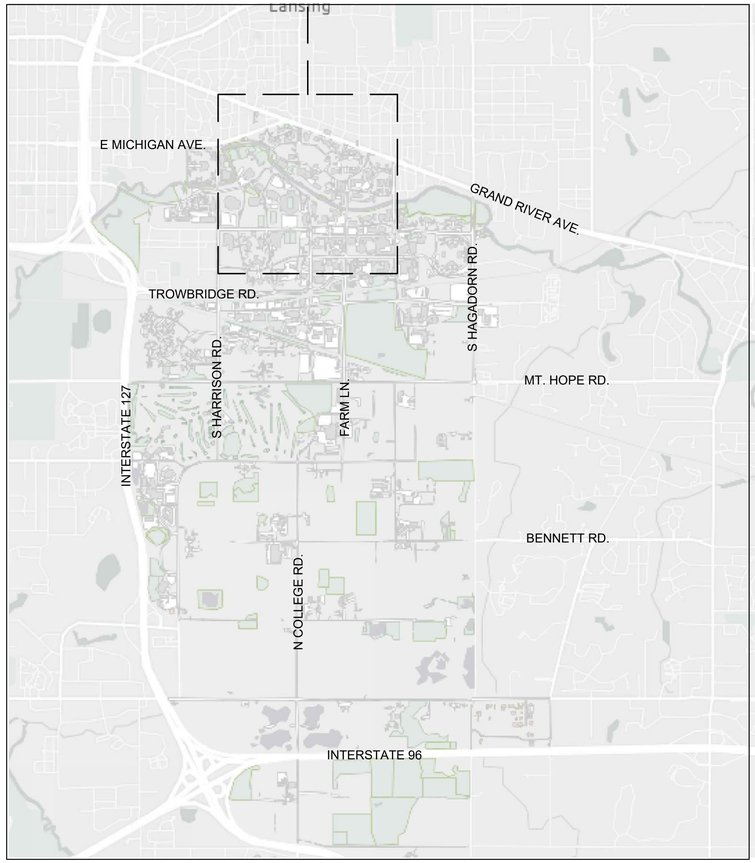
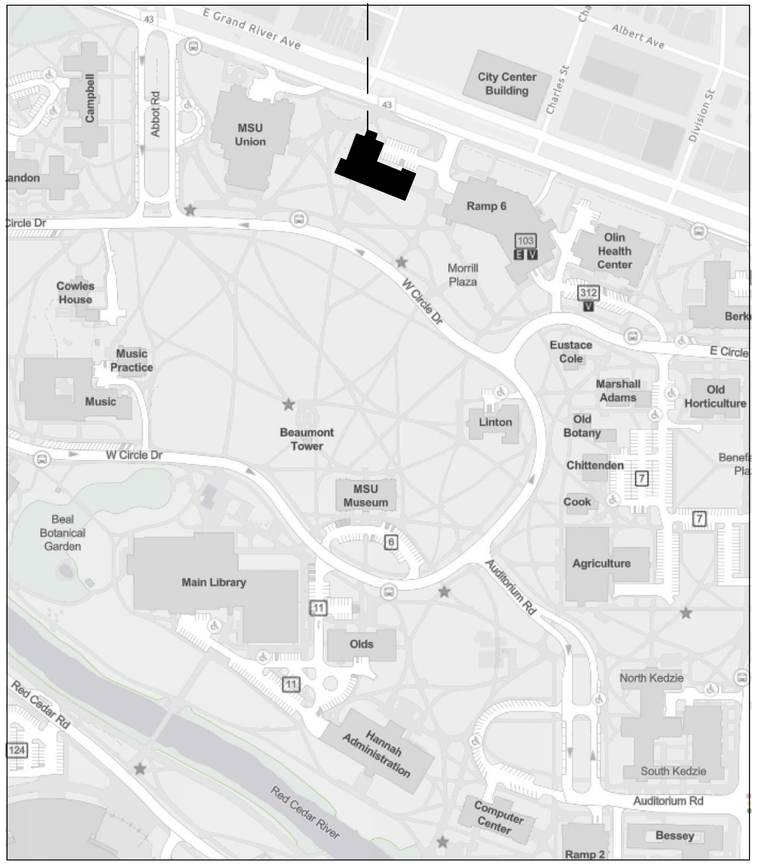
HUMAN ECOLOGY
REPLACE ROOFS AND COMPLETE MASONRY RESTORATION
PROJECT NUMBER: CP24039
ADDRESS: 552 W CIRCLE DR, EAST LANSING, MI 48823

REFER TO CAMPUS AREA MAP



VICINITY MAP
FOR REFERENCE ONLY

HUMAN ECOLOGY BUILDING



CAMPUS AREA MAP
FOR REFERENCE ONLY

DRAWING SHEET INDEX

BUILDING CODE DATA

APPLICABLE CODES:
2021 MICHIGAN BUILDING CODE (MBC)
2021 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS (IEBC) LEVEL 1 ALTERATION
USE GROUP:
BUSINESS (B)
CONSTRUCTION TYPE:
TYPE IIIA
FIRE SUPPRESION SYSTEM:
NOT SPRINKLERED
STORIES, HEIGHT, & AREA LIMITSG
STORIES: 5
HEIGHT: 65 FEET
AREA: 28,500 SQUARE FEET PER STORY
(NO ALLOWANCES FOR OPEN FRONTAGE
OR SPRINKING CONSIDERED)
RE-ROOFING:
REFER TO IEBC CH 7, SEC 705 - REROOFING & SEC 706 STRUCTURAL
REFER TO MBC CH 15 - ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

Infrastructure Planning and Facilities
MICHIGAN STATE UNIVERSITY

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MSU PROJ. NO.
CP24039

PR. MGR.	M. CORNILLIE
ARCH.	D. LAUNSTEIN
MECH.	S. GOERGE
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CIVIL	T. OSMAN
L.A.	D. WILBER
INT. DES.	NA
CONST. REP.	M. CORNILLIE
APPR.	D. LAUNSTEIN
DATE	11/20/2025
SCALE	AS NOTED
ISSUED	
CONSTRUCTION	11/20/2025

GENERAL INFORMATION
G-000

Eng. TM
Engineering & Surveying
www.engdot.com

4063 Grand Oak Drive Suite A109
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517.887.1100

16930 Robbins Road Suite 105
Grand Haven, MI 49417
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BENCH MARK 1 ELEVATION: 845.33
ESE UPPER FLANGE BOLT ON HYDRANT S. SIDE OF DRIVEWAY 25' W OF W. SIDE OF GRAND RIVER AVE PARKING RAMP
RAMP 6, LOT 103

BENCH MARK 2 ELEVATION: 845.50
N UPPER FLANGE BOLT ON HYDRANT N. SIDE OF WEST CIRCLE DR, S. OF W. WALL LINE EXTENDED HUMANE ECOLOGY BLDG

MSU DATUM

HORIZONTAL: NAD83(86) U.S. SURVEY FOOT

VERTICAL: NGVD29 U.S. SURVEY FOOT

SURVEY CONDUCTED BY ENG., INC ON 05/30/2025

N

SCALE: 1"=30'

0 15 30 45 60

LEGEND

- = EDGE OF PAVEMENT
- = EXISTING CONTOUR ELEVATION
- = SHRUB LINE
- = DECIDUOUS TREE TRUNK
- = CONIFEROUS TREE TRUNK
- = TREE DRIPLINE
- = BUSH
- GAS = EXISTING GAS LINE
- = EXISTING STORM SEWER
- = EXISTING SANITARY SEWER
- UE = EXISTING UNDERGROUND ELECTRIC
- = EXISTING CABLE TV
- FO = EXISTING FIBER OPTIC LINE
- UT = EXISTING TELEPHONE
- = EXISTING STEAM TUNNEL/LINE (PER MSU GIS)
- = EXISTING STEAM VAULT (PER MSU GIS)
- = EXISTING HYDRANT
- = EXISTING WATER VALVE
- = EXISTING SPRINKLER CONTROL BOX
- = EXISTING SIGN
- = EXISTING MANHOLE
- = EXISTING UTILITY POLE
- = EXISTING ELECTRIC METER
- = EXISTING STREET/CONCOURSE LIGHT POLE
- = EXISTING TELEPHONE / CABLE PEDESTAL
- BM = BENCH MARK

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TOPOGRAPHIC SURVEY

C101

EXISTING STRUCTURES					
STRUCTURE	MSU	RIM ELEV.	INVERT	ELEVATION	NOTES
MH 500	31317	843.74	4" NE	832.82	4' DIA SAN
			4" E	832.85	
			4" SW	832.82	
MH 501		844.51			7.91' DEEP 7' X ?
MH 502	6	845.85			7.52 DEEP 6' X ?
MH 503	47	854.40			ELEC 9.04' DEEP 8' X 8'
MH 504	859	854.53			COMM 8.7' DEEP 5' x 10'
MH 505	2304	846.80	15" N	837.70	4' DIA STO
			15" W	836.77	
MH 506	285	849.21			ELEC 8.8' DEEP 10' X 7'
MH 507	247	848.98			STEAM 10.95' DEEP
MH 508	247	849.36			STEAM 11.32' DEEP
MH 509	2305	848.52	15" N	838.47	4' DIA STO
			15" S	838.47	
			15" W		Bulkheaded
MH 510	707	844.61			ELEC 10.26' DEEP 8' X 8'
MH 511	905	844.22			COMM 10.25' DEEP 7' X 5'
MH 512	17	844.74			ELEC 8.14' DEEP 10' X ?
CB 513		842.53	12" E	835.17	4' DIA STO
			12" N	835.56	
MH 514		843.56			UNKNOWN 3' X 3'
MH 515		843.85			UNKNOWN 3' X 3'
MH 516	22607	843.28	8" VERT	842.19	TOP OF PIPE 3' DIA
MH 517	22600	843.32	8" N	836.23	BULKHEAD 14.47 TO MH BOTTOM, 4' DIA
			8" NW	836.08	
MH 518	13901	843.13			SAN TOO FAR OFFSET
MH 519	22608	845.28	8" NW	837.12	4' DIA SAN
			8" SE	837.07	
MH 520	82	846.28			STEAM TUNNEL TOP ELEV=844.18 INSIDE ELEV=843.52
521		847.62			VAULT
522		847.54			FLAT GRATE 8' X 8' VENT?
MH 523	22600	846.89	6" SW	837.82	3' X 3' SAN
			6" S	837.81	
CB 524		843.05	4" NE	842.32	1' X 1' STO
MH 525	112	844.89	8" N	837.49	3' DIA SAN
			8" SE	837.59	
MH 526	44	852.13	6" W		STEAM VAULT 8' DEEP 24' X ?
MH 527	44	852.67			STEAM VAULT 9.08' DEEP
MH 528	44	853.02			STEAM VAULT 9.48' DEEP
MH 529	483	853.36	10" N	847.06	4' DIA SAN
			15" SW	842.44	
			6" SW	843.44	
			4" W	849.97	
			4" E	842.80	
MH 530	89	852.48			COMM 7.82' DEEP 9' X 4'
531		850.51			GRATE 18' DEEP 6' X 12'
CB 532		841.88	12" S	837.53	4' DIA STO
CB 533		841.90	12" NE	837.46	4' DIA STO
			12" SW	837.40	
CB 534		841.88	12" NE	837.17	4' DIA STO
			12" W	837.03	
CB 535		847.44	6" N	845.86	3' DIA STO
CB 536		847.61	6" N	846.03	3' DIA STO
MH 537	83	848.54	4" S	845.59	3' DIA STO
			8" SW	845.07	
			8" SE	844.92	
			8" N	845.05	
MH 538		848.65	12" S	844.79	2' DIA STO
			12" N	844.79	
CB 539	102	849.38	12" N	844.50	4' DIA STO
			12" W	841.23	
			12" E	841.15	
			12" SE	844.68	
CB 540	31349	842.54	8" SW	840.80	2' DIA STO
MH 541		842.54	12" SW	838.57	4' DIA STO
			8" NE		TO FAR OFFSET
MH 542	2206	842.19	30" E	827.53	7' STO
			30" W	827.52	
			8" S	837.88	
CB 543	31348	841.92	8" N	837.94	4' DIA STO
MH 544	314287	843.05	12" NE	836.61	4' DIA STO
			12" SW	836.53	
			6" E	837.78	

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BENCH MARK 1 ELEVATION: 845.33
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RAMP 6, LOT 103

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EXISTING UTILITIES

C102

SOIL EROSION CONTROL MEASURES

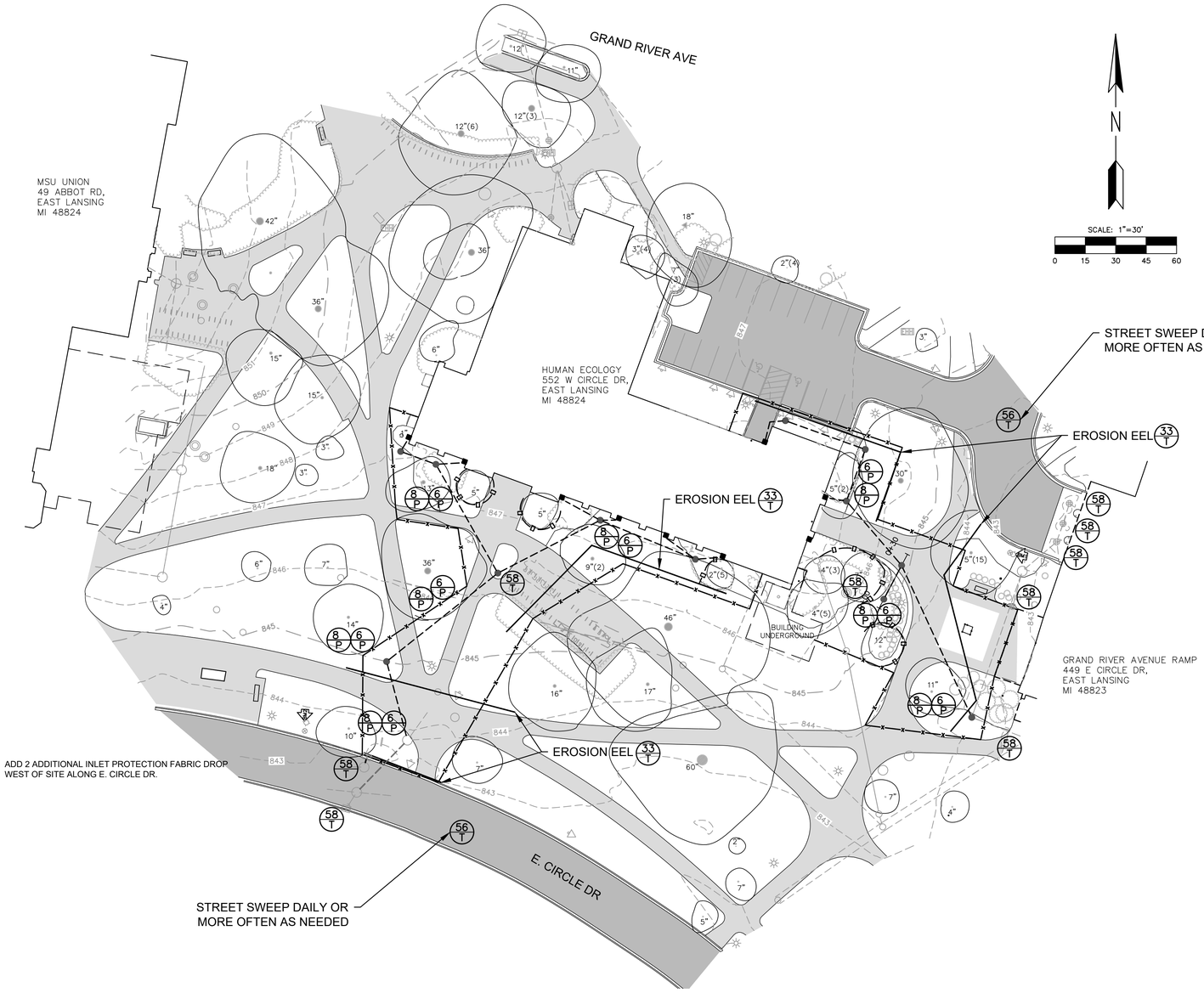
E6	MULCH		For use in areas subject to erosive surface flows or severe wind or on newly seeded areas.	6 P
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).	8 P

SEDIMENTATION CONTROL MEASURES

ES33	FILTER ROLLS		In areas requiring immediate protection of slopes against surface erosion and gully formation and for perimeter sediment control.	33 T
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.	58 T

ROUTINE MAINTENANCE ACTIVITY DETAILS

56	Street Sweeping		Remove sediment from pavement minimizing non-point source pollution.	56 T



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- = BENCH MARK
- = TREE PROTECTION (BY OWNER)
- = EROSION EELS
- = CONSTRUCTION FENCE

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SESC PLAN

C103

SOIL EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL CONTRACT DOCUMENTS, APPROVED SOIL EROSION AND SEDIMENTATION CONTROL (S.E.S.C.) PLANS, PERMIT CONDITIONS AND WITH PARTS 31 AND 91 OF PUBLIC ACT 451 OF 1994. THE OWNER SHALL OBTAIN A (S.E.S.C.) PERMIT FROM THE APPROPRIATE MUNICIPAL ENFORCING AGENCY (M.E.A.) OR COUNTY ENFORCING AGENCY (C.E.A.). PERMIT FEES AND ROUTINE INSPECTIONS CHARGED BY THE M.E.A./ C.E.A. WILL BE PAID FOR BY THE OWNER.
2. PRIOR TO BEGINNING ANY EARTH CHANGE, THE CONTRACTOR SHALL RETAIN A M.D.E.Q. CERTIFIED STORM WATER OPERATOR (C.S.W.O.) TO PROVIDE THE REQUIRED S.E.S.C. REPORTS (WHICH INCLUDE THE WEEKLY AND STORM EVENT REPORTS AS WELL AS ALL FOLLOW UP REPORTS FOR BOTH VIOLATIONS AND STORM EVENT CORRECTIONS) ON THE STANDARD M.D.N.R.E. FORM. THE CONTRACTOR SHALL PROVIDE THE REPORTS TO THE OWNER ON A WEEKLY BASIS, AND RETAIN THOSE REPORTS FOR THREE YEARS.
3. PRIOR TO BEGINNING ANY EARTH CHANGE, THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL S.E.S.C. MEASURES AS SHOWN ON THE CONTRACT DOCUMENTS AND AS DIRECTED BY THE OWNER, C.S.W.O., M.E.A./ C.E.A. OR M.D.E.Q. AT ANYTIME DURING THE LIFE OF THE CONTRACT OR UNTIL M.S.U. OFFICIALLY TAKES OVER RESPONSIBILITY FOR THE SITE. IMMEDIATELY PRIOR TO M.S.U. TAKING RESPONSIBILITY FOR THE SITE, THE CONTRACTOR WILL BE REQUIRED TO CLEAN ALL CATCH BASINS AFFECTED BY THE CONSTRUCTION, BOTH WITHIN THE CONTRACT LIMITS AND ALL SURROUNDING ROADS AND LAWN AREAS WHERE SOIL MAY HAVE SPREAD AS A RESULT OF CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL CONDUCT ALL EXCAVATION, FILLING, GRADING, AND CLEAN UP OPERATIONS IN A MANNER SUCH THAT SEDIMENT, GENERATED BY WIND OR WATER IS NOT DISCHARGED INTO ANY STORM SEWER, DRAINAGE DITCH, RIVER, LAKE, AIR, OR UNDERGROUND UTILITY SYSTEM. STAGE WORK TO MINIMIZE THE AREA OF EXPOSED SOIL, THEREBY REDUCING THE OPPORTUNITY FOR SOIL EROSION.
5. WATER FROM TRENCHES AND OTHER EXCAVATION SHALL BE PUMPED INTO A FILTRATION BAG TO REMOVE SEDIMENTS FROM THE WATER.
6. IF SEDIMENT EXTENDS BEYOND THE PROJECT LIMITS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP AND RESTORATION OF ALL SURFACES AND UTILITY SYSTEMS TO THE CONDITION THAT EXISTED PRIOR TO THE CONTRACT AWARD.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL S.E.S.C MEASURES ON A DAILY BASIS.
8. SHOULD VIOLATIONS BE IDENTIFIED BY THE OWNER, C.S.W.O., M.E.A./ C.E.A. OR M.D.E.Q., THEY SHALL BE CORRECTED WITHIN 24 HOURS OF NOTIFICATION. THE CORRECTION(S) SHALL BE APPROVED BY THE OWNER, C.S.W.O., M.E.A./ C.E.A. OR M.D.E.Q.. ALL SUBSEQUENT INSPECTIONS PERFORMED BY THE OWNER, C.S.W.O., M.E.A./ C.E.A. OR M.D.E.Q. AS A RESULT OF THE VIOLATION (AND ANY OTHER ASSOCIATED COSTS) WILL BE PAID FOR BY THE CONTRACTOR. IF IDENTIFIED VIOLATIONS ARE NOT CORRECTED WITHIN 24 HOURS OF WRITTEN NOTICE, THE OWNER WILL MAKE THE REQUIRED REPAIRS WITHOUT FURTHER NOTIFICATION, AT THE CONTRACTORS EXPENSE.
9. FINES ASSESSED AS A RESULT OF THE VIOLATION FOR NON --COMPLIANCE OF THE S.E.S.C. PROVISIONS WILL BE PAID BY THE CONTRACTOR. SHOULD A "STOP WORK" ORDER FOR NON --COMPLIANCE BE ISSUED, A TIME EXTENSION REQUEST FOR THAT PERIOD WILL NOT BE GRANTED. (FINES COULD BE ASSESSED UP TO AND INCLUDING G25,000 PER DAY FOR EACH VIOLATION).
10. SUBJECT SITE IS NOT WITHIN 500 FEET OF A STREAM OR RIVER.
11. SOIL TYPE: URBANIZED SOILS.
12. ALL DISTURBED AREAS SHALL RECEIVE PERMANENT EROSION CONTROL MEASURES WITHIN 5 DAYS OF FINAL GRADING.
13. SHOULD VIOLATIONS BE IDENTIFIED BY THE OWNER, C.S.W.O., M.E.A/C.E.A. OR D.E.Q., THEY SHALL BE CORRECTED WITHIN 24 HOURS OF NOTIFICATION. THE CORRECTION(S) SHALL BE APPROVED BY THE OWNER, C.S.W.O., M.E.A/C.E.A. OR D.E.Q. ALL SUBSEQUENT INSPECTIONS PERFORMED BY THE OWNER, C.S.W.O., M.E.A/C.E.A. OR D.E.Q. AS A RESULT OF THE VIOLATION (AND ANY OTHER ASSOCIATED COSTS) WILL BE PAID BY THE CONTRACTOR. IF IDENTIFIED VIOLATIONS ARE NOT CORRECTED WITHIN 24 HOURS OF WRITTEN NOTICE, THE OWNER WILL MAKE THE REQUIRED REPAIRS WITHOUT FURTHER NOTIFICATION, AT THE CONTRACTOR'S EXPENSE.
14. APPROXIMATE QUANTITIES OF EXCAVATION A FILL:

    APPROXIMATE TOTAL EXCAVATION 700 CYD

    TOTAL FILL 688 CYD

    NOTE: CONTRACTOR SHALL DETERMINE THEIR OWN QUANTITIES OF EXCAVATED MATERIAL & SEQUENCE EVENTS. ABOVE QUANTITIES ARE FOR PERMIT APPLICATION PURPOSES ONLY
15. CONSTRUCTION ACCESS ROAD WILL BE PROTECTED WITH CRUSHED STONE OR CONCRETE, AGGREGATE SIZE 1"--2" OR ASPHALT AS NOTED ON PLAN.
16. PROJECT SITE BOUNDARY OF DISTRIBUTION PROJECT -- 0.5 ACRES.
17. COST OF PERMIT -- TOTAL ACRES OF PROJECT = 0.5 ACRES.
18. THERE ARE NO WETLANDS ON OR IMMEDIATELY ADJACENT TO THE PROJECT SITE.
19. STRIP ALL TOPSOIL WITHIN THE LIMITS OF WORK AS INDICATED ON DEMOLITION PLAN. HAUL OFFSITE TO THE DESIGNATED SITE (E.G. BEAUMONT NURSERY). IF NOT IN USE, OWNER SHALL PROTECT ANY STOCKPILES AT THE DISPOSAL SITE WITH SILT FENCE, TEMP SEEDING OR SIMILAR TO PREVENT EROSION.
20. A WATER TRUCK SHALL BE AVAILABLE TO WATER DOWN SITE AS REQUIRED TO MAINTAIN DUST CONTROL.
21. DIRT OR MUD TRACKED ONTO CONCRETE OR PAVED AREAS SHALL BE PROMPTLY REMOVED AND SURFACE CLEANED.
22. STORM WATER FROM THE SITE SHALL NOT ADVERSELY IMPACT ADJACENT PROPERTIES DURING CONSTRUCTION. FINAL TOPOGRAPHY OF THE SITE SHALL ALSO NOT HAVE ANY ADVERSE EFFECTS ON ADJOINING LANDS. NOTE: ALL ADJACENT LANDS TO THE SITE ARE OWNED BY MICHIGAN STATE UNIVERSITY.

CONSTRUCTION SEQUENCE SCHEDULE (2026)

Sequence of Construction Activities	June	July	Aug	Sept	Oct
Install Temporary SESC Measures:					
A. Stabilized Construction Access					
B. Silt Fence					
C. Catch basin Protection					
D. Dust Control					
E. Catch Basin					
F. Storm Drain Inlet Protection					
Maintain Temporary SESC Measures:					
Utility Installation					
Pavement Construction					
Remove Temporary SESC Measures					
Permanent SESC Measures					

* CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF TEMPORARY CONTROL MEASURES IN ALL PROJECT SEGMENTS UNTIL PERMANENT RESTORATION IS COMPLETE AND OWNER TAKES OVER RESPONSIBILITY

SITE DESCRIPTION:

PART OF PARCEL
33-20-02-18-304-001 MICHIGAN STATE UNIVERSITY, EAST LANSING 48824

MORE PARTICULARLY DESCRIBED AS THE HUMAN ECOLOGY BUILDING

Eng Engineering & Surveying www.engdot.com
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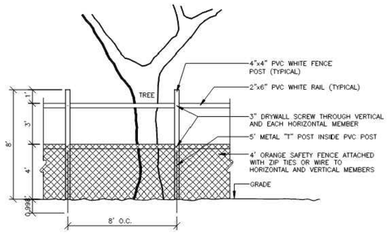
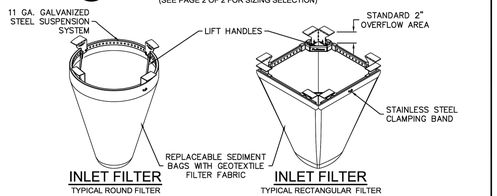
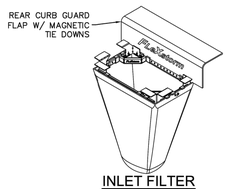


TREE PROTECTION FENCE (BY OWNER)
NO SCALE

T55 FLEXSTORM CATCH-IT INLET FILTERS
PRODUCT SELECTION AND SPECIFICATION DRAWING
(SEE PAGE 2 OF 2 FOR SIZING SELECTION)





NOTES:

1. ALL FRAMING IS CONSTRUCTED OF CORROSION RESISTANT STEEL (ZINC PLATED OR GALVANIZED) FOR 7 YEAR MINIMUM SERVICE LIFE.
2. UPON ORDERING CONFIRMATION OF THE DOT CALLOUT, PRECAST OR CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED TO CONFIGURE AND ASSEMBLE YOUR CUSTOMIZED FLEXSTORM INLET FILTER. PART NUMBER ALONE IS NOT SUFFICIENT.
3. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT: WWW.INLETFILTERS.COM

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC
A DIVISION OF ADS, INC.
WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477
FX INFO@INLETFILTERS.COM

SIZE		INLET & PIPE PROTECTION, INC. DWG NO.:	REV
C		FLEXSTORM_CATCH_IT	A

© 2014 CITY OF EAST LANSING	CITY OF EAST LANSING DEPARTMENT OF ENGINEERING 410 ABBOT ROAD EAST LANSING, MI 48823 (517) 337-9459 FAX: (517) 337-3943	PROJECT: STANDARD DETAILS SHEET NAME: FLEXSTORM CATCH-IT INLET FILTERS DRAWN: CJM; CHECKED: RFS; APPROVED: RFS DATE: 02/20/14; DATE: 03/14/14; DATE: 03/14/14	REVISION: ENG. REVIEW DATE: 03/01/16 SCALE: NONE SHEET NO.: 1 OF 2

N:\Engineering\Templates\Documents\Specifications\Details\Master Standard Details\Dwg\Current 030116\SESC – FlexStorm Inlet Filter Detail – Rev 030116.dwg, Tuesday, March 01, 2016 1:24:15 PM, Clinton Martinez

1. INDENTIFY YOUR FRAME STYLE AND SIZE

STYLE	FRAME STYLE AND SIZE	Frame P/N:
ROUND	Small Round (up to 20.0" dia grates (A) dim)	625RD
	Med Round (20.1" - 26.0" dia grates (A) up to 25" dia openings (B))	62MRD
	Large Round (26.1" - 32.0" dia grates (A) up to 30" openings (B))	62LRD
	XL Round (32.1" dia - 39" dia grates (A) up to 37" dia openings (B))	62XLRD
RECT / SQUARE	Small Rect / Square (up to 16" (B) x 16" (D) openings or 64" perimeter)	625SQ
	Med Rect / Square (up to 24" (B) x 24" (D) openings or 96" perimeter)	62MSQ
	Large Rect / Square (up to 36" (B) x 24" (D) openings or 120" perimeter)	62LSQ
	XL Rect / Square (side by side 2 pc set to fit up to 48" (B) x 36" (D) openings)	62XLSQ
COMBO INLETS	Small Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	625CB
	Med Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62MCB
	Large Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62LCB
	XL Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62XLCB
NYLOPLAST	12" diameter Nyloplast castings (Stainless Steel Framing standard)	6212NY
	15" diameter Nyloplast castings (Stainless Steel Framing standard)	6215NY
	18"diameter Nyloplast castings (Stainless Steel Framing standard)	6218NY
	24" diameter Nyloplast castings (Stainless Steel Framing standard)	6224NY
	30" diameter Nyloplast castings (Stainless Steel Framing standard)	6230NY

T55 FLEXSTORM CATCH-IT INLET FILTERS
PRODUCT SELECTION AND SPECIFICATION DRAWING
(SEE PAGE 1 OF 2 FOR DETAIL DRAWINGS)

2. SELECT YOUR BAG PART NUMBER

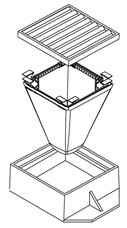
FLEXSTORM FILTER BAGS	(22" depth) STD Bag P/N	(12" depth) Short Bag P/N	Clean Water Flow Rate (GPM/SqFt)	Min A.O.S. (US Sieve)
FX: Standard Woven Bag	FX	FX-S	200	40
IL: IDOT Non-Woven Bag	IL	IL-S	145	70

3. CREATE YOUR FLEXSTORM INLET FILTER PART NUMBER

Frame P/N from Step 1. Filter Bag P/N from Step 2.

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE

Nominal Bag Size	Solids Storage (CuFt)	Filtered Flow Rate at 50% Max (CFS) FX (Woven)	IL (NonWoven)
Small	1.6	1.2	0.9
Medium	2.1	1.7	1.3
Large	3.8	2.7	1.9
XL	4.2	3.6	2.6



INSTALLATION NOTES:

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ON TO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE

INLET FILTER
TYPICAL INSTALLATION

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SIZE		INLET & PIPE PROTECTION, INC. DWG NO.:	REV
C		FLEXSTORM_CATCH_IT	A

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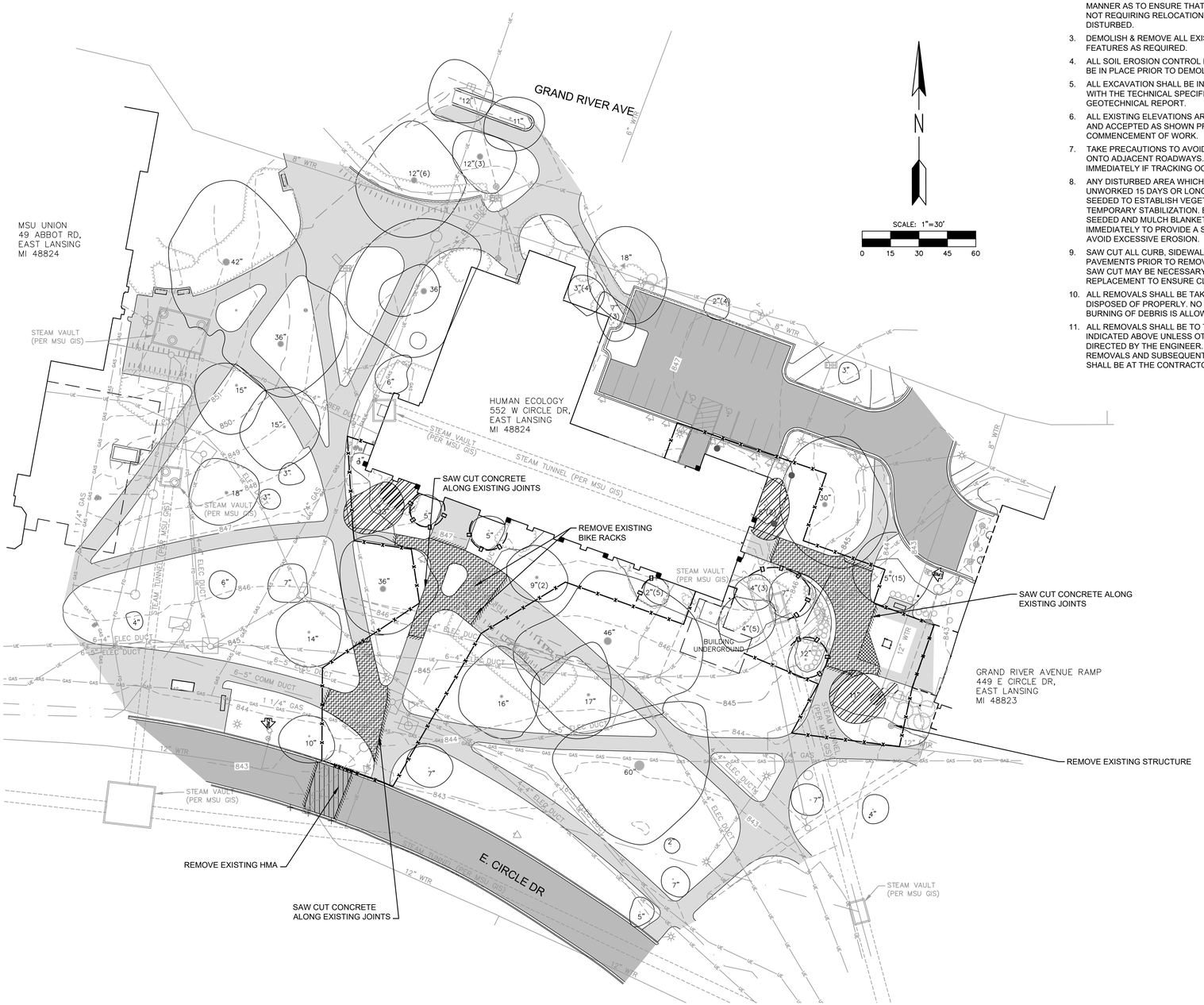
CAPITAL PROJ. NO.
CP24039

PR. MGR.	M. CORNILLIE
ARCH.	D. LAUNSTEIN
MECH.	S. GOERGE
ELEC.	K. HOWARD
CIVIL	T. OSMAN
L.A.	D. WILBER
INT. DES.	NA
CONST. REP.	M. CORNILLIE
APPR.	D. LAUNSTEIN
DATE	11/20/2025
SCALE	1" = 30'
ISSUED	
CONSTRUCTION	11/20/2025

SESC DETAILS

C104



DEMO NOTES

1. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT TIME OF CONSTRUCTION.
2. CONTACT "811" AT 1-800-482-7171 FOR LOCATION OF UNDERGROUND UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING EXCAVATION WORK. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO ARE NOT PART OF THE "811" ALERT SYSTEM. OPERATIONS SHALL BE CONDUCTED IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
3. DEMOLISH & REMOVE ALL EXISTING SITE FEATURES AS REQUIRED.
4. ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO DEMOLITION.
5. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AND GEOTECHNICAL REPORT.
6. ALL EXISTING ELEVATIONS ARE TO BE VERIFIED AND ACCEPTED AS SHOWN PRIOR TO COMMENCEMENT OF WORK.
7. TAKE PRECAUTIONS TO AVOID TRACKING SOIL ONTO ADJACENT ROADWAYS. SWEEP IMMEDIATELY IF TRACKING OCCURS.
8. ANY DISTURBED AREA WHICH WILL BE LEFT UNWORKED 15 DAYS OR LONGER MUST BE SEEDED TO ESTABLISH VEGETATION FOR TEMPORARY STABILIZATION. BASINS TO BE SEEDED AND MULCH BLANKETS APPLIED IMMEDIATELY TO PROVIDE A STABLE BASE AND AVOID EXCESSIVE EROSION.
9. SAW CUT ALL CURB, SIDEWALK, AND PAVEMENTS PRIOR TO REMOVAL. ADDITIONAL SAW CUT MAY BE NECESSARY PRIOR TO REPLACEMENT TO ENSURE CLEAN EDGE.
10. ALL REMOVALS SHALL BE TAKEN OFF-SITE AND DISPOSED OF PROPERLY. NO STOCKPILE OR BURNING OF DEBRIS IS ALLOWED.
11. ALL REMOVALS SHALL BE TO THE LIMITS INDICATED ABOVE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. UNAUTHORIZED REMOVALS AND SUBSEQUENT REPLACEMENT SHALL BE AT THE CONTRACTOR'S EXPENSE.
12. REMOVE, STORE, AND RESET ANY EXISTING SIGNS AS DIRECTED BY THE ENGINEER/OWNER.
13. REMOVE ALL TREES TO THE CLEARING LIMITS AS SHOWN. REMOVE ALL EXISTING TREES, STUMPS AND BRUSH FROM THE SITE AS NECESSARY TO CONSTRUCT THE IMPROVEMENTS.
14. BACKFILL EXCAVATED AREAS WITH CLEAN GRANULAR FILL COMPACTED TO 95% OF THE MATERIAL UNIT WEIGHT BY MODIFIED PROCTOR.
15. CONTROL SHALL BE MAINTAINED OVER THE SITE AND OPERATION TO ELIMINATE HAZARDS TO THE PUBLIC. NAILS OR OTHER TIRE PUNCTURING ITEMS SHALL NOT BE DROPPED ON STREETS, ALLEYS AND ADJACENT PROPERTY. PUBLIC STREETS, CURBS AND SIDEWALKS SHALL BE PROTECTED FROM DAMAGE. THE PERSON ENGAGED IN THE DEMOLITION WORK SHALL BE LIABLE FOR ANY AND ALL DAMAGE TO CURBS, STREETS, SIDEWALKS AND OTHER PUBLIC OR PRIVATE PROPERTY AND FOR ANY BODILY INJURY OCCURRING AS A RESULT OF THE DEMOLITION WORK.
16. CONTRACTOR SHALL TAKE CAUTION TO PROTECT EXISTING UTILITIES, LIGHT POLES AND STEAM TUNNELS.
17. REMOVE BIKE LOOPS AND REPLACE-IN-KIND.

LEGEND

- = EDGE OF PAVEMENT
- = EXISTING CONTOUR ELEVATION
- = SHRUB LINE
- = DECIDUOUS TREE TRUNK
- = CONIFEROUS TREE TRUNK
- = TREE DRIPLINE
- = BUSH
- GAS = EXISTING GAS LINE
- = EXISTING STORM SEWER
- = EXISTING SANITARY SEWER
- ue = EXISTING UNDERGROUND ELECTRIC
- = EXISTING CABLE TV
- fo = EXISTING FIBER OPTIC LINE
- ut = EXISTING TELEPHONE
- = EXISTING STEAM TUNNEL/LINE (PER MSU GIS)
- = EXISTING STEAM VAULT (PER MSU GIS)
- = EXISTING HYDRANT
- = EXISTING WATER VALVE
- = EXISTING SIGN
- = EXISTING MANHOLE
- = EXISTING UTILITY POLE
- = EXISTING ELECTRIC METER
- = EXISTING STREET/CONCOURSE LIGHT POLE
- = EXISTING TELEPHONE / CABLE PEDESTAL
- BM = BENCH MARK
- = TREE PROTECTION (BY OWNER)
- = CONSTRUCTION FENCE
- = REMOVE EXISTING SIDEWALK
- = REMOVE EXISTING BRICK PAVERS
- = REMOVE EXISTING PAVEMENT
- xxxxxxxxxxxx = REMOVE EXISTING CURB
- = SAW CUT
- = REMOVE TREE
- = REMOVE BUSH

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Grand Rapids, MI 49546
616.743.3020

BENCH MARK 1 ELEVATION: 845.33
ESE UPPER FLANGE BOLT ON HYDRANT S. SIDE OF DRIVEWAY 25' W OF W. SIDE OF GRAND RIVER AVE PARKING RAMP
RAMP 6, LOT 103

BENCH MARK 2 ELEVATION: 845.50
N UPPER FLANGE BOLT ON HYDRANT N. SIDE OF WEST CIRCLE DR, S. OF W. WALL LINE EXTENDED HUMANE ECOLOGY BLDG

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REPLACE ROOFS AND COMPLETE MASONRY RESTORATION

CAPITAL PROJ. NO.
CP24039

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MECH.	S. GOERGE
ELEC.	K. HOWARD
CIVIL	T. OSMAN
L.A.	D. WILBER
INT. DES.	NA
CONST. REP.	M. CORNILLIE
APPR.	D. LAUNSTEIN
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DEMOLITION PLAN

C105

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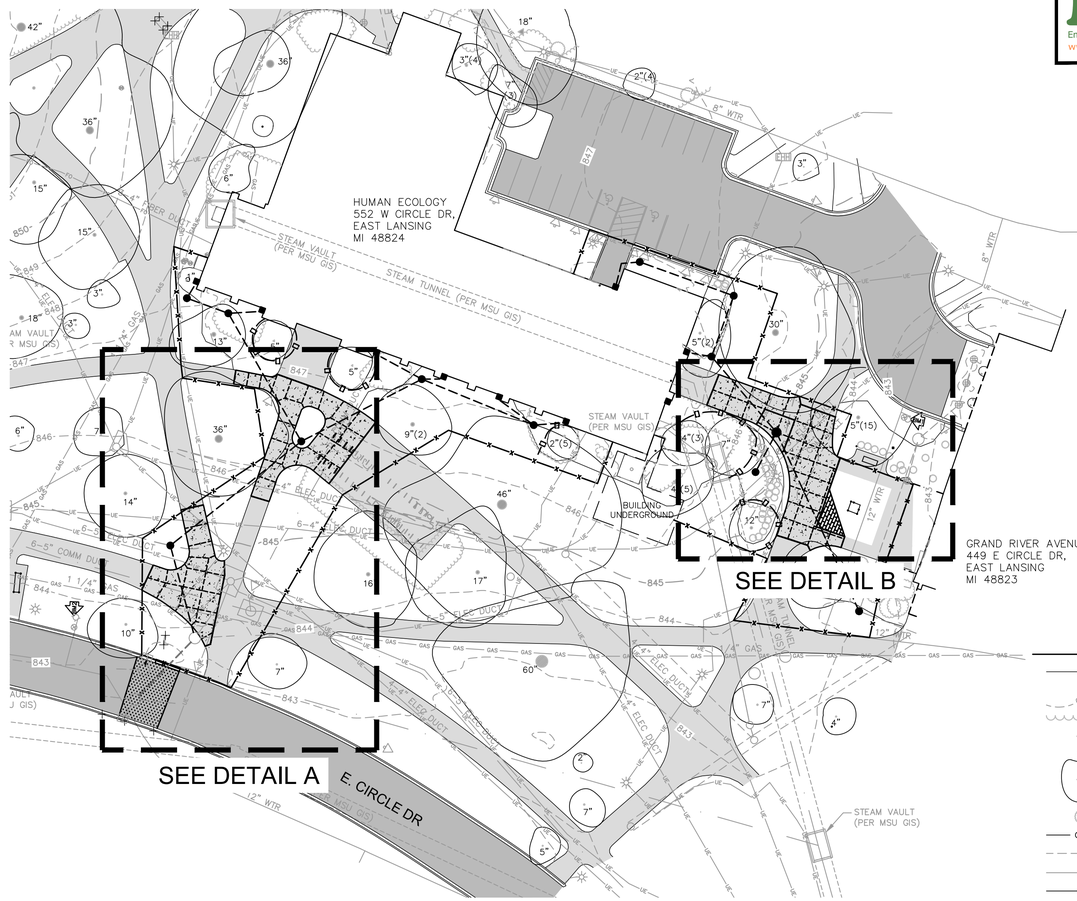
REPLACE ROOFS AND COMPLETE MASONRY RESTORATION

DETAIL A
SCALE: 1"=10'



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RAMP 6, LOT 103

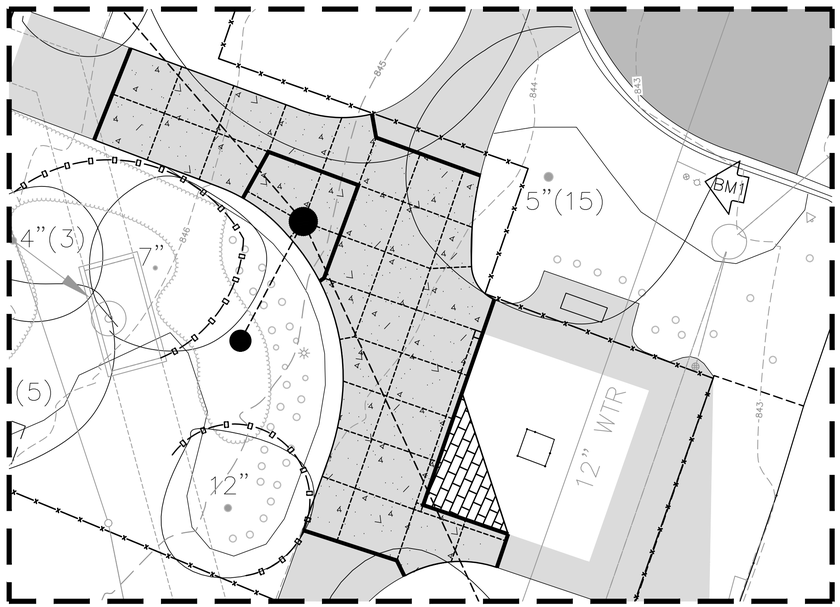
BENCH MARK 2 ELEVATION: 845.50
N UPPER FLANGE BOLT ON HYDRANT N. SIDE OF WEST CIRCLE DR, S. OF W. WALL LINE EXTENDED HUMANE ECOLOGY BLDG

N

SCALE: 1"=30'
0 15 30 45 60

LEGEND

- = EDGE OF PAVEMENT
- = EXISTING CONTOUR ELEVATION
- = SHRUB LINE
- = DECIDUOUS TREE TRUNK
- = CONIFEROUS TREE TRUNK
- = TREE DRIPLINE
- = BUSH
- = EXISTING GAS LINE
- = EXISTING STORM SEWER
- = EXISTING SANITARY SEWER
- = EXISTING UNDERGROUND ELECTRIC
- = EXISTING CABLE TV
- = EXISTING FIBER OPTIC LINE
- = EXISTING TELEPHONE
- = EXISTING STEAM TUNNEL/LINE (PER MSU GIS)
- = EXISTING STEAM VAULT (PER MSU GIS)
- = EXISTING HYDRANT
- = EXISTING WATER VALVE
- = EXISTING SIGN
- = EXISTING MANHOLE
- = EXISTING UTILITY POLE
- = EXISTING ELECTRIC METER
- = EXISTING STREET/CONCOURSE LIGHT POLE
- = EXISTING TELEPHONE / CABLE PEDESTAL
- = BENCH MARK
- = TREE PROTECTION (BY OWNER)
- = CONSTRUCTION FENCE
- = PROPOSED REINFORCED SIDEWALK
- = PROPOSED BRICK PAVERS
- = PROPOSED HMA
- = PROPOSED CONTROL JOINTS
- = PROPOSED EXPANSION JOINT



DETAIL B
SCALE: 1"=10'

NOTE
REMOVE BIKE LOOPS AND REPLACE-IN-KIND

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CONSTRUCTION	11/20/2025

SITE LAYOUT

C201

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DETAIL A
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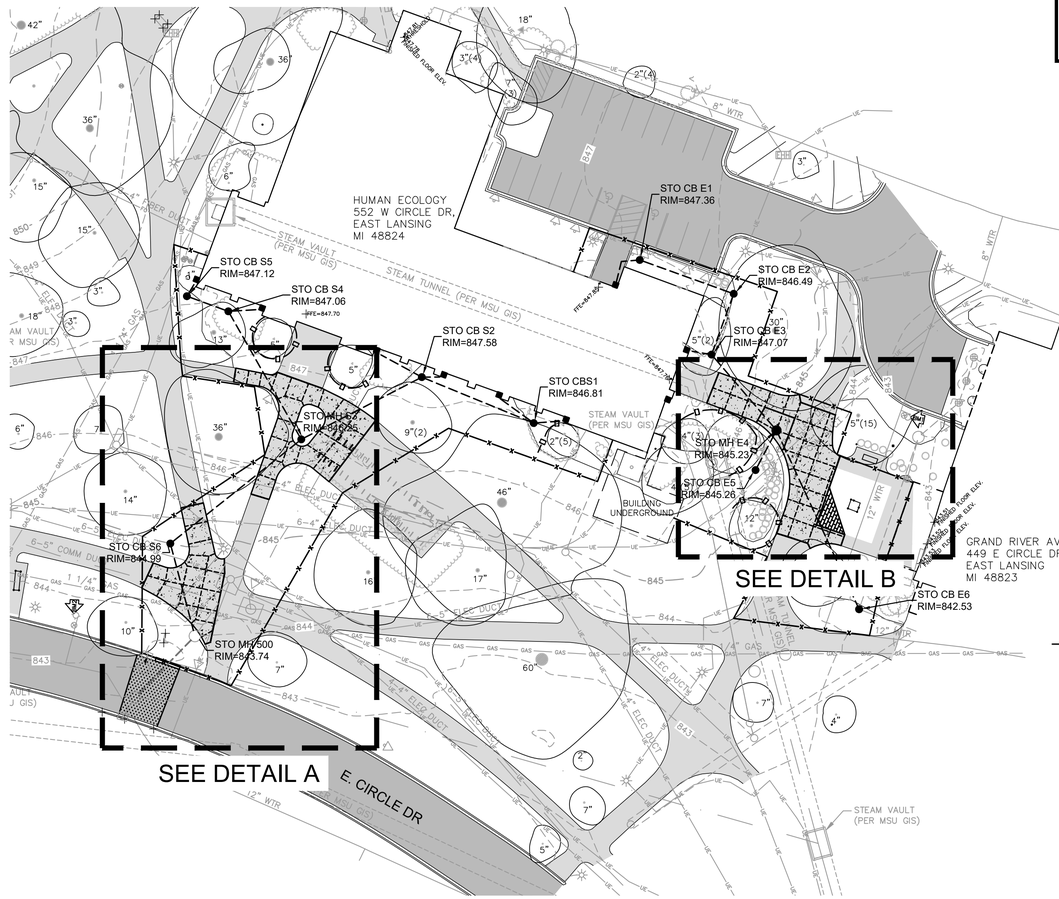

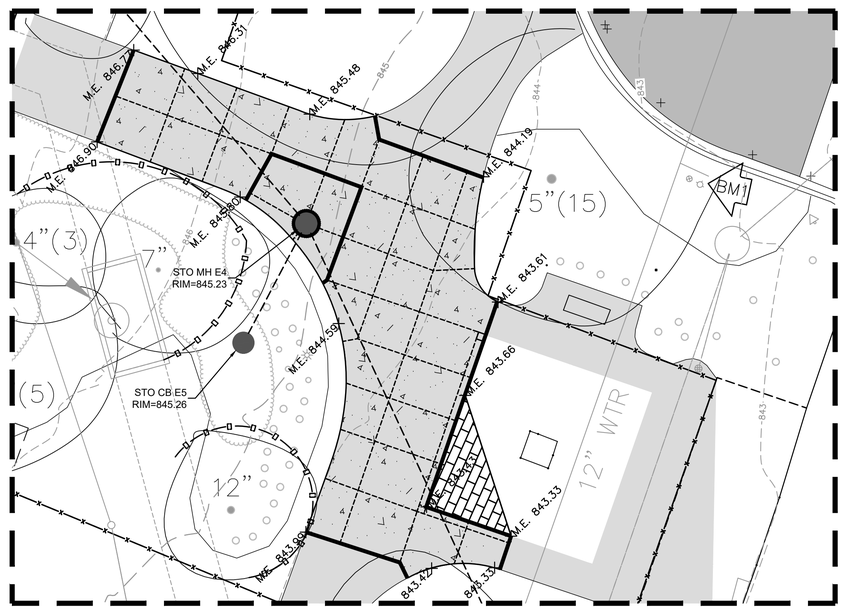

DETAIL B
SCALE: 1"=10'

BENCH MARK 1 ELEVATION: 845.33
ESE UPPER FLANGE BOLT ON HYDRANT S. SIDE OF DRIVEWAY 25' W OF W. SIDE OF GRAND RIVER AVE PARKING RAMP
RAMP 6, LOT 103

BENCH MARK 2 ELEVATION: 845.50
N UPPER FLANGE BOLT ON HYDRANT N. SIDE OF WEST CIRCLE DR, S. OF W. WALL LINE EXTENDED HUMANE ECOLOGY BLDG

N

SCALE: 1"=30'
0 15 30 45 60

LEGEND

- = EDGE OF PAVEMENT
- = EXISTING CONTOUR ELEVATION
- = SHRUB LINE
- = DECIDUOUS TREE TRUNK
- = CONIFEROUS TREE TRUNK
- = TREE DRIPLINE
- = BUSH
- GAS = EXISTING GAS LINE
- = EXISTING STORM SEWER
- = EXISTING SANITARY SEWER
- UE = EXISTING UNDERGROUND ELECTRIC
- = EXISTING CABLE TV
- FO = EXISTING FIBER OPTIC LINE
- UT = EXISTING TELEPHONE
- = EXISTING STEAM TUNNEL/LINE (PER MSU GIS)
- = EXISTING STEAM VAULT (PER MSU GIS)
- = EXISTING HYDRANT
- = EXISTING WATER VALVE
- = EXISTING SPRINKLER CONTROL BOX
- = EXISTING SIGN
- = EXISTING MANHOLE
- = EXISTING UTILITY POLE
- = EXISTING ELECTRIC METER
- = EXISTING STREET/CONCOURSE LIGHT POLE
- = EXISTING TELEPHONE / CABLE PEDESTAL
- BM = BENCH MARK
- = PROPOSED STORM MANHOLE
- = PROPOSED STORM SEWER
- = TREE PROTECTION (BY OWNER)
- = CONSTRUCTION FENCE
- = PROPOSED SIDEWALK
- = PROPOSED BRICK PAVERS

GRADING NOTES

1. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND NOT EXACT. CALL 811 OR 1-800-362-2764.
2. ALL EXISTING UTILITIES SHALL BE PROTECTED FROM EXCAVATION. EXISTING UTILITIES DAMAGED BY CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
3. FINISHED SURFACES TO BE SMOOTH AND EVEN WITH NO ABRUPT OR AWKWARD CHANGES IN GRADE.
4. ALL NEW SIDEWALKS AND PAVEMENTS SHALL BE PLACED AT AN ELEVATION THAT PROVIDES POSITIVE DRAINAGE AND CONSISTENT SLOPES. ENSURE NO LOW SPOTS ARE CREATED. NEW WALKS SHALL MEET EXISTING WALKS FLUSH AT EXISTING GRADE. NOTIFY ENGINEER IF GRADES ON PLAN CANNOT BE MET TO ENSURE POSITIVE DRAINAGE.
5. ALL PROPOSED GRADES SHALL BE STAKED BY A LICENSED SURVEYOR AND FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. MATCH ADJACENT PAVEMENT GRADES WHERE NEW PAVEMENT ABUTS EXISTING PAVING.

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DATE	11/20/2025
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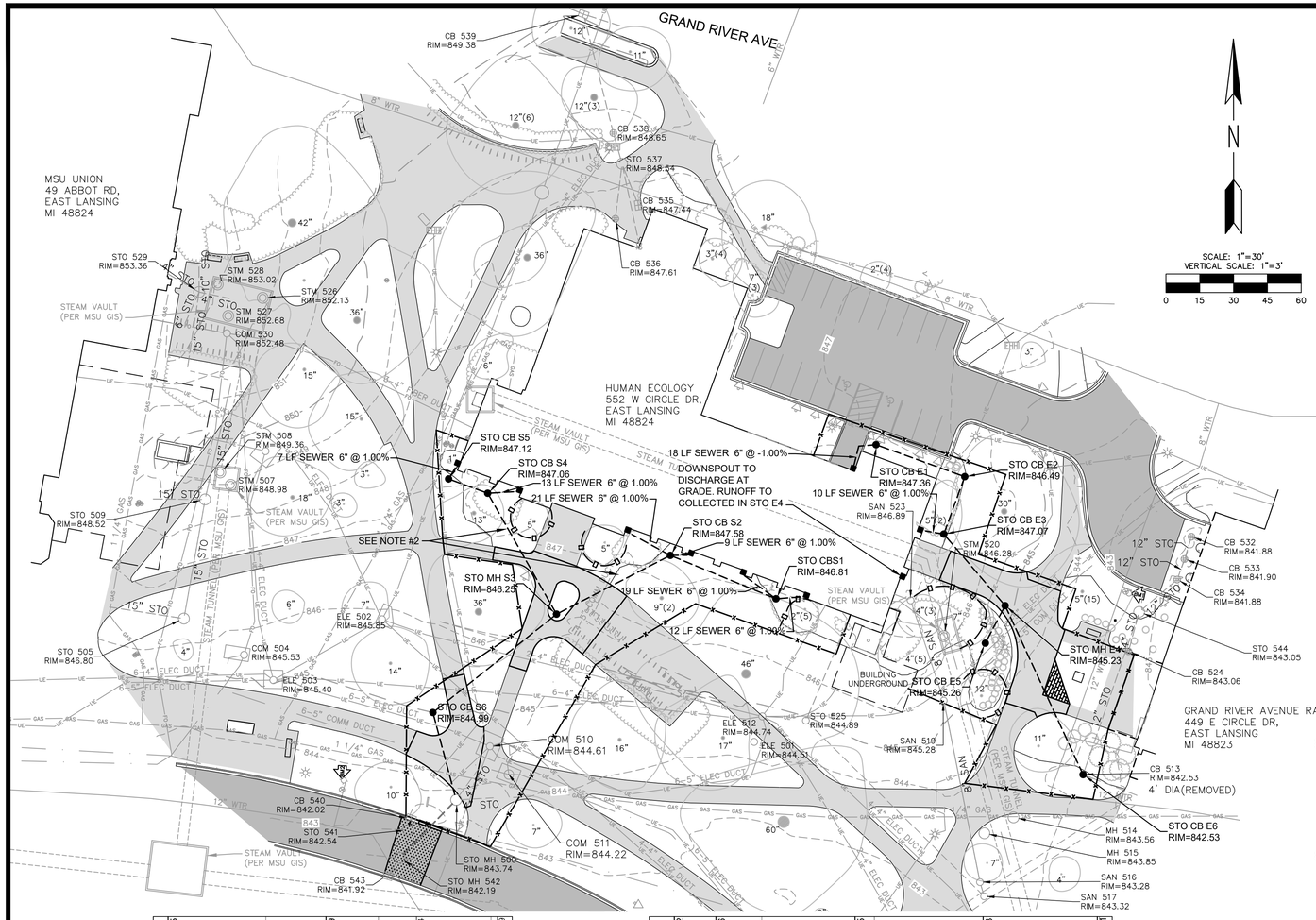
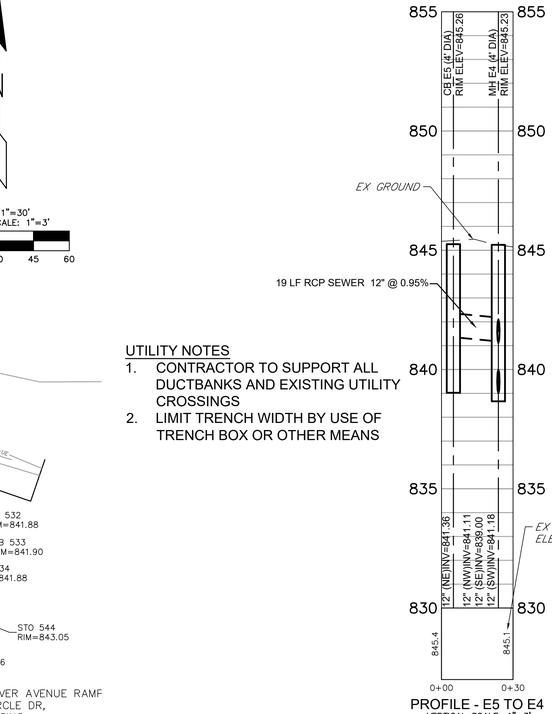
CONSTRUCTION	11/20/2025

GRADING PLAN

C301





UTILITY NOTES

1. CONTRACTOR TO SUPPORT ALL DUCTBANKS AND EXISTING UTILITY CROSSINGS
2. LIMIT TRENCH WIDTH BY USE OF TRENCH BOX OR OTHER MEANS

BENCH MARK 1 ELEVATION: 845.33
ESE UPPER FLANGE BOLT ON HYDRANT S. SIDE OF DRIVEWAY 25' W OF W. SIDE OF GRAND RIVER AVE PARKING RAMP
RAMP 6, LOT 103

BENCH MARK 2 ELEVATION: 845.50
N UPPER FLANGE BOLT ON HYDRANT N. SIDE OF WEST CIRCLE DR, S. OF W. WALL LINE EXTENDED HUMANE ECOLOGY BLDG

LEGEND

- = EDGE OF PAVEMENT
- = EXISTING CONTOUR ELEVATION
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- = EXISTING SANITARY SEWER
- UE = EXISTING UNDERGROUND ELECTRIC
- = EXISTING CABLE TV
- FO = EXISTING FIBER OPTIC LINE
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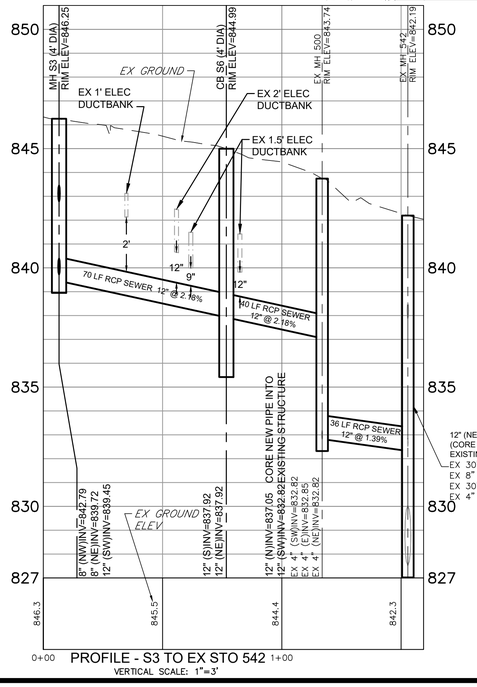
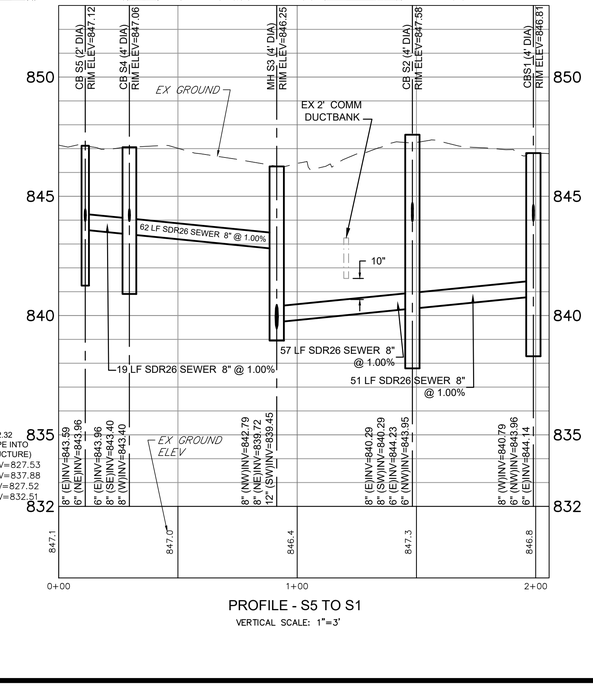
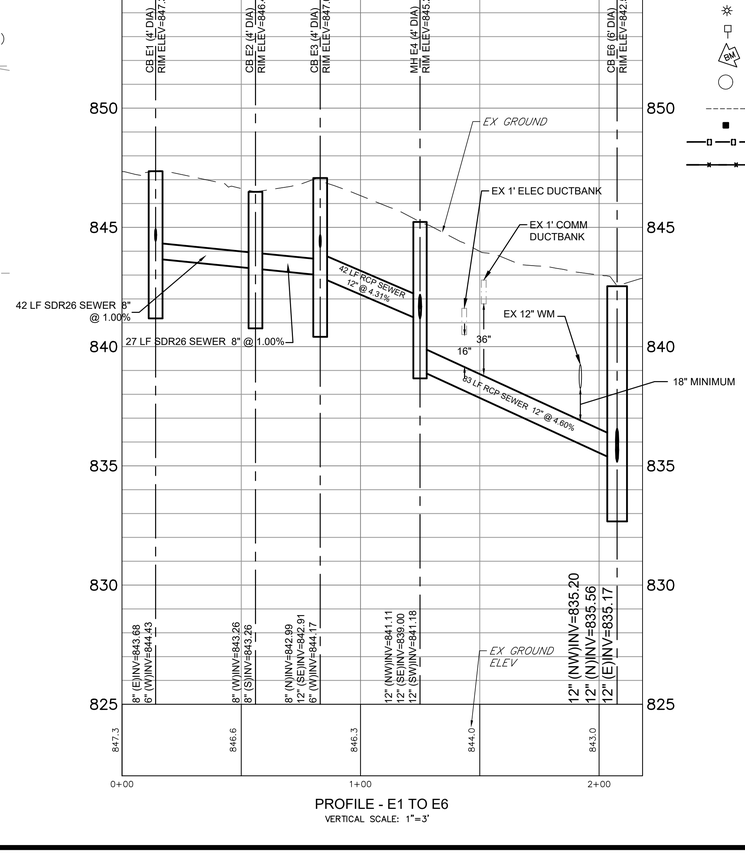
- = EXISTING HYDRANT
- = EXISTING WATER VALVE
- = EXISTING SPRINKLER CONTROL BOX
- = EXISTING SIGN
- = EXISTING MANHOLE
- = EXISTING UTILITY POLE
- = EXISTING ELECTRIC METER
- = EXISTING STREET/CONCOURSE LIGHT POLE
- = EXISTING TELEPHONE / CABLE PEDESTAL
- = BENCH MARK
- = PROPOSED STORM MANHOLE
- = PROPOSED STORM SEWER
- = PROPOSED DOWN SPOUT
- = TREE PROTECTION (BY OWNER)
- = CONSTRUCTION FENCE







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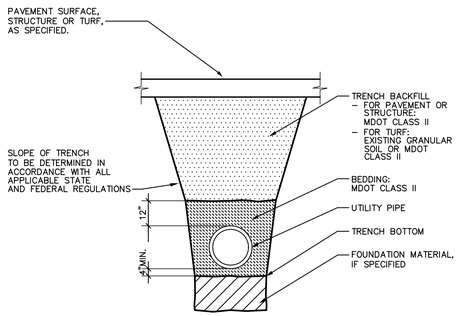
ISSUED	
CONSTRUCTION	11/20/2025

UTILITY PLAN

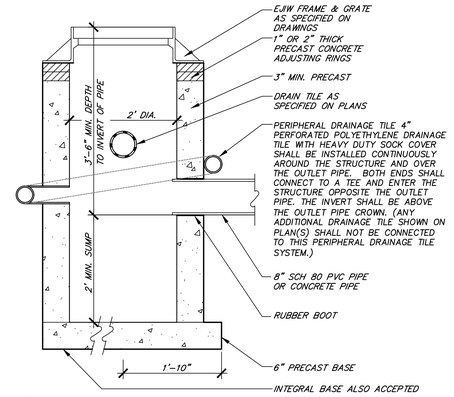
C401



A UTILITY TRENCH
NO SCALE

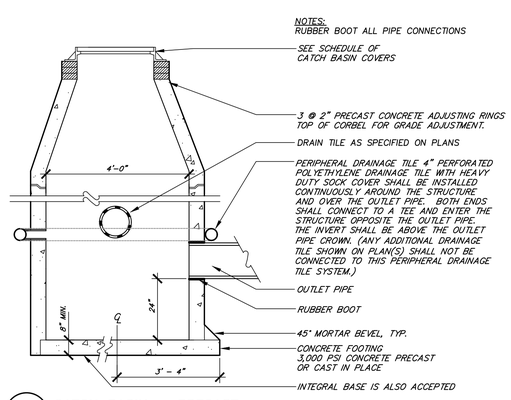
NOTE: BACKFILL COMPACTED:
95% MODIFIED PROCTOR UNDER PAVEMENT
90% MODIFIED PROCTOR UNDER TURF

SEE SPECIFICATION SECTION 312300 EARTHWORK



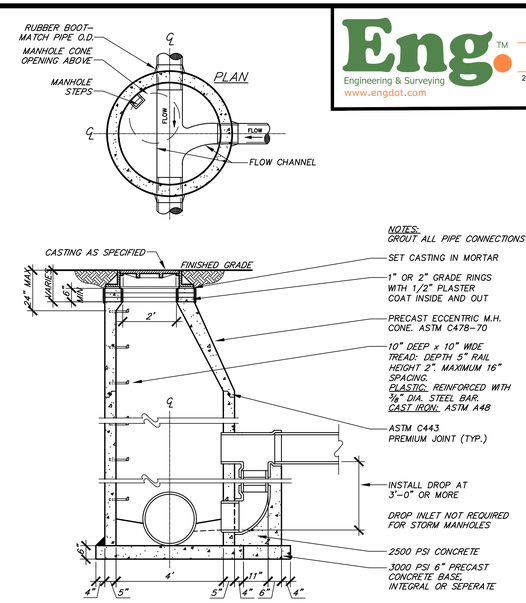
B 2 FT CATCH BASIN
NO SCALE

SEE SPECIFICATION SECTION 334000 STORM DRAINAGE STRUCTURES



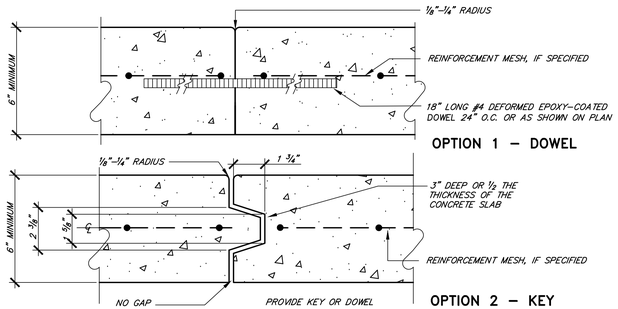
C CATCH BASIN – PRECAST
NO SCALE

SEE SPECIFICATION SECTION 334000 STORM DRAINAGE STRUCTURES



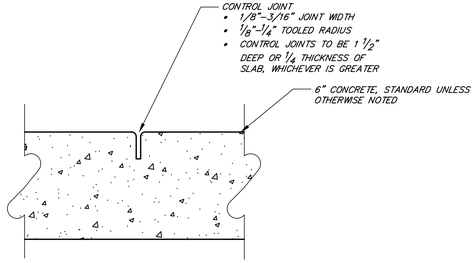
D MANHOLE
NO SCALE

SEE SPECIFICATION SECTION 333000 SANITARY SEWER SYSTEM



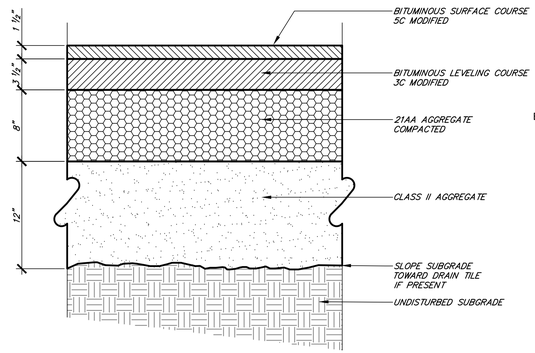
E CONSTRUCTION JOINTS
NO SCALE

SEE SPECIFICATION SECTION 321313 CONCRETE PAVEMENT 312300 EARTHWORK



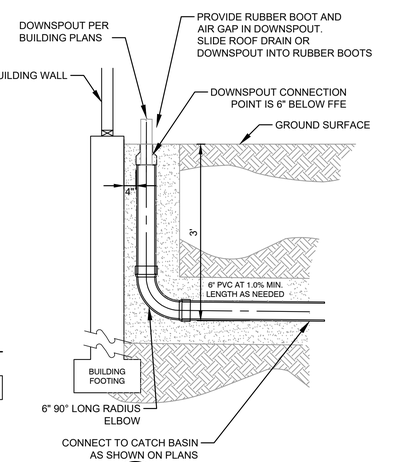
F CONCRETE CONTROL JOINT
NO SCALE

SEE SPECIFICATION SECTION 321313 CONCRETE PAVEMENT

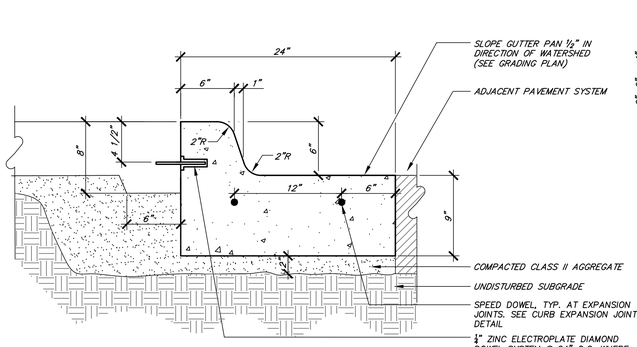


H ROAD & SERVICE AREA BITUMINOUS PAVEMENT SECTION
NO SCALE

SEE SPECIFICATION SECTION 321216 BITUMINOUS CONCRETE PAVEMENT



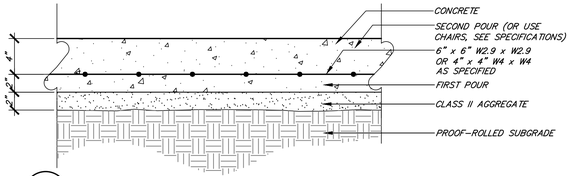
I ROOF LEAD/ DOWNSPOUT DETAIL
NO SCALE



J CURB & GUTTER
NO SCALE

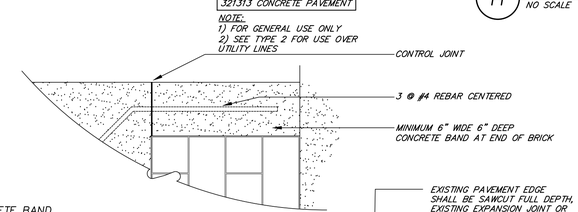
NO SCALE

SEE SPECIFICATION SECTION 321613 CONCRETE CURBS AND GUTTERS 321313 CONCRETE PAVEMENT

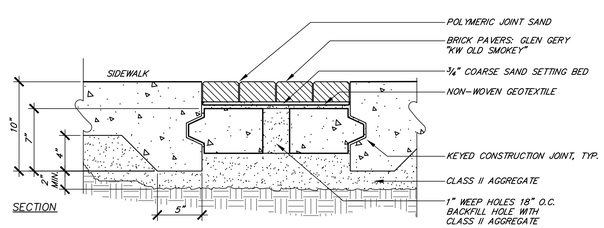


G 6" REINFORCED CONCRETE
NO SCALE

SEE SPECIFICATION SECTION 321313 CONCRETE PAVEMENT



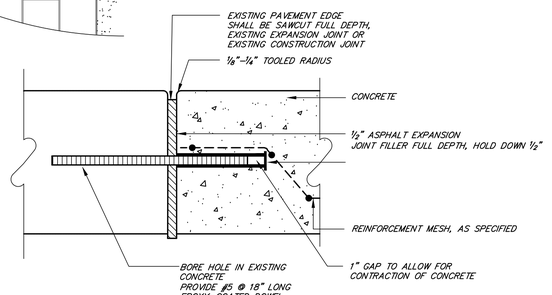
CONCRETE BAND
PLAN VIEW OF BRICK INSET TERMINATING AT TURF



SECTION

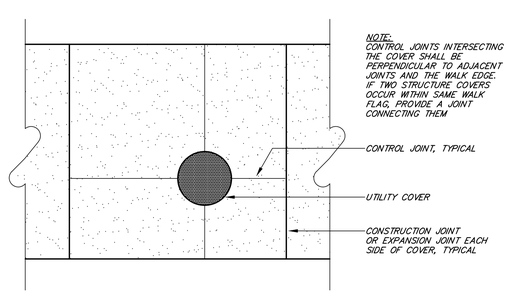
K BRICK PAVERS INSET
NO SCALE

SEE SPECIFICATION SECTION 321416 BRICK PAVERS 321313 CONCRETE PAVEMENT



L EXPANSION JOINT AT EXISTING PAVEMENT
NO SCALE

SEE SPECIFICATION SECTION 321313 CONCRETE PAVEMENT



M JOINTING AT UTILITY COVERS

Eng. Engineering & Surveying www.engdot.com
4063 Grand Oak Drive Suite A109, Lansing, MI 48911, 517.887.1100
16930 Robbins Road Suite 105, Grand Haven, MI 49417, 616.743.7070
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MICHIGAN STATE UNIVERSITY
Infrastructure Planning and Facilities

HUMAN ECOLOGY
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CAPITAL PROJ. NO.
CP24039

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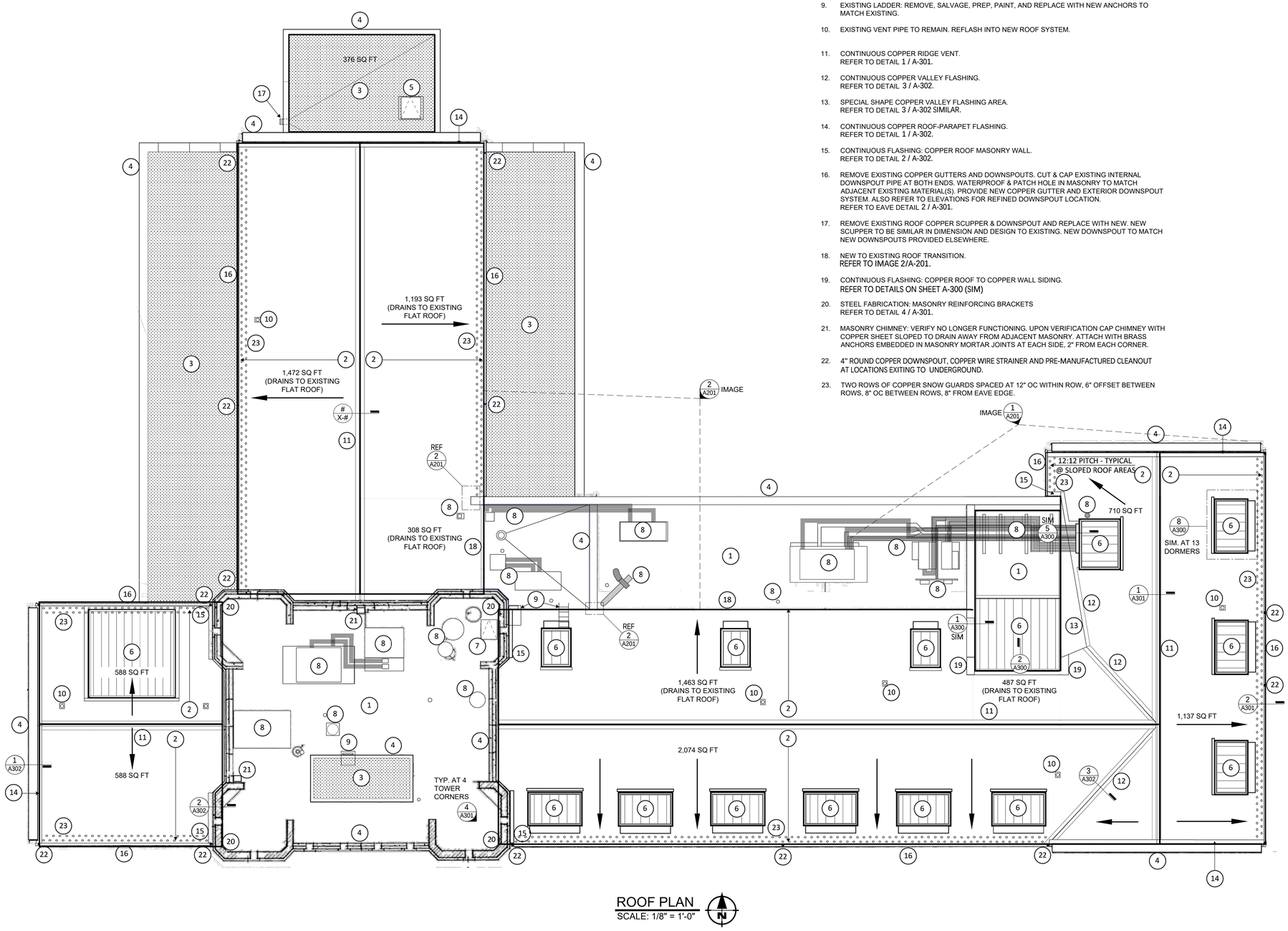
ARCH.	D. LAUNSTEIN
MECH.	S. GOERGE
ELEC.	K. HOWARD
CIVIL	T. OSMAN
L.A.	D. WILBER
INT. DES.	NA
CONST. REP.	M. CORNILLIE
APPR.	D. LAUNSTEIN
DATE	11/20/2025
SCALE	1" = 30'
ISSUED	
CONSTRUCTION	11/20/2025

DETAILS

C501



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

ARCHITECTURAL ROOF PLAN NOTES:

1. EXISTING ROOFING TO REMAIN. CLEAN EXISTING ROOF SURFACE OF ALGAE AND DEBRIS.
2. NEW SHINGLE ROOFING SYSTEM: REMOVE EXISTING ROOFING SYSTEM DOWN TO EXISTING STRUCTURE. CLEAN AND PREPARE EXISTING STRUCTURE TO RECEIVE NEW ROOFING SYSTEM CONSISTING OF NAILBASE INSULATION, ICE & WATER UNDERLAYMENT, ROOFING AND AS INDICATED IN THE DETAILS.
3. NEW ERMA ROOFING SYSTEM: REMOVE EXISTING ROOFING SYSTEM COMPLETELY AND PROVIDE NEW ERMA ROOFING SYSTEM.
4. EXISTING MASONRY PARAPET WITH STONE COPING. REMOVE EXISTING STONE COPING PIECES. CLEAN AND REPAIR OR REPLACE WHEN INDICATED.
   REFER TO DETAIL 1 / A-302.
5. NEW ROOF HATCH ASSEMBLY WITH SAFETY RAILS AND GATE TO FIT EXISTING ROOF OPENING.
6. COPPER STANDING SEAM ROOFING.
   REFER TO DETAILS ON SHEET A-300
7. EXISTING ROOF HATCH SYSTEM TO REMAIN
8. EXISTING HVAC, PLUMBING, ELECTRICAL SYSTEMS TO REMAIN. REMOVE AND REPLACE IF REQUIRED TO COMPLETE ADJACENT WORK.
9. EXISTING LADDER: REMOVE, SALVAGE, PREP, PAINT, AND REPLACE WITH NEW ANCHORS TO MATCH EXISTING.
10. EXISTING VENT PIPE TO REMAIN. REFLASH INTO NEW ROOF SYSTEM.
11. CONTINUOUS COPPER RIDGE VENT.
    REFER TO DETAIL 1 / A-301.
12. CONTINUOUS COPPER VALLEY FLASHING.
    REFER TO DETAIL 3 / A-302.
13. SPECIAL SHAPE COPPER VALLEY FLASHING AREA.
    REFER TO DETAIL 3 / A-302 SIMILAR.
14. CONTINUOUS COPPER ROOF-PARAPET FLASHING.
    REFER TO DETAIL 1 / A-302.
15. CONTINUOUS FLASHING: COPPER ROOF MASONRY WALL.
    REFER TO DETAIL 2 / A-302.
16. REMOVE EXISTING COPPER GUTTERS AND DOWNSPOUTS. CUT & CAP EXISTING INTERNAL DOWNSPOUT PIPE AT BOTH ENDS. WATERPROOF & PATCH HOLE IN MASONRY TO MATCH ADJACENT EXISTING MATERIAL(S). PROVIDE NEW COPPER GUTTER AND EXTERIOR DOWNSPOUT SYSTEM. ALSO REFER TO ELEVATIONS FOR REFINED DOWNSPOUT LOCATION.
    REFER TO EAVE DETAIL 2 / A-301.
17. REMOVE EXISTING ROOF COPPER SCUPPER & DOWNSPOUT AND REPLACE WITH NEW. NEW SCUPPER TO BE SIMILAR IN DIMENSION AND DESIGN TO EXISTING. NEW DOWNSPOUT TO MATCH NEW DOWNSPOUTS PROVIDED ELSEWHERE.
18. NEW TO EXISTING ROOF TRANSITION.
    REFER TO IMAGE 2/A-201.
19. CONTINUOUS FLASHING: COPPER ROOF TO COPPER WALL SIDING.
    REFER TO DETAILS ON SHEET A-300 (SIM)
20. STEEL FABRICATION: MASONRY REINFORCING BRACKETS
    REFER TO DETAIL 4 / A-301.
21. MASONRY CHIMNEY: VERIFY NO LONGER FUNCTIONING. UPON VERIFICATION CAP CHIMNEY WITH COPPER SHEET SLOPED TO DRAIN AWAY FROM ADJACENT MASONRY. ATTACH WITH BRASS ANCHORS EMBEDDED IN MASONRY MORTAR JOINTS AT EACH SIDE, 2" FROM EACH CORNER.
22. 4" ROUND COPPER DOWNSPOUT, COPPER WIRE STRAINER AND PRE-MANUFACTURED CLEANOUT AT LOCATIONS EXITING TO UNDERGROUND.
23. TWO ROWS OF COPPER SNOW GUARDS SPACED AT 12" OC WITHIN ROW, 6" OFFSET BETWEEN ROWS, 8" OC BETWEEN ROWS, 8" FROM EAVE EDGE.

ARCHITECTURAL GENERAL NOTES:

1. ALL APPLICABLE ROOFING WORK SHALL FOLLOW MICHIGAN STATE UNIVERSITY STANDARDS, UNO.
2. VERIFY ALL EXISTING CONDITIONS, LINES, PITCHES, MATERIALS, CONNECTIONS, ETC. TO BE MATCHED OR REMAIN.
3. SEE SHEET A-201 IMAGES FOR A GENERAL UNDERSTANDING OF ROOF TYPES, APPEARANCES, AND CONDITIONS AS WELL AS ROOF MOUNTED EQUIPMENT, SYSTEMS AND PENETRATIONS.
4. AS PART OF THE ROOD REPLACEMENT SCOPE OF WORK (I.E. BASE BID), ALL MASONRY WORK IN CONTACT WITH NEW AND EXISTING ROOF ASSEMBLIES AND ASSOCIATED FLASHING SHALL BE CLEANED AND REPAIRED OR REPLACED (WHERE INDICATED). THIS INCLUDES BUT IS NOT LIMITED TO ALL STONE COPINGS ON THE BUILDING.
5. REFER TO ELEVATIONS AND DETAILS FOR ADDITIONAL INFORMATION RELATED TO GUTTERS AND DOWNSPOUTS.
6. ALL METAL FLASHING SHALL BE FABRICATE, FORMED, AND PLACED IN ACCORDANCE WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION'S (SMACNA) CURRENTLY ADOPTED TECHNICAL STANDARDS FOR ARCHITECTURAL SHEET METAL.

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CONST. REP.	M. CORNILLIE
APPR.	D. LAUNSTEIN
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SCALE	AS NOTED
ISSUED	
CONSTRUCTION	11/20/2025

ROOF PLAN

A-100

MASONRY RESTORATION GENERAL NOTES:

1. TO CLEAN ALL MASONRY USING TECHNIQUES AND CLEANERS APPROPRIATE TO TYPES OF STAINS, DIRT'S, AND GROWTH.
2. WHERE INDICATED, REMOVE, CLEAN AND RE-INSTALL MASONRY. REFER TO MASONRY RESTORATION KEY NOTES.
3. WHERE MASONRY IS CALLED OUT TO BE REPLACED, MATCH NEW MATERIALS WITH ADJACENT EXISTING, INCLUDING PATTERN AND UNIT DIMENSIONS UNO.
4. REMOVE, CLEAN AND PREPARE JOINTS BETWEEN STONE PIECES AND AT THE PERIMETER OFSTONE FEATURES. PROVIDE NEW SEALANT AT JOINTS.
5. REMOVE ALL PARAPET COPING / CAP STONE FROM NOTED EAVE LINE UNO. CLEAN, AND RE-INSTALL PER DETAIL _/_.
6. REPAIR / REPLACEMENT OF LIMESTONE: REPAIR CRACKS AND LOOSE AREAS OF STONE LESS THAN 4" IN ANY DIMENSION USING CONSOLIDATION OR DUTCHMAN AS APPROPRIATE. MATCH ADJACENT STONE FORM, SURFACE, AND COLOR.
7. CRACKS THROUGH MASONRY UNITS: REMOVE FULL UNIT AND ADJACENT MORTAR. PROVIDE NEW FULL DEPTH UNIT TO MATCH UNIT REMOVED AND MORTAR TO MATCH
8. STEPPED MORTAR JOINT CRACKS: REMOVE MORTAR TO 1" DEPTH FROM FACE OF JOINT TUCK JOINT WITH NEW FULL DEPTH MORTAR TO MATCH.

(#) MASONRY RESTORATION NOTES:

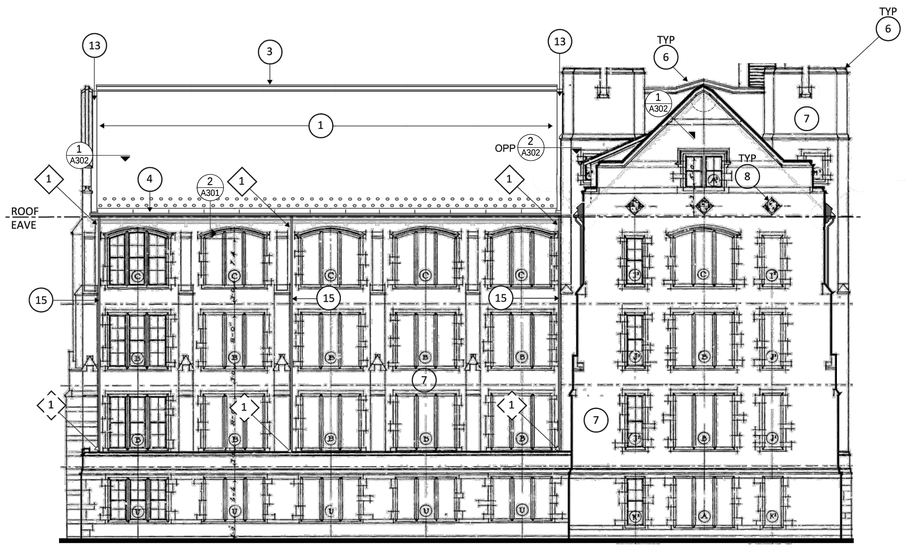
1. REMOVE EXISTING DOWNSPOUTS AT BRICK MASONRY WALL ONE FULL BRICK DEPTH. PLUG PIPE REMAINING IN WALL WITH NON-SHRINK GROUT FOR A MINIMUM DEPTH OF 8". PARGE BACK OF OPENING FLAT AND SMOOTH. WATERPROOF OVER PARGING. TOOTH IN NEW BRICK TO MATCH ADJACENT EXISTING COURSINGS AND MORTAR. TYPICAL AT LOCATIONS. VIF.

(#) ELEVATION KEY NOTES:

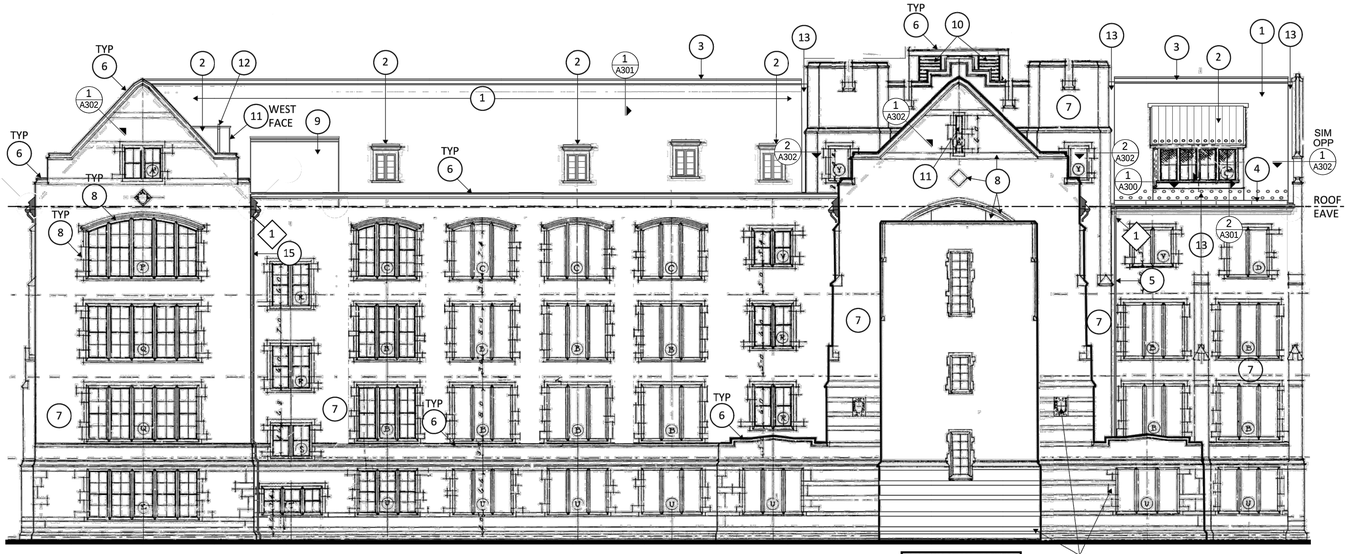
1. NEW SYNTHETIC SLATE SHINGLE ROOFING ON ICE & WATER UNDERLAYMENT ON VENTED NAIL BASE INSULATION.
2. COPPER CLAD DORMER. REMOVE AND REPLACE ROOFING SIDING AND TRIM PER DETAILS ON SHEET A-__.
3. NEW CONTINUOUS CUSTOM COPPER RIDGE VENT.
4. NEW COPPER GUTTER.
5. NEW COPPER DOWNSPOUT. CONNECT TO UNDER DRAIN. SEE CIVIL. REFER TO DOWNSPOUT PROFILES.
6. EXISTING LIMESTONE COPING.
7. EXISTING BRICK MASONRY
8. EXISTING LIMESTONE COPING / ACCENTS / QUOINS / BRANDING.
9. EXISTING MOD. MIT. ROOFING
10. EXISTING COPPER LOUVER TO REMAIN
11. NEW COPPER LOUVER. MATCH EXISTING SIZE. REFLASH OPENING WITH COPPER
12. EXISTING CAST IRON VENT PIPE. CLAD WITH PRE-RADIUS COPPER SHEET OVER 26 GA. TYPE 304 STAINLESS STEEL SHEET AVOID CONTACT BETWEEN COPPER AND CAST IRON.
13. NEW COPPER FLASHING ON HIGH-TEMP ICE & WATER UNDERLAYMENT ON NON-VENTED NAIL BASE INSULATION.
14. NEW COPPER SNOW STOPS. REFER TO ROOF PLAN.
15. NEW COPPER DOWNSPOUT. DRAIN INTO ADJACENT ROOF. REFER TO DOWNSPOUT PROFILES.
16. NORTH STAIR TOWER LOCATION. SEE SHEET A-3.
17. FACE OF ORIGINAL BUILDING.
18. COPPER SCUPPER: REMOVE EXISTING AND ASSOCIATED FLASHINGS. PROVIDE NEW TO MATCH EXISTING.
19. AREA.
20. JJJ.

ELEVATION NOTES:

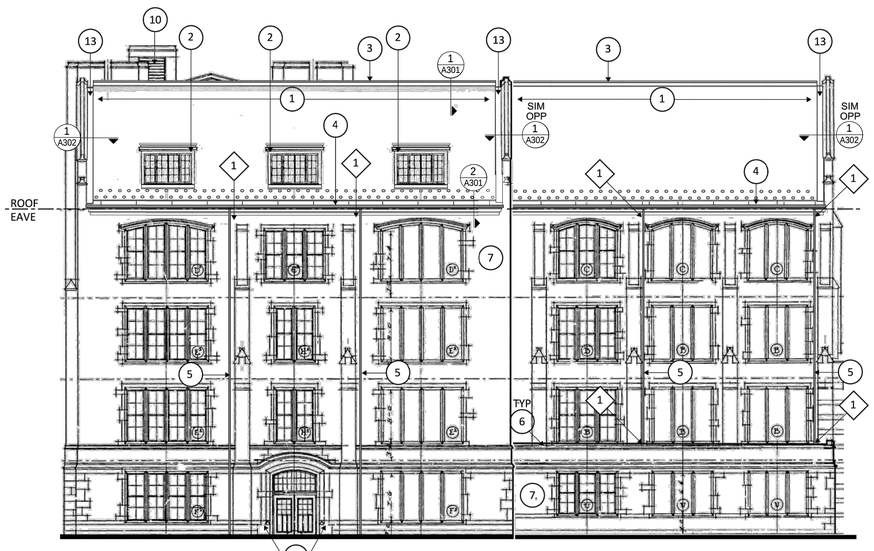
1. ELEVATION SCALE IS APPROPRIATE. ALL LIKES AND DIMENSIONS SHALL BE FIELD VERIFIED.
2. REFER TO ROOF PLAN FOR MECHANICAL EQUIPMENT, PIPING, STACK, AND VENTS.
3. REFER TO ROOF PLAN FOR DETAILS PERTAINING TO ROOF RESTORATION WORK.
4. REFER TO SHEET A-3 FOR NORTH STAIR TOWER ADDITIONAL ELEVATION INFORMATION.
5. ALTERNATE #1: PROVIDE PRE-PATINATED COPPER TO MATCH EXISTING COPPER RIDGE CAP FOR ALL EXPOSED COPPER PRODUCTS AND FABRICATIONS.



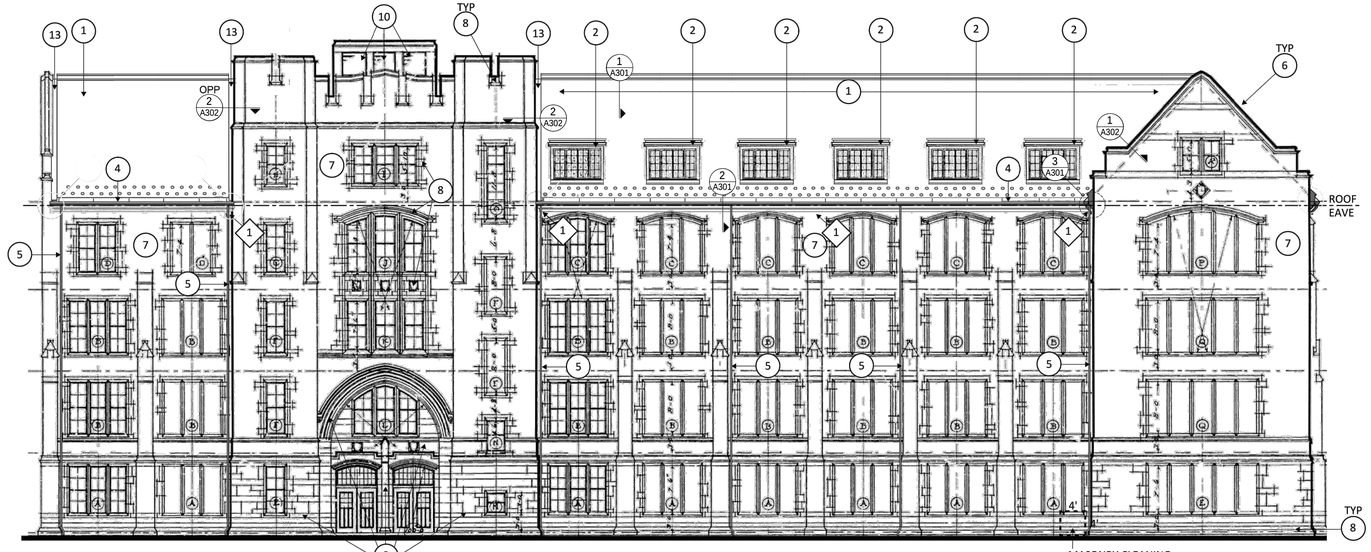
WEST ELEVATION
SCALE: 3/32" = 1'-0" - FOR REFERENCE ONLY



NORTH ELEVATION
SCALE: 3/32" = 1'-0" - FOR REFERENCE ONLY



EAST ELEVATION
SCALE: 3/32" = 1'-0" - FOR REFERENCE ONLY



SOUTH ELEVATION
SCALE: 3/32" = 1'-0" - FOR REFERENCE ONLY

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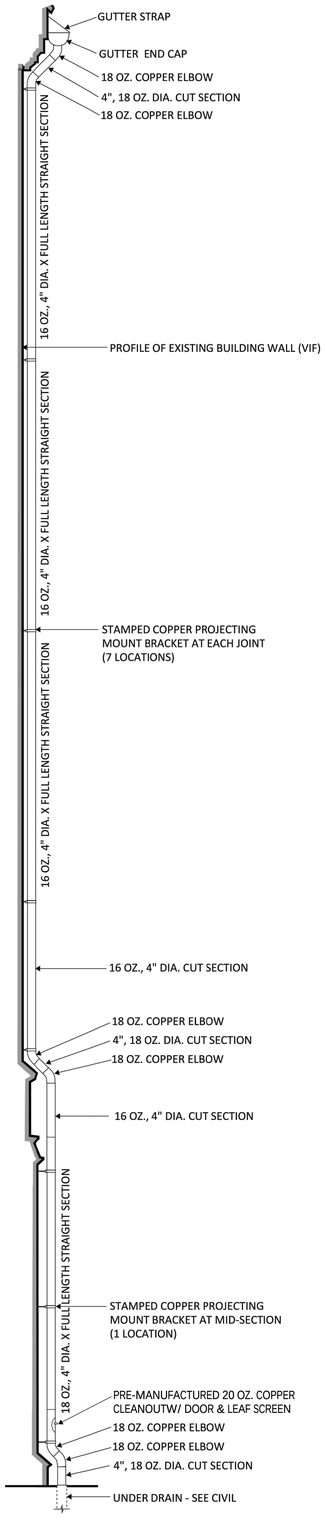
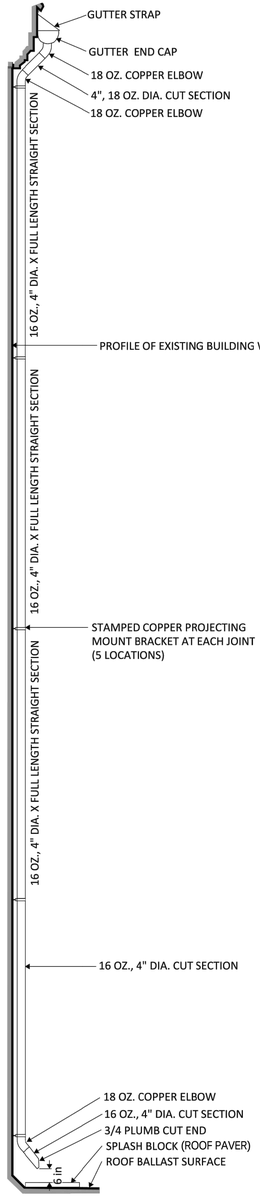
ISSUED	
CONSTRUCTION	11/20/2025

EXTERIOR ELEVATIONS

A-200





NOTE:
VERIFY ALL DIMENSIONS, PROFILES AND CONDITIONS PRIOR TO MATERIAL ORDER.

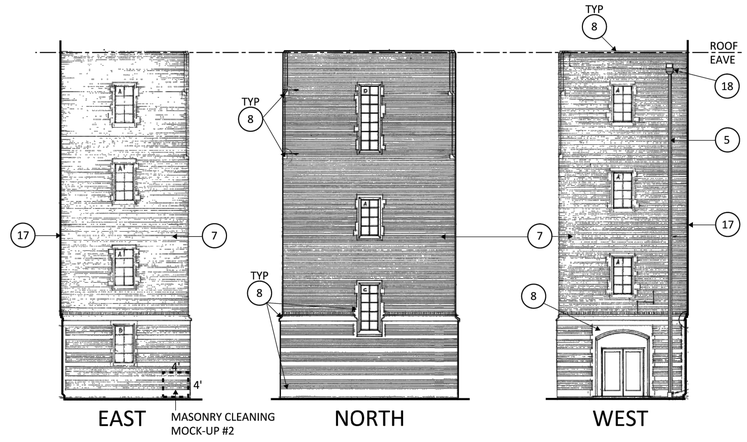
DOWNSPOUT PROFILES
SCALE: 3/8" = 1'-0"

IMAGE
NOT TO SCALE

1
A-201

IMAGE
NOT TO SCALE

2
A-201



NORTH STAIR TOWER ADDITION ELEVATIONS
SCALE: 3/32" = 1'-0" - FOR REFERENCE ONLY

NORTH STAIR TOWER ADDITION ELEVATION NOTES

1. ELEVATION SCALE IS APPROXIMATE. ALL LINES AND DIMENSIONS SHALL BE FIELD VERIFIED.
2. REFER TO ROOF PLAN FOR MECHANICAL EQUIPMENT, PIPING, STACK, AND VENTS.
3. REFER TO ROOD PLAN FOR MECHANICAL EQUIPMENT FOR DETAILS PERTAINING TO ROOF RESTORATION WORK.
4. REFER TO SHEET _ / _ FOR APPLICABLE KEY NOTES
5. EEE

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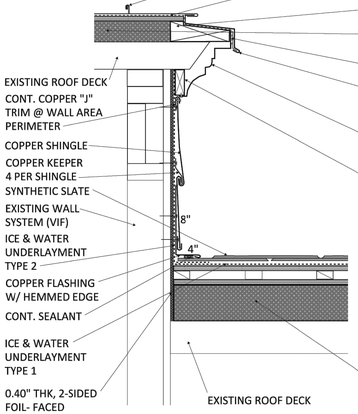
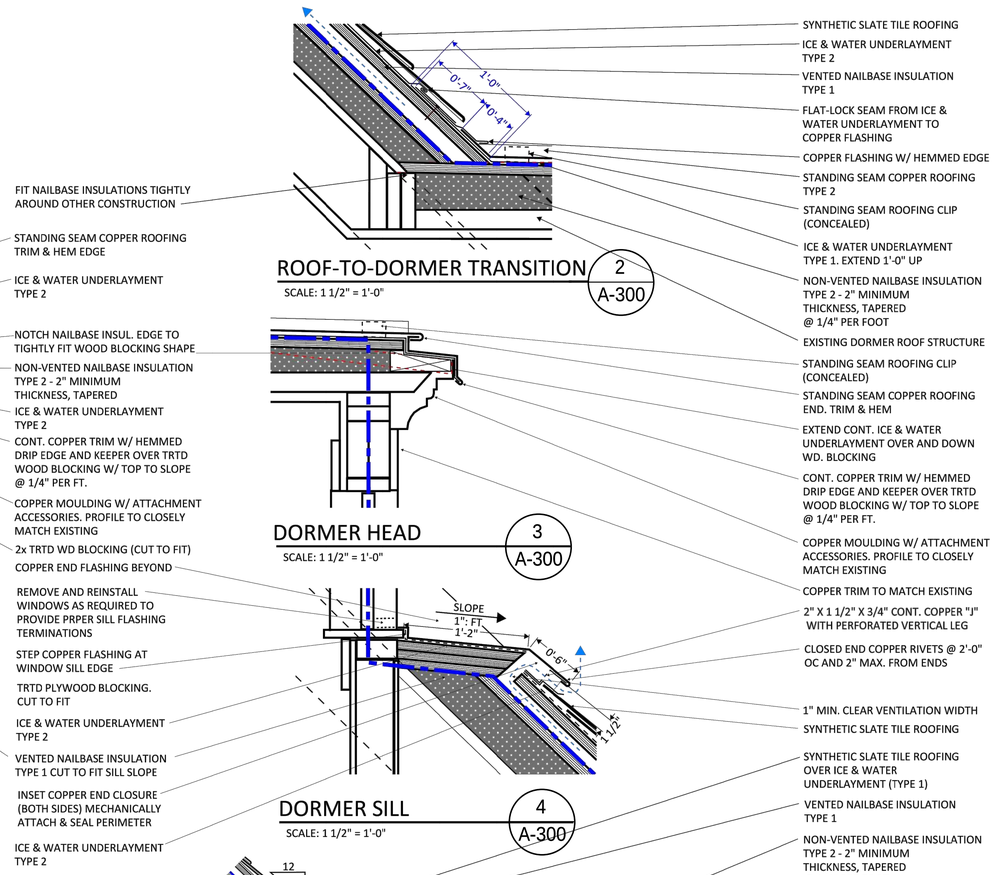
EXTERIOR ELEVATIONS
DOWNSPOUT PROFILES

A-201



SIDE DORMER SECTION 1 / A-300

SCALE: 1 1/2" = 1'-0"



ROOF-TO-DORMER TRANSITION 2 / A-300

SCALE: 1 1/2" = 1'-0"

DORMER HEAD 3 / A-300

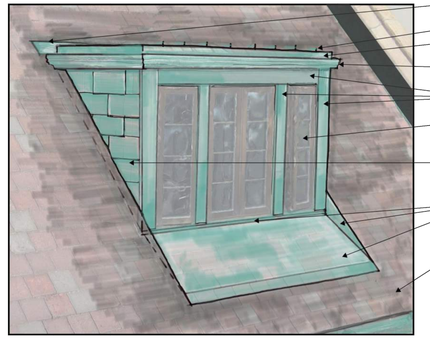
SCALE: 1 1/2" = 1'-0"

DORMER SILL 4 / A-300

SCALE: 1 1/2" = 1'-0"

TYPICAL DORMER SECTION 5 / A-300

SCALE: 3/4" = 1'-0"

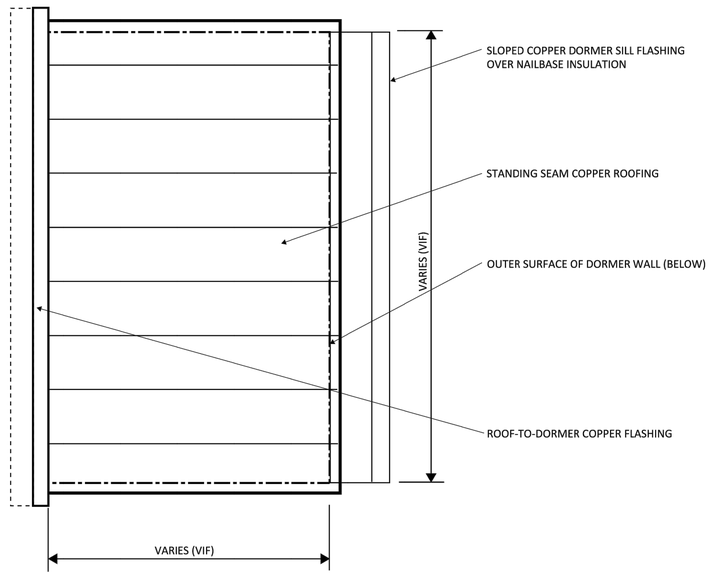


TYPICAL RENOVATED DORMER 6 / A-300

NTS

TYPICAL DORMER EXISTING / DEMO 7 / A-300

NTS



TYPICAL DORMER ROOF PLAN 8 / A-300

SCALE: 3/4" = 1'-0"

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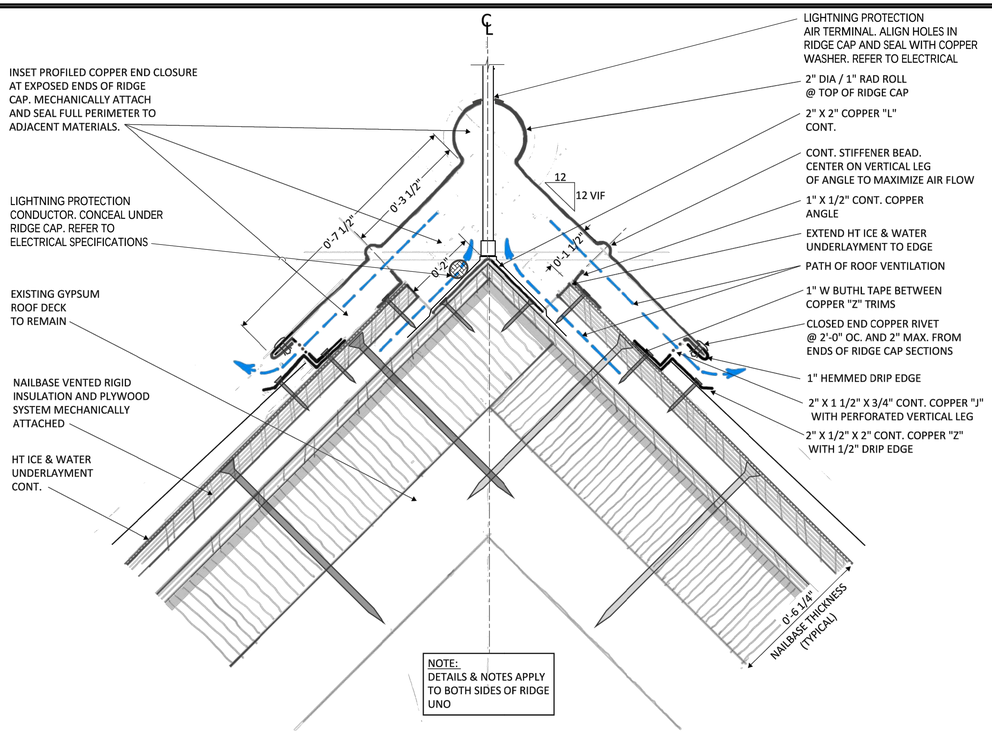
ELEC.	K. HOWARD
CIVIL	T. OSMAN
L.A.	D. WILBER
INT. DES.	NA
CONST. REP.	M. CORNILLIE
APPR.	D. LAUNSTEIN
DATE	11/20/2025
SCALE	AS NOTED
ISSUED	
CONSTRUCTION	11/20/2025

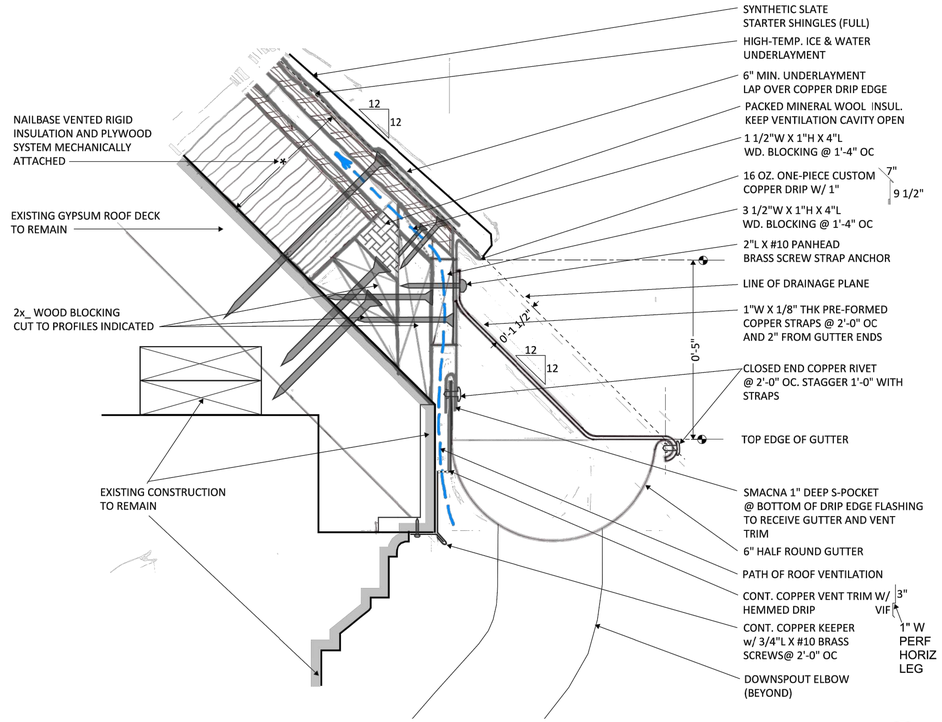
ROOF DETAILS 1

A-300



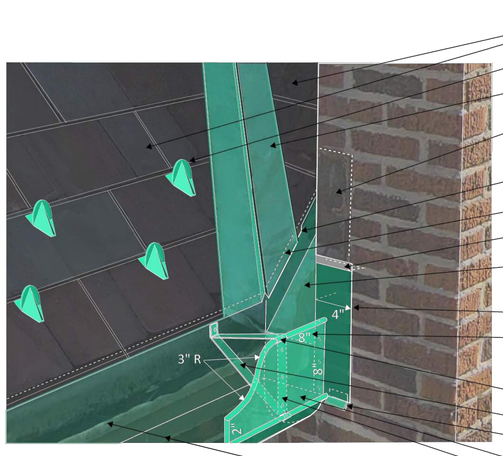
RIDGE DETAIL
SCALE: 6" = 1'-0"

1
A-301



RIDGE DETAIL
SCALE: 6" = 1'-0"

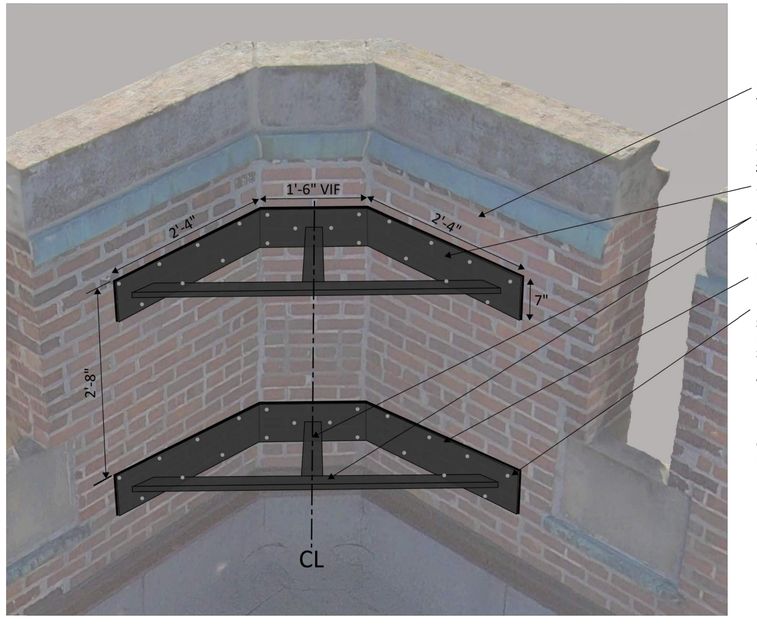
2
A-301



SYNTHETIC SLATE ROOFING
SNOWGUARD (TYP)
OPEN COPPER VALLEY FLASHING. SEE DETAIL -/-
REMOVE EXISTING FLASHING. CLEAN BRICK, RE-TUCK MORTAR JOINTS TO MATCH ADJACENT EXPOSED MASONRY
NOTCH COPPER HEM TO ALLOW WATER TO PASS AT VALLEY FLASHING FACE AND EDGE
BACK OF COPPER DRIP EDGE (BELOW)
SEALANT OVER LEAD WEDGE FLASHING ANCHOR
ROOF-TO-PARAPET COPPER FLASHING SEE DETAIL -/-. TURN DOWN AND INTERLOCK HEMS
WRAP COPPER FLASHING AT CORNER
18 OZ COPPER RAIN DEFLECTOR. RADIUS TOP AND BOTTOM EDGES. RETURN VERTICAL FLANGE AND ANCHOR TO BED JOINTS (3). SOLDER JOINTS
COPPER GUTTER STRAP (MODIFIED)
COPPER GUTTER STRAP
HEMMED DRIP W/ KEEPER AT BOTTOM OF FLASHING
COPPER GUTTER END CAP (BEHIND)
1" W X 1/8" THK COPPER STIFFENER BAR (BEHIND), W/ (3) 1/8" COPPER RIVETS
INSIDE SURFACE OF COPPER GUTTER

VALLEY-GUTTER CORNER DETAIL
SCALE: 1 1/2" = 1'-0"

3
A-301



EXISTING MASONRY WALL AT CORNERS OF SOUTH ENTRANCE TOWER (INTERIOR FACE)

STEEL FABRICATED BRACKET (2 PER TOWER CORNER) AS FOLLOWS:

3/8" THK., A36 STEEL PLATE

3" W. X 1" THK. A36 STEEL BAR

WELD JOINTS ALL AROUND AND GRIND SMOOTH (TYP)

POWDERCOAT FINISH: AMMA 2605, BLACK COLOR

(20) HILTI HLC-H, 1/2" DIA. X 4" IMBED. GALVANIZED STEEL SLEEVE ANCHORS PER BRACKET. PLACE ANCHORS IN EXISTING MASONRY MORTAR JOINTS IN CONFIGURATION SHOWN

VERIFY EXISTING CONDITIONS AND CONTRAINED DIMENSIONS IN THE FIELD FOR EACH BRACKET PRIOR TO FABRICATION TO ENSURE A TIGHT FIT.

CONTINUOUS MSU STANDARD SEALANT AT PERIMETER OF BRACKET WHERE IN CONTACT WITH MASONRY

TOWER INTERIOR CORNER BRACKET DETAIL
SCALE: NOT TO SCALE

4
A-301

Infrastructure Planning and Facilities

MICHIGAN STATE UNIVERSITY

HUMAN ECOLOGY

REPLACE ROOFS AND COMPLETE MASONRY RESTORATION

MSU PROJ. NO.
CP24039

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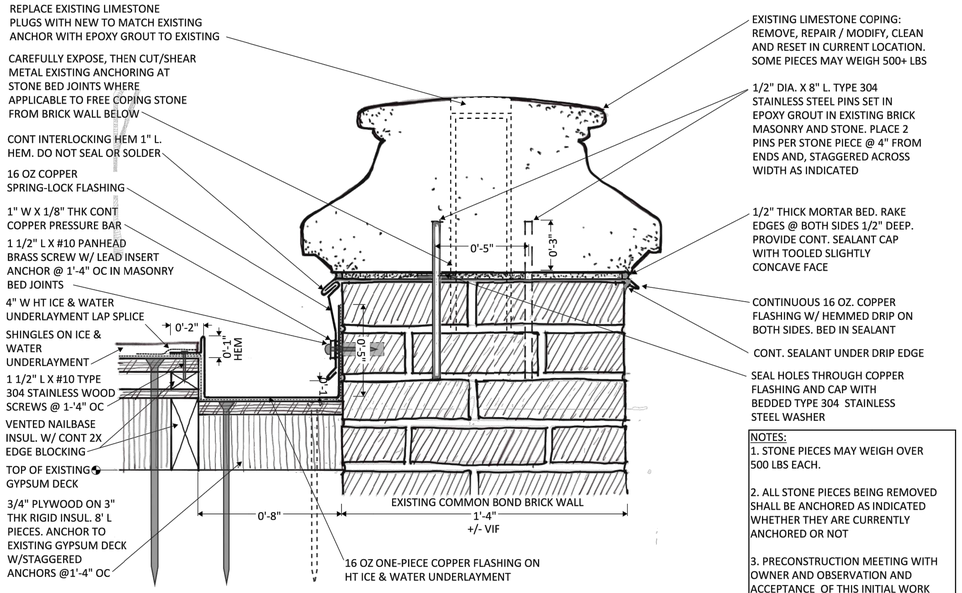
ROOF AND MASONRY DETAILS

A-301



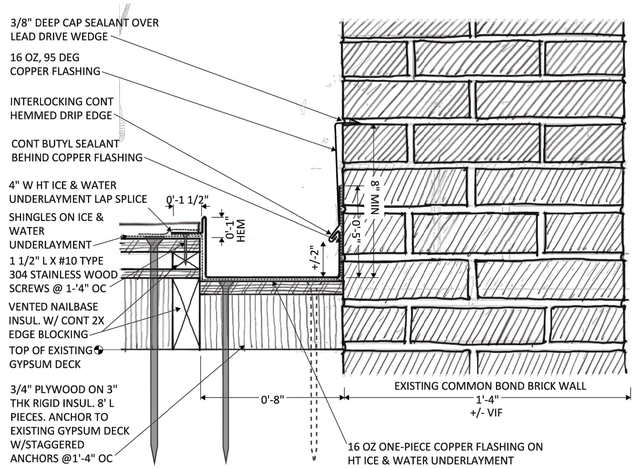
NOTES:
1. STONE PIECES MAY WEIGH OVER 500 LBS EACH.

2. ALL STONE PIECES BEING REMOVED SHALL BE ANCHORED AS INDICATED WHETHER THEY ARE CURRENTLY ANCHORED OR NOT

3. PRECONSTRUCTION MEETING WITH OWNER AND OBSERVATION AND ACCEPTANCE OF THIS INITIAL WORK SHALL OCCUR PRIOR TO CONTINUATION

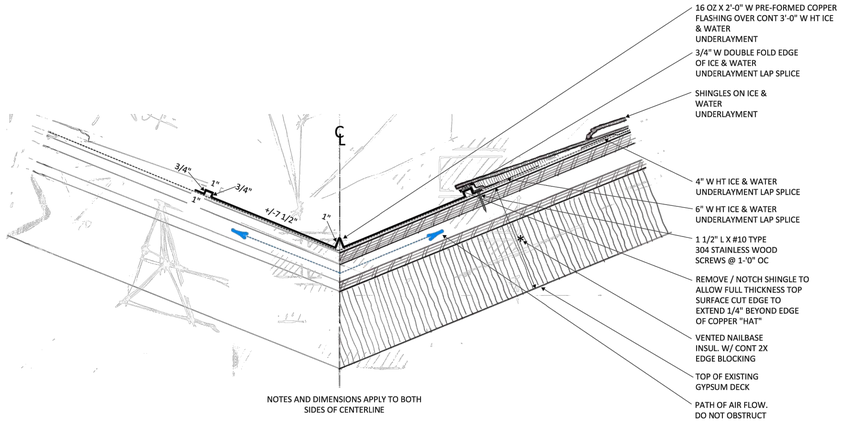
PARAPET COPING DETAIL
SCALE: 3" = 1'-0"

1
A-302



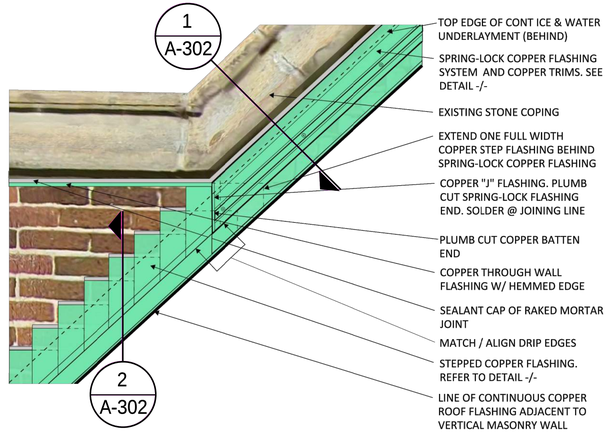
ROOF WALL FLASHING DETAIL
SCALE: 3" = 1'-0"

2
A-302



VALLEY-GUTTER CORNER DETAIL
SCALE: 1 1/2" = 1'-0"

3
A-302



PARAPET WALL FLASHING DETAIL
SCALE: 1 1/2" = 1'

4
A-302

MICHIGAN STATE UNIVERSITY
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ROOF AND MASONRY DETAILS
A-302
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