

CONSTRUCTION PLANS FOR ROOF REPLACEMENT

AIR FORCE PLANT 3 – BUILDING 6
TULSA INTERNATIONAL AIRPORT
(NORDAM LEASE)
2300 NORTH 85TH EAST AVENUE
TULSA, OK
PROJECT NO. - SP19-13
ACCOUNT NO. 1601673-541101

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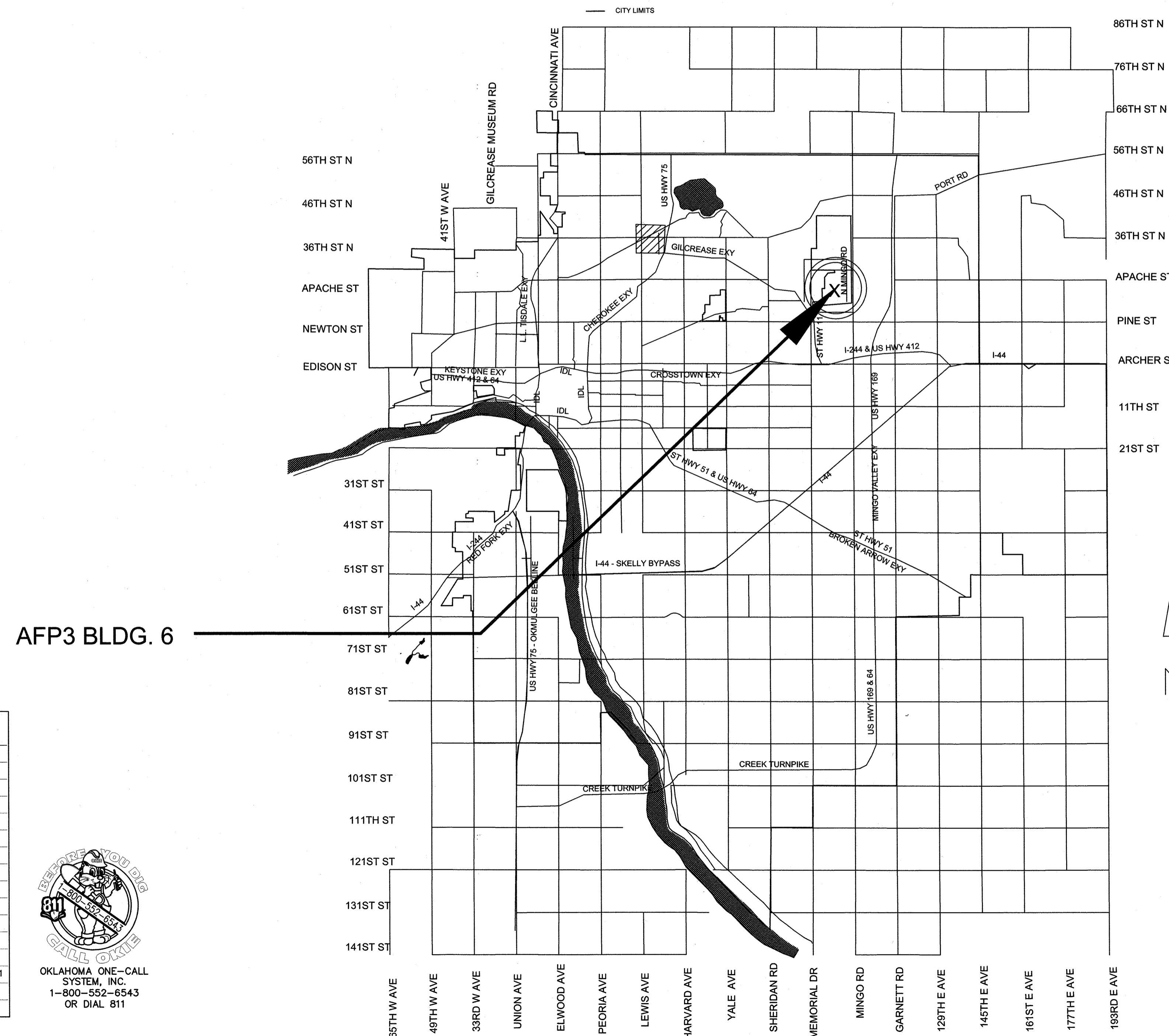
GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA CODES AND ORDINANCES, ENGINEERING SERVICES STANDARDS & PARKS STANDARDS & SPECIFICATIONS (CITY OF TULSA ORDINANCE AND CODES AMENDMENTS SUPERCEDE NATIONAL CODES).

CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL STRUCTURES, LANDSCAPING, PAVING, AND ANY OTHER ITEMS LOCATED WITHIN AND OUTSIDE THE WORK AREA. ANY DAMAGE TO PERMANENT ITEMS INCURRED BY THE CONTRACTOR THROUGH HIS WORK IN THIS CONTRACT SHALL BE REPAIRED TO ORIGINAL CONDITION, BY THE CONTRACTOR. AT HIS OWN EXPENSE.

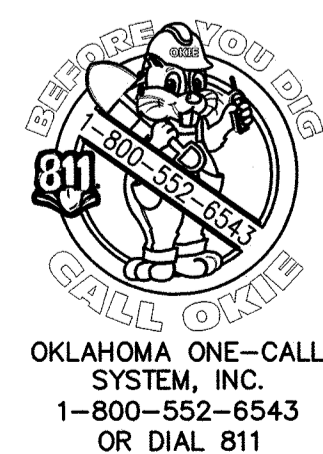
CONTRACTORS SHALL COORDINATE WITH IDENTIFIED MAINTENANCE OPERATIONS PERSONNEL FOR APPLICATION, SHUT OFF, AND REMOVAL OF ALL UTILITIES.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES.

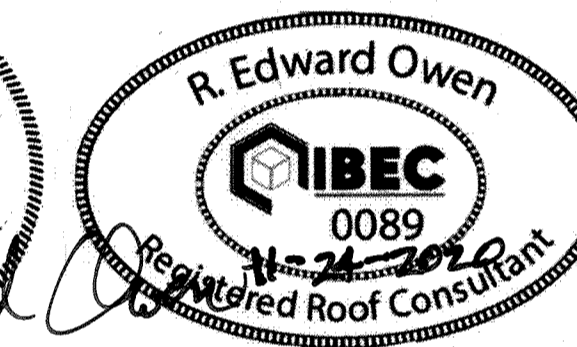
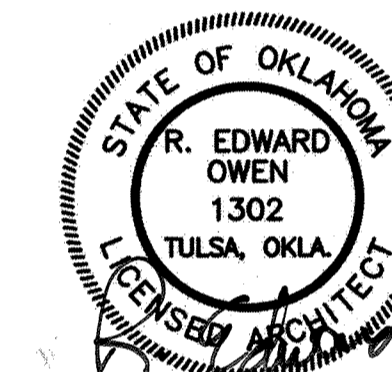


AFP3 BLDG. 6

UTILITY COORDINATION	
	NUMBER
ENGINEERING SERVICES	
WATER DESIGN	918-596-9566
WASTEWATER DESIGN	918-596-9564
TRANSPORTATION DESIGN	918-596-9636
TRAFFIC ENGINEERING DESIGN	918-596-9749
STORMWATER DESIGN	918-596-9498
PARKS MAINTENANCE	918-596-2486
OKLAHOMA NATURAL GAS CO.	918-831-8293
COX COMMUNICATIONS	918-286-4666
PUBLIC SERVICE CO. / AEP	918-599-2233
AT&T	918-576-2142
BUILDING AND OPERATIONS	918-596-9389
CALL OKIE	800-522-6543 OR 811



OKLAHOMA ONE—CALL SYSTEM, INC.
1-800-552-6543
OR DIAL 811



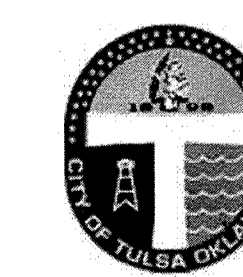
OKLAHOMA CERTIFICATE OF AUTHORITY #911
Expires 6-30-2025

PLANS PREPARED BY:



CYNERGY, P.L.L.C.
810 S. CINCINNATI AVE, STE 200,
TULSA, OK. 74119
918-877-6000
CYNERGY ENGINEERING P.L.L.C.

ROOF CONSULTANTS
5350 E. 46TH ST. SUITE 116
TULSA, OK 74135
918-660-6844



Tulsa
A New Kind of Energy.

APPROVED BY

[Signature]
CITY ENGINEER

12.15.20
DATE

SP19-13
ROOF REPLACEMENT AFP3 - BLDG 6

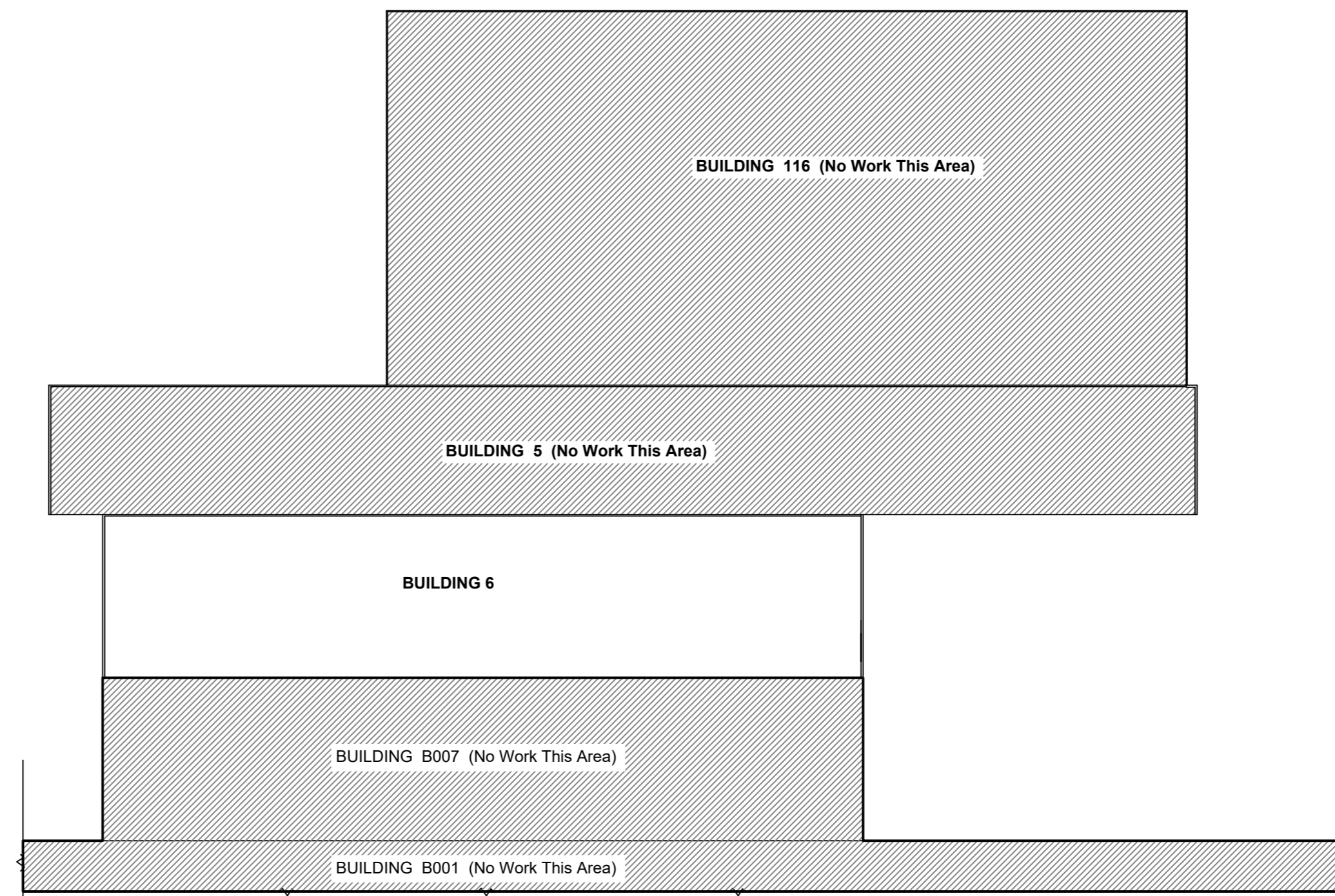
PAY ITEM SCHEDULE

ITEM No.	SPEC No.	DESCRIPTION	NOTES	UNIT	QUANTITY
1	Div 1	GENERAL REQUIREMENTS	GENERAL REQUIREMENTS: GENERAL CONDITIONS AND MISCELLANEOUS DIRECT AND INDIRECT PROJECT COSTS REQUIRED BY THE CONTRACT DOCUMENTS BUT NOT LISTED AS A SPECIFIC UNIT PRICE PAY ITEM IN THE PROPOSAL. INCLUDES, BUT IS NOT LIMITED TO: GENERAL CONDITIONS COVERING MISCELLANEOUS NON-STAFFING COSTS DIRECTLY RELATED TO THE PROJECT, SUCH AS JOB TRAILER, MOBILIZATION, PERMIT FEES (OTHER THAN BUILDING PERMIT PROVIDED BY CITY OF TULSA), TEMPORARY UTILITIES, PERMANENT UTILITY CONNECTION FEES, BARRIERS, SCAFFOLDING, EQUIPMENT RENTAL, CLEANING AND DUMPSTERS, ETC. EACH UNIT PRICE WILL BE DEEMED TO INCLUDE AN AMOUNT CONSIDERED BY THE CONTRACTOR TO BE ADEQUATE TO COVER CONTRACTOR'S OVERHEAD AND PROFIT FOR EACH SEPARATELY IDENTIFIED ITEM. QUANTITIES ARE ARCHITECT/ENGINEER ESTIMATES AND THE UNIT PRICES QUOTED ARE FOR CHANGE IN SCOPE PURPOSES ONLY. CONTRACTORS SHALL HAVE BID EACH ITEM AS COMPLETE, NET IN PLACE, FOR THE TOTAL PROJECT FROM PERSONAL OBSERVATION AND FIELD MEASUREMENT, AND SHALL NOT RELY ON EXTENDED QUANTITIES TO INCREASE PRICE ABOVE ORIGINAL BID. NO EXTENDED QUANTITIES OR ADDITIONAL PAYMENT ALLOWED FOR GROSS QUANTITIES, EXCESS, OR UNUSED CONSTRUCTION WASTE.	EA	1
2	01 21 00	OWNER'S ALLOWANCE	ALLOWANCE INCLUDED FOR UNFORESEEN CONDITIONS REQUIRING ADDITIONAL WORK NOT DEFINED IN THE CONTRACT DOCUMENTS. USED ONLY AT THE DISCRETION OF THE OWNER, IN STRICT ACCORDANCE WITH THE REFERENCED SPECIFICATION SECTION.	EA	1
3	06 11 40	WOOD BLOCKING AND CURBING	REPLACE ROTTED DAMAGED WOODEN CANTS & NAILERS WITH NEW TREATED LUMBER. IN STRICT ACCORDANCE WITH WITH THE DRAWINGS AND SPECIFICATIONS.	LF	100
4	07 01 50	PREPARATION FOR ROOFING REMOVE ROOF & INSULATION	REMOVE EXISTING ROOFING SYSTEM IN PREPARATION FOR NEW. INCLUDES REMOVAL AND DISPOSAL OF EXISTING ROOFING AND WATERPROOFING SYSTEM DOWN TO STRUCTURAL DECK, PARAPETS AND OTHER SUBSTRATES. INCLUDES EXISTING ABANDONED EQUIPMENT PLATFORMS, MECHANICAL EQUIPMENT, CURBS AND OTHER OBJECTS INTERFERING WITH NEW CONSTRUCTION AND INDICATED TO BE REMOVED. CONTRACTOR SHALL EXAMINE EXISTING SUBSTRATE(S) AND ADJACENT MATERIALS FOR RUST, DRY ROT AND OTHER DAMAGE WHICH COULD HINDER THE SUCCESSFUL APPLICATION OF NEW ROOFING SYSTEM. CONTACT ARCHITECT IMMEDIATELY UPON DISCOVERY OF DAMAGE.	SF	29,338
5	05 31 00	STEEL DECKING (REPAIR)	TREAT RUSTED METAL DECK WITH RUST PENETRATING SEALER.	SF	100
6	05 31 00	STEEL DECKING (REPLACE)	REPLACE METAL DECK WHERE EQUIPMENT HAS BEEN ABANDONED AND REMOVED. OR WHERE EXISTING DECK IS STRUCTURALLY UNSOUND.	SF	100
7	05 31 00	STEEL DECKING (OVERLAY)	PREPARE DAMAGED METAL DECK WITH OVERLAY OF 22 GAGE METAL DECK OR 22 GAGE FLAT METAL (AS INSTRUCTED BY ARCHITECT).	SF	100
8	07 62 00	14 1/2" COPINGS	INSTALL NEW 14 1/2" COPING WHERE SHOWN.	LF	157
9	07 53 90	NON-TAPERED ISO INSULATION MECHANICALLY FASTENED	INSTALL NON-TAPERED ISOCYANURATE ROOF INSULATION WITH FASTENERS.	SQ	285
10	07 53 90	TAPERED ISO CRICKETS MECHANICALLY FASTENED	INSTALL TAPERED ISOCYANURATE CRICKETS WITH FASTENERS.	SQ	58
11	07 53 90	MEMBRANE ROOFING SYSTEM	THERMOPLASTIC POLYOLEFIN (TPO) SINGLE-PLY MEMBRANE ROOFING SYSTEM. ROOFING SYSTEM INCLUDES: SINGLE-PLY MEMBRANE (60 MIL), FULLY-ADHERED TO COVERBOARD, OVER INSULATION (R=25 MIN), MEMBRANE FLASHINGS, SHEET METAL FLASHINGS AND COUNTER-FLASHINGS, ROOFING SPECIALTIES, COPINGS AND CURBS. INCLUDES ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION OF A FULLY WARRANTED AND WATERPROOF MEMBRANE ROOFING SYSTEM, COMPLETE. PAY ITEM QUANTITY SHOWN INDICATES ROOF FOOTPRINT ONLY. CONTRACTOR SHALL CONFIRM HIS OWN QUANTITIES AND BID THE ENTIRE ROOF SYSTEM ACCORDINGLY. NO ADDITIONAL MATERIAL OR LABOR COST ALLOWED FOR VERTICAL FLASHING OR OTHER COMPONENTS OF THE COMPLETED ROOFING SYSTEM. PRIME DECK AND INSTALL VAPOR BARRIER.	SQ	285
12	07 71 00	RETROFIT DRAINS	INSTALL RETROFIT DRAINS.	EA	8
13	07 53 90	BASE FLASHING AT PARAPETS	INSTALL TPO BASE FLASHING	LF	157
14	07 53 90	ROOF EXPANSION JOINTS & NAILERS	INSTALL ROOF EXPANSION JOINT AND NAILERS.	LF	365
15	07 63 10	DOWNSPOUTS & COLLECTOR HEADS	INSTALL NEW DOWNSPOUT AND COLLECTOR HEADS AT NEW THROUGH WALL SCUPPERS.	EA	4
16	26 00 00	ELECTRICAL WORK	ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO DISCONNECT ELECTRICAL SERVICES TO ALL ROOFTOP EQUIPMENT TO BE REMOVED AS NECESSARY FOR THE PROPER INSTALLATION OF ROOFING SYSTEM.	EA	1
17	07 53 90	ALTERNATE NO.2 PROVIDE 60 MIL FLEECEBACK TPO ROOF	IF ALTERNATE IS ACCEPTED REPLACE THE ROOF WITH 60MIL FLEECE BACK TPO.	LS	1

UNIT KEY	
EA	EACH
LF	LINEAR FEET
SF	SQUARE FEET
SQ	SQUARE (100SF)
LS	LUMP SUM

SYMBOLS LEGEND

X #1	ROOF CORE CUT		TAPERED INSULATION CRICKET
SLOPE	ROOF SLOPE EXISTING UNLESS NOTED OTHERWISE		TAPERED INSULATION
PP	PIPE PENETRATION BOX TO BE REMOVED		4" THICKNESS OF INSULATION EXCLUDING COVER BOARD
F	FLUE STACK TO BE REMOVED		SCUPPER
V	PLUMBING VENT TO REMAIN REF DETAIL B/R-2		DS
D	DUCT PENETRATION TO BE REMOVED. REF DETAIL B/R-4		RD
5	PHOTO NUMBER		J-BOX
A4	PHOTO REFERENCE (FOUND IN PROJECT MANUAL APPENDIX)		A
	DRAWING SHEET NUMBER		
5	DETAIL NUMBER		EX
R-4	DETAIL REFERENCE (REFER TO SHEET A-3)		S
6"	DRAWING SHEET NUMBER		
	COPING WIDTH OR EXISTING FASCIA DEPTH		
			ABANDONED EQUIPMENT CURB TO BE REMOVED REF DETAIL B/R-4



1 KEY PLAN
NOT TO SCALE

STATE OF OKLAHOMA
R. EDWARD OWEN
1302
TULSA, OKLA
REGISTERED PROFESSIONAL ARCHITECT

R. Edward Owen
IBEC
0089
REGISTERED PROFESSIONAL ENGINEER

OKLAHOMA CERTIFICATE OF AUTHORITY #911
Expires 6-30-2025

ROOF REPLACEMENT
AIR FORCE PLANT 3 - BUILDING 6
TULSA INTERNATIONAL AIRPORT

PROJECT NO. - SPI9-I3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

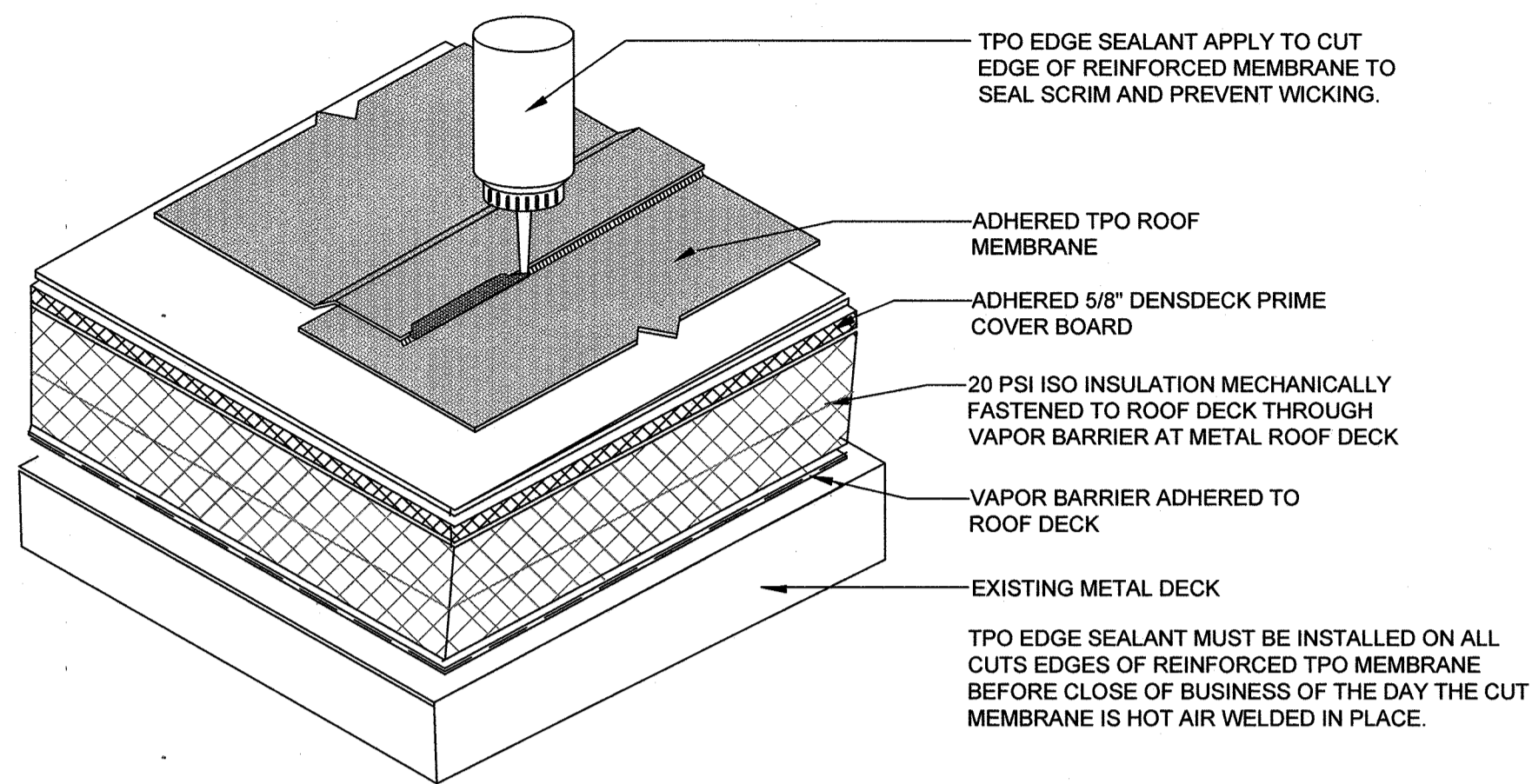
PLANS AND ESTIMATES PREPARED BY:

CYNERGY, P.L.L.C.

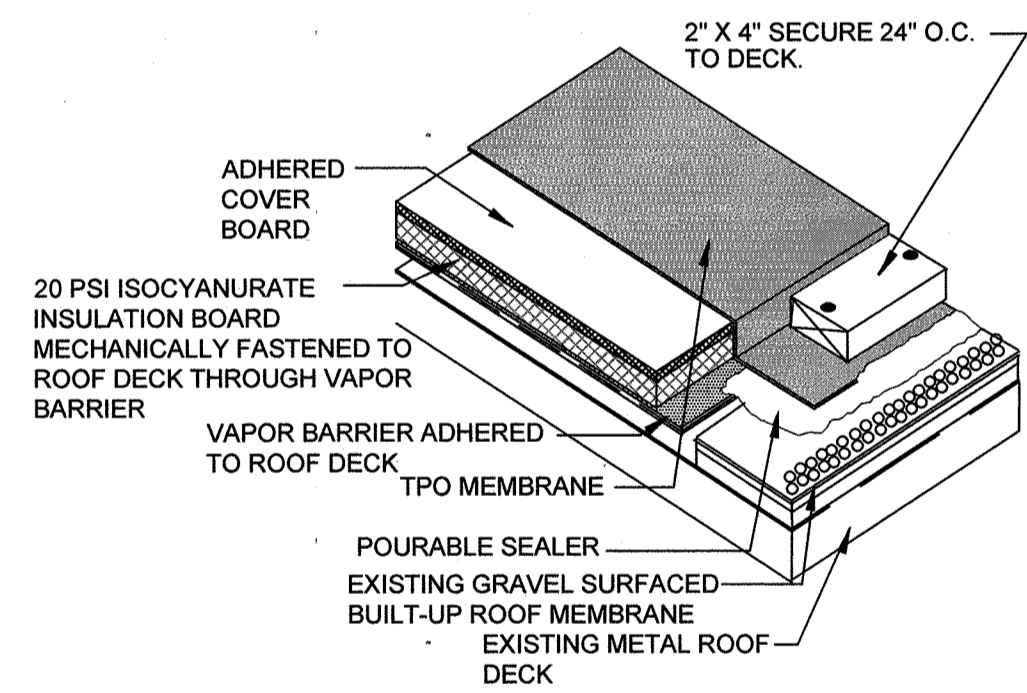
ROOFING CONSULTANTS:

ROOF CONSULTANTS
5350 E. 46TH ST. SUITE 116
TULSA, OK 74135

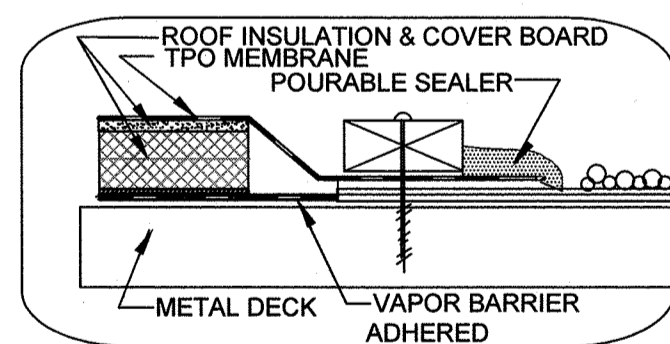
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				1" =	FIELD MGR.		
				VERTICAL:	RECOMMENDED:		
				1" =	DESIGN MANAGER		CITY ENGINEER
				FILE:	DRAWING:		DATE:
				ATLAS PAGE NO.			SHEET PI OF 9 SHEETS
				SHEET NAME:			SHEET NO.
				SUMMARY OF PAY ITEMS / SYMBOLS LEGEND			PI



A TPO EDGE SEALANT
NOT TO SCALE

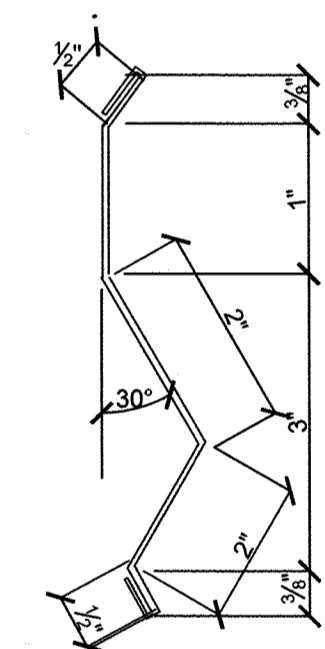
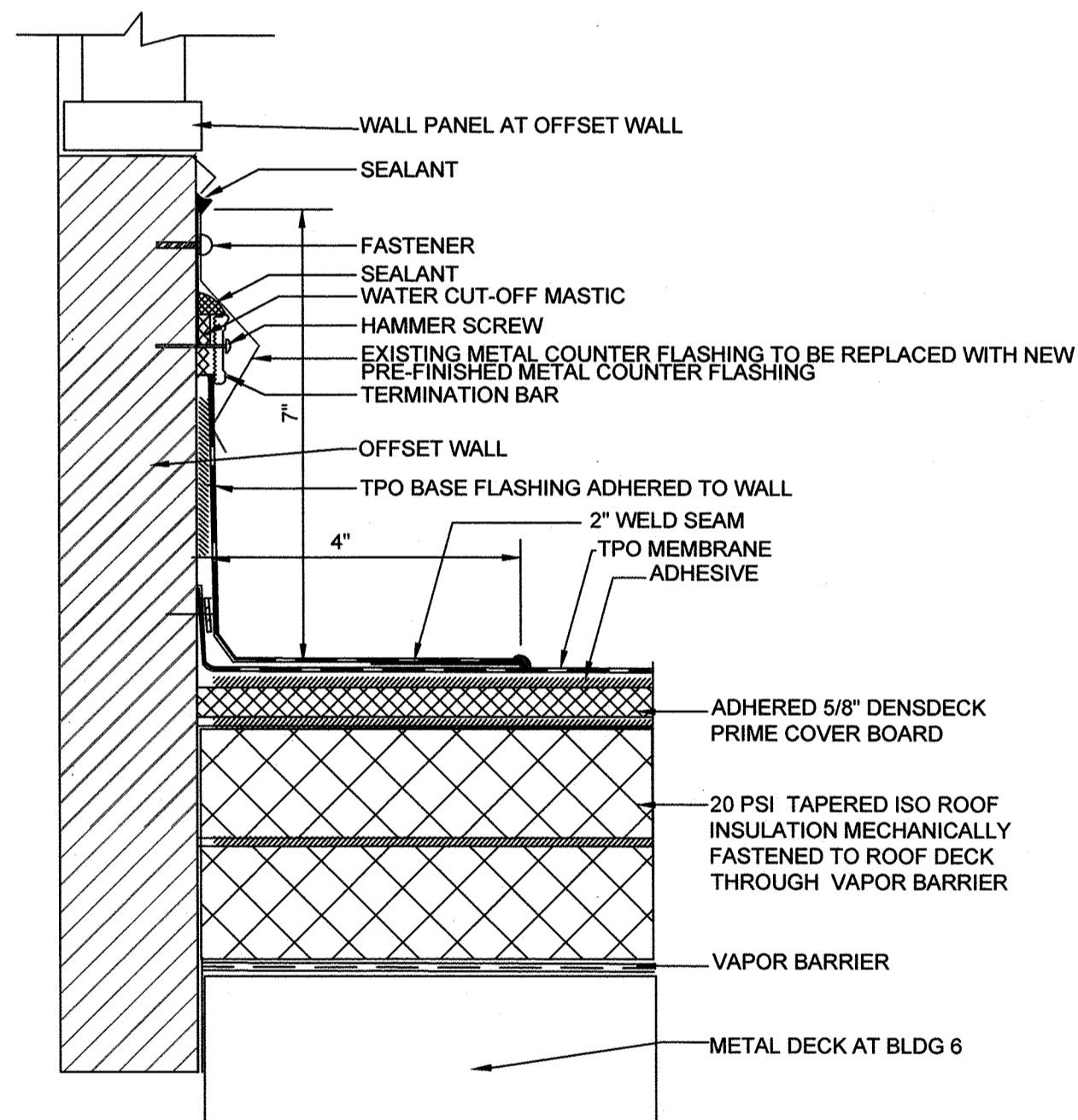


- NIGHT SEAL INSTALLATION INSTRUCTIONS FOR USE AT THE END OF THE WORK DAY AND AS REQUIRED BY INCLEMENT WEATHER:
1. EXTEND THE DECK MEMBRANE 12" PAST THE EDGE OF THE NEW INSULATION.
 2. CLEAN THE SUBSTRATE AT THE NIGHT SEAL LOCATION TO REMOVE ANY DIRT AND DEBRIS. THE SEAL YOU ACHIEVE CAN ONLY BE AS GOOD AS YOUR CLEANING.
 3. APPLY PRIMER TO THE LAST 2" OF THE TOP OF THE DECK SHEET AND THE LAST 5" OF THE BOTTOM OF THE DECK SHEET AND ALLOW TO FLASH OFF.
 4. SET THE LAST 5" OF DECK MEMBRANE INTO A 5" WIDE BEAD OF POURABLE SEALER. THE MEMBRANE SHOULD BE 1" BACK FROM THE EDGE OF THE POURABLE SEALER IN ORDER TO ALLOW FOR THE MEMBRANE EDGE TO BE ENVELOPED INTO THE SEALER.
 5. INSTALL A 2" X 4" - 1" BACK FROM THE MEMBRANE EDGE AND SECURE TO THE DECK 24" O.C. TO COMPRESS THE MEMBRANE INTO THE SEALER.
 6. TROWEL POURABLE SEALER OVER THE EXPOSED 1" OF MEMBRANE TO ENVELOPE MEMBRANE EDGE.
 7. UPON RETURN TO WORK REMOVE THE 2" X 4" AND CUT THE LAST 8" OFF THE DECK SHEET AND DISCARD. THEN PROCEED WITH ROOFING OPERATIONS.



B NIGHT SEAL INSTALLATION
NOT TO SCALE

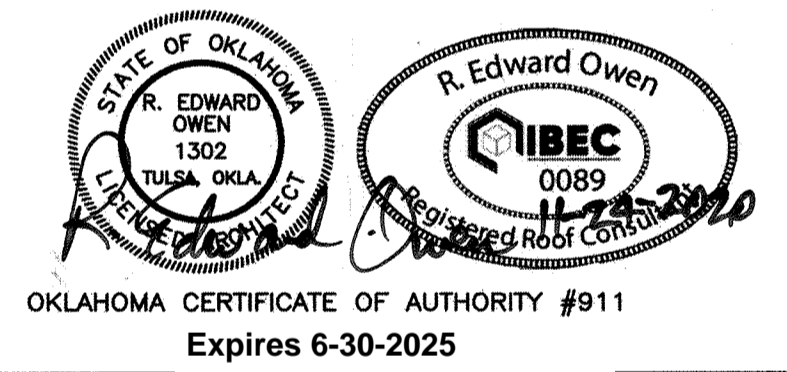
C NOT USED
NOT TO SCALE



COUNTER FLASHING DIMENSIONS

- NOTES:
1. APPLY ON HARD SMOOTH SURFACE ONLY; NOT FOR USE ON WOOD.
 2. WATER CUT-OFF MASTIC MUST BE HELD UNDER CONSTANT COMPRESSION.
 3. DO NOT WRAP COMPRESSION TERMINATION AROUND CORNERS.
 4. ALLOW 1/4" MINIMUM TO 1/2" MAXIMUM SPACING BETWEEN CONSECUTIVE LENGTHS OF TERMINATION BAR.
 5. TERMINATION BAR MUST BE 1/8" x 1" MINIMUM.

D TERM BAR AND SEALANT AT COUNTER FLASHING
NOT TO SCALE



OKLAHOMA CERTIFICATE OF AUTHORITY #911
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ROOF REPLACEMENT
AIR FORCE PLANT 3 - BUILDING 6
TULSA INTERNATIONAL AIRPORT

PROJECT NO. - SPI9-13

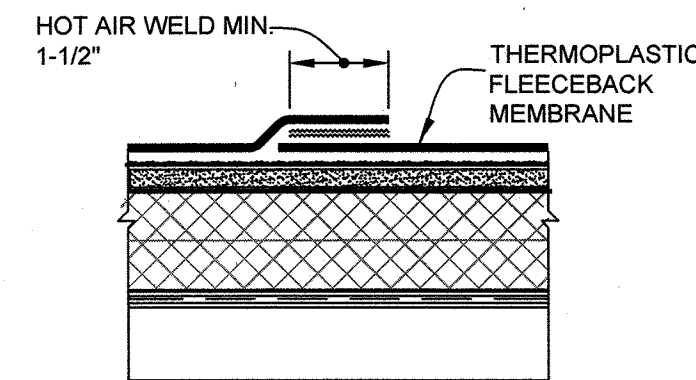
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
CYNTERGY, P.L.L.C.

ROOFING CONSULTANTS:
ROOF CONSULTANTS
5350 E. 46TH ST. SUITE 116
TULSA, OK 74135

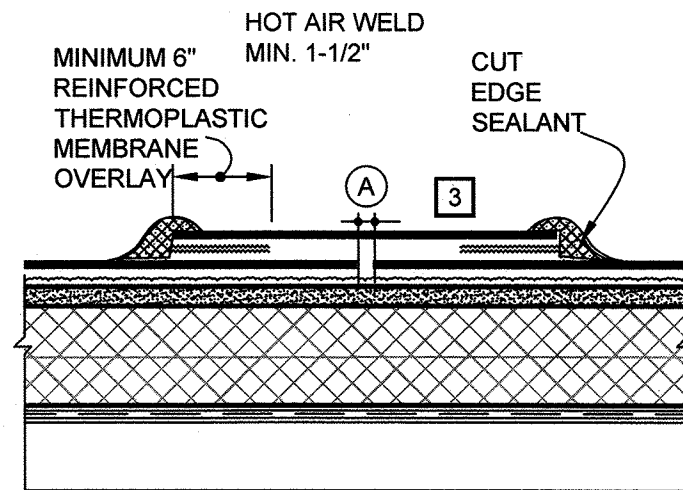
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				VERTICAL:	LEAD ENGR.	<i>WJ 12/10</i>	
					FIELD MGR.	<i>RW 12/10</i>	
					RECOMMENDED:	<i>HAS 12/10</i>	
					DESIGN MANAGER		<i>WJ</i> CITY ENGINEER
				FILE:	DRAWING:		DATE: <i>12.11.10</i>
				ATLAS PAGE NO.:			SHEET R-1 OF 9 SHEETS
				SHEET NAME:			SHEET NO.
				TPO DETAILS			R-1

MEMBRANE SPLICE



DIMENSION	
(A)	2-1/4"

END LAP SPLICE

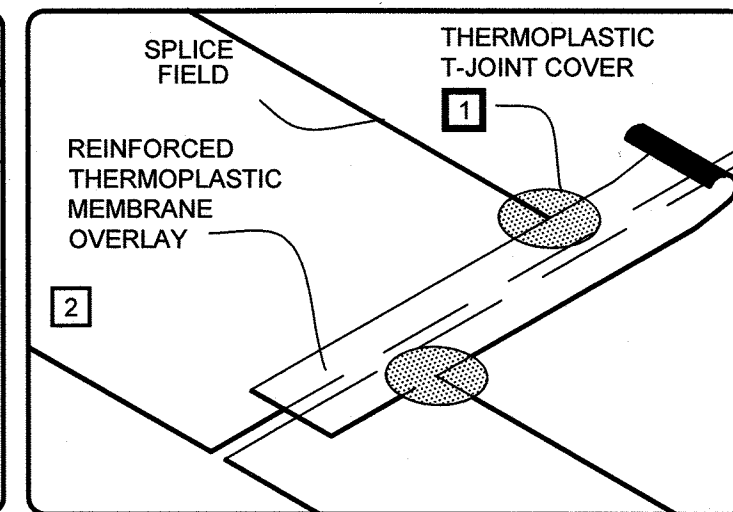
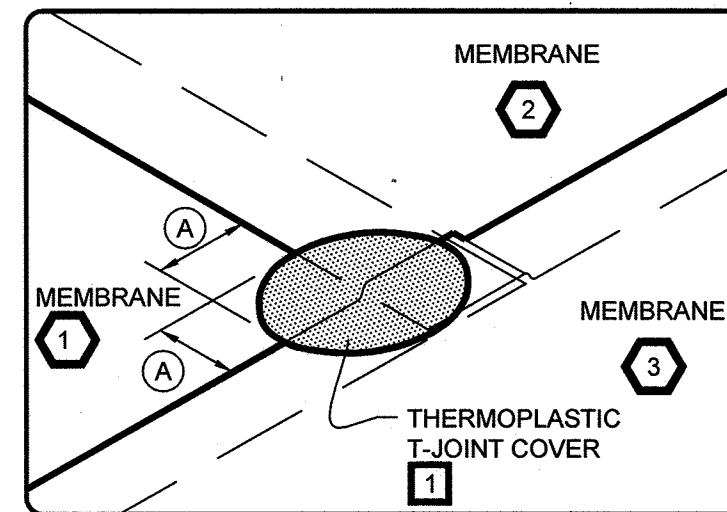


DIMENSION	
(A)	1" MAX.

NOTES:

- 1 WHEN USING 60-MIL THERMOPLASTIC FLEECEBACK MEMBRANE, APPLY A 4-1/2" DIAMETER THERMOPLASTIC "T-JOINT" COVER AT ALL FIELD SPLICE INTERSECTIONS.
- 2 APPROXIMATELY 1/8" DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.

2 THIS SYMBOL REFERS TO THE SHEET NUMBER WHERE MORE THAN ONE SHEET INTERSECT.

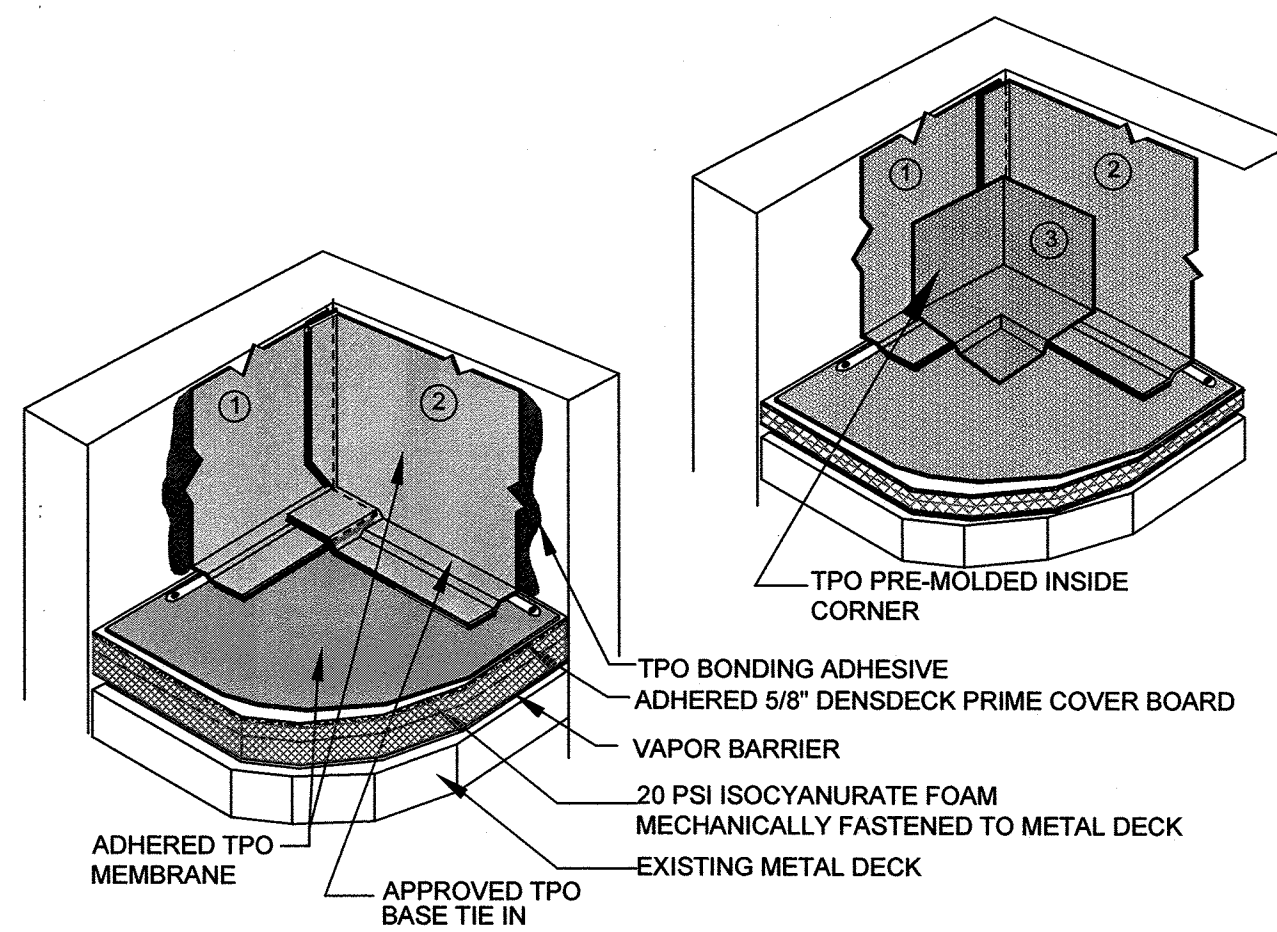


THERMOPLASTIC FLEECEBACK MEMBRANE SPLICE (ALTERNATES NO. 2 AND NO. 3)

A NOT TO SCALE

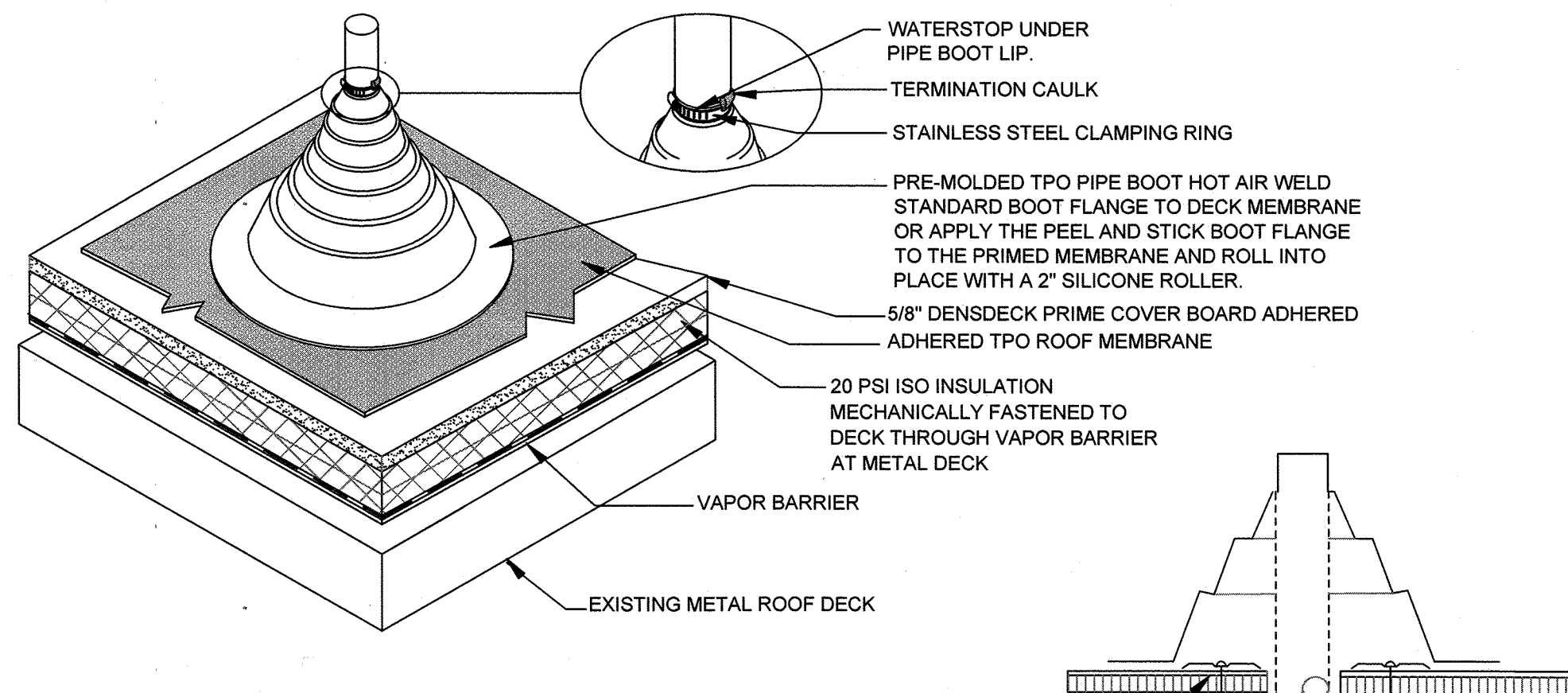
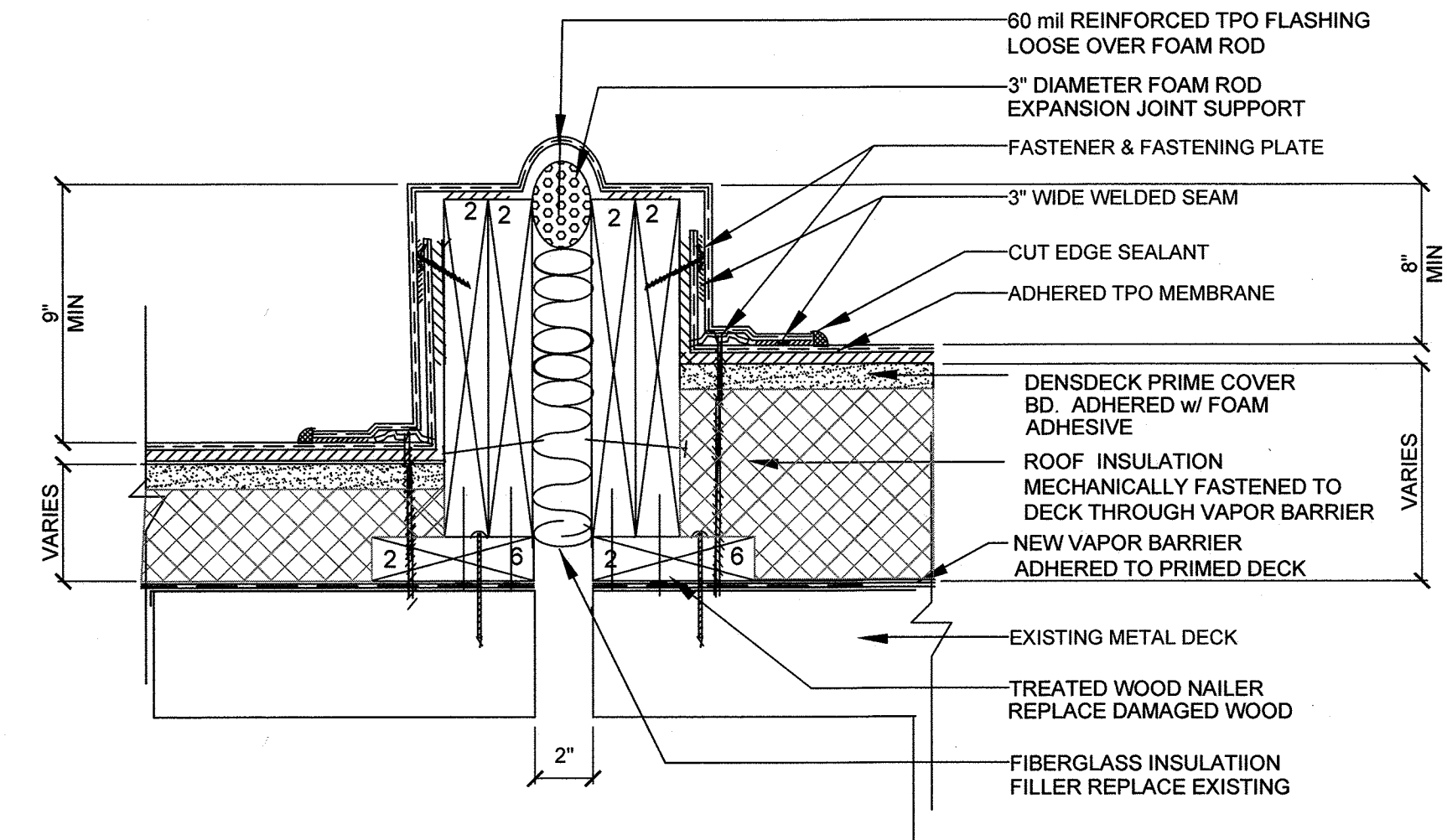
PRE-MOLDED INSIDE CORNER

C NOT TO SCALE



EXPANSION JOINT

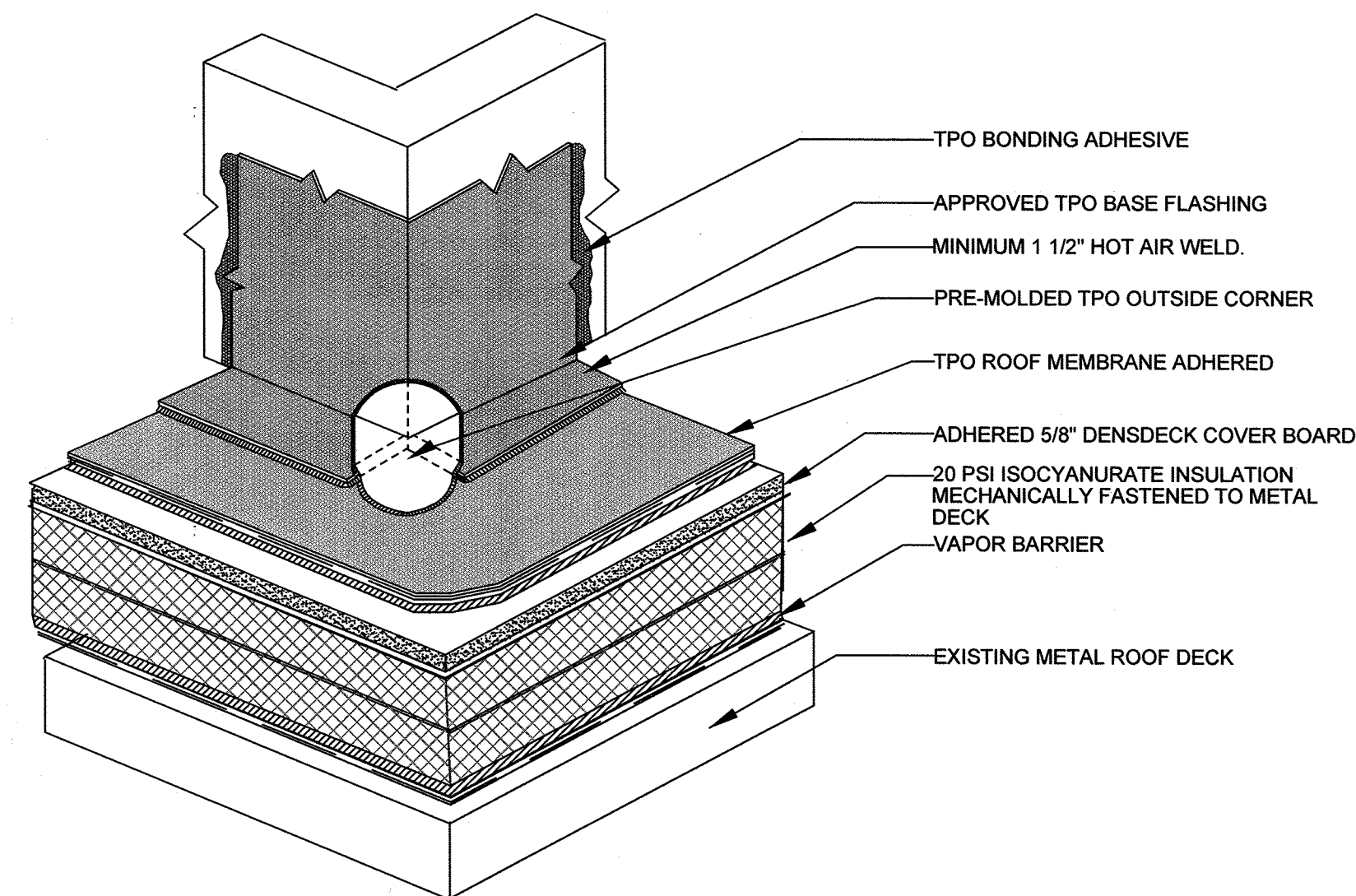
E NOT TO SCALE



MEMBRANE SECUREMENT AT 12" OUT FROM PENETRATION AND 12" O.C. REQUIRED FOR MECHANICALLY ATTACHED ROOF SYSTEMS - ACCOMPLISH WITH SEAM PLATES AND FASTENERS OVERLAP WITH EITHER TPO COVER TAPE. A TARGET PATCH OF TPO FIELD MEMBRANE FOR THE BOOT FLANGE TO BE WELDED TO OR WITH 6" TPO REINFORCED FLASHING. WHEN INSTALLATION OF THE PIPE BOOT WOULD OVERLAP A FIELD SEAM INSTALL A MINIMUM 24" X 24" TARGET PATCH CENTERED ON THE PENETRATION BEFORE INSTALLING THE PIPE BOOT. AS AN ALTERNATIVE - MEMBRANE SECUREMENT MAY ALSO BE INSTALLED CLOSE TO THE PENETRATION AND FLASHED WITH THE PIPE BOOT AS SHOWN HERE.

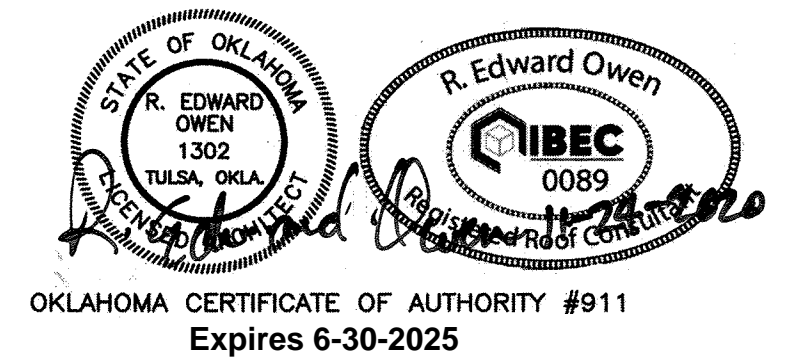
PLUMBING VENT (PIPE BOOT)

B NOT TO SCALE



ONE PIECE FLASHING WITH PRE-MOLDED OUTSIDE CORNER

D NOT TO SCALE



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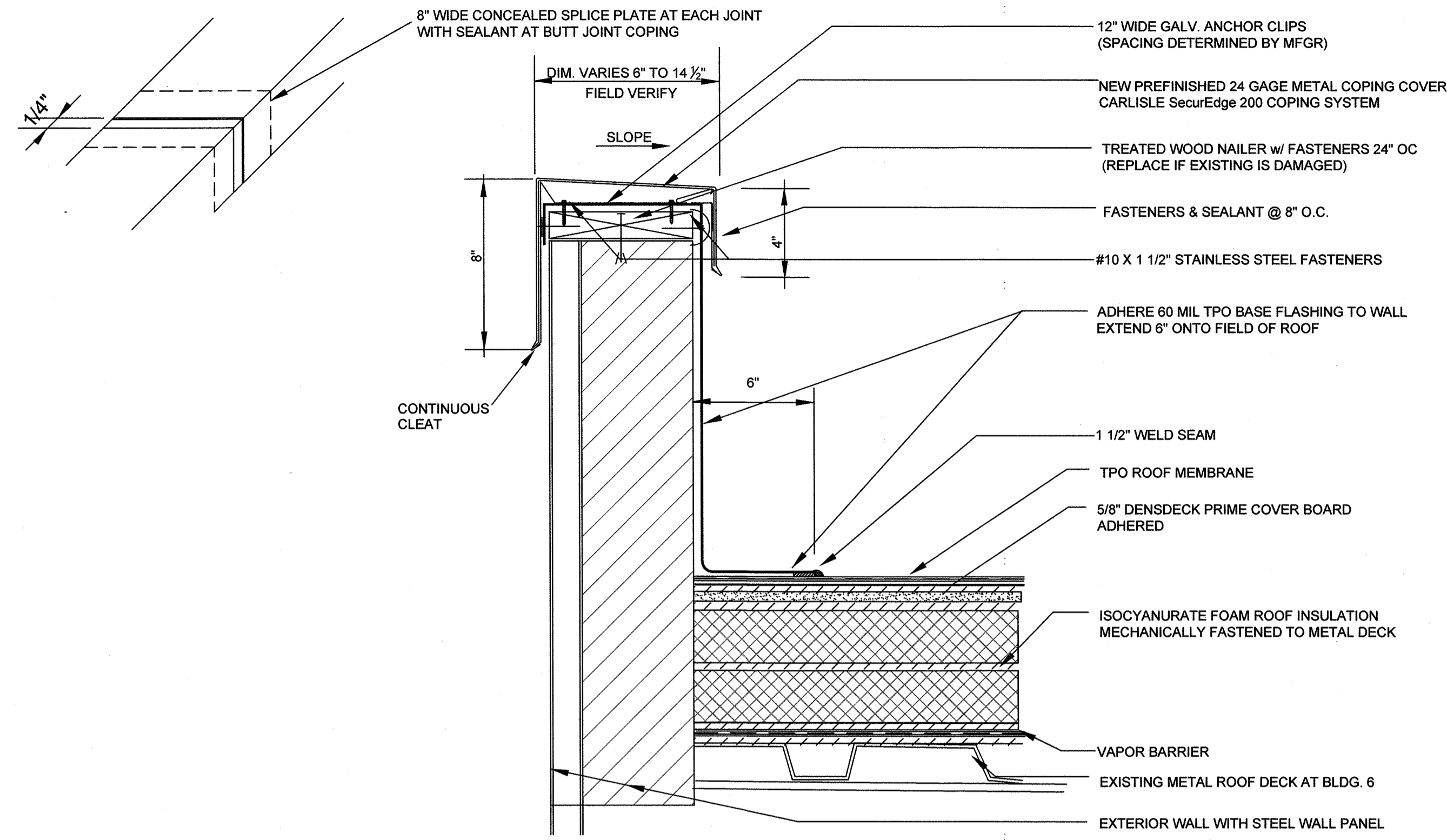
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CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
CYNTERGY, P.L.L.C.

ROOFING CONSULTANTS:
ROOF CONSULTANTS
5350 E. 46TH ST. SUITE 116
TULSA, OK 74135

MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				AS NOTED	DESIGNED	LLV	 DATE: 12-11-20 SHEET R-2 OF 9 SHEETS SHEET NO. R-2
				PROFILE SCALE:	PROJ. MGR.	MJ 11/20	
				HORIZONTAL:	LEAD ENGR.	TMA 12/20	
				VERTICAL:	FIELD MGR.	ZMA 12/20	
					RECOMMENDED:	HAS 12/20	
				FILE:	DRAWING:		
				ATLAS PAGE NO.			
				SHEET NAME:			



A METAL COPING
NOT TO SCALE

STATE OF OKLAHOMA
R. EDWARD OWEN
1302
TULSA, OKLA.
REGISTERED PROFESSIONAL ENGINEER

R. Edward Owen
IBEC
0089
Registered Roof Consultant
12-11-20

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ROOF REPLACEMENT
AIR FORCE PLANT 3 - BUILDING 6
TULSA INTERNATIONAL AIRPORT

PROJECT NO. - SPI9-I3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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TULSA, OK 74135

MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				AS NOTED	DESIGNED	LLV	 CITY ENGINEER DATE: 12-11-20 SHEET R-3 OF 9 SHEETS SHEET NO.
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				VERTICAL:	FIELD MGR.	LLV 12/20	
					RECOMMENDED:	LLV 12-20	
				FILE:	DESIGN MANAGER		
				ATLAS PAGE NO.	DRAWING:		
				SHEET NAME:			

TPO DETAILS **R-3**

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