

LEGEND

	PROPOSED TEE
	PROPOSED GATE VALVE
	PROPOSED HYDRANT
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SANITARY CLEANOUT
	PROPOSED WATERMAIN
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED STORM SEWER
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED TELEPHONE
	PROPOSED GAS MAIN
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND ELECTRIC
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING WATERMAIN
	EXISTING SANITARY SEWER MANHOLE
	EXISTING STORM SEWER CATCH-BASIN (ON CURB)
	EXISTING GATE VALVE
	EXISTING HYDRANT
	EXISTING ELECTRICAL TRANSFORMER
	EXISTING COMMUNICATIONS BOX
	EXISTING LIGHT POLE
	PROPOSED LIGHT POLE REFER TO ELECTRICAL LIGHTING PLAN

UTILITY PLAN NOTES

- ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
18" PVC SCH 40, SCHEDULE 40, OR EQUIVALENT PER ASTM D 3034
6" PVC SCH 40, SCHEDULE 40, OR EQUIVALENT PER ASTM D 3034
6" PVC SCHEDULE 40
DUCTILE IRON PIPE PER AWWA C150
- WATER LINES SHALL BE AS FOLLOWS:
6" AND LARGER DUCTILE IRON PIPE PER AWWA C150
12" AND SMALLER USE CLASS 52 DIP
A MINIMUM OF 8 MIL POLYWRAP IS REQUIRED ON ALL DIP
WATER LINES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MOST CURRENT EDITION OF CEAM SPECIFICATIONS
ALL DUCTILE IRON PIPE SHALL BE COATED WITH A LAYER OF ARG-SPRAYED ZINC PER CITY OF BLOOMINGTON SPECIFICATIONS. DUCTILE IRON PIPE SHALL BE LINED WITH CEMENT MORTAR LINING PER AWWA C213.4(C).
- MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
- ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS CALLED OUT IN SPECIFICATIONS.
- ALL UTILITIES SHOULD BE KEPT TEN (10) FEET APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
- CONTRACTOR SHALL MAINTAIN A MINIMUM OF 6" COVER ON ALL WATER LINES.
- IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES, AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE 50% OR CLOSER TO MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING. THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI Z111 (AWWA C-151) (CLASS 50).
- ALL CONCRETE FOR ENCASUREMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
- EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
- REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
- CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE HELD ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
- REFER TO BUILDING PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
- BACKFLOW DEVICES (DDV) AND PRZ ASSEMBLIES AND METERS ARE LOCATED IN THE INTERIOR OF THE BUILDING. REF. ARCH. PLANS.
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES BLOOMINGTON WITH REGARD TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
- ALL ON-SITE WATERMANS AND SANITARY SEWERS SHALL BE PRIVATELY OWNED AND MAINTAINED.
- ALL WATERMAIN STUBOUTS SHALL BE MECHANICALLY RESTRAINED WITH REACTION BLOCKING.
- HOPE PIPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATER TIGHT MATERIALS UTILIZING AN A-LOCK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALUMINUM FIBER LINES THE USE OF THE ABOVE APPROVED WATERSTOP METHODS, CONSRM 231 WATERSTOP SEALANT, OR APPROVED EQUAL WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
- TAPS OF LIVE WATER MAINS ARE DONE BY CITY FORKES AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
- UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
- ALL COMPONENTS OF THE WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTIVE INTERNAL COATINGS USING CURRENTLY APPROVED STANDARDS FOR CONCRETE MORTAR LINING OR SPECIAL COATINGS. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED.
- ALL UNUSED WATER SERVICES MUST BE PROPERLY ABANDONED AT THE MAIN. ALL UNUSED SANITARY SEWER SERVICES MUST BE PROPERLY ABANDONED AT THE PROPERTY LINE.
- UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SYSTEM. CONTACT CITY OF BLOOMINGTON UTILITIES DEPARTMENT (262-6417) FOR PERMIT INFORMATION.
- RESTORE UTILITY TRENCHES PER STANDARDS LISTED IN ARTICLE 5, CH. 17 OF THE BLOOMINGTON CITY CODE (SEE UTILITY DETAILS).
- INTERIOR CHIMNEY SEALS SHALL BE INSTALLED ON ALL SANITARY MANHOLES.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

William D. Matzek
WILLIAM D. MATZEK, P.E.
DATE: 04/09/2022 E.I.C. NO. 45796

phase: BID SET
date: 10/11/21
drawn by: LEC
checked by: WDM
project number: 180687009
project name:

SICK - CAMPUS USA
PHASE 1

UTILITY PLAN

C600

UTILITY CROSSING LEGEND

ID	DESCRIPTION	ELEVATION	GRADE	COVER
C1	12" STRM (18" SWRM (EXIST.))	E = 803.06 TIP = 878.69	EX. GRADE: #14.90	STRM COVER = #13.84
C2	12" WATR (EXIST.)	E = 806.00 TIP = 803.98	EX. GRADE: #15.98	STRM COVER = #14.12
C3	18" STRM C900	E = 803.42	EX. GRADE: #11.23	STRM COVER = #8.16
C4	18" SWRM (EXIST.)	E = 807.91 BIP = 803.45 TIP = 802.21	EX. GRADE: #11.16	WATR COVER = #8.87 STRM COVER = #8.14
C5	12" STRM	E = 804.09 TIP = 803.60	PR. GRADE: 808.60	STRM COVER = 3.35 WATR COVER = 8.00
C6	24" STRM	E = 803.85 TIP = 801.80	PR. GRADE: 809.35	STRM COVER = 3.30 WATR COVER = 8.00
C7	15" STRM	E = 803.92 TIP = 801.45	PR. GRADE: 809.41	STRM COVER = #4.24 WATR COVER = 8.00
C8	NOT USED	NOT USED	NOT USED	NOT USED
C9	18" XCEL DUCT	E = 804.18 TIP = 801.24	PR. GRADE: 809.24	DUCT COVER = #2.23 STRM COVER = 8.00

NOTE: SEE DETAIL SHEET C501. CONTRACTOR TO VERIFY LOCATION, DEPTH, AND MATERIALS OF WATERMAIN, PROPOSED 30" PVC C900 TO BE CONSTRUCTED BELOW WATERMAIN. NOTIFY ENGINEER IF UNABLE TO MAINTAIN 0.45% SLOPE BETWEEN STRUCTURES.

NOTE: EXISTING SANITARY SEWER MAIN AND MANHOLES TO BE ABANDONED WITH CITY'S 2021 PROJECT. COORDINATE ALL WORK AND ACCESS OFF OF 28TH AVE WITH THE CITY OF BLOOMINGTON.

As-Built Drawing

ARL MAKI

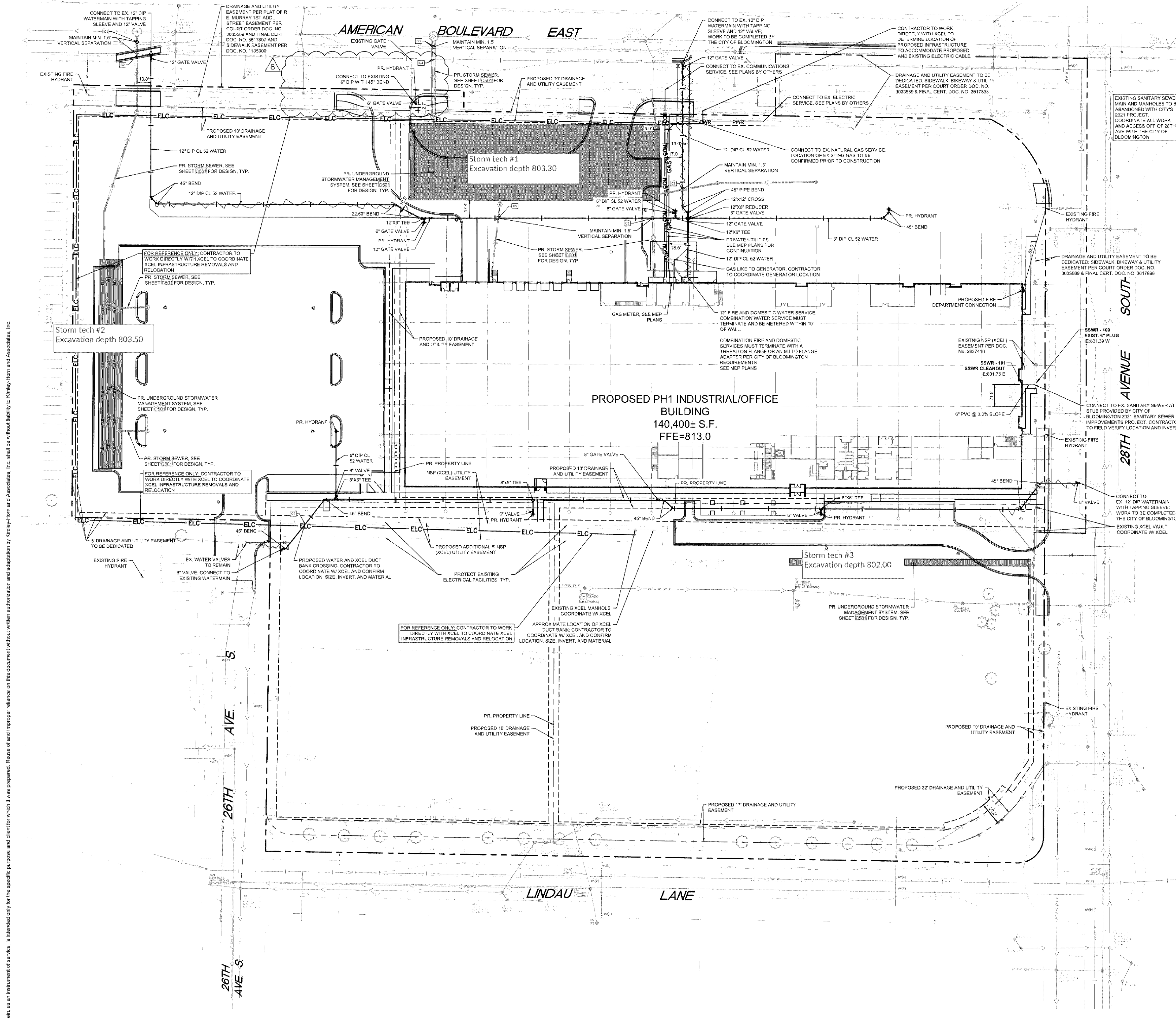
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NORTH

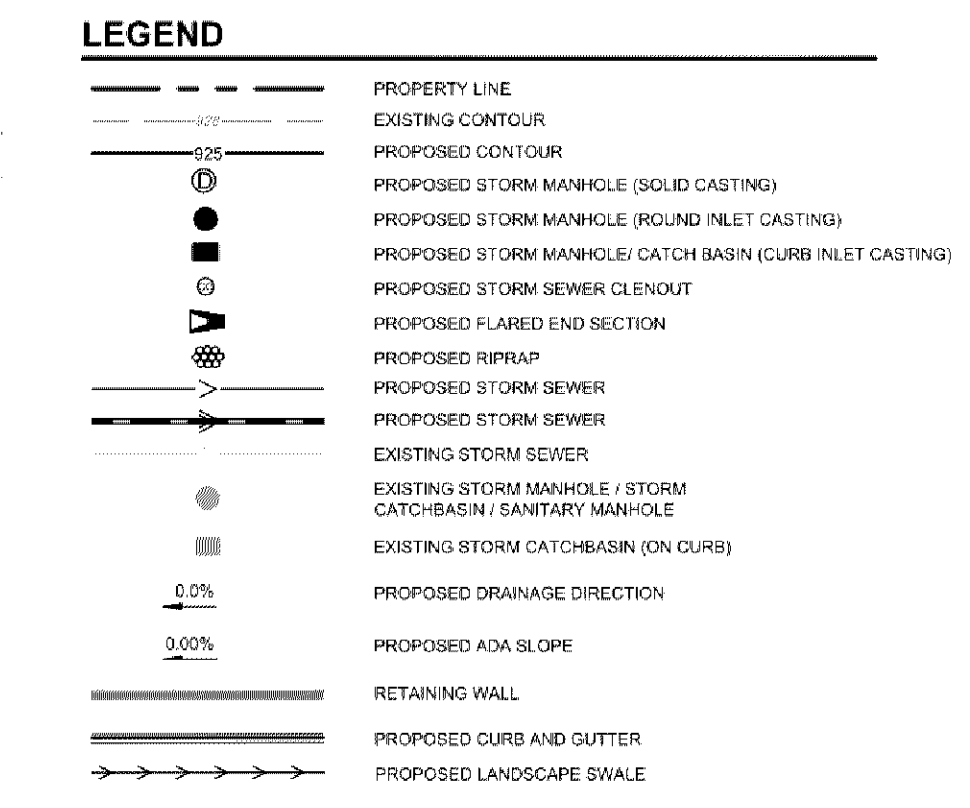
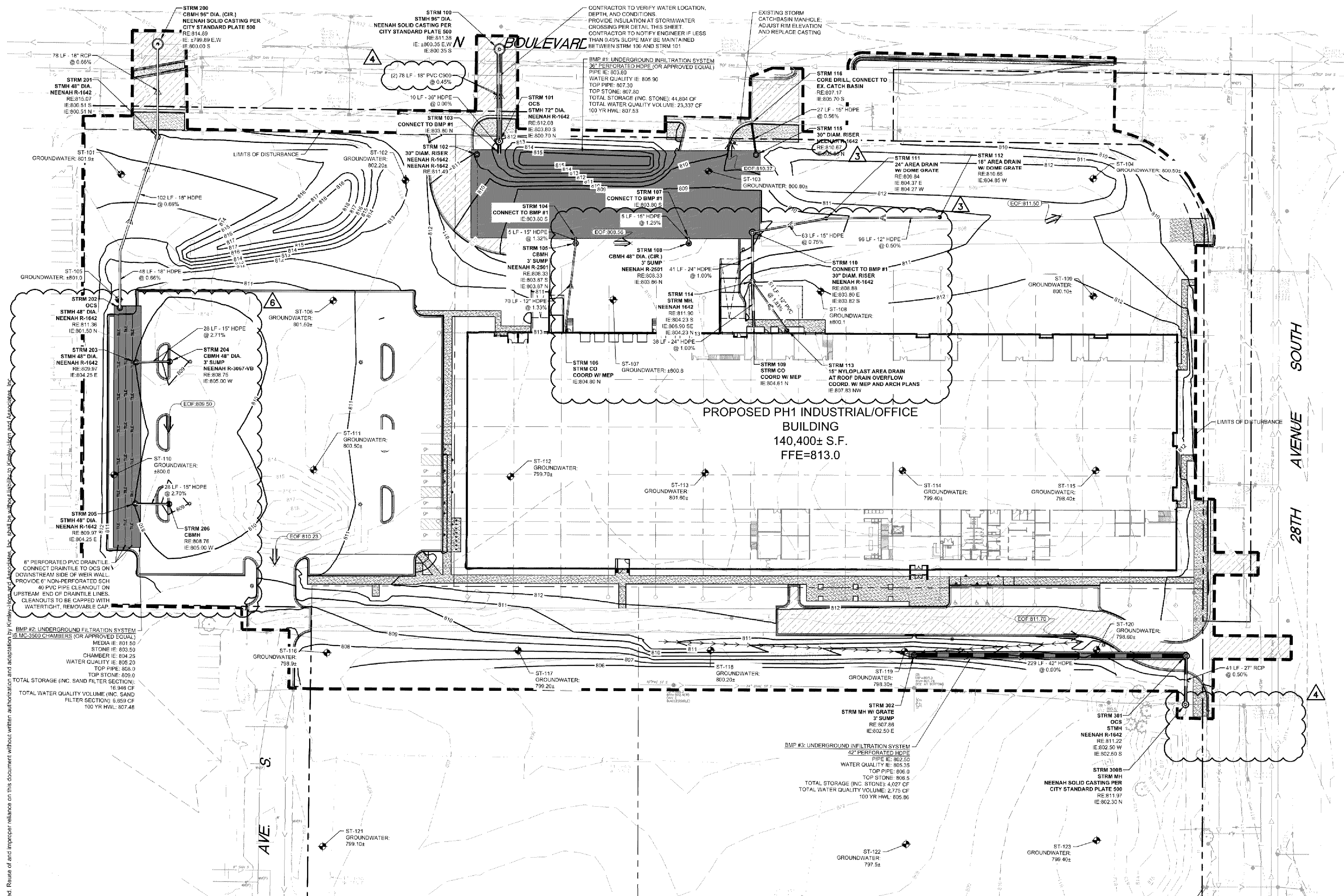
GRAPHIC SCALE IN FEET

0 20 40 80

SCALE: 1"=40'



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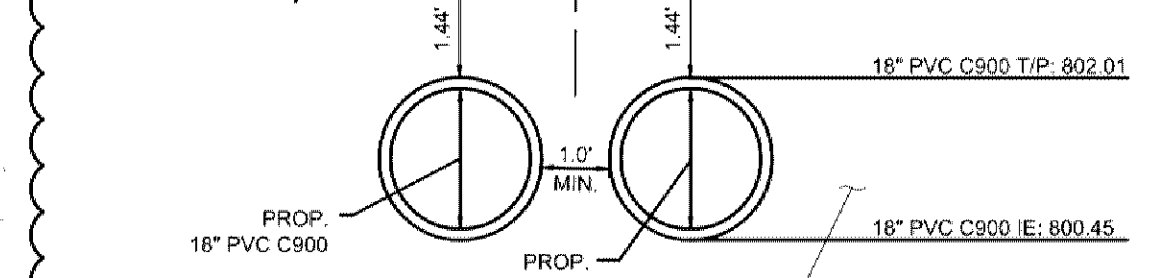
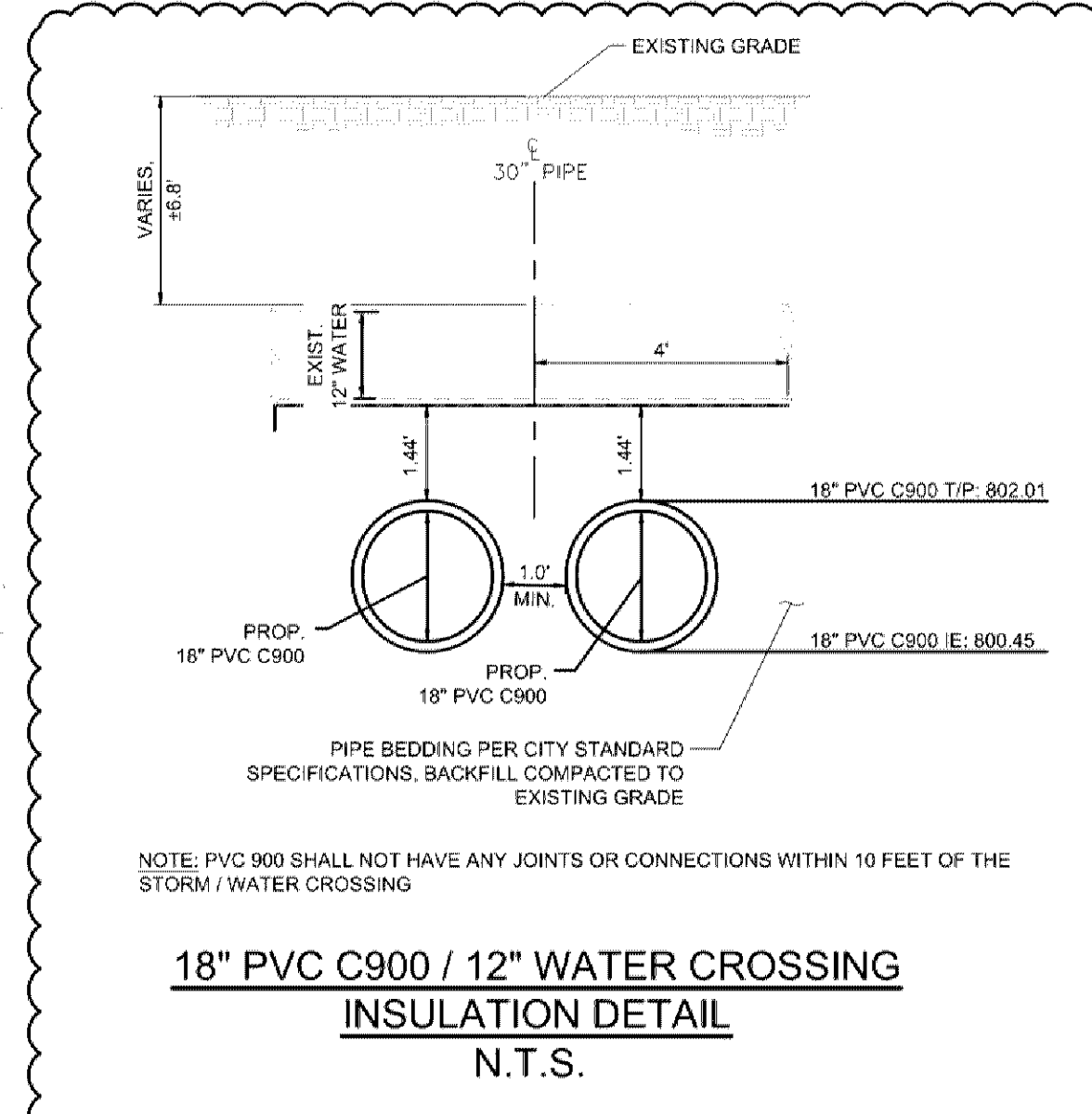
- STORMWATER MANAGEMENT PLAN NOTES**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BLOOMINGTON SPECIFICATIONS AND BUILDING PERMIT REQUIREMENTS.
 - CONTRACTOR TO CALL CUMBER STATE CALL ONE (813) 1-800-262-1168 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION/CONSTRUCTION FOR UTILITY LOCATIONS.
 - STORM SEWER PIPE SHALL BE AS FOLLOWS:
RCP PER ASTM C-76
HDPE C-10 PER ASTM D-252
HDPE C-20 PER ASTM F-2306
PVC SCH. 40 PER ASTM D-3034
WHEN STORM SEWER CROSSES ABOVE WATERMAIN, STORM SEWER (18" AND SMALLER) SHALL BE PVC SCH. 40 PER ASTM D-1785, PROVIDE 18" MINIMUM VERTICAL CLEARANCE OUTER EDGE TO OUTER EDGE.
STORM SEWER FITTINGS SHALL BE AS FOLLOWS:
RCP PER ASTM C-76, JOINTS PER ASTM F-2306, C-293, C-293, AND C-443
HDPE PER ASTM D-252
PVC PER ASTM D-3034, JOINTS PER ASTM D-3122
WHEN STORM SEWER CROSSES ABOVE WATERMAIN, STORM SEWER (18" AND SMALLER) FITTINGS SHALL BE PVC SCH. 40 PER ASTM D-1785, PROVIDE 18" MINIMUM VERTICAL CLEARANCE OUTER EDGE TO OUTER EDGE.
 - CONTRACTOR TO FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES OR VARIATIONS.
 - SUBGRADE EXCAVATION SHALL BE BACKFILLED IMMEDIATELY AFTER EXCAVATION TO HELP OFFSET ANY STABILITY PROBLEMS DUE TO WATER BEARING OR STEEP SLOPES. WHEN PLACING NEW SURFACE MATERIAL ADJACENT TO EXISTING PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF EXISTING PAVEMENT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL.
 - CONTRACTOR SHALL EXCAVATE DRAINAGE TRENCHES TO FOLLOW PROPOSED STORM SEWER ALIGNMENTS.
 - ALL EXCESS MATERIAL, BITUMINOUS SURFACING, CONCRETE ITEMS, ANY ABANDONED UTILITY ITEMS, AND OTHER UNDESIRABLE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED OFF THE CONSTRUCTION SITE.
 - REFER TO THE UTILITY PLAN FOR SANITARY SEWER MAIN, WATER MAIN STRUCTURE LAYOUT AND ELEVATIONS AND CASTING / STRUCTURE SCHEDULE.
 - UPON COMPLETION OF EXCAVATION AND FILLING, CONTRACTOR SHALL RESTORE ALL STRIPS AND DISTURBED AREAS ON SITE. ALL DISTURBED AREAS SHALL BE REVEGETATED WITH A MINIMUM OF 4" OF TOPSOIL.
 - CONTRACTOR TO PROVIDE 3" INSULATION BY 5" WIDE CENTERED ON STORM PIPE IF LESS THAN 4" OF COVER IN PAVEMENT AREAS AND LESS THAN 3" OF COVER IN LANDSCAPE AREAS.
 - ROOF DRAIN INVERT CONNECTIONS AT THE BUILDING SHALL BE AS SHOWN ON PLAN UNLESS OTHERWISE NOTED. REFERENCE MECP PLANS FOR ROOF DRAIN CONNECTION.
 - ALL STORM SEWER CONNECTIONS SHALL BE GASKETED AND WATER TIGHT INCLUDING MANHOLE CONNECTIONS.
 - ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
 - HDPE PIPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATER TIGHT MATERIALS UTILIZING A LOCK OR WATERSTOP GASKET OR BOOT, CAST-IN-PLACE RUBBER BOOT, OR APPROVED EQUAL. WHERE THE ALIGNMENT PRECLUDES THE USE OF THE ABOVE APPROVED WATER TIGHT METHODS, CONSEAL 231 WATERSTOP SEALANT OR APPROVED EQUAL WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
 - ALL STORMWATER MANAGEMENT AREAS SHALL BE KEPT OFF-LINE UNTIL DISTURBED AREAS ARE RESTORED. IF THIS IS NOT POSSIBLE, SYSTEMS MUST BE CLEANED OUT PRIOR TO CERTIFICATE OF OCCUPANCY.
 - SEE SHEET C502 FOR UNDERGROUND STORMWATER MANAGEMENT NOTES AND REQUIREMENTS.

Revisions

No.	Date	Description
1	05/04/2021	CITY REVIEW, ENGINEERING
2	06/04/2021	CITY REVIEW / ENGINEERING
3	08/05/2021	REVISION PER SHEET 100
4	10/14/2021	REV 100
5	10/20/2021	REV 100
6	11/23/2021	HYDRAULIC BMP #1 RELOCATION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

William D. Matzek
WILLIAM D. MATZEK, P.E.
DATE: 04/08/2022 LIC. NO. 45796



phase: BID SET
date: 10/11/21
LEC
drawn by: WDM
checked by:
project number: 180687009
project name: SICK - CAMPUS USA PHASE 1

DRAINAGE SCHEDULE

STRUCTURE NO.	STRUCTURE / CASTING TYPE	ELIMVGRATE ELEVATION	INVERT ELEVATION	PIPE SIZE IN	PIPE SLOPE IN	INVERT ELEVATION OUT	PIPE SIZE OUT	PIPE SLOPE OUT	PIPE MATERIAL
STR-89	Null Structure		9 801.18	18"	0.45%	N 801.18	18"	0.60%	HDPE
STRM 100	STMH 96" DIA.	811.38	S 800.35	18"	0.45%	N 801.18	18"	0.60%	PVC C500
STRM 101	STMH 72" DIA.	812.08	S 803.80	18"	0.70%	N 806.70	18"	0.45%	PVC
STRM 102	30" DIAM RISER NEENAH R-1642					N 803.90	36"	0.00%	HDPE
STRM 103	CONNECT TO BMP #1	1.70	S 803.80	15"	1.32%	N 803.90	36"	0.00%	HDPE
STRM 104	CONNECT TO BMP #1	805.17	S 803.80	15"	1.32%	N 803.90	36"	0.00%	HDPE
STRM 105	CBMH 3" SUMP		S 803.87	12"	1.33%	N 803.87	15"	1.32%	HDPE
STRM 106	STM CO COORD W/ MEP		S 804.80	12"	1.33%	N 804.80	12"	1.33%	HDPE
STRM 107	CONNECT TO BMP #1	805.17	S 803.80	15"	1.32%	N 803.90	36"	0.00%	HDPE
STRM 108	CBMH 48" DIA. (CIR.)		S 803.86	15"	1.20%	N 803.86	15"	1.20%	HDPE
STRM 109	STM CO COORD W/ MEP	812.83	S 804.35	24"	1.00%	N 804.61	24"	1.00%	HDPE
STRM 110	CONNECT TO BMP #1	808.88	S 803.87	15"	0.70%	N 803.87	15"	0.70%	HDPE
STRM 111	24" AREA DRAIN W/ DOME GRATE	809.94	E 804.37	12"	0.50%	W 804.27	15"	0.70%	HDPE
STRM 112	18" AREA DRAIN W/ DOME GRATE	810.68				W 804.68	12"	0.60%	HDPE
STRM 113	14" NYLON PLAST AREA DRAIN AT ROOF DRAIN OVERFLOW COORD. W/ MEP AND ARCH PLANS	812.83				NW 807.83	12"	1.83%	PVC
STRM 114	STM MH NEENAH R-1642	811.90	S 808.35 SE 806.90	24"	1.00%	N 804.23	24"	1.00%	HDPE
STRM 115	30" DIAM RISER NEENAH R-1642					N 805.85	15"	0.50%	HDPE
STRM 116	CORE DRILL, CONNECT TO EX. CATCH BASIN		S 805.70	15"	0.50%				
STRM 206	CBMH 96" DIA. (CIR.)	814.88	S 800.50	18"	0.60%	N 804.51	15"	0.60%	RCP
STRM 201	STMH 48" DIA.	815.07	S 808.51	18"	0.60%	N 800.51	15"	0.60%	RCP
STRM 202	STMH 48" DIA.	811.36	S 801.50	18"	0.60%	N 801.50	15"	0.60%	HDPE
STRM 203	STMH 48" DIA.	809.97	E 804.25	15"	2.71%	W 805.00	15"	2.71%	HDPE
STRM 204	CBMH 48" DIA.	808.75	E 804.25	15"	2.70%	W 805.00	15"	2.70%	HDPE
STRM 205	STMH 48" DIA.	809.97	E 804.25	15"	2.70%	W 805.00	15"	2.70%	HDPE
STRM 208	CBMH					W 805.00	15"	2.70%	HDPE
STRM 300	STM MH NEENAH SOLID CASTING PER CITY STANDARD PLATE 500	811.97	N 802.30	27"	0.50%				
STRM 301	STMH	811.22	W 802.50	42"	0.00%	S 802.50	27"	0.50%	RCP
STRM 302	STM MH W/ GRATE	807.86				E 802.36	42"	0.00%	HDPE

As-Built Drawing
ARL MAKI
8-1-2022

