

SITE DEVELOPMENT PLANS
FOR

SICK TECHNOLOGY CAMPUS

SECTION 01, TOWNSHIP 27, RANGE 24
BLOOMINGTON, HENNEPIN COUNTY, MN



PROJECT TEAM:

ENGINEER
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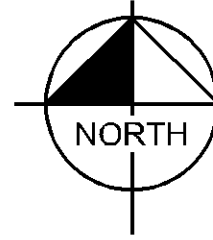
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VICINITY
N.T.S.



SITE

DRAWING INDEX	
SHEET No.	SHEET TITLE
C000	COVER SHEET
C100	GENERAL NOTES
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C600	UTILITY PLAN

NOTES:

1. CONTRACTOR SHALL CONFIRM THAT THE EXISTING CONDITIONS FOR THE SITE MATCH WHAT IS SHOWN ON THE DRAWINGS INCLUDED PRIOR TO CONSTRUCTION.
2. IF REPRODUCED, THE SCALES SHOWN ON THESE PLANS ARE BASED ON A Previous paper size (42.00 x 30.00 inches) SHEET.
3. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICES COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
4. ALL GENERAL CONTRACTOR WORK TO BE COMPLETED (EARTHWORK, FINAL UTILITIES, AND FINAL GRADING) BY THE MILESTONE DATE IN PROJECT DOCUMENTS.

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.

BRANDON R. ELEGERT, P.E.
DATE: XXXXXXXX LIC. NO. XXXXX

PRELIMINARY NOT FOR CONSTRUCTION

Revisions		
No.	Date	Description

Project Information

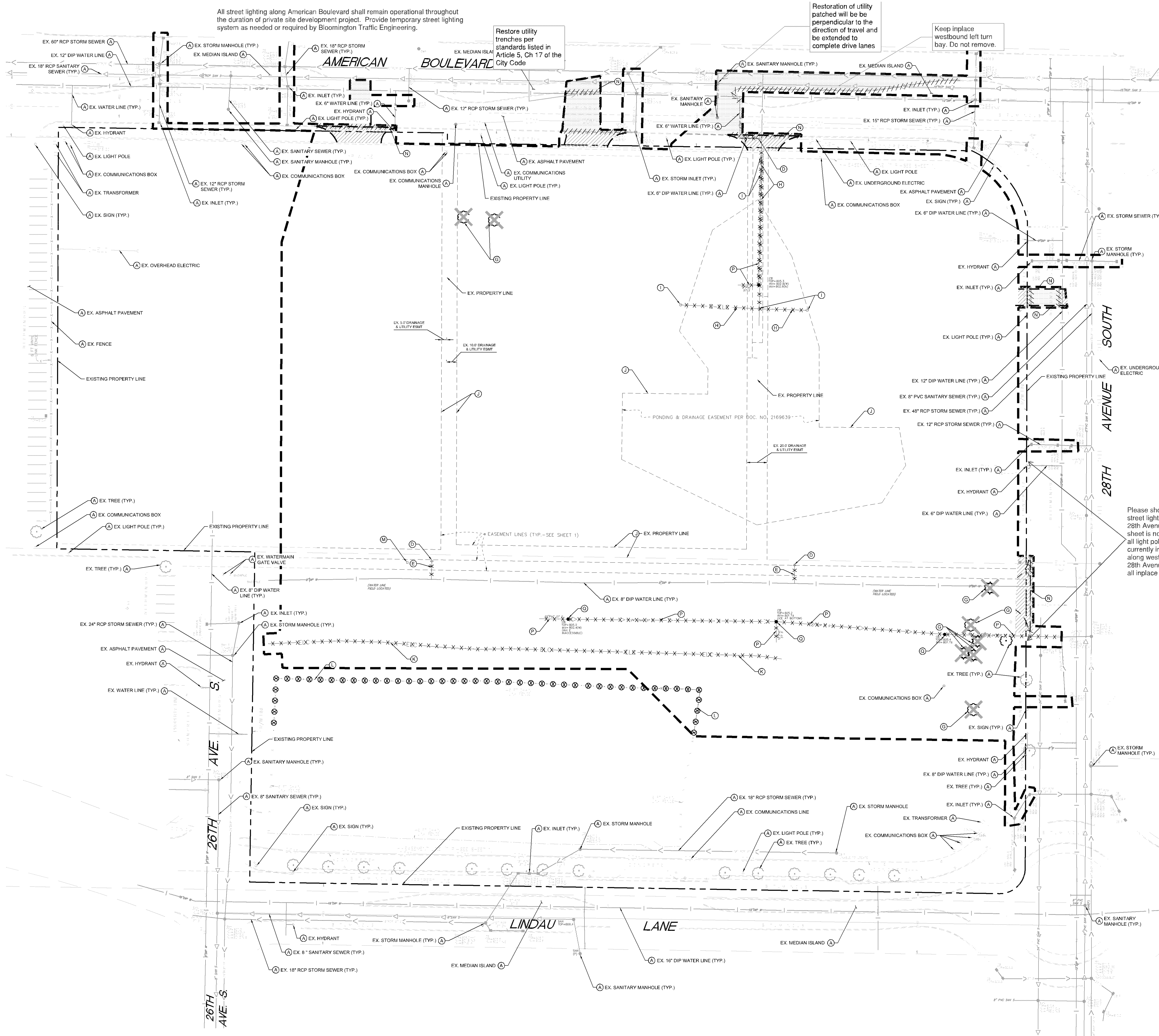
Phase: _____ Date: 03/19/2019
KHA Project No.: XXXXXXXXX PIC / AIC: _____
SICK TECHNOLOGY CAMPUS
PREPARED FOR
SICK

Sheet Title
COVER SHEET

Sheet Number _____ Current Revision _____
C000



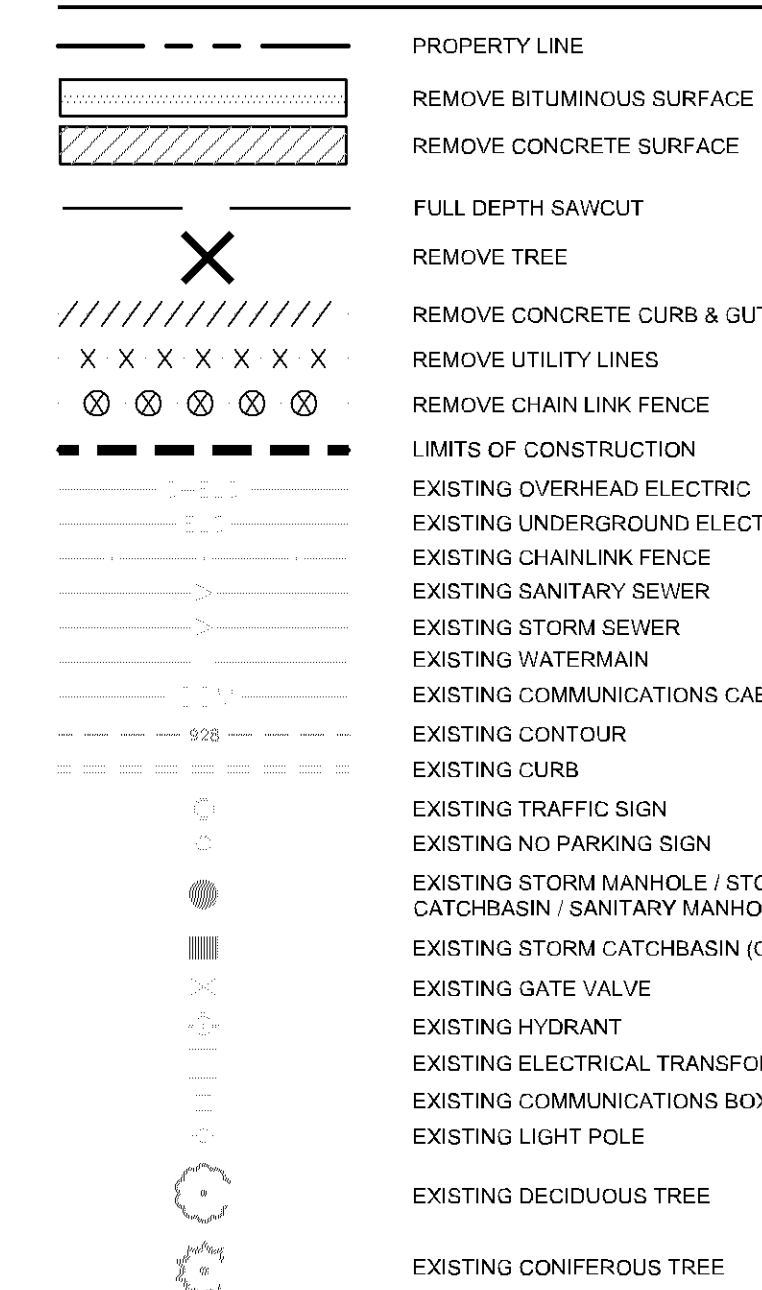
K:\TWC_LDEV\CUNINGHAM GROUPE\BLOOMINGTON_SICK\3 Design\CAD\PlanSheets\C2-DEMO PLAN.dwg March 20, 2019 - 10:19am
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DEMOLITION PLAN NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL, BY A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC. SUCH THAT THE IMPROVEMENTS ON THE PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL, AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE PROJECT DOCUMENTS.
2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL. CONTRACTOR SHALL PROVIDE COPIES OF THE PERMIT AND RECEIPTS OF DISPOSAL OF MATERIALS TO THE OWNER AND OWNERS REPRESENTATIVE.
3. THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO ADJACENT PROPERTIES AT ALL TIMES. UTILITY SERVICES SHALL NOT BE INTERRUPTED WITHOUT APPROVAL FROM THE CONSTRUCTION MANAGER AND COORDINATION WITH THE ADJACENT PROPERTIES AND/OR THE CITY.
4. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTING OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
5. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY PRIOR TO THE START OF ANY DEMOLITION ACTIVITY. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR LOCATIONS OF EXISTING UTILITIES WITHIN ALL AREAS OF PROPOSED WORK.
6. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERFERED AS THE EXACT LOCATION OR AS ANY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PRECEDING WITH THE WORK.
7. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC, AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE THE SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN ANY ROAD RIGHT-OF-WAY DURING CONSTRUCTION.
8. CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC. (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY THE CONSTRUCTION MANAGER. MAINTENANCE OF TRAFFIC CONTROL SHALL BE COORDINATED IN ACCORDANCE WITH BLOOMINGTON COUNTY AND UNDOT.
9. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES DURING CONSTRUCTION, AND SHALL NOTIFY ALL PROPERTIES IF ACCESS WILL BE INTERRUPTED OR ALTERED AT ANY TIME DURING CONSTRUCTION.
10. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
11. CONTRACTOR MAY LIMIT SAW CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS, BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
12. THE CONTRACTOR SHALL COORDINATE WATER MAIN WORK WITH THE FIRE DEPT. AND THE CITY WATER DEPARTMENT TO PLAN PROPOSED IMPROVEMENTS AND TO INSURE ADEQUATE PROTECTION IS CONSTANTLY AVAILABLE TO THE SITE THROUGHOUT THIS SPECIFIC WORK AND THROUGH ALL PHASES OF CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING/PROVIDING ANY REQUIRED WATER MAIN SHUT OFFS WITH THE CITY OF BLOOMINGTON DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATER MAIN SHUT OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION WILL BE PROVIDED.
13. REFER TO SURVEY FOR ALL EXISTING INVERT AND RIM ELEVATIONS.
14. ALL UTILITIES SHOWN ARE EXISTING UTILITIES.
15. IN THE EVENT A WELL IS FOUND, THE CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER IMMEDIATELY. ALL WELLS SHALL BE SEALED BY A LICENSED WELL CONTRACTOR IN ACCORDANCE WITH ALL STATE OF MN REQUIREMENTS.
16. IN THE EVENT THAT UNKNOWN CONTAINERS OR TANKS ARE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE OWNER AND/OR OWNERS REPRESENTATIVE IMMEDIATELY. ALL CONTAINERS SHALL BE DISPOSED OF AT A PERMITTED LANDFILL PER THE PROJECT DOCUMENTS.
17. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY EXISTING DRAINAGE IS ENCOUNTERED ON SITE. NO ACTIVE DRAINAGE SHALL BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.

LEGEND

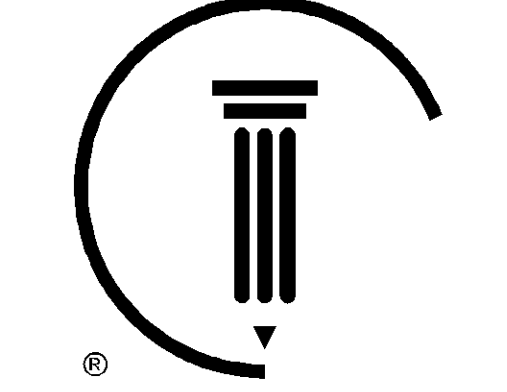


Apply for appropriate Environmental Health Permits

Please show all street lighting along 28th Avenue. This sheet is not showing all light poles that are currently in place along west side of 28th Avenue. Protect in place lighting.

KEYNOTE LEGEND

- (A) PROTECT IN PLACE
- (B) REMOVE EX. CONCRETE CURB TO NEAREST JOINT, LIMITS PER PLAN
- (C) REMOVE EX. CONCRETE SIDEWALK TO NEAREST JOINT, LIMITS PER PLAN
- (D) REMOVE, SALVAGE AND RELOCATE EX. HYDRANT PER CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS
- (E) REMOVE EX. WATER LINE, SIZE, MATERIAL, AND LIMITS PER PLAN
- (F) CLEARING AND GRUBBING AS NECESSARY FOR IMPROVEMENTS
- (G) REMOVE EX. TREE
- (H) REMOVE EX. OVERHEAD POWER LINE PER XCEL ENERGY AND CITY OF BLOOMINGTON STANDARDS AND SPECIFICATIONS
- (I) REMOVE EX. POWER POLE
- (J) EX. EASEMENT TO BE VACATED
- (K) REMOVE EX. UNDERGROUND UTILITY LINE
- (L) REMOVE & SALVAGE EX. CHAIN LINK FENCE PER LIMITS OF DISTURBANCE
- (M) REMOVE EX. COMMUNICATIONS BOX
- (N) FULL DEPTH SAW CUT - OFFSET FROM LIMITS OF DISTURBANCE FOR CLARITY
- (O) REMOVE EX. GATE VALVE
- (P) REMOVE EX. STORM SEWER
- (Q) REMOVE EX. STORM SEWER CATCH BASIN



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BRANDON R. ELEGERT, P.E.
 DATE: XXXXXXXX LIC. NO. XXXXXX

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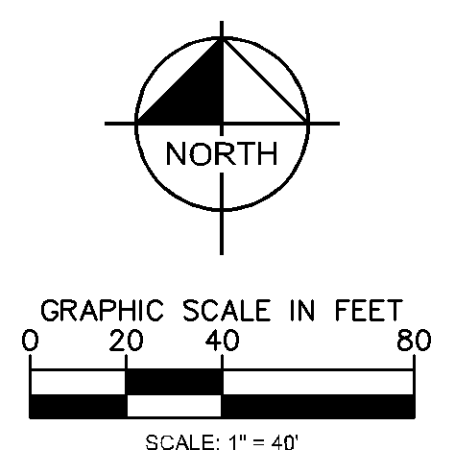
Revisions

No.	Date	Description

Project Information
 Phase: _____ Date: 03/19/2019
 KHA Project No.: XXXXXXXXXX P/C / A/C:
SICK TECHNOLOGY CAMPUS
 PREPARED FOR
SICK

Sheet Title
DEMOLITION PLAN

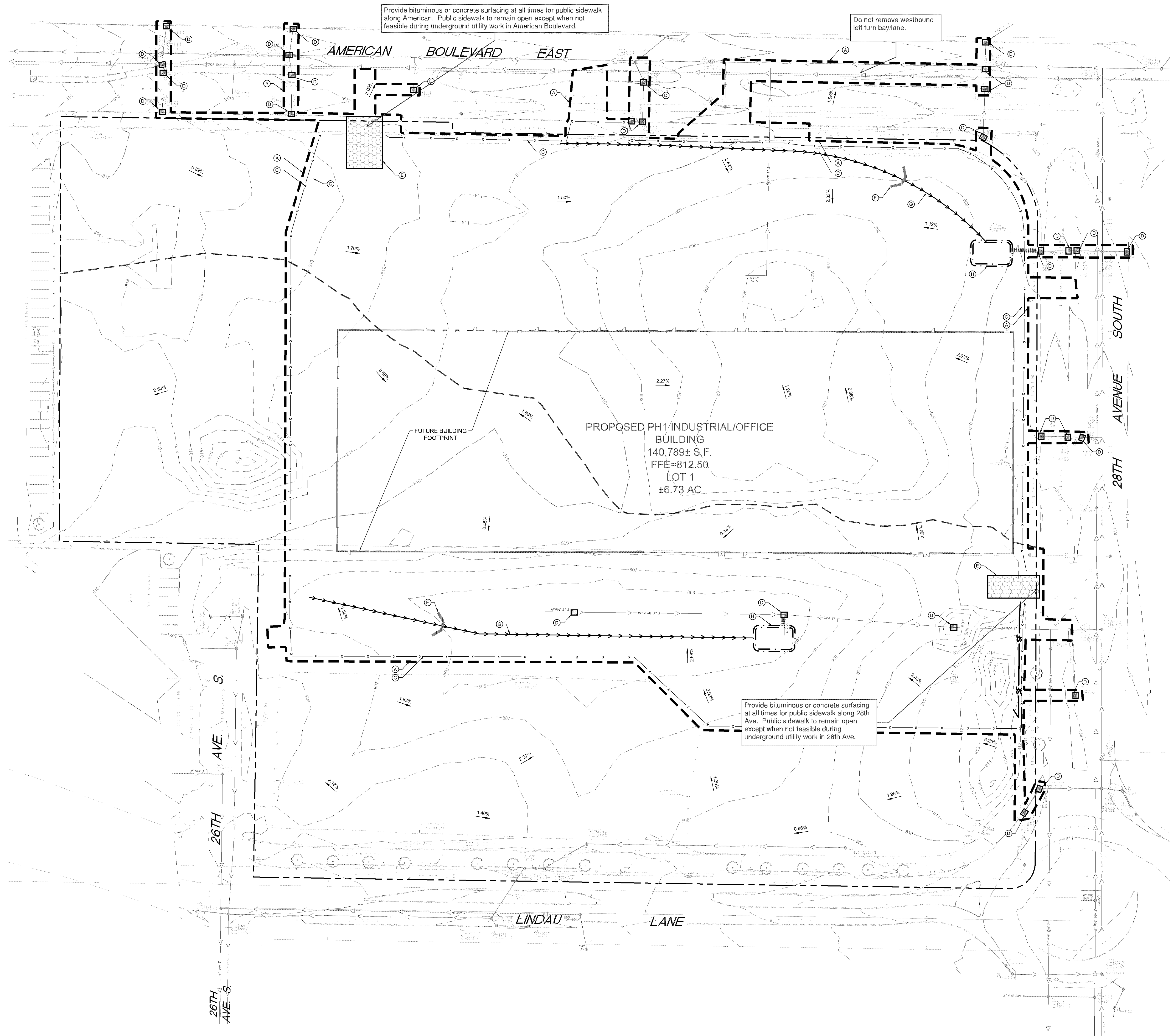
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Provide bituminous or concrete surfacing at all times for public sidewalk along American. Public sidewalk to remain open except when not feasible during underground utility work in American Boulevard.

Do not remove westbound left turn bay lane.

Provide bituminous or concrete surfacing at all times for public sidewalk along 28th Ave. Public sidewalk to remain open except when not feasible during underground utility work in 28th Ave.

LEGEND

- ROCK ENTRANCE
- INLET PROTECTION
- SILT FENCE
- LIMITS OF DISTURBANCE
- APPROXIMATE GRADE BREAK
- SAFETY FENCE
- DIVERSION DITCH
- TEMPORARY CHECK DAM
- SEDIMENT TRAP BASIN
- RRP-RAP

EROSION CONTROL PLAN NOTES

1. ALL PERIMETER SILT FENCE AND ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL CONSTRUCT DRAINAGE BASINS PRIOR TO SITE GRADING.
3. THE CONTRACTOR SHALL INSTALL CATCH BASIN EROSION CONTROL MEASURES.
4. WITHIN ONE WEEK (7 DAYS) OF SITE GRADING, ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED, SOIL, OR ROCK BASE. REFER TO LANDSCAPE PLANS FOR MATERIALS.
5. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CITY, STATE, AND WATERFISHED DISTRICT PERMITS.
6. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES, INCLUDING THE REMOVAL OF SILT IN FRONT OF SILT FENCES DURING THE DURATION OF THE CONSTRUCTION.
7. ANY EXCESS SEDIMENT IN PROPOSED BASINS SHALL BE REMOVED BY THE CONTRACTOR.
8. REMOVE ALL EROSION CONTROL MEASURES AFTER VEGETATION IS ESTABLISHED.
9. THE CONTRACTOR SHALL REMOVE ALL SOILS AND SEDIMENT TRACKED ONTO EXISTING STREETS AND PAVED AREAS AND SHALL SWEEP ADJACENT STREETS AS NECESSARY IN ACCORDANCE WITH CITY REQUIREMENTS.
10. IF BLOWING DUST BECOMES A NUISANCE, THE CONTRACTOR SHALL APPLY WATER FROM A TANK TRUCK TO ALL CONSTRUCTION AREAS.

Daily, as required, and prior to any storm.

SEQUENCE OF CONSTRUCTION:

- UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LANDSCAPE, PORTA-POTTY, WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY POST-DATE THEM ON THE SITE MAPS AND NOTE ANY CHANGES BY LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.
- BMP AND EROSION CONTROL INSTALLATION SEQUENCE SHALL BE AS FOLLOWS:
1. INSTALL INLET PROTECTION AT EXISTING STORMWATER CULVERTS.
 2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE (1), CONCRETE WASHOUT PILE (1) AND INSTALL SILT FENCE.
 3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
 4. CONSTRUCT AND STABILIZE DIVERSIONS AND TEMPORARY SEDIMENT TRAPS.
 5. PERFORM CLEARING AND GRUBBING OF THE SITE. PERFORM MASS GRADING, ROUGH GRADE TO ESTABLISH PROPOSED DRAINAGE PATTERNS.
 6. START CONSTRUCTION OF THE BUILDING PAD AND STRUCTURES.
 7. TEMPORARILY SEED WITH PINE SEED THROUGHOUT CONSTRUCTION. DISTURBED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE OR AS REQUIRED BY NPDES AND/OR CITY OF BLOOMINGTON GRADING PERMIT.

SWPPP UPDATES AND AMENDMENTS

THE GP MUST UPDATE THE SWPPP, INCLUDING THE JOB SITE BINDER AND SITE MAPS, TO REFLECT THE PROGRESS OF CONSTRUCTION ACTIVITIES AND GENERAL CHANGES TO THE PROJECT. UPDATES SHALL BE MADE DAILY TO TRACK PROGRESS WHEN ANY OF THE FOLLOWING ACTIVITIES OCCUR: BMP INSTALLATION, MODIFICATION, OR REMOVAL; CONSTRUCTION ACTIVITIES (E.G. PAVING, STORM SEWER INSTALLATION, FOOTING INSTALLATION, ETC.); CLEARING, GRUBBING OR GRADING, OR TEMPORARY OR PERMANENT STABILIZATION.

SITE DISCHARGE
RUNOFF WILL DISCHARGE INTO THE CITY SEWER THEN TO LONG MEADOW LAKE AND ULTIMATELY THE MINNESOTA RIVER APPROXIMATELY 2 MILES FROM THE SITE. THE MINNESOTA RIVER IS CONSIDERED IMPAIRED AT THIS LOCATION.

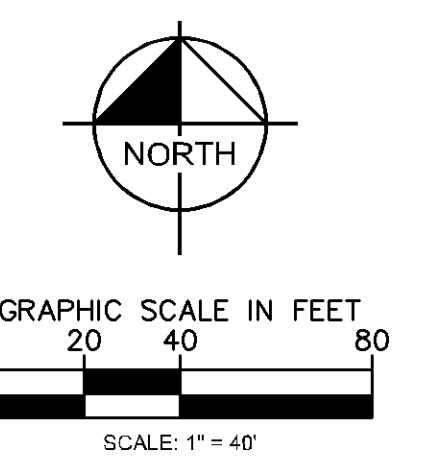
SOIL TYPES
THE SITE BORING LOGS CONSIST GENERALLY OF 5 TO 11 FEET OF SILTY SAND AND SANDY LEAN CLAY FILL FOLLOWED BY POORLY GRADED SAND, MOST LIKELY GLACIAL OUTWASH.

AREA SUMMARY	
TOTAL PROPERTY AREA	14.33 AC
TOTAL DISTURBED AREA	9.23 AC
TOTAL ONSITE DISTURBED AREA	8.88 AC
TOTAL OFFSITE DISTURBED AREA	0.35 AC
EXISTING IMPERVIOUS AREA	0.05 AC
EXISTING PERVIOUS AREA	8.83 AC
PROPOSED IMPERVIOUS AREA	6.62 AC
PROPOSED PERVIOUS AREA	2.26 AC

ESTIMATED PHASE 1 BMP QUANTITIES		
SILT FENCE	142	LF
SAFETY FENCE	2410	LF
CONSTRUCTION ENTRANCE	2	EA
INLET PROTECTION	29	EA
DIVERSION DITCH	880	LF
CHECK DAMS	2	EA
SEDIMENT TRAP	2	EA

KEYNOTE LEGEND

- (A) LIMITS OF DISTURBANCE
- (B) SILT FENCE - OFFSET FROM LIMITS OF DISTURBANCE FOR CLARITY
- (C) SAFETY FENCE - OFFSET FROM LIMITS OF DISTURBANCE FOR CLARITY
- (D) INLET PROTECTION
- (E) ROCK CONSTRUCTION ENTRANCE/EXIT
- (F) TEMPORARY CHECK DAM
- (G) TEMPORARY DIVERSION DITCH
- (H) SEDIMENT TRAP WITH RRP-RAP TO INLET STRUCTURE



I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: _____ DATE: 03/19/2019
BRIAN M. MURDEVAN, P.E.
MDDOT DESIGN OF SWPPP CERTIFIED
EXPIRES MAY 31, 2022

KIMLEY-HORN AND ASSOCIATES, INC.
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BRANDON R. ELEGST, P.E.
DATE: XXXXXXXX LIC. NO. XXXXX

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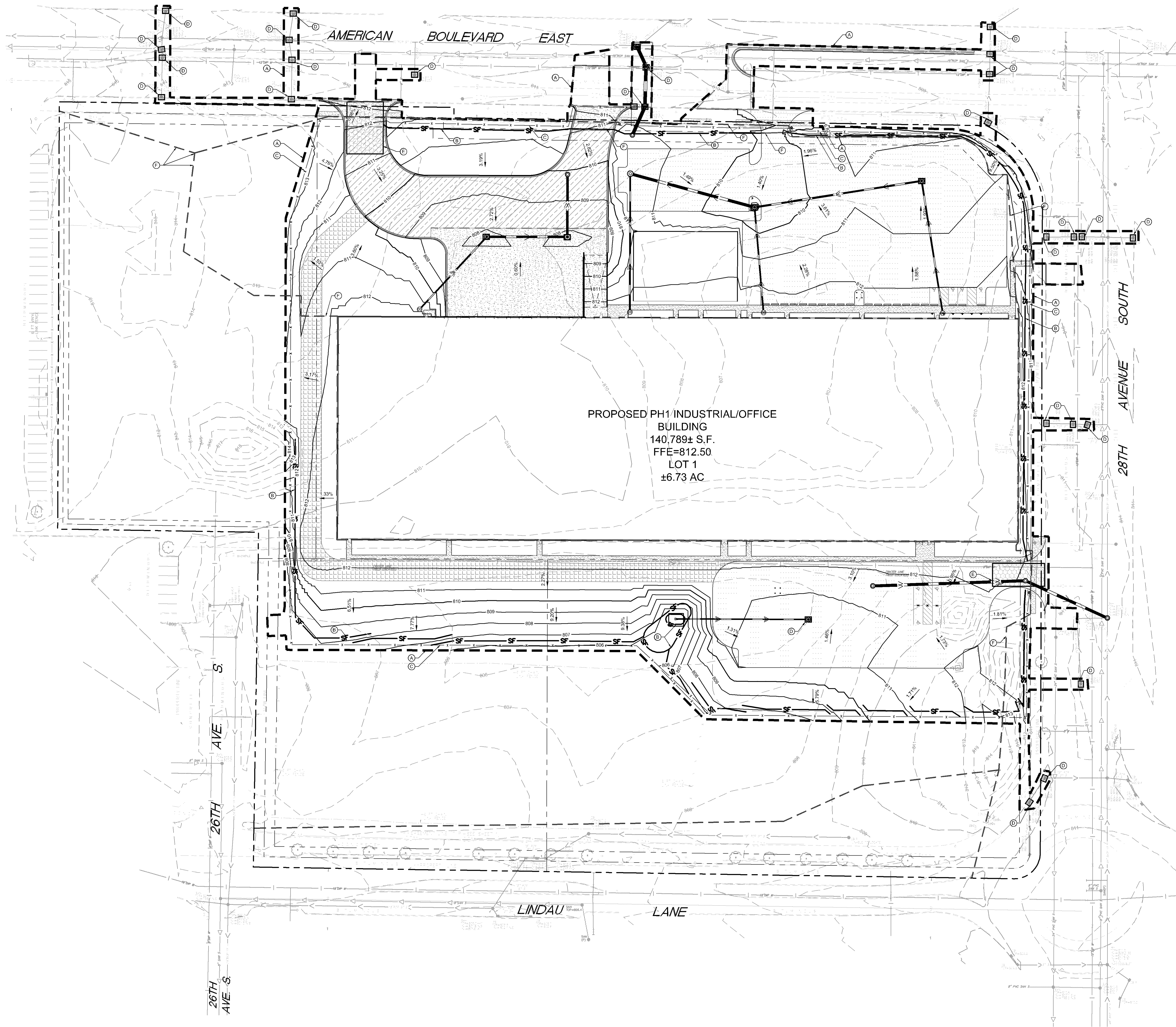
Sheet Title
EROSION AND SEDIMENT CONTROL PLAN - PHASE 1

Sheet Number _____ **Current Revision**
C300

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PROPOSED PH1 INDUSTRIAL/OFFICE BUILDING
140,789± S.F.
FFE=812.50
LOT 1
±6.73 AC

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED CLASS V AGGREGATE BASE FIRE ACCESS ROUTE
- ROCK ENTRANCE
- INLET PROTECTION
- SILT FENCE
- LIMITS OF DISTURBANCE
- APPROXIMATE GRADE BREAK
- SAFETY FENCE
- BID ROLL

EROSION CONTROL PLAN NOTES

1. ALL PERIMETER SILT FENCE AND ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL CONSTRUCT DRAINAGE BASINS PRIOR TO SITE GRADING.
3. THE CONTRACTOR SHALL INSTALL CATCH BASIN EROSION CONTROL MEASURES.
4. WITHIN ONE WEEK (7 DAYS) OF SITE GRADING, ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED, SOIL, OR ROCK BASE. REFER TO LANDSCAPE PLANS FOR MATERIALS.
5. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CITY, STATE, AND WATERSHED DISTRICT PERMITS.
6. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES, INCLUDING THE REMOVAL OF SILT IN FRONT OF SILT FENCES DURING THE DURATION OF THE CONSTRUCTION.
7. ANY EXCESS SEDIMENT IN PROPOSED BASINS SHALL BE REMOVED BY THE CONTRACTOR.
8. REMOVAL ALL EROSION CONTROL MEASURES AFTER VEGETATION IS ESTABLISHED.
9. THE CONTRACTOR SHALL REMOVE ALL SOILS AND SEDIMENT TRACKED ONTO EXISTING STREETS AND PAVED AREAS AND SHALL SWEEP ADJACENT STREETS AS NECESSARY IN ACCORDANCE WITH CITY REQUIREMENTS.
10. IF BLOWING DUST BECOMES A NUISANCE, THE CONTRACTOR SHALL APPLY WATER FROM A TANK TRUCK TO ALL CONSTRUCTION AREAS.

Daily, as required, and prior to any storm.

SEQUENCE OF CONSTRUCTION:

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER PARKING, LAYDOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC. IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.

BMP AND EROSION CONTROL INSTALLATION SEQUENCE SHALL BE AS FOLLOWS:

1. INSTALL INLET PROTECTION AT EXISTING STORMWATER CULVERTS.
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE (1), CONCRETE WASHOUT PIT (1) AND INSTALL SILT FENCE.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. CONSTRUCT AND STABILIZE DIVERSIONS AND TEMPORARY SEDIMENT TRAPS.
5. PERFORM CLEANING AND GRUBBING OF THE SITE. PERFORM MASS GRADING, ROUGH GRADE TO ESTABLISH PROPOSED DRAINAGE PATTERNS.
6. START CONSTRUCTION OF THE BUILDING PAD AND STRUCTURES.
7. TEMPORARILY SEED WITH PURE LIVE SEED THROUGHOUT CONSTRUCTION. DISTURBED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE DE AS REQUIRED BY NPD'S AND/OR CITY OF BLOOMINGTON GRADING PERMIT.

SWPPP UPDATES AND AMENDMENTS

THE GC MUST UPDATE THE SWPPP INCLUDING THE SICK'S NUMBER AND SITE MAPS TO REFLECT THE PROGRESS OF CONSTRUCTION ACTIVITIES AND GENERAL CHANGES TO THE PROJECT SITE. UPDATES SHALL BE MADE DAILY TO TRACK PROGRESS WHEN ANY OF THE FOLLOWING ACTIVITIES OCCUR: BMP INSTALLATION, MODIFICATION OR REMOVAL, CONSTRUCTION ACTIVITIES (E.G., PAVING, STORM SEWER INSTALLATION, FOOTING INSTALLATION, ETC.), CLEARING, GRUBBING OF GROUNDS, OR TEMPORARY OR PERMANENT STABILIZATION.

SITE DISCHARGE
RUNOFF WILL DISCHARGE INTO THE CITY SEWER THEN TO LONG MEADOW LAKE AND ULTIMATELY THE MINNESOTA RIVER APPROXIMATELY 2 MILES FROM THE SITE. THE MINNESOTA RIVER IS CONSIDERED IMPAIRED AT THIS LOCATION.

SOIL TYPES
THE SITE BORING LOGS CONSIST GENERALLY OF 5 TO 11 FEET OF SILTY SAND AND SANDY LEAN CLAY FILL FOLLOWED BY POORLY GRADED SAND, MOST LIKELY GLACIAL OUTWASH.

AREA SUMMARY	
TOTAL PROPERTY AREA	14.33 AC
TOTAL DISTURBED AREA	9.23 AC
TOTAL ONSITE DISTURBED AREA	8.88 AC
TOTAL OFFSITE DISTURBED AREA	0.35 AC
EXISTING IMPERVIOUS AREA	0.05 AC
EXISTING PERVIOUS AREA	8.83 AC
PROPOSED IMPERVIOUS AREA	6.62 AC
PROPOSED PERVIOUS AREA	2.26 AC

ESTIMATED PHASE 2 BMP QUANTITIES		
SILT FENCE	3270	LF
SAFETY FENCE	2410	LF
CONSTRUCTION ENTRANCE	2	EA
INLET PROTECTION PH2	32	EA
BID ROLL	65	LF

KEYNOTE LEGEND

- (A) LIMITS OF DISTURBANCE
- (B) SILT FENCE - OFFSET FROM LIMITS OF DISTURBANCE FOR CLARITY
- (C) SAFETY FENCE - OFFSET FROM LIMITS OF DISTURBANCE FOR CLARITY
- (D) INLET PROTECTION
- (E) ROCK CONSTRUCTION ENTRANCE / EXIT
- (F) BID ROLL



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BRANDON R. ELEGERT, P.E.
DATE: XXXXXXXX LIC. NO. XXXXXX

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Revisions		
No.	Date	Description

Project Information
Phase: _____ Date: 03/19/2019
KHA Project No.: XXXXXXXXXX PIC / A/C:
SICK TECHNOLOGY CAMPUS
PREPARED FOR
SICK

Sheet Title
EROSION AND SEDIMENT CONTROL PLAN - PHASE 2

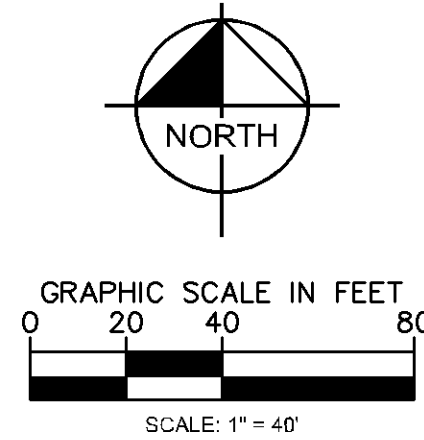
Sheet Number _____ **Current Revision**
C301

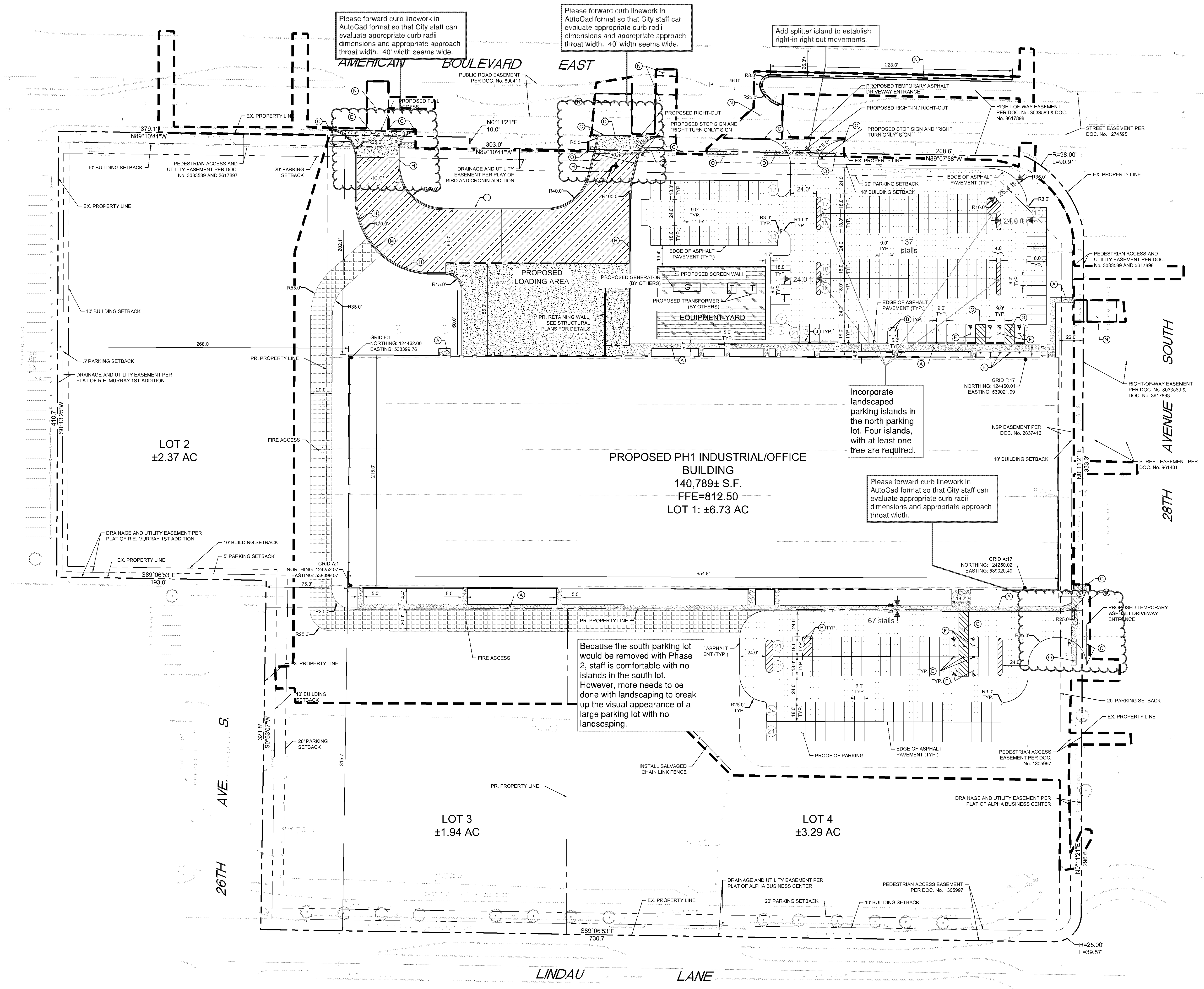
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SIGNED: _____ DATE: 03/19/2019
BRIAN M. MURDEMAN, P.E.
MDDOT DESIGN OF SWPPP CERTIFIED
EXPIRES MAY 31, 2022

KIMLEY-HORN AND ASSOCIATES, INC.
BRIAN M. MURDEMAN, P.E.
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LEGEND

- PROPERTY LINE
- - - PROPOSED FENCE
- - - SETBACK LINE
- PROPOSED CURB AND GUTTER
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED CLASS V AGGREGATE BASE FIRE ACCESS ROUTE
- PROPOSED GRAVEL BASE

PROPERTY SUMMARY

SICK TECHNOLOGY CAMPUS	
TOTAL LOT 1 PROPERTY AREA	6.73 AC
TOTAL LOT 2 PROPERTY AREA	2.37 AC
TOTAL LOT 3 PROPERTY AREA	1.94 AC
TOTAL LOT 4 PROPERTY AREA	3.29 AC
PROPOSED IMPERVIOUS AREA	6.82 AC
PROPOSED PERVIOUS AREA	2.26 AC
TOTAL ONSITE DISTURBED AREA	8.88 AC

ZONING SUMMARY

EXISTING ZONING	LINDAU MIXED USE (LX)
PROPOSED ZONING	LINDAU MIXED USE (LX)
PARKING SETBACKS	SIDE/REAR = 5' ROAD = 20'
BUILDING SETBACKS	FRONT = 10' SIDE = 10' REAR = 10'

BUILDING DATA SUMMARY

AREAS	
PROPOSED PROPERTY	15.75 AC
BUILDING AREA	140,789 SF (21% OF TOTAL PROPERTY AREA)

PHASE I PARKING

REQUIRED PARKING	228 SPACES @ 1.62:1,000 SF
PROPOSED PARKING	204 SPACES @ 1.45 RATIO
PROPOSED PROOF OF PARKING	24 SPACES
PROPOSED TOTAL PARKING	228 SPACES @ 1.62 RATIO
ADA STALLS REQ'D / PROVIDED	7 STALLS / 8 STALLS

- SITE PLAN NOTES**
- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
 - CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
 - ALL DISTURBED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED. REFER TO LANDSCAPE PLAN FOR EXACT SODDING AND SEEDING LIMITS AND SPECIFICATIONS.
 - ALL INNER CURBED RADI ARE TO BE 4.7' AND OUTER CURBED RADI ARE TO BE 10' UNLESS OTHERWISE NOTED. STRIPED RADI ARE TO BE 5'. ALL CURBS AND GUTTER IS TYPE B612 UNLESS OTHERWISE NOTED.
 - ALL DIMENSIONS AND RADI ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 - EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, UNLESS OTHERWISE NOTED ON PLANS INCLUDING BUT NOT LIMITED TO ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND PROJECT SITE WORK SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
 - SITE BOUNDARY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY BY SUNDE LAND SURVEYING.
 - REFER TO ELECTRICAL PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
 - CONTRACTOR IS REQUIRED TO ENSURE ALL SIDEWALKS MEET ADA STANDARDS.
 - RESTORE CITY STREET BY COMPLYING WITH THE BLOOMINGTON CITY STREET IMPROVEMENT POLICY.
 - ALL PARKING STALL STRIPING MUST BE PAINTED WHITE.
 - STREET LIGHTING AND INTERCONNECT CONDUIT MUST BE EXPOSED FOR CITY INSPECTION PRIOR TO POURING CONCRETE OR BACKFILLING EXCAVATION IN CITY RIGHT-OF-WAY.

KEYNOTE LEGEND

- (A) CONCRETE SIDEWALK
- (B) PROPOSED PIPE BOLLARD
- (C) MATCH EXISTING EDGE OF PAVEMENT/ CURB & GUTTER
- (D) COMMERCIAL DRIVEWAY APRON PER CITY OF BLOOMINGTON DETAIL
- (E) ACCESSIBLE PARKING SIGN PER STATE OF MINNESOTA ADA GUIDELINES
- (F) ACCESSIBLE PARKING STALL AND ACCESS AISLE PER STATE OF MINNESOTA ADA GUIDELINES
- (G) AREA STRIPED WITH 4" SYSL @ 45° Z' O.C.
- (H) B612 CURB & GUTTER (TYP.)
- (I) TIP-OUT CURB
- (J) PARKING BUMPER BLOCK
- (K) PAVEMENT LEGEND, SEE DETAIL
- (L) LANDSCAPE AREA - SEE LANDSCAPE PLANS
- (M) MOUNTABLE CURB AND GUTTER
- (N) ASPHALT PAVEMENT REPLACEMENT, PAVEMENT SECTION TO MATCH EXISTING
- (O) CONCRETE SIDEWALK REPLACEMENT, PAVEMENT SECTION TO MATCH EXISTING

Staff is not supportive of parking facilities without perimeter curbing. We can discuss alternatives to traditional 6/12 curb, but perimeter curb is required by City Code.

Illustrate that the clear view triangle (15' from property corner and driveway approaches) is not obstructed by providing landscaping plan to verify. Please identify on plan the specific types of plantings proposed.

Please note on Site Plan location of public entrance(s).

Please provide map identifying approved Haul Routes:
From 494: 24th Avenue to American to either approved construction access (off American or off 28th Avenue).
From NB TH77: CSAH 1 to EOSR to 28th Avenue to construction access off 28th Avenue.
Egress from site at either approved construction access. Egress from the American construction access will be monitored by Bloomington Traffic Engineering and may be prohibited entirely or during specific time periods.
Prohibited routes: Killebrew Drive and Lindau Lane



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Project Information

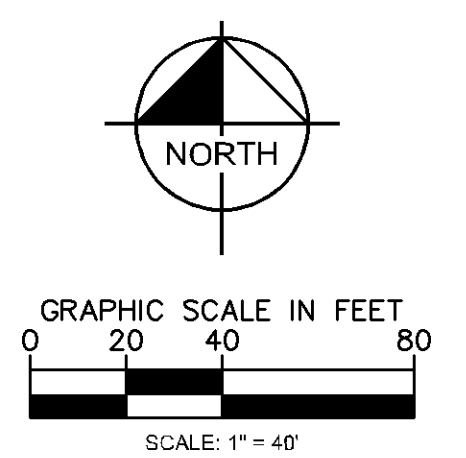
Phase: _____ Date: 03/19/2019
KHA Project No.: XXXXXXXXXX PIC / A/C: _____
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SICK

Sheet Title
SITE PLAN

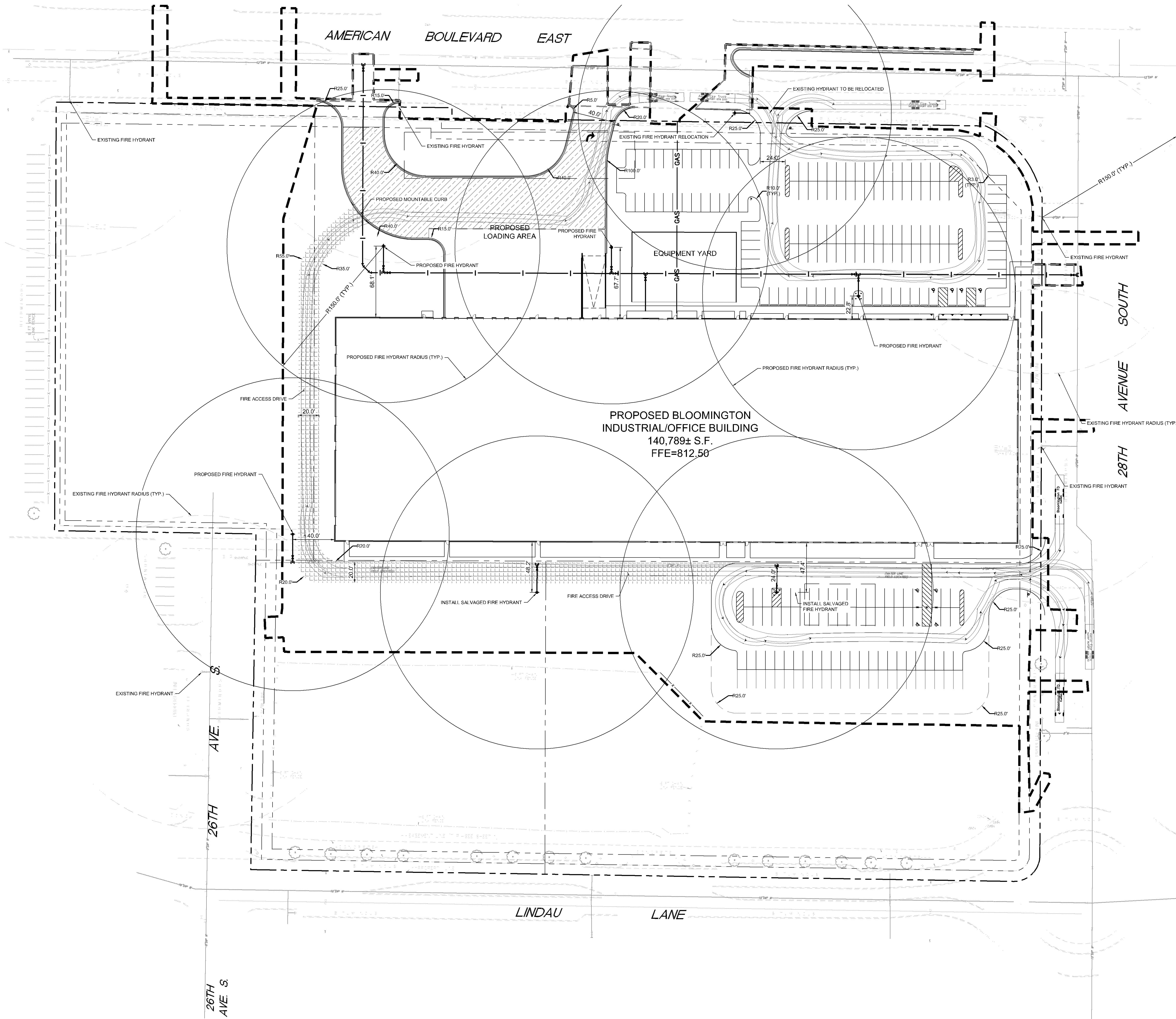
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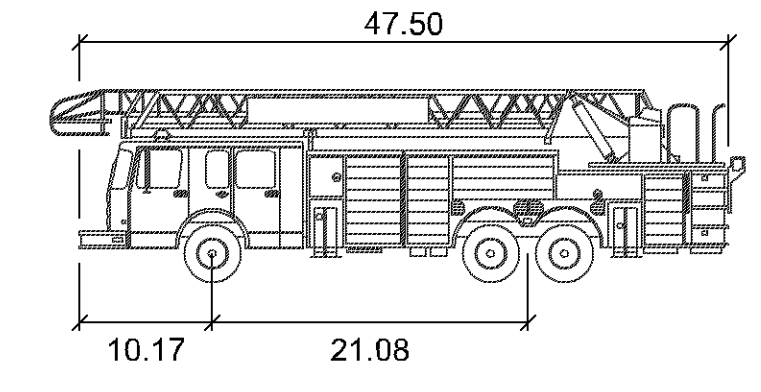


K:\TWC_LDEV\CUNINGHAM GROUP\BLOOMINGTON_SICK3 Design\CAD\PlanSheets\C4-FIRE DEPARTMENT ACCESS PLAN.dwg March 20, 2019 - 10:19am
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LEGEND

	PROPERTY LINE
	PROPOSED REDUCER
	PROPOSED TEE
	PROPOSED GATE VALVE
	PROPOSED HYDRANT
	PROPOSED WATERMAIN
	EXISTING FIRE HYDRANT 150' RADIUS COVERAGE
	PROPOSED FIRE HYDRANT 150' RADIUS COVERAGE
	BLOOMINGTON FIRE TRUCK - LADDER 3



Bloomington Fire Ladder 3

	feet
Width	: 8.33
Track	: 8.33
Lock to Lock Time	: 6.0
Steering Angle	: 40.0



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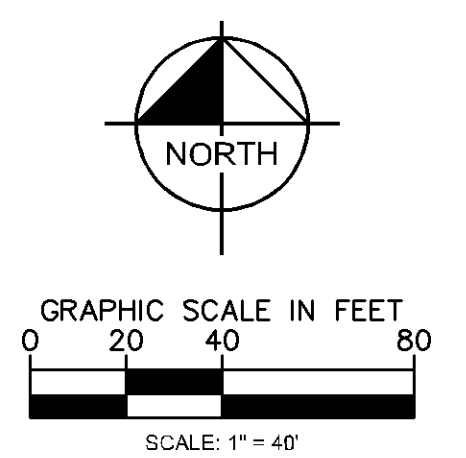
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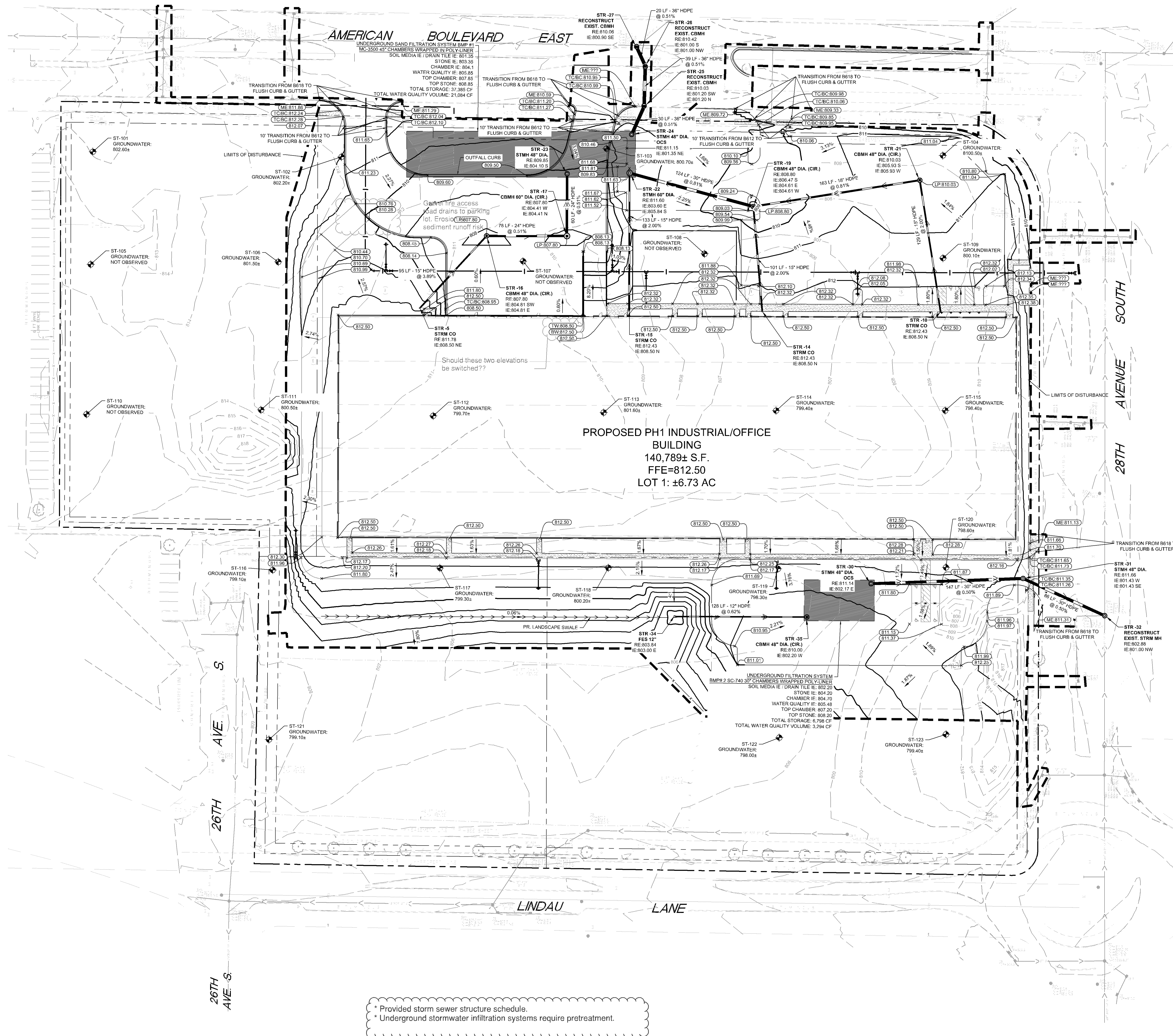
Project Information
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Sheet Title
 FIRE DEPARTMENT ACCESS PLAN

Sheet Number _____ **Current Revision**
C401

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LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM MANHOLE (SOLID CASTING)
- PROPOSED STORM MANHOLE (ROUND INLET CASTING)
- PROPOSED STORM MANHOLE CATCH BASIN (CURB INLET CASTING)
- PROPOSED STORM SEWER CLEANOUT
- PROPOSED FLARED END SECTION
- PROPOSED R/RAP
- PROPOSED STORM SEWER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING STORM MANHOLE / STORM CATCH BASIN / SANIARY MANHOLE
- EXISTING STORM CATCH BASIN (ON CURB)
- PROPOSED SPOT ELEVATION
- PROPOSED HIGH POINT ELEVATION
- PROPOSED LOW POINT ELEVATION
- PROPOSED GUTTER ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED FLUSH PAVEMENT ELEVATION
- MATCH EXISTING ELEVATION
- PROPOSED EMERGENCY OVERFLOW
- PROPOSED DRAINAGE DIRECTION
- PROPOSED AREA SLOPE
- RETAINING WALL
- PROPOSED CURB AND GUTTER
- PROPOSED OUTFALL CURB AND GUTTER
- PROPOSED LANDSCAPE SWALE

- ### GRADING PLAN NOTES
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BLOOMINGTON, SPECIFICATIONS AND BUILDING PERMIT REQUIREMENTS.
 - CONTRACTOR TO CALL Gopher State Call One @ 1-800-253-1166 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION/CONSTRUCTION FOR UTILITY LOCATIONS.
 - STORM SEWER PIPE SHALL BE AS FOLLOWS:
RCP PER ASTM C-76
HOPE: 12" OR GREATER PER ASTM F-2306
PIPE 24" OR PER ASTM F-3024
STORM SEWER FITTINGS SHALL BE AS FOLLOWS:
RCP PER ASTM C-76, JOINTS PER ASTM C-361, C-398, AND C-443
HOPE PER ASTM 3212
PIPE PER ASTM F-3024, JOINTS PER ASTM F-3212
 - 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 SEEPAGE 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.
 - GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR SHALL ROUGH GRADE TO SUBGRADE ELEVATION AND LEAVE STREET READY FOR SUBBASE.
 - ALL EXCESS MATERIAL, BITUMINOUS SURFACING, CONCRETE ITEMS, ANY ABANDONED UTILITY ITEMS, AND OTHER UNSAFE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE CONSTRUCTION SITE.
 - REFER TO THE UTILITY PLAN FOR SANITARY SEWER MAIN, WATER MAIN SERVICE LAYOUT AND ELEVATIONS AND CASTING STRUCTURE SCHEDULE.
 - CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF PAVEMENTS AND CURB AND GUTTER WITH SMOOTH UNIFORM SLOPES WITH POSITIVE DRAINAGE.
 - INSTALL A MINIMUM OF 4" CLASS 5 AGGREGATE BASE UNDER CURB AND GUTTER.
 - UPON COMPLETION OF EXCAVATION AND FILLING, CONTRACTOR SHALL RESTORE ALL STREETS AND DISTURBED AREAS ON SITE. ALL DISTURBED AREAS SHALL BE REVEGETATED WITH A MINIMUM OF 4" OF TOPSOIL.
 - ALL SPOT ELEVATIONS/CONTOURS ARE TO FINISHED GRADE UNLESS OTHERWISE NOTED.
 - ALL SPOT ELEVATIONS ARE TO FLOW LINE UNLESS OTHERWISE NOTED.
 - GRADING FOR ALL SIDEWALKS AND ACCESSIBLE ROUTES INCLUDING CROSSING DRIVEWAYS SHALL CONFORM TO CURRENT ADA STATUTORY STANDARDS. SLOPES SHALL NOT EXCEED 5% LONGITUDINALLY OR EXCEED 2% CROSS SLOPE. SIDEWALK ACCESS TO EXTERNAL BUILDING DOORS SHALL BE ADA COMPLIANT. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ADA CRITERIA CANNOT BE MET IN ANY LOCATION.
 - MAINTAIN A MINIMUM OF 0.5% GUTTER SLOPE TOWARDS LOW POINTS.
 - 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.



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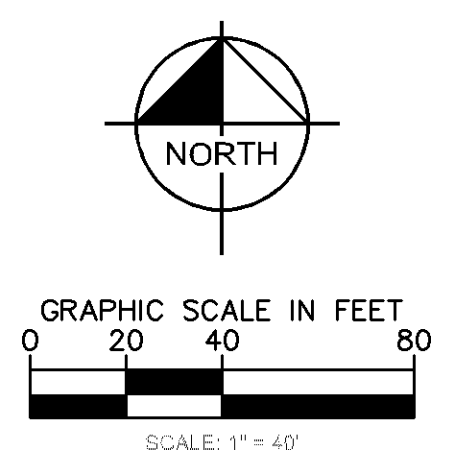
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No.	Date	Description

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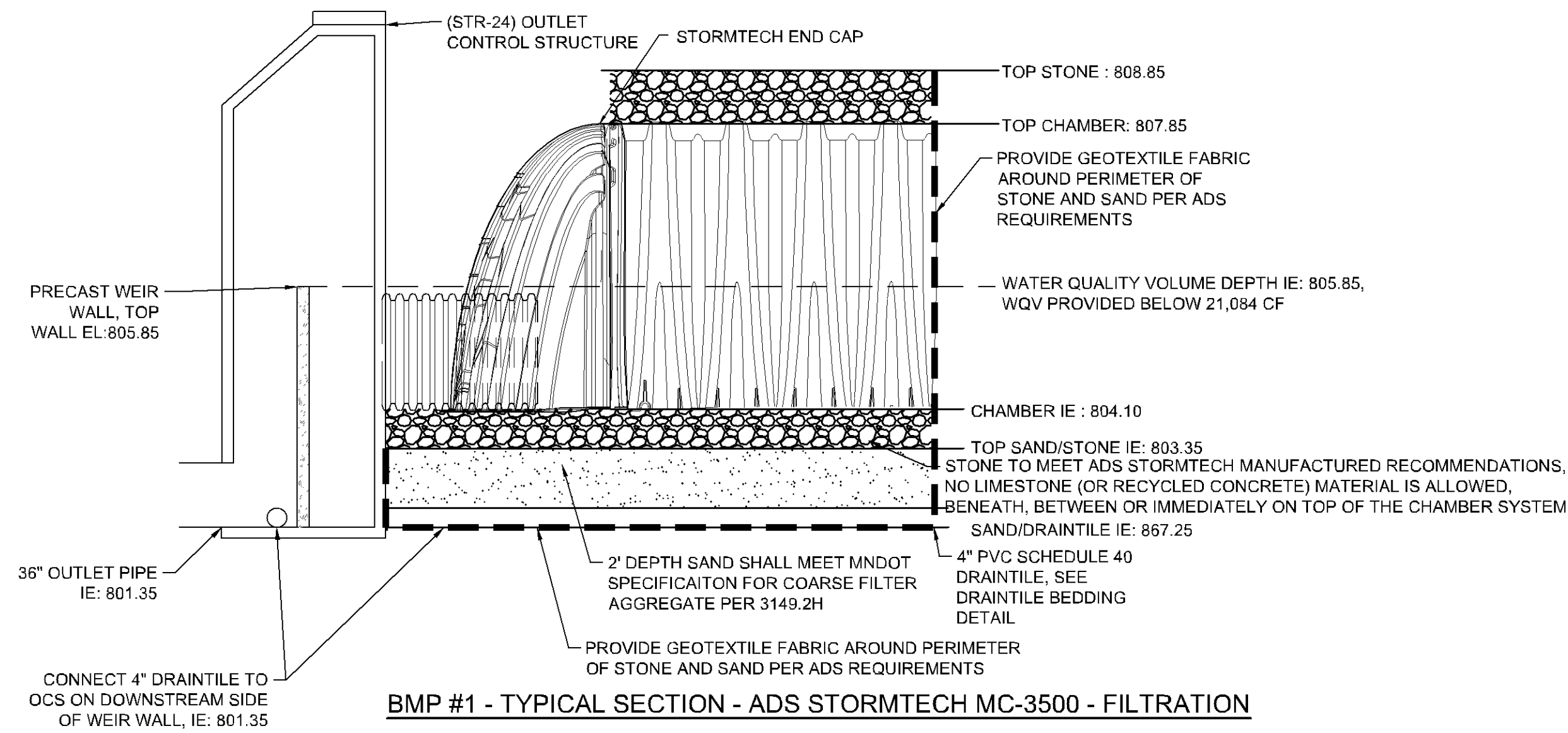
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 KHA Project No.: XXXXXXXXXX PIC / A/C: _____
SICK TECHNOLOGY CAMPUS
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Sheet Title
GRADING AND DRAINAGE PLAN

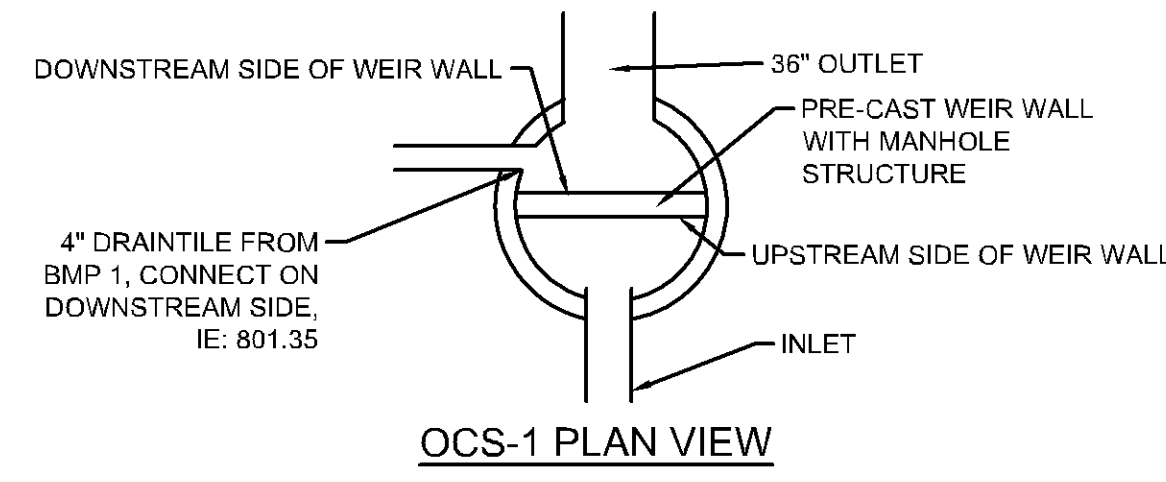
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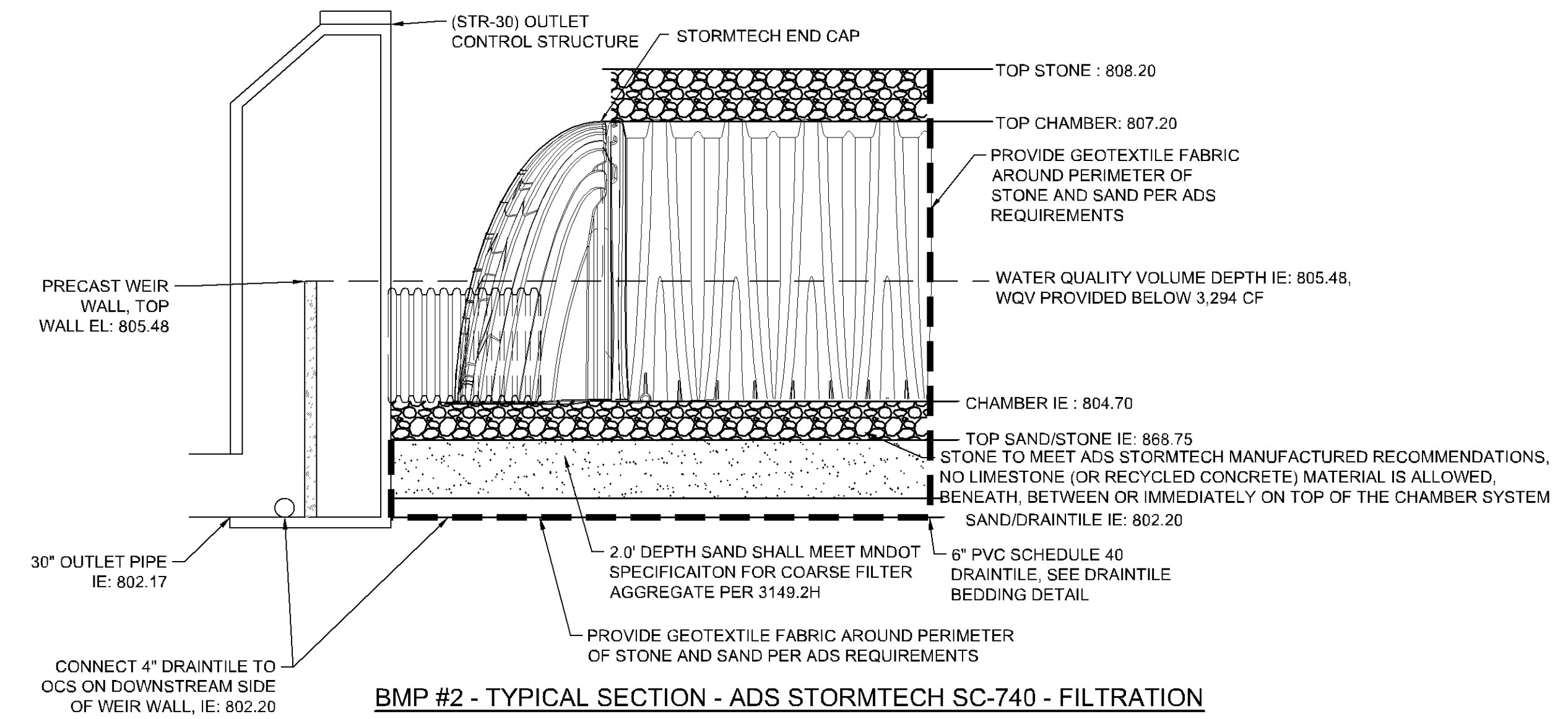
• Provided storm sewer structure schedule.
 • Underground stormwater infiltration systems require pretreatment.



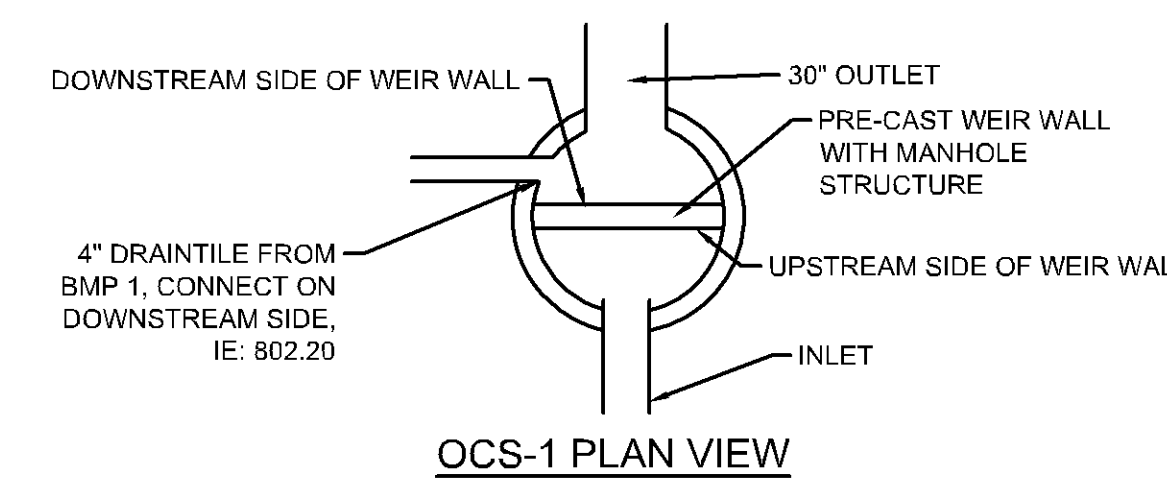
BMP #1 - TYPICAL SECTION - ADS STORMTECH MC-3500 - FILTRATION



OCS-1 PLAN VIEW



BMP #2 - TYPICAL SECTION - ADS STORMTECH SC-740 - FILTRATION



OCS-1 PLAN VIEW



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Revisions		
No.	Date	Description

Project Information	
Phase:	Date: 03/19/2019
KHA Project No.: XXXXXXXXX	PIG / AIG:
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SICK	

Sheet Title
GRADING AND DRAINAGE
DETAILS

Sheet Number **Current Revision**
C501



ADVANCED DRAINAGE SYSTEMS, INC.



PHASE I INDUSTRIAL/OFFICE - SOUTH BLOOMINGTON, MN

STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPERF FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 13.12, ARE MET FOR ALL LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2822 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2821, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.50 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2821 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 13.12, ARE MET. THE 20-YEAR DUMP TRUCK LOADS SPECIFIED IN ASTM F2418 OR ASTM F2822 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LOAD-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL, ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

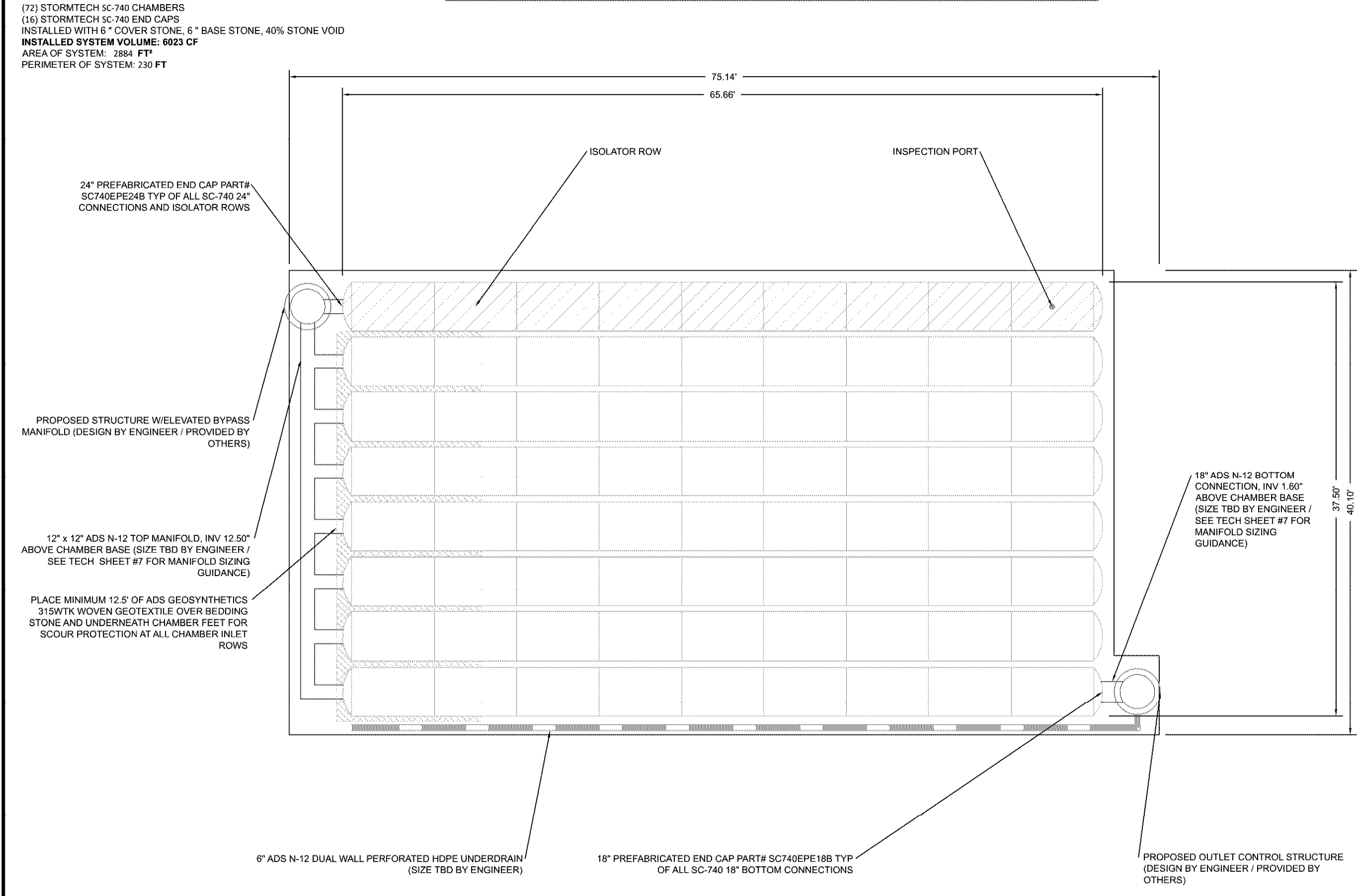
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLER.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONE SHOULDER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEALED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 4" (100 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDDED STONE SURROUNDINGS CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "RELIEFION CATCH PIT" INSERTS SURFACE CONSTRUCTION FOR ALL INLETS TO PROTECT THE SURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED AND EQUIPMENT IS ALLOWED ON BANK CHAMBERS AND EQUIPMENT IS NOT ALLOWED UNTIL PROPER FILL DEPTH IS ACHIEVED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC CONSTRUCTION GUIDE".
- WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/SC CONSTRUCTION GUIDE".
- FILL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDED STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "PUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-882-2664 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

CONCEPTUAL LAYOUT COMPUTER GENERATED CONCEPTUAL LAYOUT - NOT FOR CONSTRUCTION



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BLOOMINGTON, MN

DATE: 03/19/2019
DRAWN: CJ
CHECKED: []
PROJECT P. NO. []

DESCRIPTION: []

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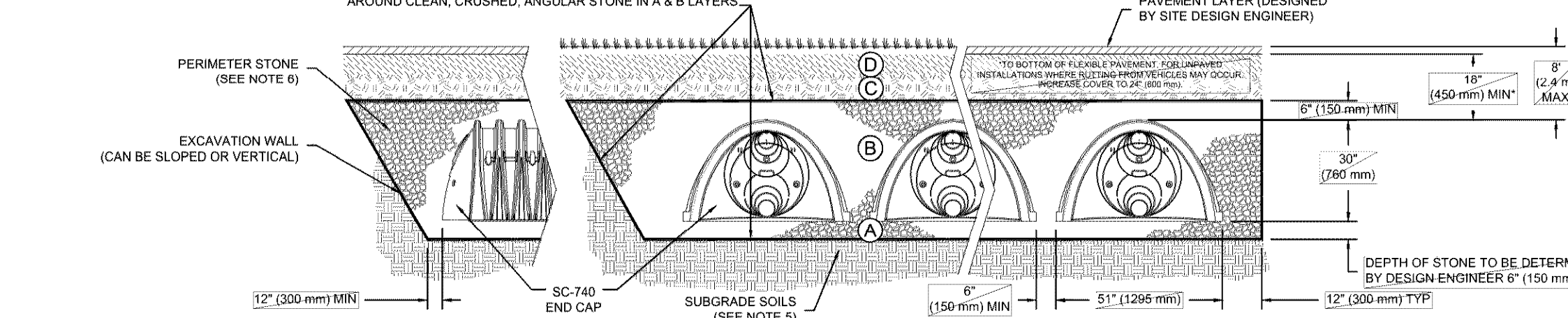
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SHEET 2 OF 5

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FILL	FINAL FILL: FILL MATERIAL FOR LAYER "D" STARTS FROM THE TOP OF THE "C" LAYER TO THE BOTTOM OF EXISTING PAVEMENT (OR UNPAVED) FINISH GRADE ABOVE. NOTE THAT PAVEMENT SURBASE MAY BE PART OF THE "C" LAYER.	NA	PREPARE PER SITE DESIGN ENGINEER'S PLANS. FINISHED INSTALLATIONS MAY HAVE STRENGTH MATERIAL AND PREPARATION REQUIREMENTS.
C FILL	INITIAL FILL: FILL MATERIAL FOR LAYER "C" STARTS FROM THE TOP OF THE EMBEDED STONE "C" LAYER TO 12" (300 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SURBASE MAY BE PART OF THE "C" LAYER.	AASHTO M1487 A. 1, A-2, A-3 OR AASHTO M47 3, 3.57, 4, 4.67, 5, 5.6, 5.7, 6, 6.7, 6.8, 7.8, 8, 9, 9.5	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. PER. PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCTOR AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT EXCEED 12,000 (33,000) LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 (45,000) LBS.
B FILL	EMBEDDED STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE "C" LAYER.	AASHTO M47 3, 3.57, 4, 4.67, 5, 5.6, 5.7	NO COMPACTION REQUIRED.
A FILL	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SURBASE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M47 3, 3.57, 4, 4.67, 5, 5.6, 5.7	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR AND AASHTO M47 STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR "A" LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE WET LIFT TOP SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR GRADING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGN, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



- NOTES:**
- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - STORMTECH CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2821 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - ACCEPTABLE FILL MATERIALS TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDED, AND FILL MATERIALS.
 - THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL FILLING CONDITIONS.
 - PERMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - ONCE LAYER "C" IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER "D" UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER "C" OR "D" AT THE SITE DESIGN ENGINEER'S DISCRETION.

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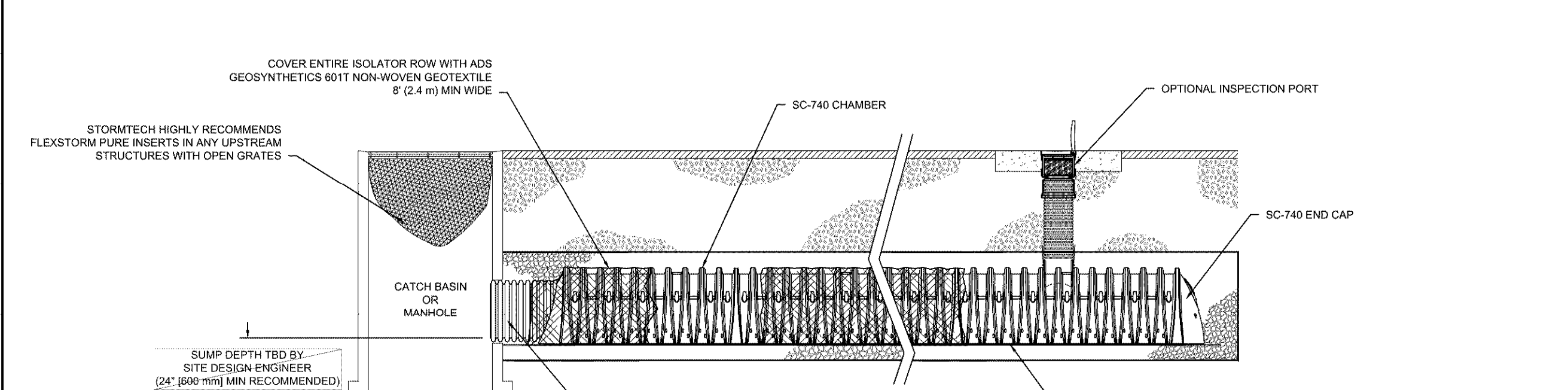
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SHEET 3 OF 5



INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

- INSPECTION PORTS (IF PRESENT)
- REMOVE DEBRIS (IF ANY) ON UPSTREAM SIDE
- REMOVE AND CLEAN FLEXFORM FILTER IF INSTALLED
- USING A FLASHLIGHT AND STANDARD RULER, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- IF SEDIMENT IS AT OR ABOVE 7" (180 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

B. ALL ISOLATOR ROWS

- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
- USING A FLASHLIGHT, PERFORM VISUAL INSPECTION OF OUTLET PIPE
- IF SEDIMENT IS AT OR ABOVE 7" (180 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS

- A JETVAC CLEANING NOZZLE WITH REAR PACKING SPREAD OF 40" (1.1 m) OR MORE IS PREFERRED.
- APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKWASH WATER IS CLEAN.
- NOISE STRUCTURE SOUND AS REQUIRED.

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LOGS, RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

- NOTES:**
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
 - CONDUCT JETTING AND VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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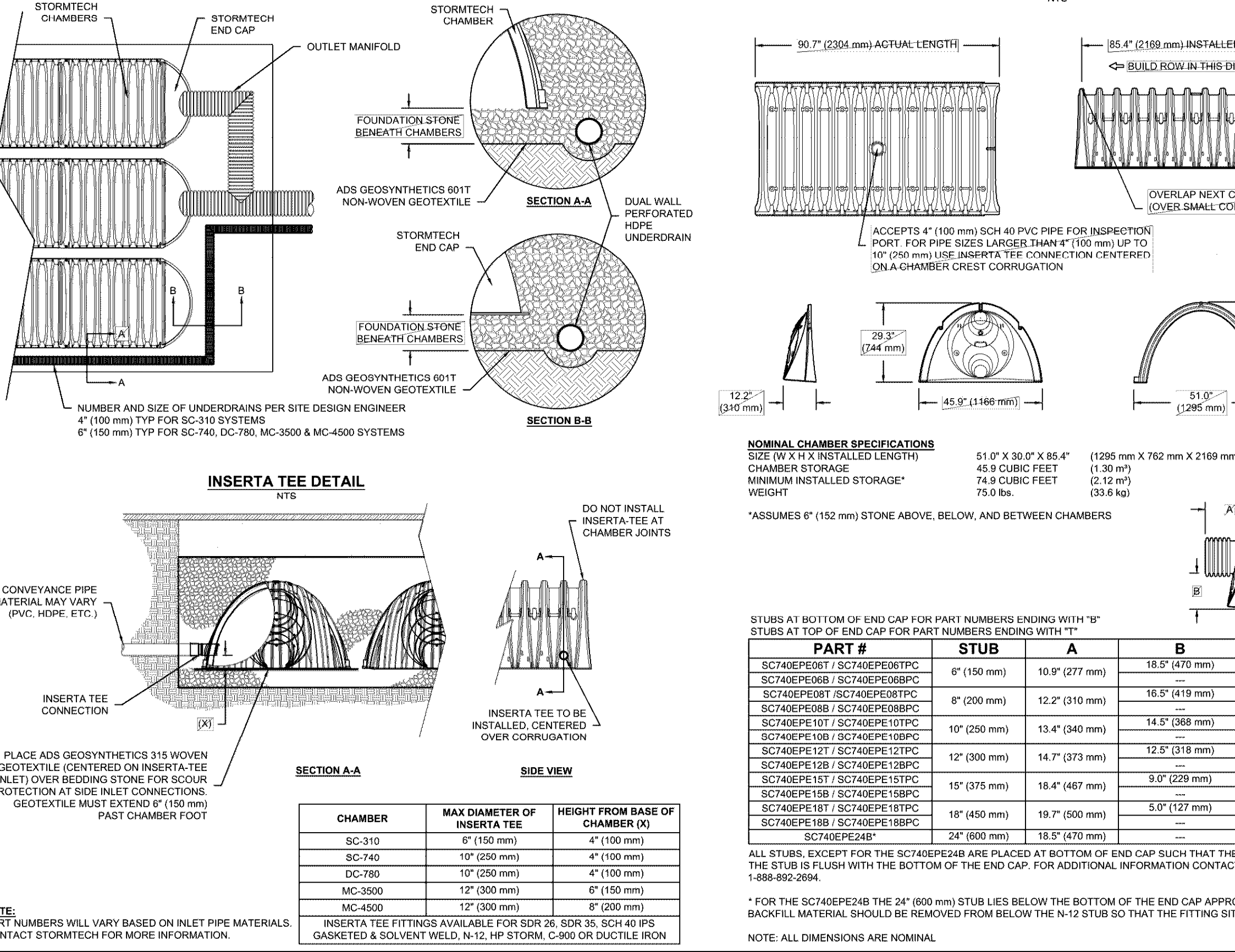
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SHEET 4 OF 5

UNDERDRAIN DETAIL SC-740 TECHNICAL SPECIFICATION



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SHEET 5 OF 5

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* The Shop drawings and all materials shall be approved by the Site Design Engineer prior to any approval from the City Engineer.
* Underground stormwater system shall be as-built by a Licensed Professional Engineer.

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Revisions

No.	Date	Description

Project Information

Phase: [] Date: 03/19/2019

KHA Project No.: XXXXXXXXXX PIC / AEC: []

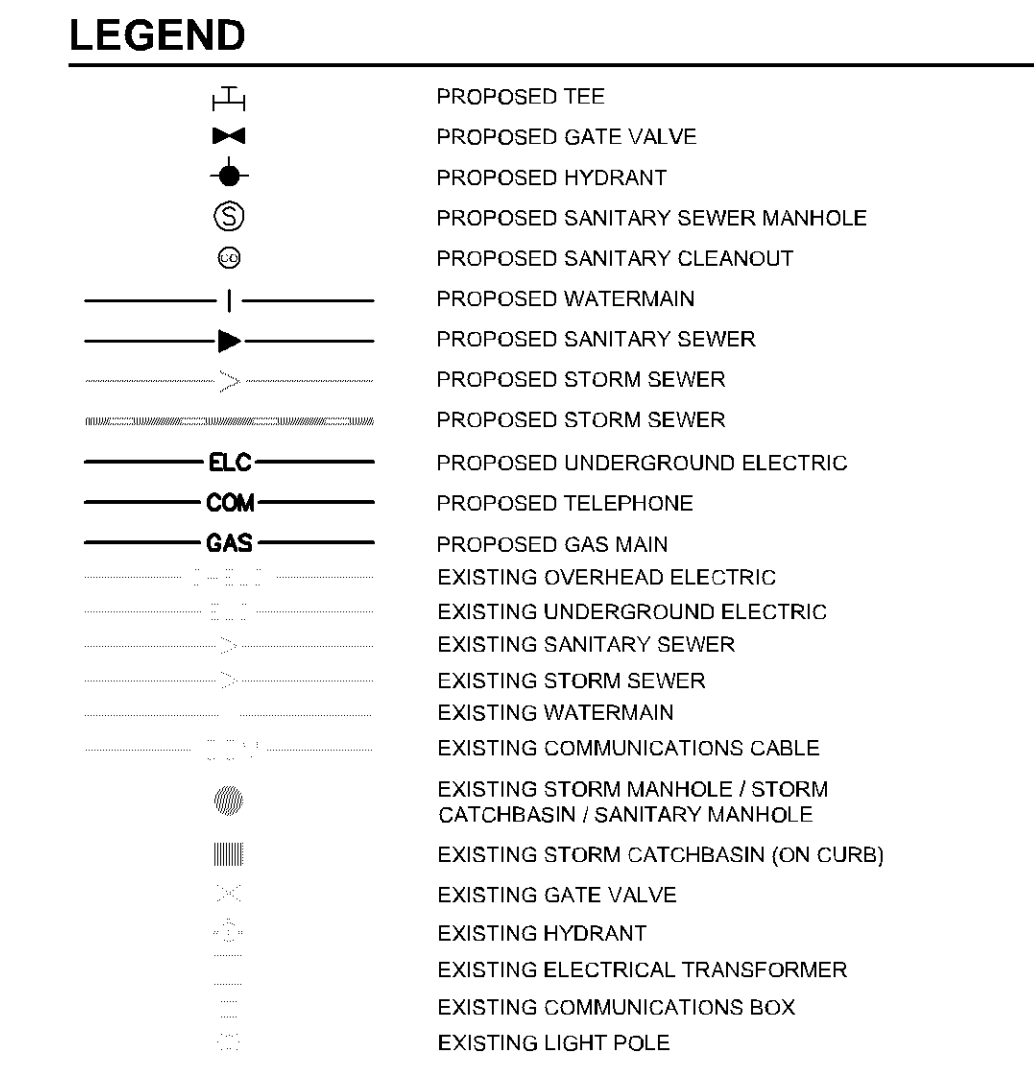
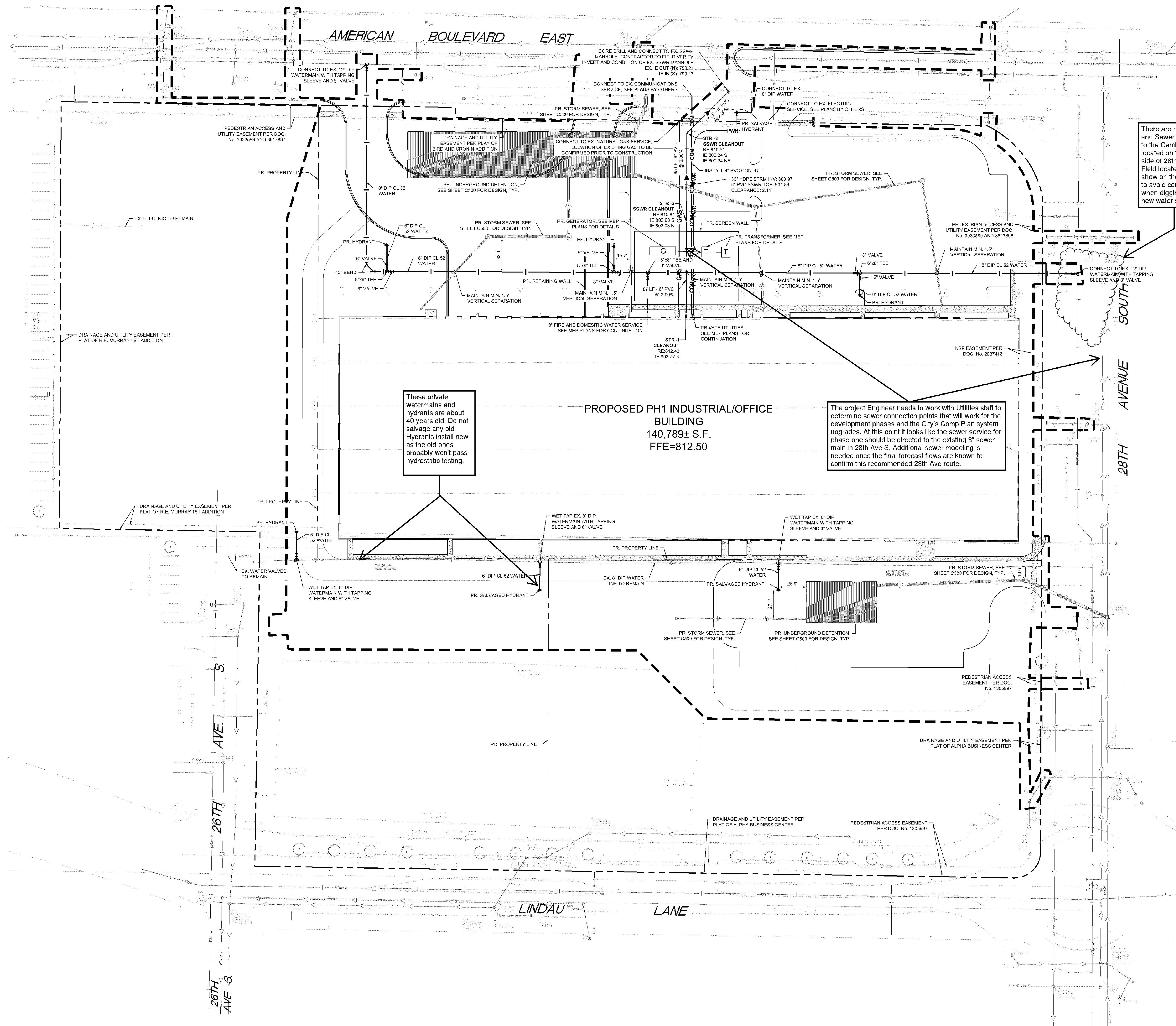
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SICK

Sheet Title: ADS DETAILS - BMP 2 (FOR REFERENCE)

Sheet Number: [] Current Revision: []

C503

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- ### 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:
10" PVC SDR35, SCHEDULE 40, OR EQUIVALENT PER ASTM D 3034
8" PVC SDR35, SCHEDULE 40, OR EQUIVALENT PER ASTM D 3034
6" PVC SCHEDULE 40
DUCTILE IRON PIPE PER AWWA C150
 - WATER LINES SHALL BE AS FOLLOWS:
4" 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
MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
 - ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THURSTER BLOCKING AS CALLED OUT IN SPECIFICATIONS.
 - ALL UTILITIES SHOULD BE KEPT TEN (10) FEET APART (25' MIN. CLEARANCE) WHEN CROSSING 14" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE) (OUTSIDE EDGE OF PIPE).
 - CONTRACTOR SHALL MAINTAIN A MINIMUM OF 7.5" 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 SCH. 40 OR C900 WITH MECHANICAL JOINTS AT LEAST 18" FEET ON BOTH SIDES OF CROSSING. THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THURSTER BLOCKING AS REQUIRED TO MAINTAIN 18" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI Z111 (AWWA C-151) (CLASS 50).
 - UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
 - TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE ONE FOOT ABOVE FINISHED GROUND ELEVATIONS, IN GREEN AREAS, WITH WATERTIGHT LIDS.
 - 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.
 - THE 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 RELIED 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 (DDCV 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 REGARDS 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 SUBSTATIONS SHALL BE MECHANICALLY RESTRAINED WITH REACTION BLOCKING.
 - HDPE 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.
 - TAPS OF LIVE WATER MAINS ARE DONE BY CITY FORCES 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 MEETING CURRENT ANSI/AWWA STANDARDS FOR CEMENT 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 DIVISION (862-963-8777) FOR PERMIT INFORMATION.

These private watermains and hydrants are about 40 years old. Do not salvage any old hydrants install new as the old ones probably won't pass hydrostatic testing.

The project Engineer needs to work with Utilities staff to determine sewer connection points that will work for the development phases and the City's Comp Plan system upgrades. At this point it looks like the sewer service for phase one should be directed to the existing 8" sewer main in 28th Ave S. Additional sewer modeling is needed once the final forecast flows are known to confirm this recommended 28th Ave route.

There are new Water and Sewer Services to the Cambria Hotel located on the East side of 28th Ave - Field locate and show on these plans to avoid conflicts when digging for the new water service.

Bloomington Standards call for 8' of cover.



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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.

BRANDON R. ELEGERT, P.E.
DATE: XXXXXXXX LIC. NO. XXXXX

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Revisions	No.	Date	Description

Project Information
Phase: _____ Date: 03/19/2019
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SICK TECHNOLOGY CAMPUS
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Sheet Title
UTILITY PLAN

Sheet Number **C600** **Current Revision**

