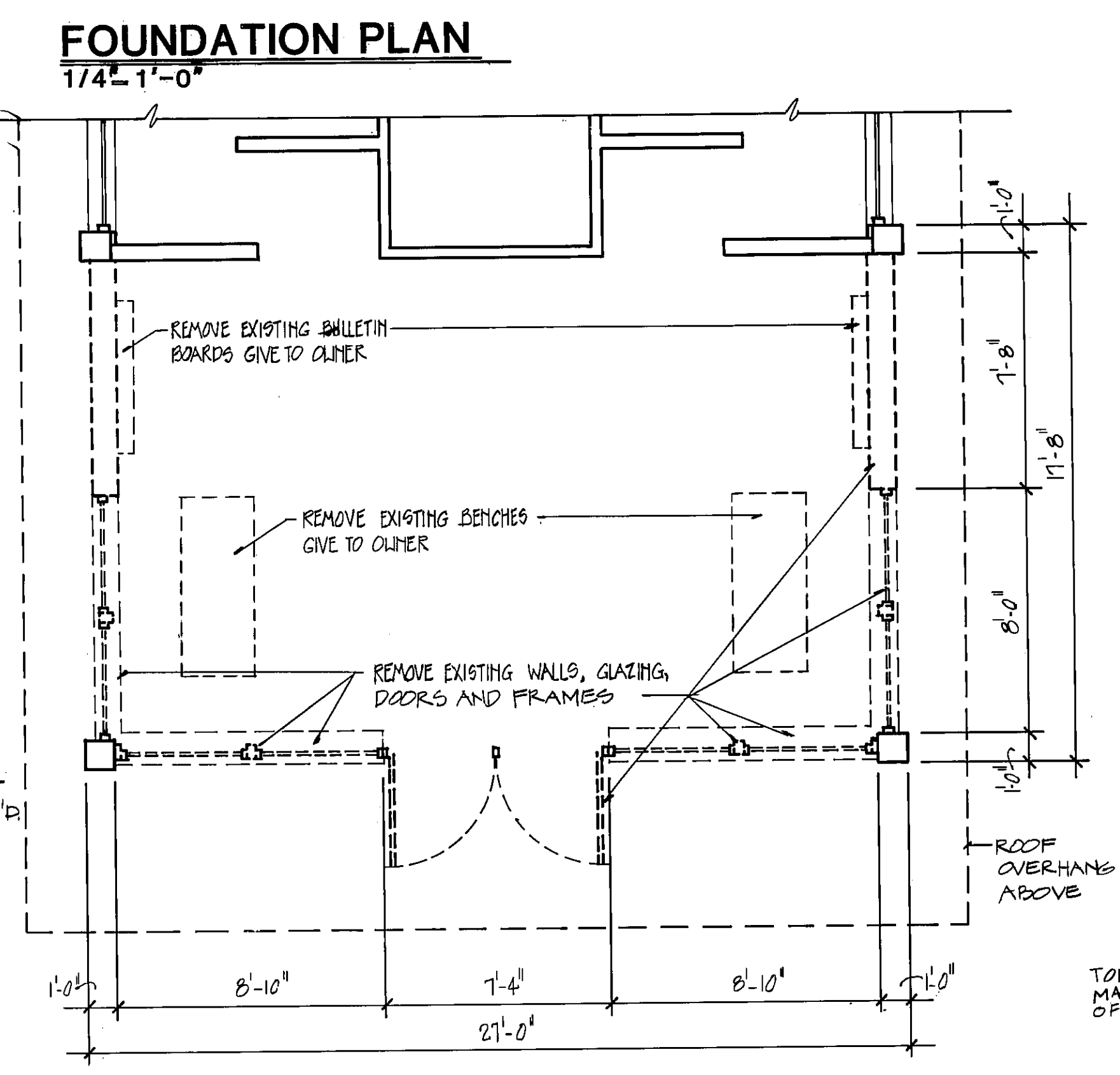
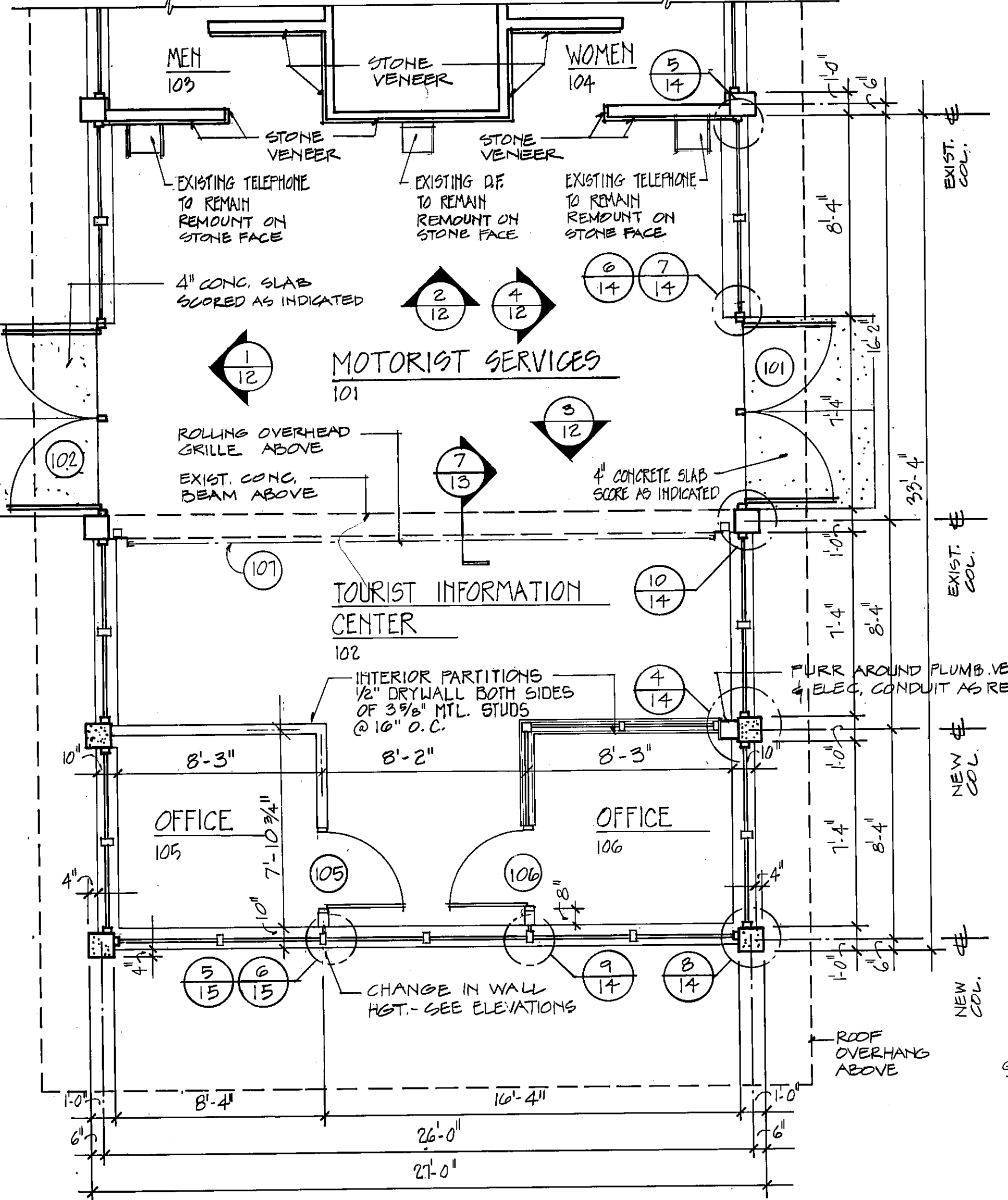
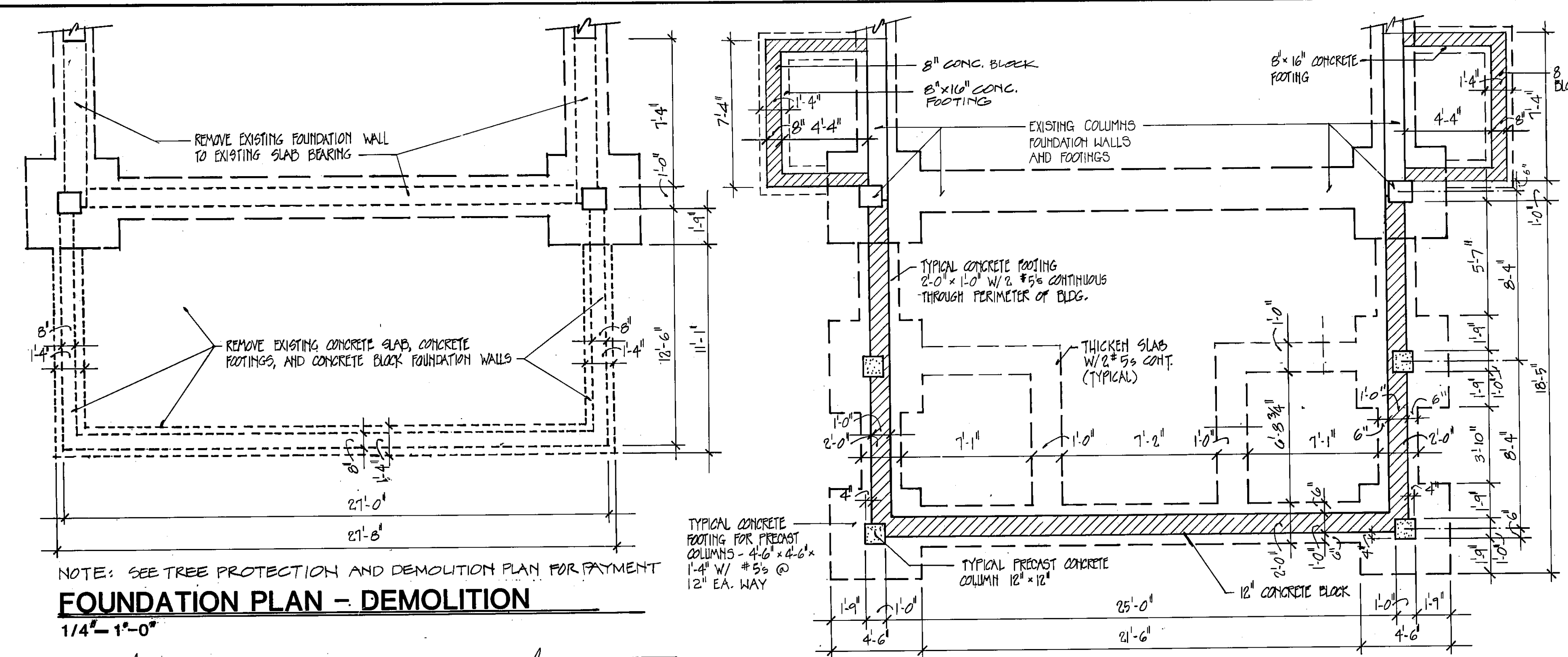
GLASS TYPE	REMARKS
1	1" Insulating; exterior pane 1/4" solar bronze, interior pane 1/4" clear
2	1/4" Tempered solar bronze
3	1" Insulating; both panes 1/4" clear
4	1/4" Tempered clear

DESIGN LOADS FOR PRE-CAST CONC.  
 ROOF DECK: 25 PSF SNOW LOAD MIN.  
 25 PSF DEAD LOAD MIN.  
 90 MPH WIND LOAD MIN.



NOTE: CAULK ALL EXPOSED JOINTS IN UNDERSIDE OF PRECAST DECK.

PLANS  
 Rev. 8-22-85 HWB

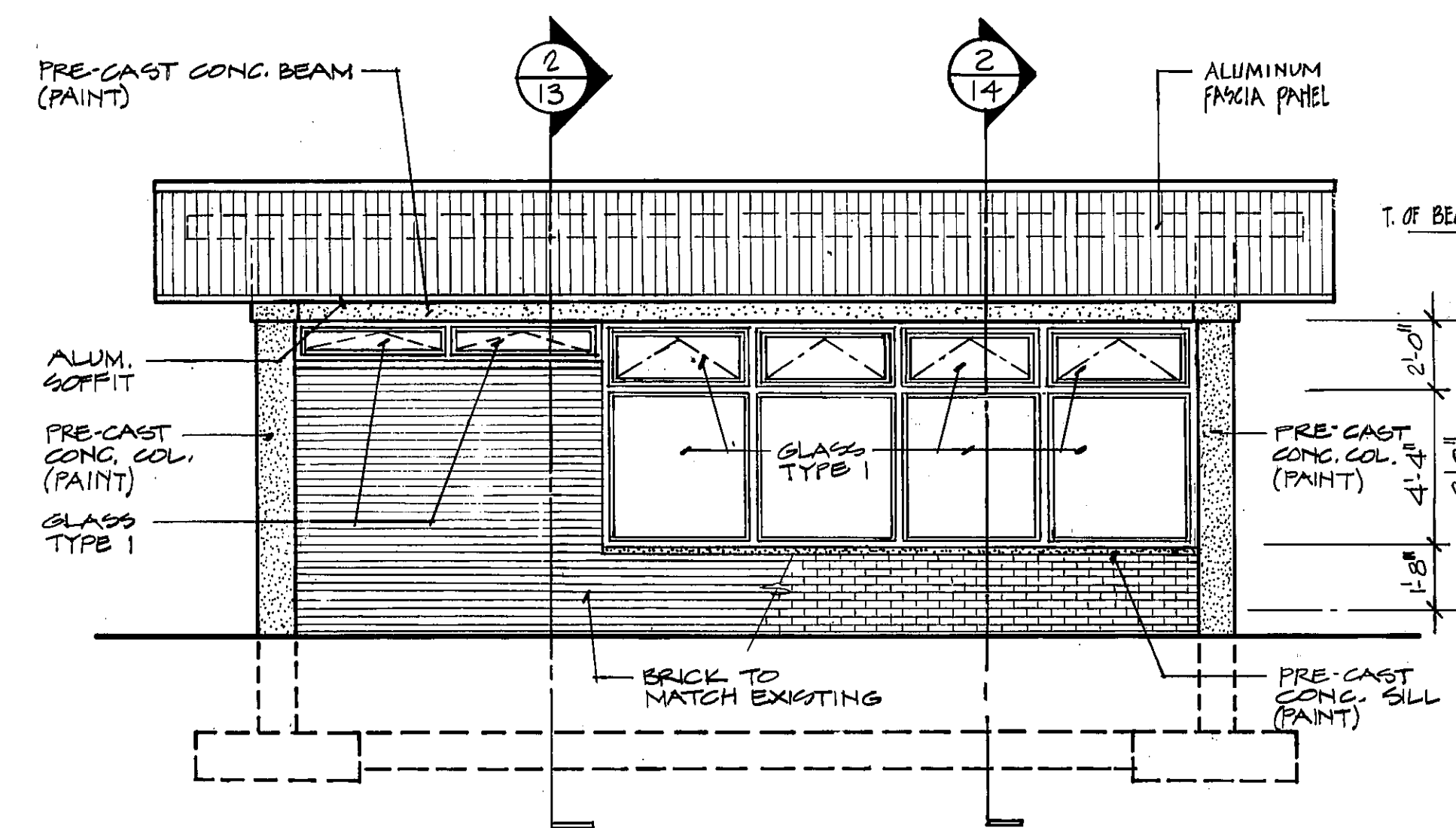


DOOR TYPE 1

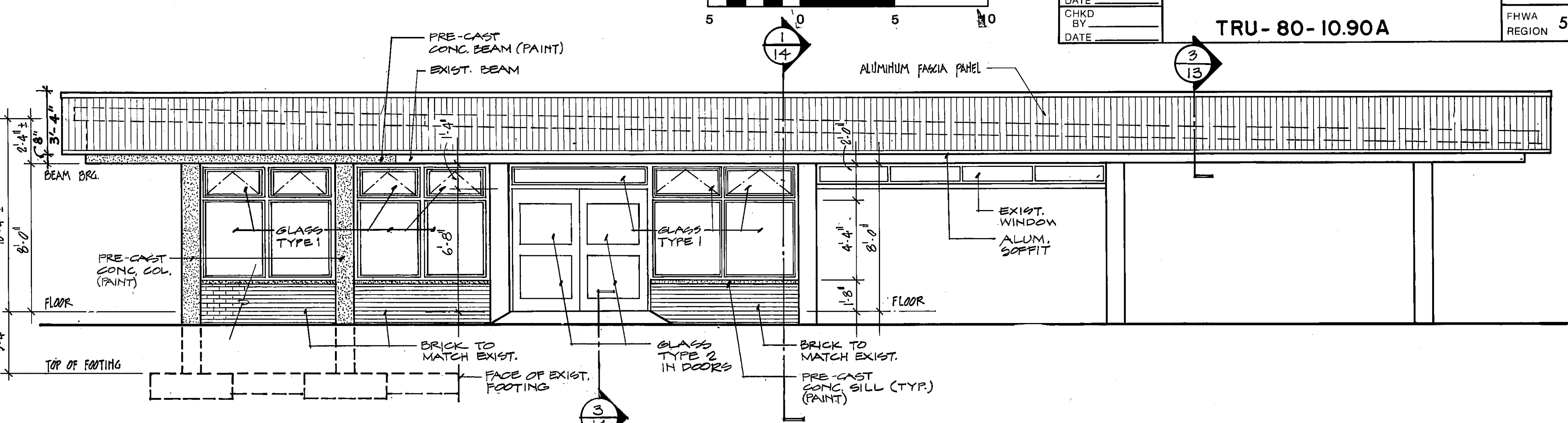
DOOR TYPE 2

DOOR TYPE 3

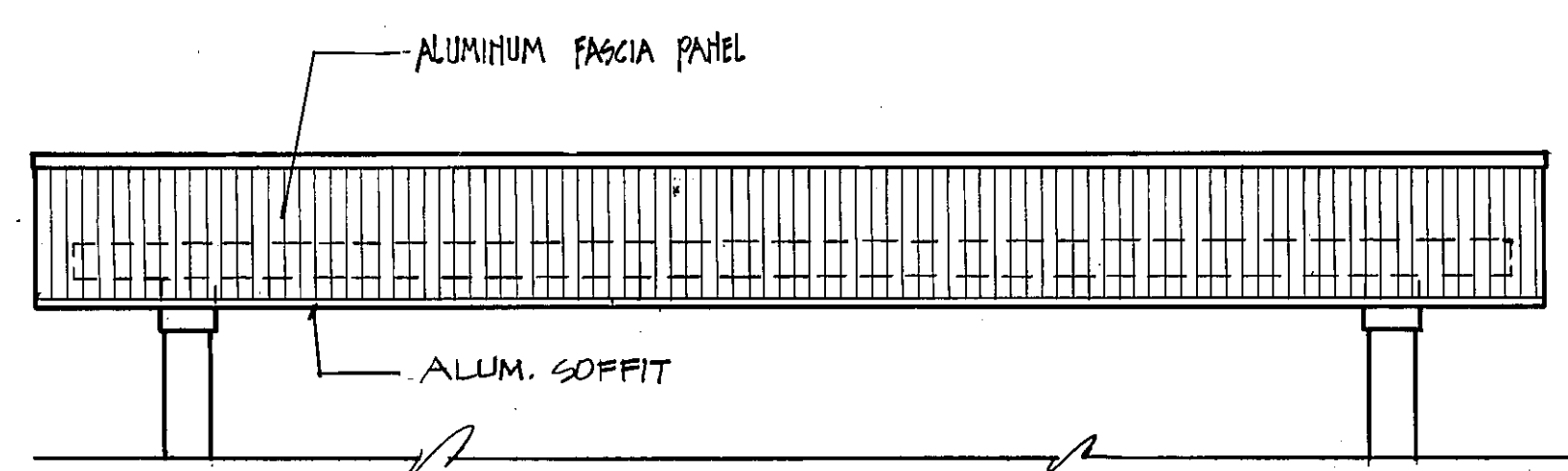
FLOOR PLAN



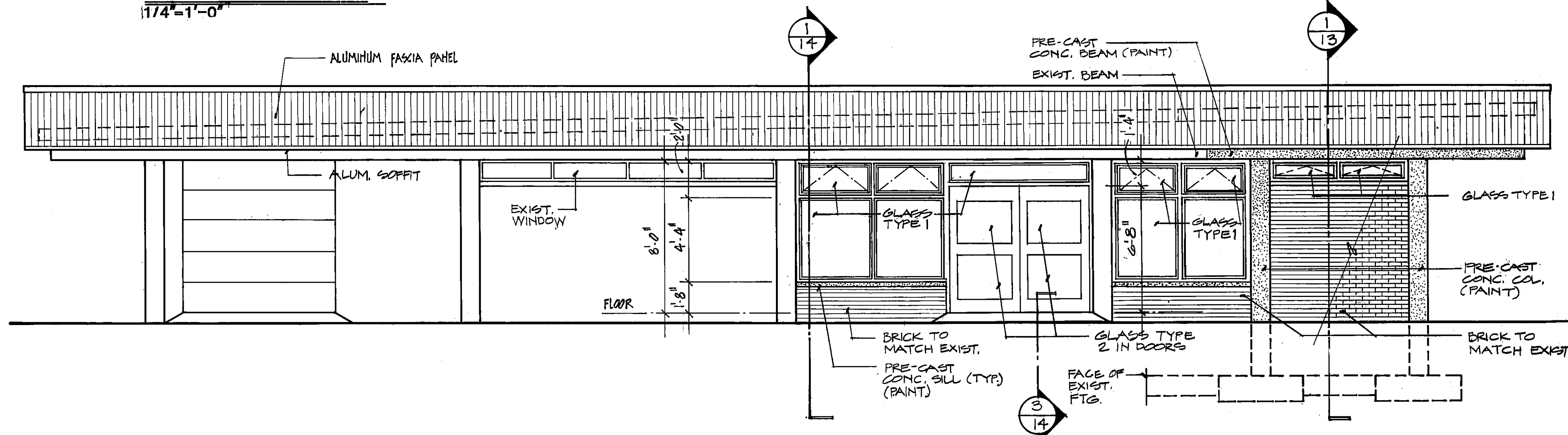
**SOUTH ELEVATION**  
1/4"=1'-0"



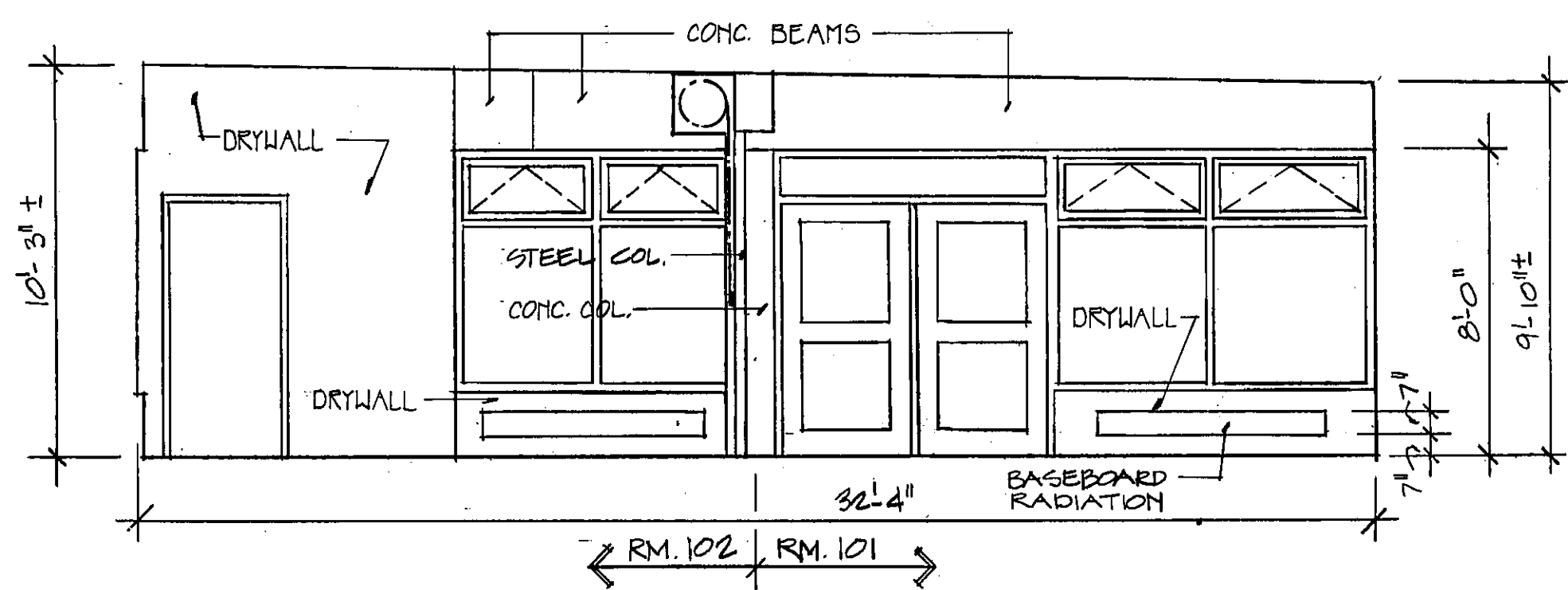
**EAST ELEVATION**  
1/4"=1'-0"



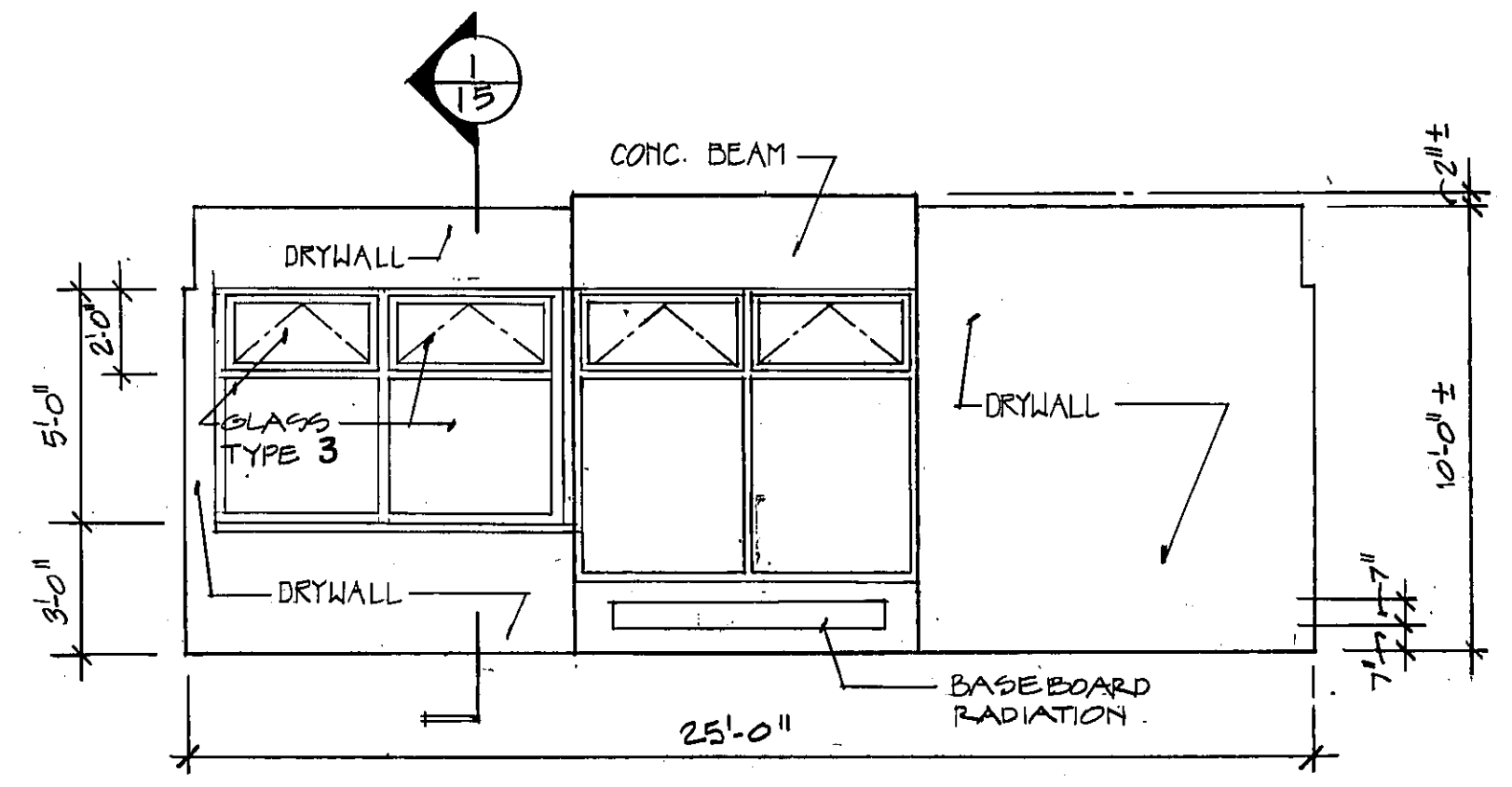
**NORTH ELEVATION**  
1/4"=1'-0"



**WEST ELEVATION**  
1/4"=1'-0"

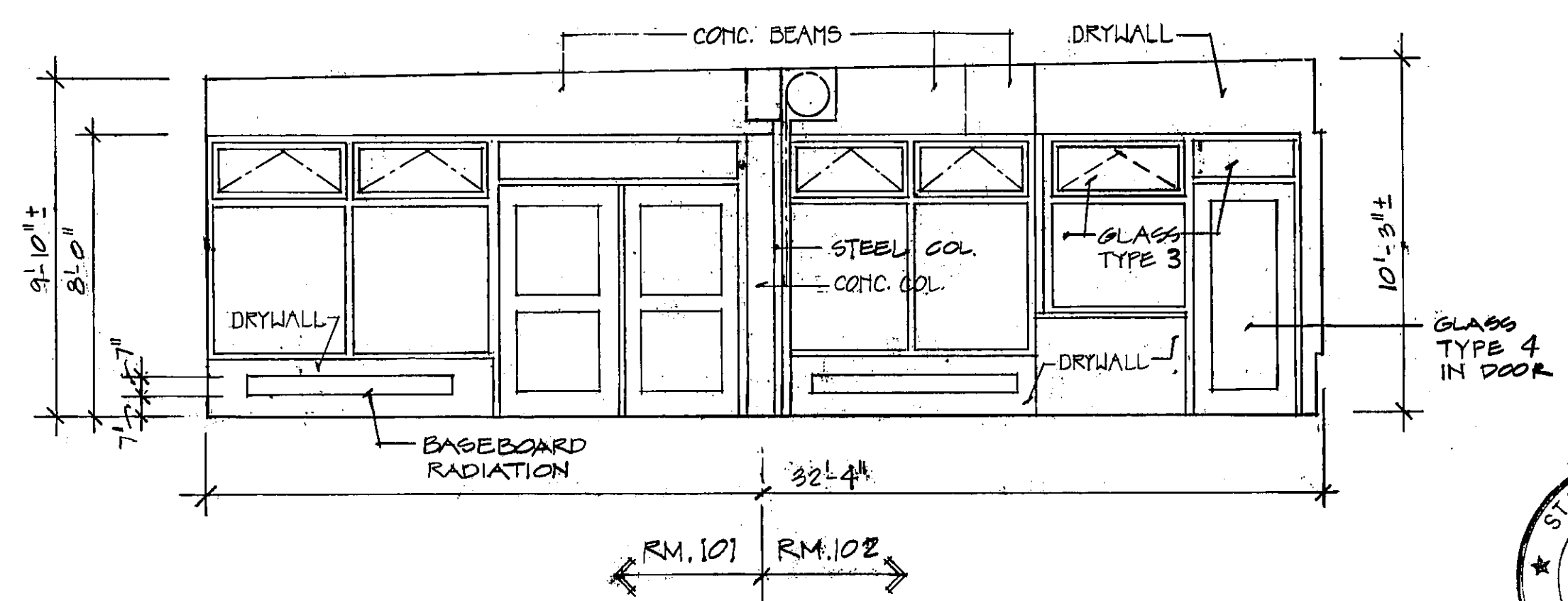


**1 ELEVATION**  
1/4"=1'-0"



ROOM 102

**3 ELEVATION**  
1/4"=1'-0"



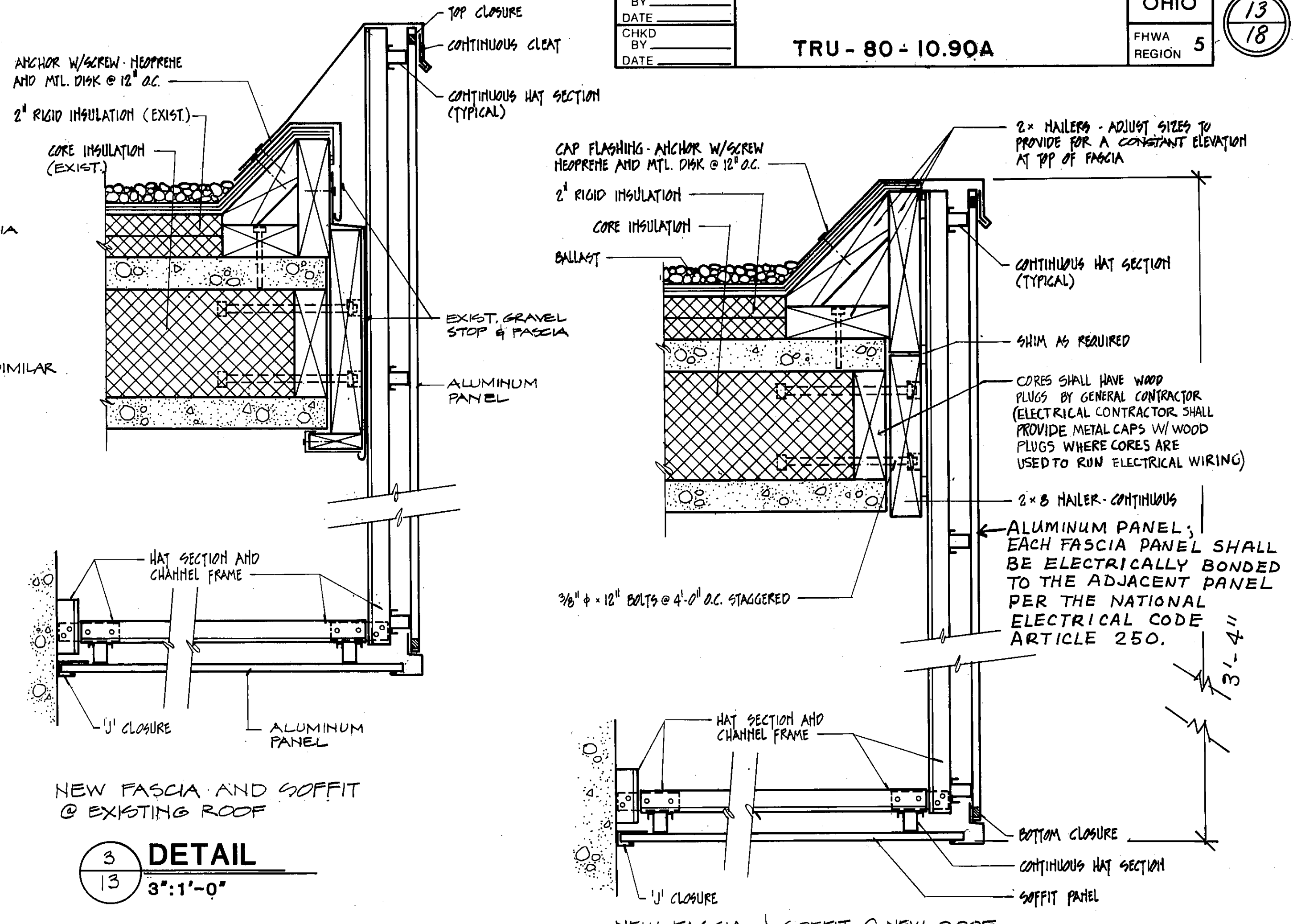
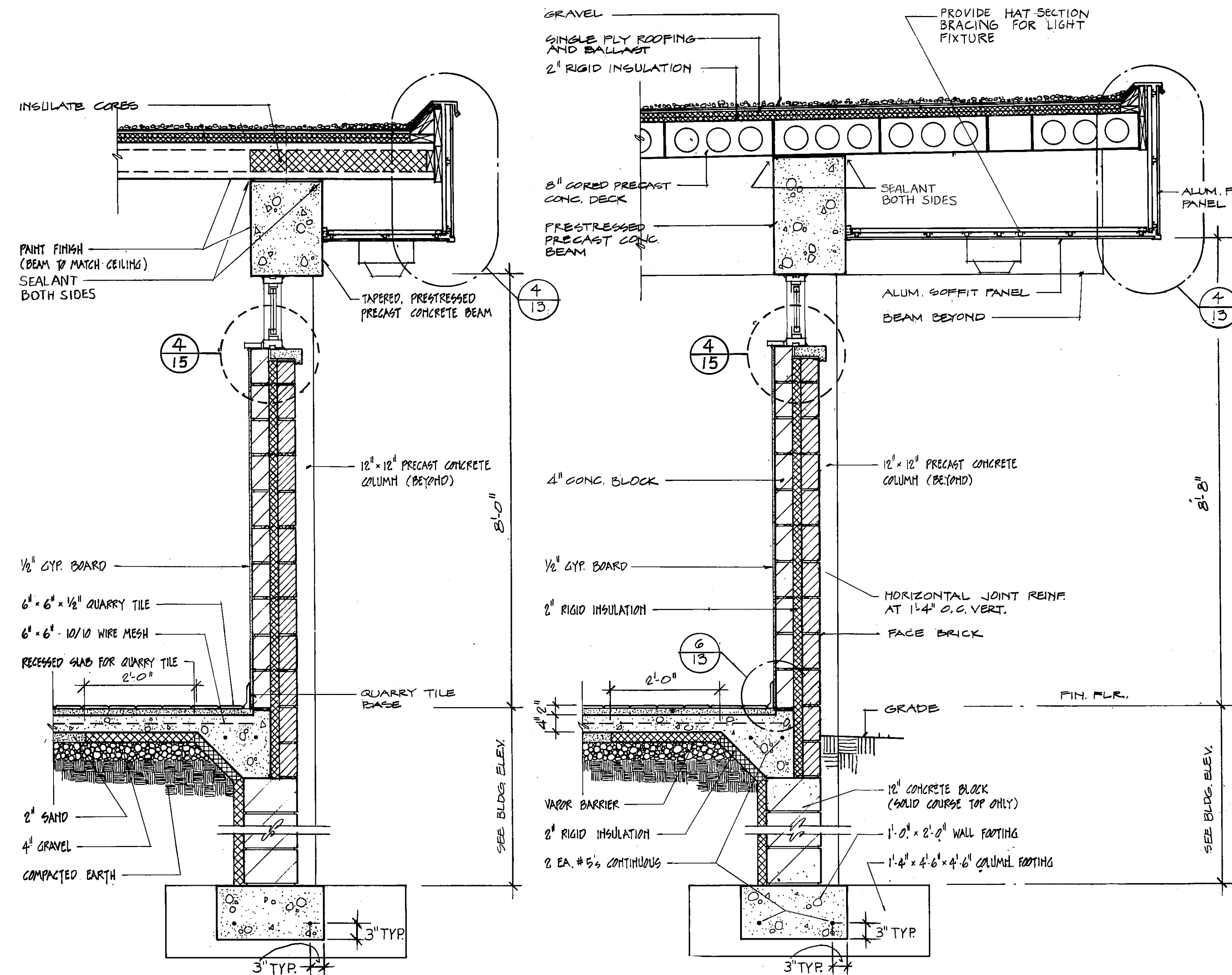
**4 ELEVATION**  
1/4"=1'-0"

ROOM 101

NOTE: REMOUNT TELEPHONES, ELEC. WATER COOLER & PLAQUE ON NEW STONE FACINGS

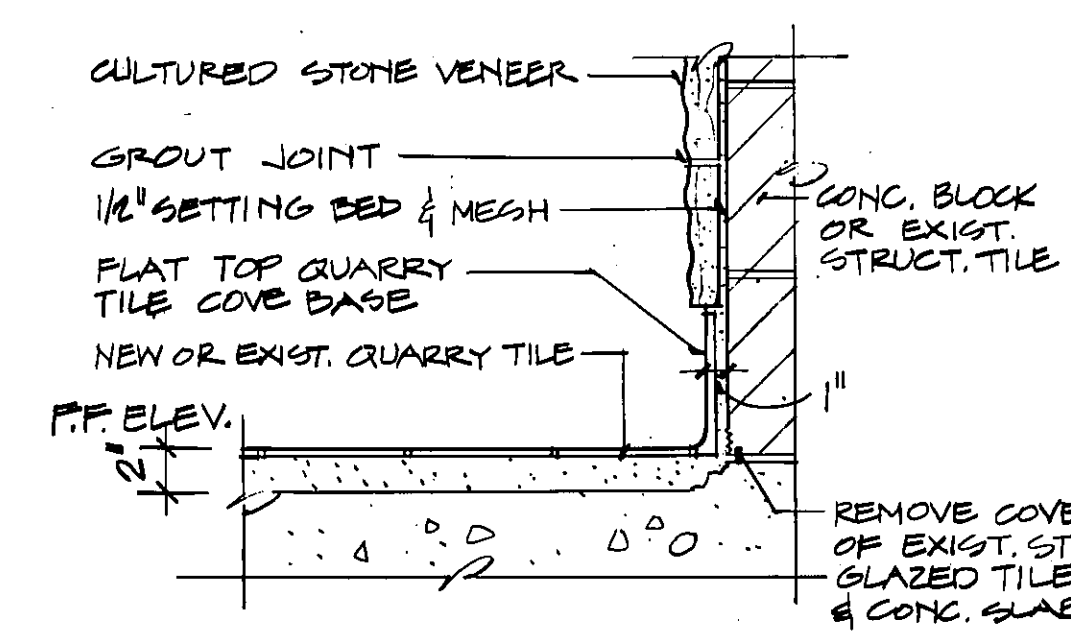
**2 ELEVATION**  
1/4"=1'-0"





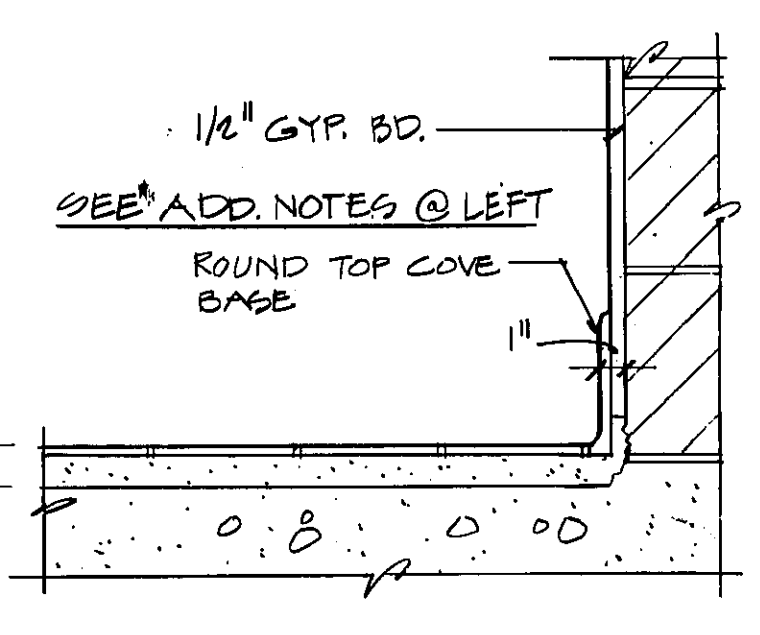
NOTES FOR DETAILS 1 & 2 ARE TYPICAL FOR BOTH.

1 SECTION  
3/4":1'-0"

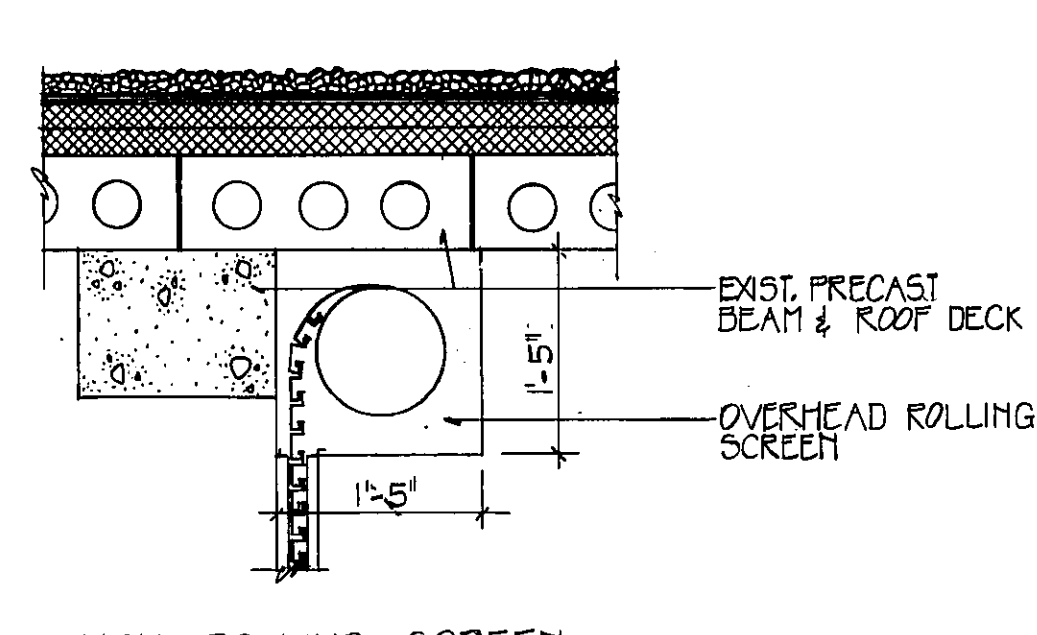


5 DETAIL  
1 1/2":1'-0"

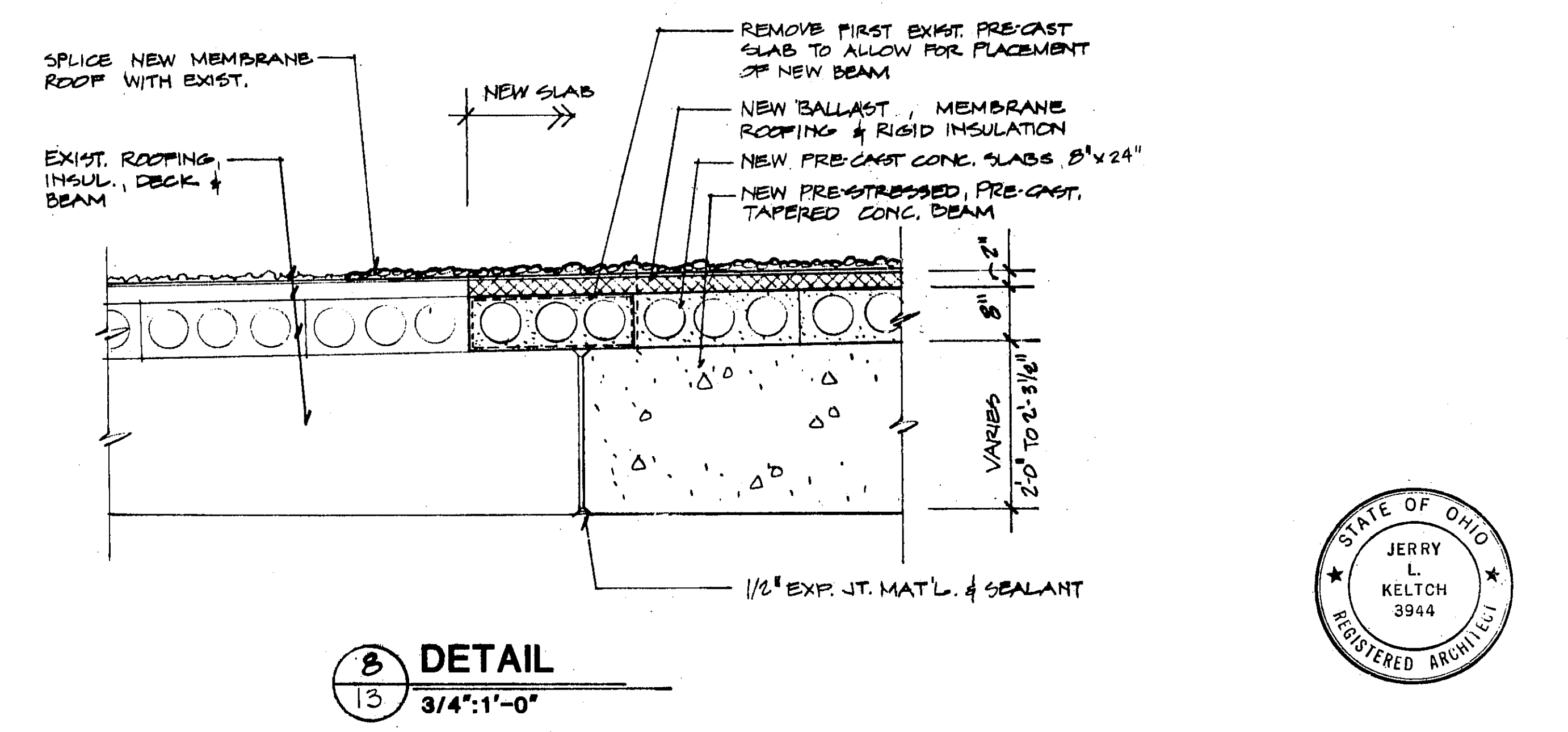
2 SECTION  
3/4":1'-0"



6 DETAIL  
1 1/2":1'-0"

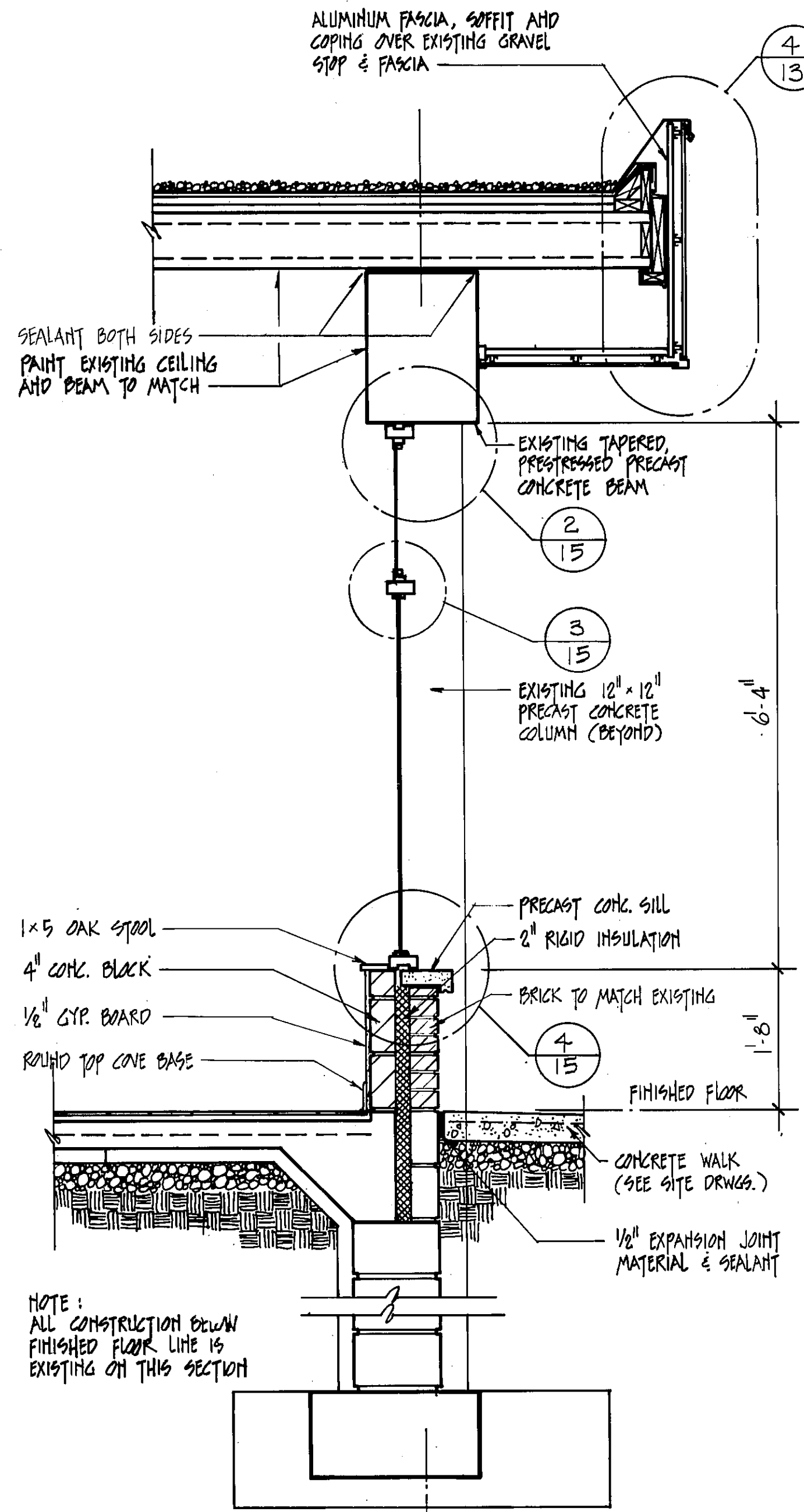


7 DETAIL  
3/4":1'-0"

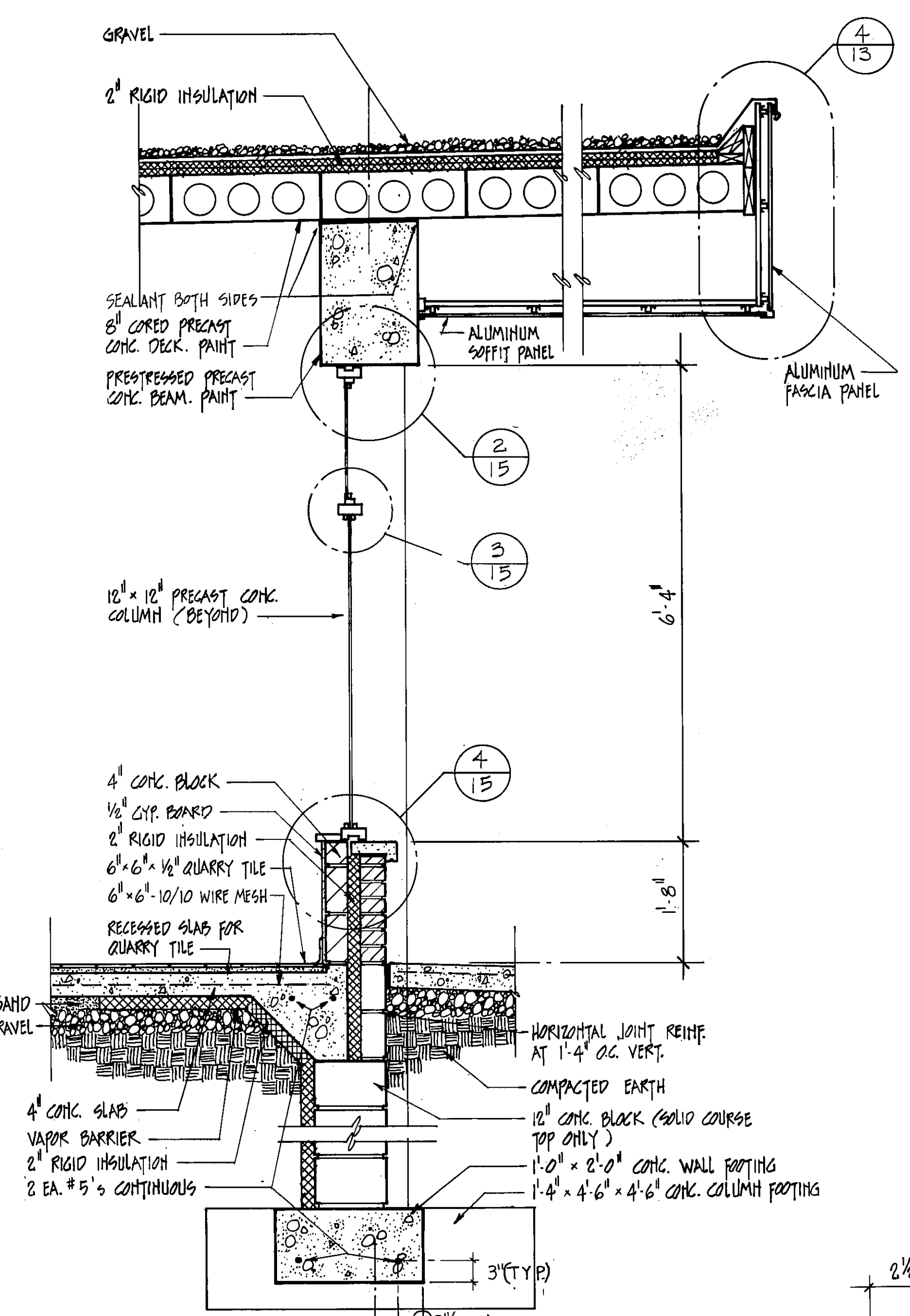


8 DETAIL  
3/4":1'-0"

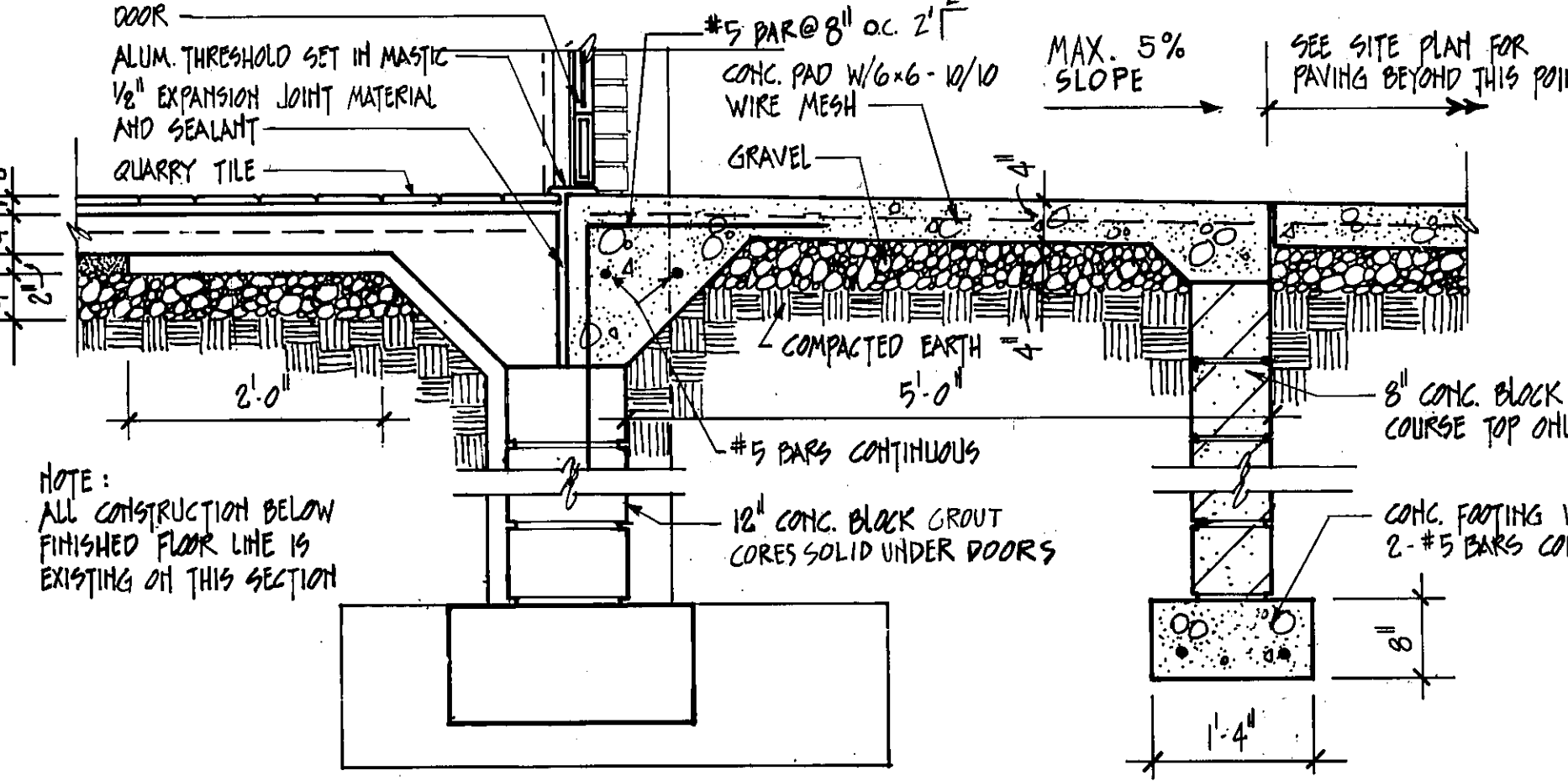




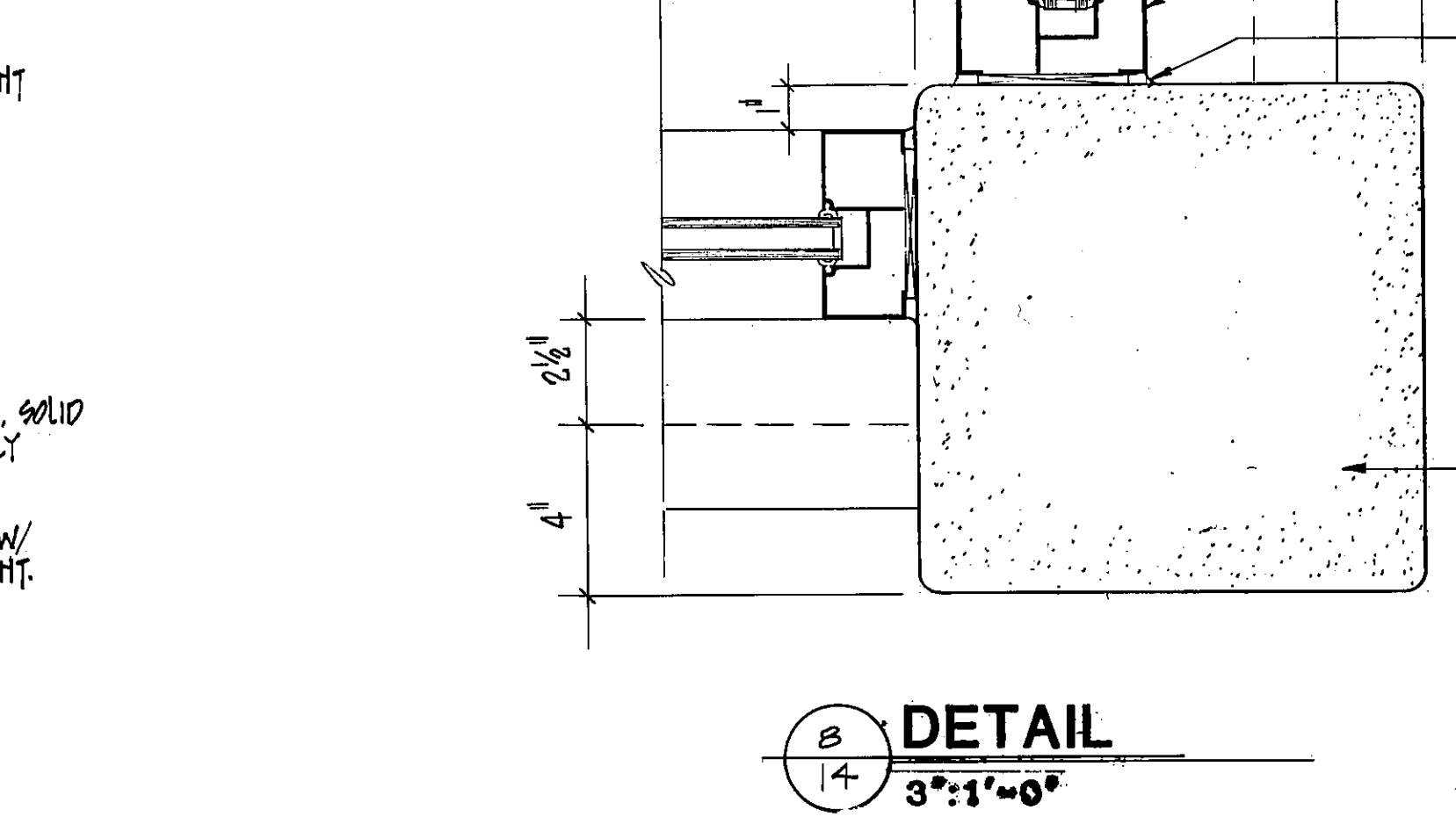
1 SECTION  
14 3/4":1'-0"



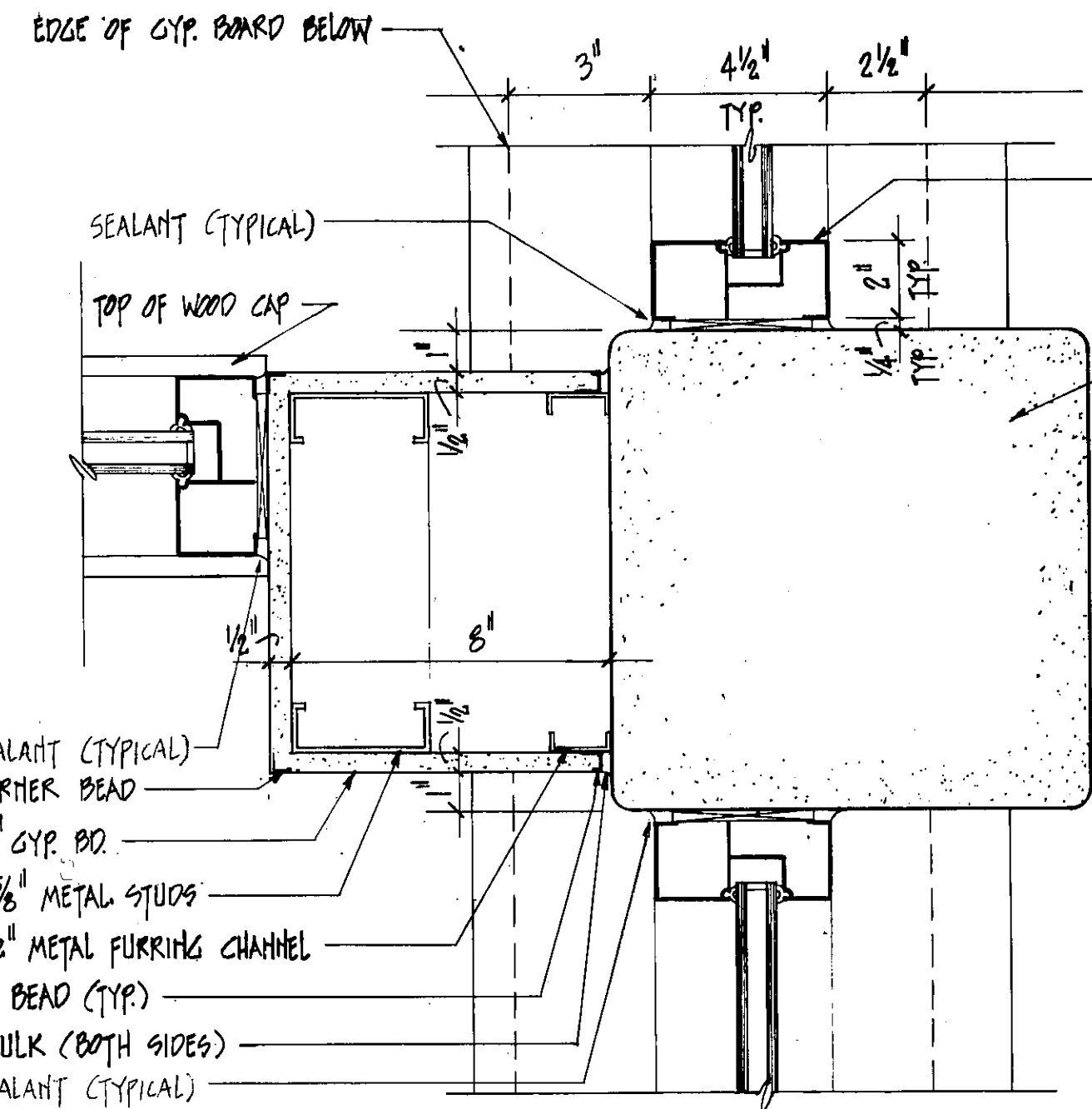
2 SECTION  
14 3/4":1'-0"



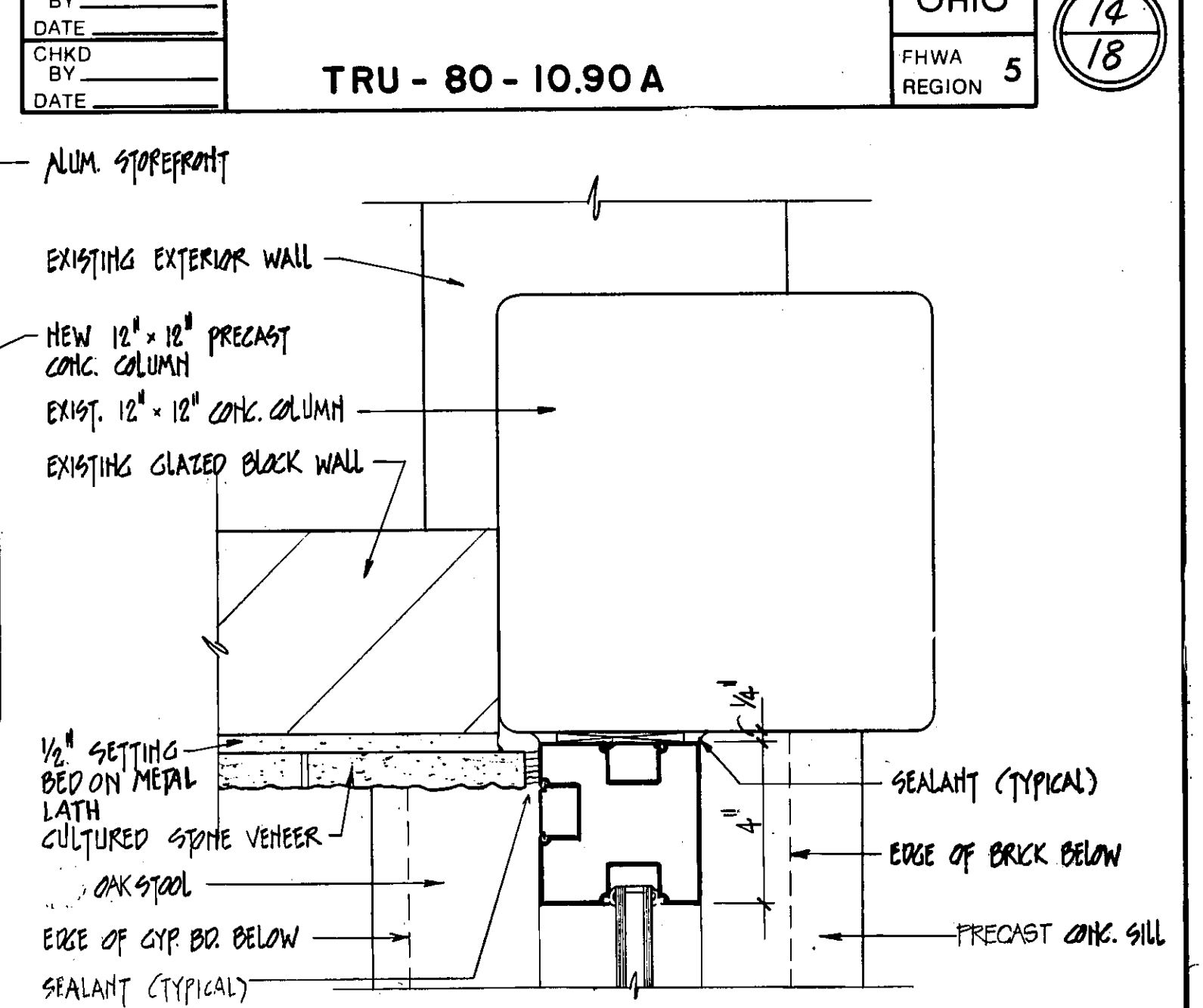
3 SECTION  
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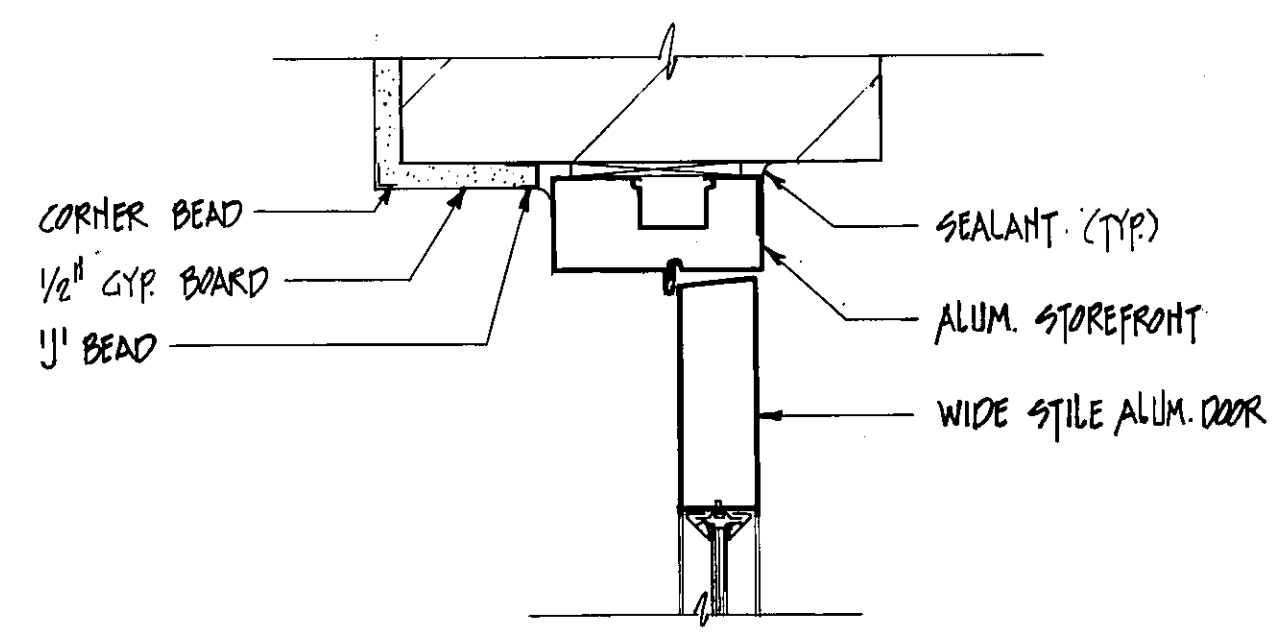
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14 3":1'-0"



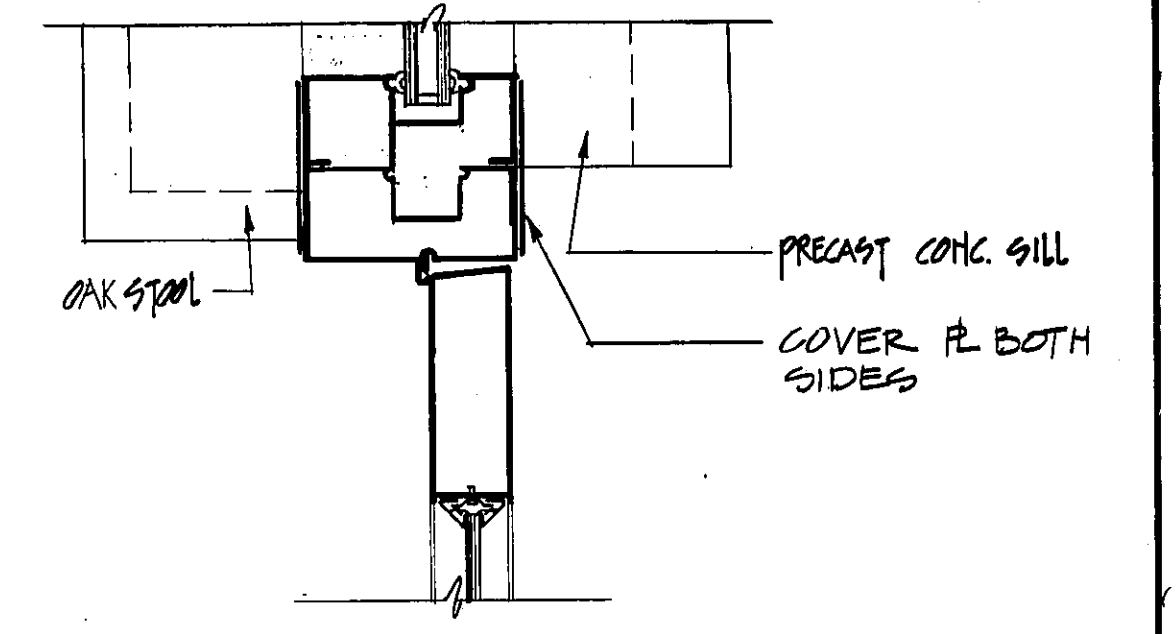
4 DETAIL  
14 3":1'-0"



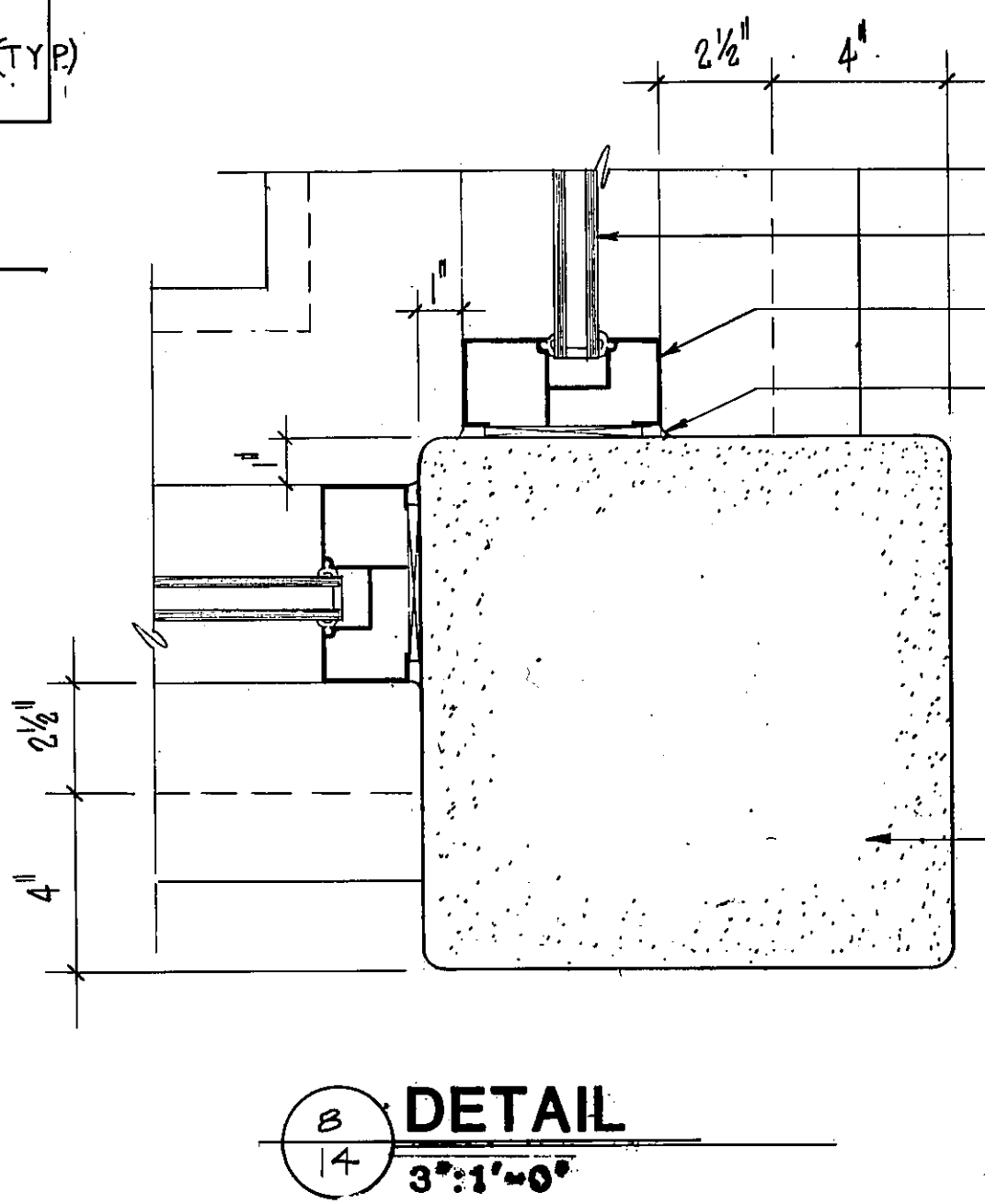
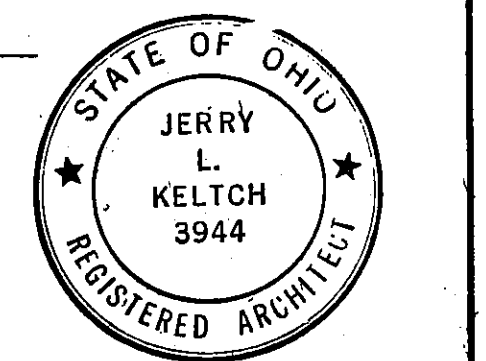
5 DETAIL  
14 3":1'-0"



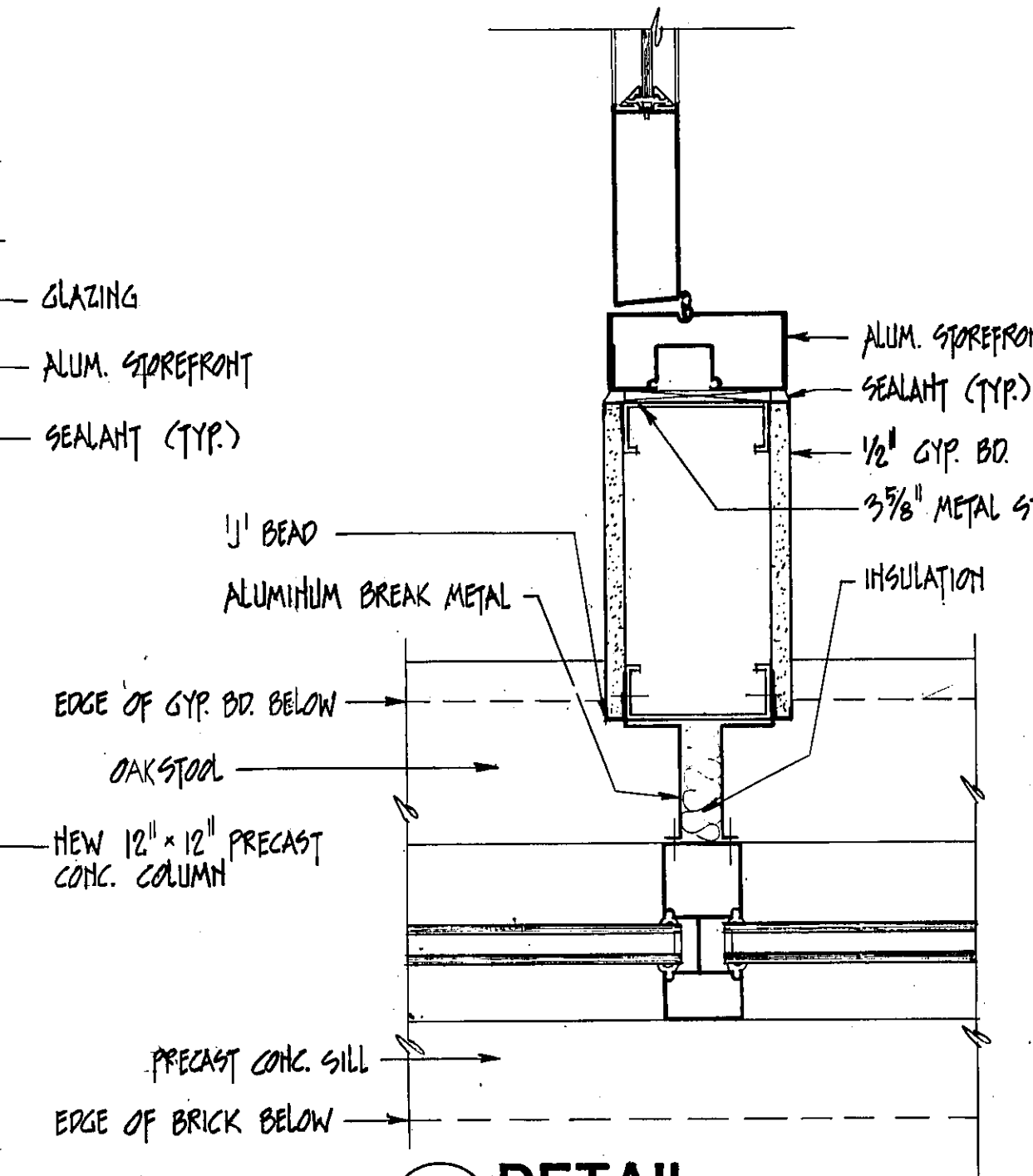
6 DETAIL  
14 3":1'-0"



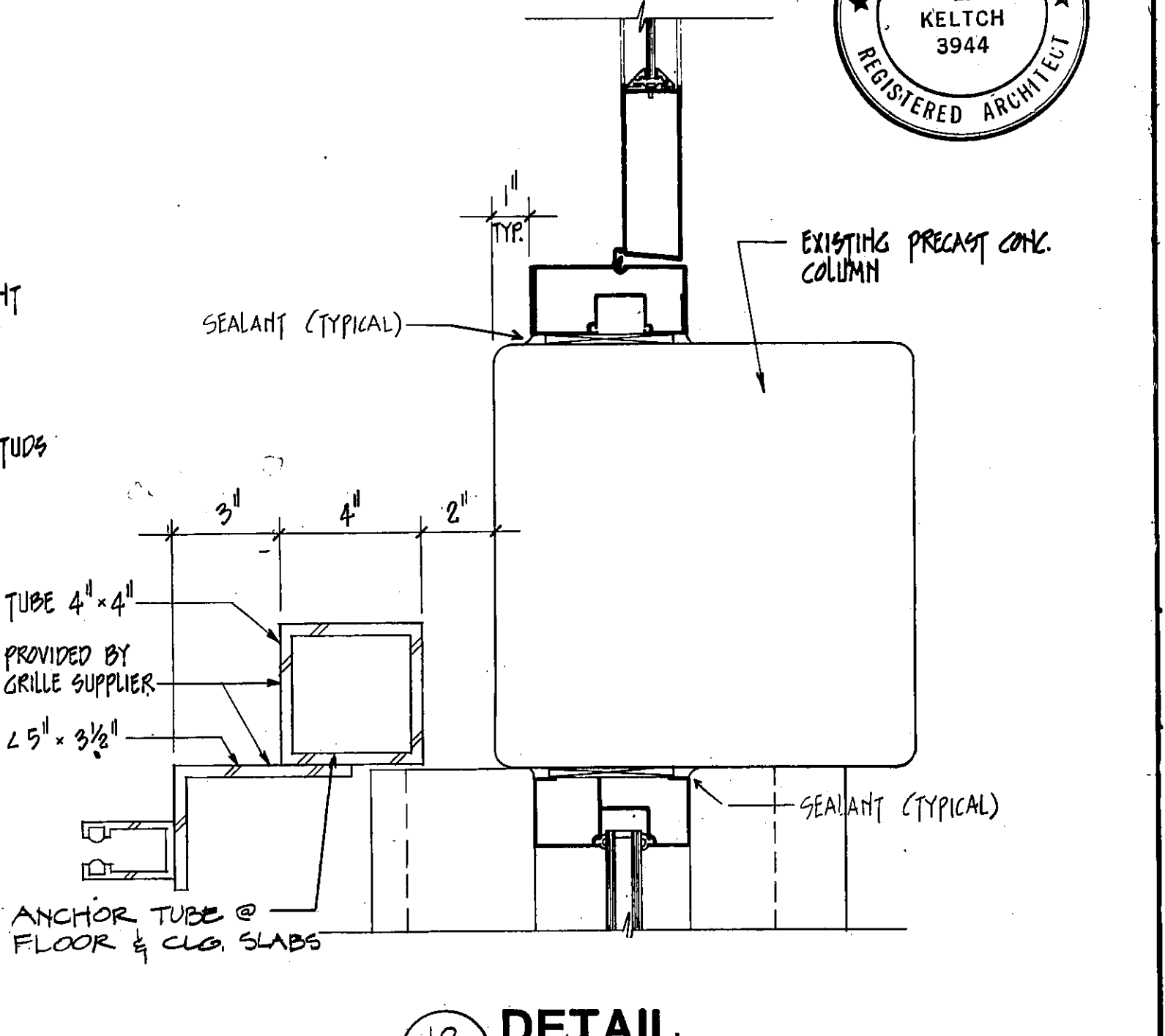
7 DETAIL  
14 3":1'-0"



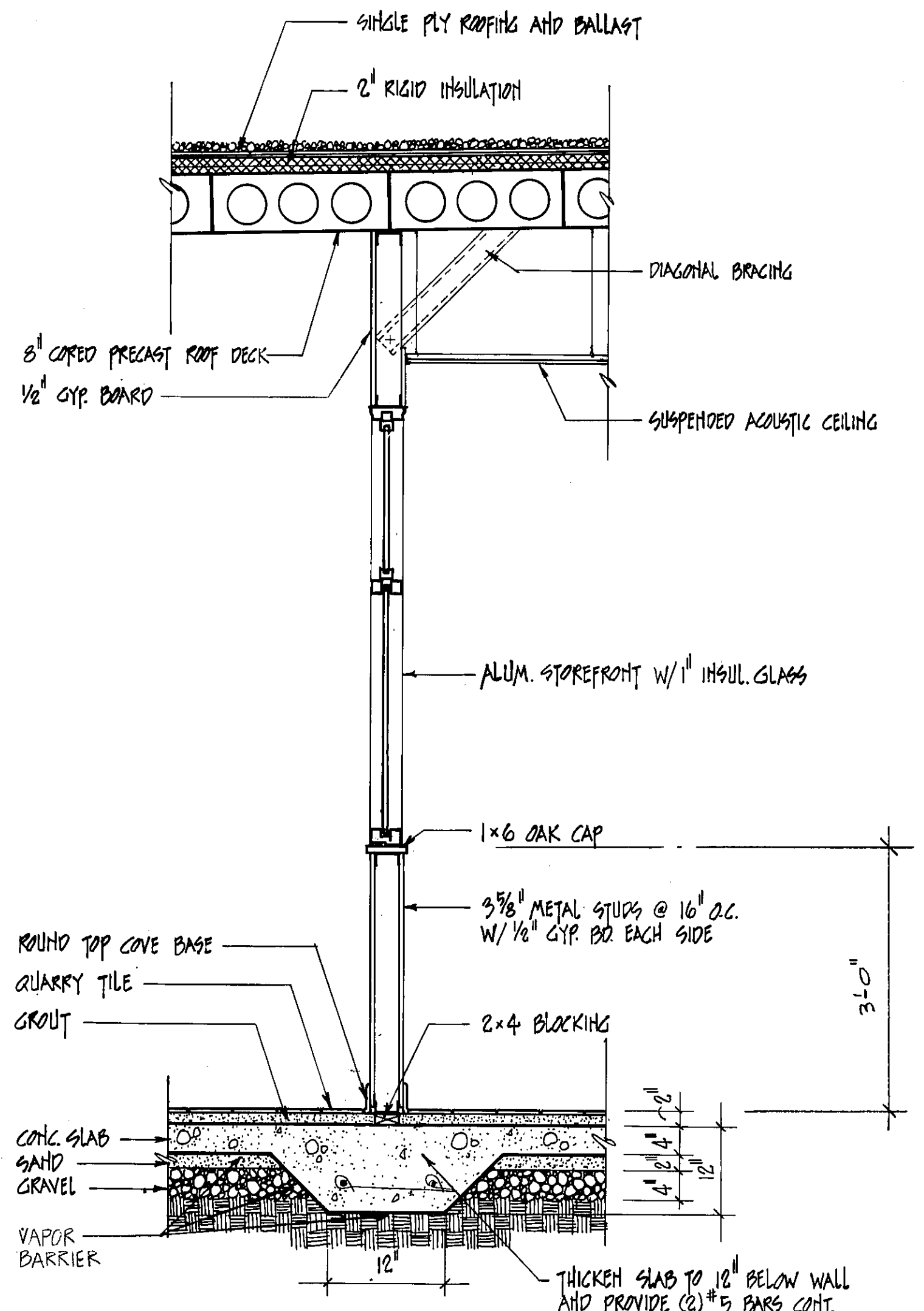
8 DETAIL  
14 3":1'-0"



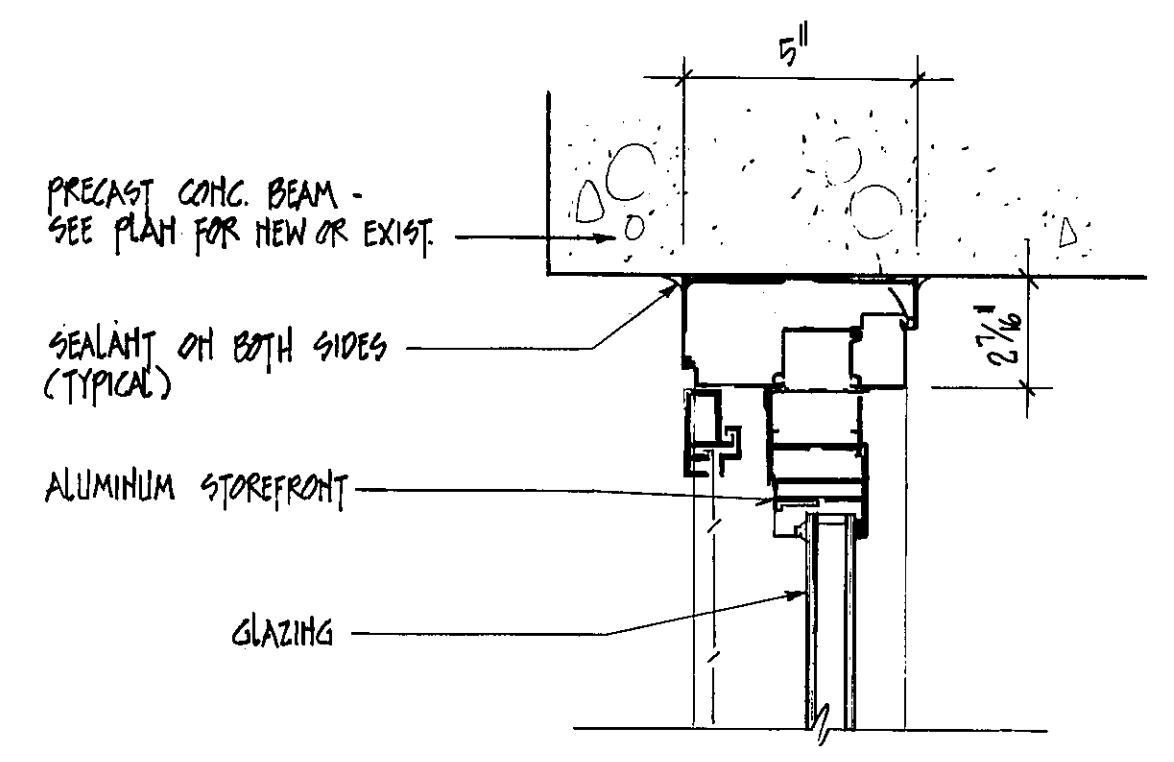
9 DETAIL  
14 3":1'-0"



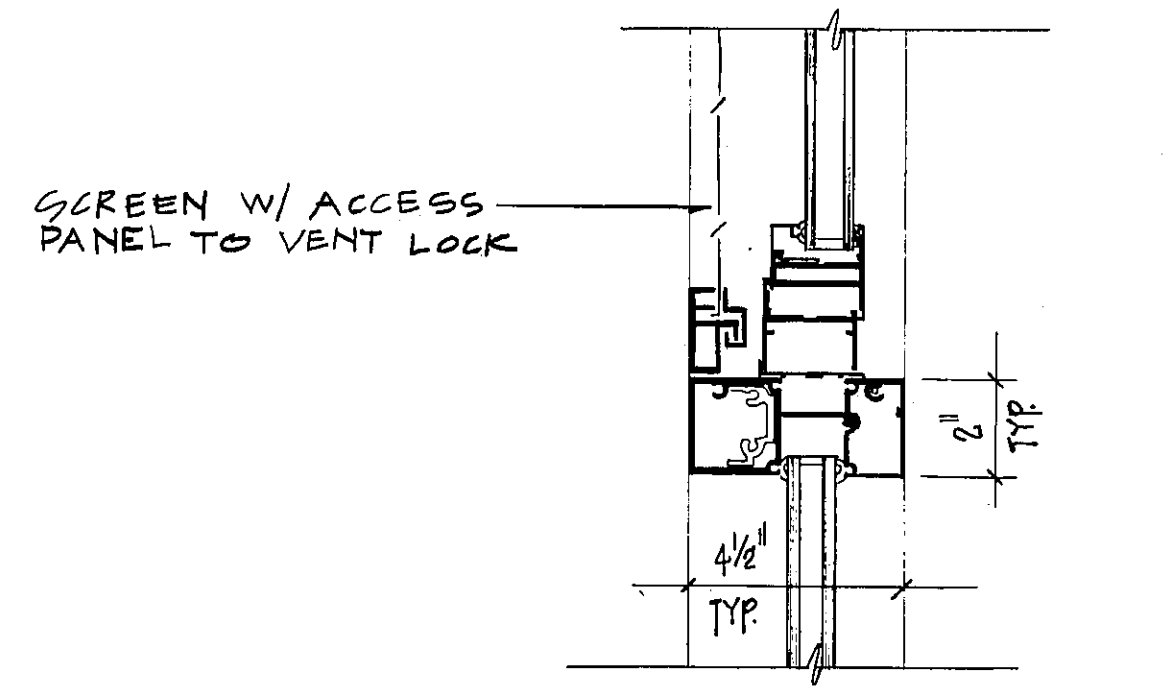
10 DETAIL  
14 3":1'-0"



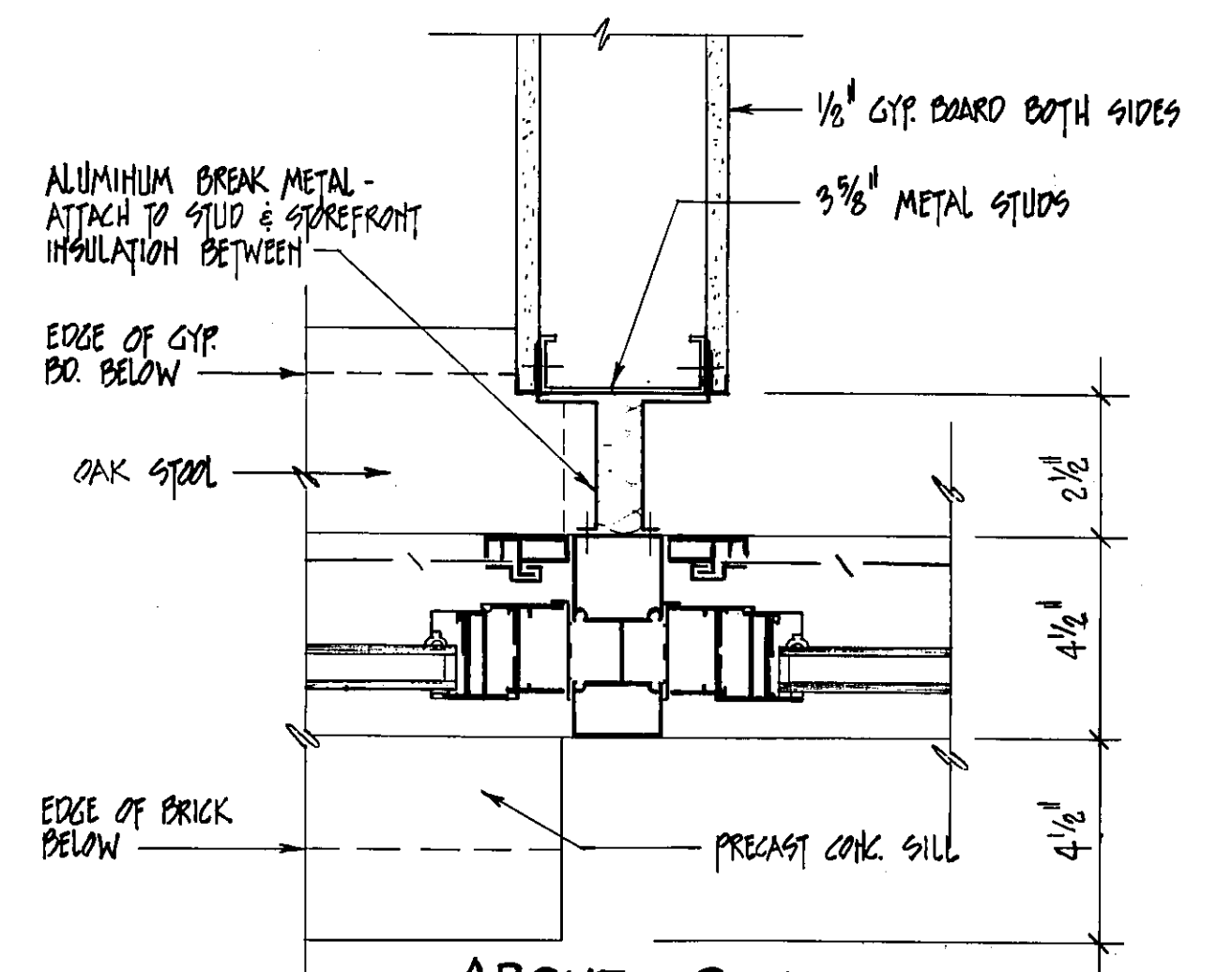
**SECTION**  
15  
3/4":1'-0"



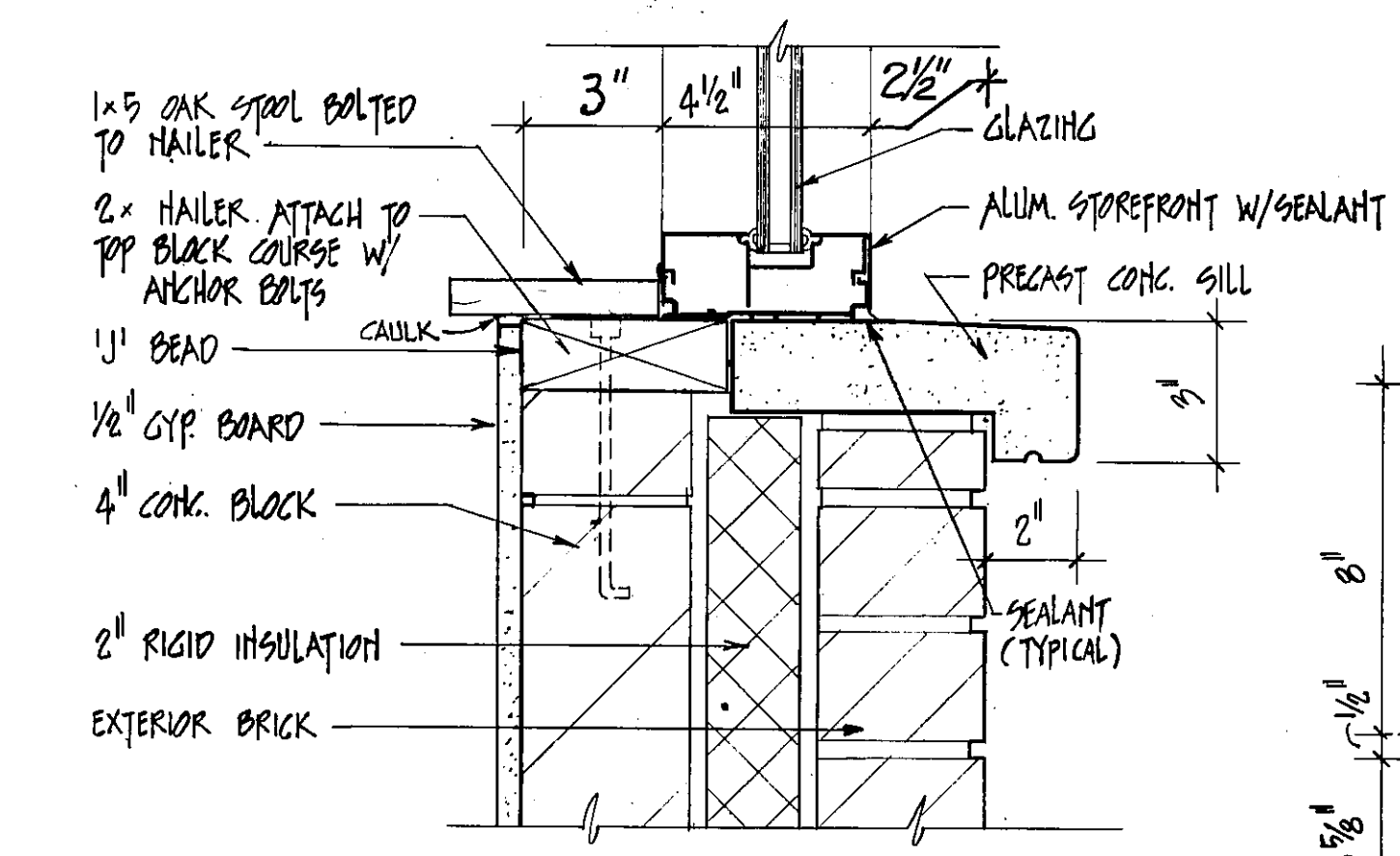
**DETAIL**  
2  
15  
3":1'-0"



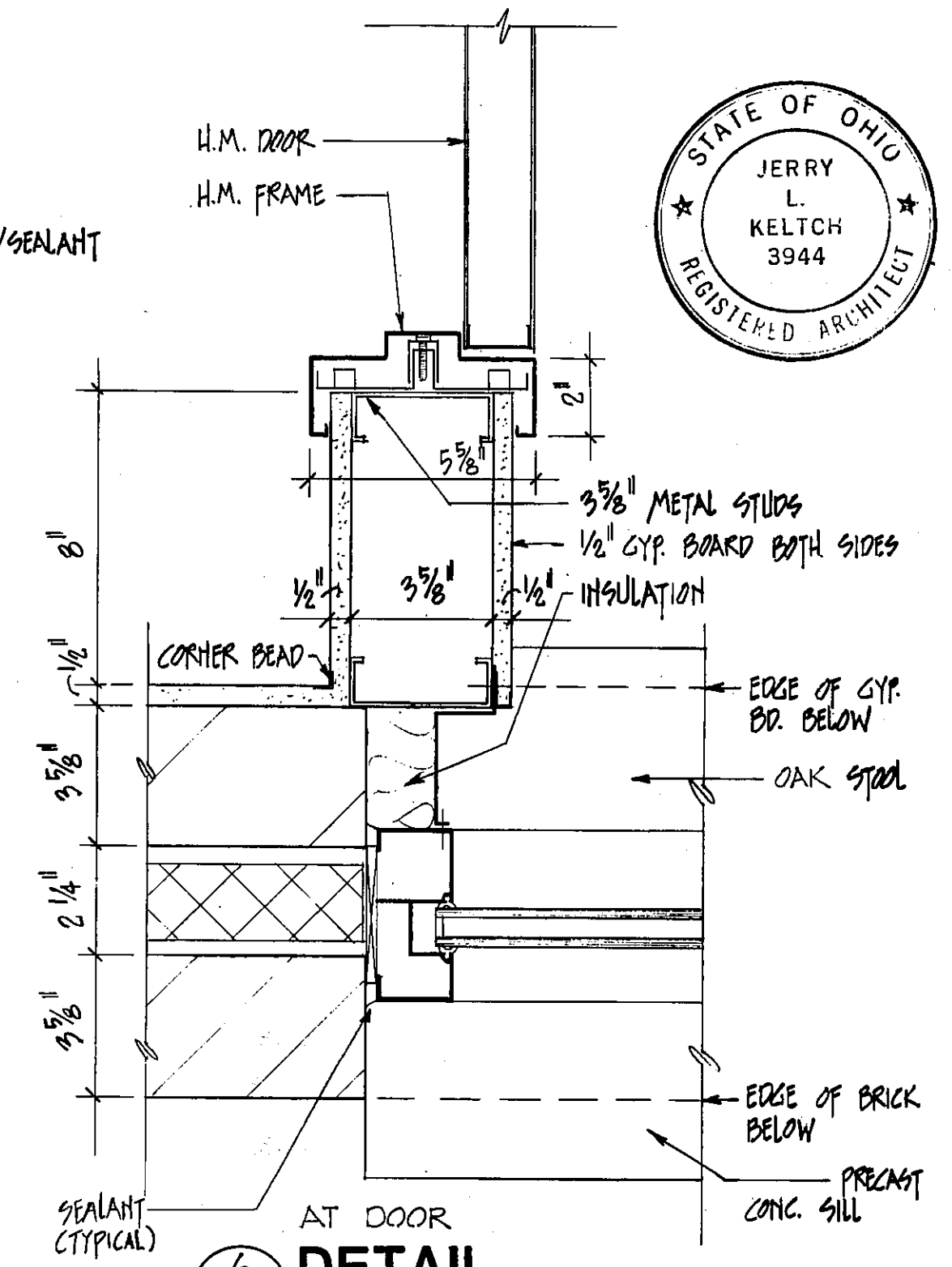
**DETAIL**  
3  
15  
3":1'-0"



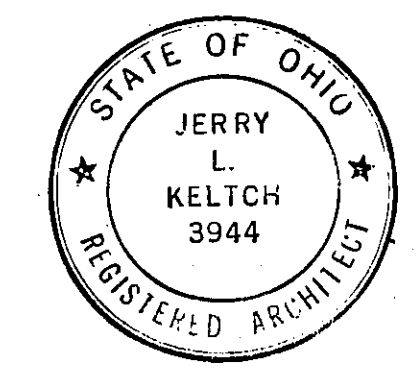
**ABOVE SILL**  
**DETAIL**  
5  
15  
3":1'-0"



**DETAIL**  
4  
15  
3":1'-0"



**AT DOOR**  
**DETAIL**  
6  
15  
3":1'-0"

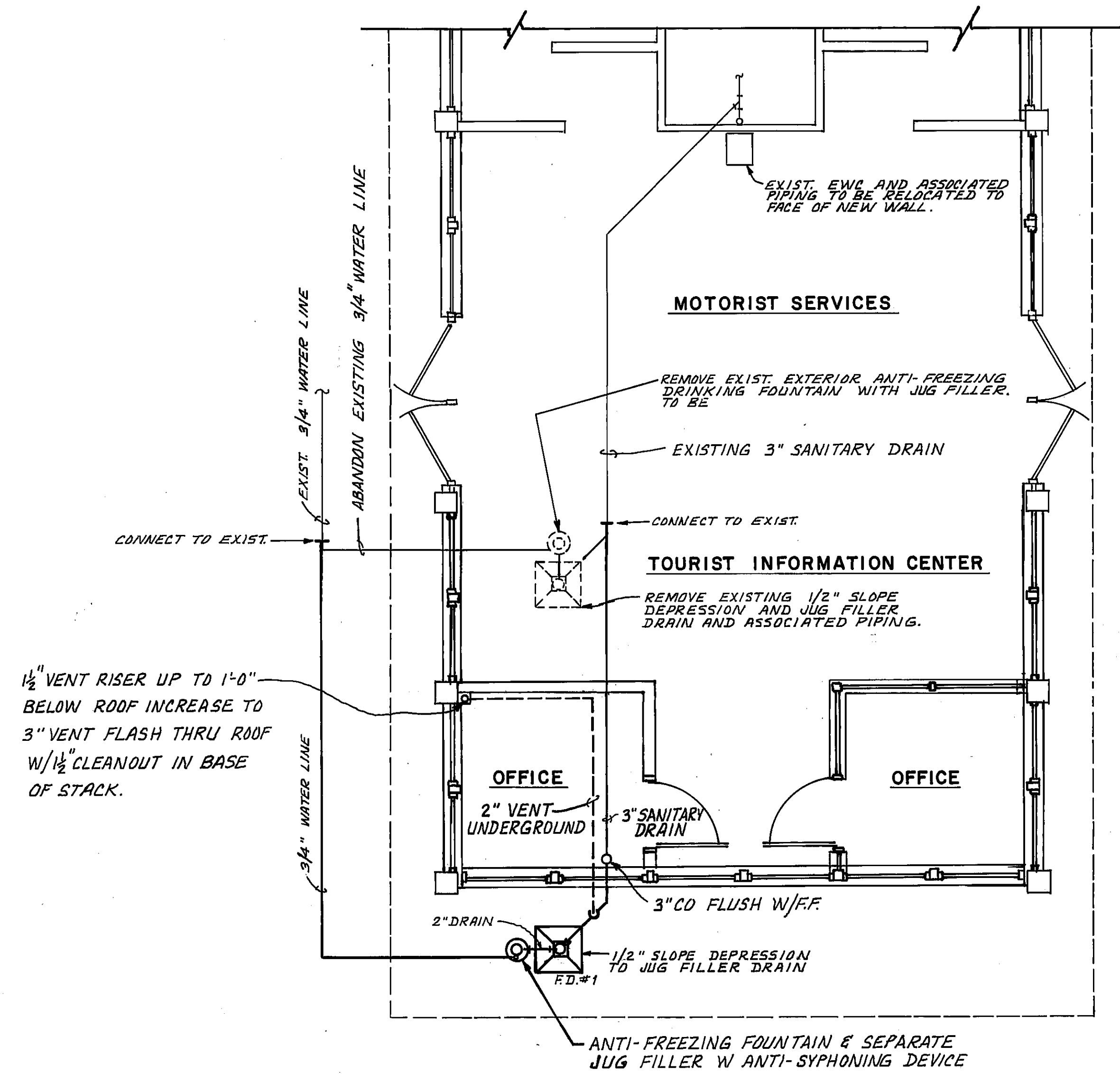


CALC BY \_\_\_\_\_  
 DATE \_\_\_\_\_  
 CHKD BY \_\_\_\_\_  
 DATE \_\_\_\_\_

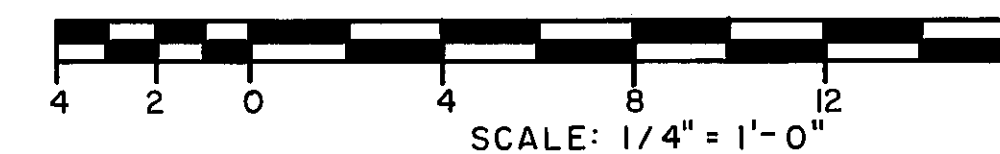
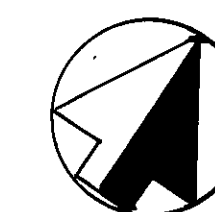
TRU-80-10.90A

OHIO  
 FHWA REGION 5

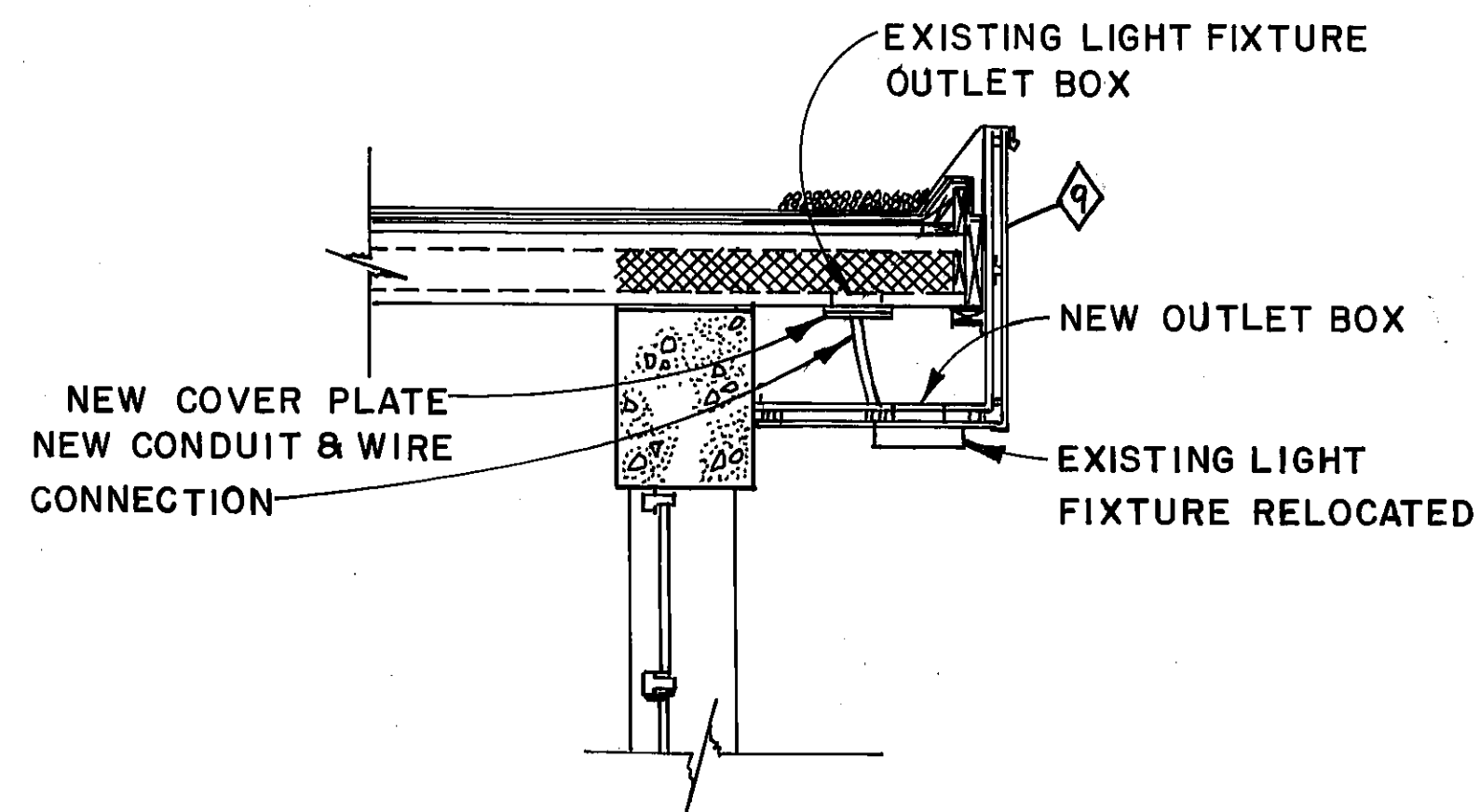
16  
 18



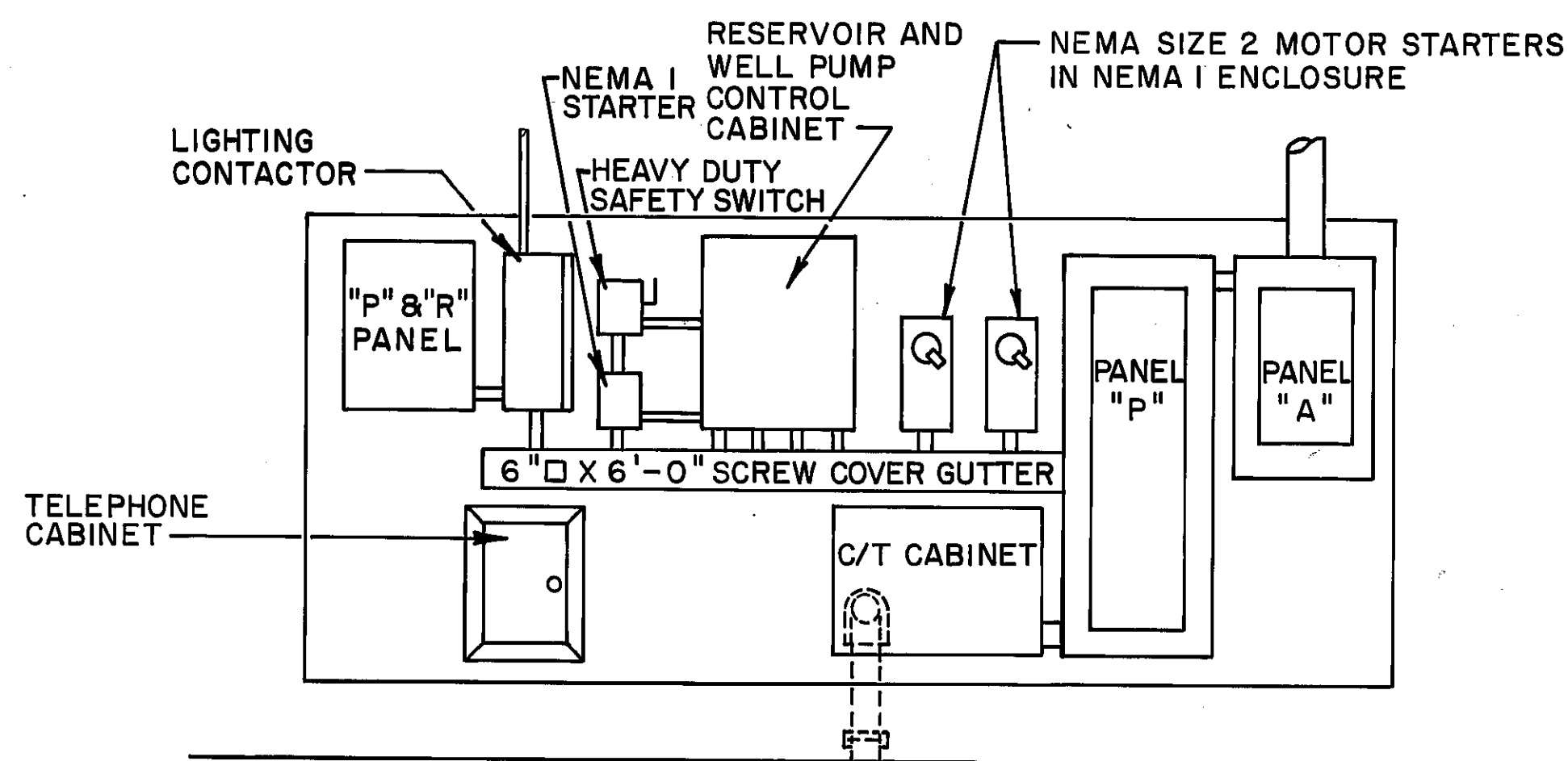
PLUMBING FLOOR PLAN (WB)



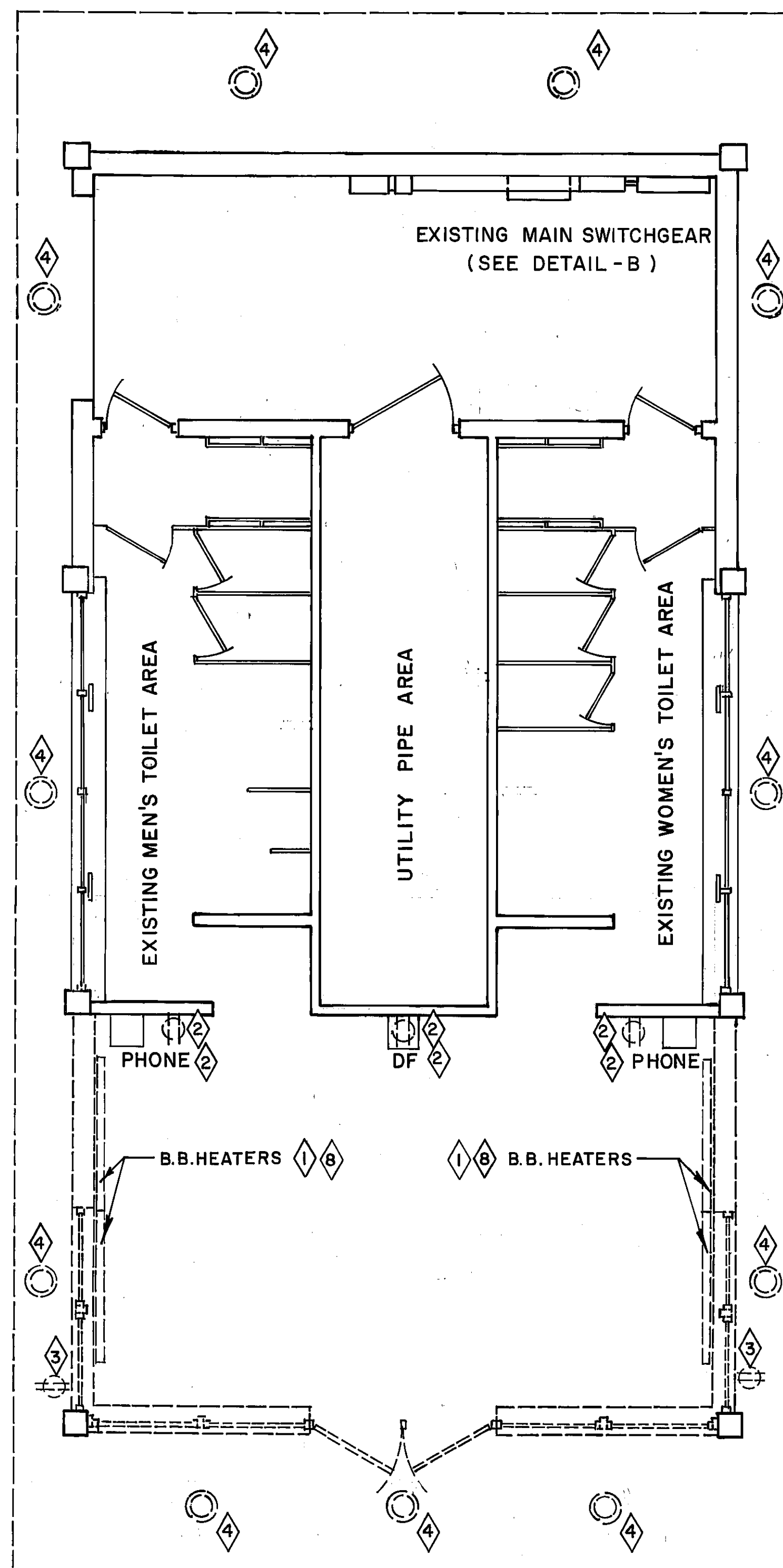




LIGHT FIXTURE RELOCATION DETAIL-A



EXISTING MAIN SWITCHGEAR DETAIL-B



FLOOR PLAN - DEMOLITION

**LEGEND**

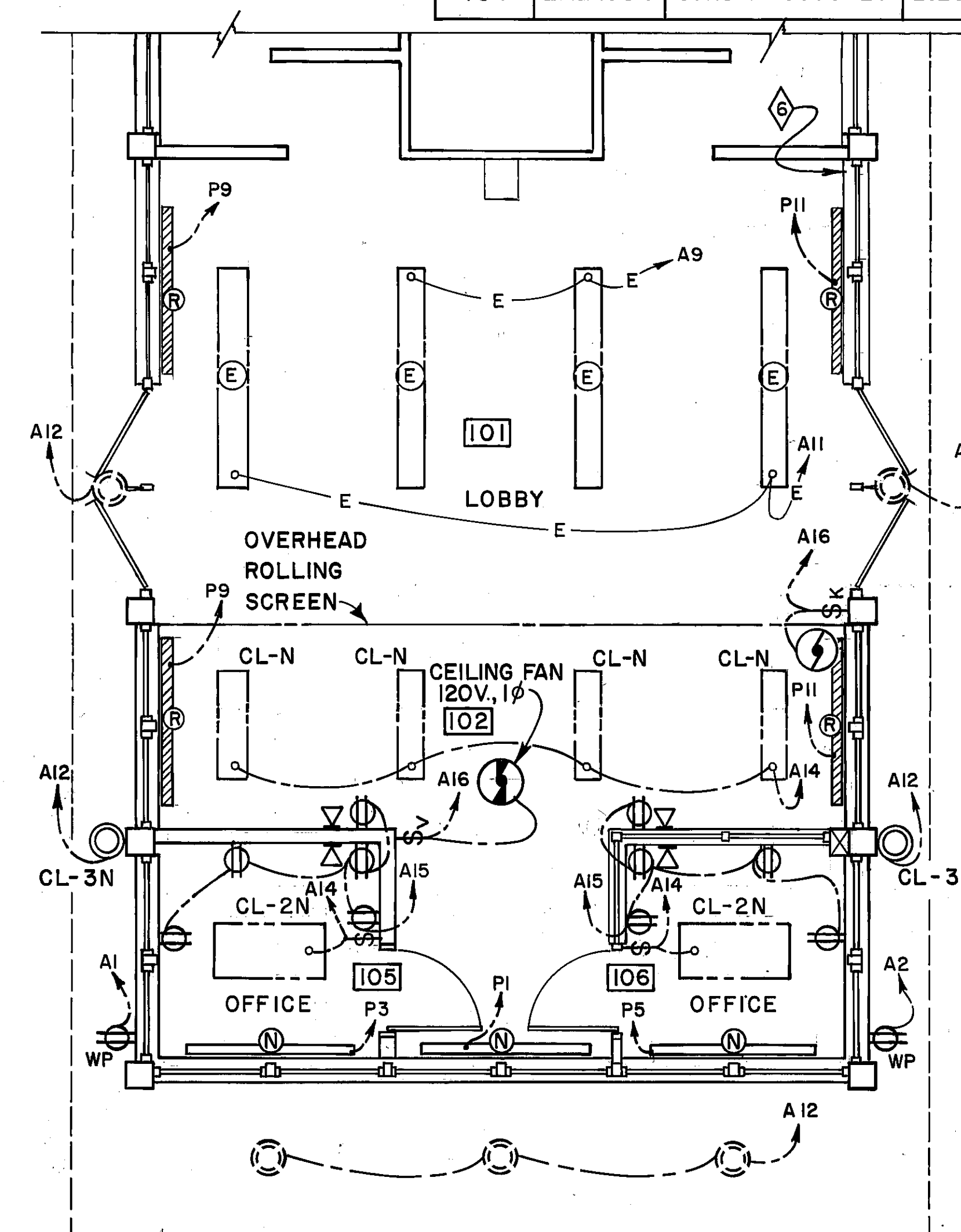
SYMBOL	DESCRIPTION
(E)	EXISTING FLUORESCENT FIXTURE & CEILING OUTLET
(E)	PROPOSED FLUORESCENT FIXTURE & CEILING OUTLET
(WP)	PROPOSED DUPLEX RECEPTACLE
(WP)	PROPOSED WEATHERPROOF RECEPTACLE
(T)	TELEPHONE OUTLET
(S)	WALL SWITCH
(K)	WALL KEY SWITCH
(V)	VARIABLE SPEED WALL SWITCH
(R)	EXISTING BASEBOARD HEATER - RELOCATED
(N)	PROPOSED BASEBOARD HEATER
(CF)	CEILING FAN
(SM)	SINGLE PHASE MOTOR
(CL)	EXISTING CEILING LIGHT FIXTURE
(CL)	PROPOSED CEILING LIGHT FIXTURE
(E)	EXISTING ELECTRIC CIRCUIT
(E)	PROPOSED ELECTRIC CIRCUIT

**LIGHT FIXTURE SCHEDULE**

FIXTURE	MANUFACTURER	CATALOG NO.	LAMP SIZE	REMARKS
CL-N	MILLER	CP-2192-04	2F40WWT-12	RAPID START
CL-2N	MILLER	TD-4192-A4G	4F40WWT-12	RAPID START
CL-3N	HOLOPHANE	PARKPAK 247-CE-120-BLK-AS	70W HPS	

**BASEBOARD HEATER SCHEDULE**

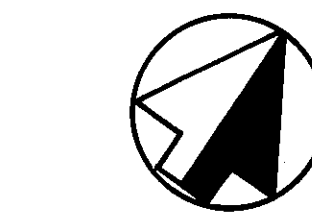
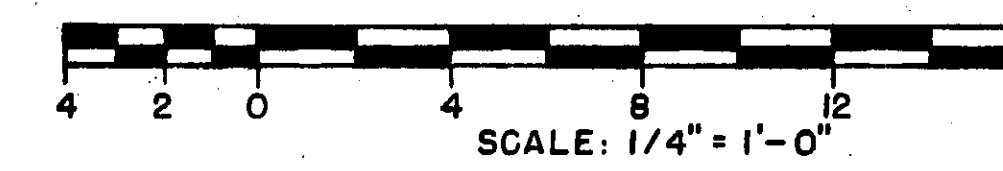
ROOM	MANUF.	CATALOG NO.	KW	VOLTS	PHASE	REMARKS
102	EMERSON	CSH07A-6250-2T	1.50	240	1	6' UNIT w/ THERMOSTAT
105	EMERSON	CSH07A-6188-2T	1.125	240	1	6' UNIT w/ THERMOSTAT
106	EMERSON	CSH07A-6375-2T	2.25	240	1	6' UNIT w/ THERMOSTAT



PROPOSED FLOOR PLAN

**NOTES:**

- 1 EXISTING BASEBOARD HEATER UNITS TO BE RELOCATED BY CONTRACTOR.
- 2 EXISTING DEVICES TO BE REMOVED FOR WORK ON WALL SURFACE AND THEN REINSTALLED BY CONTRACTOR.
- 3 EXISTING DEVICE TO BE REMOVED BY CONTRACTOR.
- 4 EXISTING LIGHT FIXTURE TO BE REMOVED AND REINSTALLED BY CONTRACTOR AS SHOWN IN DETAIL - A.
- 5 CONTRACTOR SHALL BE RESPONSIBLE FOR STORAGE OF ALL FIXTURES AND DEVICES REMOVED FOR CONSTRUCTION UNTILL SAME ITEMS ARE REINSTALLED.
- 6 CONTRACTOR SHALL EXTEND EXISTING 12" SURFACE METAL RACEWAY FOR ELECTRIC CONDUITS AND WIRES TO THE END OF EXTENDED BUILDING AND COVER SECTION THROUGH WALL.
- 7 CONTRACTOR SHALL BE RESPONSIBLE FOR RECONNECTING ALL ITEMS REINSTALLED AND DEMONSTRATE THAT THESE ITEMS ARE OPERATIONAL.
- 8 THE EXISTING BASEBOARD HEATERS HAVE ONE THERMOSTAT FOR TWO UNITS. REMOVE EXISTING THERMOSTATS AND FURNISH EACH UNIT WITH ITS OWN INDIVIDUAL THERMOSTAT AS REQUIRED. (MUST BE COMPATABLE WITH UNIT RELOCATED)
- 9 THE COMPLETE METAL FASCIA PANEL SHALL BE CONNECTED TO THE SYSTEM GROUND AS REQUIRED BY THE NATIONAL ELECTRICAL CODE ARTICLE 250.



## PANEL "P" SCHEDULE

400 AMPS 42-POLES 120/240VOLTS I-PHASE 60-HERTZ 3-WIRE S/N (400A. MIN. CKT. BRKR. - 2 POLE)

CIRCUIT NO.	DESCRIPTION	LOCATION	WIRE SIZE	VOLTS	HP/FLA	BREAKER POLES TOTAL AMPS	CONNECTED WATTS
1.	B.B. HEATER - 1.5 KW (PROPOSED) ① ②	ROOM 102	10	240	6.2	1 - 20	1,500
2.	B.B. HEATER - 1.5 KW (PROPOSED)		10			1 - 20	
3.	B.B. HEATER - 1.13 KW (PROPOSED) ① ②	ROOM 105	10	240	4.7	1 - 20	1,130
4.	B.B. HEATER - 1.13 KW (PROPOSED)		10			1 - 20	
5.	B.B. HEATER - 2.25 KW (PROPOSED) ① ②	ROOM 106	10	240	9.4	1 - 20	2,250
6.	B.B. HEATER - 2.25 KW (PROPOSED)		10			1 - 20	
7.	SUBM. WELL PUMP	EXTERIOR	4	240	6.9	2 - 20	1,656
8.	B.B. HEATERS	ROOM 102	10	240	18.8	2 - 30	4,500
9.	2-2.25 KW B.B. HEATERS (RELOCATED) ①	ROOMS 101 & 102	10	240	10.4	2 - 30	4,500
10.	B.B. HEATERS	ROOM 102	10	240	18.8	2 - 30	4,500
11.	2-2.25 KW B.B. HEATERS (RELOCATED) ①	ROOMS 101 & 102	10	240	10.4	2 - 30	4,500
12.	B.B. HEATER	ROOM 104	10	240	10.4	2 - 30	2,500
13.	UNIT HEATER	ROOM 105	10	240	21.0	2 - 30	5,000
14.	B.B. HEATER	ROOM 104	10	240	10.4	2 - 30	2,500
15.	B.B. HEATER	ROOM 102	10	240	10.4	2 - 30	2,500
16.	B.B. HEATER	ROOM 104	10	240	10.4	2 - 30	2,500
17.	B.B. HEATER	ROOM 102	10	240	10.4	2 - 30	2,500
18.	B.B. HEATER	ROOM 104	10	240	10.4	2 - 30	2,500
19.	RESERVOIR PUMP NO. 1	ROOM 103	6	240	28.0	2 - 60	6,720
20.	RESERVOIR PUMP NO. 2	ROOM 103	6	240	28.0	2 - 60	6,720
21.	RAMP AND AREA LIGHTING CONTACTOR (P&R PANEL)	ROOM 105	4	240	41.7	2 - 60	10,000
22.	AEROBIC DIGESTER	EXTERIOR	4/0	240	70.3	2 - 60	16,860
23.	HOT WATER HEATER	ROOM 103	4	240	41.7	2 - 60	10,000
24.	PANEL "A"	ROOM 105	2	120/240	99.3	2 - 100	27,924

TOTAL CONNECTED WATTS 122,760

## PANEL "A" SCHEDULE

225 AMPS 24-POLES 120/240 VOLTS I-PHASE 60HERTZ 3-WIRE S/N (MAIN LUGS ONLY)

CIRCUIT NO.	DESCRIPTION	LOCATION	WIRE SIZE	VOLTS	HP/FLA	BREAKER POLES TOTAL AMPS	CONNECTED WATTS
1.	DUPLEX RECEPT. TO GROUND FAULT CIRCUIT BREAKER ①	EXTERIOR	12	120	20.0	1 - 20	2,400
2.	DUPLEX RECEPT. TO GROUND FAULT CIRCUIT BREAKER ①	EXTERIOR	12	120	20.0	1 - 20	2,400
3.	② DUPLEX RECEPT. TO GROUND FAULT CIRCUIT BREAKER	ROOMS 102 & 104	12	120	20.0	1 - 20	2,400
4.	DUPLEX RECEPTACLES	ROOMS 101, 103, AND 105	12	120	20.0	1 - 20	2,400
5.	EXHAUST FAN	ROOM 104	12	120	2.4	1 - 20	288
6.	LIGHTS	ROOMS 102 & 104	12	120	3.3	1 - 20	400
7.	EXHAUST FAN	ROOM 102	12	120	2.4	1 - 20	288
8.	LIGHTS	ROOMS 102 & 104	12	120	3.3	1 - 20	400
9.	LIGHTS	ROOM 101	12	120	3.3	1 - 20	400
10.	LIGHTS	ROOM 105	12	120	6.4	1 - 20	800
11.	LIGHTS	ROOM 101	12	120	3.3	1 - 20	400
12.	EXTERIOR BUILDING LIGHTS ①	EXTERIOR	12	120	10.4	1 - 20	1,248
13.	LIGHTS	ROOM 103	12	120	5.0	1 - 20	600
14.	LIGHTS (PROPOSED) ①	ROOMS 102, 105, & 106	12	120	6.0	1 - 20	720
15.	DUPLEX RECEPTACLES (PROPOSED) ①	ROOMS 102, 105, & 106	12	120	20.0	1 - 20	2,400
16.	ROLL-UP DOOR DRIVE & FAN (PROPOSED) ①	ROOM 102	12	120	6.5	1 - 20	780
17.	HAND DRYER	ROOM 102	12	240	10.0	2 - 20	2,400
18.	HAND DRYER	ROOM 104	12	240	10.0	2 - 20	2,400
19.	HAND DRYER	ROOM 102	12	240	10.0	2 - 20	2,400
20.	HAND DRYER	ROOM 104	12	240	10.0	2 - 20	2,400

TOTAL CONNECTED WATTS 27,924

**NOTES:**

- ① DENOTES NEW AND REINSTALLED ITEMS WHICH ARE TO BE WIRED AND CONNECTED TO THESE CIRCUITS BY CONTRACTOR.
- ② CONTRACTOR TO FURNISH AND INSTALL BRIDGE TO CONVERT 2-1 POLE CIRCUIT BREAKERS TO 1-2 POLE CIRCUIT BREAKER.

APV ENGINEERING, INC. 4542 Olentangy Blvd., Columbus, Ohio 43214 614 431-0224

Client: Burgess & Niple, Limited		Project: Tourist Information Center		APV Job No. 84-3	
Boring No. 1		Location: Sta 13 + 07, 75.5' Left of c		Date Drilled: 11-7-84	
STANDARD PENETRATION (M) Blows per foot		GRADATION		MOISTURE CONTENT - %	
DEPTH in feet	ELEVATION in feet	PREVIOUS BLOWING	RECOVERY IN FEET	DRIVE PRESS	DESCRIPTION
0	1022.4				5" Concrete
0.8	1021.6	5	12	1	Moist 4" Granular base
2.0	1020.4	8	18	2	Silty clay, trace sand
		9	18	3	Silty clay, some sand, laminated
		10	16	4	Damp Like sample no. 2
		11	16	4	Like sample no. 2, with rock fragments
5.2	1016.2	13	9	5	Weathered and slightly decomposed carbonaceous shale
		14	9	6	
10	1011.7	15	3	7	Like samples 5 & 6
10.7		16	2	8	Like samples 5 & 6
					Bottom of Boring - 10.7'

Water seepage at: none  
 Water level at completion: none  
 Drilling Water level at completion: none

Soil Classification: A-6a

GRADATION: % Agg. 0, % C.S. 20, % M.S. 14, % F.S. 32, % Silt 24, % Clay 5

MOISTURE CONTENT: % Natural 10, % PL 10, % LL 20, % X 40

Driller's note: \*Drove rock fragment ahead of sampler

Note: 50<sup>②</sup> - 50 blows for 0.2' penetration  
 50<sup>③</sup> - 50 blows for 0.3' penetration  
 50<sup>④</sup> - 50 blows for 0.4' penetration

Geology of the Site

Generalized geologic bulletins, report the area to have been abraded by both the Wisconsin and the older Kansan or pre-Kansan ice sheets. Aside from the valleys, the glacial deposits on the uplands are reported to be erratic and generally thin. The underlying bedrock is reported to be coal, shales and shaly sandstone of the Cuyahoga formation.

Exploration

Truck-mounted rotary drilling equipment was used in the drilling and sampling of the borings. The borings were procured November 7, 1984. Soil materials were sampled by means of standard penetration test procedures.

Investigational Findings

At the location of the borings the following was encountered.

Concrete pavement over a granular base, a total of 9 inches thick, was encountered at the location of Boring No. 1. Mulch, 4 inches thick, was encountered at the location of Boring No. 2. Underlying the mulch, a thin layer of organic contaminated clayey silt soils were encountered.

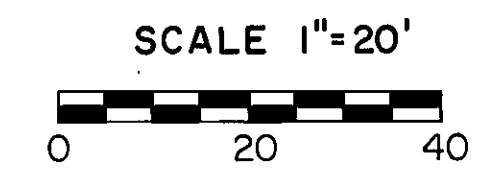
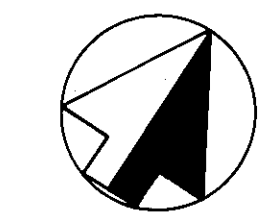
Silty clay, residual type soils, sandy in part, and containing rock fragments, were encountered at the boring locations; overlying weathered shale bedrock. These soils range from stiff to hard in consistency.

Weathered and partially decomposed, carbonaceous shale comprise the underlying bedrock. To the depth penetrated by the borings, the rock hardness is indicated to range from medium hard to hard, becoming more hard with increase in depth.

No water seepage was encountered by the borings and no water was observed in the bore holes at completion of drilling.

General Information

The boring log sheets display a graphic plot of the information obtained, including depth and elevation of the sample, type of sample, the standard penetration test readings in three 6-inch increments, depth and elevation of press samples, field number assigned to sample, sample description - based on laboratory tests utilizing the Casagrande A-C classification system and gradation, plasticity and moisture content determinations.



LEGEND

⊙ Drive Sample and/or Core Boring - Plan View

Note: All available soil and bedrock information which can be conveniently shown on the structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of this data, if any, may be inspected in the District Deputy Director's Office, the Bureau of Tests at 1600 West Broad Street, the Pavement and Soils Section of the Bureau of Location and Design or in the Bridge Bureau at 25 South Front Street.

APV ENGINEERING, INC. 4542 Olentangy Blvd., Columbus, Ohio 43214 614 431-0224

Client: Burgess & Niple, Limited		Project: Tourist Information Center		APV Job No. 84-3	
Boring No. 2		Location: Sta 13 + 32, 68.5' Left of c		Date Drilled: 11-7-84	
STANDARD PENETRATION (M) Blows per foot		GRADATION		MOISTURE CONTENT - %	
DEPTH in feet	ELEVATION in feet	PREVIOUS BLOWING	RECOVERY IN FEET	DRIVE PRESS	DESCRIPTION
0	1022.5	2	7	1	4" mulch on sand layer
0.8	1021.0	6	12	2	Clayey silt, little sand, trace gravel, organic
1.1	1019.0	7	12	2	Moist Silty clay, little sand, shale fragments
		11	16	3	Weathered and partially decomposed carbonaceous shale
		13	12	4	
		14	4	5	Weathered carbonaceous shale
9	1013.4	15	0	6	Bottom of Boring - 9.1'

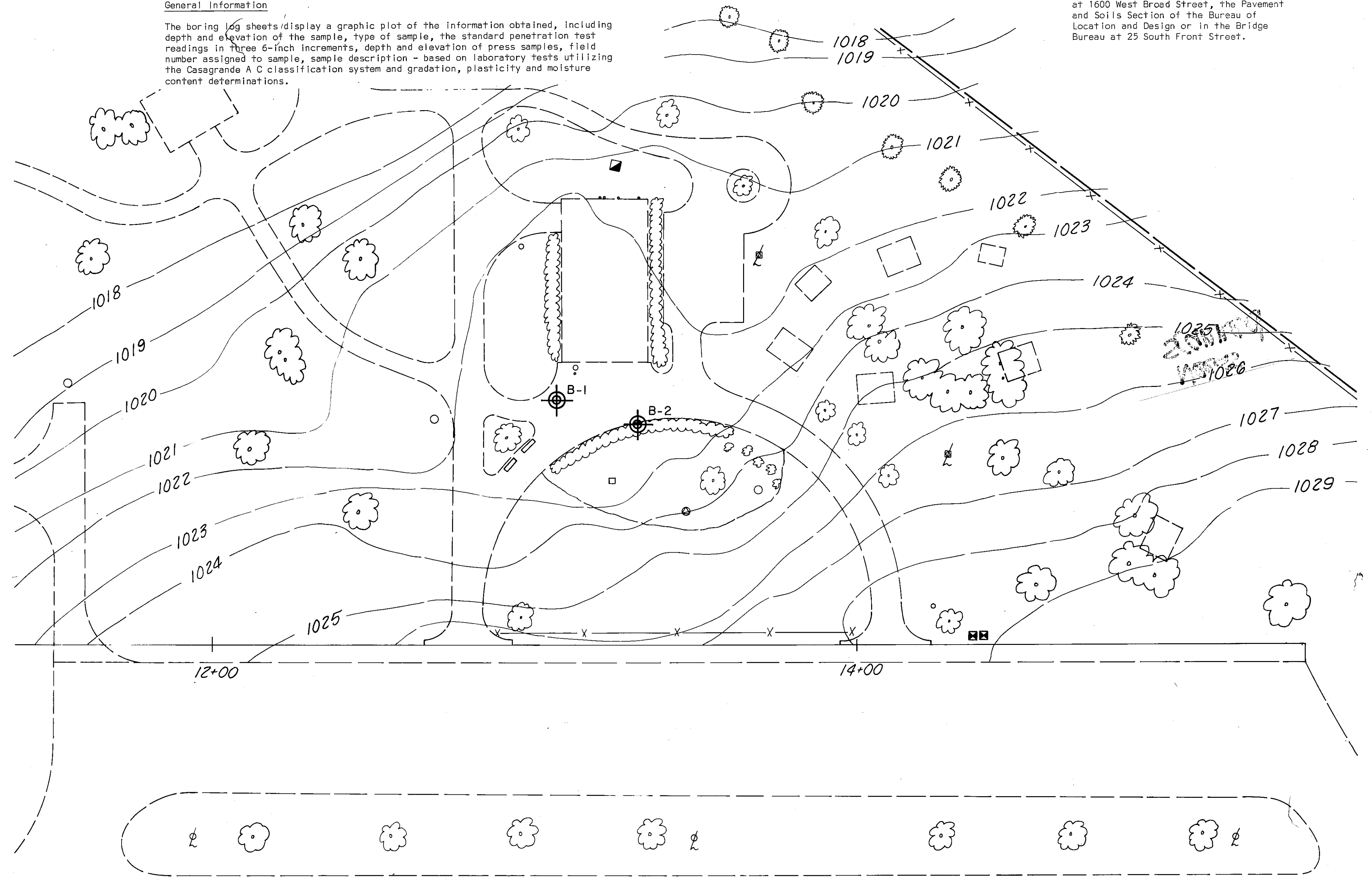
Water seepage at: none  
 Water level at completion: none  
 Drilling Water level at completion: none

Soil Classification: A-4b

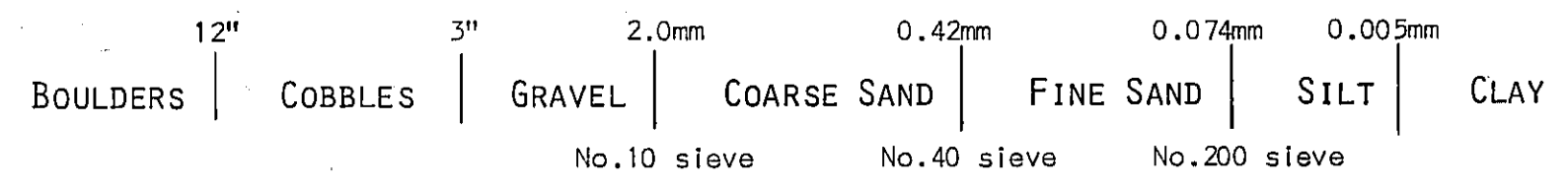
GRADATION: % Agg. 4, % C.S. 4, % M.S. 9, % F.S. 57, % Silt 26, % Clay 2

MOISTURE CONTENT: % Natural 10, % PL 10, % LL 20, % X 40

Note: 50<sup>②</sup> - 50 blows for 0.1' penetration  
 50<sup>③</sup> - 50 blows for 0.3' penetration  
 50<sup>④</sup> - 50 blows for 0.4' penetration



PARTICLE SIZE DEFINITIONS



SOIL PROFILE