ADD'L = ADDITIONAL = BOTTOM = CAST-IN-PLACE CONCRETE = CONSTRUCTION JOINT = CLEAR COL = COLUMN CONC = CONCRETE CONT = CONTINUOUS DELAM = DELAMINATION DET = DETAIL = DIAMETER = EACH FJ ELEV

= EPOXY COATED = EXPANSION JOINT = ELEVATION **EXIST** = EXISTING FD = FLOOR DRAIN FT

= FOOT = SPECIFIED COMPRESSIVE STRENGTH OF CONC. = GALVANIZED

GALV = KIPS PER SQUARE INCH KSI = JOINT = MINIMUM = ON CENTER = REINFORCING

MIN REINF REQ'D = REQUIRED SECT = SECTION SIM = SIMILAR SOG = SLAB ON GRADE SPEC = SPECIFICATION STL = STEEL **TEMP** = TEMPERATURE TYP = TYPICAL = UNLESS NOTED UN = WITH = VERIFY IN FIELD = WELDED WIRE FABRIC WWF

DIVISION 2 SITEWORK

ZRC

F'c

2.1 AFTER CONSTRUCTION IS COMPLETED, CLEAN PARKING STRUCTURE AS INDICATED IN SPECIFICATION SECTION 01 7423, FINAL CLEANING.

= ZINC RICH COATING

2.2 DECK PREPARATION FOR NEW ROOFING

SYSTEM MANUFACTURER FOR DIRECT ADHERING OF INSULATION AS DIVISION 3 CAST-IN-PLACE CONCRETE

3.1 ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, AND ACI GUIDE 362.1R. REFER TO SPECIFICATION SECTION 03 3000. CAST-IN-PLACE CONCRETE, FOR INFORMATION NOT LISTED HEREIN.

A. AT LEVEL 3, REMOVE ALL DE-BONDED DECK COATING AND CLEAN

SURFACE AS TO PROVIDE SUBSTRATE ACCEPTABLE TO THE ROOF

#### 3.2 CONCRETE

A. READY MIXED/SITE BATCHED CONCRETE REPAIR MATERIAL

F'C PSI MAX. W/C ENTRAINED	TC		
the state of the s	TC		
<u>DESCRIPTION</u> <u>MIX</u> <u>RATIO</u> <u>AIR</u> <u>COMMEN</u>	<u>13</u>		
TOPPING SLAB 5000 CNS 0.40 6-1/2% SEE PAR.	AGRAPH	3.2	В
SLAB REPAIR 5000 CNS-F 0.40 6-1/2% SEE PAR.	AGRAPH	3.2	E
WALL/CURB 5000 CNS 0.40 6-1/2% SEE PAR.	AGRAPH	3.2	Е
OVERLAY REPAIR 5000 0.40 6-1/2% SEE PARA	AGRAPH	3.2	В
CURB REPAIR 5000 CNS-F 0.40 6-1/2% SEE PAR.	AGRAPH	3.2	Е
CEILING REPAIR 5000 —— SEE PAR.	AGRAPH	3.2	C
COLUMN REPAIR 5000 —— SEE PAR.	AGRAPH	3.2	C
BEAM REPAIR 5000 —— SEE PAR	AGRAPH	3.2	C
WALL REPAIR 5000 — SEE PAR.	AGRAPH	3.2	C
NOTES:			

(1) CNS OPTION: DESIGNATES A CONCRETE MIX DESIGN WITH 2 GAL/CY OF CALCIUM NITRITE CORROSION-INHIBITOR AND 6% SILICA

(2) SUFFIX - F: DESIGNATES A CONCRETE MIX DESIGN WITH 1 1/2 LBS. FIBRILLATED MONOFILAMENT FIBER REINFORCEMENT PER CUBIC YARD OF CONCRETE OR 1 LB. MICROFILAMENT FIBER REINFORCEMENT PER CUBIC YARD OF CONCRETE.

(3) AVERAGE AIR-ENTRAINED VALUES ARE FOR IN-PLACE CONCRETE.

TOLERANCE ON TOTAL AIR CONTENT IS 1-1/2% PER ACI. (4) ALL NORMAL WEIGHT CONCRETE TO HAVE A DENSITY OF

APPROXIMATELY 145 PCF UNLESS NOTED. (5) ALL AIR ENTRAINED CONCRETE SHALL INCLUDE 564 LBS OF CEMENT MINIMUM PER CUBIC YARD OF CONCRETE. THE WEIGHT OF FLY ASH AND SILICA FUME ADMIXTURES MAY BE INCLUDED WITH THE WEIGHT OF CEMENT.

B. CONTRACTOR MAY USE READY MIX CONCRETE OR PREMIXED HORIZONTAL CONCRETE REPAIR MATERIAL. REFER TO SPECIFICATION SECTIONS 03 0130 AND 03 3000

C. VERTICAL/OVERHEAD CONCRETE REPAIR MATERIAL OR SHOTCRETE WITH CORROSION INHIBITOR. REFER TO SPECIFICATION SECTIONS 03 0130 AND 03 3713.

3.3 CEMENT

A. ASTM C150 TYPE I OR III

3.4 AGGREGATES A. ASTM C33

3.5 MILD REINFORCEMENT

A. MILD REINFORCEMENT, ASTM A615 GRADE 60, EPOXY COATED.

B. EPOXY COATING FOR PLAIN AND DEFORMED MILD REINFORCEMENT ASTM A775

C. EPOXY COATING OF DOWEL BARS SHALL BE THE SAME AS SPECIFIED FOR THE

REINFORCEMENT TO BE SPLICED.

D. THE CONCRETE PROTECTION SHALL BE PER ACI 362.1R, EXCEPT AS NOTED ON THE DRAWINGS AND SPECIFIED HEREIN. ALL EXPOSED REINFORCEMENT SHALL BE EPOXY COATED.

#### 3.6 GENERAL CAST-IN-PLACE CONCRETE

A. REINFORCEMENT

MINIMUM LENGTH OF LAP SPLICES SHALL BE BASED ON ACI 318. CHAPTER 12 CLASS A UNLESS NOTED OTHERWISE ON THE

REINFORCING STEEL SHALL NOT BE BENT OR STRAIGHTENED UNLESS APPROVED BY THE ENGINEER OR AS INDICATED ON THE

FIELD CUTTING OF REINFORCEMENT IS PROHIBITED UNLESS APPROVED BY THE ENGINEER.

WELDING OF REINFORCEMENT IS PROHIBITED UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

#### B. ACCESSORIES

NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

#### C. JOINTS

PROVIDE A 3/4 INCH CHAMFER ON EXPOSED CORNERS OF CONCRETE UNLESS OTHERWISE INDICATED ON DRAWINGS.

TOOL SLAB JOINTS AT THE TIME OF FINISHING. SAW CUTTING IS NOT ALLOWED.

TOOL CONTROL JOINTS IN CONCRETE PATCHES TO MATCH

#### 3.7 GALVANIC ANODES (ALTERNATE)

A. INSTALL GALVANIC ANODES IN CAVITIES TIED TO REINFORCEMENT AS DIRECTED BY ENGINEER - ACCEPTABLE MATERIALS:

1. GALVASHIELD XP2, VECTOR CORROSION TECHNOLOGIES

2. SENTINEL SILVER ANODES, EUCLID CHEMICAL CO.

OR APPROVED EQUAL

#### DIVISION 4 CONCRETE UNIT MASONRY

4.1 ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 530 AND ACI 530.1 REFER TO SPECIFICATIONS SECTION 04 2000, CONCRETE UNIT MASONRY, FOR INFORMATION NOT LISTED HEREIN.

#### 4.2 CONCRETE UNIT MASONRY

A. HOLLOW AND SOLID LOAD—BEARING UNITS ASTMC90.

B. NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS 2800PSI.

C. NET AREA COMPRESSIVE STRENGTH OF MASONRY F'm = 2000 PSI.

REFER TO FUNCTIONAL/ARCHITECTURAL DRAWINGS FOR FIRE RATING.

#### 4.3 MORTAR

A. MORTAR ASTM C270, TYPE S MINIMUM COMPRESSIVE STRENGTH 1800PSI.

#### 4.4 GROUT

A. GROUT ASTM C 478 F'c = 2500 PSI.

### 4.5 REINFORCING STEEL

A. PER SPECIFICATION SECTION 03 3000.

#### 4.6 MASONRY ACCESSORIES

- A. JOINT REINFORCEMENT ASTM A82- 9-GAGE GALVANIZED TRUSS TYPE AT 16" O.C. MAXIMUM.
- B. ANCHORS AND TIES:
- SLOTS-20 GAGE GALVANIZED.
- 2. ANCHORS-3/16" DIAMETER WIRE TIE WITH 12 GAGE DOVETAIL.
- C. SOLID RUBBER CONTROL JOINTS.
- BOND BREAKER 15 LB ROOFING FELT
- MEMBRANE FLASHING 20 ML PVC.

#### 4.7 GENERAL MASONRY

- MASONRY CONTROL JOINTS SHALL BE PLACED AS FOLLOWS OR AS INDICATED ON DRAWINGS.
  - MAXIMUM 4'-0" FROM CORNERS
  - 2. MAXIMUM 24 FEET FROM CENTER
- 3. AT ALL CHANGES IN WALL HEIGHT OR THICKNESS.
- 4. AT ABUTMENT OF WALLS TO COLUMNS.
- BOND BEAMS SHALL BE FILLED WITH GROUT AND REINFORCED WITH MINIMUM OF (2) #5 BARS CONTINUOUS OR AS INDICATED ON DRAWINGS. WHERE BOND BEAM INTERSECT AT CORNERS AT DIFFERENT ELEVATIONS RUN EACH BOND BEAM AROUND CORNER FOR TWO BLOCK LENGTHS MINIMUM BEFORE TERMINATING.
- C. STEEL LINTELS SHALL HAVE A MINIMUM BEARING OF 6". BOND BEAM LINTELS SHALL HAVE A MINIMUM BEARING OF 16". MAINTAIN A MINIMUM 1" GAP BETWEEN SIDES OF ALL MASONRY WALLS AND STRUCTURAL WALLS, COLUMNS, ETC. DO NOT USE MASONRY TIES IN THESE LOCATIONS UNO.

#### DIVISION 4A MASONRY RESTORATION

4A.1 ALL DESIGN AND CONSTRUCTIONS SHALL BE IN ACCORDANCE WITH ACI 530 AND ACI 530.1 REFER TO SPECIFICATIONS FOR INFORMATION NOT LISTED HEREIN.

4A.2 MORTAR SHALL BE ASTM C27, TYPE N MINIMUM COMPRESSIVE STRENGTH 750 PSI AT 28 DAYS. SIZE AND COLOR MATCH.

4A.3 MASONRY RESTORATION AT INTERIOR ELEVATION OF PARAPET WILL AT LEVEL 3.

REMOVE AND REPLACE DETERIORATED BRICK TO MATCH EXISTING.

RE-POINT DETERIORATED MORTAR JOINTS.

4A.4 REMOVE AND REPLACE DAMAGED CONCRETE MASONRY UNITS AS INDICATED ON DRAWINGS TO MATCH EXISTING.

4A.5 PARGE DETERIORATED CONCRETE MASONRY UNITS AS INDICATED ON THE

4A.6 REMOVE BRICK AT STEEL BEAM AS INDICATED ON THE DRAWINGS.

4A.7 CAPSTONE REPAIR ALLOWANCE:

REPAIR DAMAGED CAPSTONES AT PARAPET WALL AS DIRECTED BY OWNER OR ENGINEER. DIVISION 5 METALS

5.1 DESIGN AND CONSTRUCTION STANDARD - AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION. REFER TO SPECIFICATION SECTIONS 05 5700 MISCELLANEOUS METALS AND 05 5213 PIPE AND TUBE RAILINGS FOR INFORMATION NOT LISTED HEREIN.

5.2 W- SHAPE: ASTM A 992, GRADE 50.

5.3 CHANNELS, PLATES, AND BARS: ASTM A36.

5.4 PIPE: ASTM A53, GRADE B

5.5 ALL WELDING SHALL BE MADE WITH E70XXLOW HYDROGEN ELECTRODES AND SHALL CONFORM TO LATEST ADDITION OF THE AMERICAN WELDING SOCIETY SPECIFICATIONS ALL WELDS SHALL BE APPROPRIATE FOR WELD METHOD AND

5.6 CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DESIGNED Y THE FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS.

5.7 ALL STEEL GUARDRAILS AND BOLLARDS SHALL BE HOT-DIP GALVANIZED.

5.8 ALL THREADED RODS AND ASSOCIATED HARDWARE SHALL BE STAINLESS STEEL, U.N.

5.9 INSTALL GUARDRAILS AS INDICATED ON THE DRAWINGS.

5.10 INSTALL STEEL BOLLARDS AS INDICATED ON THE DRAWINGS.

DIVISION 5A STEEL JOISTS

5A.1 DESIGN AND CONSTRUCTION STANDARDS — SPECIFICATIONS FOR OPEN WEB STEEL JOISTS, K SERIES, AND JOIST GIRDERS, G SERIES, REFER TO SPECIFICATION SECTIONS 05 21 00 STEEL JOISTS FOR INFORMATION NOT

5A.2 DESIGNATED DESIGN: CONTRACTOR SHALL EMPLOY AN ENGINEER REGISTERED IN THE STATE OF MICHIGAN TO DESIGN THE ROOF FRAMING SYSTEM. DIVISION 5B METAL DECKING

5B.1 METAL DECKING SHALL COMPLY WITH STEEL DECK INSTITUTE'S SPECIFICATIONS.

5B.2 METAL DECK SHALL BE DIAPHRAGM WELDED PER MANUFACTURER'S RECOMMENDATIONS.

5B.3 METAL DECK SHALL BE CONTINUOUS OVER THREE SPANS (FOUR SUPPORTS) UNLESS NOTED OTHERWISE.

5B.4 DESIGN AND CONSTRUCTION STANDARDS - DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, ROOF DECKS, REFER TO SPECIFICATION SECTION 05 30 00 METAL DECKING FOR INFORMATION NOT LISTED HEREIN.

5B.5 DESIGNATED DESIGN: CONTRACTOR SHALL EMPLOY AN ENGINEER REGISTERED IN THE STATE OF MICHIGAN TO DESIGN THE METAL DECKING SYSTEM. 5B.5 METAL ROOF DECK SHALL BE DEEP RIB 18 GAGE 3 INCH DEPTH, HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE ON DRAWINGS. \_\_\_\_\_\_

DIVISION 7 WATERPROOFING

7.1 JOINT SEALANTS

- A. REMOVE & REPLACE CONTROL JOINT SEALANTS AS INDICATED ON THE DRAWINGS.
- B. ROUT AND SEAL CRACKS PRIOR TO INSTALLING DECK COATING AS
- INDICATED ON THE DRAWINGS..
- C. INSTALL COVE JOINT SEALANT AS INDICATED ON THE DRAWINGS. D. REMOVE & REPLACE CAPSTONE JOINT SEALANTS AS INDICATED ON THE
- DRAWINGS.

7.2 TRAFFIC BEARING MEMBRANE (DECK COATING)

- A. APPLY FULL SYSTEM DECK COATING AT THE RAMP AS INDICATED ON
- B. EXTEND DECK COATING UP VERTICAL SURFACES 8" AS INDICATED ON THE
- C. PROVIDE DETAIL COAT AT ALL CRACKS AND JOINTS AS INDICATED ON THE

#### 7.3 ROOFING

- A. APPLY ROOFING SYSTEM AT LEVEL 3 AS INDICATED ON THE
- B. AN ALTERNATE WILL BE TO REPLACE ROOFING SYSTEM AT LEVEL 4.

7.4 SPRAY-APPLIED FIRE RESISTIVE MATERIALS

A. APPLY FIREPROOFING AT STEEL BEAMS AS INDICATED ON THE

B. FIRE PROTECTION FOR BEAMS SHALL HAVE A 2 HOUR FIRE RATING. DIVISION 22 PLUMBING

22.1 REMOVE AND REPLACE FLOOR DRAINS AS INDICATED ON THE DRAWINGS.

A. CLEAN OUT REPLACED FLOOR DRAINS AT LEVEL 3 AND RESPECTIVE

22.2 REMOVE FLOOR DRAINS AND CAP PIPING AS INDICATED ON THE DRAWINGS.

A. PATCH SLAB PENETRATIONS WITH CONCRETE.

RISERS TO SOG.

DIVISION 26 ELECTRICAL

26.1 REMOVE & RELOCATE ELECTRICAL CONDUIT AT PARAPET WALL TO ACCOMMODATE INSTALL OF ROOFING, AS INDICATED ON THE DRAWINGS.

#### 26.2 ELECTRICAL ALLOWANCE

TEMPORARY RELOCATION OF ELECTRICAL CONDUIT AS REQUIRED TO COMPLETE CONCRETE REPAIRS AT UNDERSIDE OF SUPPORTED SLABS AS DIRECTED BY OWNER OR ENGINEER.

DIVISION 32 EXTERIOR IMPROVEMENTS

32.1 PAVEMENT MARKINGS A. RESTRIPE ALL PAVEMENT MARKINGS WITHIN WORK AREA.

B. REPAINT CURBS TO MATCH EXIST.

5136 Lovers Lane Suite 200 Kalamazoo, MI 49002

intertek

P 269.381.2222



37483 Interchange Drive Farmington Hills, MI 48335 Phone: (248) 957-9911

> Edge Design Associates, Inc.

1973 High Hallow Drive Ann Arbor, MI 48103 Phone: (734) 558-2212



WSU University Services Building Roof and Structure Repairs 2018

Detroit, Michigan

WSU PROJECT #: 060-313960

Bid ISSUED FOR ISSUED FOR DATE 07/03/18 DATE DESCRIPTION

The Drawings are the property of WGI and are not to be reused or reproduced without written

permission from WGI.

KAU

PROJECT NO. 24183210.00

CHECKED BY MLS

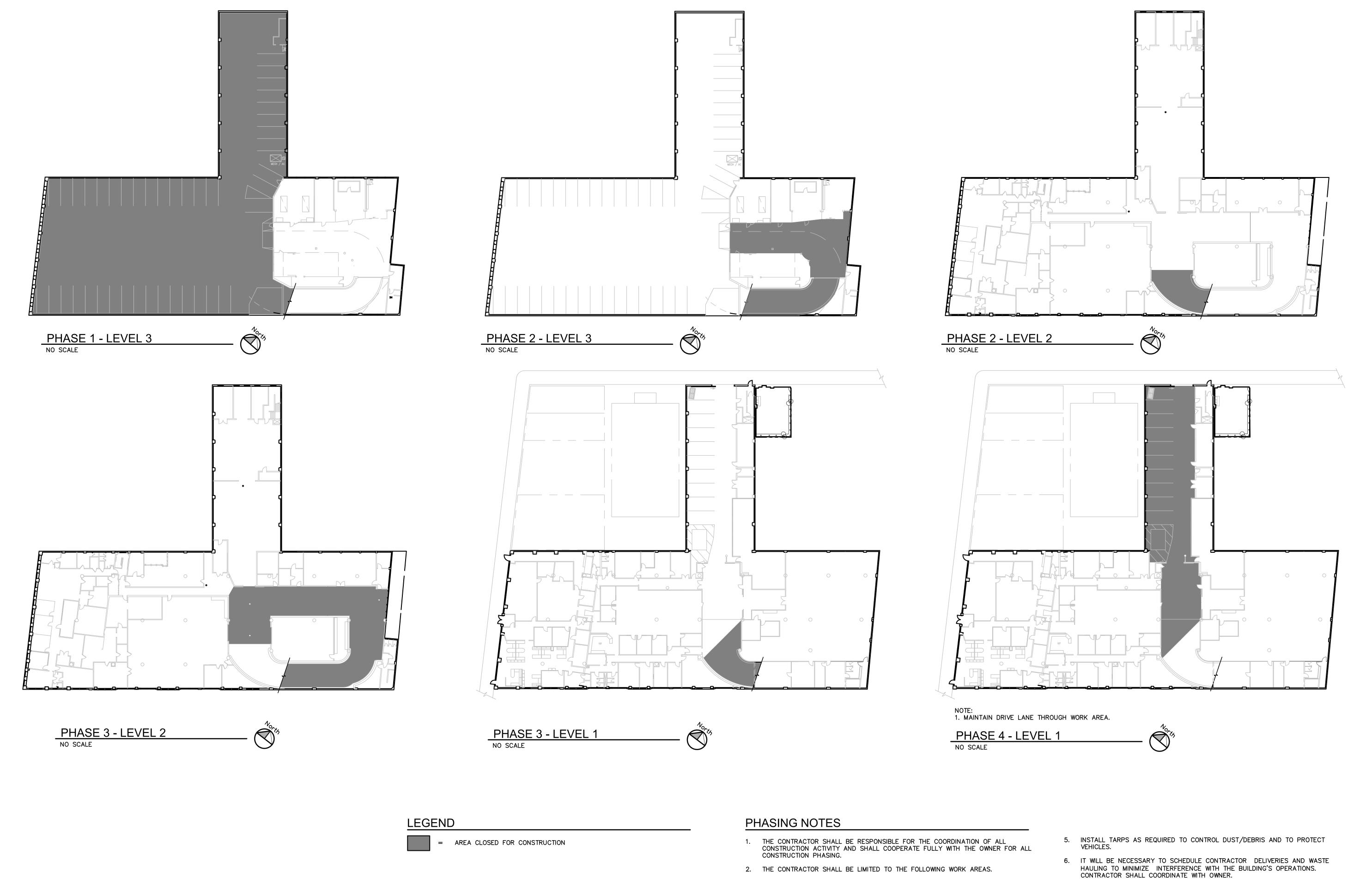
RAWN BY

SHEET TITLE

**GENERAL NOTES** 

SHEET NUMBER

G002



5136 Lovers Lane Suite 200 Kalamazoo, MI 49002 P 269.381.2222

intertek

Intertek - PSI 37483 Interchange Drive Farmington Hills, MI 48335 Phone: (248) 957-9911

Edge Design Associates, Inc.

1973 High Hallow Drive Ann Arbor, MI 48103 Phone: (734) 558-2212



WSU University Services Building Roof and Structure Repairs 2018

Detroit, Michigan

WSU PROJECT #: 060-313960

ISSU	ED FOR	Bid
ISSUED	FOR DATE	07/03/18
REV. NO.	REV. NO. DATE	DESCRIPTION
1	07-19-18	ADDENDUM #2
	<del> </del>	

PROJECT NO. 24183210.00 DRAWN BY KAU CHECKED BY MLS

The Drawings are the property of WGI and are not to be reused or reproduced without written permission from WGI.

CONSTRUCTION PHASING

SHEET NUMBER

G004

- 2.1 REFER TO PHASING PLANS FOR PARKING AND RAMP AREA CLOSURES.
- 2.2 THE PHASES 1-4 ARE THE CONCRETE REPAIRS.
- 2.3 THE INSTALLATION OF THE ROOF AND STORAGE ROOM SHALL BEGIN IN PHASE 1 AND CONTINUE DURING THE OTHER PHASES.
- 2.4 THE CONCRETE REPAIRS IN ROOMS SHALL BE REPAIRED DURING THE ADJACENT PHASES.
- 2.5 WATERPROOFING ON THE RAMP SHALL BE INSTALLED ON WEEKENDS.
- PRIOR TO SHORING AND REPAIRS.
- 4. PROTECT PEDESTRIAN TRAFFIC THROUGHOUT THE STRUCTURE AND ON SIDEWALKS AROUND THE PERIMETER OF THE PARKING STRUCTURE.
- 3. AREAS OF PARKING ABOVE AND AROUND SHORING SHALL BE CLOSED TO PARKING,
- 8. KNOCK DOWN ALL LOOSED CONCRETE AT UNDERSIDE OF SLAB PRIOR TO DEMOLITION AT TOP OF SLAB. 9. THE CONTRACTOR SHALL PROVIDE WEEKLY UPDATES TO SCHEDULE.

TS2 = CONSTRUCTION AREA - DANGER - KEEP OUT

REQUIRED:

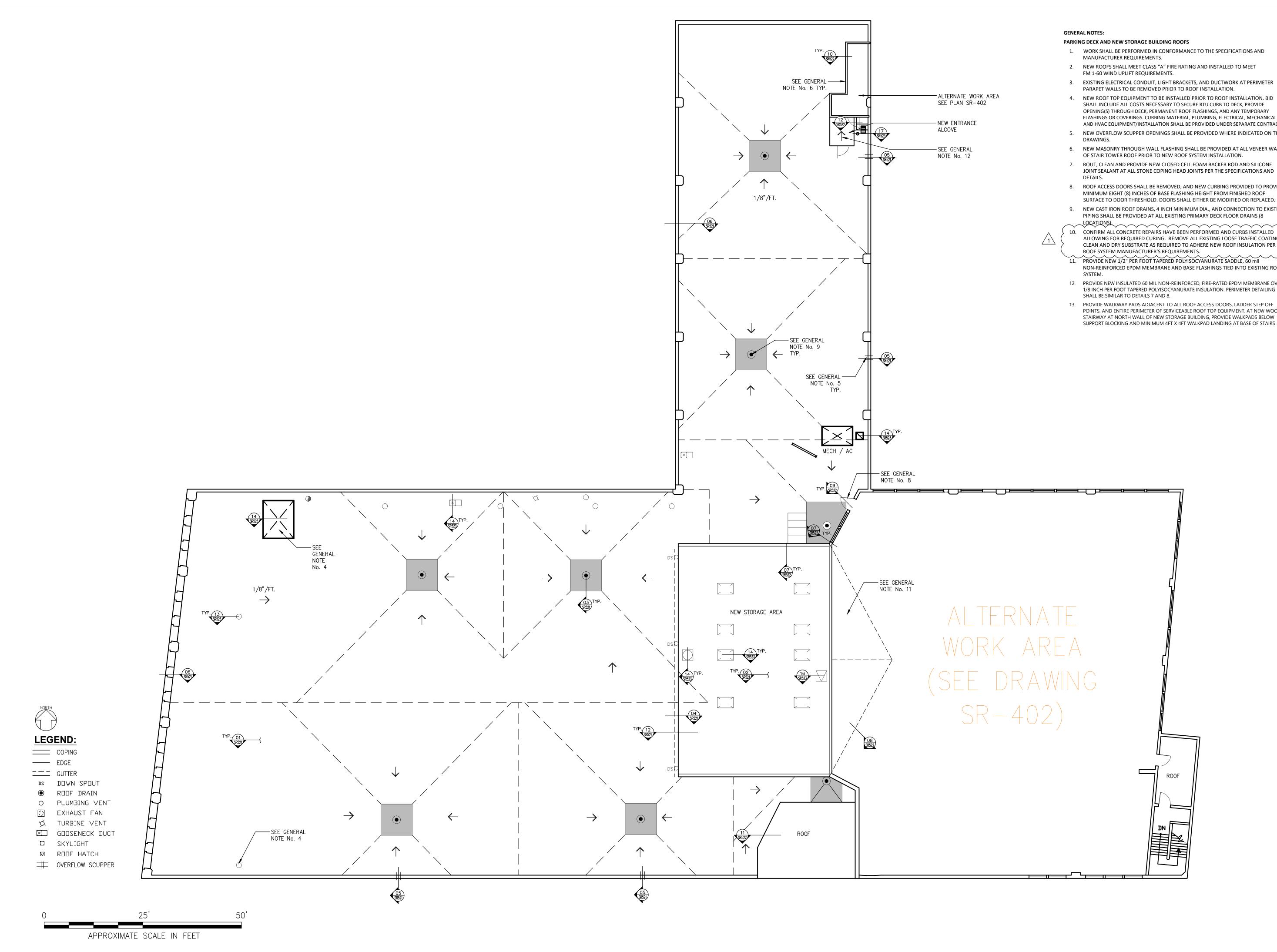
TS1 = STAIRS CLOSED

TS3 = CONSTRUCTION AHEAD

10. ALL NEW ENCLOSURES AND ROOFING SHALL BE WATERTIGHT BY OCTOBER 31, 2018. 

PROVIDE OWNER APPROVED SIGNAGE AT THE BEGINNING OF THE CONSTRUCTION PHASE NECESSARY TO ADEQUATELY DIRECT VEHICLES AND PEDESTRIANS TO

ALTERNATE SAFE ROUTES. AS A MINIMUM PROVIDE THE FOLLOWING SIGNS AS



- 1. WORK SHALL BE PERFORMED IN CONFORMANCE TO THE SPECIFICATIONS AND
- NEW ROOFS SHALL MEET CLASS "A" FIRE RATING AND INSTALLED TO MEET
- 3. EXISTING ELECTRICAL CONDUIT, LIGHT BRACKETS, AND DUCTWORK AT PERIMETER
- SHALL INCLUDE ALL COSTS NECESSARY TO SECURE RTU CURB TO DECK, PROVIDE OPENING(S) THROUGH DECK, PERMANENT ROOF FLASHINGS, AND ANY TEMPORARY FLASHINGS OR COVERINGS. CURBING MATERIAL, PLUMBING, ELECTRICAL, MECHANICAL AND HVAC EQUIPMENT/INSTALLATION SHALL BE PROVIDED UNDER SEPARATE CONTRACT.
- 5. NEW OVERFLOW SCUPPER OPENINGS SHALL BE PROVIDED WHERE INDICATED ON THE
- 6. NEW MASONRY THROUGH WALL FLASHING SHALL BE PROVIDED AT ALL VENEER WALLS
- 7. ROUT, CLEAN AND PROVIDE NEW CLOSED CELL FOAM BACKER ROD AND SILICONE JOINT SEALANT AT ALL STONE COPING HEAD JOINTS PER THE SPECIFICATIONS AND
- 8. ROOF ACCESS DOORS SHALL BE REMOVED, AND NEW CURBING PROVIDED TO PROVIDE MINIMUM EIGHT (8) INCHES OF BASE FLASHING HEIGHT FROM FINISHED ROOF
- 9. NEW CAST IRON ROOF DRAINS, 4 INCH MINIMUM DIA., AND CONNECTION TO EXISTING PIPING SHALL BE PROVIDED AT ALL EXISTING PRIMARY DECK FLOOR DRAINS (8
- 10. CONFIRM ALL CONCRETE REPAIRS HAVE BEEN PERFORMED AND CURBS INSTALLED ALLOWING FOR REQUIRED CURING. REMOVE ALL EXISTING LOOSE TRAFFIC COATING, CLEAN AND DRY SUBSTRATE AS REQUIRED TO ADHERE NEW ROOF INSULATION PER
- NON-REINFORCED EPDM MEMBRANE AND BASE FLASHINGS TIED INTO EXISTING ROOF
- 12. PROVIDE NEW INSULATED 60 MIL NON-REINFORCED, FIRE-RATED EPDM MEMBRANE OVER 1/8 INCH PER FOOT TAPERED POLYISOCYANURATE INSULATION. PERIMETER DETAILING
- POINTS, AND ENTIRE PERIMETER OF SERVICEABLE ROOF TOP EQUIPMENT. AT NEW WOOD STAIRWAY AT NORTH WALL OF NEW STORAGE BUILDING, PROVIDE WALKPADS BELOW SUPPORT BLOCKING AND MINIMUM 4FT X 4FT WALKPAD LANDING AT BASE OF STAIRS

MWGI<sub>®</sub> 5136 Lovers Lane Suite 200 Kalamazoo, MI 49002

P 269.381.2222

intertek 🌲

37483 Interchange Drive Farmington Hills, MI 48335 Phone: (248) 957-9911

# Edge Design Associates, Inc.

1973 High Hallow Drive Ann Arbor, MI 48103 Phone: (734) 558-2212



## WSU University Services Building Roof and Structure Repairs 2018

Detroit, Michigan

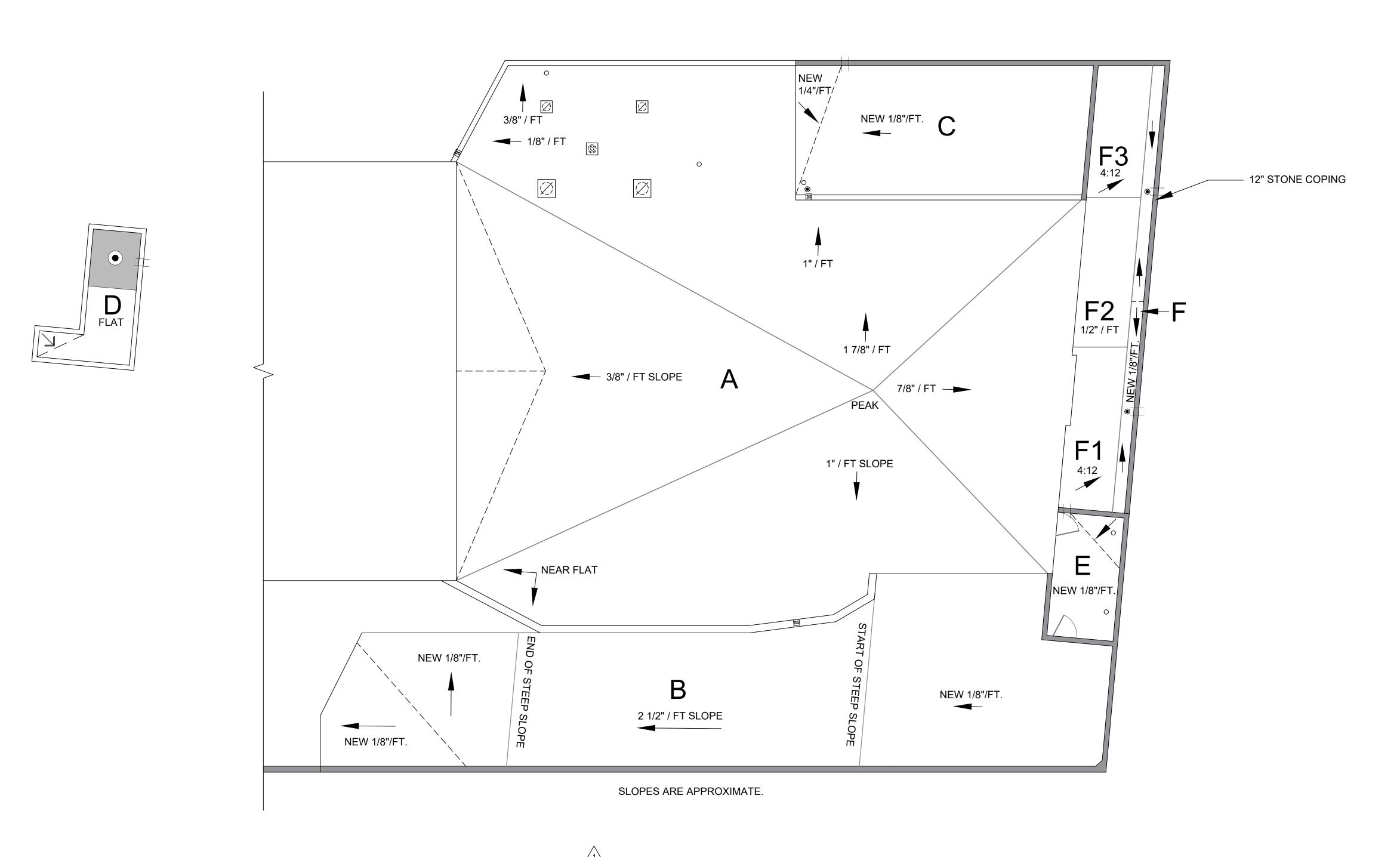
WSU PROJECT #: 060-313960

ED FOR	Bid
FOR DATE	07/03/18
DATE	DESCRIPTION
. 7-19-18	. ADDENDUM #2
T NO	24183210.00
•	KAU
ED BY	MLS
	DATE . 7-19-18  CT NO

The Drawings are the property of WGI and are not to be reused or reproduced without written permission from WGI.

SHEET TITLE Roof Replacement Plan

**SR-401** 





### LEGEND:

COPING

EDGE

GUTTER

DS DOWN SPOUT

ROOF DRAINPLUMBING VENT

Z EXHAUST STACK

■ EXHAUST STACK

□ OVERFLOW SCUPPER

□ O

APPROXIMATE SCALE IN FEET

EXISTING ROOF CONSTRUCTION							
Roof Section	Roof Type	Size (Sq. Ft.)	Year Installed	Roof System Manufacturer	Insulation Type	Deck Type	ERSL
Section A (Main Roof)	Fully Adhered EPDM	6,200	1993	VersiGard	1.5 inch Wood Fiber	Gypsum	3
Section B (Ramp)	Fully Adhered EPDM	2,300	1993	VersiGard	0.5 inch Wood Fiber	Concrete	1
Section C (SE Roof)	Ballasted EPDM	1,000	ND	ND	0.5 inch Wood Fiber	Concrete	1
Section D (Stairwell)	Fully Adhered EPDM	60	2007(?)	ND	1.0 inch ISO	Steel	5
Section E (Bathroom)	Granular Modified	200	2010(?)	ND	Tapered ISO (1"-4")	Concrete	8-10
Section F (1st Fl. Storage)	Smooth BUR (2' gutter area)	120	<2000	ND	None. BUR on deck	Concrete	0
Sloped Sections F1, F2, F3	Modified Cap (with EPDM Patch)	450	<2000	ND	None. Mod on deck	Plywood	0

#### GENERAL NOTES:

#### ALTERNATE ROOF AREAS

- 1. WORK SHALL BE PERFORMED IN CONFORMANCE TO THE SPECIFICATIONS AND MANUFACTURER REQUIREMENTS.
- 2. NEW ROOFS SHALL MEET CLASS "A" FIRE RATING AND INSTALLED TO MEET FM 1-60 WIND UPLIFT REQUIREMENTS.
- 3. ROOF DETAILS INCLUDED FOR THE BASE BID PORTION OF THE WORK SHALL BE FOLLOWED AT ALL SIMILAR CONDITIONS AT ALTERNATE ROOF AREAS. MANUFACTURER APPROVED DETAILS SHALL BE PROVIDED AT OTHER CONDITIONS AND AS DESCRIBED HEREIN.
- 4. PROVIDE PLYWOOD SHEATHING AND CONTINOUS PVC MEMBRANE BASE FLASHING AT ROOF LEVEL MASONRY TRANSITIONS LESS THAN 48 INCHES IN HEIGHT.

  5. ROOF MEMBRANE AT ALL AREAS SHALL BE FULLY ADHERED 60 MIL REINFORCED PVC.
- 6. ROOF AREA A: REMOVE EXISTING ROOFING DOWN TO THE POURED GYPSUM DECK. CLEAN, PREPARE DECK, AND MECHANCIALLY ATTACH FIBERGLASS ASPHALT BASE SHEET TO THE DECK USING MANUFACTURER APPROVED IMPACT NAILS. PROVIDE TWO (2) LAYERS OF 2.5 INCH RIGID POLYISOCYANURATE ADHERED TO THE BASE SHEET USING APPROVED SPECIAL INSULATION ADHESIVE. PROVIDE TAPERED RIGID POLYISOCYANURATE CRICKETS AT HIGH SIDES OF CURBS AND AT INTERFACE OF NEW STORAGE BUILDING. PERIMETER DETAILIING SHALL INCLUDE NEW PRE-FINSHED 24 GAGE GUTTER, SIMILAR TO DETAIL 4, AND TWO (2) PIECE DRIP EDGE.
- 7. ROOF AREA B: REMOVE EXISTING ROOFING DOWN TO THE CONCRETE DECK. CLEAN AND PREPARE DECK. PROVIDE TWO (2) LAYERS OF 2.5 INCH RIGID POLYISOCYANURATE ADHERED TO THE DECK USING APPROVED SPECIAL INSULATION ADHESIVE. PROVIDE 1/8 INCH PER FOOT FULLY TAPERED RIGID POLYISOCYANURATE INSULATION AT FLAT DECK AT BASE AND TOP OF SLOPED AREA. PERIMETER PARAPET DETAILING SHALL BE SIMILAR TO DETAIL 6 BUT SHALL INCLUDE A NEW PRE-FINISHED 24 GAGE METAL COPING. DETAILING AT MASONRY SHALL BE SIMILAR TO DETAIL 12
- 8. ROOF AREA C: REMOVE EXISTING ROOFING DOWN TO THE CONCRETE DECK. PROVIDE NEW CAST IRON ROOF DRAIN ASSEMBLY CONNECTED TO EXISTING PLUMBING LINES. PROVIDE ONE (1)
  NEW OVERFLOW SCUPPER THROUGH PARAPET WALL AT NORTH WALL, WEST SIDE. CLEAN AND PREPARE DECK. PROVIDE BASE LAYER OF 3.0 INCH AND 1/8 INCH PER FOOT TAPERED RIGID
  POLYIOSCYANURATE INSULATION OVER THE BASE LAYER. ALL INSULATION SHALL BE ADHERED USING SPECIAL ADHESIVE. PERIMETER PARAPET DETAILING SHALL BE SIMILAR TO DETAIL 6 BUT
  SHALL INCLUDE A NEW PRE-FINISHED 24 GAGE METAL COPING. DETAILING AT MASONRY SHALL INCLUDE PLWOOD AND CONTINUOUS MEMBRANE FLASHING TO HIGHER ROOF.
- 9. ROOF AREA D: REMOVE EXISTING ROOFING DOWN TO THE METAL DECK. PROVIDE ONE (1) NEW OVERFLOW SCUPPER THROUGH PARAPET WALL ADJACENT TO DRAIN. CLEAN AND PREPARE DECK. PROVIDE BASE LAYER OF 3.0 INCH AND FOUR-WAY, 1/8 INCH PER FOOT, TAPERED RIGID POLYIOSCYANURATE INSULATION OVER THE BASE LAYER. BASE LAYER OF INSULATION SHALL BE MECHANICALLY ATTACHED TO THE DECKING WITH SUBSEQUENT LAYERS ADHERED USING SPECIAL ADHESIVE. PERIMETER PARAPET DETAILING SHALL BE SIMILAR TO DETAIL 6 BUT SHALL INCLUDE A PRE-FINISHED 24 GAGE METAL COPING. PROVIDE NEW WOOD NAILERS ON TOP OF COPING AS REQUIRED TO PROVIDE ACCEPTABLE BASE FLASHING HEIGHT.
- 10. ROOF AREA E: REMOVE EXISTING ROOFING DOWN TO THE CONCRETE DECK. PROVIDE NEW PRIMARY SCUPPER AND DOWNSPOUT. COORDINATE MODIFICATION / REPLACEMENT OF TWO (2) ROOF ACCESS DOORS WITH OTHER TRADES. PROVIDE NEW CURB AT BASE OF DOORS. CLEAN AND PREPARE DECK. PROVIDE BASE LAYER OF 3.0 INCH AND 1/8 INCH PER FOOT TAPERED RIGID POLYIOSCYANURATE INSULATION OVER THE BASE LAYER. ALL INSULATION SHALL BE ADHERED USING SPECIAL ADHESIVE. PERIMETER PARAPET DETAILING SHALL BE SIMILAR TO DETAIL 6 BUT SHALL INCLUDE A NEW PRE-FINISHED 24 GAGE METAL COPING. DETAILING AT MASONRY SHALL BE SIMILAR TO DETAIL 12. DETAILING AT DOOR THRESHOLD SHALL BE SIMILAR TO DETAIL 9.
- 11. ROOF AREA F: REMOVE EXISTING ROOFING DOWN TO THE CONCRETE DECK. REPLACE ALL EXISTING ROOF DRAINS WITH NEW CAST IRON ROOF DRAIN ASSEMBLIES CONNECTED TO EXISTING PLUMBING LINES. PROVIDE NEW OVERFLOW SCUPPERS THROUGH PARAPET WALL ADJACENT TO ALL DRAINS. CLEAN AND PREPARE DECK. PROVIDE BASE LAYER OF 3.0 INCH AND 1/8 INCH PER FOOT TAPERED RIGID POLYIOSCYANURATE INSULATION OVER THE BASE LAYER. ALL INSULATION SHALL BE ADHERED USING SPECIAL ADHESIVE. TRANSITION TAPERED INSULATION FOR A SMOOTH TRANSITION TO UPPER SLOPED ROOF AREAS. PERIMETER PARAPET DETAILING SHALL BE SIMILAR TO DETAIL 6 BUT SHALL INCLUDE A NEW PRE-FINISHED 24 GAGE METAL COPING.
- 12. ROOF AREAS F1, F2 AND F3: REMOVE EXISTING ROOFING DOWN TO THE PLYWOOD DECK. PROVIDE SLIP SHEET OF RED ROSIN PAPER LOOSE LAID OVER THE DECK. PROVIDE LAYER OF 1/4 INCH DENS-DECK PRIME ROOF BOARD MECHANICALLY ATTACHED TO THE DECK. PERIMETER PARAPET DETAILING SHALL BE SIMILAR TO DETAIL 6 BUT SHALL INCLUDE A NEW PRE-FINISHED 24 GAGE METAL COPING. PERIMETER DETAILING AT HIGH-WALL WILL INVOLVE FLASHING AT WINDOWS, BRICK AND CMU AND SHALL BE IN CONFORMANCE WITH MANUFACTURERS STANDARDS.

5136 Lovers Lane Suite 200 Kalamazoo, MI 49002 P 269.381.2222





### Edge Design Associates, Inc.

1973 High Hallow Drive Ann Arbor, MI 48103 Phone: (734) 558-2212



WSU University
Services
Building Roof
and Structure
Repairs 2018

Detroit, Michigan

WSU PROJECT #: 060-313960

ISSU	JED FOR	Bid
ISSUEE	FOR DATE	07/03/18
REV. NO.	DATE	DESCRIPTION
1	. 7-19-18	. ADDENDUM #2
	+	
	+	
	1	
	+	
PROJECT NO.		24183210.00
DRAWI	N BY	KAU
CHECK	ED BY _	MLS

The Drawings are the property of WGI and are not to be reused or reproduced without written

permission from WGI.

Alternate Roof
Replacement
Plan

SHEET NUMBER

**SR-402**