LAKE HAVASU CITY, ARIZONA

ADDENDUM NO. 2

Police Department Fueling Facility
PROJECT NO.103005

Expires 06/30/2025

Date Issued: August 12, 2022

Bid Date: August 24, 2021

To: All Planholders of Record

This addendum forms a part of the contract described above. The original Contract Documents in full force and effect are modified by the following changes. Addendum No. 2 will take precedence over any conflicting provisions in the prior documents.

Each bidder shall acknowledge receipt of this addendum and by noting this Addendum on the Bid Form and by attaching this Addendum to its bid.

The following changes are to be made and become part of the Bid/Contract Documents. The changes are as follows:

Item 1: Added Pre-Bid Sign in Sheet

Item 2: Added "Attachment A" Questions and Answer document.

Item 3: Drawings C-2, C-3, and C-4 have been revised to:

1. Show an existing sewer line below the work area. Contractor to pothole and verify location and depth of the sewer line and the cleanout adjacent to the work area.

2. Better approximate the relative locations and slope of the existing sound wall and proposed retaining wall and tank slab.

Kevin Bral, P.E. (AZ), Jacobs Senior Engineer

8/12/2022
Date

INVITATION TO BID

LAKE HAVASU CITY, ARIZONA

ITB NO.: 103005-500254

FOR

POLICE FUEL FACILITY

PRE-BID MEETING
Tuesday, July 26, 2022
1:00 p.m./Arizona Time
Police Department City Council Chambers
2360 McCulloch Boulevard N.
Lake Havasu City, Arizona 86403
SIGN-IN SHEET

NAME	TITLE	COMPANY	EMAIL ADDRESS
SEAN PERROTTO	ENGINEER	TRICO ENGINEERING	sperrotto@tricoengin. eeringllc
Phil Schreiber	Proj Manager	FCI Constructors	Pschreiber@fc101 .com
Susie Fox	Admin II	LHC	
LANCE TOLLEFSON	ESTIMATOR	KEAR CIVIL	LANCE.TOLLEFSON@KEARCORP.COM
KELLY CRAWFORD	PROJECT SALES	CSUSASW	KELLY.CRAWFORD@COMFORTSYSTEMSUSA.COM
Chad Maples	Senior Project Manager	"	Chad.maples@comfortsystemsusa.com
Taylor Schneck	Project Sales	CSUSA SW	mark.pare@ " "
Mark Pace	Project Sales	CSUSA SW	taylor.schneck@comfortsystemsusa.com
Mike Wolfe	Civil Engineer	City LHC	WOLFEM@LHCAZ.COM

Attachment A
Police Department Fueling Facility
PROJECT NO.103005

Questions & Answers

DRAWING C-2

Question 1: Please provide existing as-built information on the 12,000 gallon UST. The contract drawings do not show any details regarding what is to be demolished. If existing as-builts are not available, please provide anticipated bury depth, foundation location & thickness etc. so that bidding contractors can have a basis for bid.

Answer: Available as-built information is attached to this addendum. This is provided for information only; the City makes no guarantee as to its accuracy or reliability.

Question 2: Please provide existing building foundation and structure as-builts. The close proximity of the 12,000 gallon UST to the existing building creates an undermining situation that appears will require shoring of the existing structure to protect the structural integrity of the building. Without elevations of the existing building footings and the as-built information requested for the UST's the extent of this shoring and what is required is un-biddable.

Answer: Relevant available as-built information is attached to this addendum.

Question 3: According to note 1 the fuel system is to be removed within the limits of construction. Please confirm that the existing piping that extends beyond the construction limits is to be abandoned in place. If in fact it is to be abandoned in place please confirm if flushing and slurry filling of this pipe is necessary. Please also confirm that no removal of any existing piping is required beyond the shown construction limits.

Answer: The existing piping that extends beyond the construction limits is to be flushed and abandoned in place. No removal of existing piping is required beyond the shown construction limits.

DRAWING C-2 & C-3

Question 4: Please provide elevations for the new retaining wall slab and existing grade. Without this information we are unable to determine the amount of excavation required for the new fuel tank area and structure. This will also help determine the construction requirements for not undermining the toe of the existing screen wall footing as shown in the retaining wall detail.

Answer: Elevations were added to Drawings C-3 and C-4. Existing elevations were obtained from as-built drawings provided with this Addendum.

Question 5: It appears that the existing trees will be impacted or require removal. Please advise if these must be salvaged or if they can be removed and disposed of. If removed please advise if replacement is required.

Answer: Trees may be removed and replaced with 24" box minimum.

GENERAL

Question 6: Please provide a geotechnical report for the facility.

Answer: A geotechnical report is not available for the property.

Question 7: Please advise if a contractor laydown area will be available inside the police facility parking lot for contractor trailer as required by 01520.

Answer: Yes, a contractor laydown area is available in the parking lot immediately southeast of the building (not shown on the construction drawings). The area consists of 20 parking spaces and adjoining drive lanes and is approximately 100 by 60 feet, with a small parking island. A traffic lane must be maintained to access the exit to the property. In addition, the Police Department has permission to use the city owned lot (61 Inlet Dr.) between the Police Department and Fire Department for parking and storage. The lot is over 230 feet across and over 150 feet deep. The City is not responsible for the safety or security of Contractor's personnel or equipment at these locations.

Question 8: 22 12 05 Requires a design for the block wall or “Gravity block wall system”. Confirm this is referring to the retaining wall around the new tanks that is already designed in the contract drawings? The contract drawings show a standard masonry wall- please advise.

Answer: The "gravity block wall system" refers to the concrete masonry block wall shown on the drawings. Note that additional design and details beyond those shown on the drawings will be required prior to construction.

Question 9: Who will handle drain down of existing tanks?

Answer: Specification 22 12 05 Section 3.2 indicates the contractor is responsible for emptying the tank contents.

Question 10: How much fuel/sludge should we anticipate disposing?

Answer: The intent is to use most of the fuel before the project begins. Assume about 800 gallons of gasoline and 360 gallons of diesel fuel including sludge buildup. It is believed that there is very little sludge in the tanks as the fuel being pumped out of the tanks now is very clean.

Question 11: Could not locate design for new genset tank slab-please advise?

Answer: The genset tank will be placed on the existing pavement at the location shown.

Question 12: Will any irrigation lines need to be replaced?

Answer: Yes. Available information related to irrigation lines is shown on as-built Drawing L-3.

Question 13: Piping, fittings and accessories for genset tank are not shown-can this be provided? Is this UG piping? Will sumps be required?

Answer: A retractable dispenser hose on the genset tank will be used to supply the generator tank as needed. There will be no hard piping or sump.

Question 14: Can as-builts for existing site wall be provided to allow us to bid and develop shoring plan?

Answer: Relevant available as-built information is attached to this addendum.

Question 15: Is contractor responsible for engineering or providing stamped details for pipe supports?

Answer: Yes, the contractor is responsible for designing the pipe supports.

Question 16: The fuel management system is not clearly specified. We will need information on the type, manufacturer, model, etc.-please advise

Answer: A specific fuel management system is not specified. The Contractor is to submit system that meets the functional requirements outlined in the specification.

Question 17: How many RFID cards/chips should be provided with FMS?

Answer: Assume 100 cards.

Question 18: Fuel dispenser is not clearly specified-in order to price this item we will need either a make/model, or a performance specification-please advise.

Answer: Refer to specification 22 12 05 paragraph 1.4.B.5 for performance requirements of the dispenser.

Question 19: Will the existing island sumps need replacement?

Answer: No. The intent is to reuse the below ground sump at the dispenser.

Question 20: Regarding "examination" of welds-this can be an extremely costly requirement. Is full time examination by CWI required?

Answer: The CWI only needs to be on site during welding of the fuel piping, not full time.

Question 21: Will tank soak testing be required per JIG Bulletin 35?

Answer: No.

Question 22: It was noted on the site walk that it will be attempted to have the fuel tank empty, however the diesel tank may still have a considerable amount of diesel in it. In addition there is most likely sediments at the bottom of these tanks that will still be saturated with fuel. Can an allowance please be provided for mitigation of the fuel tank so that bids are apples to apples?

Answer: The intent is to use most of the fuel before the project begins. Assume about 800 gallons of gasoline and 360 gallons of diesel fuel including sludge buildup. It is believed that there is very little sludge in the tanks as the fuel being pumped out of the tanks now is very clean.

Question 23: On page 2 of the Bid Schedule there is the Force Account of $50,000. Are we to include markups on this with our bid or will it be applied as the Force Account funds are used during construction?

Answer: Markups must be included within the bid. Use of the Force Account is at the sole discretion of the City.

Question 24: Please confirm that this project does not require prevailing wages.

Answer: This project does not require prevailing wages.

Question 25: Is badging or background checks required for individuals that are working on this project?

Answer: The Police Department will require a list of names for everyone working on the project, they will run a criminal history on all of them and will issue some kind of badging for the workers to wear. Workers will have very limited access since they will not be in the building.

Question 26: During construction is there an area that we are able to utilize for staging of materials and parking on or near the site?

Answer: Yes, a contractor laydown area is available in the parking lot immediately southeast of the building (not shown on the construction drawings). The area consists of 20 parking spaces and adjoining drive lanes and is approximately 100 by 60 feet, with a small parking island. A traffic lane must be maintained to access the exit to the property. In addition, the Police Department has permission to use the city owned lot (61 Inlet Dr.) between the Police Department and Fire Department for parking and storage. The lot is over 230 feet across and over 150 feet deep. The City is not responsible for the safety or security of Contractor's personnel or equipment at these locations.

Question 27: The plans call for footings for the steel posts, light pole, masonry wall, and a new asphalt drive, however there does not seem to be a geo-tech report provide clarifying what is required of the subgrade. Please clarify.

Answer: A geotechnical report is not available for the property.

Question 28: The existing diesel tank seem to only be providing fuel for the generator, however the new diesel tank does not show any new fuel line connecting to the generator or anything else. Please provide additional information on what and how the diesel tank will be serving.

Answer: A retractable dispenser hose on the new diesel tank will be used to supply the generator tank as needed. There will be no hard piping.

Question 29: We are to remove and install a new light pole. Are we able to reuse the exiting light pole? This can help with lead times and construction duration.

Answer: Yes, the light pole is intended to be reused.

Question 30: Will the City be providing the fuel required for the testing of the fueling system?

Answer: The CITY will cover the expense to first fill the fuel tank up to 1/3rd full for testing purposes by the City's contracted fuel provider, and after testing provide the fuel for filling the tank. Fuel losses due to testing or otherwise will be paid for by the Contractor.

Question 31: On sheet 3 there is a column called out with a base plate next to the fuel tank that is be mounted to the slab. Currently the slab is called out to be 8" thick, and all the other columns have pier footings that are min 6' deep. Is the slab to be thickened at this one column or will a pier footing be required at this location?

Answer: Neither thickening nor pier is required at the slab to withstand overturning moment.

Question 32: Specs seem to be referencing a different project. For example in the masonry spec Part 2.2.C.6 it refers to the Solids Process Building. Please revise.

Answer: Ignore references to the Solids Process Building.

Question 33: The plans do not state to paint the steel bollards or the steel columns & beam structure for the fuel pipe. Also, no spec is provided for painting. Please clarify if we are to include painting and if so provide specs.

Answer: Painting is to be performed in accordance with Lake Havasu Standard Specification 09900, PROTECTIVE COATINGS, provided with this Addendum.

Question 34: The LHCAZ.gov website has a plan set linked dated April 2022. However, if you click on the technical specifications, and scroll to the last few pages, there is a plan set dated July 2022. I wanted to reach out and let you know the date discrepancy and to verify that the July 2022 set should be used for bid.

Answer: The July 2022 set, as amended in this Addendum, should be used for bid.

****END OF ADDENDUM NO. 2****

LAKE HAVASU CITY
POLICE FUEL FACILITY

PROJECT 103005
JULY 2022

LEGEND

- SUBJECT PROPERTY LINE / RIGHT-OF-WAY
- ADJACENT PROPERTY LINE
- STREET CENTERLINE
- EXISTING EASEMENT
- 1030 EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- 1030 PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- EXISTING PAVED ROADWAY
- EXISTING FENCE
- EXISTING RETAINING WALL
- PROPOSED RETAINING WALL
- PROPOSED SCREEN WALL
- OH EXISTING OVERHEAD LINE
- G EXISTING MISC. UTILITIES
- W EXISTING WATER LINE
- S EXISTING SANITARY SEWER LINE
- C EXISTING UNDERGROUND CABLE
- T EXISTING UNDERGROUND TELEPHONE
- W PROPOSED WATER LINE
- S PROPOSED SANITARY SEWER LINE
- EXISTING STORM INLET/CATCH BASIN
- EXISTING MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING SIGN
- EXISTING UTILITY POLE W/ GUY
  POLE & GUY WIRE
- E EXISTING ELECTRIC BOX

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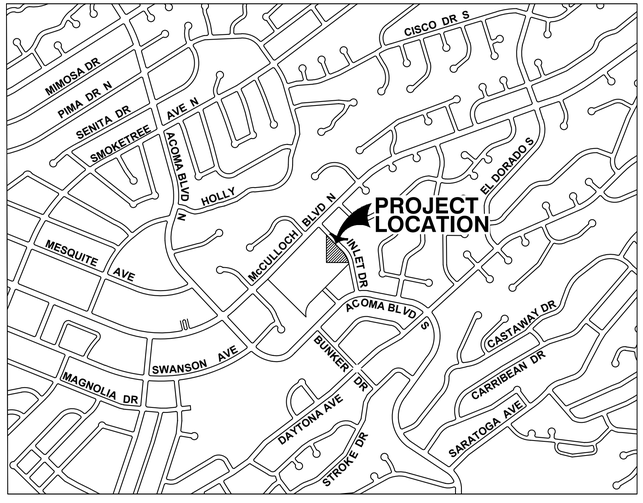
ART PAUL



VICINITY MAP
SCALE: N.T.S.

CITY COUNCIL

MAYOR:	CAL SHEEHY
VICE MAYOR:	JIM DOLAN
CITY COUNCIL:	NANCY CAMPBELL
	DAVID LANE
	MICHELE LIN
	CAMERON MOSES
	JENI COKE
CITY MANAGER:	JESS KNUDSON
CITY ENGINEER:	GREG FROSLIE, PE

UTILITY CONTACTS:

CITY OF LAKE HAVASU CITY (WASTEWATER)	(928) 855-3999
CITY OF LAKE HAVASU CITY (WATER)	(928) 855-2618
SUDDENLINK (CABLE)	(928) 855-7815
UNISOURCE ENERGY SERVICES (GAS)	(928) 505-7025
UNISOURCE ENERGY SERVICES (ELECTRIC)	(928) 505-7031

DRAWING INDEX

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 BLUE STAKE, INC.
Call 811 or click Arizona811.com

Registered Professional Engineer (Civil) 51510 SEAN D. PERROTTO ARIZONA U.S.A. Date Signed 12-31-2022
EXPIRES 12-31-2022

NO.	DATE	REVISION	CHK	APVD
1	8-12-22	REVISIONS ISSUED WITH ADDENDUM NO. 2	BY	APVD

DSGN S. PERROTTO | DR E. PERROTTO | CHK R. EDWARDS | APVD S. PERROTTO

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COVER SHEET

N.T.S.
VERIFY SCALE
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DATE	AUGUST 2022
PROJ	103005
DWG	C-1
SHEET	1 of 6

PurposeOfIssue

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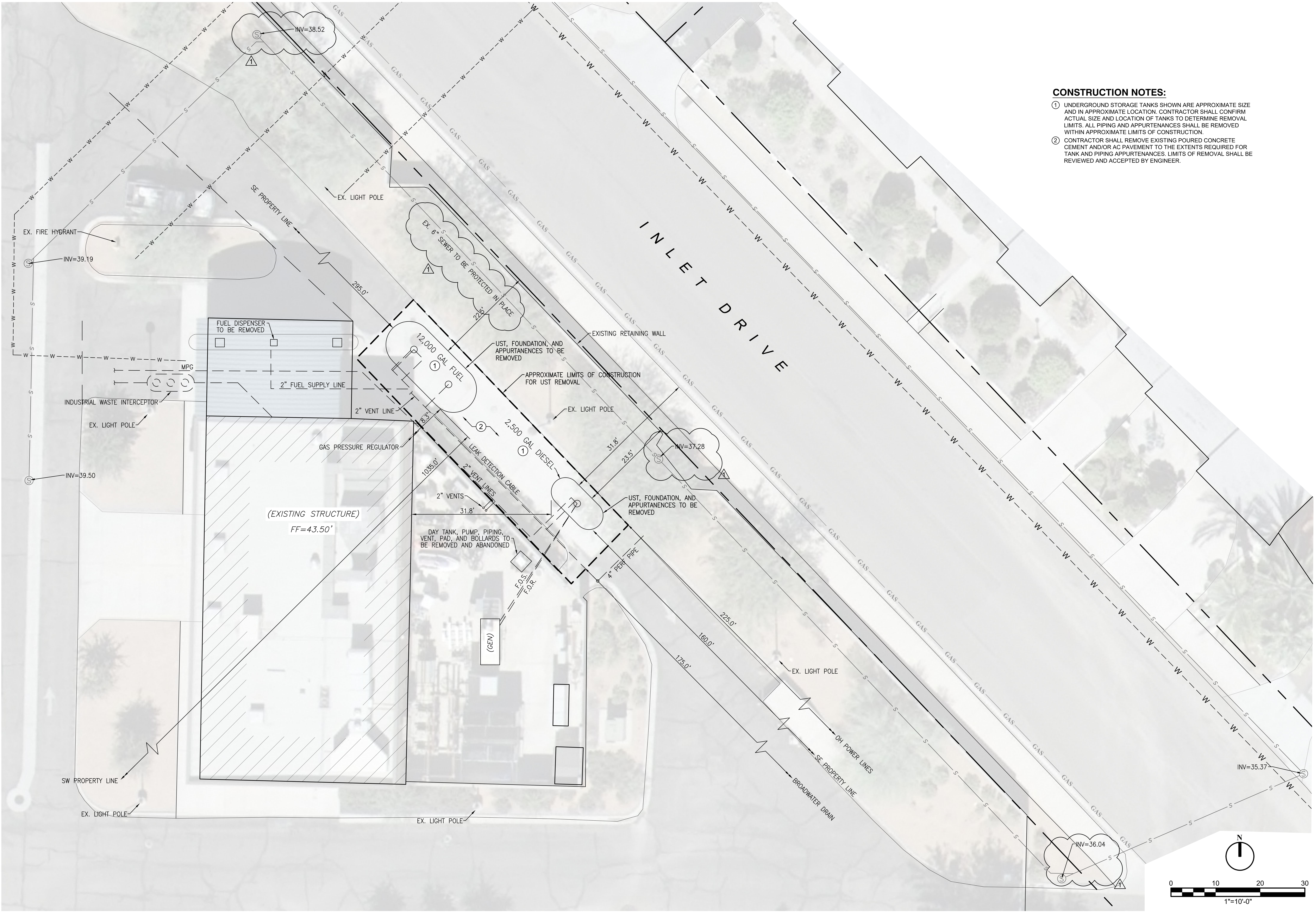

CONSTRUCTION NOTES:

1. UNDERGROUND STORAGE TANKS SHOWN ARE APPROXIMATE SIZE AND IN APPROXIMATE LOCATION. CONTRACTOR SHALL CONFIRM ACTUAL SIZE AND LOCATION OF TANKS TO DETERMINE REMOVAL LIMITS. ALL PIPING AND APPURTENANCES SHALL BE REMOVED WITHIN APPROXIMATE LIMITS OF CONSTRUCTION.
2. CONTRACTOR SHALL REMOVE EXISTING POURED CONCRETE CEMENT AND/OR AC PAVEMENT TO THE EXTENTS REQUIRED FOR TANK AND PIPING APPURTENANCES. LIMITS OF REMOVAL SHALL BE REVIEWED AND ACCEPTED BY ENGINEER.

Registered Professional Engineer (Civil) No. 51810 SEAN D. PERROTTO, ARIZONA U.S.A. — Date Signed 8-12-22
EXPIRES 12-31-2022

NO.	DATE	REVISION	BY	APVD
1	8-12-22	REVISIONS ISSUED WITH ADDENDUM NO. 2		

DSGN	DR	CHK	APVD
S. PERROTTO	S. PERROTTO	R. EDWARDS	S. PERROTTO

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231 SWANSON AVENUE, STE. 204
LAKE HAVASU CITY, AZ 86403
928-230-4969
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UST REMOVAL SITE PLAN

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1" = 10'
VERIFY SCALE
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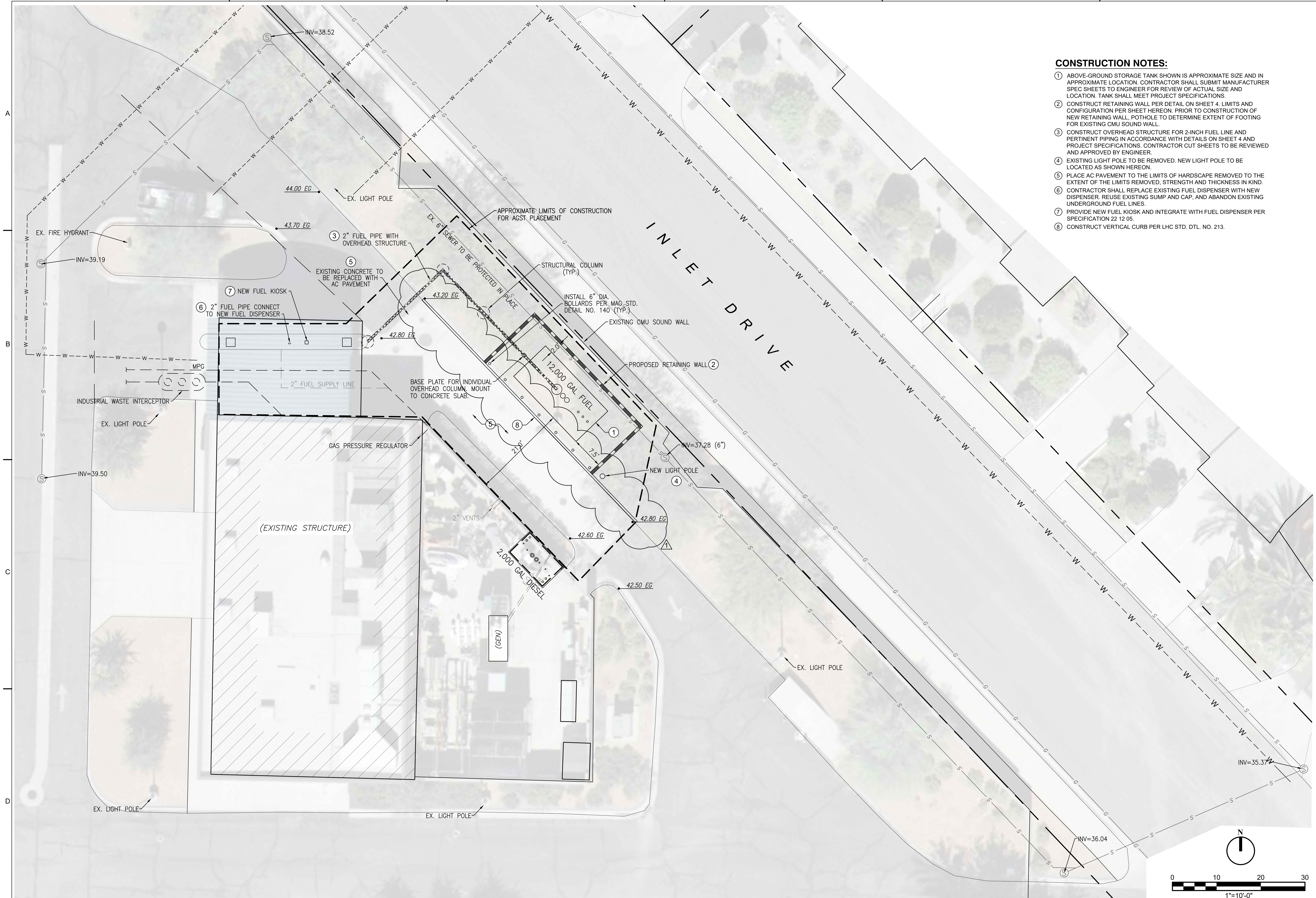
DATE	AUGUST 2022
PROJ	103005
DWG	C-2
SHEET	2 of 6



CONSTRUCTION NOTES:

1. ABOVE-GROUND STORAGE TANK SHOWN IS APPROXIMATE SIZE AND IN APPROXIMATE LOCATION. CONTRACTOR SHALL SUBMIT MANUFACTURER SPEC SHEETS TO ENGINEER FOR REVIEW OF ACTUAL SIZE AND LOCATION. TANK SHALL MEET PROJECT SPECIFICATIONS.
2. CONSTRUCT RETAINING WALL PER DETAIL ON SHEET 4. LIMITS AND CONFIGURATION PER SHEET HEREON. PRIOR TO CONSTRUCTION OF NEW RETAINING WALL, POTHOLE TO DETERMINE EXTENT OF FOOTING FOR EXISTING CMU SOUND WALL.
3. CONSTRUCT OVERHEAD STRUCTURE FOR 2-INCH FUEL LINE AND PERTINENT PIPING IN ACCORDANCE WITH DETAILS ON SHEET 4 AND PROJECT SPECIFICATIONS. CONTRACTOR CUT SHEETS TO BE REVIEWED AND APPROVED BY ENGINEER.
4. EXISTING LIGHT POLE TO BE REMOVED. NEW LIGHT POLE TO BE LOCATED AS SHOWN HEREON.
5. PLACE AC PAVEMENT TO THE LIMITS OF HARDSCAPE REMOVED TO THE EXTENT OF THE LIMITS REMOVED, STRENGTH AND THICKNESS IN KIND.
6. CONTRACTOR SHALL REPLACE EXISTING FUEL DISPENSER WITH NEW DISPENSER. REUSE EXISTING SUMP AND CAP, AND ABANDON EXISTING UNDERGROUND FUEL LINES.
7. PROVIDE NEW FUEL KIOSK AND INTEGRATE WITH FUEL DISPENSER PER SPECIFICATION 22 12 05.
8. CONSTRUCT VERTICAL CURB PER LHC STD. DTL. NO. 213.

Registered Professional Engineer (Civil) Certificate No. 51810 SEAN D. PERROTTO Date Signed 8-12-22 ARIZONA U.S.A.
EXPIRES 12-31-2022

NO.	DATE	REVISION	BY	APVD
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DSGN	DR	CHK	APVD
S. PERROTTO	S. PERROTTO	R. EDWARDS	S. PERROTTO

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PROPOSED AGST SITE PLAN

1" = 10'
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DATE	AUGUST 2022
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DWG	C-3
SHEET	3 of 6

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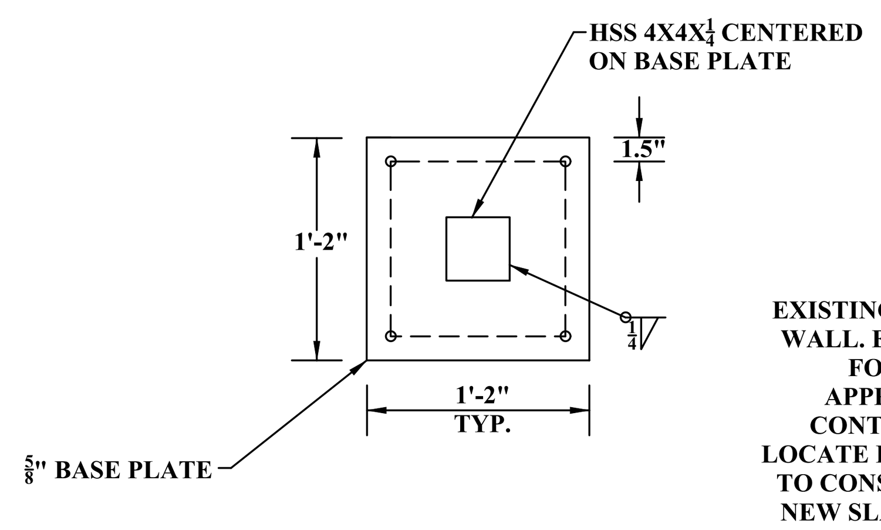

BASE PLATE

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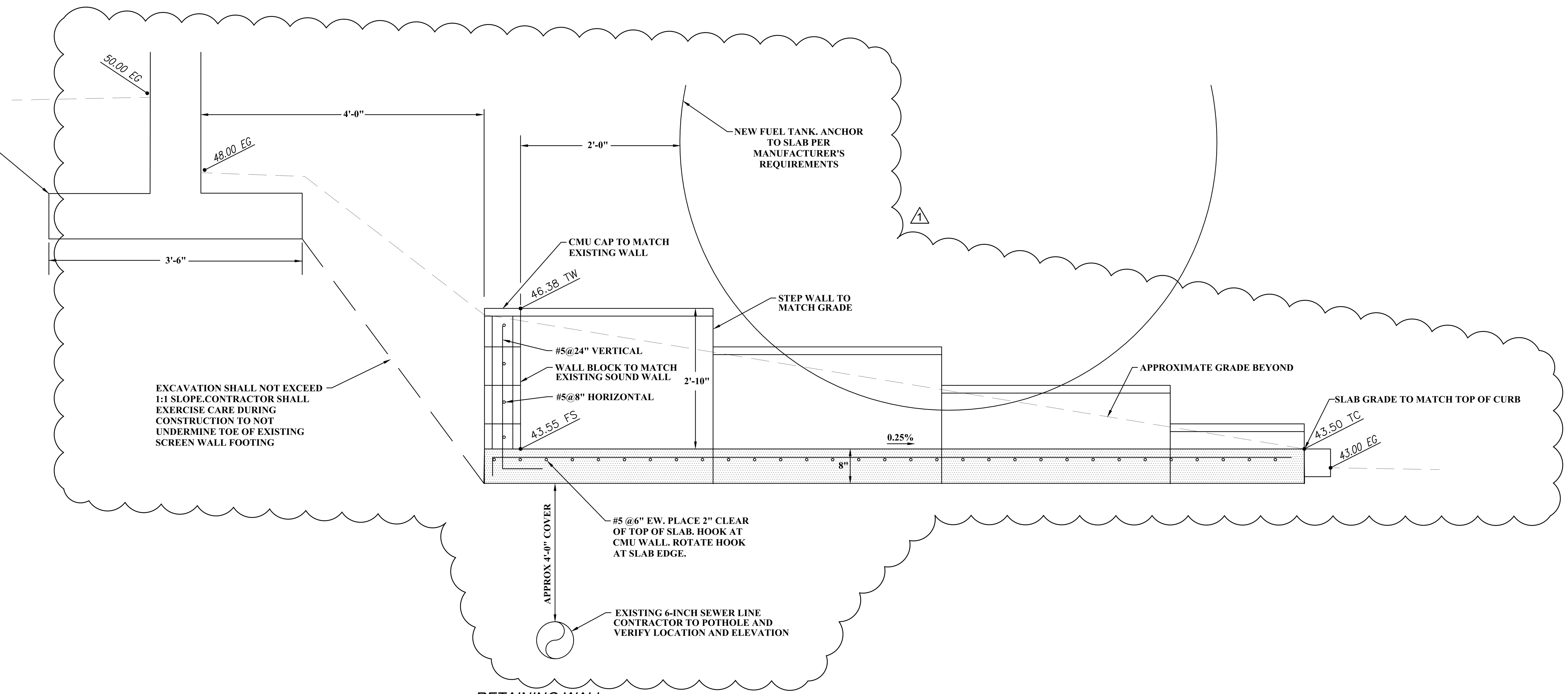

RETAINING WALL

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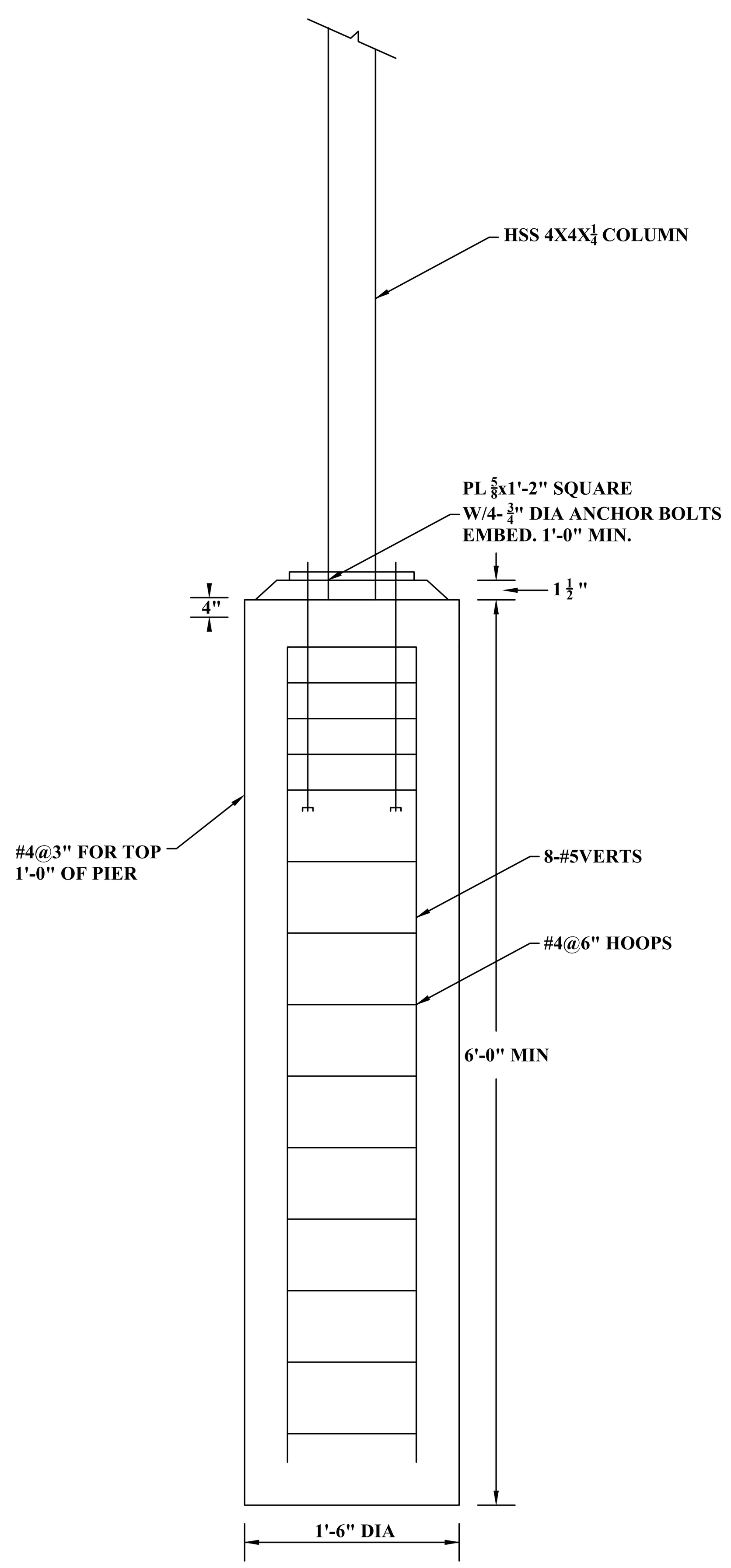

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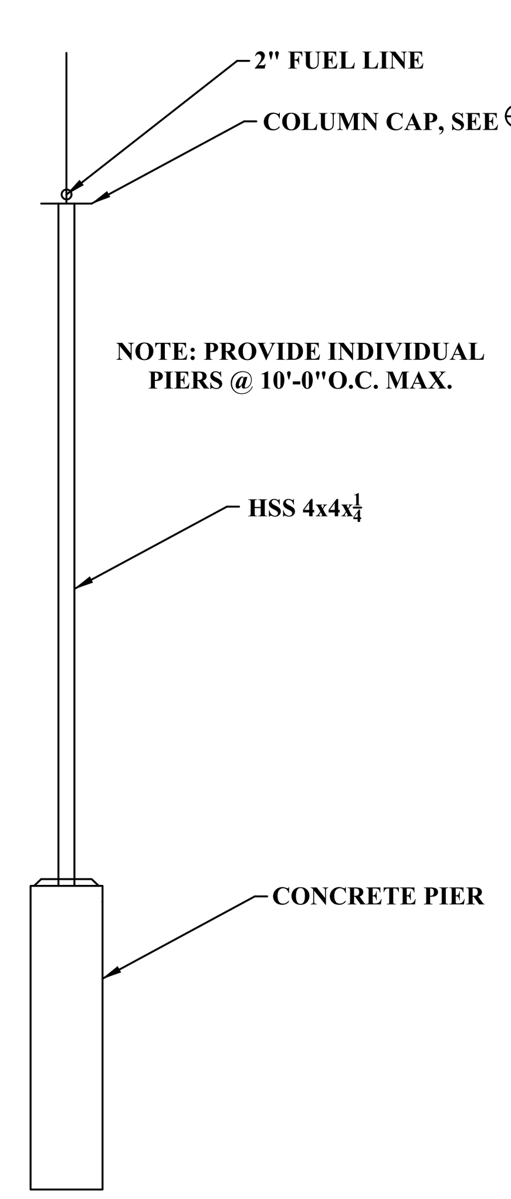

INDIVIDUAL SUPPORTS

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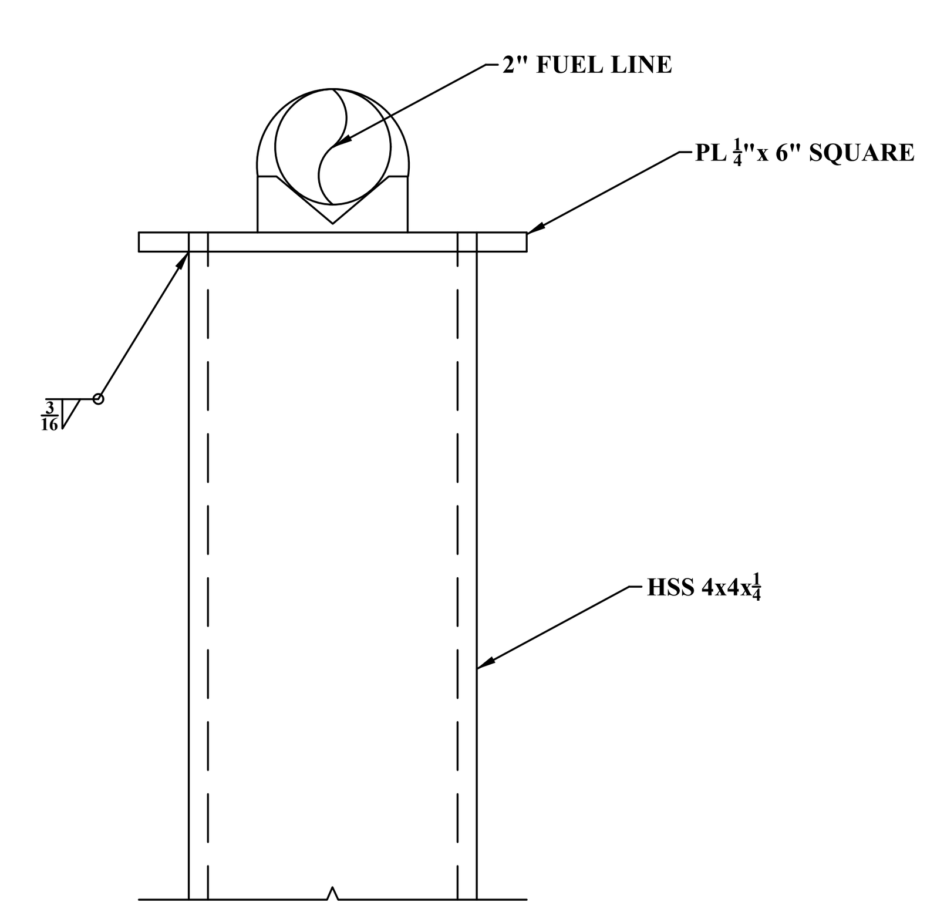

COLUMN CAP

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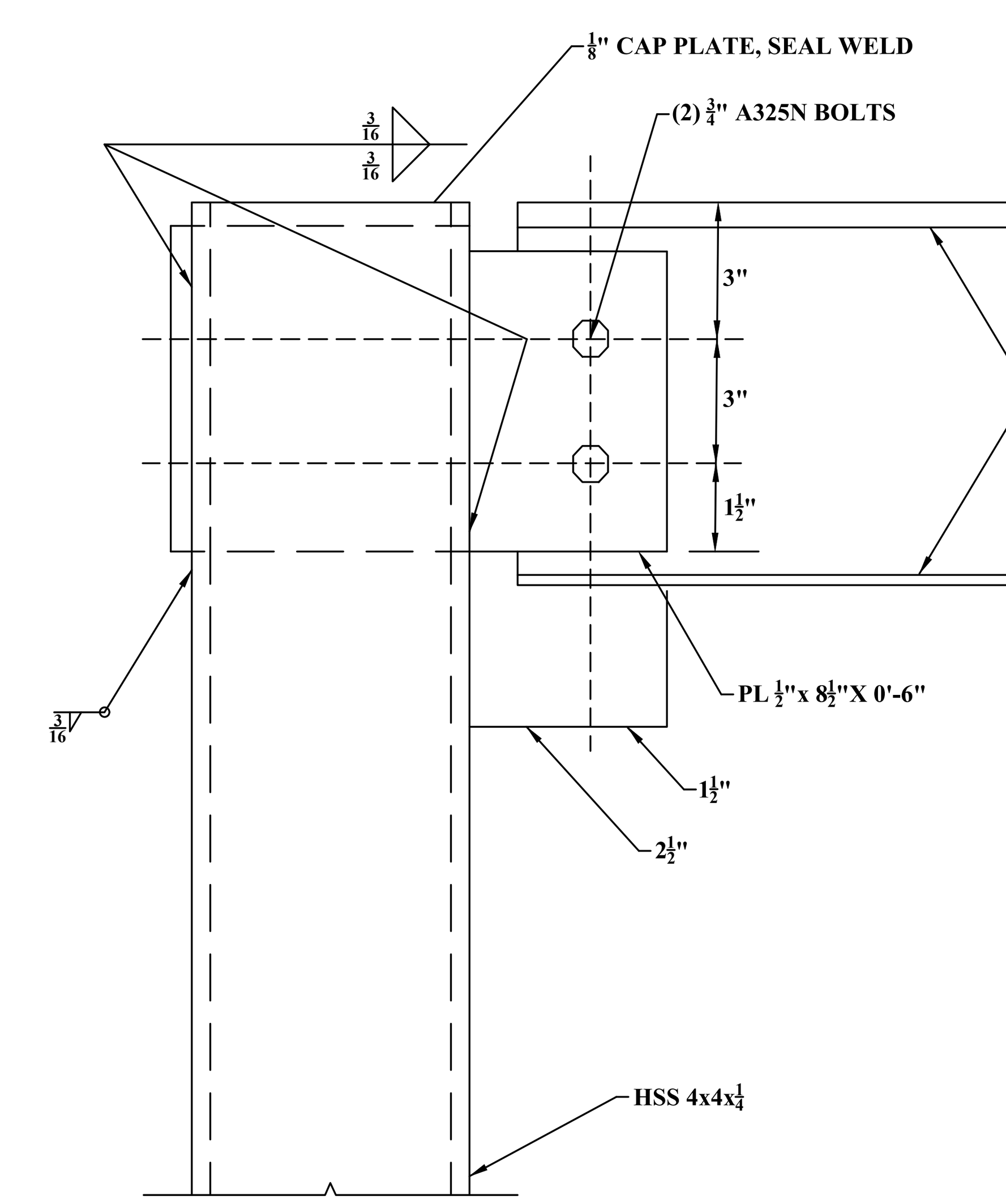

BEAM - COLUMN CONNECTION

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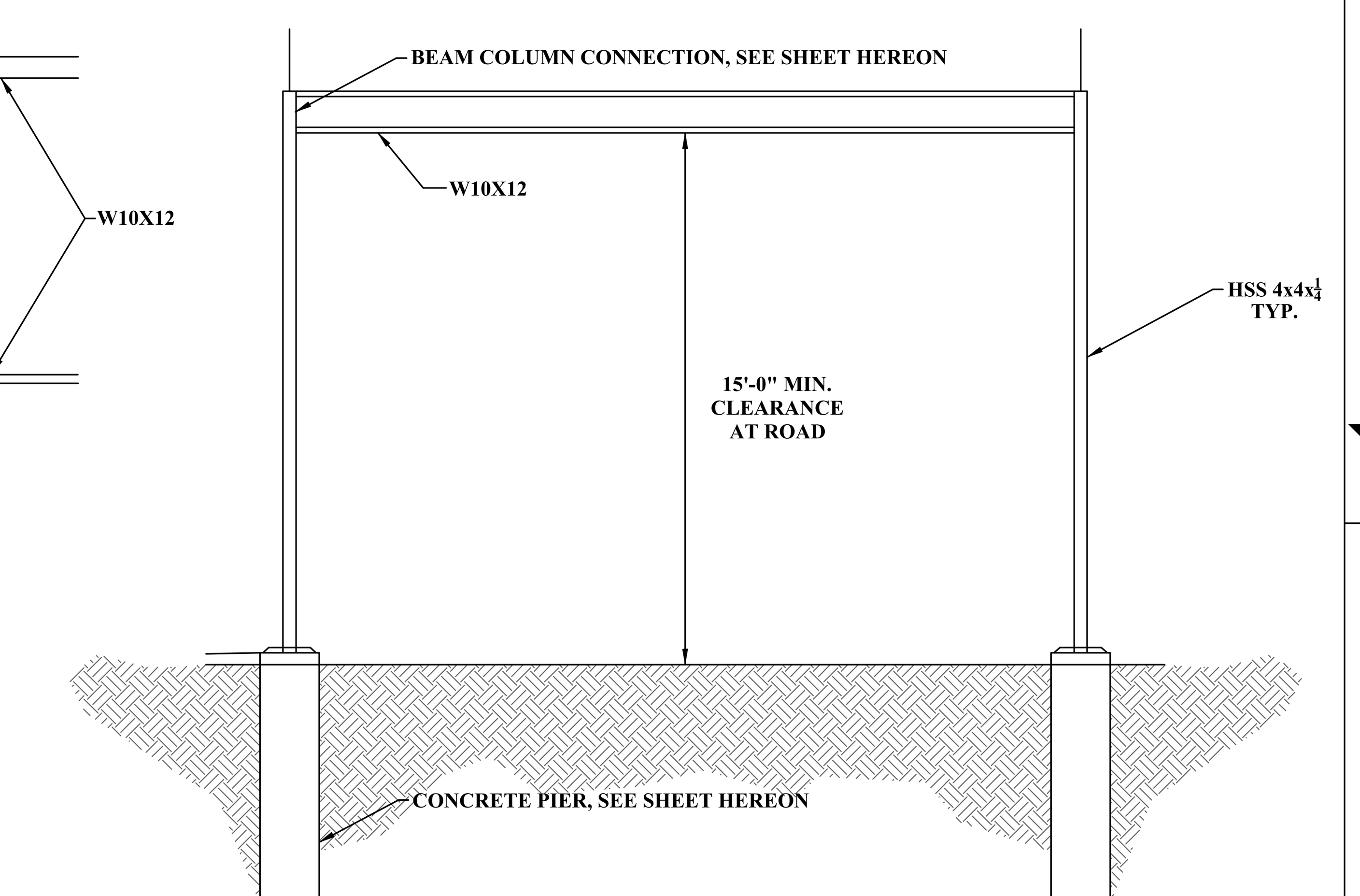

GAS LINE CROSSING

NOT TO SCALE

NO.	DATE	REVISION	BY	APVD
1	8-12-22	REVISIONS ISSUED WITH ADDENDUM NO. 2		

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EXPIRES 12-31-2022

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STRUCTURAL DETAILS

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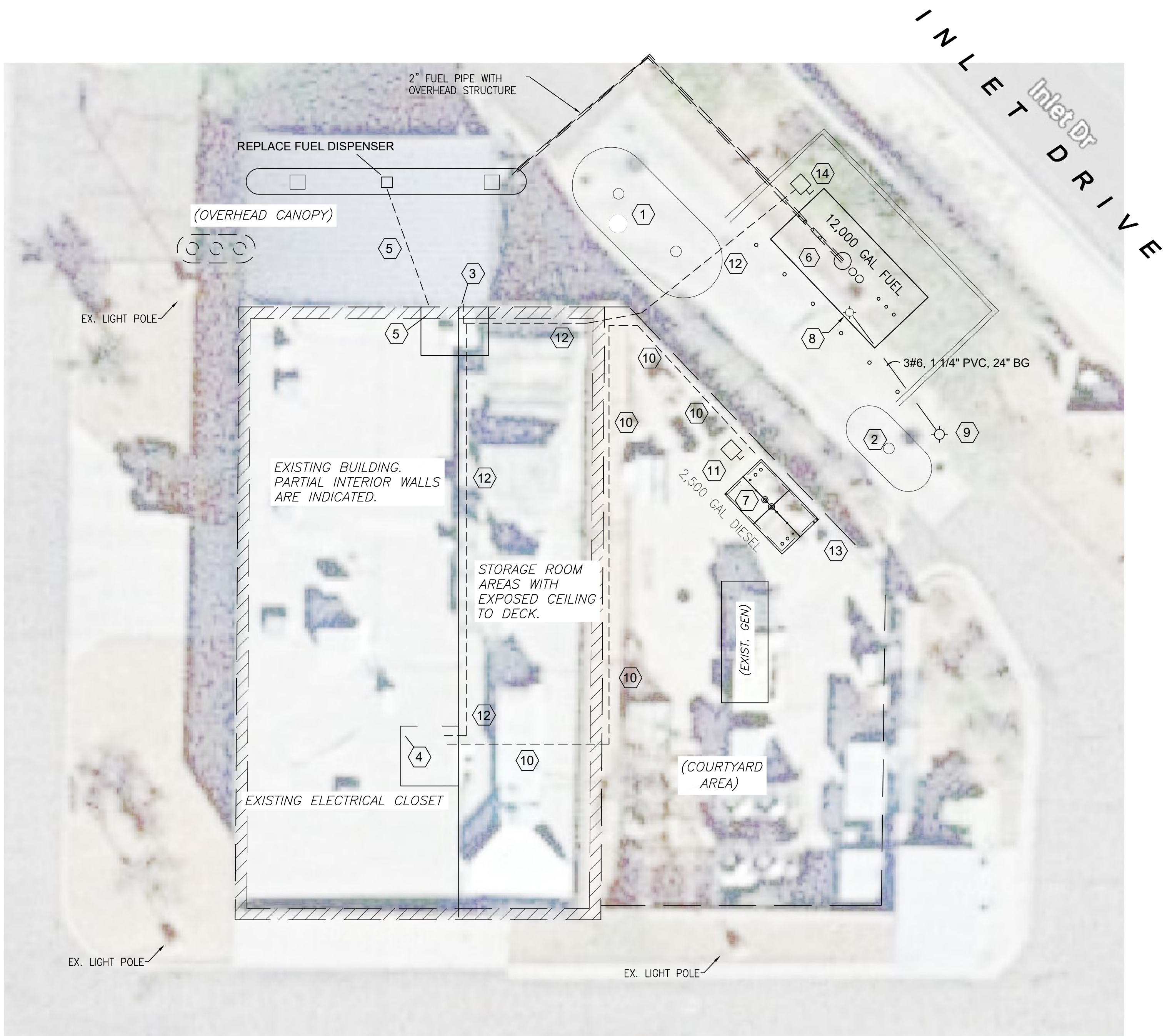
DATE	AUGUST 2022
PROJ	103005
DWG	C-4
SHEET	4 of 6



CONSTRUCTION NOTES:

GENERAL:

PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC) FOR FUEL TANK STORAGE AND DISPENSING EQUIPMENT AND FACILITIES. PROVIDE WIRING METHODS AND SEALING REQUIREMENTS PER NEC. REPLACE/RESTORE ALL SEALS IN ANY EXISTING CONDUIT THAT MAY BE RETAINED AND REUSED FOR REPLACEMENT EQUIPMENT.

ELECTRICAL CONSTRUCTION NOTES:

1. EXISTING UNDERGROUND 12,000 GALLON FUEL (GASOLINE) TANK TO BE REMOVED. DISCONNECT EXISTING ELECTRICAL CONNECTIONS INCLUDING PUMP, LEVEL GAUGE AND LEAK DETECTION SENSORS. RETAIN PUMP POWER SOURCE FROM EXISTING PANELBOARD FOR CONNECTION TO NEW ABOVE GROUND GASOLINE FUEL TANK.
2. EXISTING UNDERGROUND 2,500 GALLON DIESEL TANK TO BE REMOVED. DISCONNECT EXISTING ELECTRICAL CONNECTIONS INCLUDING PUMP, LEVEL GAUGE AND LEAK DETECTION SENSORS.
3. EXISTING EMERGENCY FUEL ISLAND GAS DISPENSER SHUT DOWN SWITCH. RETAIN LOCATION. REUSE CONDUIT AND ELECTRICAL BOXES AS SUITABLE, AT CONTRACTOR OPTION. PROVIDE NEW WIRING AND SWITCH FOR NEW GAS DISPENSER.
4. EXISTING POWER SOURCE PANELBOARD 120/208V 3 PHASE. LOCATED IN INTERIOR ELECTRICAL CLOSET. ROUTE NEW POWER CIRCUITS FROM THIS LOCATION TO EXTERIOR OF BUILDING. SURFACE MOUNT CONDUIT IN EXPOSED OPEN CEILING AREA BETWEEN CLOSET AND EXTERIOR COURTYARD. SURFACE MOUNT CONDUIT TO EXTERIOR OF BUILDING AS NECESSARY WITHIN COURTYARD AREA.
5. EXISTING FUEL SYSTEM CONTROL BOX. REMOVE ABANDONED EQUIPMENT. FUEL DISPENSING MONITORING SYSTEM TO BE REPLACED. SEE SPECIFICATIONS. REUSE EXISTING CONDUIT BETWEEN DISPENSING ISLAND AN BUILDING FOR REPLACEMENT CONTROL/MONITORING SYSTEM. PROVIDE NEW CABLE PER MANUFACTURE. RESTORE CONDUIT SEALS PER NEC.
6. NEW 12,500 GALLON ABOVE GROUND FUEL (GASOLINE) TANK. PROVIDE NEW ELECTRICAL CONNECTION TO PUMP, EMERGENCY DISPENSER SHUT DOWN SWITCH, LEVEL GAUGE AND LEAK DETECTION MONITORING SYSTEMS. SEE DETAILS AND DIAGRAMS.
7. NEW ABOVE GROUND DIESEL TANK. PROVIDE NEW ELECTRICAL CONNECTION TO PUMP, EMERGENCY DISPENSER SHUT DOWN SWITCH, LEVEL GAUGE AND LEAK DETECTION MONITORING SYSTEMS. SEE DETAILS AND DIAGRAMS.
8. EXISTING LIGHT POLE. REMOVE POLE AND BASE. REMOVE LIGHT CIRCUIT CONDUCTORS FROM THIS LOCATION TO SOURCE. PROTECT UNDERGROUND CONDUIT FOR USE IN RE-FEEDING NEW LIGHT POLE.
9. NEW LIGHT POLE AND BASE. RECONNECT TO EXISTING CONDUIT NEAR EXISTING REMOVED LIGHT POLE BASE. PROVIDE NEW CONDUIT AND CONDUCTOR TO RESTORE CIRCUIT. 3#6, 1 1/4"C. 24" B.G. LIGHT AND POLE TO BE 20' ROUND TAPERED STEEL POLE WITH 125W LED. EQUAL TO LITHONIA.
10. POWER CIRCUIT FOR DIESEL TANK. 3#12, 3/4" EMT POWER. 1-3/4" EMT CONTROL-MONITORING. SURFACE MOUNTED AT 8' A.G. ALONG COURTYARD WALL OF BUILDING AND COURTYARD PERIMETER WALL. TRANSITION TO RSC WITH SEAL-OFFS BEFORE TANK. CONNECT TO DIESEL FUEL PUMP AND HOSE DISPENSER. PROVIDE 20A-2P BREAKER IN EXISTING PANEL.
11. PROVIDE EXPLOSION PROOF DISCONNECT SWITCH AND CONNECTION TO DIESEL PUMP. COORDINATE CONNECTION POINT OF TANK WITH TANK MANUFACTURER.
12. CIRCUITS FOR FUEL TANK. 3#12, 3/4" EMT, POWER. AND 1-3/4" EMT FOR CONTROL-MONITORING. CABLE PER MANUFACTURER. ROUTE UNDERGROUND TO BUILDING. TRANSITION TO RSC WITH SEAL-OFFS BEFORE TANK. CONNECT TO FUEL PUMP. CONNECT TO MONITORING EQUIPMENT. WITHIN BUILDING, ROUTE CONDUIT SURFACE MOUNTED WITHIN STORAGE ROOM AND IN OPEN CEILING AREA TO EXISTING ELECTRICAL CLOSET. PROVIDE 20A-2P BREAKER IN EXISTING PANEL.
13. PROVIDE NEW EMERGENCY SHUT DOWN SWITCH FOR DIESEL FUEL PUMP MOTOR. SURFACE MOUNT TO EXTERIOR WALL.
14. PROVIDE EXPLOSION PROOF DISCONNECT SWITCH AND CONNECTION TO FUEL PUMP. COORDINATE CONNECTION POINT OF TANK WITH TANK MANUFACTURER.

N

0 10 20 30
1"=10'-0"

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NO.	DATE	REVISION	BY	APVD

DSGN | DR | CHK JAK | APVD JAK

TRICO ENGINEERING, LLC

ENGINEERS INC

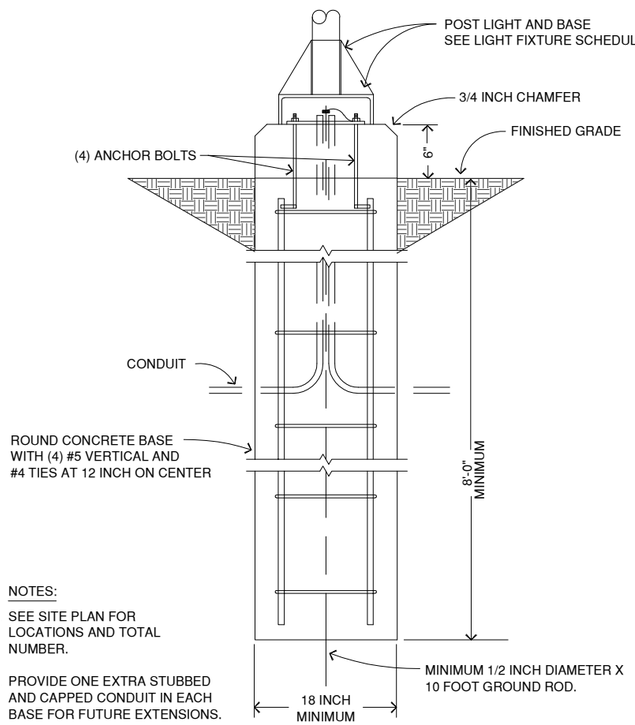
POLICE FUEL FACILITY
103005

Jacobs

ELECTRICAL
ELECTRICAL PLAN

1" = 10'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

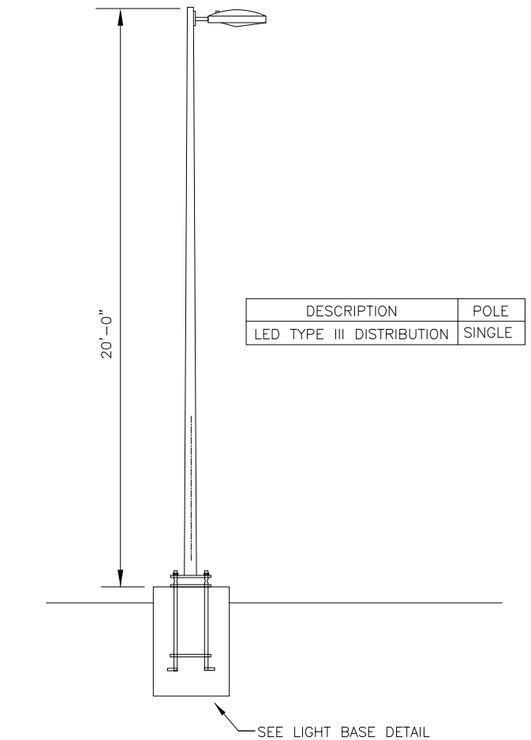
DATE	JULY 2022
PROJ	21-009
DWG	E1
SHEET	5 of 6



NOTES:

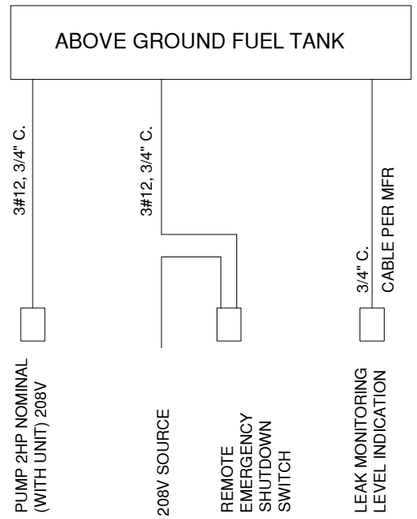
1. SEE SITE PLAN FOR LOCATIONS AND TOTAL NUMBER.
2. PROVIDE ONE EXTRA STUBBED AND CAPPED CONDUIT IN EACH BASE FOR FUTURE EXTENSIONS.
3. VERIFY DEPTH AND WIDTH OF BASE WITH LIGHT FIXTURE MANUFACTURER. MINIMUM SIZES AS SHOWN.

1/6 LIGHT BASE DETAIL
SCALE: NONE



DESCRIPTION	POLE
LED TYPE III DISTRIBUTION	SINGLE

2/6 LIGHT STANDARD DETAIL
SCALE: NONE



3/6 ABOVE GROUND TANK DIAGRAM
SCALE: NONE

TYPICAL - 2 EACH. GASOLINE AND DIESEL.

PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC) FOR FUEL TANK STORAGE AND DISPENSING EQUIPMENT AND FACILITIES. PROVIDE WIRING METHODS AND SEALING REQUIREMENTS PER NEC. PROVIDE INSTALLATION AND CABLE TYPES PER MANUFACTURER RECOMMENDATIONS.

LUMINAIRE SCHEDULE

Pole	Manufacturer	Catalog Information	Lamp Data		Driver Data		Voltage	Mounting	Pole Height	Base Height	Fixture Description	Remarks
			No.	Type	No.	mA						
P1	LITHONIA	LITHONIA	MULTI	LED 4000 K	CD	492	208	DAVIT	20'	6"	ATBM P30 PERFORMANCE PACKAGE, 4000K COLOR TEMPERATURE, ROADWAY TYPE IV DISTRIBUTION.	TYPE XHHW TO BE USED WITHIN POLES.

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Registered Professional Engineer (Electrical)
CERTIFICATE NO.
32187
JOEL A.
KATH
Date Signed 04-25-2022
ARIZONA, U.S.A.
Expires 3-31-2023

NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY	APVD
					JAK			JAK

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Jacobs

ELECTRICAL

ELECTRICAL DETAILS

	1" = 10'
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
DATE	JULY 2022
PROJ	21-009
DWG	E2
SHEET	6 of 6

SECTION 09900

PROTECTIVE COATINGS

PART 1 - GENERAL

1.1 Summary

A. This Section includes coating of exterior and interior surfaces throughout the Project and which are listed in PART 2 with systems specified in PART 2.

B. Coating systems include surface preparation, prime coat (first coat), finish coats (second and third coats), inspection, cleaning, and touch-up of surfaces and equipment. Shop preparation, prime coat, and finish coats to be shop-applied, may be specified elsewhere or referenced to this Section so that a complete system is specified and coordinated.

1. Where surface preparation and first (prime) coat are specified in other Sections to be shop-applied, such as for structural steel, or equipment, only the touch-up and finish coats are a part of field painting. Surface preparation is the required degree of preparation prior to application of first (prime) coat regardless if done in shop or field.

2. If materials are provided without shop primer then surface preparation, first, second, and third coats are a part of field painting.

3. Concealed surfaces are generally not required to have finish-coats unless otherwise specified, but prime coat should be applied and touched up prior to concealment.

4. Where Equipment and Materials are provided with shop-applied finished coating system, only touch-up is a part of field painting.

5. Refer to applicable Sections to determine whether surface preparation and first coat, or complete coating system, is to be shop-applied.

C. Related Work Specified Elsewhere

1. Shop Painting and Coatings: All applicable Divisions.

2. Factory Prefinished Items: All applicable Divisions.

D. Colors

1. Color of finish coatings shall match accepted color Samples.

2. When second and finish coats of a system are of same type, tint or use an alternate color on second coat to enable visual coverage inspection of the third coat. When first and second coats only are specified and are of same or different types, tint or use an alternate color on first coat to enable visual coverage inspection of the second coat.

3. Contract Price shall include the following approximate number of finish coat colors to form a basis for bidding:

a. Epoxy: Eight colors, with 50% deep tone colors.

b. Ceramic: Two colors, with 50% deep tone colors.

1.2 Quality Assurance

A. Reference Standards and Specifications

1. American National Standards Institute (ANSI)

ANSI A 13.1 - Scheme for the Identification of Piping Systems.

ANSI Z 53.1 - Safety Color Code for Marking Physical Hazards.

2. American Society for Testing and Mateirals (ASTM)

ASTM D4258 - Surface Cleaning Concrete for Coating.

ASTM D4261 - Surface Cleaning Concrete Unit Masonry for Coating.

3. Society for Protective Coatings (SSPC) Surface Preparation Specifications

SP1 - Solvent Cleaning: Removes oil, grease, soil, drawing and cutting compounds, and other soluble contaminants.

SP2 - Hand Tool Cleaning: Remove loose material. Not intended to remove adherent mill scale, rust, and paint.

SP3 - Power Tool Cleaning: Removes loose material. Not intended to remove all scale or rust.

SP5 - White Metal Blast Cleaning: Removes all scale, rust, foreign matter. Leaves surface gray-white uniform metallic color.

SP6 - Commercial Blast Cleaning: Two-thirds of each square inch free of all visible residues; remainder only light discoloration.

SP10 - Near-White Metal Blast Cleaning.

SP11 - Power Tool Cleaning to Bare Metal.

4. American Waterworks Association (AWWA)

Standard for Painting and Repainting Steel Tanks, Stand-Pipes, Reservoirs, and Elevated Tanks for Water Storage, D-102.

5. American Concrete Institute (ACI)

ACI 515.1R Guide to the Use of Waterproofing, Damp-proofing, Protective and Decorative Barrier Systems for Concrete

B. Include on label of container:

1. Manufacturer's name, product name, and number.

2. Type of paint and generic name.

3. Color name and number.

4. Storage and temperature limits.

5. Mixing and application instructions, including requirements for precautions which must be taken.

6. Drying, recoat, or curing time.

C. Prepainting Conference

1. Before Project field painting starts, representatives for the Owner, Contractor, coating applicator, and coating manufacturer's technical representative shall meet with Engineer.

2. Agenda for the meeting will include details of surface preparations and coating systems to ensure understanding and agreement by all parties for compliance.

D. Warranty

1. The coating manufacturers and applicators shall warrant their products and applications respectively against defects for a period of five (5) years under normal use. The warranty shall be in printed form.

E. In the event a problem occurs with coating system, surface preparation, or application, coating applicator and coating manufacturer's technical representative shall promptly investigate the problem and submit results to Engineer.

F. Stated VOC shall be unthinned maximum VOC certified by manufacturer.

G. A coating report shall be completed daily by Contractor at each phase of the coating system starting with surface preparation. These shall be submitted on the form attached at the end of this Section.

1.3 Submittals

A. Submit as specified in Section 1330.

B. Includes, but not limited to, the following:

1. Schedule of products and paint systems to be used. Schedule shall include the following information:

a. Surfaces for system to be applied.

b. Surface preparation method and degree of cleanliness.

c. Product manufacturer, name, and number.

d. Method of application.

e. Dry-film mil thickness per coat of coating to be applied.

2. Color charts for selection and acceptance.

3. Technical and material safety data sheets.

4. Certification by coating manufacturer(s) that all coatings are suitable for service intended as stated on each coating system sheet. If manufacturer has an equivalent product as that specified, but it is not suitable for the intended purpose, he shall submit the recommended product for approval at no increase in cost, and state reasons for substitution.

5. Contractor shall certify in writing to the Engineer that applicators have previously applied all the systems in this Specification and have the ability and equipment to prepare the surfaces and apply the coatings correctly.

1.4 Delivery, Storage, and Handling

A. Delivery of Materials

1. Deliver in original unbroken sealed containers with labels and information legible and intact. Containers shall also have correct labels with required information.

2. Allow sufficient time for testing if required.

3. Open and mix on the premises and in the presence of the Engineer. Any rejected material shall be at once removed from the premises. Colors shall be as selected by Engineer.

B. Storage of Materials

1. Store only acceptable materials on Project site in enclosed structures to protect them from weather and excessive heat and cold. Store in accordance with County and State Safety Codes.

2. Provide separate area and suitable containers for storage of coatings and related coating equipment.

3. Dispose of used or leftover containers, thinners, rags, brushes, and rollers in accordance with applicable regulations.

1.5 Regulatory Requirements

A. In addition to requirements specified elsewhere for environmental protection, provide coating materials that conform to the restrictions of the local and regional jurisdiction. Notify Engineer of any coating specified herein that fails to conform to the requirements for the location of the project or location of application.

B. Lead Content: Use only coatings that are totally lead free except for zinc-rich primers which shall not have a lead content over 0.06% by weight of nonvolatile content.

C. Chromate Content: Do not use coatings containing zinc-chromate or strontium chromate.

D. Asbestos Content: Materials shall not contain asbestos.

E. Mercury Content: Materials shall not contain mercury or mercury compounds.

1.6 Project Conditions

A. This Project is in a location in which drifting coatings, if spray-applied, could contaminate adjacent surfaces or vehicles nearby. All
containment precautions and application methods shall be taken into consideration and implemented to prevent the above from occurring.

1.7 Inspection Service

A. Owner will engage in the services of an independent NACE certified coating inspection service, Level III certification.

B. Inspection service will provide full-time inspection of all field surface preparation and coating applications to ensure full compliance with the requirements of this Specification. The presence of the inspection service shall not relieve Contractor for compliance with Specifications or authorized changes.

C. Inspection service will document all work, including nonconformance, using forms acceptable to Owner and Engineer. All documentation and reports will be prepared and signed by the Inspection service representative, and submitted to Engineer on a daily basis. At the completion of all coating applications, Inspection service representative will also submit a conformance report certifying that all Work relative to coatings complies with the Specifications or authorized change.

D. Inspection service will be responsible for field verification and recommendations of the following field coating operations:

1. Surface preparation methods, equipment.

2. Substrate conditions, moisture content of concrete, substrate profiles, and surface temperatures.

3. Temperature, humidity, and wind conditions at times of coating applications.

4. Specified or approved coating verification.

5. Application equipment.

6. Coating wet and dry film thickness.

7. Proper coating curing.

8. Coating system failure, causes, and remedy.

E. Inspection service representative will discuss with Engineer, Owner, and Contractor all recommended Specification deviations, changes in products, or application methods.

PART 2 - MATERIALS

2.1 Acceptable Manufacturers

A. Acceptable manufacturers are as follows:

1. Sauereisen

2. Carboline

3. Raven Lining Systems

4. Ameron Protective Coatings Systems Group, Ameron Corp.

5. Devoe Coating Company, Division of ICI.

6. Futura Coatings, Inc.

7. The Glidden Company.

8. International Protective Coatings.

9. Keeler & Long, Inc.

10. Kop-Coat, Inc., Division of Carboline.

11. Pittsburgh Paints, PPG Industries Inc.

12. Santile, Division of Carboline Company, Inc.

13. Tnemec Company, Inc.

14. Polyken

2.2 General

A. Materials furnished for each coating system must be compatible to the substrate.

B. When unprimed surfaces are to be coated, entire coating system shall be by the same coating manufacturer to assure compatibility of coatings.

C. When shop-painted surfaces are to be coated, ascertain whether finish materials will be compatible with shop coating. Inform Engineer/ Architect of any unsuitable substrate or coating conditions.

D. Coating system shall be as specified below or to the manufacturer's standard, whichever is more stringent.

2.3 Areas of Application

A. Submerged Concrete Surfaces, exposed to H_2S vapor:

1. Surface Preparation and coating system: In accordance with manufacturer's recommendations.

2. Applied to all concrete surfaces including floors, walls, baffles and ceilings.

3. Product and Manufacturer:

a. Sauereisen 210

b. Raven 405

c. Plasite 5371

d. Or approved equal.

B. Ferrous Metals including all Structural Steel, Miscellaneous Ferrous Metals, and all Ferrous Piping; Interior Non-submerged:

1. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning as specified in Paragraph 3.1.

2. Interior non-submerged applies to areas that are housed within a building and/or within a non-process, enclosed structure.

3. Product and Manufacturer: Provide one of the following:

a. Tnemec:

1) Shop Primer: 66 H.B. Epoxoline – two coats, 2-3 dry mils per coat

2) Field Primer or Filed Touchup: 66 H.B. Epoxoline – one coat, 2-3 dry mils per coat.

3) Finish: 69 H.B. Epoxoline II – two coats, 4-5 dry mils per coat.

b. Or approved equal

C. Ferrous Metals, Including all Ferrous Piping; Exterior Non-submerged:

1. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning as specified in Paragraph 3.1.

2. Exterior non-submerged applies to areas that are not housed within a building or structure, and that are not located within process and / or water carrying structures or tanks.

3. Product and Manufacturer: Provided one of the following:

a. Tnemec:

1) Primer: 66 H.B. Epoxoline – two coats, 2-3 dry mils per coat.

2) Intermediate: 69 H.B. Epoxoline II – one coat, 4-5 dry mils.

3) Finish: 75 Endura-Shield – two coats, 1.5-2 dry mils per coat

b. Or approved equal.

D. Galvanized Metal and Non-Ferrous Metal; Interior Non-Submerged:

1. Surface Preparation: SSPC-SP1 Solvent Cleaning, as specified in Paragraph 3.1.

2. Interior non-submerged applies to areas that are housed within a building and/or within a non-process, enclosed structure.

3. Product and Manufacturer: Provide one of the following:

a. Tnemec:

1) Primer: 66 H.B. Epoxoline – one coat, 3-4 dry mils

2) Finish: 69 H.B. Epoxoline II – one coat, 4-5 dry mils.

b. Or approved equal.

E. All Aluminum in Contact with Dissimilar Materials:

1. Surface Preparation: Remove all foreign matter.

2. Product and Manufacturer: Provide one of the following:

a. Tnemec:

1) 66 H.B. Epoxoline – two coats, 2.0 – 3.0 dry mils per coat

b. Or approved equal.

F. PVC Piping, CPVC Piping, Fiberglass, Fiberglass Insulation Covering; Exterior:

1. Surface Preparation: Sand as specified by the coating manufacturer.

2. Exterior applies to areas that are not housed within a building and/or within an enclosed structure.

3. Product and Manufacturer: provide one of the following

a. Tnemec:

1) Primer/Intermediate: 66 H.B. Epoxoline – one coat each, 2.0 – 3.0

2) Finish: 75 Endura-Shield – one coat, 3.0 dry mils

b. Or approved equal.

G. PVC Piping, CPVC Piping, Fiberglass, Fiberglass Insulation Covering; Interior Non-Submerged:

1. Surface Preparation: Sand as specified by the coating manufacturer.

2. Product and Manufacturer: Provide one of the following:

a. Tnemec:

1) Primer/Intermediate/Finish: 66 H.B. Epoxoline – one coat each, 2.0 – 3.0 dry mils per coat.

b. Or approved equal.

H. Steel and Galvanized Steel Pipe; Buried Exterior:

1. Surface Preparation: SSPC-SP10, Near-White Blast, as specified in Paragraph 3.1.

2. Product and Manufacturer: Provide one of the following:

a. Tnemec:

1) Primer: 66-1211 Epoxoline – two coats, 3-4 dry mils per coat.

2) Field Primer or Field Touchup: Surface preparation as specified.

3) Finish: 46-413 Tneme-Tar – two coats, 10.0 dry mils per coat.

b. Or approved equal.

I. Submerged or Intermittently Submerged Ferrous Metals; Interior and Exterior:

1. Definition: Submerged shall apply to all metals below the maximum water surface elevation in open top structure unless otherwise noted or otherwise shown; and to all metals within liquid or residual solids carrying structures that are covered, including all metals on the underside of the covers unless otherwise noted or otherwise shown; and to all metals within an enclosed process structure. This shall apply to all metals whether intermittently or

continuously submerged.

2. Surface Preparation: SSPC-SP 10 Near-White Blast Cleaning as specified in Paragraph 3.1.

a. Tnemec:

1) Primer: 69-1211 Epoxoline II – two coats, 3-4 dry milsper coat.

2) Intermediate: 69 H.B. Epoxoline II – two coats, 5 dry mils per coat.

3) Finish: 69 H.B. Epoxoline II – two coats, 5 dry mils per coat.

b. Or approved equal.

J. Special Requirements for Aluminum:

1. Aluminum surfaces bearing in or embedded in concrete and fayin surfaces of bolted aluminum joints ,except anchor bolts, shall be given two coats of 66 H.B. Epoxoline Primer, or approved equal. The primer shall be allowed to dry between coats and before concrete is poured against it.

2. Where aluminum metals are placed in contact with or fastened to ferrous or stainless steel metals, the contact surfaces of each shall receive the protective coating specified for that metal and a gasket shall be placed between the two contact surfaces. The gasket material shall be non-conductive commercial grade neoprene, 60 durometer, 0.03-inch in thickness unless otherwise specified. Bolts shall be isolated using one piece non-conductive sleeves and washers as manufactured by PSI Products, Inc., Burbank, California: Parker Seal Col, Culvert City, California, or approved equal.

K. Galvanizing: All galvanizing, where called for in the Contract Documents, shall be hot-dip process conforming to ASTM A-123:

1. Surface Preparation: All surfaces to be clean and free of contaminants prior to application of the coating system.

2. Prime Coat: Series 104 H.S. Epoxy; one coat 4-5 mils DFT.

3. Finish Coat: Series 104 H.S. Epoxy; one coat 4-54 mils DFT.

L. Concrete Semi-Gloss Latex:

1. Surface Preparation: All surfaces to be clean and free of contaminants prior to application of the coating system.

2. Prime Coat: Series 7 Tneme-Cryl; one coat 2-3 mils DFT.
3. Finish Coat: Series 7 Tneme-Cryl; one coat 2-3 mils DFT.

M. Ductile and Cast Iron (Exterior Exposure):

1. Surface Preparation: Solvent scrub with stiff bristle brush followed by brush-off abrasive blast cleaning to a minimum surfaces profile depth of 1.5 mils.
2. Prime Coat: Series 69-1255 (beige) H.B. Epoxoline II: one coat 3-5 mils DFT.
3. Finish Coat: Series 73 Endura-Shield; one coat 3-4 mils DFT.

N. Ductile and Cast Iron (Interior Exposure):

1. Surface Preparation: Clean, dry, and free of contaminants
2. Prime Coat: Series 135 Chembuild; one coat 4-6 mils DFT.
3. Finish Coat: Series 69 H.B. Epoxoline II; one coat 4-6 mils DFT.

O. Ductile and Cast Iron (Buried):

1. Surface Preparation: Solvent scrub with stiff bristle brush followed by brush-off abrasive blast cleaning to a minimum surface profile depth of 1.5 mils.
2. Prime Coat: Series 69-1255 (beige) H.B. Epoxoline II; one coat 3-5 mils DFT.
3. Finish Coat: Series 69 H.B. Epoxoline II; one coat 4-6 mils DFT.

P. Ductile and Cast Iron (Immersions):

1. Surface Preparation: Solvent scrub with stiff bristle brush followed by brush-off abrasive blast cleaning to a minimum surface profile depth of 1.5 mils.
2. Prime Coat: Series 66 H.B. Epoxoline; one coat 4-6 mils DFT.
3. Finish Coat: Series 69 H.B/ Epoxoline II; one coat 4-6 mils thick.

Q. Stainless Steel Duct (Buried):

1. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning or manufacturer's recommendations, whichever is more stringent.
2. Prime Coat: Polyken 1019 or 1027, or approved equal.
3. Finish Coat: Polyken 905 tape, or approved equal.

2.4 Surfaces Not to be Coated

A. Do not field paint any of the following items unless specifically noted otherwise.

1. Factory finished equipment, except for touch-up.

2. Metal surfaces of aluminum, stainless steel, copper, bronze and similar finished materials.

3. Equipment nameplates, valve stems, moving shafts and linkages.

2.5 Color Coding of Piping

A. Color Coding of Piping: Exterior and interior by color coding entire pipe.

1. General

a. Coat piping with solid colors as specified below for entire length of pipe in exposed finished and unfinished areas. Exclude areas in pipe chases and furred areas.

b. Coat all other piping in colors matching adjacent surfaces. If adjacent area is unfinished, paint in color determined by Engineer/Architect.

c. Identify piping with letters, arrows and bands as specified below. Apply after completion of finish coating.

2. Color Scheme

Description	Pipe and Band Color	Letter and Arrow Color
Potable Water (hot or cold)	Light blue	Black
Nonpotable or Raw Water	Light blue with red bands	Black
Seal Water	Dark blue with red bands	White
Low Pressure (Air) Aeration supply	Light green	Black
Sewage	Light gray	Black
Sludge	Light brown	White
Scum	Dark brown	White
Drain	Dark gray	White
Sample	Light gray with green bands	Black
Sprinkler Piping	Red	White

In addition, special painting of the following items will be required.

Item	Color
Valve handwheels and levers	Red

Number at least 2 inches high shall be painted on or adjacent to all accessible valves, pumps, flowmeters, and other items of equipment which are identified on the drawings or in the specifications by number.

3. Location of Letters, Arrows and Bands

a. Place letters, arrows and bands on piping near connections to equipment, adjacent to valves or fittings, on both sides of walls penetrated, and at intervals not to exceed 25 feet.

b. Place arrows adjacent to or below letters depending upon visibility. Place arrows in direction of flow. For dual-flow piping, indicate both directions.

c. Locate letters to be visible from normal line of vision above floor level. Letter locations subject to approval of Engineer/Architect.

d. Band to be full circumference of pipe.

4. Letter, Arrow and Band Size

a. Block-style letters, all capitals, conforming to ANSI A13.1 and as follows:

Outside Diameter of Letters Pipe or Covering	Size of Letters and Arrows	Width of Banding
Less than 3/4"	Approved metal tag or band	6"
3/4" to 1-1/4"	1/2"	8"
1-1/2" to 2"	3/4"	8"
2-1/2" to 6"	1-1/4"	12"
8" to 10"	2-1/2"	24"
Over 10"	3-1/2"	32"

5. Vent lines, electrical conduit and related electrical accessories shall be painted to match adjacent wall surfaces as directed by ceiling space shall be painted same as surfaces adjacent to the wall surfaces.

PART 3 - EXECUTION

3.1 Surface Preparation

A. Prepare surfaces for each coating system conforming to SSPC or ASTM surface preparation specifications listed.

1. If grease or oils are present, SSPC-SP1 must precede any other method specified.

2. Remove surface irregularities such as weld spatter, burrs, or sharp edges prior to specified surface preparation.

3. Undertake specified surface preparation in accordance with the coating manufacturer's recommendations.

B. Depth of profile will be as specified or as recommended by the manufacturer for each system, but in no instance shall it exceed one-third of the total dry film thickness of complete system.

C. Prepare only those areas which will receive the first coat of the system on the same day.

1. On steel substrates, apply coating before rust bloom forms.

D. Concrete surfaces shall be adequately cured in accordance with SECTION 3300 and a minimum of 28 days old prior to coating application.

E. Abrasives for blasting shall be free of oil, washed and dry, unused silica sand, coal, copper or nickel slag that have sharp and hard cutting surfaces. Abrasives approved by Powertech Laboratories are strongly recommended.

F. Sharp projections and weld splatter shall be ground smooth. All areas ground smooth shall be reblasted prior to the coating application.

G. Sharp edges shall be ground round and smooth to radius = 1/8 prior to the coating applications for structural steel in Highly Corrosive Areas and for Immersion Services.

H. After abrasive blasting, steel surfaces must be completely dust free (cleaned by vacuum and/or blown off with oil/water-free compressed air), oil and grease free, and have a chloride concentration of less than 3 µg/cm2.

I. Unless otherwise specified, the steel profile must be 1.5 - 2.5 mils in depth and jagged as opposed to a peen pattern.

J. All welds shall be stripe coated by brush with the primer, prior to the application of the full primer coat. Note that inorganic zinc coatings shall not be applied by brush except to very small areas. Stripe coating shall be by spray.

K. Unless approved by the Paint Manufacturer to the contrary, the blast surface shall be primed prior to the development of rust bloom or other contaminants and not later than 8 hours after surface preparation.

L. Oxidation of the steel due to deleterious conditions may necessitate reblasting or sweepblasting the surface to restore the specified cleanliness standard.

3.2 Application

A. Apply coatings in accordance with coating manufacturer's recommendations.

B. All work shall be undertaken by skilled applicators who are qualified to perform the required work and have a minimum of 5 years experience in similar applications. The work shall be done in a manner comparable to the best standards of practice found in that trade. All materials shall be evenly applied so as to be free from sags, runs, crawls, wrinkles, holidays, or any other defects. All coats shall be of the minimum of brush marks. When finished and dried, brush strokes shall appear in one direction only, and there shall be no curved brush marks showing. All coats shall be thoroughly dry before the succeeding coat is applied. All coats that are intended to hide shall be given another coat if the coating does not properly hide the undercoat.

C. Use properly designed brushes, rollers, and spray equipment for all applications.

D. Spraying shall be done in the cross lap method of spraying, streaking first in one direction and shortly later spraying across this section at right angles to the first set of passes.

E. On unprimed surfaces apply first coat of the system the same day as surface preparation.

F. Dry film thickness of each system shall meet the minimum specified. Maximum dry film thickness shall not exceed the minimum more than 20% or coating manufacturer's requirements if less. Where a dry film thickness range is specified, the range shall not be less than or exceeded.

G. Shop and field painting shall remain 3 inches away from unprepared surface of any substrate such as areas to be welded or bolted.

H. Environmental Conditions:

1. Do not apply coatings when inclement weather or freezing temperature may occur within coating curing time requirements. Atmospheric temperature must be maintained between 60°F and 85°F for at least 48 hours prior to and during application, unless otherwise approved by coating manufacturer.

2. Wind velocities for exterior applications shall be at a minimum to prevent overspray or fallout and not greater than coating manufacturer's limits.

3. Relative humidity must be less than 85% and the temperature of the surface to be painted must be at least 5°F above the dew point.

4. Provide adequate ventilation in all areas of application to ensure that at no time does the content of air exceed the Threshold Limit Value given on the manufacturer's Material Safety Data Sheets for the specific coatings being applied.

I. Recoat Time: In the event a coating, such as an epoxy, has exceeded its recoat time limit, prepare the applied coating in accordance with manufacturer's recommendations.

J. Protection

1. Cover or otherwise protect surfaces not to be painted. Remove protective materials when appropriate.

2. Provide signs to indicate fresh paint areas.

3. Provide daily cleanup of both storage and working areas and removal of all paint refuse, trash, rags, and thinners. Dispose of leftover containers, thinners, rags, brushes, and rollers which cannot be reused in accordance with applicable regulations.

4. Do not remove or paint over Equipment data plates or code stamps on piping.

5. Mask, remove, or otherwise protect finish hardware, machined surfaces, grilles, lighting fixtures, and prefinished units as necessary.

6. Provide cover to prevent paints from entering orifices in electrical or mechanical equipment.

3.3 Inspection

A. Contractor shall provide and use a wet film gauges to check each application approximately every 15 minutes in order to immediately correct film thickness under or over that specified.

B. Contractor shall provide and use a dry film gauge to check each coat mm (mil) thickness when dry, and the total system mm (mil) thickness when completed.

C. Use holiday or pinhole detector on systems over metal substrates to detect and correct voids when indicated on system sheet.

D. Furnish a sling psychrometer and perform periodic checks on both relative humidity and temperature limits.

E. Check temperature of the substrate at regular intervals to be certain surface is $5^{o}F$ or more above the dew point.

3.4 Cleaning and Repairs

A. Remove spilled, dripped, or splattered paint from surfaces.

B. Touch up and restore damaged finishes to original condition. This includes surface preparation and application of coatings specified.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Measurement: No measurement will be made for this item, Protective Coatings.

4.2 Payment: Payment will be made at the contract lump sum price bid and shall be considered full payment for providing labor and materials to perform this work.

COATING REPORT

Contract Name: _____ Contract No.:_____
Coating Contractor: _____ Foreman: _____
Unit or Surface Identification: _____
Unit or Surface Location: Exterior: _____, Interior: _____

Surface Preparation:
Date _____; Air Temp _____^{o}F; Relative Humidity _____%
Method of Surface Preparation: _____
Profile achieved _____ mils (if applicable).

Touch-Up:
Date _____; Time _____; Air Temp _____^{o}F; Surface Temp _____^{o}F
Relative Humidity _____%; Dew Point _____^{o}F
Coating Used _____; Dry Film Obtained _____mils.

First Coat:
Date _____; Time _____; Air Temp _____^{o}F; Surface Temp _____^{o}F
Relative Humidity _____%; Dew Point _____^{o}F
Coating Used _____; Dry Time Before Recoat _____hrs.
Dry Film Obtained _____ mils.

Second Coat:
Date _____; Time _____; Air Temp _____^{o}F; Surface Temp _____^{o}F
Relative Humidity _____%; Dew Point _____^{o}F
Coating Used _____; Dry Time Before Recoat _____hrs.
Dry Film Obtained _____ mils.

Third Coat:
Date _____; Time _____; Air Temp _____^{o}F; Surface Temp _____^{o}F
Relative Humidity _____%; Dew Point _____^{o}F
Coating Used _____; Dry Film Obtained _____mils.

****END OF SECTION 9900****

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

Chuck Langerveld – Mayor
Victor M. Wilkins – Chief of Police

Mike Dagon – Vice Mayor
Linda Binder – Council Member
Conard O. Blevins – Council Member
Jack F. Crews – Council Member
Mary Laity – Council Member
Melanie Grinstead–Hanak – Council Member

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MECHANICAL, ELECTRICAL, & PLUMBING
Tesco, Inc.

KITCHEN CONSULTANT
Dave Keaggy & Assoc.

INLET DRIVE

McCULLOCH BLVD.

BROADWATER DRAIN

SUPPORT BUILDING
3678 S.F.
F.F. 748

POLICE OPERATIONS BUILDING
37719 S.F.
F.F. 748

FUEL STORAGE TANKS
CONCRETE PAVING @ FUELING AREA @ OVER FUEL STORAGE TANKS

SLAB TO COVER TANK AREA PLUS 2'-0" @ EA. END

VEHICLE FUELING

MECHANICAL YARD
PROVIDE 4" GRAVEL @ NON-CONC. AREAS

ENTRANCE

EXIT

BOLLARD

7' HIGH MASONRY FENCE (TYP.)

7' HIGH MASONRY FENCE (TYPICAL)

COVERED PARKING

TYPICAL STALL

ASPHALTIC PAVING (TYPICAL)

H.C. SIGNAGE

EMPLOYEE ENTRANCE

FREESTANDING POTS - SEE LANDSCAPE

EXERCISE COURT

COURTYARD

OUTDOOR MEETING AREA

MEETING ROOM ENTRANCE

TRASH ENCLOSURE

ENCLOSED VEHICLE SALLYPORT

PUBLIC ENTRANCE

SECURE BICYCLE STORAGE

BUILDING SIGNAGE

NON-PUBLIC SEPARATION AREA

PRISONER RELEASE WALKWAY

LIMITS OF CONSTRUCTION

PERIMETER WALL TO STEP PER SITE GRADING AS REQUIRED PER THE FOLLOWING:

1. COORDINATE FOOTING STEP DETAIL WITH STRUCTURAL.
2. WALL HEIGHT TO BE MAINTAINED AT A MINIMUM 1'-0" ABOVE FINISH GRADE.
3. MAINTAIN A DISTANCE OF AT LEAST 24'-0" BETWEEN STEPS IN PERIMETER WALL.
4. WALL HEIGHT TO DROP 2'-0" AT EACH STEP PER DETAIL 8/A12.
5. EXPANSION JOINTS TO OCCUR PER SPECS AND AT EACH STEP JOINT.
6. ALL EXPOSED MASONRY AT ALL FENCES AND BUILDINGS TO BE FINISH BLOCK OR BRICK.

NOTE:
SEE LAKE HAVASU CITY CIVIC CENTER MASTER PLAN FOR PARKING & SIDEWALK LAY-OUT BEYOND LIMITS OF CONSTRUCTION.

NOTE:
PROVIDE CONTROL JOINTS/EXPANSION JOINTS @ ALL FENCES AT INTERVALS PER STRUCTURAL AND SPECIFICATION REQUIREMENTS.

PROVIDE CONTROL JOINTS/EXPANSION JOINTS @ ALL CURBS AND SIDEWALKS PER STRUCTURAL AND SPECIFICATION REQUIREMENTS.

SITE PLAN
SCALE : 1" = 20'-0"

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PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 10/18/91

ISSUED FOR	DATE
1 CITY COMMENTS	3-31-92

SHEET TITLE

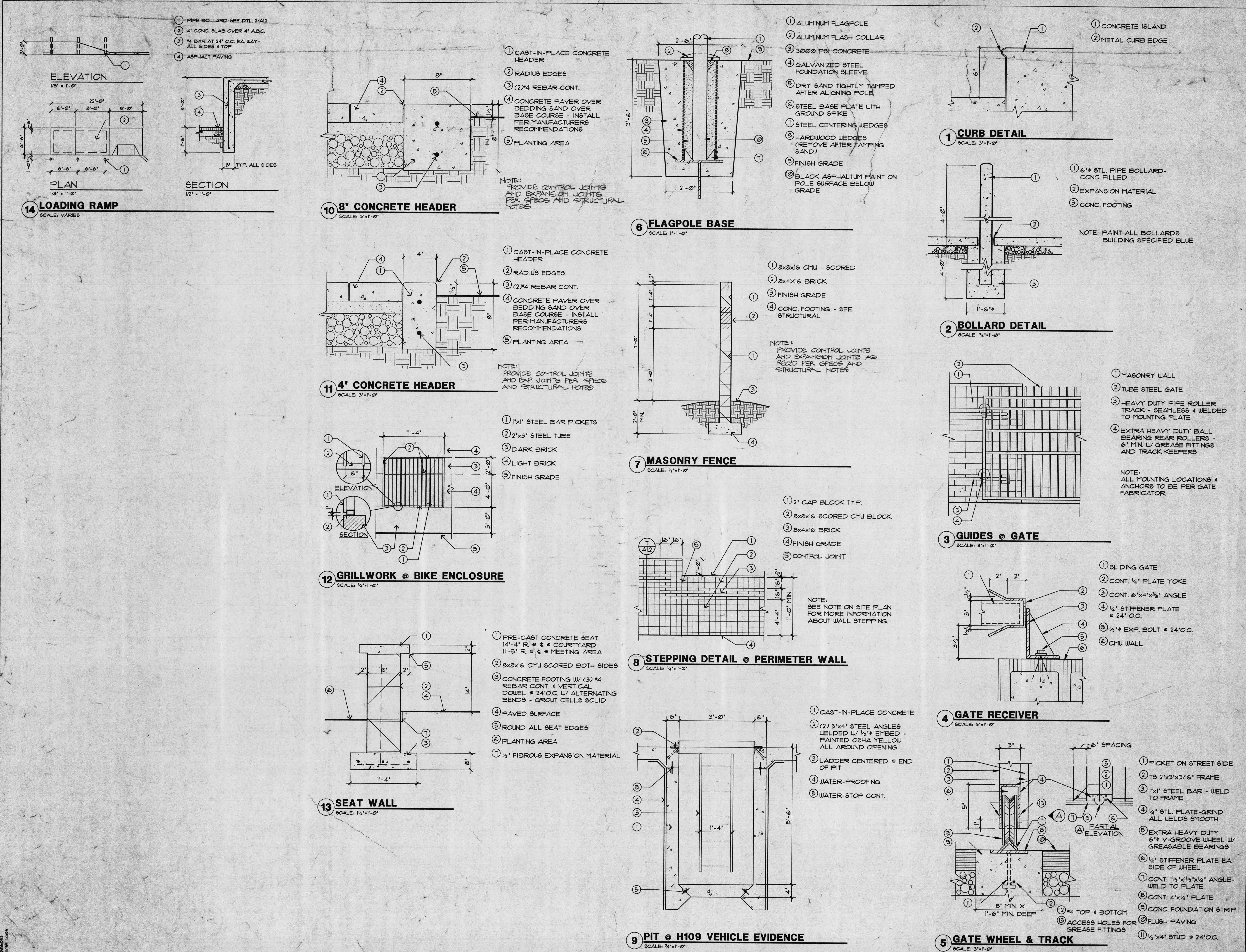
SITE PLAN

SHEET NO.

A1.0

R/DA PROJECT NO.

91006



1 PIPE BOLLARD-SEE DTL. 2/A12
2 4" CONC. SLAB OVER 4" A.B.C.
3 #4 BAR AT 24" O.C. EA. WAY-ALL SIDES & TOP
4 ASPHALT PAVING
ELEVATION
1/8" = 1'-0"
PLAN
1/8" = 1'-0"
SECTION
1/2" = 1'-0"
8" TYP. ALL SIDES
14 LOADING RAMP
SCALE: VARIES
1 CAST-IN-PLACE CONCRETE HEADER
2 RADIUS EDGES
3 (2)#4 REBAR CONT.
4 CONCRETE PAVER OVER BEDDING SAND OVER BASE COURSE - INSTALL PER MANUFACTURERS RECOMMENDATIONS
5 PLANTING AREA
NOTE: PROVIDE CONTROL JOINTS AND EXPANSION JOINTS PER SPECS AND STRUCTURAL NOTES
10 8" CONCRETE HEADER
SCALE: 3"=1'-0"
1 CAST-IN-PLACE CONCRETE HEADER
2 RADIUS EDGES
3 (2)#4 REBAR CONT.
4 CONCRETE PAVER OVER BEDDING SAND OVER BASE COURSE - INSTALL PER MANUFACTURERS RECOMMENDATIONS
5 PLANTING AREA
NOTE: PROVIDE CONTROL JOINTS AND EXP. JOINTS PER SPECS AND STRUCTURAL NOTES
11 4" CONCRETE HEADER
SCALE: 3"=1'-0"
1 1"x1" STEEL BAR PICKETS
2 2"x3" STEEL TUBE
3 DARK BRICK
4 LIGHT BRICK
5 FINISH GRADE
ELEVATION
SECTION
12 GRILLWORK @ BIKE ENCLOSURE
SCALE: 1/4"=1'-0"
1 PRE-CAST CONCRETE SEAT 14'-4" R. @ ¢ @ COURTYARD 11'-5" R. @ ¢ @ MEETING AREA
2 8x8x16 CMU SCORED BOTH SIDES
3 CONCRETE FOOTING W/ (3) #4 REBAR CONT. & VERTICAL DOWEL @ 24"O.C. W/ ALTERNATING BENDS - GROUT CELLS SOLID
4 PAVED SURFACE
5 ROUND ALL SEAT EDGES
6 PLANTING AREA
7 1/2" FIBROUS EXPANSION MATERIAL
13 SEAT WALL
SCALE: 1 1/2"=1'-0"
1 ALUMINUM FLAGPOLE
2 ALUMINUM FLASH COLLAR
3 3000 PSI CONCRETE
4 GALVANIZED STEEL FOUNDATION SLEEVE
5 DRY SAND TIGHTLY TAMPED AFTER ALIGNING POLE
6 STEEL BASE PLATE WITH GROUND SPIKE
7 STEEL CENTERING WEDGES
8 HARDWOOD WEDGES (REMOVE AFTER TAMPING SAND)
9 FINISH GRADE
10 BLACK ASPHALTUM PAINT ON POLE SURFACE BELOW GRADE
6 FLAGPOLE BASE
SCALE: 1"=1'-0"
1 8x8x16 CMU - SCORED
2 8x4x16 BRICK
3 FINISH GRADE
4 CONC. FOOTING - SEE STRUCTURAL
NOTE: PROVIDE CONTROL JOINTS AND EXPANSION JOINTS AS REQ'D PER SPECS AND STRUCTURAL NOTES
7 MASONRY FENCE
SCALE: 1/2"=1'-0"
1 2" CAP BLOCK TYP.
2 8x8x16 SCORED CMU BLOCK
3 8x4x16 BRICK
4 FINISH GRADE
5 CONTROL JOINT
NOTE: SEE NOTE ON SITE PLAN FOR MORE INFORMATION ABOUT WALL STEPPING.
8 STEPPING DETAIL @ PERIMETER WALL
SCALE: 1/4"=1'-0"
1 CAST-IN-PLACE CONCRETE
2 (2) 3"x4" STEEL ANGLES WELDED W/ 1/2"Ø EMBED - PAINTED OSHA YELLOW ALL AROUND OPENING
3 LADDER CENTERED @ END OF PIT
4 WATER-PROOFING
5 WATER-STOP CONT.
9 PIT @ H109 VEHICLE EVIDENCE
SCALE: 3/4"=1'-0"
1 CONCRETE ISLAND
2 METAL CURB EDGE
1 CURB DETAIL
SCALE: 3"=1'-0"
1 6"Ø STL. PIPE BOLLARD-CONC. FILLED
2 EXPANSION MATERIAL
3 CONC. FOOTING
NOTE: PAINT ALL BOLLARDS BUILDING SPECIFIED BLUE
2 BOLLARD DETAIL
SCALE: 3/4"=1'-0"
1 MASONRY WALL
2 TUBE STEEL GATE
3 HEAVY DUTY PIPE ROLLER TRACK - SEAMLESS & WELDED TO MOUNTING PLATE
4 EXTRA HEAVY DUTY BALL BEARING REAR ROLLERS - 6" MIN. W/ GREASE FITTINGS AND TRACK KEEPERS
NOTE: ALL MOUNTING LOCATIONS & ANCHORS TO BE PER GATE FABRICATOR.
3 GUIDES @ GATE
SCALE: 3"=1'-0"
1 SLIDING GATE
2 CONT. 1/4" PLATE YOKE
3 CONT. 6"x4"x3/8" ANGLE
4 1/4" STIFFENER PLATE @ 24" O.C.
5 1/2"Ø EXP. BOLT @ 24"O.C.
6 CMU WALL
4 GATE RECEIVER
SCALE: 3"=1'-0"
6" SPACING
PARTIAL ELEVATION
8" MIN. X 1'-6" MIN. DEEP
1 PICKET ON STREET SIDE
2 TS 2"x3"x3/16" FRAME
3 1"x1" STEEL BAR - WELD TO FRAME
4 1/4" STL. PLATE-GRIND ALL WELDS SMOOTH
5 EXTRA HEAVY DUTY 6"Ø V-GROOVE WHEEL W/ GREASABLE BEARINGS
6 1/4" STIFFENER PLATE EA. SIDE OF WHEEL
7 CONT. 1 1/2"x1 1/2"x1/4" ANGLE-WELD TO PLATE
8 CONT. 4"x1/4" PLATE
9 CONC. FOUNDATION STRIP
10 FLUSH PAVING
11 1/2"x4" STUD @ 24"O.C.
12 #4 TOP & BOTTOM
13 ACCESS HOLES FOR GREASE FITTINGS
5 GATE WHEEL & TRACK
SCALE: 3"=1'-0"

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PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 12/18/91

ISSUED FOR	DATE

SHEET TITLE

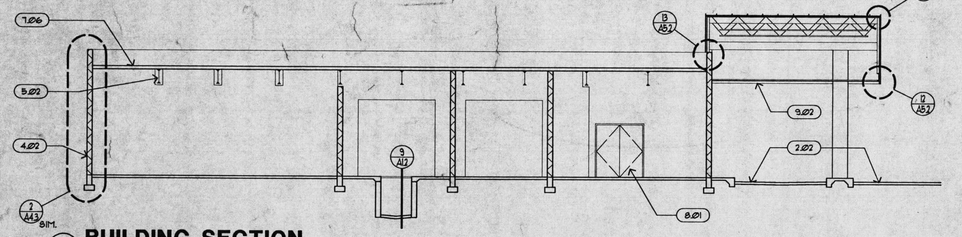
SITE DETAILS

SHEET NO.

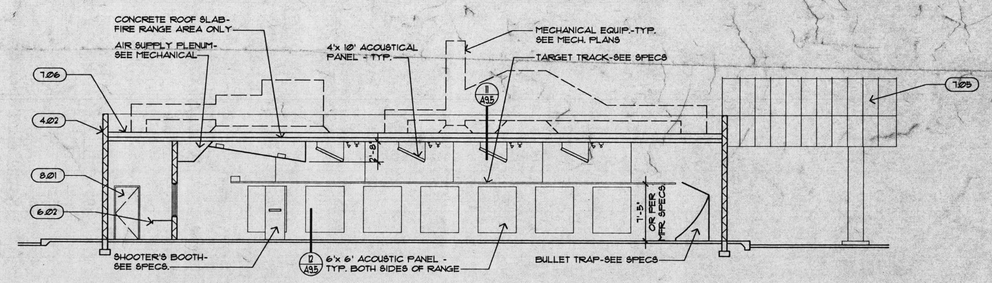
A1.2

R/DA PROJECT NO.

91006



A BUILDING SECTION
SCALE : 1/8" = 1'-0"



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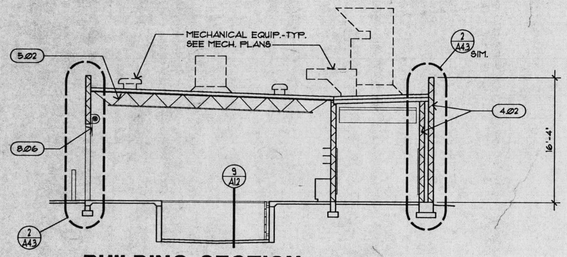

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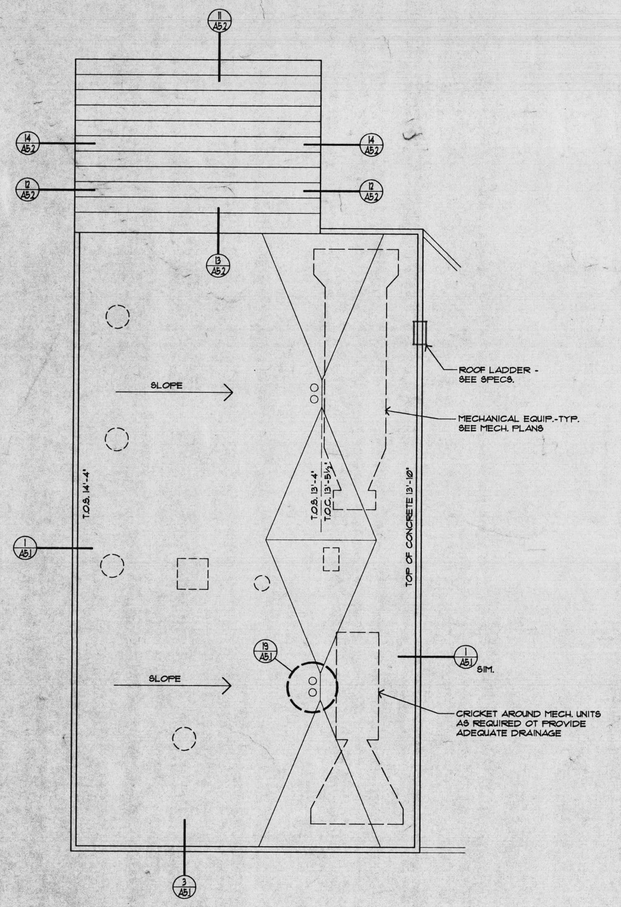
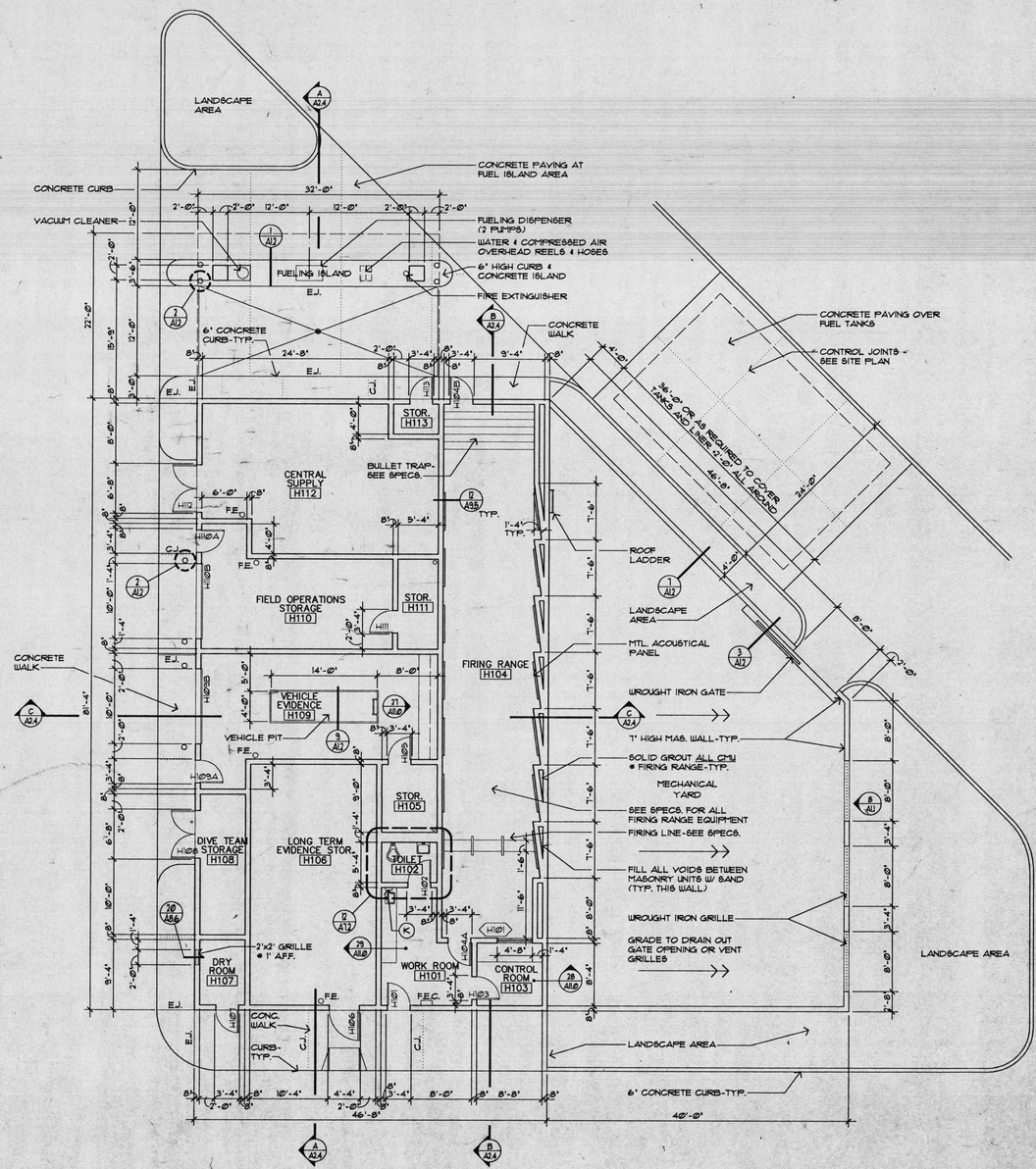


SUPPORT BUILDING ROOF PLAN
SCALE : 1/8" = 1'-0"



SUPPORT BUILDING FLOOR PLAN
SCALE : 1/8" = 1'-0"

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REGISTERED ARCHITECT 12/18/91

PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 12/18/91

ISSUED FOR	DATE

SHEET TITLE

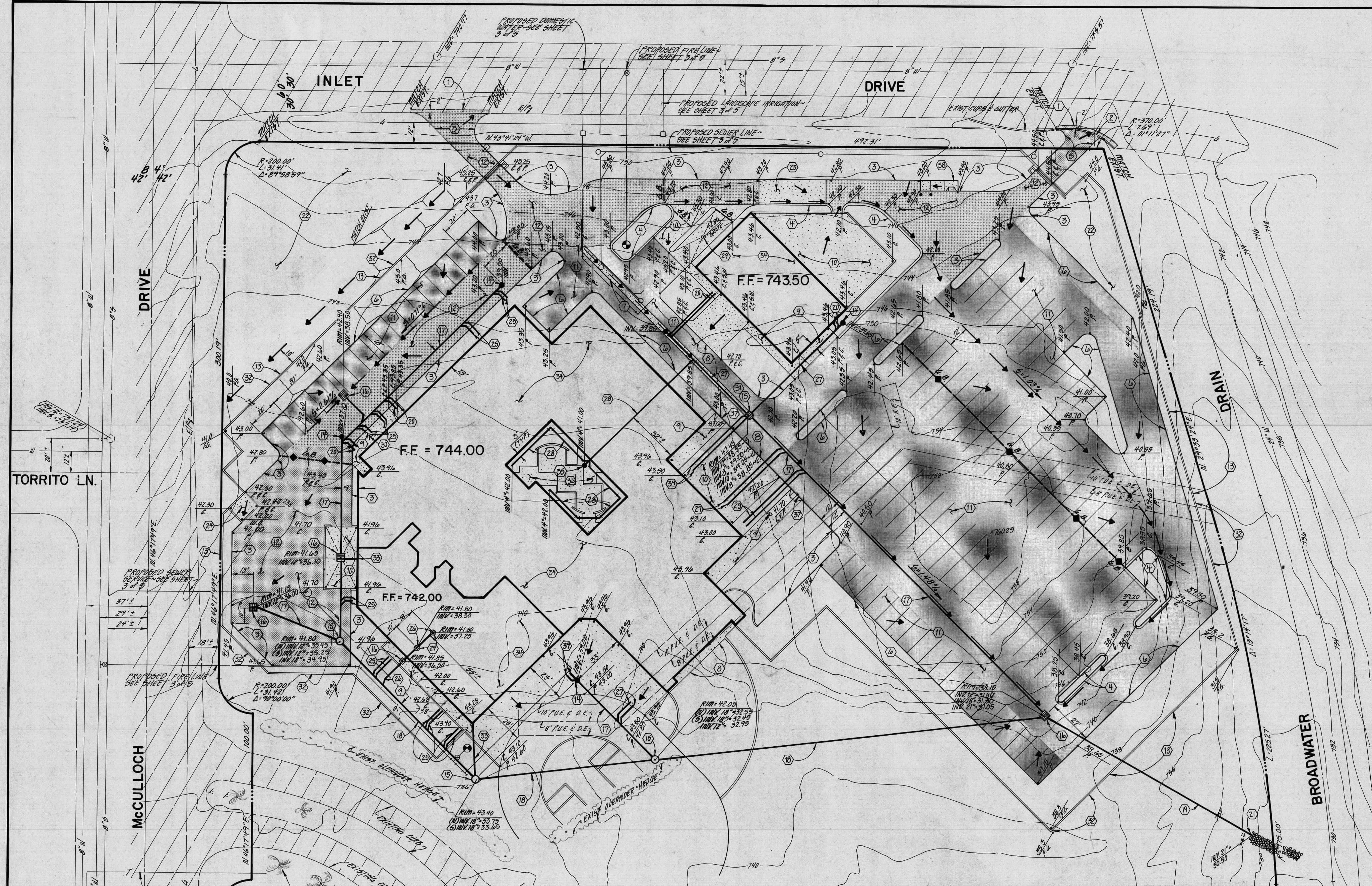
SUPPORT BUILDING FLR. PLAN - ROOF PLAN

SHEET NO.

A2.4

R/DA PROJECT NO.

91006



GRADING CONSTRUCTION NOTES

(1) SAWCUT TO A SMOOTH EDGE AND REMOVE 2 FOOT MINIMUM OF EXISTING PAVEMENT.

(2) SAWCUT AND REMOVE EXISTING CURB.

(3) CONSTRUCT 6" SINGLE CURB PER M.A.G. STD. DET. 222, TYPE "A" WHERE SHOWN. SEE DETAIL NO. 4 ON SHEET C-4.

(4) CONSTRUCT 6" VERTICAL CURB AND GUTTER PER M.A.G. STD. DET. 220, TYPE "A" WHERE SHOWN. SEE DETAIL NO. 3 ON SHEET C-4.

(5) CONSTRUCT THICKENED EDGE OF PAVEMENT PER M.A.G. STD DET. 201, TYPE "A" WITHIN THE RIGHT-OF-WAY. SEE DETAIL NO. 2 ON SHEET C-4.

(6) CONSTRUCT 6" EXTRUDED CURB WHERE SHOWN. SEE DETAIL NO. 15 ON SHEET C-4.

(7) CONSTRUCT 3 FOOT WIDE VALLEY GUTTER PER M.A.G. STD. DET. 240. SEE DETAIL NO. 5 ON SHEET C-4.

(8) CONSTRUCT CONCRETE TURNDOWN. SEE DETAIL NO. 20 ON SHEET C-4.

(9) CONSTRUCT SIDEWALK PER MAG STD. DET. 230. SEE DETAIL NO. 6 ON SHEET C-4.

(10) CONSTRUCT 6" THICK CONCRETE PAVING. SEE STRUCTURAL PLANS FOR JOINT AND REINFORCEMENT REQUIREMENTS.

(11) CONSTRUCT 2" AC/6" ABC PAVEMENT WHERE INDICATED PER THE SPECIFICATIONS IN THE GEOTECHNICAL REPORT.

(12) CONSTRUCT 3" AC/6" ABC HEAVY DUTY PAVEMENT WHERE INDICATED PER THE SPECIFICATIONS IN THE GEOTECHNICAL REPORT.

(13) CONSTRUCT RETAINING WALL. SEE STRUCTURAL PLANS FOR DETAILS.

(14) INSTALL PRESSURE CLEANOUT PER DETAIL NO. 22 ON SHEET C-5.

(15) INSTALL STORM DRAIN MANHOLE PER M.A.G. STD DET. 520. SEE DETAIL NO. 18 ON SHEET C-5.

(16) INSTALL CATCH BASIN PER M.A.G. STD. DET. 535, TYPE "F". SEE DETAIL NO. 19 ON SHEET C-5.

(17) INSTALL 12" PVC SDR-35 DRAINAGE PIPE TO THE INVERT ELEVATIONS SHOWN.

(18) INSTALL 18" PVC SDR-35 DRAINAGE PIPE TO THE INVERT ELEVATIONS SHOWN.

(19) INSTALL 21" PVC SDR-35 DRAINAGE PIPE TO THE INVERT ELEVATIONS SHOWN.

(20) INSTALL 6" PVC SDR-35 DRAINAGE PIPE. CONNECT STORM DRAIN TO ROOF DRAIN DOWNSPOUT AT A POINT 5 FEET OUTSIDE OF THE BUILDING. SEE MECHANICAL PLAN FOR EXACT LOCATION OF BUILDING DOWNSPOUT CONNECTION.

(21) CONSTRUCT HEADWALL PER M.A.G. STD. DET. 501, "STRAIGHT TYPE". PLACE GROUTED RIVER ROCK d_{50} = 6" FROM HEADWALL TO FLOW LINE OF EXISTING BROADWATER DRAIN. SEE DETAIL NO. 16 AND 17 ON SHEET C-5.

(22) GRADE LANDSCAPE ARE TO FINISHED ELEVATIONS AS SHOWN.

(23) CONSTRUCT CONCRETE PAVING MINIMUM 6" THICK OVER UNDERGROUND STORAGE TANK. PROVIDE MINIMUM 2.5 FEET OF EARTH COVER FROM THE BOTTOM OF THE CONCRETE SLAB TO THE TOP WALL OF THE TANK. SEE THE STRUCTURAL PLANS FOR REINFORCING AND JOINTING REQUIREMENTS.

(24) CONSTRUCT TRASH ENCLOSURE. SEE ARCHITECT'S PLAN FOR DETAILS.

(25) INSTALL 4" PVC SDR-35 DRAINAGE PIPE. CONNECT STORM DRAIN TO ROOF DRAIN DOWNSPOUT AT A POINT 5 FEET OUTSIDE OF THE BUILDING. SEE MECHANICAL PLAN FOR EXACT LOCATION OF BUILDING DOWNSPOUT CONNECTION.

(26) INSTALL 6" PVC SDR-35 DRAINAGE PIPE INTO THE BUILDING WHERE SHOWN. PIPE IS CONNECTED TO THE TWO (2) AREA FLOOR DRAINS INSTALLED IN THE EXERCISE AREA. THE EXERCISE FLOOR IS TO BE SLOPED AT A MINIMUM OF 1/8" PER FOOT TOWARDS THE TWO AREA DRAINS. CONSTRUCT A GRADE BREAK HALFWAY BETWEEN THE TWO AREA DRAINS TO SPLIT THE DRAINAGE AREA ON THE FLOOR EQUALLY BETWEEN THE TWO DRAINS. INSTALL VANDAL PROOF GRATES ON THE AREA DRAINS. CONNECT THE 6" PVC PIPE TO THE DRAINS AT THE INVERT ELEVATIONS SHOWN.

(27) INSTALL 8" PVC SDR-35 DRAINAGE PIPE. CONNECT STORM DRAIN TO ROOF DRAIN DOWNSPOUT AT A POINT 5 FEET OUTSIDE OF THE BUILDING. SEE MECHANICAL PLAN FOR EXACT LOCATION OF BUILDING DOWNSPOUT CONNECTION.

(28) INSTALL 4" DRAIN PIPE TO THE INVERT ELEVATIONS SHOWN. 4" PIPE IS TO BE SOLID-WALLED IN THE AREAS BENEATH THE FLOOR SLAB, PAVEMENT, AND SIDEWALK AREAS. 4" PIPE IN THE LANDSCAPED AREAS IS TO BE PERFORATED PIPE BEDDED WITH PEA GRAVEL COMPACTED AT 95% OPTIMUM DENSITY. SEE DETAIL NO. 21 ON SHEET C-4 FOR PERFORATED PIPE BEDDING DETAIL. CONTRACTOR TO VERIFY 4" LINE BENEATH THE FLOOR SLAB WILL NOT CONFLICT WITH OTHER BUILDING PLUMBING LINES PRIOR TO CONSTRUCTION.

(29) 4" AREA DRAIN. SEE MECHANICAL PLUMBING PLANS FOR DRAIN DETAILS.

(30) INSTALL SIDEWALK RAMPS WHERE SHOWN. SEE DETAIL NO. 25 ON SHEET C-5.

(31) INSTALL SLOTTED FRAME AND COVER ON STORM DRAIN MANHOLE FOR DRAINAGE. FRAME AND COVER SELECTED MUST WITHSTAND NORMAL H-20 LOADING.

(32) INSTALL WALL OPENINGS AT TEN FEET ON CENTER FOR DRAINAGE.

(33) CONNECT WALL DRAIN PIPES AND FOUNDATION DRAIN PIPES INTO THE STORM SEWER AS NECESSARY.

(34) EXISTING GROUND BENEATH THE BUILDING IS TO BE OVER-EXCAVATED AND RECOMPACTED TO MINIMIZE THE POSSIBILITY OF DIFFERENTIAL SETTLEMENT DUE TO THE EFFECTS OF HAVING PART OF THE BUILDING ON NATIVE SOIL AND PART OF THE BUILDING ON STRUCTURAL FILL. THE AMOUNT AND DEPTH OF OVER-EXCAVATION OF THE NATIVE SOIL TO BE DETERMINED BY THE GEOTECHNICAL ENGINEER. SEE THE SOILS REPORT FOR DETAILS.

(35) INSTALL 4" CLEANOUT PER M.A.G. STD. DET. 441. SEE DETAIL NO. 14 ON SHEET C-4.

(36) SLOPE CONCRETE IN ATRIUM AREA TO DRAIN TO PLANTER AREAS. CONSTRUCT WALL OPENINGS AS NECESSARY TO PERMIT DRAINAGE TOWARDS LANDSCAPE AREAS.

(37) CONSTRUCT SIDEWALK RAMP.

(38) CONSTRUCT LOADING DOCK PER ARCHITECT'S DETAIL.

(39) INSTALL 10" P.V.C. SDR-35 DRAINAGE PIPE. CONNECT STORM DRAIN TO ROOF DRAIN DOWNSPOUT AT A POINT 5' OUTSIDE OF THE BUILDING. SEE MECHANICAL PLAN FOR EXACT LOCATION OF BUILDING DOWNSPOUT CONNECTION.

NOTE :

CONTRACTOR TO VERIFY WHAT AREAS ARE CONCRETE SIDEWALKS AND WHAT AREAS ARE DECORATIVE BRICK PRIOR TO CONSTRUCTION. SEE SHEET A1.1 FOR BRICK DETAILS.

0 10 20 30 60
SCALE : 1" = 30'

Registered Professional Engineer (Civil) Certificate No. 20938 JEFFREY J. NORMAN Date Signed 11-11-91 ARIZONA, U.S.A.

CALL TWO WORKING DAYS BEFORE YOU DIG
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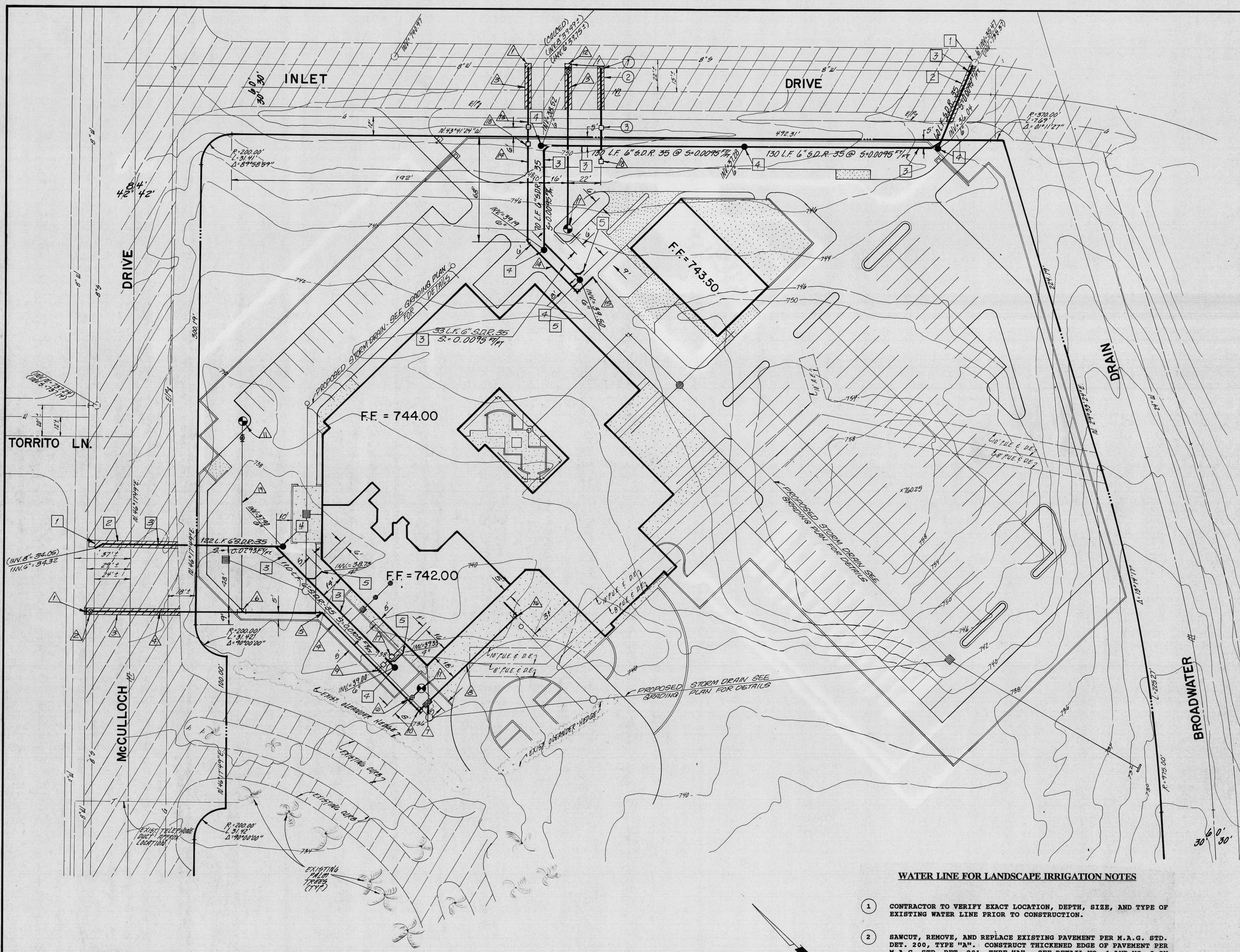
C-2

GRADING AND DRAINAGE PLAN

LAKE HAVASU POLICE DEPARTMENT HEADQUARTERS

DESIGN K. Z.
DRN. W.W. CKD. J.N.
SCALE 1" = 30'
DATE 10 / 91
JOB NO. 1090
SHEET 2 OF 5



SEWER NOTES

1. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, TYPE, AND DEPTH OF EXISTING SEWER LINE PRIOR TO CONSTRUCTION.
2. SAWCUT, REMOVE, AND REPLACE EXISTING PAVEMENT PER M.A.G. STD. DET. 200, TYPE "A". SEE DETAIL NO. 1 ON SHEET C-4.
3. INSTALL 6" PVC SDR-35 SEWER PIPE TO INVERT ELEVATIONS SHOWN. USE CLASS "B" BEDDING.
4. INSTALL 6" SEWER CLEANOUT PER M.A.G. STD. DET. 441. SEE DETAIL NO. 14 ON SHEET C-4.
5. INSTALL 4" BUILDING CONNECTION PER M.A.G. STD. DET. 440, TYPE "A", MODIFIED TO USE PVC SDR-35 PIPE. SEE SHEET DETAIL NO. 13 ON SHEET C-4. CONTRACTOR TO VERIFY BUILDING SEWER CONNECTION LOCATION WITH PLUMBING PLANS PRIOR TO CONSTRUCTION.

NOTE:
ENCASE WATER & SEWER LINES IF NECESSARY TO MAINTAIN MINIMUM VERTICAL CLEARANCE BETWEEN WATER & SEWER LINES. ENCASE PER M.A.G. STD. DETAIL 404, TYPE "A" WITH 6" OF CONCRETE FOR AT LEAST 10 FEET BEYOND CROSSING. SEE DETAIL 12 ON SHEET C-4.

DOMESTIC WATER AND FIRELINE NOTES

1. CONTRACTOR TO VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.
2. INSTALL 8" X 8" TAPPING SLEEVE, VALVE BOX, AND COVER PER M.A.G. STD. DET. 340 AND 391-1, TYPE "A". SEE DETAIL NO.7, NO. 10, AND NO. 11 ON SHEET C-4.
3. SAWCUT, REMOVE, AND REPLACE EXISTING PAVEMENT PER M.A.G. STD. DET. 200, TYPE "A". CONSTRUCT THICKENED EDGE OF PAVEMENT PER M.A.G. STD. DET. 201, TYPE "A". SEE DETAIL NO. 1 AND NO. 2 ON SHEET C-4.
4. INSTALL 8" DUCTILE IRON PIPE, CEMENT MORTAR LINED, CLASS 52. DUCTILE IRON PIPE TO BE WRAPPED IN POLYETHYLENE PER THE MANUFACTURER'S RECOMMENDATIONS.
5. INSTALL 8" 45° BEND. INSTALL THRUST BLOCKS PER M.A.G. STD. DET. 380. SEE DETAIL NO. 26 ON SHEET C-5.
6. INSTALL 8" X 6" TEE. INSTALL THRUST BLOCKS PER M.A.G. STD. DET. 380. SEE SHEET DETAIL NO. 26 ON SHEET C-5 DETAILS.
7. INSTALL 6" DOUBLE CHECK VALVE ASSEMBLY BACKFLOW PREVENTION DEVICE. PER A.A.C. R18-4-211.
8. INSTALL 6" C-900 CLASS 200 PVC PIPE. CONTRACTOR TO VERIFY EXACT LOCATION AND SIZE OF FIRE USER WITH THE FIRE SPRINKLER PLANS PRIOR TO CONSTRUCTION.
9. INSTALL 3" WATER SERVICE AND METER. CONTRACTOR TO VERIFY EXACT LOCATION AND SIZE OF THE DOMESTIC WATER BUILDING CONNECTION WITH THE PLUMBING PLANS PRIOR TO CONSTRUCTION.
10. INSTALL 8" X 6" TEE. 8" END TO BE CAPPED PER M.A.G. STD. DET. 390, TYPE "A". INSTALL THRUST BLOCKS PER M.A.G. STD. DET. 380. SEE DETAIL NO. 9 ON SHEET C-4 AND DETAIL NO. 26 ON SHEET C-5.
11. INSTALL FIRE HYDRANT COMPLETE PER M.A.G. STD. DET. 360 AND 391-1, TYPE "B". CONTRACTOR TO VERIFY FIRE HYDRANT SELECTED MEETS THE REQUIREMENTS OF THE LAKE HAVASU CITY FIRE DEPARTMENT PRIOR TO CONSTRUCTION. SEE DETAIL NO. 8, NO. 10, AND NO.11 ON SHEET C-4.
12. INSTALL 8" X 6" TAPPING SLEEVE BOX AND COVER PER M.A.G. STD. DET. 340 AND 391-1, TYPE "A". SEE DETAIL NO. 7, NO. 10, AND NO. 11 ON SHEET C-4.
13. INSTALL 2" WATER SERVICE AND METER.
14. INSTALL 2" PVC WATER LINE PER IAMPO STANDARDS.
15. CONTRACTOR TO VERIFY EXACT LOCATION OF DOMESTIC WATER BUILDING CONNECTION WITH PLUMBING PLANS PRIOR TO CONSTRUCTION.
16. INSTALL 6" 90° BEND. INSTALL THRUST BLOCKS PER M.A.G. STD. DET. 380. SEE DETAIL NO. 26 ON SHEET C-5.
17. INSTALL 3" PRESSURE REDUCING VALVE WITH A VALVE POSITION INDICATOR. PRV VALVE SHALL BE INSTALL IN A WATER METER BOX FOR ACCESS. CONTRACTOR TO VERIFY THAT THE EXISTING INLET WATER PRESSURE IS 120 PSI. OUTLET PRESSURE TO BE SET AT 75 PSI. PRESSURE REDUCING VALVE SHALL BE A CLA-VAL MODEL 90G-01AS CLASS 125 WITH SCREWED CONNECTION OR APPROVED EQUAL. CONTRACTOR TO ISOLATE PRV VALVE USING UNIONS TO ALLOW FOR FUTURE MAINTENANCE.
18. INSTALL 2" PRESSURE REDUCING VALVE WITH A VALVE POSITION INDICATOR. PRV VALVE SHALL BE INSTALL IN A WATER METER BOX FOR ACCESS. CONTRACTOR TO VERIFY THAT THE EXISTING INLET WATER PRESSURE IS 120 PSI. OUTLET PRESSURE TO BE SET AT 75 PSI. PRESSURE REDUCING VALVE SHALL BE A CLA-VAL MODEL 90G-01AS CLASS 125 WITH SCREWED CONNECTION OR APPROVED EQUAL. CONTRACTOR TO ISOLATE PRV VALVE USING UNIONS TO ALLOW FOR FUTURE MAINTENANCE. PER A.A.C. R18-4-211.
19. INSTALL 6" DUCTILE IRON PIPE, CEMENT MORTAR LINED, CLASS 52. DUCTILE IRON PIPE TO BE WRAPPED IN POLYETHYLENE PER THE MANUFACTURER'S RECOMMENDATIONS.

WATER LINE FOR LANDSCAPE IRRIGATION NOTES

1. CONTRACTOR TO VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.
2. SAWCUT, REMOVE, AND REPLACE EXISTING PAVEMENT PER M.A.G. STD. DET. 200, TYPE "A". CONSTRUCT THICKENED EDGE OF PAVEMENT PER M.A.G. STD. DET. 201, TYPE "A". SEE DETAIL NO. 1 AND NO. 2 ON SHEET C-4.
3. INSTALL 2" WATER SERVICE AND METER.

NOTE:
ALL VALVE BOXES,MANHOLES, CLEANOUTS, AND WATER METER BOXES ARE TO BE ADJUSTED TO FINISHED ELEVATIONS PRIOR TO THE ACCEPTANCE OF THE WORK BY THE OWNER.

NOTE:
A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATIONS OF ALL EXISTING UNDERGROUND OBSTRUCTIONS AND UTILITY LINES IN THE WORK AREA. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO OBSTRUCTIONS AND UTILITY LINES ENCOUNTERED DURING CONSTRUCTION AND SHALL DETERMINE THE EXACT LOCATION OF ALL THE EXISTING UTILITIES PRIOR TO CONSTRUCTION.

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

Registered Professional Engineer (Civil) Certificate No. 20936 JEFFREY J. NORMAN Date Signed 11-11-91 ARIZONA, U.S.A.

C-3

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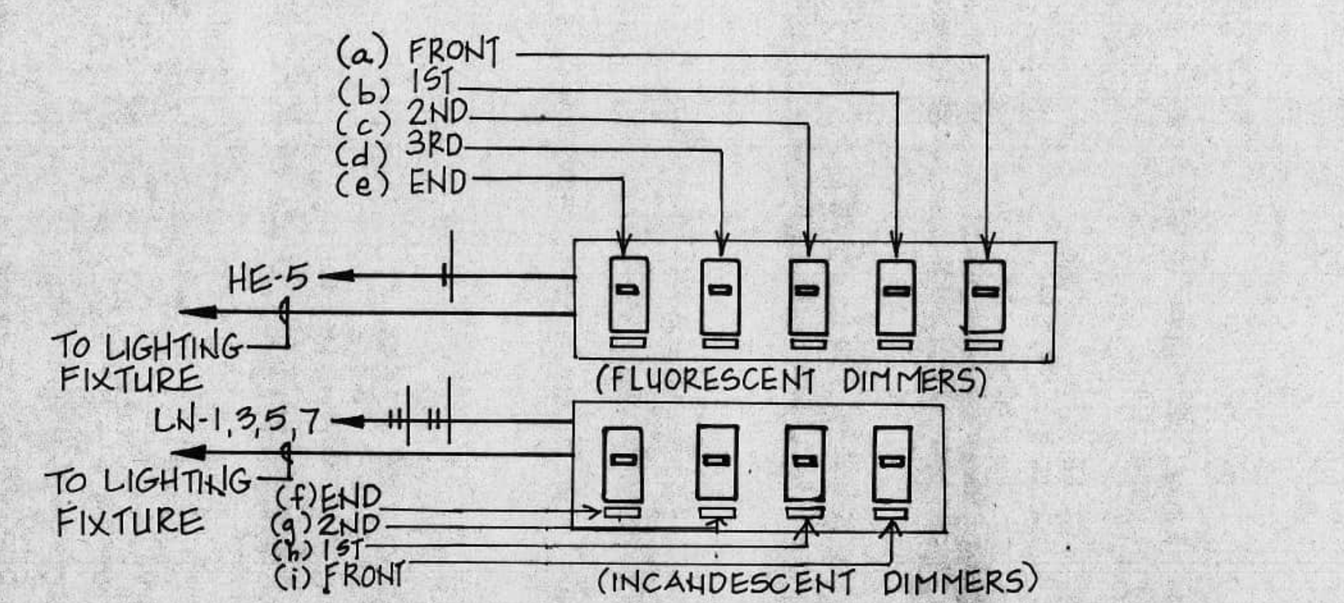
UTILITY PLAN

LAKE HAVASU POLICE DEPARTMENT HEADQUARTERS

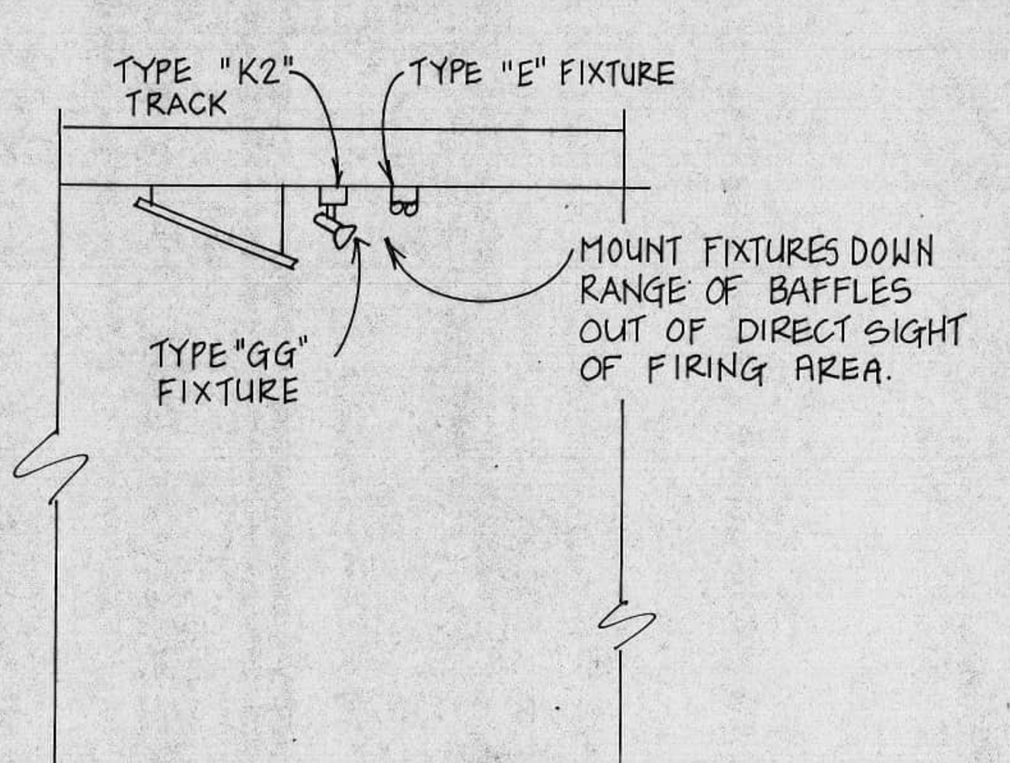
DESIGN K. Z.
DRN. W.W. CKD. J.N.
SCALE 1" = 30'
DATE 10 / 91
JOB NO. 1090
SHEET 3 OF 5



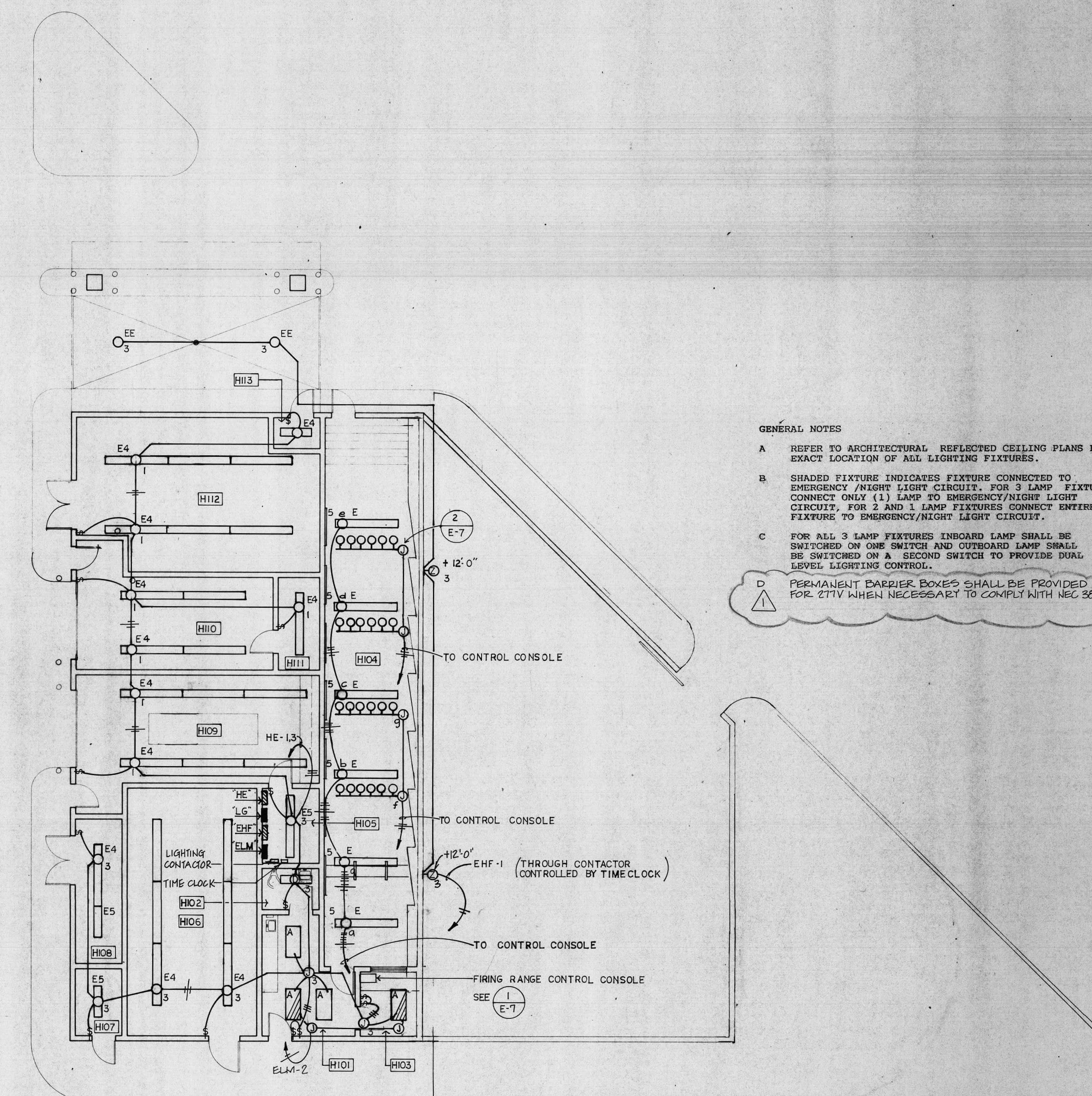
NOTE: PERMANTLY LABEL EACH DIMMER AS SHOWN.

1 FIRING RANGE CONTROL CONSOLE DETAIL N.T.S.

1. FLUORESCENT DIMMERS: LUTRON #NTHF-40 HI-LUME DIMMER CONTROL WITH FIXTURE PACK #4843/277/2
2. INCANDESCENT DIMMERS: LUTRON #NT-1000



2 FIRING RANGE FIXTURE MOUNTING DETAIL N.T.S.



GENERAL NOTES

A REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.

B SHADED FIXTURE INDICATES FIXTURE CONNECTED TO EMERGENCY /NIGHT LIGHT CIRCUIT. FOR 3 LAMP FIXTURE CONNECT ONLY (1) LAMP TO EMERGENCY/NIGHT LIGHT CIRCUIT, FOR 2 AND 1 LAMP FIXTURES CONNECT ENTIRE FIXTURE TO EMERGENCY/NIGHT LIGHT CIRCUIT.

C FOR ALL 3 LAMP FIXTURES INBOARD LAMP SHALL BE SWITCHED ON ONE SWITCH AND OUTBOARD LAMP SHALL BE SWITCHED ON A SECOND SWITCH TO PROVIDE DUAL LEVEL LIGHTING CONTROL.

D PERMANENT BARRIER BOXES SHALL BE PROVIDED FOR 277V WHEN NECESSARY TO COMPLY WITH NEC 380-8(b).

NOTE: SEE ELECTRICAL SPECIFICATION SECTION FOR LIGHT FIXTURE SCHEDULE, PANEL SCHEDULE, MECHANICAL CONNECTION SCHEDULE AND ELECTRICAL CONNECTION SCHEDULE.

ELECTRICAL LIGHTING PLAN - SUPPORT BUILDING NORTH

SCALE: 1/8" = 1'-0"

R/DA

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STRUCTURAL
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KITCHEN CONSULTANT
Dave Keoggy & Assoc.
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PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS
LAKE HAVASU CITY, ARIZONA

DATE 12/18/91

ISSUED FOR	DATE
1 PER CITY COMMENTS	4-8-92

SHEET TITLE
ELECTRICAL LIGHTING PLAN - SUPPORT BUILDING

SHEET NO.
E-7

R/DA PROJECT NO.
91006

GENERAL NOTES:

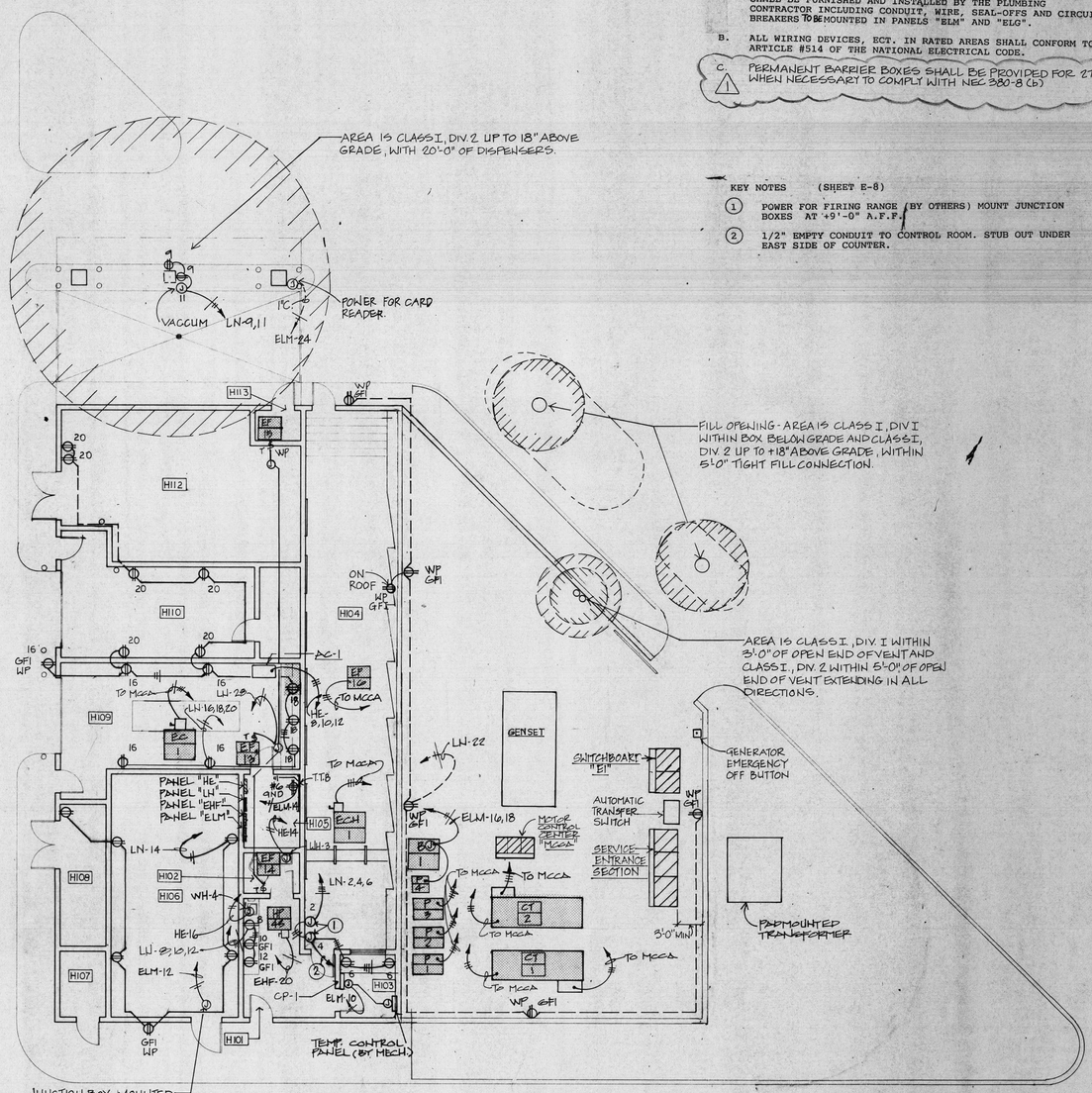
A. THE FUEL DISPENSING SYSTEM INCLUDING POWER TO SUBMERSIBLE PUMPS, DISPENSERS, FUEL DETECTION AND CONTROL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR INCLUDING CONDUIT, WIRE, SEAL-OFFS AND CIRCUIT BREAKERS TO BE MOUNTED IN PANELS "ELM" AND "ELG".

B. ALL WIRING DEVICES, ECT. IN RATED AREAS SHALL CONFORM TO ARTICLE #514 OF THE NATIONAL ELECTRICAL CODE.

C. PERMANENT BARRIER BOXES SHALL BE PROVIDED FOR 277V. WHEN NECESSARY TO COMPLY WITH NEC 380-8 (b)

KEY NOTES (SHEET E-8)

1. POWER FOR FIRING RANGE (BY OTHERS) MOUNT JUNCTION BOXES AT +9'-0" A.F.F.
2. 1/2" EMPTY CONDUIT TO CONTROL ROOM. STUB OUT UNDER EAST SIDE OF COUNTER.



NOTE:
SEE ELECTRICAL SPECIFICATION SECTION FOR LIGHT FIXTURE SCHEDULE, PANEL SCHEDULE, MECHANICAL CONNECTION SCHEDULE AND ELECTRICAL CONNECTION SCHEDULE.

ELECTRICAL POWER PLAN - SUPPORT BUILDING

SCALE: 1/8"=1'-0"

NORTH

R/DA

ROBERTS/DINSMORE ASSOCIATES

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PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 12/18/91	
ISSUED FOR	DATE
1 PER CITY COMMENTS	4-8-92

SHEET TITLE

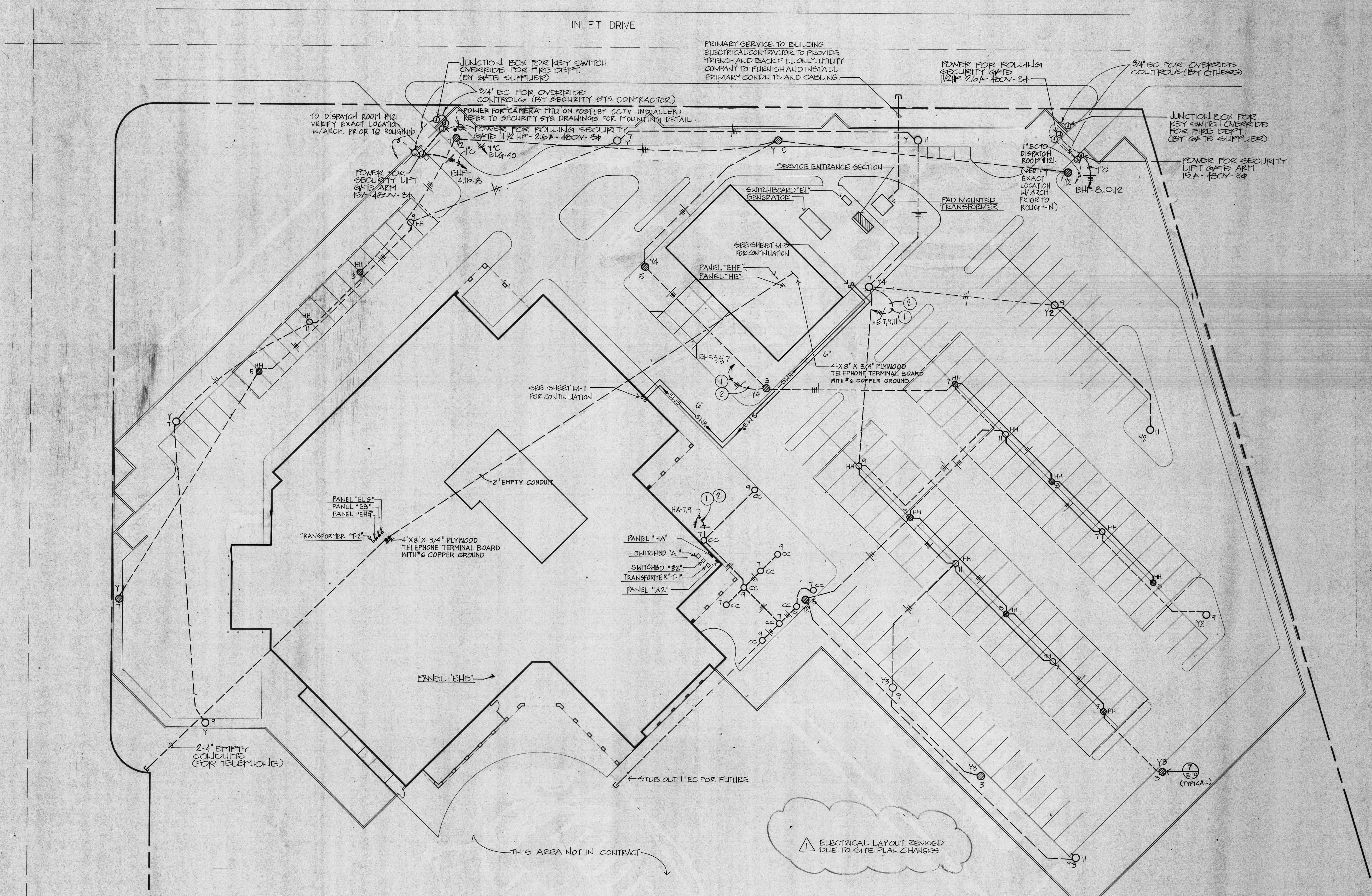
ELECTRICAL POWER PLAN - SUPPORT BUILDING.

SHEET NO.

E-8

R/DA PROJECT NO.

91006



INLET DRIVE
JUNCTION BOX FOR KEY SWITCH OVERRIDE FOR FIRE DEPT. (BY GATE SUPPLIER)
3/4" EC FOR OVERRIDE CONTROLS. (BY SECURITY SYS. CONTRACTOR)
POWER FOR CAMERA MTD. ON POST (BY CCTV INSTALLER) REFER TO SECURITY SYS. DRAWINGS FOR MOUNTING DETAIL
POWER FOR ROLLING SECURITY GATE 1 1/2 HP - 2.6A - 480V - 3Ø
TO DISPATCH ROOM #121 VERIFY EXACT LOCATION W/ARCH. PRIOR TO ROUGH-IN
POWER FOR SECURITY LIFT GATE ARM 1.5A - 480V - 3Ø
EHF 14,16,18
PRIMARY SERVICE TO BUILDING. ELECTRICAL CONTRACTOR TO PROVIDE TRENCH AND BACKFILL ONLY. UTILITY COMPANY TO FURNISH AND INSTALL PRIMARY CONDUITS AND CABLING
POWER FOR ROLLING SECURITY GATE 1 1/2 HP - 2.6A - 480V - 3Ø
3/4" EC FOR OVERRIDE CONTROLS (BY OTHERS)
JUNCTION BOX FOR KEY SWITCH OVERRIDE FOR FIRE DEPT. (BY GATE SUPPLIER)
1" EC TO DISPATCH ROOM #121 (VERIFY EXACT LOCATION W/ARCH PRIOR TO ROUGH-IN)
POWER FOR SECURITY LIFT GATE ARM 1.5A - 480V - 3Ø
EHF 8,10,12
SERVICE ENTRANCE SECTION
SWITCHBOARD "E1"
GENERATOR
PAD MOUNTED TRANSFORMER
SEE SHEET M-3 FOR CONTINUATION
PANEL "EHF"
PANEL "HE"
HE-7,9,11
EHF 3,5,7
4'X8' X 3/4" PLYWOOD TELEPHONE TERMINAL BOARD WITH #6 COPPER GROUND
SEE SHEET M-1 FOR CONTINUATION
2" EMPTY CONDUIT
PANEL "ELG"
PANEL "E3"
PANEL "EHG"
TRANSFORMER "T-2"
4'X8' X 3/4" PLYWOOD TELEPHONE TERMINAL BOARD WITH #6 COPPER GROUND
HA-7,9
PANEL "HA"
SWITCHBD "A1"
SWITCHBD "B2"
TRANSFORMER "T-1"
PANEL "A2"
PANEL "EHE"
2-4" EMPTY CONDUITS (FOR TELEPHONE)
STUB OUT 1" EC FOR FUTURE
THIS AREA NOT IN CONTRACT
ELECTRICAL LAYOUT REVISED DUE TO SITE PLAN CHANGES
(TYPICAL)

KEY NOTES:

1. THROUGH LIGHTING CONTACTOR CONTROLLED BY TIME CLOCK.
2. #10 WIRE FULL LENGTH, 1" C.

NOTE:
SEE ELECTRICAL SPECIFICATION SECTION FOR LIGHT FIXTURE SCHEDULE, PANEL SCHEDULE, MECHANICAL CONNECTION SCHEDULE AND ELECTRICAL CONNECTION SCHEDULE.

ELECTRICAL / MECHANICAL SITE PLAN

SCALE: 1" = 20'-0"

NORTH

R/DA

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(602) 224-5571

PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 12/18/91

ISSUED FOR	DATE
PER CITY COMMENTS	4-8-92

SHEET TITLE
ELECTRICAL / MECHANICAL SITE PLAN

SHEET NO.
EM-0

R/DA PROJECT NO.
91006

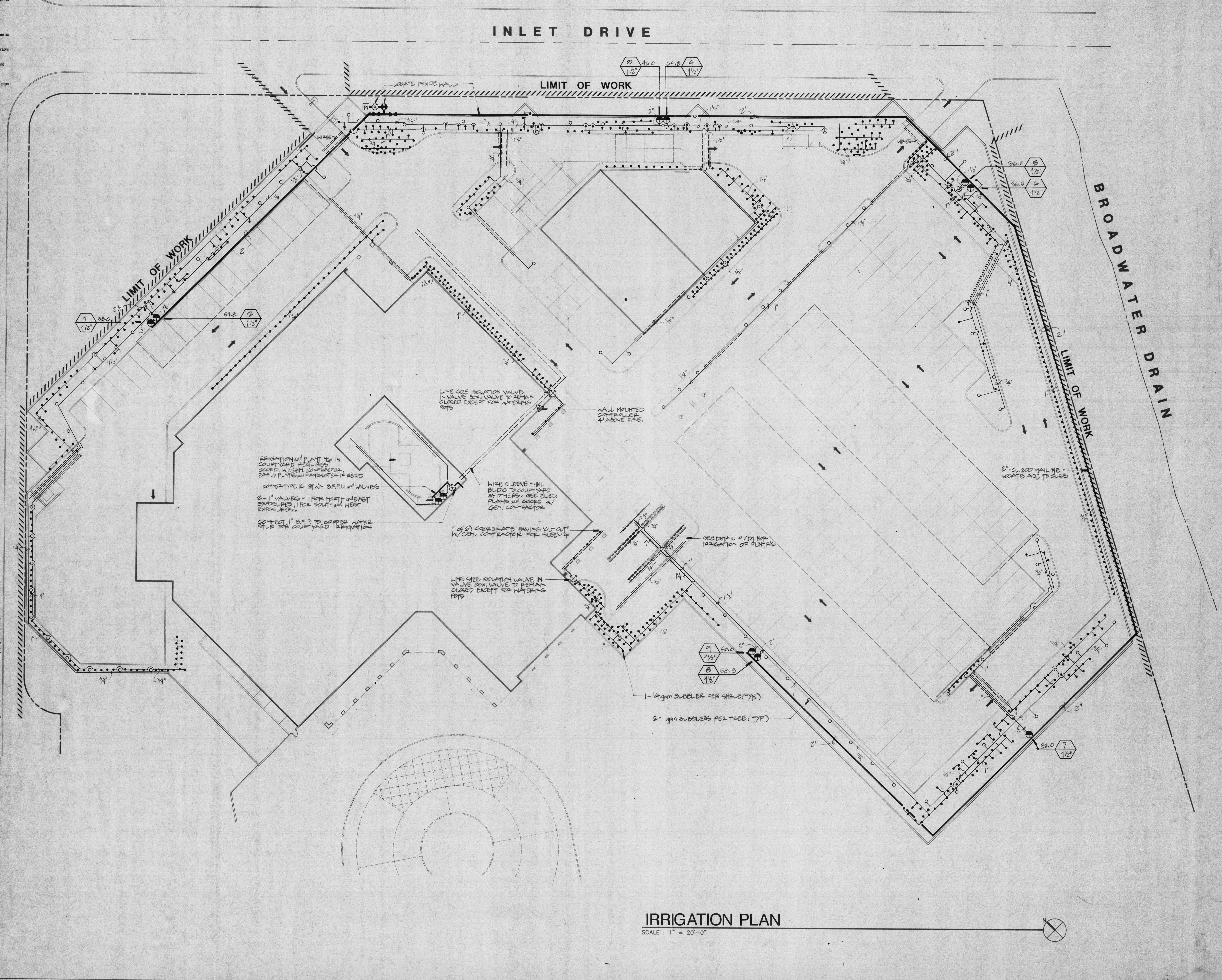
LEGEND

- [M] 2" Water meter for irrigation (see civil) Provide 2" copper to B.F.P.U.
- [C] Motorola MIR 5000-F-2647-26 controller
- Flow meter, data industrial #220 B. Install per controller manufacturer's specifications.
- Pressure switch, mercoid switch #DAW 33, install on backflow prevention assembly in 6" X 6" X 4" nema enclosure.
- Master valve, CLA-VAL #136-01 2" elec. solenoid control valve.
- FEBCO #825YD-4" reduced pressure backflow preventer.
- Mainline gate valve, AWWA 4", bronze 2-1/2" and smaller (size same as pipe).
- Hammond, 1/2" brass gate valve as isolation valve in locking plastic valve box.
- Mainline pipe, PVC CL. 200 pipe, S.W., 2-1/2" and smaller (see plan)
- Lateral pipe, PVC CL. 200 pipe, S.W., 2-1/2" and smaller
- Sleeving, PVC SCH. 40 pipe. Piping sleeve size two sizes larger than pipe size. Wire sleeve size 2".
- GPM 1 1½" Controller and station number. Valve size.
- Rainbird Pressure Compensating Bubblers
  - ○ 1404 (two per plant)
  - ● 1401 (one per each shrub)

Note: Also see bubbler schedule

BUBBLER SCHEDULE

Plant Type	Plant Size	Bubblers Per Plant	GPM Per Bubbler	Total GPM Per Plant
Trees	72"	6	1	6
Trees	60"	5	1	5
Trees	54"	5	1	5
Trees	48"	4	1	4
Trees	36"	3	1	3
Trees	24"	2	1	2
Palms		3	1	3
Shrubs	1 and 5 gal.	1 per plant	1/4	1/4
Groundcover	1 gal.	1 per 3 plants	1/2	1/2 (per 3 plants)



IRRIGATION PLAN

SCALE : 1" = 20'-0"

GENERAL NOTES

1. This irrigation system requires a minimum of 100 PSI at water source.
2. The contractor shall visit site prior to bidding on project to verify installation conditions.
3. Prior to commencement of any work, the contractor shall contact blue stake to verify locations and depths of underground utilities that may be effected by his work, and he shall be responsible for damages to such utilities caused as a result of his irrigation installation.
4. The contractor shall be responsible for compensating the owner and/or the owner's representative for any design changes made as a result of deviation by the contractor from the plans and specifications or due to errors, faulty material or faulty workmanship.
5. Install all mainlines with a minimum of 20" of cover.
6. Install all laterals with a minimum of 12" of cover.
7. All pipe to be installed per the manufacturer's specifications and ASTM standard D 2774.
8. All threaded joints to be coated with teflon tape unless otherwise specified by the manufacturer. Use of liquid teflon on metal pipe threads only.
9. Flushing of all lines prior to installation of sprinklers and emitters is required.
10. Install all sprinkler, emitter, and related material per irrigation system specifications and details.
11. Install all electrical joints with 3-M waterproof connectors.
12. All electrical connections shall be made at the remote control valve boxes, controller enclosures and valve boxes specifically for electrical connections.
13. The contractor shall be responsible for installing all wiring from the circuit breaker at the 120 volt source location to automatic controller.
14. All 120 volt - 460 volt power wire to be installed per local code.
15. Install all valve wiring in mainline trench as detailed.
16. Install all remote control valves at height indicated on details, as high as possible but allowing clearance between valve box lid and flow control handle on remote control valve.
17. Install all mainline ball valves in a round plastic valve box per details.
18. All PVC solvent weld fittings shall be Lasco or approved equal.
19. The mainline and lateral pipe valves are shown schematically and shall be installed within the landscape area, adjacent to sidewalk.
20. Supply the following material to the owner.
    - A. Two wrenches for disassembly and adjusting of each type of sprinkler head and valve supplied.
    - B. Two keys for each of the controllers.
    - C. Two couplers with matching hose bibbs and shut-off valve.
    - D. Two valve box keys.
21. Contractor to coordinate installation of Motorola controller with the City to insure proper installation.

91006051
04/02/1992 15:58

R/DA

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PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 10/18/91

ISSUED FOR	DATE

SHEET TITLE

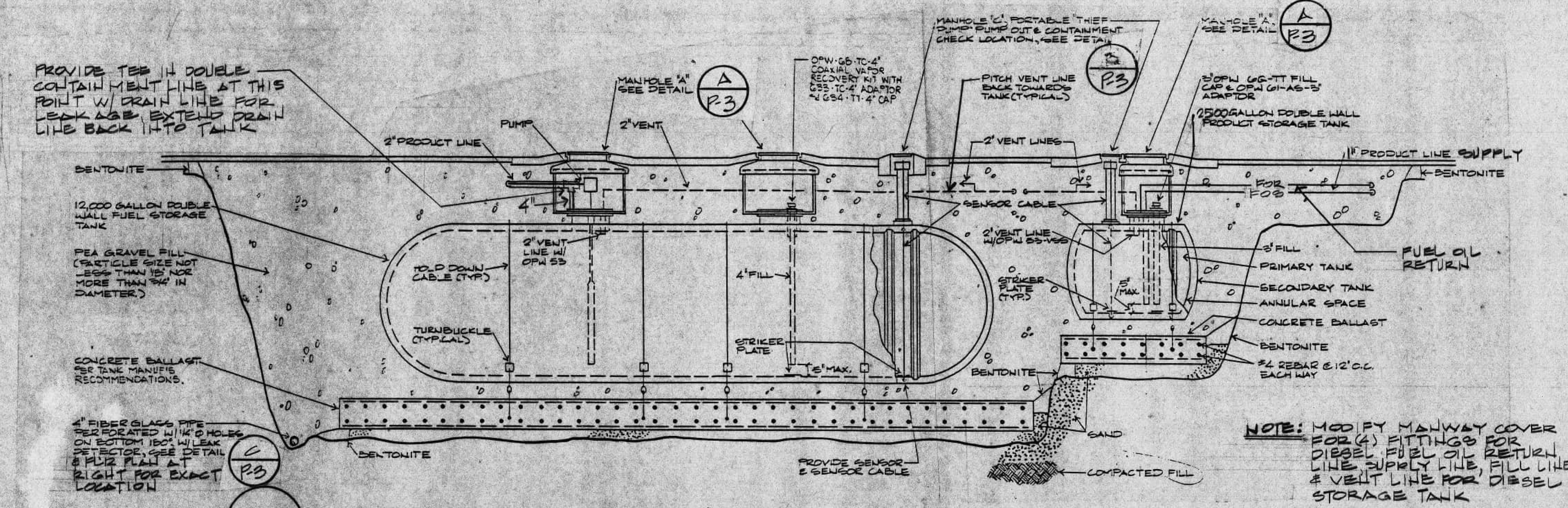
IRRIGATION PLAN

SHEET NO.

L-3

R/DA PROJECT NO.

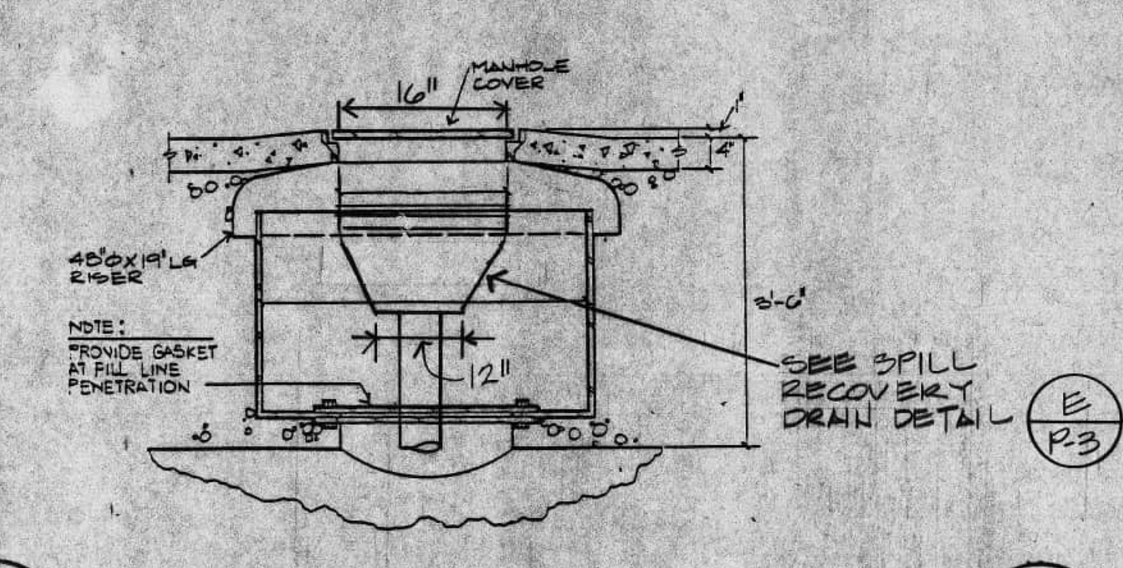
91006



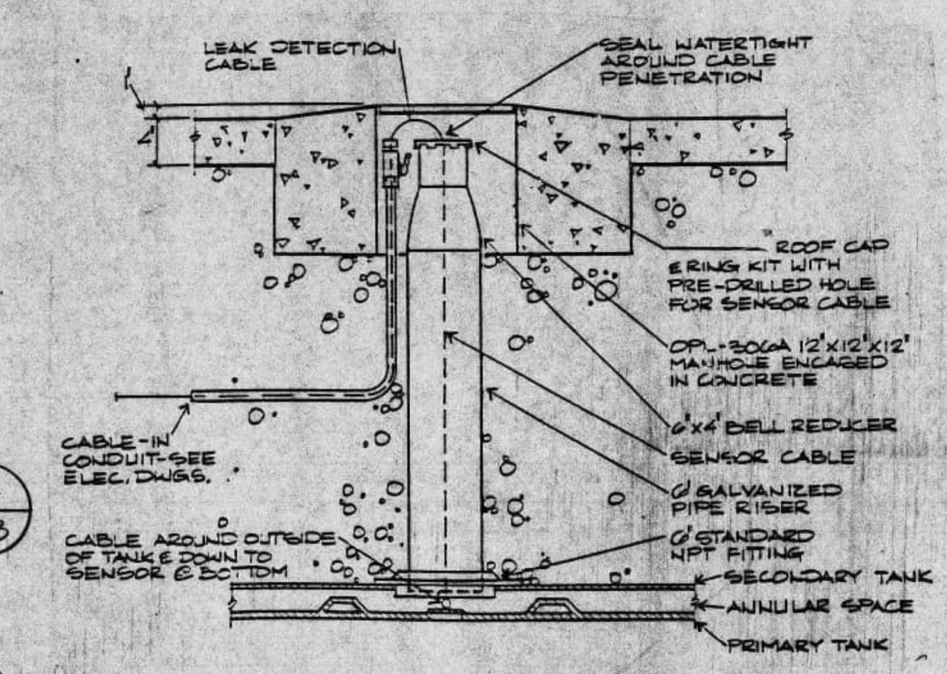
SECTION AT UNDERGROUND PRODUCT STORAGE TANKS

NTS

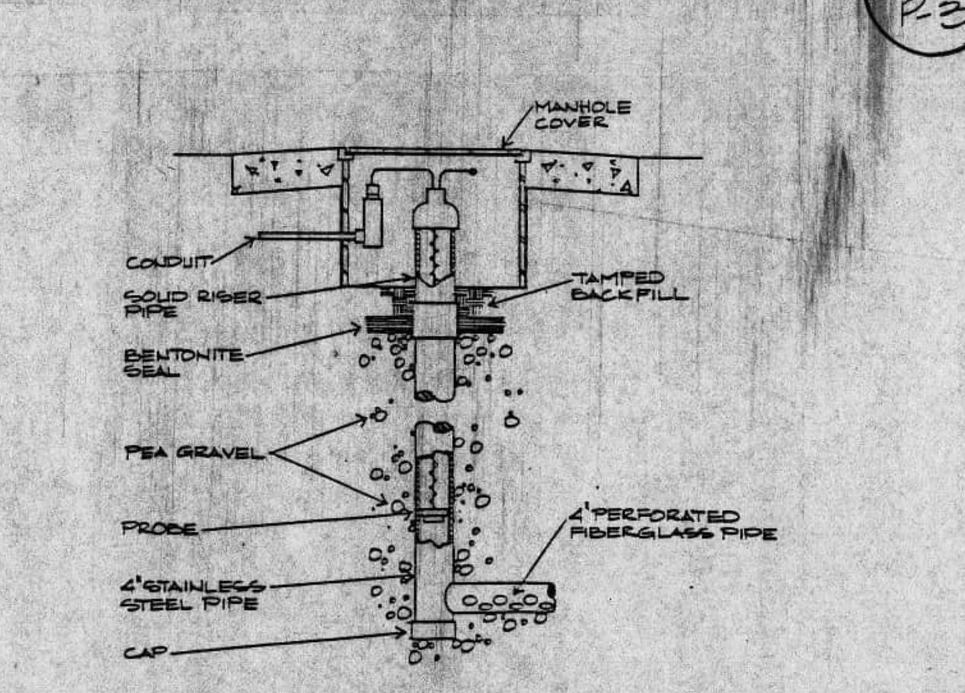
NOTE: PROVIDE & INSTALL "XERXES" MODEL "B-3" TYPE 36"Φ MANWAY COVER WITH INLINE FITTINGS



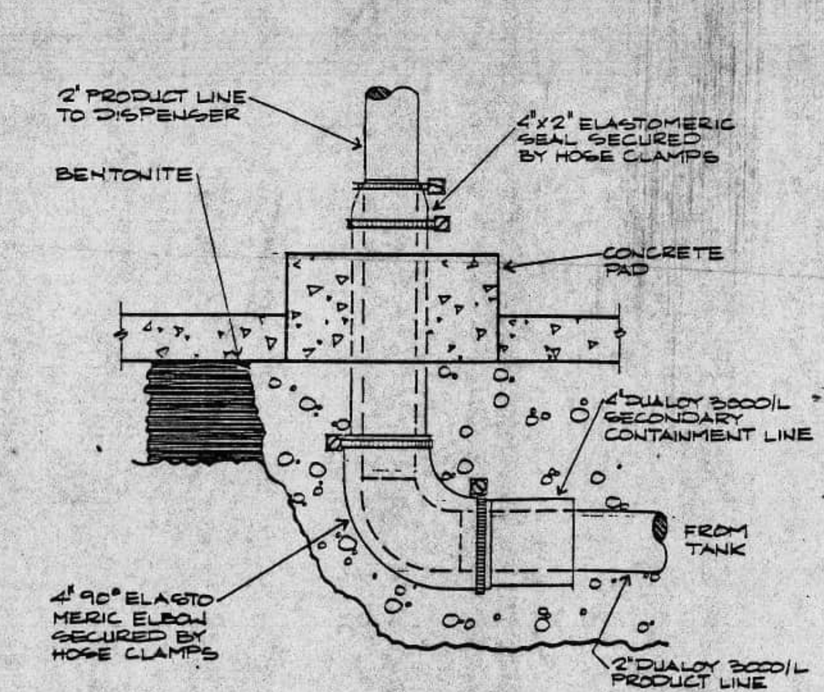
A / P-3 MANHOLE "A" DETAIL



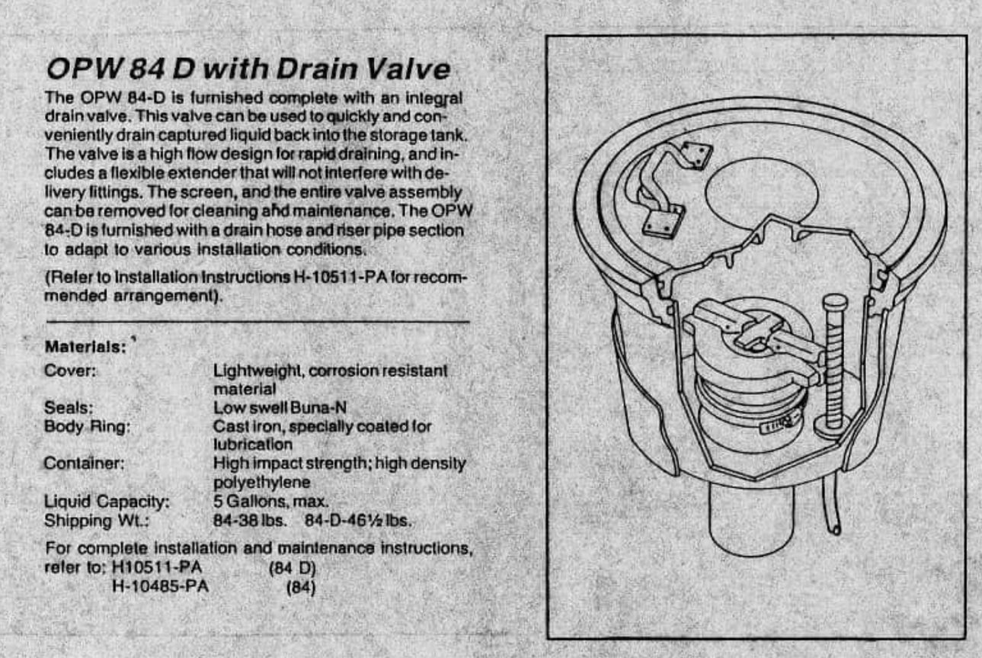
B / P-3 MANHOLE "C" DETAIL

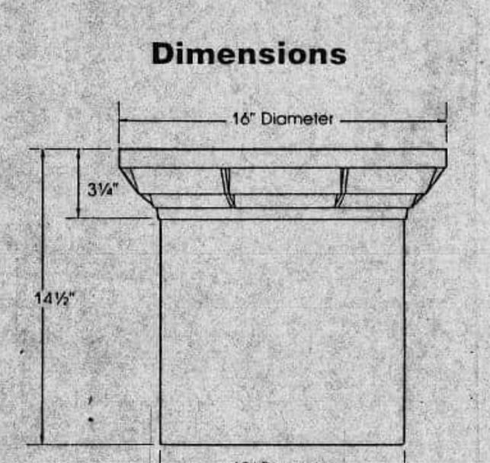


C / P-3 UNDERGROUND PROBE DETAIL



D / P-3 PIPE THRU GRADE DETAIL (PIPING PRODUCT)





E / P-3 SPILL RECOVERY DRAIN DETAIL

NTS

51. GAS PRESSURE REGULATOR: "FISHER" MODEL S100 OR S200, REGULATOR SIZED FOR 5 PSI INLET PRESSURE AND 7" W.C. OUTLET PRESSURE, REGULATOR SIZED FOR 1,850 CFH.

52. 2" GAS LINE TO BOILER WITH LUBRICATED PLUG VALVE - (1,050 CFH).

53. 1/2" CW UP TO EVAPORATIVE COOLER ON ROOF WITH S.O.V. FLASH LINE WATERTIGHT THROUGH ROOF.

54. 1/2" CW UP TO ECH #1 ON ROOF WITH S.O.V., FLASH LINE WATERTIGHT THROUGH ROOF.

55. 3/4" DRAIN LINE UP TO EVAPORATIVE COOLER ON ROOF, EXTEND OVER ABOVE CEILING DOWN ON EXTERIOR WALL AS SHOWN ON EQUIPMENT YARD, RACK ON WALL WITH GAS LINE, EXTEND OVER AND SPILL INTO F.S. AS SHOWN. FLASH LINE WATERTIGHT THROUGH ROOF.

56. 2" GAS UP ALONG WALL TO ABV. CEIL'G SPACE INSIDE BLDG., OVER & UP TO ECH ON ROOF W/ LUBRICATED PLUG VALVE. (800 CFH)

57. 1" ICW UP FROM BELOW GRADE W/S.O.V. FOR MECHANICAL MAKE-UP WATER FOR COOLING TOWER - TYP. FOR 2

58. 2" DRAIN & 3" OVERFLOW LINES FROM COOLING TOWER CONNECTED TOGETHER W/ 3" DRAIN LINE DN OVER TO & SPILL INTO F.S. - TYPICAL FOR BOTH TOWERS

59. 1" ICW LINE BELOW GRADE.

60. 1" ICW DN NEXT TO WALL TO BELOW GRADE & OVER AS SHOWN.

61. EXTEND CONDUIT W/ LEAK DETECTION CABLE BACK TO LEAK DETECTION ALARM PANEL IN DISPATCH RADIO RM. AREA - VERIFY EXACT LOCATION IN FIELD WITH ARCHITECT PRIOR TO INSTALLATION

62. 1" DRAIN LINE UP TO ECH/1 ON ROOF, FLASH LINE WATERTIGHT THRU ROOF

63. 3/4" CW DN IN WALL & OUT TO 3/4" CW H.B. AT +12" ABV. FINISHED FLOOR.

64. 3/4" CW DN NEXT TO WALL TO 3/4" CW H.B. AT +18" ABV. FINISHED GRADE.

65. 4" O.F.D.

66. 4" RDL & OFD LEADERS DN NEXT TO WALL & OUT AS SHOWN BELOW GRADE.

67. SEE CIVIL DRAWINGS FOR CON'T

68. 4" R.D. (1760#)

69. 4" R.D. (1804#)

29. 1" CW DOWN IN WALL AND OUT TO BACKFLOW PREVENTOR.

30. REDUCED PRESSURE BACKFLOW PREVENTOR: "WATTS" MODEL #900 REDUCED PRESSURE BACKFLOW PREVENTOR, 3/4" SIZE, RUN VENT DRAIN LINE TO NEAREST FLOOR SINK, AND INSTALL AT A +48" A.F.F. OF EQUIPMENT YARD.

31. 4" WASTE DOWN, 2" VENT UP WITH WCO, AND 2" VENT OVER ABOVE CEILING AS SHOWN.

32. 2" VTR.

33. 3" WASTE DOWN, 1-1/2" VENT UP WITH WCO, AND 1-1/2" VENT OVER ABOVE CEILING AS SHOWN.

34. MECHANICAL EXPANSION TANK: SEE MECHANICAL DRAWINGS.

35. 4" FLOOR SINK, INSTALL IN CONCRETE PAD SET AT +2" ABOVE FINISHED FLOOR OF EQUIPMENT YARD.

36. 3" FLOOR SINK, INSTALL IN CONCRETE PAD SET AT +2" ABOVE FINISHED FLOOR OF EQUIPMENT YARD.

37. CHEMICAL TREATMENT: SEE MECHANICAL DRAWINGS.

38. (2) 2" VENTS UP FROM BELOW GRADE TO +12" ABOVE TOP OF WALL WITH #23 OPW VENT CAPS.

39. 2" VENT LINES EXTENDED OVER BELOW GRADE.

40. INDICATES TERTIARY LINER.

41. LEAK DETECTION CABLE IN CONDUIT.

42. 4" DIAMETER PERFORATED FIBERGLASS PIPE WITH 1/4" HOLES ON BOTTOM 180° FOR LEAK DETECTION.

43. SLOPE LINER TOWARDS PERFORATED PIPE (TYPICAL).

44. 2" DOUBLE CONTAINMENT FUEL SUPPLY LINE OVER BELOW GRADE

45. FUEL DISPENSER: SEE SPECIFICATIONS.

46. 2" FUEL SUPPLY LINE UP FROM BELOW GRADE TO FUEL DISPENSER.

47. EMERGENCY GENERATOR: SEE ELECTRICAL DRAWINGS FOR EXACT LOCATION.

48. 3/4" DIESEL OIL SUPPLY LINE UP FROM BELOW SLAB TO EMERGENCY GENERATOR WITH S.O.V.

49. 3/4" FOS & 1" FOR LINES TO & FROM GENERATOR DAY TANK - VERIFY EXACT LOCATION IN FIELD

50. F.O.S. & F.O.R. LINES BELOW GRADE

KEYED NOTES
(SUPPORT BUILDING)

1. 1-1/2" CW BUILDING S.O.V. AT +12" ABOVE FINISHED FLOOR.

2. 3/4" CW H.B. IN RECESSED BOX WITH LOCKABLE DOOR.

3. 4" AREA DRAIN WITH SEDIMENT BUCKET.

4. HOSE REEL: SPECIFIED IN OTHER SECTION OF SPECIFICATIONS, ROUGH IN 1/2" CW & AIR, VERIFY EXACT LOCATION WITH ARCHITECT, PLUMBING CONTRACTOR TO FURNISH & INSTALL.

5. INDUSTRIAL WASTE INTERCEPTOR: "SMITH PRECAST" MODEL 750 GALLON INTERCEPTOR WITH TRAFFIC RING AND COVER SET 1" ABOVE FINISHED GRADE. RING & COVER TO BE HEAVY DUTY TYPE

6. 2" VENT LINE UP OFF TOP OF LINE AT 45°L OVER BELOW GRADE AS SHOWN.

7. 4" SCO.

8. SEE CIVIL DRAWINGS FOR CONTINUATION OF 4" WASTE, 1-1/2" CW & 1" MEDIUM PRESSURE GAS MAIN

9. 2" VENT LINE UP IN WALL FROM BELOW SLAB TO ABOVE CEILING & OVER AS SHOWN.

10. 2" VENT THROUGH ROOF.

11. 1/2" AIR LINE DOWN IN WALL TO BELOW GRADE & OVER TO HOSE REEL.

12. 12,000 GALLON UNDERGROUND FUEL STORAGE TANK: SEE SPECIFICATION THIS SHEET.

13. 2,500 GALLON UNDERGROUND DIESEL FUEL STORAGE TANK: SEE SPECIFICATIONS THIS SHEET.

14. 3/4" CW DOWN IN WALL AND OUT TO 3/4" CW H.B. AT +18" ABOVE FINISHED GRADE. TYPICAL WHERE SHOWN.

15. 4" F.D. WITH SEDIMENT BUCKET.

16. OIL INTERCEPTOR: "J.R. SMITH" MODEL SPGT-350 INTERCEPTOR, PROVIDE TRAFFIC RING AND COVER AT +2" ABOVE FINISHED GRADE. PROVIDE RISER RINGS IF NECESSARY.

17. 4" SCO WITH 2" VENT LINE EXTENDED OVER BELOW GRADE UP IN WALL TO BELOW ROOF, RUN VENT LINE AS HIGH AS POSSIBLE.

18. AIR COMPRESSOR: "CHAMPION" MODEL R-10C, UNIT MODEL HRI-3, 30 GALLON TANK CAP, 1-1/2" H.P., 542 RPM, 480V 3PH, 10.5 CFM FREE AIR AT 125 PSI. INSTALL ON FLOOR.

19. 1/2" AIR LINE UP IN WALL TO BELOW ROOF, RUN AS HIGH AS POSSIBLE.

20. 1" CW DOWN IN WALL TO P-1.

21. 4" WASTE DOWN - 4" VENT UP WITH WCO - 4" VTR.

22. 1/2" CW DOWN IN WALL, 1/2" CW TO P-5, 1/2" CW TO POINT OF USE WATER HEATER, 1/2" HW FROM POINT OF USE WATER HEATER TO P-5.

23. POINT OF USE WATER HEATER: "ITS" MODEL MDT-6000-208, 6KW, 277V, 3PH, .8 GPM AT 50° RISE.

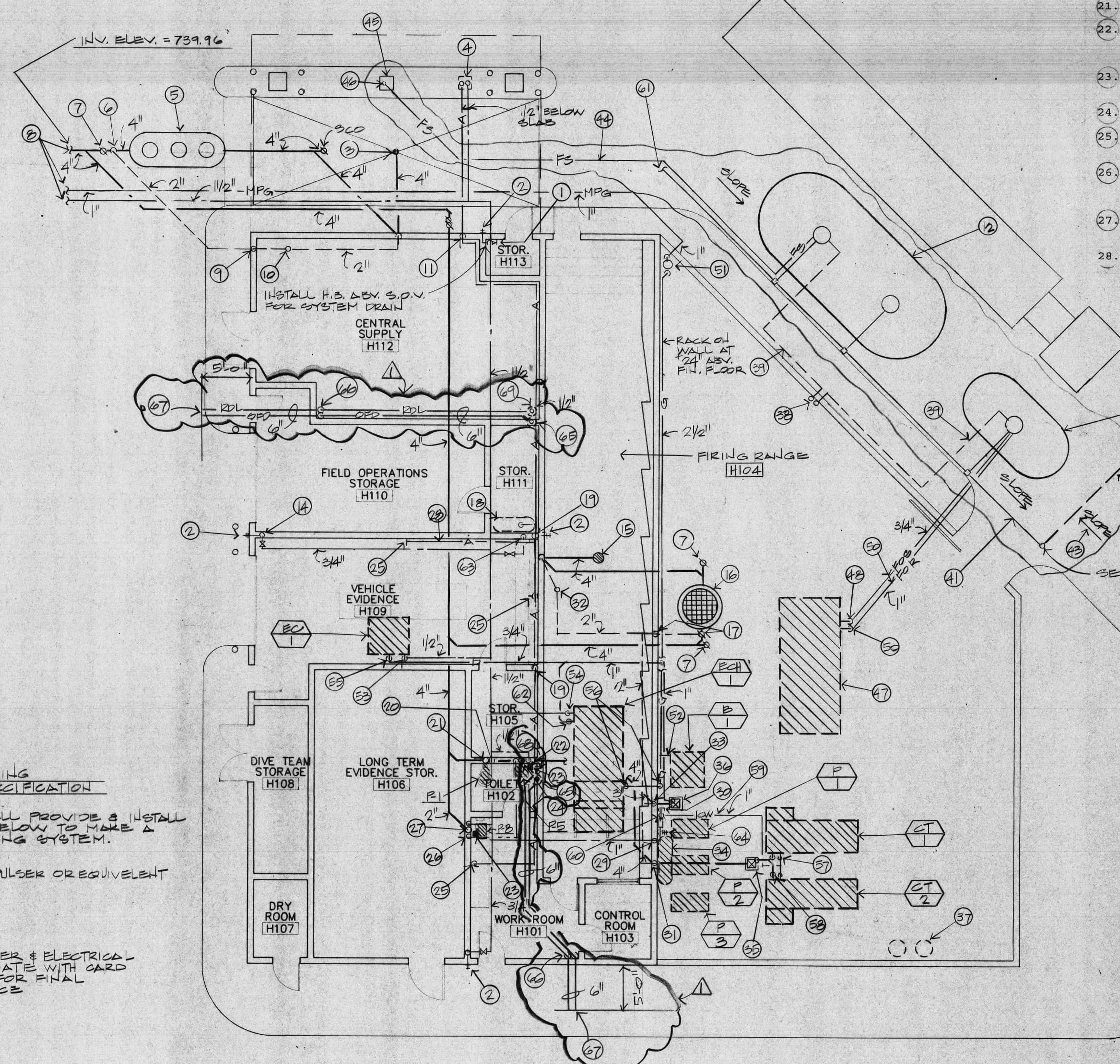
24. 2" WASTE DOWN - 1-1/2" VENT OVER IN WALL.

25. 1/2" AIR LINE DOWN NEXT TO WALL TO QUICK DISCONNECT AT +6" ABOVE COUNTER TOP.

26. 1/2" CW DOWN IN WALL, 1/2" CW TO P-8, 1/2" CW TO POINT OF USE WATER HEATER, 1/2" HW FROM POINT OF USE WATER HEATER TO P-8.

27. 2" WASTE DOWN - 1-1/2" VENT UP, OVER ABOVE CEILING TO VENT RISER AT FIXTURE P-1.

28. 1/2" AIR LINE OVER ALONG WALL AT +36" ABOVE FINISHED FLOOR.



PLUMBING FLOOR PLAN - SUPPORT BUILDING

SCALE 1/8":1'-0"

SPECIFICATION: (UNDERGROUND STORAGE TANKS)

1). 12,000 GALLON UNLEADED FUEL TANK: PROVIDE & INSTALL "XERXES" FUEL OIL STORAGE TANK, 24'-5½" LONG X 10'-5" Φ, FIBERGLAS REINFORCED PLASTIC WITH ALL FITTINGS, U.L. LISTED, INSTALL AS PER MANUFACTURES RECOMMENDATIONS SEE DETAIL THIS SHEET.

2). 2500 GALLON DISEL FUEL TANK: PROVIDE & INSTALL "XERXES" DIESEL STORAGE TANK, 13'-10" X 6'-4⅜" Φ, FIBERGLAS REINFORCED PLASTIC WITH ALL FITTINGS, U.L. LISTED, INSTALL AS PER MANUFACTURES RECOMMENDATIONS SEE DETAIL THIS SHEET.

FUEL DISPENSING EQUIPMENT SPECIFICATION

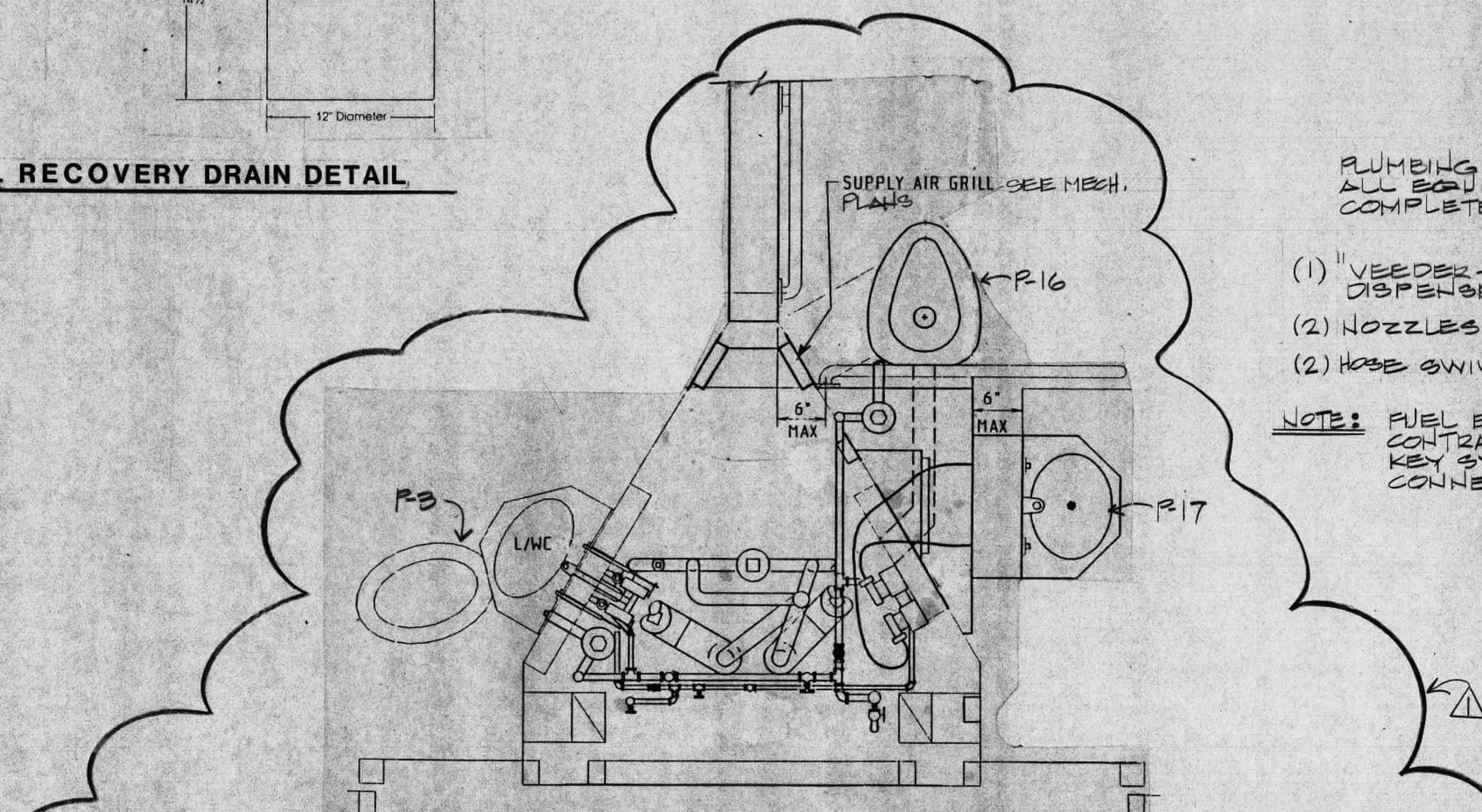
PLUMBING CONTRACTOR SHALL PROVIDE & INSTALL ALL EQUIPMENT LISTED BELOW TO MAKE A COMPLETE FUEL DISPENSING SYSTEM.

(1) "VEEDER-ROOT" MODEL 1871 PULSER OR EQUIVELENT DISPENSER

(2) NOZZLES FOR DISPENSER

(2) HOSE SWIVELS

NOTE: FUEL EQUIPMENT SUPPLIER & ELECTRICAL CONTRACTOR TO COORDINATE WITH CARD KEY SYSTEM SUPPLIER FOR FINAL CONNECTION & INTERFACE



2 GROUND FLOOR HANDICAPPED CELL PLAN - PLUMBING

NO SCALE

NOTE 1). THIS AREA IS TYPICAL FOR CELLS #A-111 & #A-138, SEE SHEET P-1 FOR LOCATION

2). PLUMBING CONTRACTOR SHALL COORDINATE PLUMBING PIPING WITH MECHANICAL & ELECT. CONTRACTORS PRIOR TO INSTALLING ANY PIPING IN PLUMBING CHASE

TESCO, Inc.

T-90138

R/DA

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PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE 12/18/91

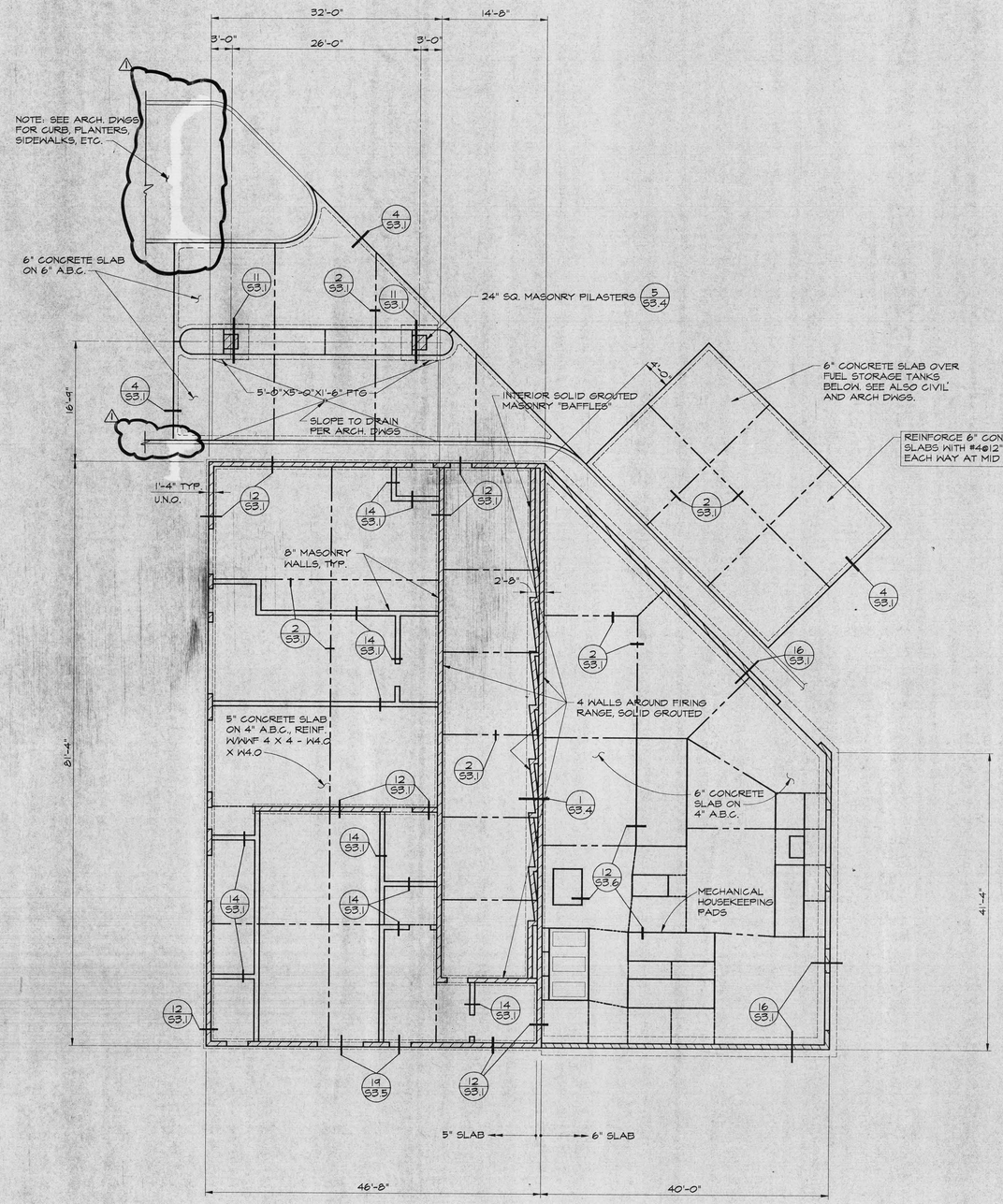
ISSUED FOR	DATE
1 CITY COMMENTS	4-8-92

SHEET TITLE

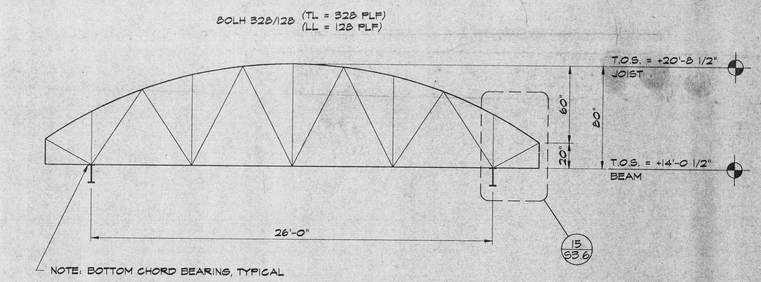
PLUMBING FLOOR PLAN SUPPORT BUILDING DETAILS

SHEET NO. P-3

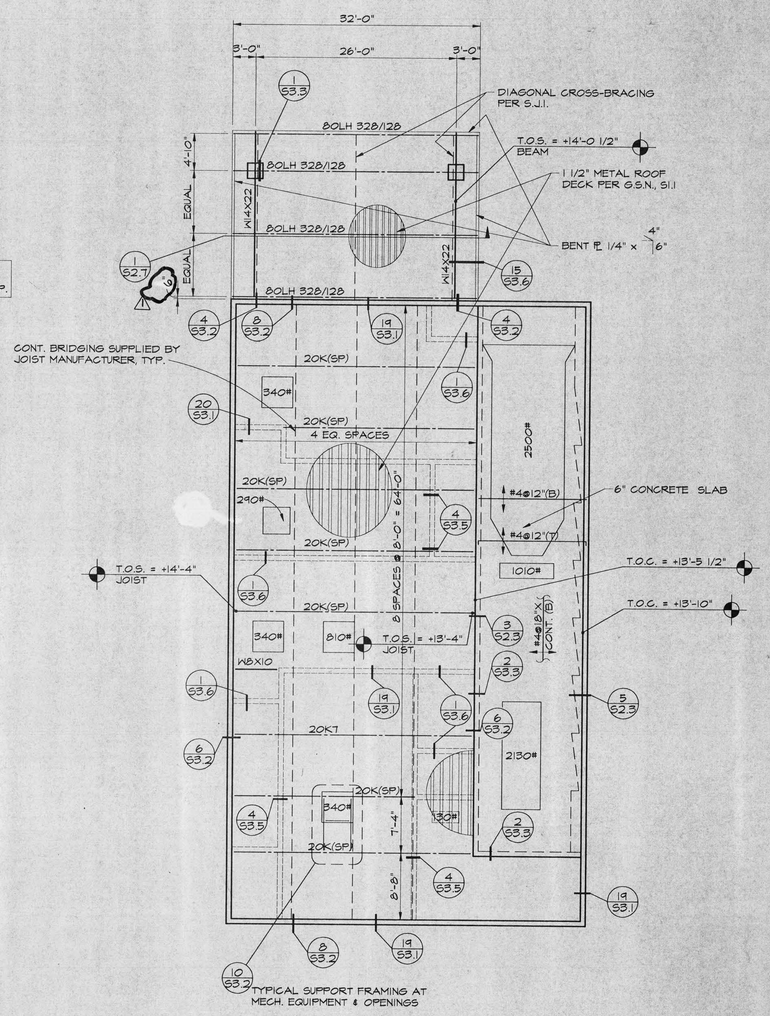
R/DA PROJECT NO. 91006



SUPPORT BUILDING FOUNDATION PLAN



1 JOIST ELEVATION



SUPPORT BUILDING ROOF FRAMING PLAN

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REGISTERED PROFESSIONAL ENGINEER 22571 TIMOTHY S. SEPPER ARIZONA, U.S.A. 1-7-92

PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS

LAKE HAVASU CITY, ARIZONA

DATE	1-7-92
ISSUED FOR	DATE
⚠1 CITY PLAN CHECK	4-3-92

SHEET TITLE

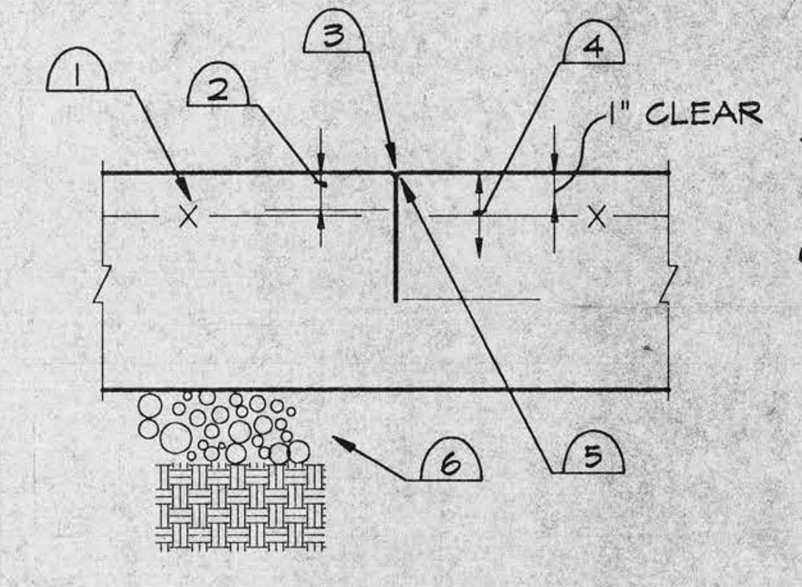
SUPPORT BUILDING FOUNDATION & FRAMING PLANS

SHEET NO.

S2.7

R/DA PROJECT NO.

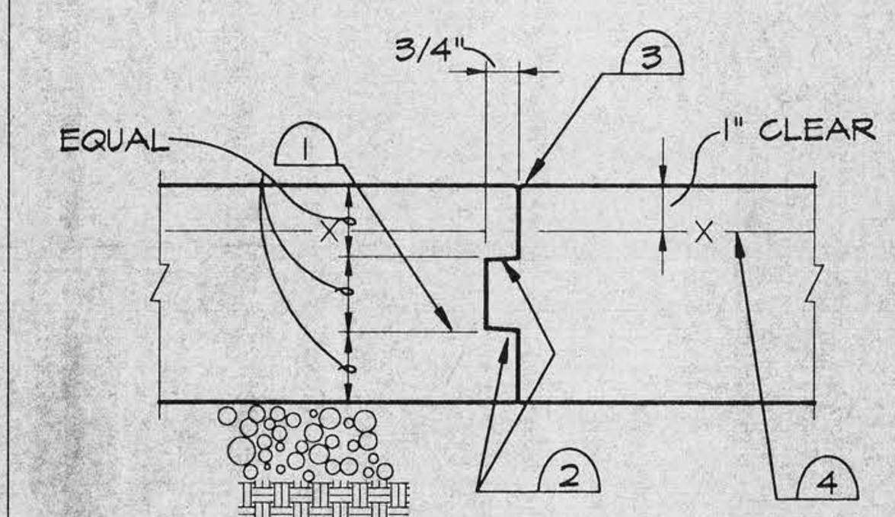
91006



1. 6 X 6-W2.9 X W2.9 W.W.F. CUT @ JOINT.
2. 1" TOOL DEPTH.
3. CUT FRESH CONCRETE JUST AFRETE IT HAS BEGUN TO HARDEN, WITH 1/4" THICK ANGLE. REMOVE AND TOOL JOINT.
4. 2-1/2" DEPTH OF CUT.
5. 1/8" TOOLED RADIUS AT EXPOSED AREA.
6. PLACE CONCRETE ON 4" ABC OVER COMPACTED EARTH BASE.

NOTE: AT CONTRACTOR'S OPTION, THIS DETAIL ANTICIPATES "STRIP" PLACING WITH THE CONTROL JOINTS CUTTING ACROSS THE STRIP. IF OTHER PLACING PATTERNS ARE USED, DO NOT USE THIS TYPE OF CONTROL JOINT. AT COVERED FLOORS, "ZIP STRIP" AND 1-1/2" DEEP SAWCUTTING ARE ACCEPTABLE AS A CONTROL JOINT. SAW-CUTTING SHALL BE MADE AS SOON AS POSSIBLE SO THAT IT IS DONE PRIOR TO THE SHRINKAGE CRACKING.

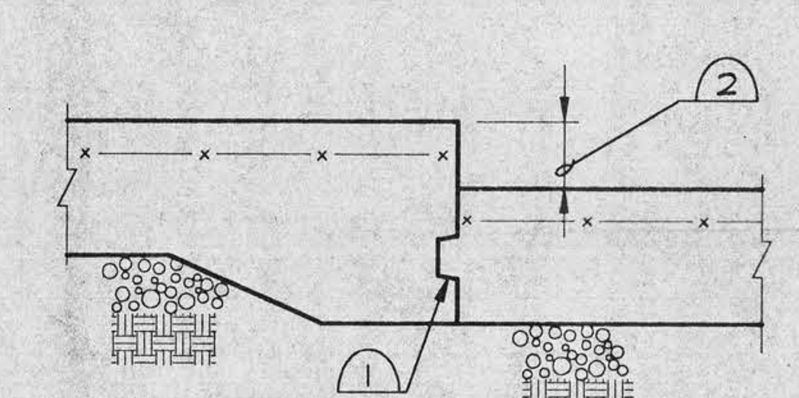
(1) SHRINKAGE CONTROL JOINT OPTION (S.J.) IN SLAB ON GRADE



1. PLASTIC KEY NAILED TO WOOD FORM. STEEL FORMED KEY MAY BE USED AT COVERED FLOORS.
2. BEVEL TO BE 1/8" MAXIMUM TO REDUCE CURL.
3. TOOL JOINT AT EXPOSED AREA WITH 1/8" RADIUS.
4. 6X6 - W2.9 X W2.9 W.W.F. CUT AT JOINT.

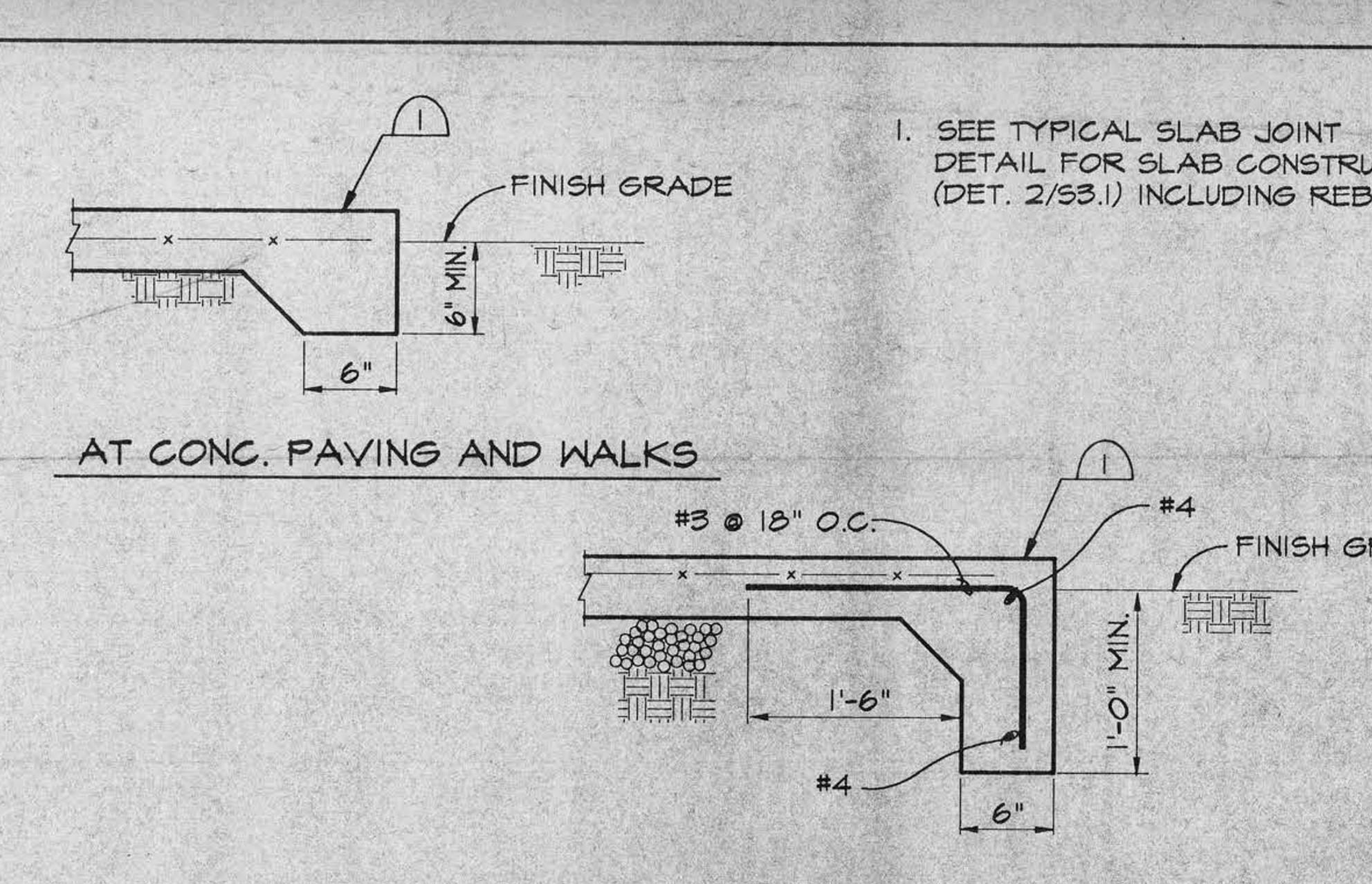
NOTE: FOR OPTION, SEE "SHRINKAGE CONTROL JOINT OPTION IN SLAB ON GRADE", 1/S3.1.

(2) CONSTRUCTION JOINT (C.J.) AND SHRINKAGE CONTROL JOINT (S.J.) IN SLAB ON GRADE



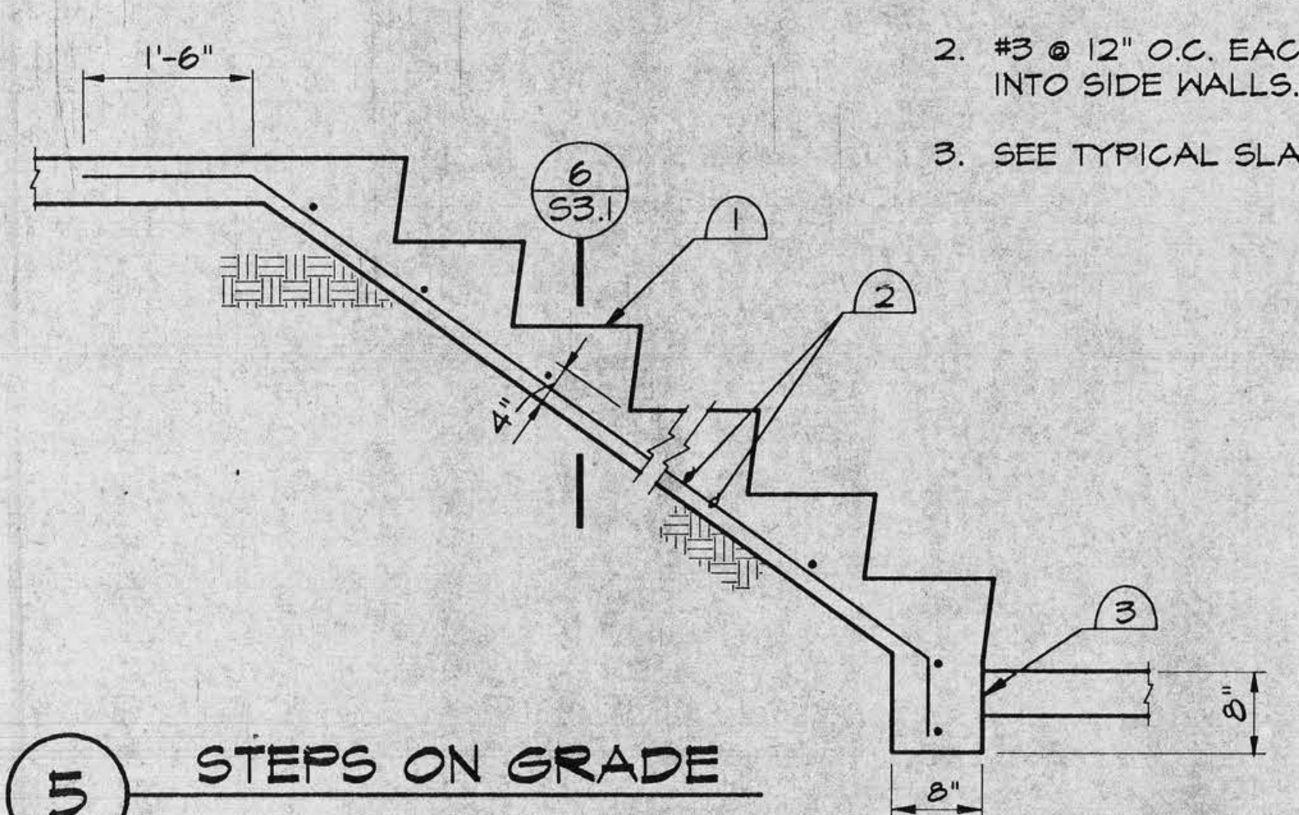
1. PERMISSIBLE SLAB CONSTRUCTION JOINT PER DETAIL 2/S3.1.
2. SEE ARCHITECTURAL DRAWINGS FOR STEP DIMENSION. DO NOT EXCEED 8".

(3) SMALL STEP IN SLAB ON GRADE



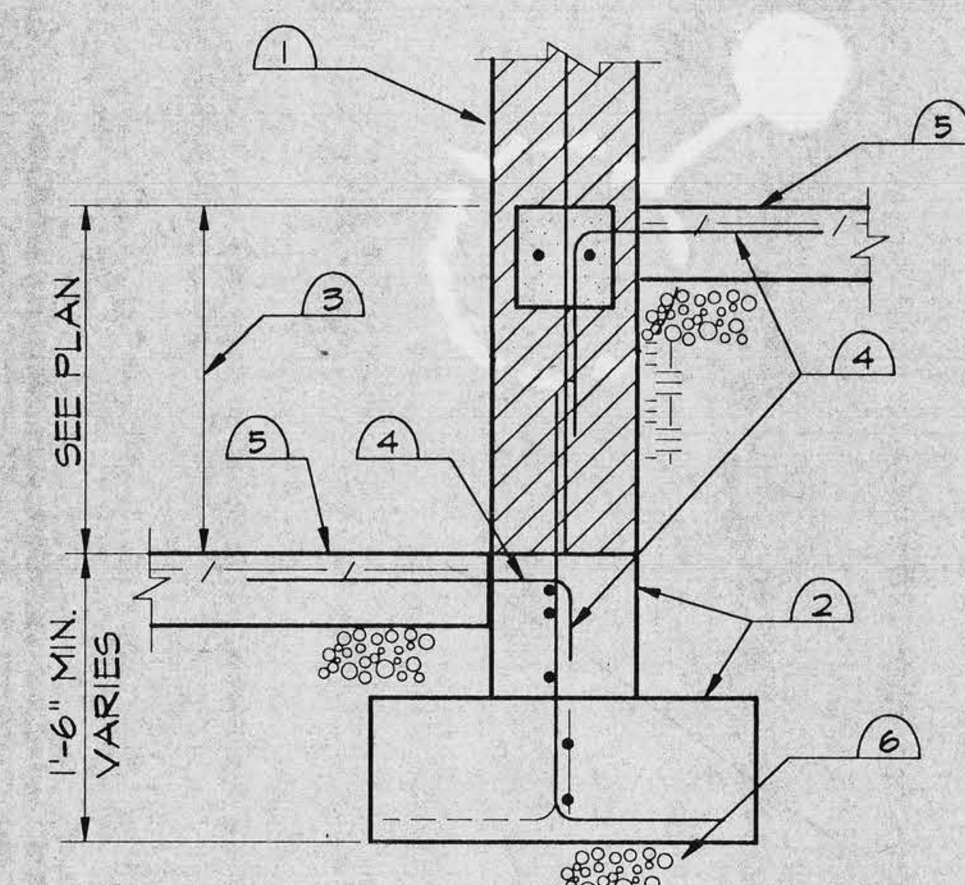
1. SEE TYPICAL SLAB JOINT DETAIL FOR SLAB CONSTRUCTION (DET. 2/S3.1) INCLUDING REBAR IF ANY.

(4) SLAB EDGES



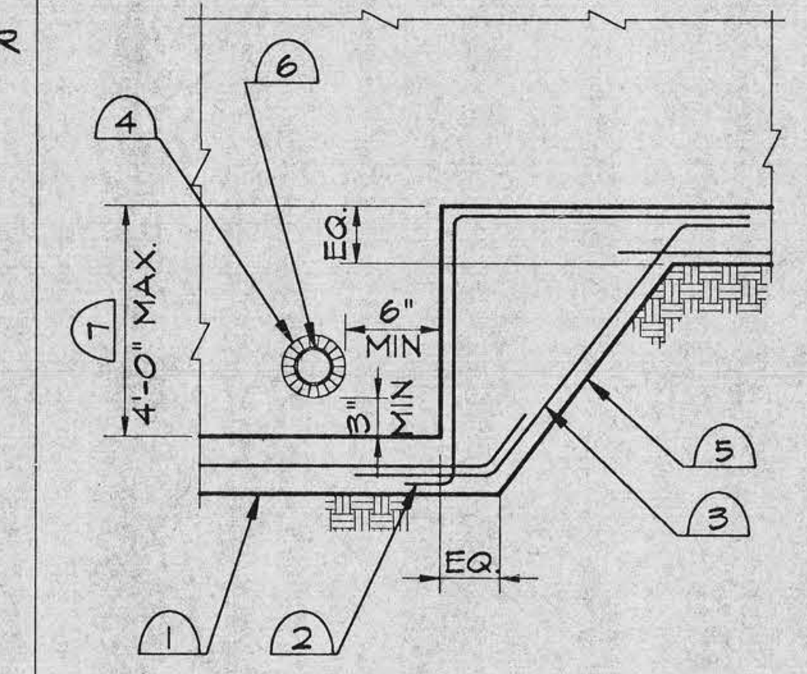
1. SEE ARCHITECTURAL DRAWINGS FOR NUMBER OF TREAD AND RISER SHAPE AND TREATMENT.
2. #3 @ 12" O.C. EACH WAY, DOWEL INTO SIDE WALLS.
3. SEE TYPICAL SLAB JOINT DETAIL 2/S3.1

(5) STEPS ON GRADE



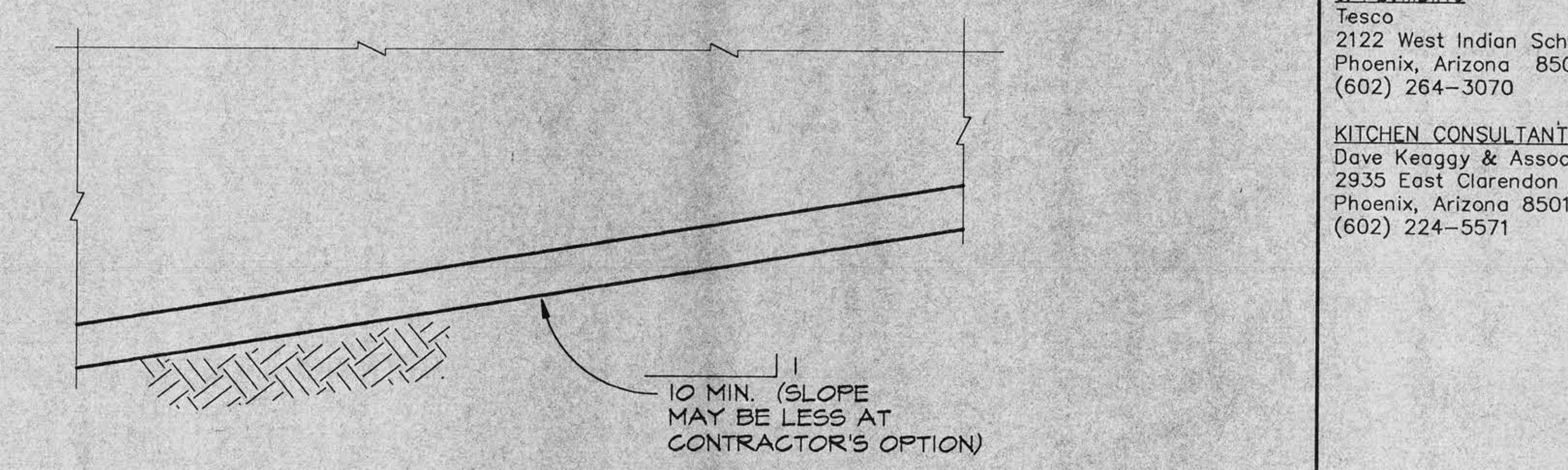
1. 8" MASONRY WALLS PER PLANS.
2. FOOTINGS AND STEM WALLS PER 12/S3.1, STEP FOOTING AS REQUIRED PER 7/S3.1.
3. SOLID GROUT BELOW GRADE, TYPICAL.
4. #4 DOWELS x 24" 10" AT 32" ON CENTER.
5. SLAB ON A.B.C. PER PLANS.
6. COMPACTED BACKFILL PER SPECS. AND GEOTECHINICAL ENGINEER.

(6) CHANGE IN SLAB ELEVATION AT MASONRY WALL

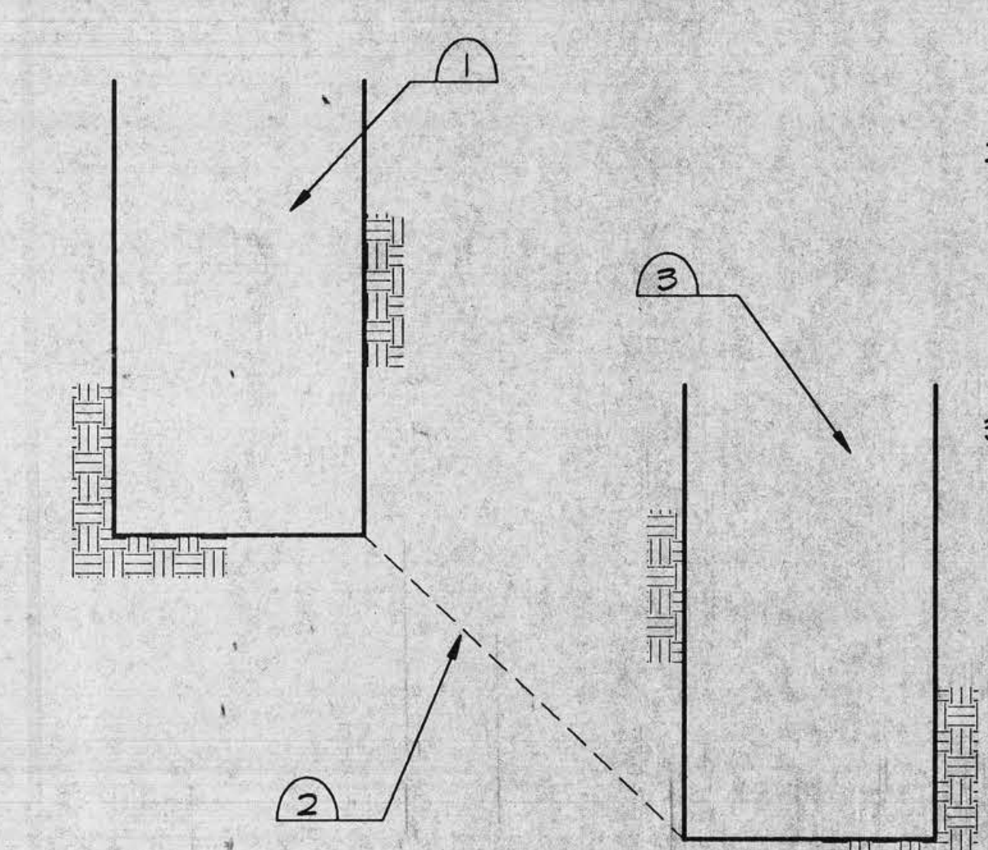


1. PLACE ALL CONCRETE AGAINST UN-DISTURBED OR COMPACTED SOIL. IF SOIL IS OR COMPACTED DURING CONCRETE PLACING REPLACE DISTURBED SOIL WITH CONCRETE.
2. REBAR MAY BE LAP SPLICED AT CONTRACTORS OPTION.
3. REBAR TO MATCH AND LAP WITH TYPICAL FOOTING REINFORCEMENT.
4. 1" SPONGE RUBBER AROUND PIPE WHEN APPLICABLE.
5. SLOPE AS REQUIRED FOR EARTH STABILITY.
6. SEE "DETAILS OF PIPE AT CONCRETE FTG" (DET. 17/S3.1) FOR PIPE PLACEMENT CRITERIA.
7. STEP FOOTING AS REQUIRED TO DEPRESS FOOTING TO FIRM BEARING, OR TO GET BELOW UNDERGROUND PIPING, OR WHEN-EVER CHANGE IN FOOTING ELEVATION OCCURS. SEE DETAIL "MAXIMUM SLOPES BETWEEN ADJACENT EXCAVATIONS" (DET. 9/S3.1) WHICH MAY REQUIRE LOWERING OF FOOTING ELEVATION. SPACE STEPS NO CLOSER THAN 4'-0" CLEAR.

(7) STEP IN FOOTING

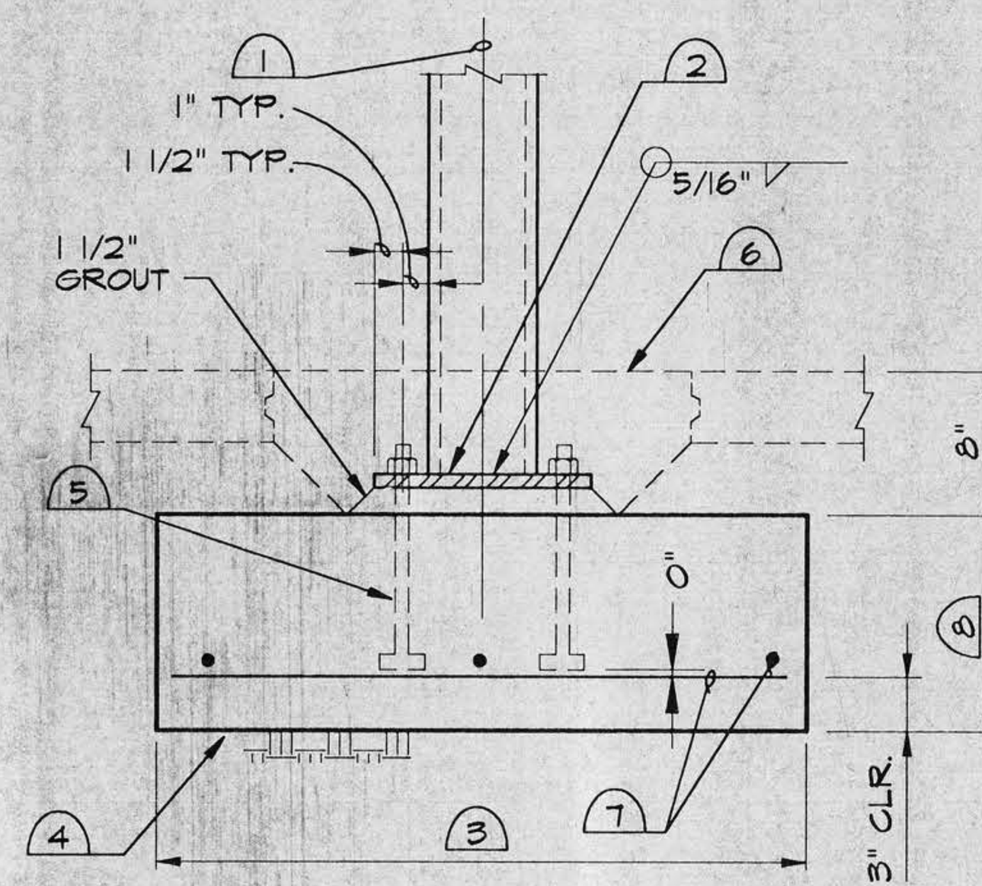


(8) SLOPING FOOTING



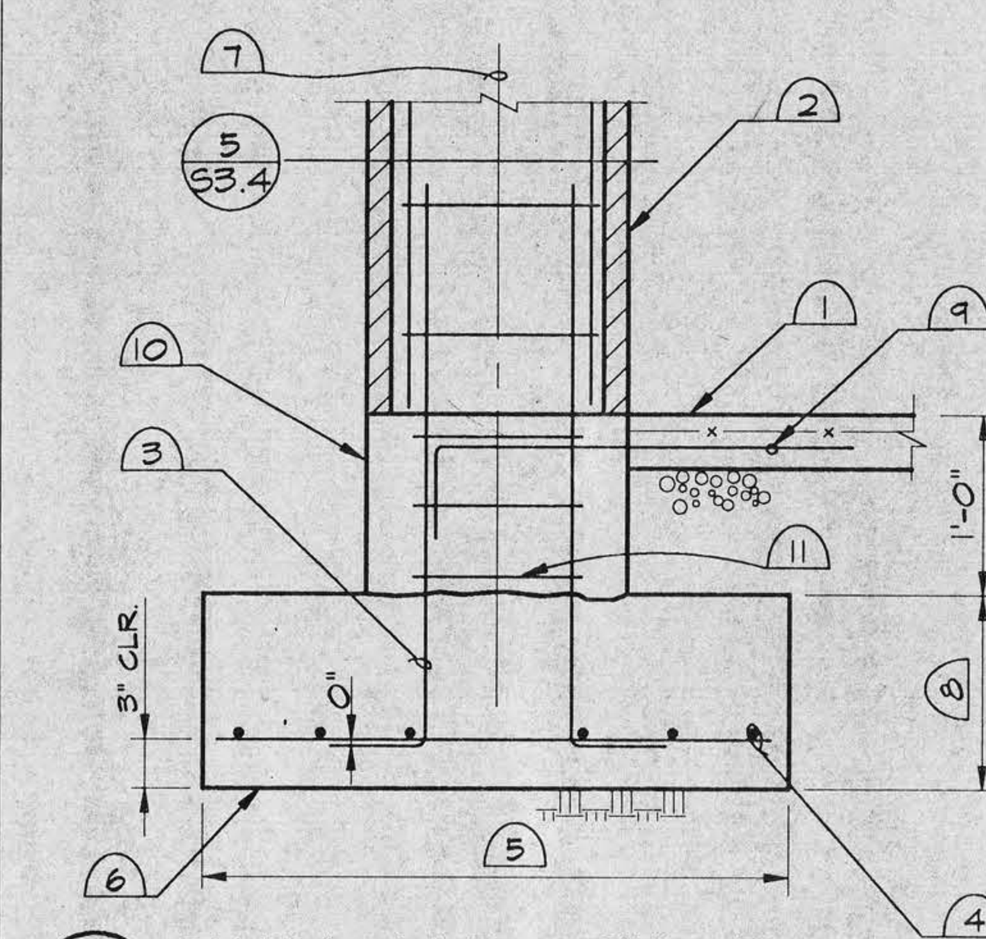
1. FOOTING.
2. THESE SLOPES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 1 HORIZONTAL. IF EXCAVATION STAND VERTICALLY WITHOUT SHORING AND 1 VERTICAL TO 1 1/2 HORIZONTAL IF EXCAVATIONS NEED TO BE SLOPE OR SHORED.
3. EXCAVATION AND BACKFILL UNDERMINNING FOOTING ABOVE.

(9) MAXIMUM SLOPES BETWEEN ADJACENT EXCAVATIONS



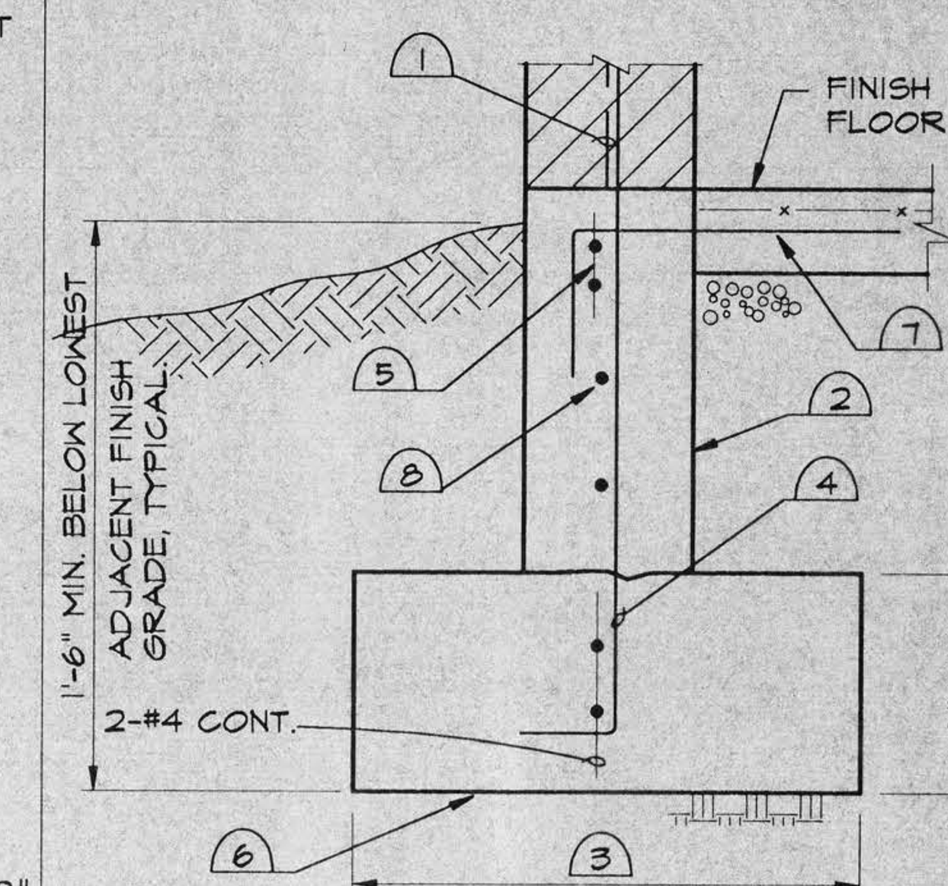
1. SYMMETRICAL ABOUT CENTER LINE.
2. BASE PLATE 3/4" THICK FOR FOOTING SIZE OF 6'-0" x 6'-0" OR GREATER PROVIDE 1" THICK BASE PLATE.
3. SEE PLAN. CENTER ON COLUMN EACH WAY.
4. COMPACTED FILL PER SPECIFICATIONS AND GEOTECHNICAL ENGINEER.
5. 4-3/4"Φ ANCHOR BOLTS WITH HEAVY HEX HEAD.
6. DIAMOND SHAPE CLOSURE CONCRETE, SEE PLANS.
7. PROVIDE:
   3-#5 E.W. FOR 2'-0"X2'-0"X8" FTG.
   4-#5 E.W. FOR 4'-0"X4'-0"X1'-0" FTG.
   11-#5 E.W. FOR 6'-0"X6'-0"X1'-6" FTG.
   12-#5 E.W. FOR 8'-0"X8'-0"X2'-0" FTG.
8. SEE PLAN.

(10) SHALLOW FOOTING FOR STEEL COLUMN



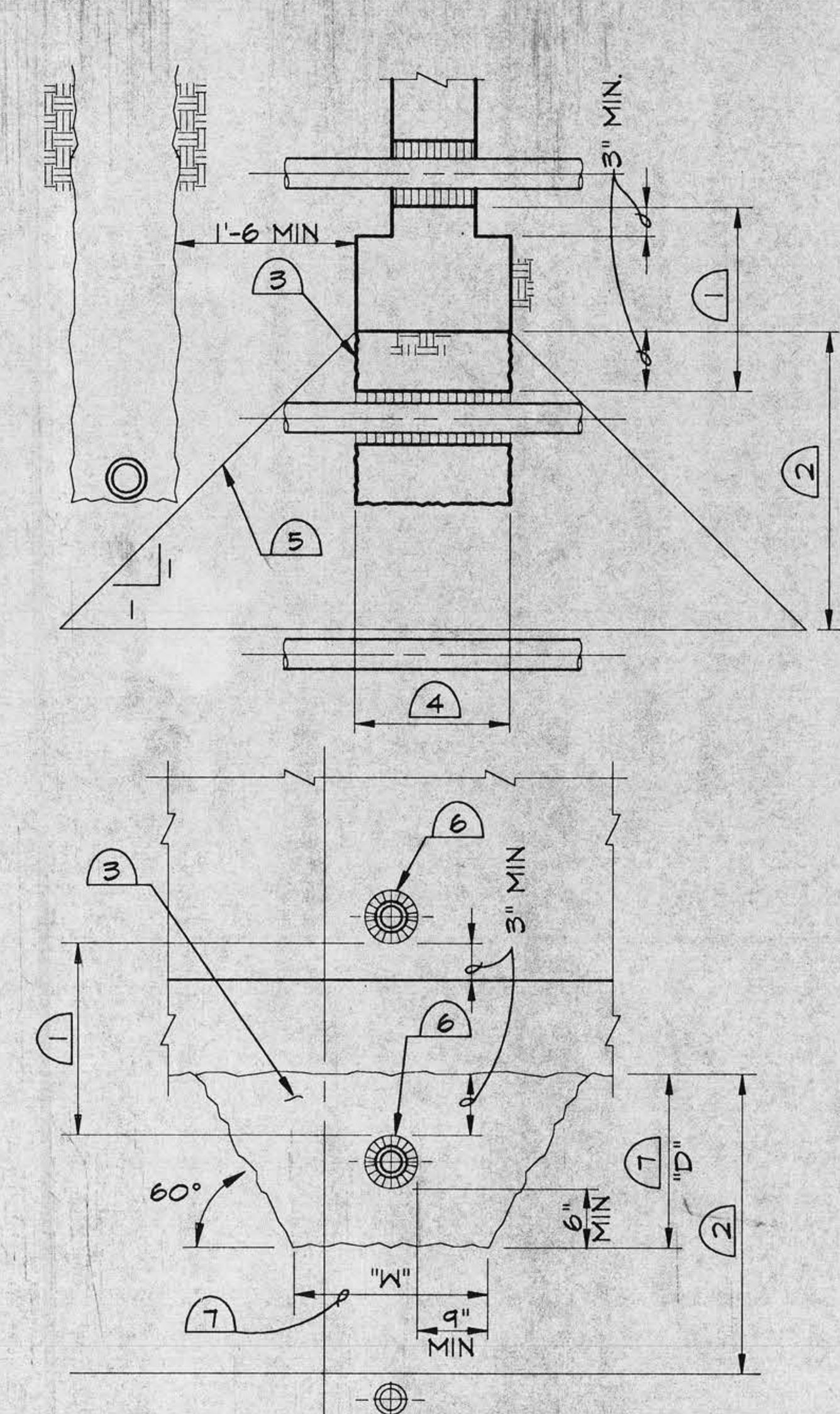
1. FINISH FLOOR OR LOWEST ADJACENT FINISHED GRADE.
2. SOLID GROUT MASONRY COLUMN FULL HEIGHT.
3. DOWELS TO MATCH AND LAP COLUMN REINFORCING.
4. PROVIDE MIN. 2-#5 EACH WAY FOR 2'-6"X2'-6" FTG.
   PROVIDE MIN. 3-#5 EACH WAY FOR 3'-0"X3'-0" FTG.
   PROVIDE MIN. 4-#5 EACH WAY FOR 4'-0"X4'-0" FTG.
   PROVIDE MIN. 5-#5 EACH WAY FOR 5'-0"X5'-0" FTG.
5. CENTER UNDER COLUMN, SEE PLAN.
6. SEE G.S.N. - COMPACTED FILL PER SPECS. & GEOTECHINICAL ENGINEER.
7. SYMMETRICAL ABOUT CENTER LINE EACH WAY.
8. SEE PLAN
9. SLAB DOWELS: #4 x 10" 24" @ 32".
10. CONC. PEDESTAL, WITH SAME SIZE AND SHAPE AS MASONRY COLUMN.
11. 3 - #4 TIES.

(11) SHALLOW FOOTING FOR MASONRY COLUMN



1. SEE G.S.N. FOR MASONRY WALL REINFORCING.
2. 8" THICK CONC. SYEM WALL.
3. 1'-4" UNLESS NOTED OTHERWISE ON PLAN. CENTER UNDER WALL.
4. DOWELS TO MATCH AND LAP WITH WALL REINFORCING.
5. 2-#5 IN TOP OF STEM WALL.
6. SEE G.S.N. ESTABLISH AND VERIFY FOOTING BOTTOM. MAINTAIN REQD. SLOPE BETWEEN EXCAVATIONS. FINISH GRADE IS FINISH FLOOR AT INTERIOR FOOTING. COMPACTED FILL PER SPECS. AND GEOTECHNICICAL ENGINEER.
7. SLAB DOWELS: #4 x 10" 24" @ 32".
8. #4 x CONT. AT 8".

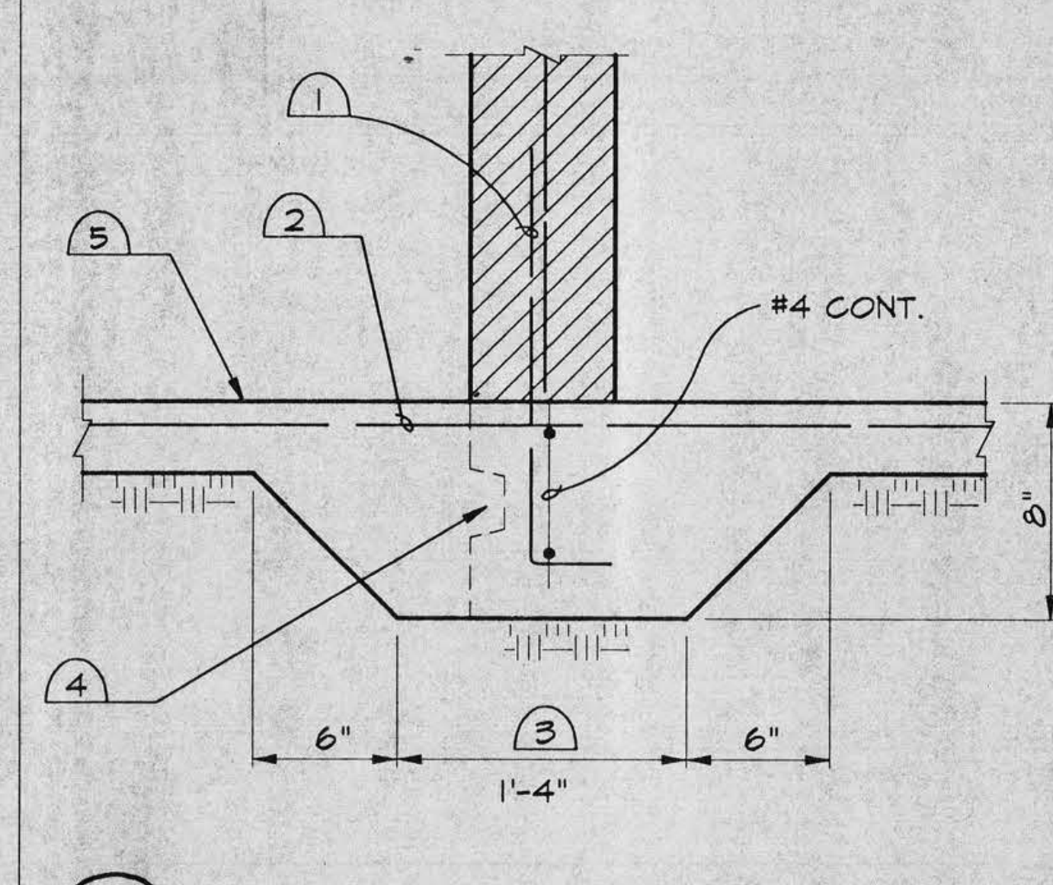
(12) FOOTING FOR MASONRY



1. STEP FOOTING IF PIPE OCCURS WITHIN THIS AREA.
2. 1-1/2 X FOOTING WIDTH, ENCASE PIPE IN CONCRETE WITHIN THIS AREA.
3. CONCRETE FILL SHALL BE PLACED BEFORE FOOTING IS CAST.
4. CONCRETE PIPE ENCASE-MENT SAME WIDTH AS FOOTING.
5. NO EXCAVATION FOR PIPE TRENCH PARALLEL TO FOOTING BELOW THIS LINE.
6. 1" SPONGE RUBBER.
7. CONCRETE ENCASEMENT DIMENSIONS "W" (WIDTH) AND "D" (DEPTH) DETERMINED BY SIZE OF PIPE PLUS NOTED MINIMUM EDGE DIMENSIONS AND 60" SLOPE.

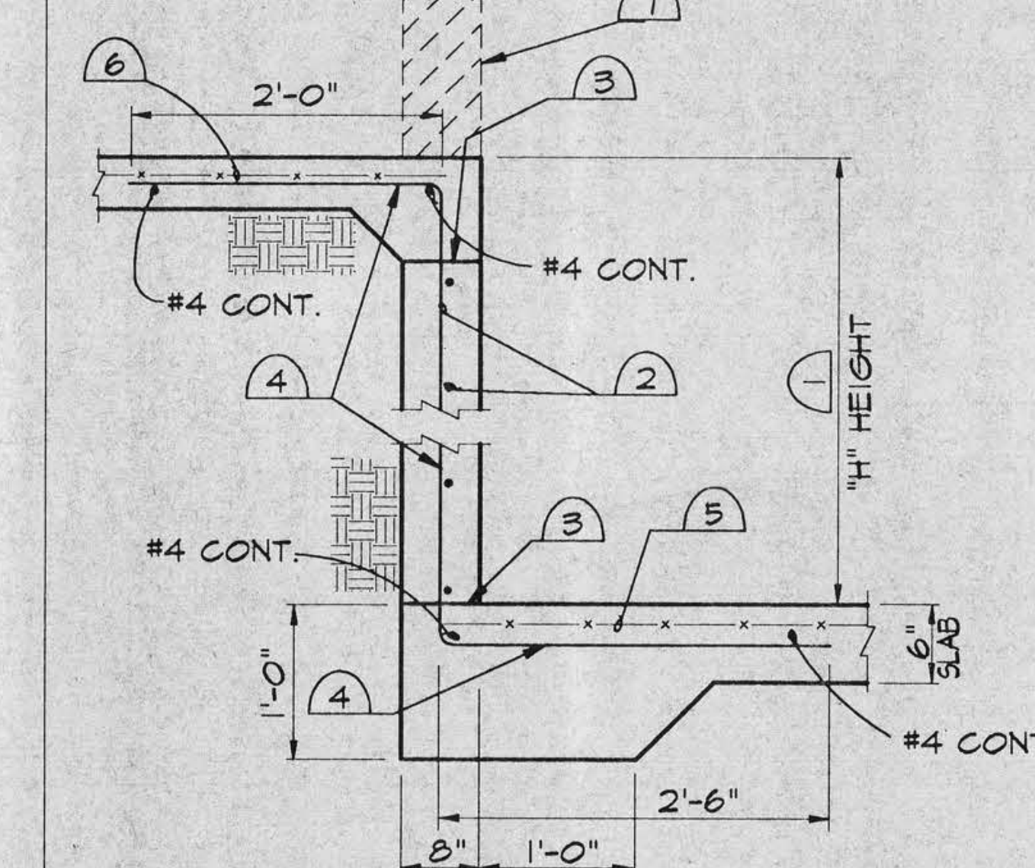
NOTE: NO PIPES SHALL PASS THRU COLUMNS & FOOTINGS. NO PIPES SHALL PASS UNDER COLUMN FOOTINGS.

(17) DETAILS OF PIPE AT CONCRETE FOOTING



1. DOWELS TO MATCH AND LAP MASONRY WALL REINFORCING.
2. #4 X 5'-0" @ 18", CENTER ON WALL.
3. CENTER UNDER WALL.
4. PERMISSIBLE CONSTRUCTION JOINT.
5. FOR SLAB CONSTRUCTION NOT SHOWN, SEE SLAB JOINT DETAIL 2/S3.1

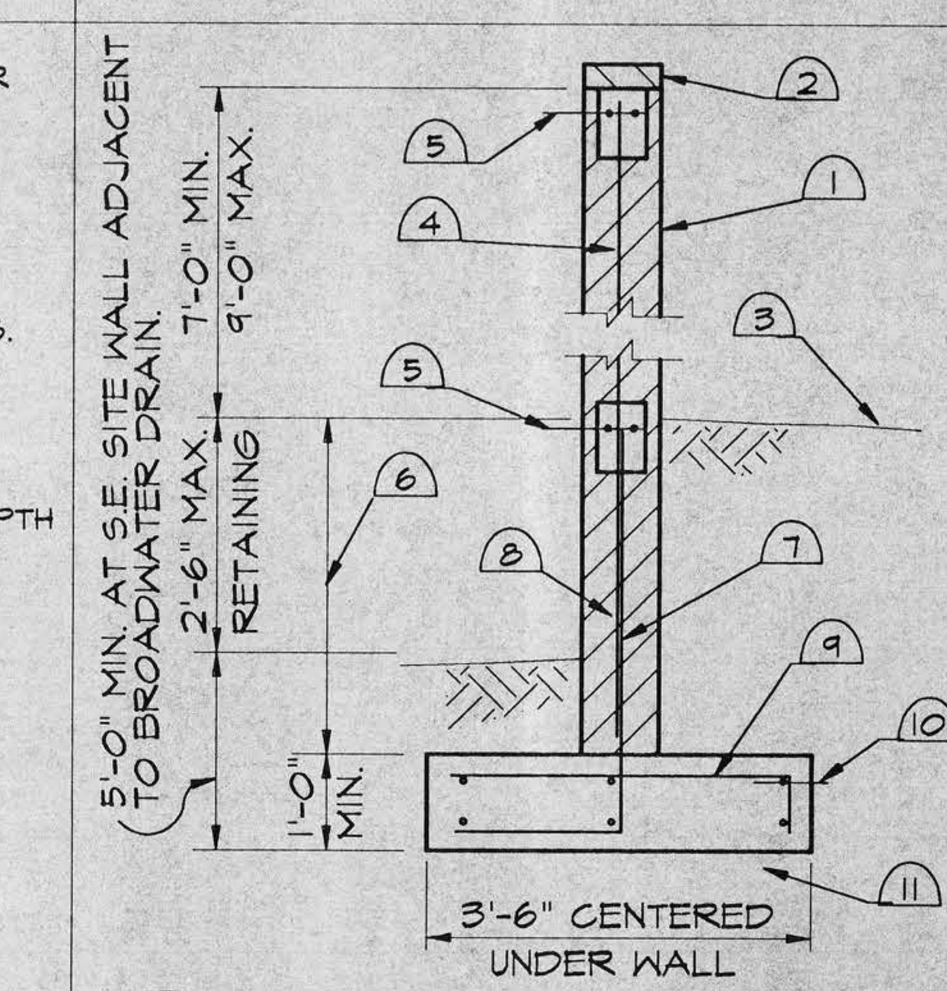
(14) MASONRY NON-BEARING WALL AT SLAB ON GRADE



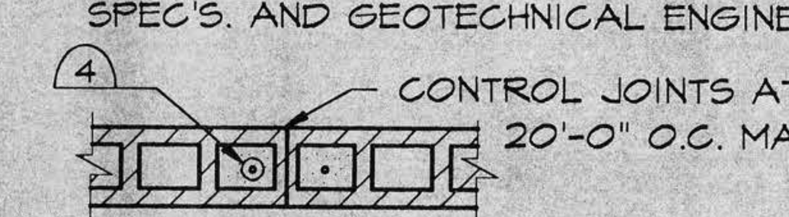
1. SEE ARCHITECTURAL DRAWINGS FOR HEIGHT DIMENSION.
2. #4 @ 12" EACH WAY. SPLICE AS REQUIRED PER GENERAL STRUCTURAL NOTES.
3. PERMISSIBLE CONSTRUCTION JOINTS.
4. CENTER REINFORCING IN CONCRETE AT TOP, BOTTOM AND IN WALL.
5. 4 x 4-W4.0 x W4.0 W.W.F. @ MID-DEPTH OF SLAB.
6. 6 x 6-W2.9 x W2.9 W.W.F. EXTENDED TO ADJACENT SLAB JOINT.
7. MASONRY WALL AND DOWELS WHERE SHOWN ON PLAN.

NOTE: SLOPE BOTTOM OF SLAB TO DRAIN, IF DRAIN IS SHOWN ON ARCHITECTURAL DRAWINGS.

(15) INTERIOR RETAINING WALL AND SLAB

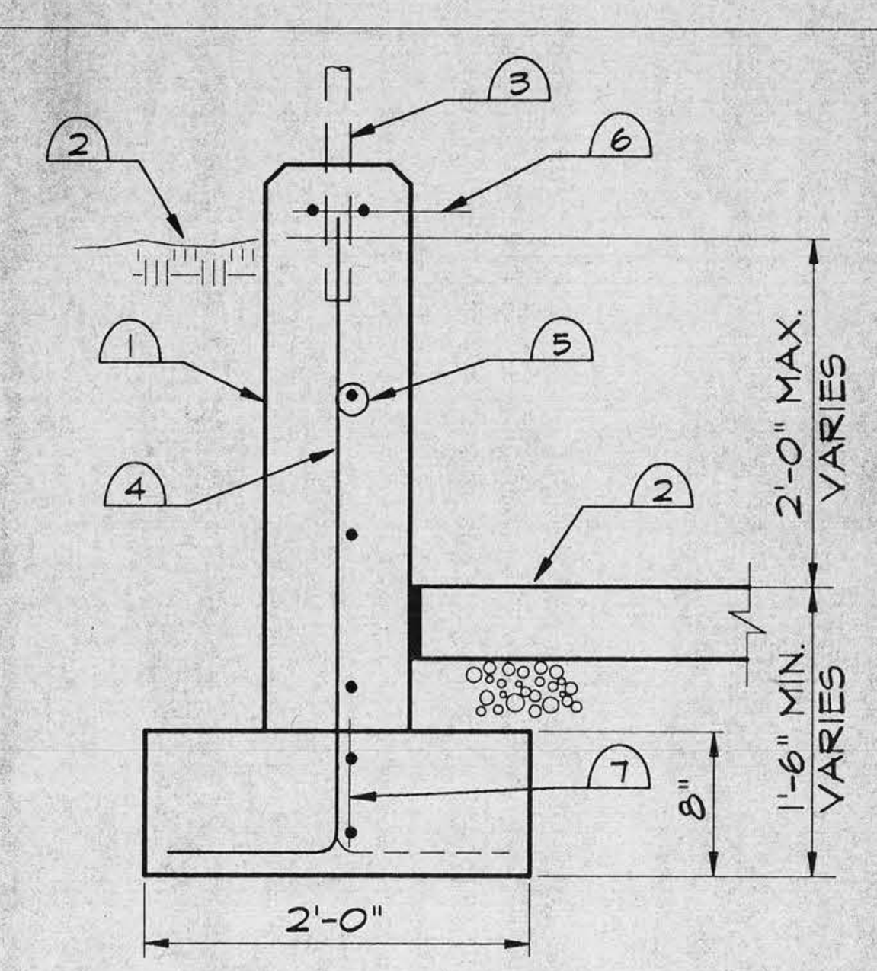


1. 8" MASONRY WALL PER ARCH'L. DWG.
2. 2" CAP BLOCK PER ARCH'L. DWGS.
3. FINISH GRADES PER CIVIL DRAWINGS
4. #5 AT 32" O.C. AND BOTH SIDES OF CONTROL JOINTS.
5. 2-#5 x CONT. IN BOND BEAM AT TOP OF WALL AND AT FINISH GRADE. (CUT TOP BARS AT CONTROL JOINTS).
6. SOLID GROUT BELOW GRADE, TYPICAL.
7. #5 AT 16" ON CENTER.
8. LAP LENGTH PER G.S.N.
9. #5 AT 16" ON CENTER AT TOP.
10. 6 - #4 x CONTINUOUS.
11. COMPACTED FILL BELOW FOOTING PER SPEC'S. AND GEOTECHNICAL ENGINEER.



(X) AT JOINT

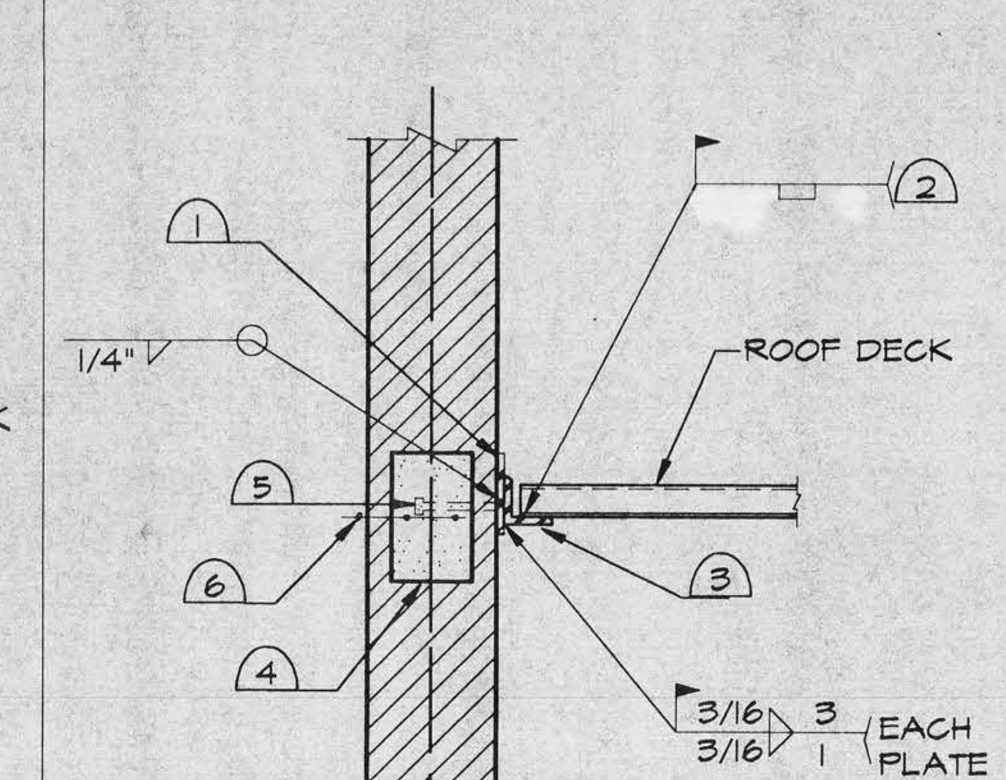
(16) PERIMETER SITE WALL



1. 8" CONCRETE RETAINING WALL.
2. FINISH GRADE AND SIDEWALK PER CIVIL PLANS.
3. FENCE PER ARCHITECTURAL DRAWINGS.
4. #4 AT 12" O.C. - ALTERNATE HOOK AT BOTTOM.
5. #4 AT 12" O.C.
6. 2- #4 x CONTINUOUS, TOP.
7. 2- #4 x CONTINUOUS, FOOTING.

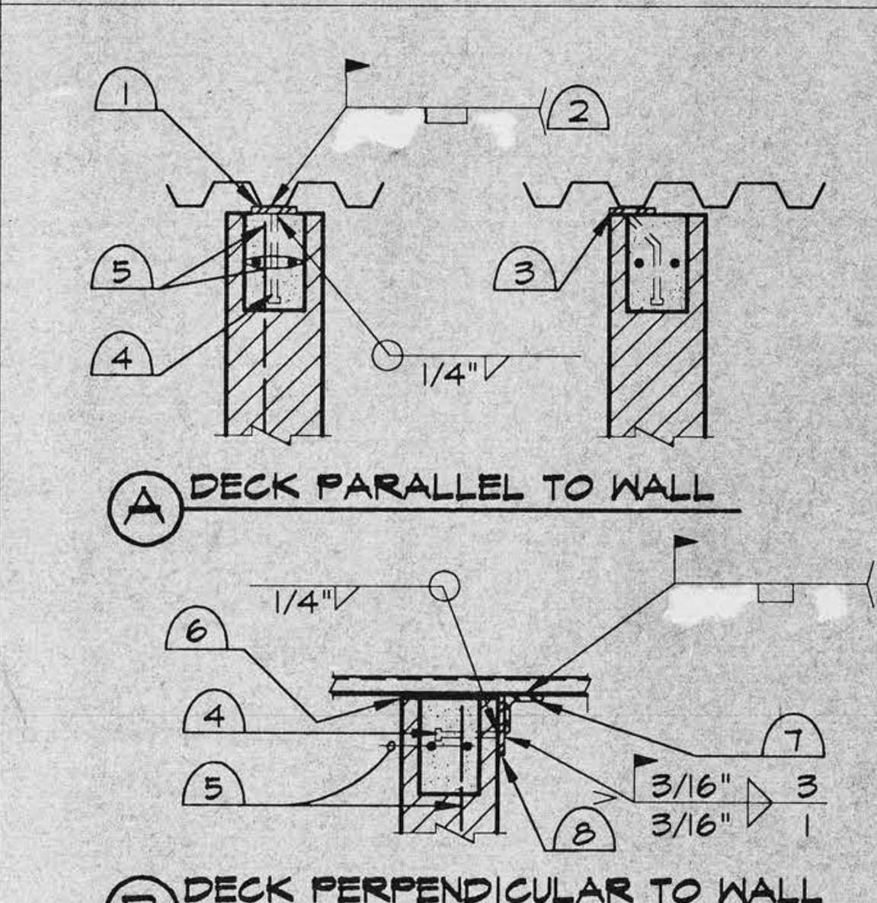
NOTE: PROVIDE CONSTRUCTION JOINT AT 20 FEET ON CENTER MAX. SPACING PER 13/S3.6.

(18) LOW RETAINING WALL



1. PLATE 1/4" x 5" x 0'-5" AT 32" ON CENTER NOT MORE THAN 1'-0' FROM END OF ANGLE. MINIMUM 2 PLATES PER ANGLE LENGTH.
2. DECK END WELD PER GENERAL STRUCTURAL NOTES.
3. CONTINUOUS ANGLE 3" X 3" X 1/4".
4. SEE GENERAL STRUCTURAL NOTES.
5. 3/4" DIA. X 5" HEADED STUD. CENTER ON PLATE.
6. REINFORCING PER G.S.N., IN CONTINUOUS BOND BEAM.

(19) ROOF DECK CONNECTION AT MASONRY WALL



1. CONTINUOUS PLATE 1/4" X 3". LOCATE UNDER FLUTE.
2. DECK WELD TO PLATE PER GENERAL STRUCTURAL NOTES.
3. SHIFT PLATE IF REQUIRED.
4. 3/4" DIA. X 6" HEADED STUDS AT 4'-0' ON CENTER. CENTER ON PLATE.
5. SEE GENERAL STRUCTURAL NOTES.
6. FILL SPACE WITH MATERIAL SPECIFIED BY ARCHITECT.
7. CONTINUOUS L 3" X 3" X 1/4".
8. PLATE 1/4" X 5" X 0'-5" AT 32" ON CENTER NOT MORE THAN 1'-0" FROM END OF ANGLE. MINIMUM 2 PLATES PER ANGLE LENGTH.

(20) ROOF DECK OVER MASONRY WALL

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TIMOTHY S. SEPPER

PROJECT NAME

LAKE HAVASU CITY POLICE HEADQUARTERS
LAKE HAVASU CITY, ARIZONA

DATE 1-7-92
ISSUED FOR | DATE

SHEET TITLE
STRUCTURAL DETAILS

SHEET NO.
S3.1

R/DA PROJECT NO.
91006