THE CITY OF Fitchburg	City of Fitchburg Planning/Zoning Department 5520 Lacy Road Fitchburg, WI 53711 (608-270-4200)	**ARCHITECTURAL & DESIGN REVIEW APPLICATION**

Applicant/Contact Person: Brett Van Zee

Address: 303 Watson Powell Jr Way, Ste 200 **Phone Number of Contact Person:** 515-633-2941

City, State, Zip Code: Des Moines, IA 50309 **Email of Contact Person:** brettv@invisionarch.comt

Project Address: 5505 Nobel Drive, Fitchburg WI 53711 **Lot:** 25 **Subdivision:** Techlands

Project Type: _____ **Multi-Family** __X__ **Commercial** _____ **Industrial** _____ **Other**

_____ **New** _____ **Addition**

Impervious Surface Ratio (ISR): 53.4% @ Full Buildout (City Standard: maximum 65% ISR)

All items listed below must be included with the application to be considered complete. If an item is not included with the application, the applicant must provide in writing the basis for not including it. Building and site plans submitted to the Fitchburg Plan Commission for architectural and design review shall contain the following information:

Site Data:

- [X] 1. Lot or property dimensions.
- [X] 2. Orientation (to north).
- [X] 3. Adjacent highways, roads, drive, etc.
- [X] 4. Existing natural features (rivers, ponds, wetlands).
- [X] 5. Existing buildings and/or improvements.
- [X] 6. Existing and proposed site drainage.
- [X] 7. Utility plans, including main/lateral sizes and existing fire hydrants on site or within 300 feet of the site
- [X] 8. ISR shall be indicated on all plans.
- [X] 9. Stormwater management plans and details, including grading plan.
- [X] 10. Lighting plan in footcandles and light fixture cut sheets.

Building:

- [X] 1. Building size, configuration and orientation.
- [X] 2. Distance from lot lines.
- [X] 3. Distance from other buildings, improvements and natural features.
- [X] 4. Location of well, septic tank, drainfield, etc. (if applicable)
- [X] 5. Additional proposed additions or new structures, including trash/recycling enclosure(s).
- [X] 6. Construction type (wood frame, structural steel, etc.).
- [X] 7. Foundation type (full basement, slab on grade, etc.).
- [X] 8. Number of levels.
- [X] 9. Siding/exterior covering type, color, texture, etc.
- [X] 10. Roof type (gable, hip, shed, flat, etc.) and pitch.
- [X] 11. Roofing material type, color, texture, etc.
- [X] 12. Exterior door and window location, size, type, etc.
- [X] 13. Fire protection sprinklers or fire alarm systems.

Ingress, Egress, Parking:

- [X] 1. Location of highway and road access points.
- [X] 2. Location, size, configuration of drivers and walks.
- [X] 3. Number, size, location of parking spaces.
- [X] 4. Location of handicapped parking and accessible building entrances.
- [X] 5. Bicycle rack(s).

Landscaping:

- [X] 1. Location, species, size of existing trees, shrubs, and plantings.
- [X] 2. Location, species, size of proposed plantings.
- [X] 3. Location and size of all paved, seeded/sodded and gravelled areas.
- [X] 4. Location of all retaining walls, fences, berms and other landscape features.

***It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an ADR application to identify any concerns or issues of surrounding residents.**

The preceding information is considered to be the minimum information for submission, and the City may require additional information for its review. Any interpretations provided by city officials as the result of submitting the attached information are based on the submitted plans, and any plan changes, may affect the interpretations.

It is the responsibility of the owner/applicant to insure compliance with all local and state requirements. The below signed applicant acknowledges the above information and hereby submits the attached information for the City's Architectural and Design Review Process.

Signed: B. Ouellette **Date:** 03.18.2019

Applicant or Authorized Agent

***** Application shall be accompanied by one (1) sets of full-size plans, two (2) sets no larger than 11"x17", and one (1) pdf document of the complete submittal to planning@fitchburgwi.gov. Applications are due at least 4 weeks prior to the desired Plan Commission Meeting. The time frame assumes a complete set of plans is provided, and if it is not provided the Plan Commission date will be adjusted.**

FOR CITY USE ONLY

Date Received: 3/19/19 **Plan Commission Date:** 4/16/19

Comments:

December 20, 2017

Mr. Joe Pulvermacher
Fire Chief
Fitchburg Fire Department
5791 Lacy Road
Fitchburg, WI 53711

Re: OneNeck IT Solutions – MSN Expansion Fire Lane Petition for Variance

Dear Mr. Pulvermacher:

OneNeck IT Solutions is proposing an expansion to their existing information technology data center located at 5515 Nobel Drive. Proposed improvements for the first phase of the expansion include a 20,120-square foot building expansion with access driveway extension, loading areas and utility pads. An additional 69,490 square feet of building expansions will be added in future phases.

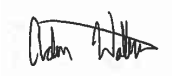
In its current buildout condition, the property has a fire lane access road that loops around the perimeter of the building, with hydrants located in the southeast, southwest, and northeast corners of the building. With the proposed expansion, the fire lane access road would be extended to loop around the perimeter of the full expansion buildout similar to existing conditions with hydrants proposed to meet City of Fitchburg Code of Ordinances Chapter 44 - Article V. - Division 2 (maximum spacing of 400 feet around the perimeter of the building, etc.).

Similar to the current buildout as a means of meeting electrical service and space needs requirements, the access loop road is proposed to be 48'-54' from the building. More specifically, the location of transformer pads/electrical connections and their proximity to the building are pertinent to the functionality of the data center which requires the proposed separation distance. Therefore, on behalf of our client, OneNeck IT Solutions, we would like to request a variance from City of Fitchburg Code of Ordinances Chapter 44 - Article IV. - Division 2. that requires the closest edge of the fire lane to be at least ten feet and no more than 30 feet from the building.

Due to the importance of protecting the data center internal equipment, the building expansions will contain advanced fire suppression systems and other fire prevention measures that will decrease the risk of fire emergencies. Furthermore, the granting of a variance will not result in an increased risk of fire, additional threats to public or public expense and the proposed fire lane/hydrant spacing will meet the remainder of the requirements set forth in the City of Fitchburg Fire Code

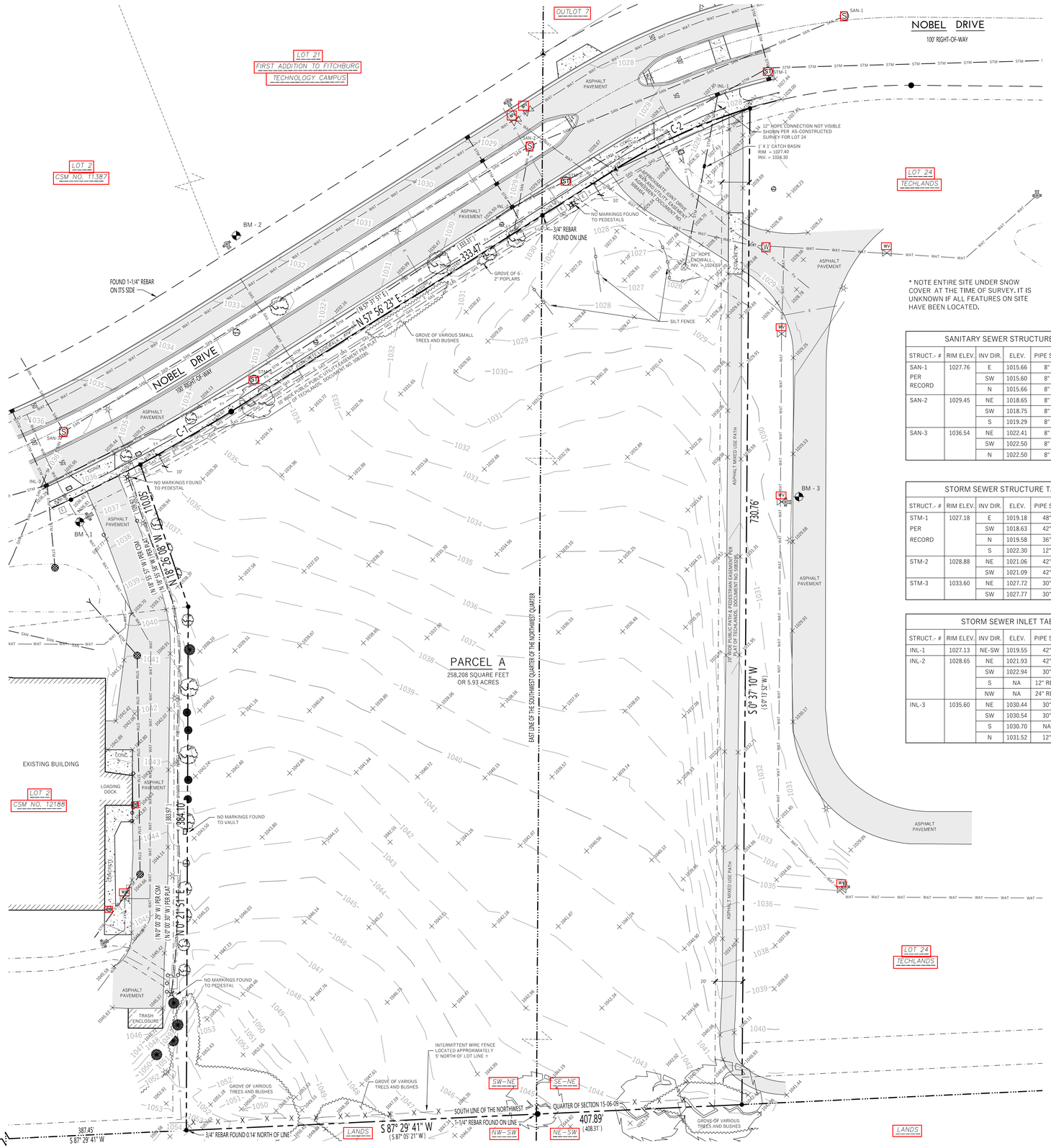
Thank you for your time and consideration to this matter. If you have any questions pertaining to this request for variance, please do not hesitate to contact our office.
Respectfully,

WYSER ENGINEERING, LLC



Adam Watkins, P.E.
Project Engineer

312 East Main Street
Mount Horeb, WI 53572
wade.wyse@wyserengineering.com
608-437-1980



* NOTE ENTIRE SITE UNDER SNOW COVER AT THE TIME OF SURVEY. IT IS UNKNOWN IF ALL FEATURES ON SITE HAVE BEEN LOCATED.

SANITARY SEWER STRUCTURE TABLE					
STRUCT.- #	RIM ELEV.	INV DIR.	ELEV.	PIPE SIZE	PIPE MATERIAL
SAN-1 PER RECORD	1027.76	E	1015.66	8"	PVC
		SW	1015.60	8"	PVC
		N	1015.66	8"	PVC
SAN-2	1029.45	NE	1018.65	8"	PVC
		SW	1018.75	8"	PVC
		S	1019.29	8"	PVC
SAN-3	1036.54	NE	1022.41	8"	PVC
		SW	1022.50	8"	PVC
		N	1022.50	8"	PVC

STORM SEWER STRUCTURE TABLE					
STRUCT.- #	RIM ELEV.	INV DIR.	ELEV.	PIPE SIZE	PIPE MATERIAL
STM-1 PER RECORD	1027.18	E	1019.18	48"	RCP
		SW	1018.63	42"	RCP
		N	1019.58	36"	RCP
		S	1022.30	12"	RCP
STM-2	1028.88	NE	1021.06	42"	RCP
		SW	1021.09	42"	RCP
STM-3	1033.60	NE	1027.72	30"	RCP
		SW	1027.77	30"	RCP

STORM SEWER INLET TABLE					
STRUCT.- #	RIM ELEV.	INV DIR.	ELEV.	PIPE SIZE	PIPE MATERIAL
INL-1	1027.13	NE-SW	1019.55	42"	RCP HOLE IN PIPE
INL-2	1028.65	NE	1021.93	42"	RCP
		SW	1022.94	30"	RCP
		S	NA	12" REC.	RCP PER RECORD
		NW	NA	24" REC.	PIPE NOT VIS.
INL-3	1035.60	NE	1030.44	30"	RCP
		SW	1030.54	30"	RCP
		S	1030.70	NA	TOP NOT VIS.
		N	1031.52	12"	RCP

LEGEND

- FOUND 1-1/4" REBAR
- FOUND 3/4" REBAR
- FOUND PK NAIL
- SIGN
- BOLLARD
- SANITARY MANHOLE
- SEWER CLEANOUT
- FIRE HYDRANT
- WATER VALVE
- WATER MANHOLE
- STORM MANHOLE
- STORM CATCH BASIN
- INLETS
- LIGHT POLE
- ELECTRICAL TRANSFORMER
- UTILITY PEDESTAL
- UTILITY VAULT
- DECIDUOUS TREE
- CONIFEROUS TREE
- PROPERTY LINE
- PLATTED LINE
- RIGHT-OF-WAY LINE
- CENTERLINE
- SECTION LINE
- EASEMENT LINE
- BUILDING FOOTPRINT
- EDGE OF CONCRETE
- EDGE OF ASPHALT
- STORMWATER POND LINE
- SILT FENCE
- FENCE LINE
- SANITARY SEWER
- WATER MAIN
- STORM SEWER
- NATURAL GAS LINE
- COMMUNICATION LINE
- ELECTRIC LINE
- FIBER OPTIC LINE
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 1035 CONTOUR MAJOR
- 1036 CONTOUR MINOR

NORTH

0' 20' 40' 80'
1" = 40' on 22"x34"
1"= 80' on 11"x17"

DIGGERS HOTLINE
Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

GENERAL NOTES

1. FIELD WORK PERFORMED BY WYSER ENGINEERING, LLC, ON DECEMBER 5TH, 9TH AND 20TH , 2016. SURVEY PERFORMED UNDER SNOW COVERED CONDITIONS. FEATURES MAY BE PRESENT THAT WERE NOT VISIBLE AT THE TIME OF SURVEY
2. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)12A.
3. NORTH REFERENCE FOR THIS EXISTING CONDITIONS SURVEY AND MAP ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, NAD 83 (2011) WISCRS DANE, GRID NORTH, THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 15, T6N, R9E, BEARS S 87° 29' 41" W
4. SUBSURFACE UTILITIES AND FIXTURES SHOWN ON THIS MAP HAVE BEEN APPROXIMATED BY LOCATING SURFACE FEATURES AND ACCESSORIES, DIGGERS HOTLINE FIELD MARKINGS AND EXISTING MAPS AND RECORDS.
5. BEFORE EXCAVATION, APPROPRIATE UTILITY COMPANIES SHOULD BE CONTACTED. FOR EXACT LOCATION OF UNDERGROUND UTILITIES, CONTACT DIGGERS HOTLINE, AT 1.800.242.8511 OR 811
6. THIS PARCEL IS SUBJECT TO ALL EASEMENTS AND AGREEMENTS, BOTH RECORDED AND UNRECORDED.
7. INTERCONNECTIONS BETWEEN COMMUNICATION LINES COULD NOT BE DETERMINED ON SITE NO MARKINGS PEDESTALS OR VAULTS FOUND
8. FEATURES HAVE BEEN LOCATED BY SURVEYOR IN FIELD THAT MAY HAVE ADVERSE TITLE ELEMENTS. AS TO WHICH ELEMENT ENCROACHMENT, CLAIM OF UNRECORDED EASEMENT, PRESCRIPTIVE EASEMENT, AND SO FORTH CAN NOT BE DETERMINED BY SURVEYOR.

LEGAL DESCRIPTION

PARCEL A:

LOT 25 TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

PARCEL NO. 225/0609-152-6765-2

SURVEYORS CERTIFICATE

I, JULIUS W. SMITH, WISCONSIN PROFESSIONAL LAND SURVEYOR S-3091, DO HEREBY CERTIFY THAT THIS SURVEY AND MAP IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF WITH THE INFORMATION PROVIDED, BY THE ORDER OF THOSE LISTED HERON, AND THAT THIS SURVEY COMPLIES WITH AE 7 OF THE WISCONSIN ADMINISTRATIVE CODE.

JULIUS W. SMITH, S-3091
WISCONSIN PROFESSIONAL LAND SURVEYOR

DATE

WISCONSIN JULIUS W. SMITH S-3091 CROSS PLAINS, WISCONSIN LAND SURVEYOR

CURVE TABLE					
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	77.04'	1105.00'	3° 59' 41"	N 59° 56' 14" E	77.03'
( )	(77.90')		(4° 02' 21")	(N 59° 33' 01" E)	(77.88')
C2	108.39'	400.00'	15° 31' 30"	N 65° 42' 08" E	108.05'
( )	(108.32')		(15° 30' 58")	(N 65° 17' 20" E)	(107.99')

BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

WYSER ENGINEERING

PREPARED BY:
312 EAST MAIN STREET
MADISON, WISCONSIN 53703
www.wyserengineering.com

PREPARED FOR:
ONE NECK IT SOLUTIONS
5505 NOBEL STREET
EDEN PRAIRIE, MN 55344

SURVEYED BY: JWS
DRAWN BY: JWS
APPROVED BY: JWS

5505 NOBEL DRIVE
FITCHBURG, WI 53711

LOT 25 TECHLANDS BEING A PART OF THE SW 1/4 OF THE NW 1/4 AND THE SE 1/4 OF THE NW 1/4, SEC. 15 T6N, R9E, CITY OF FITCHBURG DANE COUNTY, WI

Sheet Title: BOUNDARY, TOPOGRAPHIC AND UTILITY SURVEY

Revisions:

No.	Date:	Description:

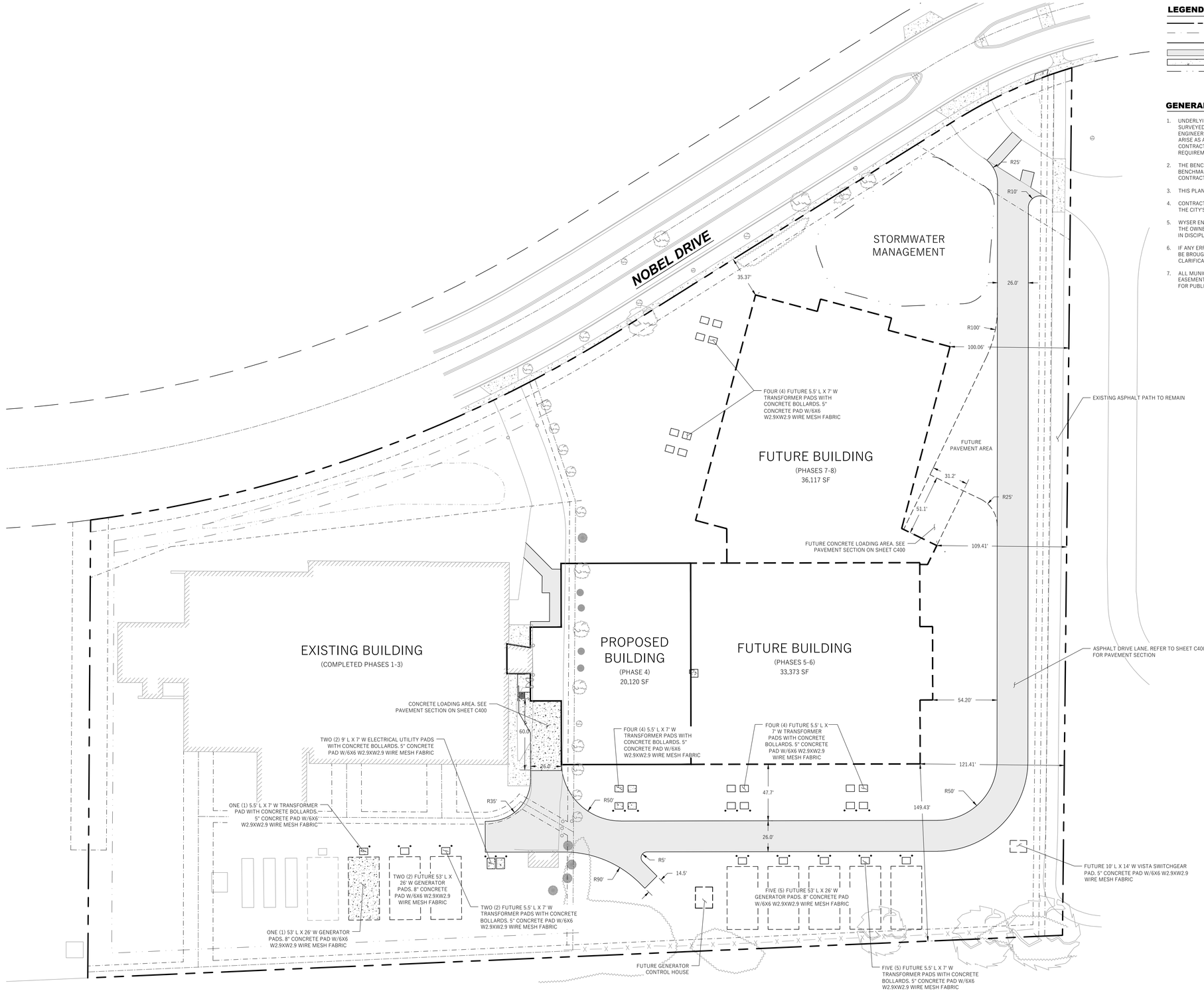
Graphic Scale: 0' 10' 20' 40' 60'

Wyser Number: 16-0362

Set Type: EXCON

Date Issued: 12/22/2016

Sheet Number: V001



1 OVERALL SITE PLAN
1" = 40'

NORTH

LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- STORMWATER TREATMENT FACILITY

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. THIS PLAN IS NOT TO SCALE ON 11"X17" SHEET SET.
4. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
5. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
6. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
7. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

SITE INFORMATION BLOCK:

SITE ADDRESS: 5055 NOBEL DRIVE (LOT 1 CSM 14613)
SITE ACREAGE: 9.97 AC
USE OF PROPERTY: INFORMATION TECHNOLOGY
ZONING: SPECIALIZED INDUSTRIAL (I-S)

SETBACKS:
- FRONT YARD: 20-FEET
- REAR YARD: 30-FEET
- SIDE YARD: 10-FEET

EXISTING IMPERVIOUS SURFACE AREA (PHASES 1-3): 94,923 SQ.FT.
- ROOFTOP: 52,022 SQ.FT.
- PAVEMENT: 30,104 SQ.FT.
- BIKE PATH: 7,070 SQ. FT.
- UTILITY PADS: 5,727 SQ.FT.

EXISTING OPEN SPACE AREA: 339,370 SQ. FT.
EXISTING IMPERVIOUS SURFACE RATIO: 21.9%

PHASE 4 IMPERVIOUS SURFACE AREA: 51,209 SQ. FT.
- ROOFTOP: 20,120 SQ.FT.
- PAVEMENT: 29,393 SQ.FT.
- UTILITY PADS: 1,696 SQ.FT.

IMPERVIOUS SURFACE AREA INCLUDING PHASE 4: 146,132 SQ.FT.
OPEN SPACE AREA INCLUDING PHASE 4: 288,161 SQ. FT.
IMPERVIOUS SURFACE RATIO INCLUDING PHASE 4: 33.6%

FUTURE (PHASES 5-8) IMPERVIOUS SURFACE AREA: 85,956 SQ. FT.
- FUTURE ADDITIONS: 69,490 SQ. FT.
- FUTURE PAVEMENT: 5,795 SQ. FT.
- FUTURE UTILITY PADS: 10,671 SQ. FT.

FULL BUILDOUT TOTAL IMPERVIOUS SURFACE AREA: 232,088 SQ.FT.
FULL BUILDOUT TOTAL OPEN SPACE: 202,205 SQ. FT.
FULL BUILDOUT IMPERVIOUS SURFACE RATIO: 53.4%

DISTURBANCE LIMITS: 240,900 SQ. FT.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058

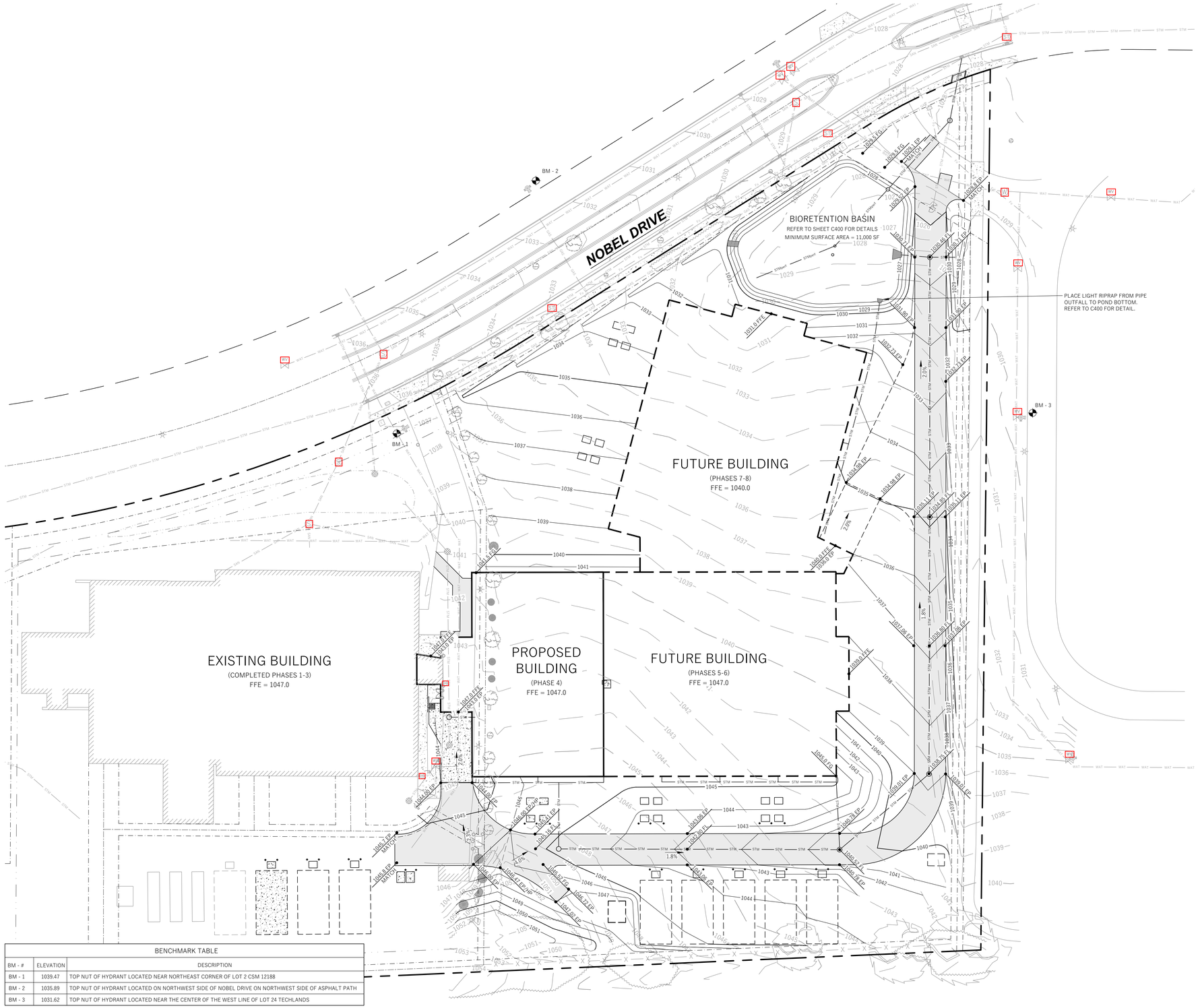
DATE: 02.09.2018

SHEET SET: ARCHITECTURAL & DESIGN REVIEW

SHEET NAME: OVERALL SITE PLAN

SHEET: C100

File: W:\2016\160362_Invision – OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Site Plan User: WYSER – Z240 – W10 Plotted: Feb 09, 2018 – 9:08am



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 GRADING AND EROSION CONTROL PLAN - OVERALL
1" = 40'

LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 1030 — PROPOSED MAJOR CONTOUR
- 1029 — PROPOSED MINOR CONTOUR
- STM STM STM — PROPOSED STORM SEWER
- 1030.46 EP — SPOT GRADE
- DRAINAGE GRADE BREAK
- 1.0% — DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. THIS PLAN IS NOT TO SCALE ON 11"X17" SHEET SET.
4. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
5. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
6. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
7. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. CONTRACTOR SHALL CHISEL-PLOW OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY JUST PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
9. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014)
10. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
11. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
    a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET,
    b. WISDOT PAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 SHALL USE PRESCRIPTIVE COMPLIANCE INCLUDING SLOPE INTERUPPTION PER WDNR TECH. STD. 1071, SOIL STABILIZATION (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS II, TYPE B MATTING IN DRAINAGE SWALES) AND LIMITING THE MAX PERIOD OF BARE SOIL TO 60 DAYS FOR LAND DISTURBANCE BETWEEN SEPTEMBER 16 AND MAY AND 30 DAYS FOR LAND DISTURBANCE BETWEEN MAY 2 AND SEPTEMBER 15.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

CONFIDENTIAL
PROPRIETARY PROPERTY OF ONENECK IT SOLUTIONS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions
MSN DATA CENTER - PHASE 4
5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058
DATE: 02.09.2018
SHEET SET: ARCHITECTURAL & DESIGN REVIEW
SHEET NAME: FULL BUILDOUT GRADING PLAN
SHEET: C200

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Grading Plan - Overall User: WYSER - Z240 - W10 Plotted: Feb 09, 2018 - 9:09am

EROSION CONTROL CONSTRUCTION SCHEDULE

1. 04/01/2018 - PRE-DEVELOPMENT CONSTRUCTION MEETING. INSTALL PERIMETER BMP'S (SILT FENCE, STONE TRACKING PAD, ETC.)

2. 04/02/2018 - STRIP TOPSOIL AND STOCKPILE. PROVIDE SILT FENCE AROUND STOCKPILE AND SEED WITHIN 7 DAYS.

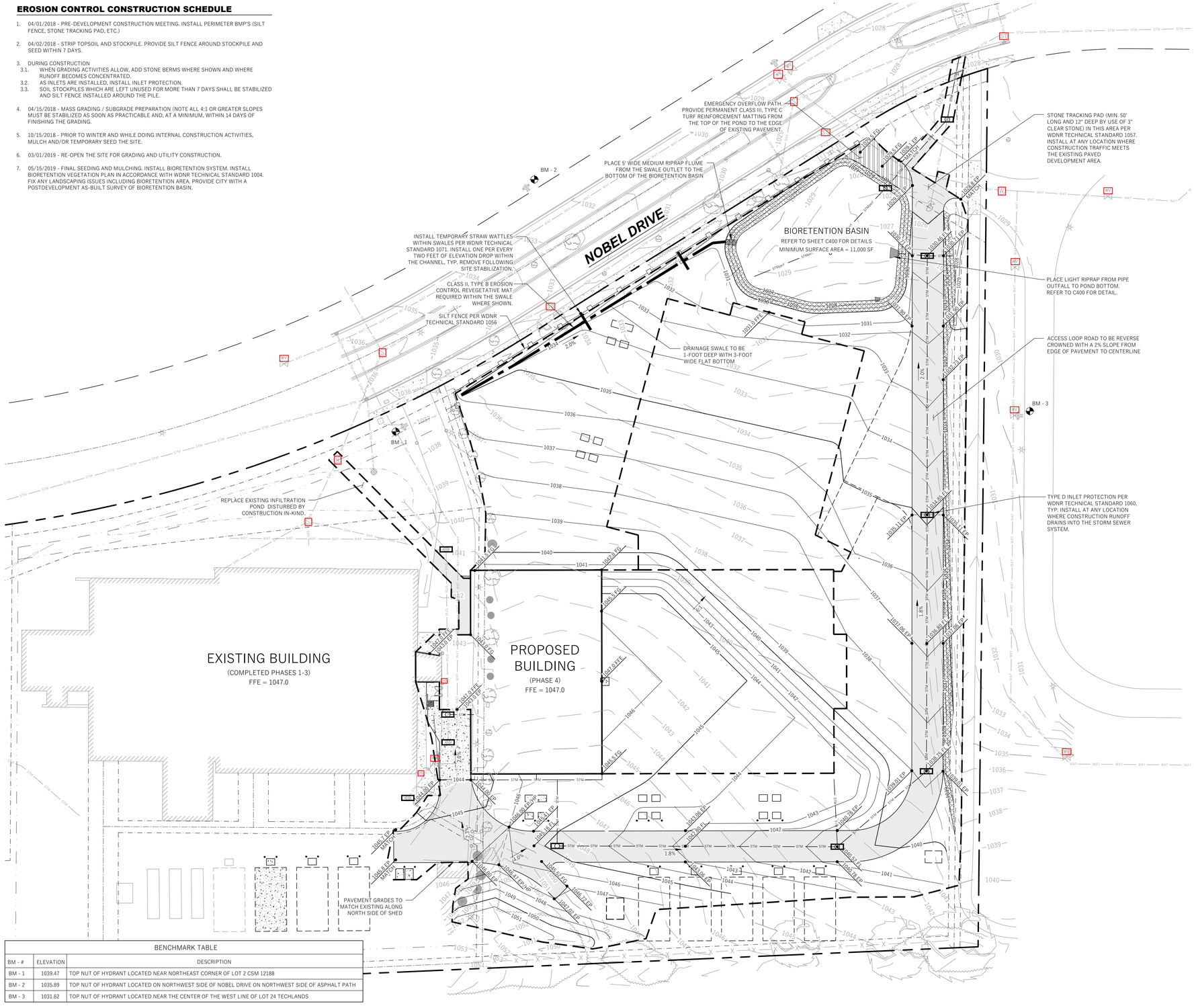
3. DURING CONSTRUCTION
   - 3.1. WHEN GRADING ACTIVITIES ALLOW, ADD STONE BERMS WHERE SHOWN AND WHERE RUNOFF BECOMES CONCENTRATED.
   - 3.2. AS INLETS ARE INSTALLED, INSTALL INLET PROTECTION.
   - 3.3. SOIL STOCKPILES WHICH ARE LEFT UNUSED FOR MORE THAN 7 DAYS SHALL BE STABILIZED AND SILT FENCE INSTALLED AROUND THE PILE.

4. 04/15/2018 - MASS GRADING / SUBGRADE PREPARATION (NOTE ALL 4:1 OR GREATER SLOPES MUST BE STABILIZED AS SOON AS PRACTICABLE AND, AT A MINIMUM, WITHIN 14 DAYS OF FINISHING THE GRADING.

5. 10/15/2018 - PRIOR TO WINTER AND WHILE DOING INTERNAL CONSTRUCTION ACTIVITIES, MULCH AND/OR TEMPORARY SEED THE SITE.

6. 03/01/2019 - RE-OPEN THE SITE FOR GRADING AND UTILITY CONSTRUCTION.

7. 05/15/2019 - FINAL SEEDING AND MULCHING. INSTALL BIORETENTION SYSTEM. INSTALL BIORETENTION VEGETATION PLAN IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004. FIX ANY LANDSCAPING ISSUES INCLUDING BIORETENTION AREA. PROVIDE CITY WITH A POSTDEVELOPMENT AS-BUILT SURVEY OF BIORETENTION BASIN.



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 GRADING AND EROSION CONTROL PLAN - PHASE 4
1" = 40'

LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK
- SWALE EROSION MATTING
- EROSION MATTING
- CLASS III, TYPE C TURF REINFORCEMENT MATTING
- 1030 PROPOSED MAJOR CONTOUR
- 1029 PROPOSED MINOR CONTOUR
- DISTURBED AREA LIMITS
- STM PROPOSED STORM SEWER
- 1030.46 EP SPOT GRADE
- DRAINAGE GRADE BREAK
- 1.0% DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. THIS PLAN IS NOT TO SCALE ON 11"X17" SHEET SET.
4. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
5. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
6. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
7. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS (dnr.wi.gov).
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
3. ENGINEER / CITY OF FITCHBURG / WDNR HAS THE RIGHT TO REQUIRE CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.CONTRACTOR MUST NOTIFY THE CITY OF FITCHBURG BUILDING INSPECTOR TWO (2) WORKING DAYS IN ADVANCE OF ANY SOIL DISTURBANCE ACTIVITIES.
4. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ONCE PER WEEK AND FOLLOWING EACH RAINFALL EVENT. INSPECTION REPORTING SHALL BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES IN WORKING ORDER. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. DEWATERING PRACTICES SHALL COMPLY WITH TECHNICAL STANDARD 1061.
7. DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
9. SEED MIX AND RATE SHALL BE, AT A MINIMUM, IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1059.
10. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE VEGETATION PLAN FOR ENGINEER / OWNER APPROVAL. VEGETATION PLAN AND BIORETENTION INSTALLATION SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004.
11. CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL EROSION CONTROL PERMIT AND WDNR NOI AND FOLLOWING ALL APPLICABLE REQUIREMENTS.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. CONTRACTOR SHALL CHISEL-PLOW OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY JUST PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
9. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014)
10. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
11. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
    - a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET,
    - b. WISDOT PAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 SHALL USE PRESCRIPTIVE COMPLIANCE INCLUDING SLOPE INTERRUPTION PER WDNR TECH. STD. 1071, SOIL STABILIZATION (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS II, TYPE B MATTING IN DRAINAGE SWALES) AND LIMITING THE MAX PERIOD OF BARE SOIL TO 60 DAYS FOR LAND DISTURBANCE BETWEEN SEPTEMBER 16 AND MAY AND 30 DAYS FOR LAND DISTURBANCE BETWEEN MAY 2 AND SEPTEMBER 15.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
02.09.2018

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
GRADING & EROSION CONTROL PLAN - PHASE 4

SHEET:
C201

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Grading Plan - Phase 4 User: WYSER - Z240 - W10 Plotted: Feb 09, 2018 - 9:09am

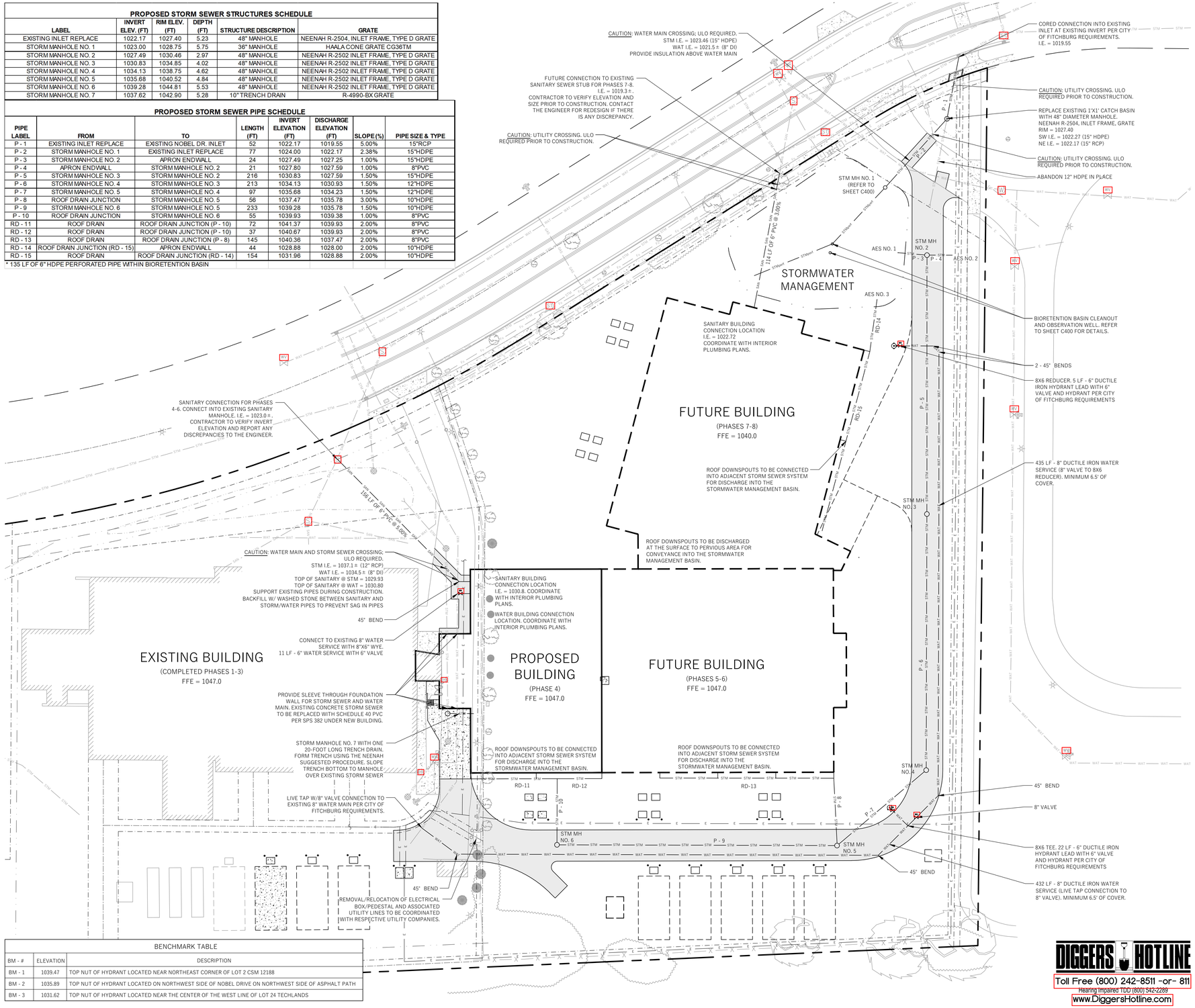
PROPOSED STORM SEWER STRUCTURES SCHEDULE

LABEL	INVERT ELEV. (FT)	RIM ELEV. (FT)	DEPTH (FT)	STRUCTURE DESCRIPTION	GRATE
EXISTING INLET REPLACE	1022.17	1027.40	5.23	48" MANHOLE	NEENAH R-2504, INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 1	1023.00	1028.75	5.75	36" MANHOLE	HAALA CONE GRATE CG36TM
STORM MANHOLE NO. 2	1027.49	1030.46	2.97	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 3	1030.83	1034.85	4.02	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 4	1034.13	1038.75	4.62	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 5	1035.68	1040.52	4.84	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 6	1039.28	1044.81	5.53	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 7	1037.62	1042.90	5.28	10" TRENCH DRAIN	R-4990-BX GRATE

PROPOSED STORM SEWER PIPE SCHEDULE

PIPE LABEL	FROM	TO	LENGTH (FT)	INVERT ELEVATION (FT)	DISCHARGE ELEVATION (FT)	SLOPE (%)	PIPE SIZE & TYPE
P - 1	EXISTING INLET REPLACE	EXISTING NOBEL DR. INLET	52	1022.17	1019.55	5.00%	15"RCP
P - 2	STORM MANHOLE NO. 1	EXISTING INLET REPLACE	77	1024.00	1022.17	2.38%	15"HDPE
P - 3	STORM MANHOLE NO. 2	APRON ENDWALL	24	1027.49	1027.25	1.00%	15"HDPE
P - 4	APRON ENDWALL	STORM MANHOLE NO. 2	21	1027.80	1027.59	1.00%	8"PVC
P - 5	STORM MANHOLE NO. 2	STORM MANHOLE NO. 3	216	1030.83	1027.59	1.50%	15"HDPE
P - 6	STORM MANHOLE NO. 3	STORM MANHOLE NO. 4	213	1034.13	1030.93	1.50%	12"HDPE
P - 7	STORM MANHOLE NO. 4	STORM MANHOLE NO. 5	97	1035.68	1034.23	1.50%	12"HDPE
P - 8	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 5	56	1037.47	1035.78	3.00%	10"HDPE
P - 9	STORM MANHOLE NO. 6	STORM MANHOLE NO. 5	233	1039.28	1035.78	1.50%	10"HDPE
P - 10	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 6	55	1039.93	1039.38	1.00%	8"PVC
RD - 11	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	72	1041.37	1039.93	2.00%	8"PVC
RD - 12	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	37	1040.67	1039.93	2.00%	8"PVC
RD - 13	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 8)	145	1040.36	1037.47	2.00%	8"PVC
RD - 14	ROOF DRAIN JUNCTION (RD - 15)	APRON ENDWALL	44	1028.88	1028.00	2.00%	10"HDPE
RD - 15	ROOF DRAIN	ROOF DRAIN JUNCTION (RD - 14)	154	1031.96	1028.88	2.00%	10"HDPE

* 135 LF OF 6" HDPE PERFORATED PIPE WITHIN BIORETENTION BASIN



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 UTILITY PLAN - OVERALL
1" = 40'

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED GAS SERVICE (DESIGN BY OTHERS)
- PROPOSED ELECTRIC SERVICE (DESIGN BY OTHERS)
- STORMWATER TREATMENT FACILITY
- DRAINAGE GRADE BREAK
- 1.0% DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. THIS PLAN IS NOT TO SCALE ON 11"X17" SHEET SET.
4. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
5. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
6. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
7. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

UTILITY NOTES

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
2. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERING PLANS DESIGNED TO MEET ORDINANCES AND REQUIREMENTS OF THE MUNICIPALITY AND WISDOT, WISDSPS, AND WDNR.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
   - EXAMINING ALL SITES CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
   - VERIFYING UTILITY ELEVATIONS AND NOTIFYING ENGINEER OF ANY DISCREPANCY. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
   - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
   - NOTIFYING THE DESIGN ENGINEER AND MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION OBSERVATION.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
7. ANY SANITARY SEWER , SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. NO BLASTING IS ALLOWED WITHIN 30 FEET OF EXISTING UTILITIES.
8. ALL PRIVATE INTERCEPTOR WATER MAIN AND WATER SERVICES SHALL BE INSTALLED WITH A 6.5' MINIMUM BURY. WATER LATERALS WITH LESS THAN 3' OF VERTICAL CLEARANCE AT A STORM SEWER OR CULVERT CROSSING, OR WITH LESS THAN 6.5' OF COVER FROM SURFACE ELEVATION, SHALL BE PROTECTED FROM FROST DAMAGE BY INSTALLING TWO 4'X8' SHEETS OF 2" THICK INSULATION BOARD (4" TOTAL THICKNESS) WITHIN 6' OF THE LATERAL ON EVEN COVER MATERIAL. JOINTS SHALL BE STAGGERED AND TAPED AS DIRECTED BY ENGINEER.
9. GRANULAR BACKFILL MATERIALS ARE REQUIRED IN ALL UTILITY TRENCHES UNDER SIDEWALKS AND PROPOSED PAVED AREAS (UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER). ALL UTILITY TRENCH BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS. ALL PAVEMENT PATCHING SHALL COMPLY WITH THE CITY OF FITCHBURG STANDARD SPECIFICATIONS. ADDITIONAL PAVEMENT MILLING AND OVERLAY MAY BE REQUIRED BY PERMIT.
10. CONTRACTOR SHALL NOTIFY THE MUNICIPAL PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS BEFORE CONNECTING TO PUBLIC UTILITIES.
11. ALL NON-METALLIC BUILDING SEWER AND WATER SERVICES MUST BE ACCOMPANIED BY MEANS OF LOCATING UNDERGROUND PIPE. TRACER WIRE VALVE BOXES SHALL BE INSTALLED ON ALL LATERALS AND AS INDICATED ON THESE PLANS.
12. ALL EXTERIOR CLEANOUTS SHALL BE PROVIDED WITH A FROST SLEEVE IN ACCORDANCE WITH SPS 382.34(5)(a)b AND SPS 384.30(2)(c).
13. ALL PRIVATE SANITARY BUILDING SEWER PIPE AND TUBING SHALL CONFORM TO SPS 384.30-3.
14. ALL PRIVATE STORM BUILDING PIPE AND TUBING SHALL CONFORM TO SPS 384.30-6.
15. ALL PRIVATE PIPE AND TUBING FOR WATER SERVICE SHALL CONFORM TO CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION .
16. ALL PRIVATE PIPE SHALL BE INSTALLED PER CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION INCLUDING AT LEAST 8' OF HORIZONTAL DISTANCE BETWEEN WATER PIPING AND SANITARY SEWER FROM CENTER OF PIPE TO CENTER OF PIPE. WHEN A SEWER CROSSES UNDER A WATER MAIN, PROVIDE A MINIMUM OF 6" SEPARATION BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER. WHEN A SEWER CROSSES OVER A WATER MAIN, PROVIDE A MINIMUM OF 18" SEPARATION BETWEEN THE TOP OF THE WATER MAIN AND THE BOTTOM OF THE STORM SEWER.
17. THE CONTRACTOR SHALL ALLOW 10 WORKING DAYS FOR THE CONSTRUCTION OF GAS MAINS WHEN SCHEDULING THE WORK AND SHALL NOT RESTRICT ACCESS TO THE GAS MAIN CONTRACTOR OR OTHER UTILITY COMPANIES.
18. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTIONS WITH THE BUILDING PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO BE IN CONFORMANCE WITH THE CITY EROSION CONTROL AND STORMWATER ORDINANCE, AND DNR ADMINISTRATIVE RULE NR 216 AT ALL TIMES.
20. PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 608-270-4270 FOR OPERATION OF THESE VALVES.
21. SAFE SAMPLES RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
23. THE WATER MAIN FROM THE CONNECTION TO THE MUNICIPAL SYSTEM TO, AND INCLUDING, THE FIRE HYDRANT SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058

DATE: 02.09.2018

SHEET SET: ARCHITECTURAL & DESIGN REVIEW

SHEET NAME: UTILITY PLAN - FULL BUILD OUT

SHEET: C300

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Utility Plan - Overall User: WYSER - Z240 - W10 Plotted: Feb 09, 2018 - 9:18am

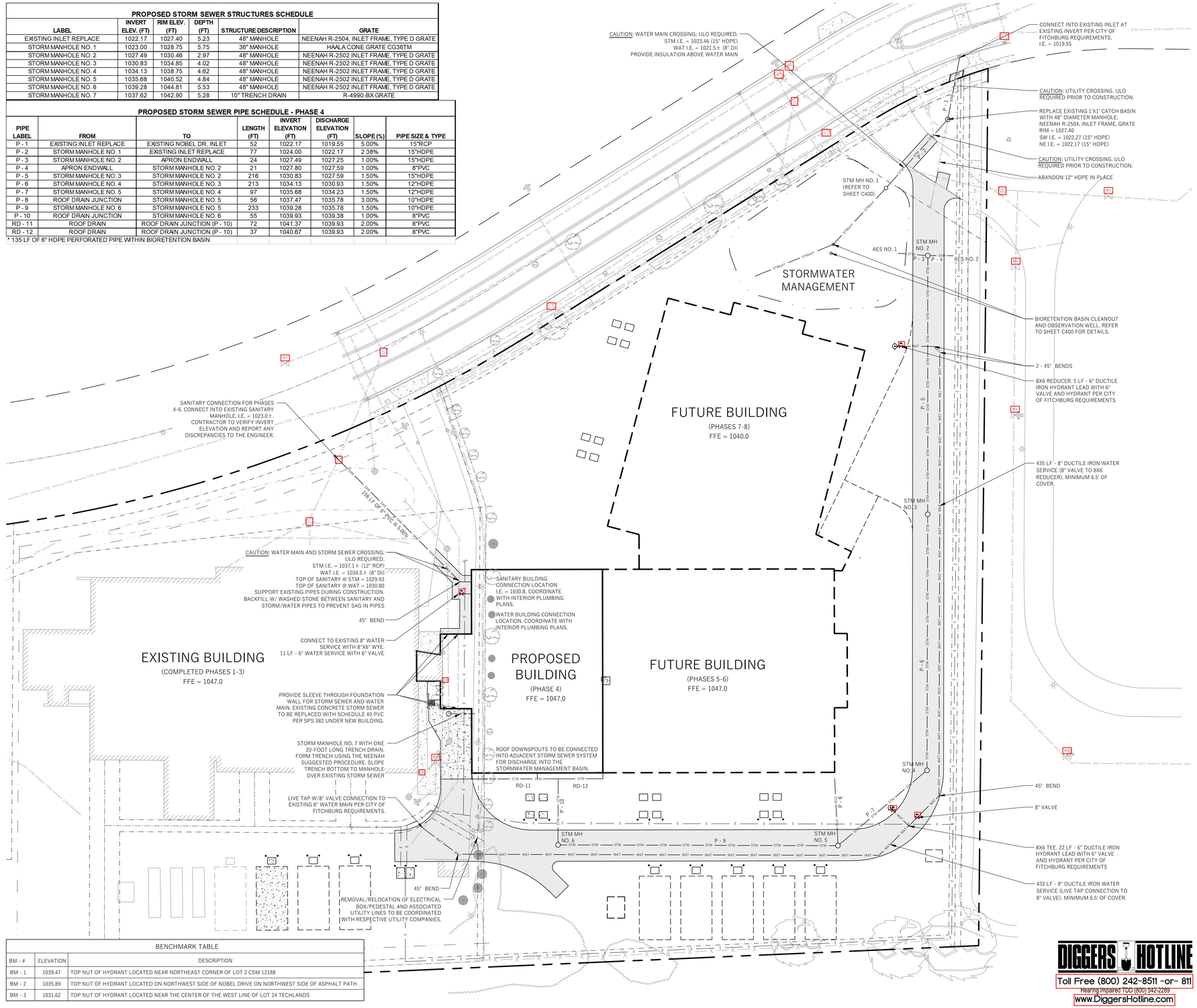
PROPOSED STORM SEWER STRUCTURES SCHEDULE

LABEL	INVERT ELEV. (FT)	RIM ELEV. (FT)	DEPTH (FT)	STRUCTURE DESCRIPTION	GRATE
EXISTING INLET REPLACE	1022.17	1027.40	5.23	48" MANHOLE	NEENAH R-2504, INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 1	1023.00	1028.75	5.75	36" MANHOLE	HAALA CONE GRATE CG36TM
STORM MANHOLE NO. 2	1027.49	1030.46	2.97	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 3	1030.83	1034.85	4.02	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 4	1034.13	1038.75	4.62	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 5	1035.68	1040.52	4.84	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 6	1039.28	1044.81	5.53	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 7	1037.62	1042.90	5.28	10" TRENCH DRAIN	R-4990-BX GRATE

PROPOSED STORM SEWER PIPE SCHEDULE - PHASE 4

PIPE LABEL	FROM	TO	LENGTH (FT)	INVERT ELEVATION (FT)	DISCHARGE ELEVATION (FT)	SLOPE (%)	PIPE SIZE & TYPE
P - 1	EXISTING INLET REPLACE	EXISTING NOBEL DR. INLET	52	1022.17	1019.55	5.00%	15"RCP
P - 2	STORM MANHOLE NO. 1	EXISTING INLET REPLACE	77	1024.00	1022.17	2.38%	15"HDPE
P - 3	STORM MANHOLE NO. 2	APRON ENDWALL	24	1027.49	1027.25	1.00%	15"HDPE
P - 4	APRON ENDWALL	STORM MANHOLE NO. 2	21	1027.80	1027.59	1.00%	8"PVC
P - 5	STORM MANHOLE NO. 3	STORM MANHOLE NO. 2	216	1030.83	1027.59	1.50%	15"HDPE
P - 6	STORM MANHOLE NO. 4	STORM MANHOLE NO. 3	213	1034.13	1030.93	1.50%	12"HDPE
P - 7	STORM MANHOLE NO. 5	STORM MANHOLE NO. 4	97	1035.68	1034.23	1.50%	12"HDPE
P - 8	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 5	56	1037.47	1035.78	3.00%	10"HDPE
P - 9	STORM MANHOLE NO. 6	STORM MANHOLE NO. 5	233	1039.28	1035.78	1.50%	10"HDPE
P - 10	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 6	55	1039.93	1039.38	1.00%	8"PVC
RD - 11	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	72	1041.37	1039.93	2.00%	8"PVC
RD - 12	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	37	1040.67	1039.93	2.00%	8"PVC

* 135 LF OF 6" HDPE PERFORATED PIPE WITHIN BIORETENTION BASIN



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 UTILITY PLAN - PHASE 4
1" = 40'

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED GAS SERVICE (DESIGN BY OTHERS)
- PROPOSED ELECTRIC SERVICE (DESIGN BY OTHERS)
- STORMWATER TREATMENT FACILITY
- DRAINAGE GRADE BREAK
- DRAINAGE ARROW (1.0%)

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. THIS PLAN IS NOT TO SCALE ON 11"X17" SHEET SET.
4. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
5. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
6. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
7. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

UTILITY NOTES

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
2. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERING PLANS DESIGNED TO MEET ORDINANCES AND REQUIREMENTS OF THE MUNICIPALITY AND WISDOT, WISDSPS, AND WDNR.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
   - EXAMINING ALL SITES CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
   - VERIFYING UTILITY ELEVATIONS AND NOTIFYING ENGINEER OF ANY DISCREPANCY. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
   - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
   - NOTIFYING THE DESIGN ENGINEER AND MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION OBSERVATION.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
7. ANY SANITARY SEWER , SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. NO BLASTING IS ALLOWED WITHIN 30 FEET OF EXISTING UTILITIES.
8. ALL PRIVATE INTERCEPTOR WATER MAIN AND WATER SERVICES SHALL BE INSTALLED WITH A 6.5' MINIMUM BURY. WATER LATERALS WITH LESS THAN 3' OF VERTICAL CLEARANCE AT A STORM SEWER OR CULVERT CROSSING, OR WITH LESS THAN 6.5' OF COVER FROM SURFACE ELEVATION, SHALL BE PROTECTED FROM FROST DAMAGE BY INSTALLING TWO 4'X8' SHEETS OF 2" THICK INSULATION BOARD (4" TOTAL THICKNESS) WITHIN 6' OF THE LATERAL ON EVEN COVER MATERIAL. JOINTS SHALL BE STAGGERED AND TAPED AS DIRECTED BY ENGINEER.
9. GRANULAR BACKFILL MATERIALS ARE REQUIRED IN ALL UTILITY TRENCHES UNDER SIDEWALKS AND PROPOSED PAVED AREAS (UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER). ALL UTILITY TRENCH BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS. ALL PAVEMENT PATCHING SHALL COMPLY WITH THE CITY OF FITCHBURG STANDARD SPECIFICATIONS. ADDITIONAL PAVEMENT MILLING AND OVERLAY MAY BE REQUIRED BY PERMIT.
10. CONTRACTOR SHALL NOTIFY THE MUNICIPAL PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS BEFORE CONNECTING TO PUBLIC UTILITIES.
11. ALL NON-METALLIC BUILDING SEWER AND WATER SERVICES MUST BE ACCOMPANIED BY MEANS OF LOCATING UNDERGROUND PIPE. TRACER WIRE VALVE BOXES SHALL BE INSTALLED ON ALL LATERALS AND AS INDICATED ON THESE PLANS.
12. ALL EXTERIOR CLEANOUTS SHALL BE PROVIDED WITH A FROST SLEEVE IN ACCORDANCE WITH SPS 382.34(5)(a)b AND SPS 384.30(2)(c).
13. ALL PRIVATE SANITARY BUILDING SEWER PIPE AND TUBING SHALL CONFORM TO SPS 384.30-3.
14. ALL PRIVATE STORM BUILDING PIPE AND TUBING SHALL CONFORM TO SPS 384.30-6.
15. ALL PRIVATE PIPE AND TUBING FOR WATER SERVICE SHALL CONFORM TO CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION .
16. ALL PRIVATE PIPE SHALL BE INSTALLED PER CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION INCLUDING AT LEAST 8' OF HORIZONTAL DISTANCE BETWEEN WATER PIPING AND SANITARY SEWER FROM CENTER OF PIPE TO CENTER OF PIPE. WHEN A SEWER CROSSES UNDER A WATER MAIN, PROVIDE A MINIMUM OF 6" SEPARATION BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER. WHEN A SEWER CROSSES OVER A WATER MAIN, PROVIDE A MINIMUM OF 18" SEPARATION BETWEEN THE TOP OF THE WATER MAIN AND THE BOTTOM OF THE STORM SEWER.
17. THE CONTRACTOR SHALL ALLOW 10 WORKING DAYS FOR THE CONSTRUCTION OF GAS MAINS WHEN SCHEDULING THE WORK AND SHALL NOT RESTRICT ACCESS TO THE GAS MAIN CONTRACTOR OR OTHER UTILITY COMPANIES.
18. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTIONS WITH THE BUILDING PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO BE IN CONFORMANCE WITH THE CITY EROSION CONTROL AND STORMWATER ORDINANCE, AND DNR ADMINISTRATIVE RULE NR 216 AT ALL TIMES.
20. PER CITY ORDINANCE, CONTRACTORS ARE NOT ALLOWED TO OPERATE CITY OWNED VALVES. THE CONTRACTOR SHALL CALL THE FITCHBURG UTILITY AT 608-270-4270 FOR OPERATION OF THESE VALVES.
21. SAFE SAMPLES RESULTS NEED TO BE PROVIDED TO THE FITCHBURG UTILITY PRIOR TO PRESSURE TESTING THE PRIVATE WATER MAINS.
22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE AT THE POINT OF CONNECTION.
23. THE WATER MAIN FROM THE CONNECTION TO THE MUNICIPAL SYSTEM TO, AND INCLUDING, THE FIRE HYDRANT SHALL BE INSTALLED PER THE LATEST EDITION OF THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

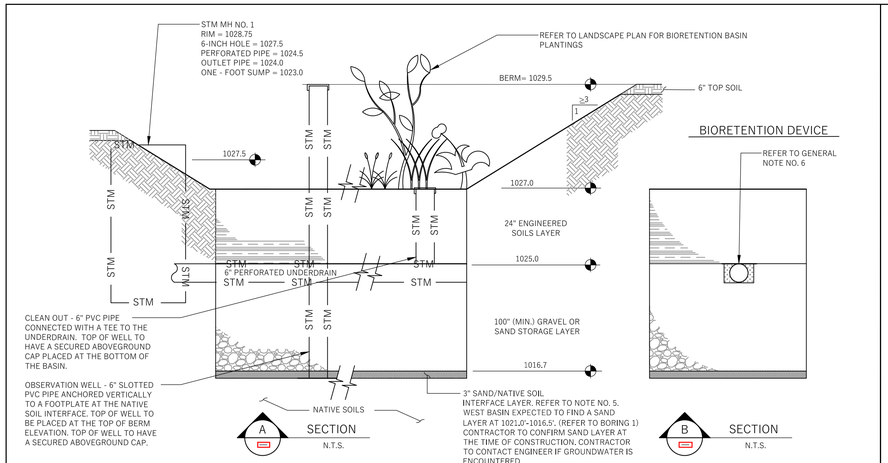
DATE:
02.09.2018

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
UTILITY PLAN - PHASE 4

SHEET:
C301

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Utility Plan - Phase 4 User: WYSER - Z240 - W10 Plotted: Feb 09, 2018 - 9:18am



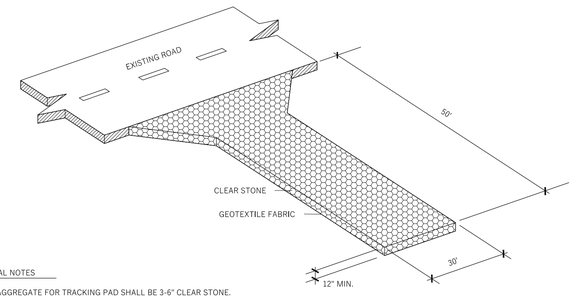
BIORETENTION DEVICE

GENERAL NOTES:

1. ALL CONSTRUCTION PRACTICES SHALL MEET THE SPECIFICATIONS OF THE WDNR TECHNICAL STANDARD 1004 - BIORETENTION FOR INFILTRATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THIS STANDARD AND CONSTRUCT THE BIORETENTION DEVICE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED THEREIN.
2. CONTRACTOR SHALL SEED THE BASIN WITH NATIVE SEEDS AND INSTALL A CLASS II EROSION CONTROL MAT (OVERLAPPED AND ANCHORED WITH MIN. 6" LONG HARDWOOD STAKES). CUT AN "X" IN THE MATTING AND AUGER DOWN TO PLACE APPROPRIATE PLANTING PLUGS EVERY 12 INCHES ON CENTER.
3. CONTRACTOR SHALL INSTALL 24" OF ENGINEERED SOIL CONSISTING OF: 70% ASTM C33 SAND AND 30% CERTIFIED COMPOST (SEE GENERAL NOTE 4).
4. CERTIFIED COMPOST SHALL CONSIST OF: >40% ORGANIC MATTER, <60% ASH CONTENT, PH OF 6-8, AND MOISTURE CONTENT OF 35-50% BY WEIGHT.
5. SAND/NATIVE SOIL INTERFACE LAYER SHALL BE FORMED BY A LAYER OF SAND 3 INCHES DEEP, WHICH IS VERTICALLY MIXED WITH THE NATIVE SOIL TO A DEPTH OF 2-4 INCHES. A CONSTRUCTION REPRESENTATIVE MUST BE ON SITE DURING OVER EXCAVATION TO APPROVE OF THE DEPTH AND SOIL TYPES.
6. FILTER FABRIC SHALL BE PLACED ABOVE THE PERFORATED PIPE, BETWEEN THE PEA GRAVEL AND THE ENGINEERED SOIL, A WIDTH OF 4 FEET CENTERED OVER THE FLOW LINE OF THE PIPE.
7. ANNUAL RYE GRASS SHALL BE SEEDED AT 40 LB/ACRE WITH THE SEED MIX IN THE AREAS SURROUNDING THE BASIN, ON SIDE SLOPES, AND OVER ANY LAND THAT DISCHARGES INTO THE BASIN FOR EROSION CONTROL WHEN BASIN IS BROUGHT ON-LINE. ROOTSTOP AND PLUGS ARE REQUIRED TO ESTABLISH VEGETATION AT THE INVERT OF THE BASIN.
8. RUNOFF MUST INFILTRATE WITHIN 24-HOURS. BASINS UNABLE TO MAINTAIN THESE RATES MUST BE DEEP TILLED, REGRADED, AND IF NECESSARY REPLANTED TO RESTORE ORIGINAL INFILTRATION RATES.
9. ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH APPLICABLE LOCAL, REGIONAL AND STATE STORMWATER STANDARDS FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER.
10. REFER TO LANDSCAPE PLAN FOR PLANTING REQUIREMENTS.

INFILTRATION DEVICES ARE DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR), COUNTY, MUNICIPALITY, AND ENGINEERING STANDARD OF CARE. ALL DESIGNATED INFILTRATION AREAS (e.g. RAIN GARDENS, INFILTRATION BASINS, BIORETENTION DEVICES) SHALL BE FENCED PRIOR TO CONSTRUCTION AND REMAIN UNDISTURBED AND PROTECTED DURING THE CONSTRUCTION OF PROPOSED SITE IMPROVEMENTS. PROPOSED BIORETENTION DEVICES SHALL NOT BE CONSTRUCTED UNTIL THE DEVICE'S CONTRIBUTING WATERSHED AREA MEETS ESTABLISHED VEGETATION REQUIREMENTS SET FORTH WITHIN THE RESPECTIVE WDNR TECHNICAL STANDARDS. IF THE LOCATION OF THE INFILTRATION AREA CONFLICTS WITH CONSTRUCTION STAGING AND/OR CONSTRUCTION TRAFFIC AND IS DISTURBED, COMPACTION MITIGATION WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR IS REQUIRED TO PROVIDE QUALIFIED STAFF FOR INSPECTION AND OBSERVATION OF THE CONSTRUCTION ACTIVITIES RELATING TO ALL JOB SITE REGULATORY COMPLIANCE INCLUDING THE PROTECTION AND CONSTRUCTION OF ALL STORMWATER MANAGEMENT FEATURES. ANY OBSERVATION OF PLAN OR SITE DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.



MATERIAL NOTES

1. THE AGGREGATE FOR TRACKING PAD SHALL BE 3-6" CLEAR STONE.
2. THE TRACKING PAD SHALL BE UNDERLAIN WITH A WDOT TYPE R GEOTEXTILE FABRIC.

INSTALLATION NOTES

1. INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1057.
2. THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. STONE TRACKING PAD SHALL BE USED AT ALL POINTS OF CONSTRUCTION EGRESS.
3. DIMENSIONS OF THE TRACKING PAD SHALL BE MINIMUM AS NOTED ON THE FIGURE ABOVE.
4. SURFACE WATER SHALL BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM USING CULVERTS OR OTHER PRACTICES.
5. TRACKING PAD SHALL BE REMOVED OR INCORPORATED INTO GRAVEL DRIVEWAY ONLY AFTER CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED.

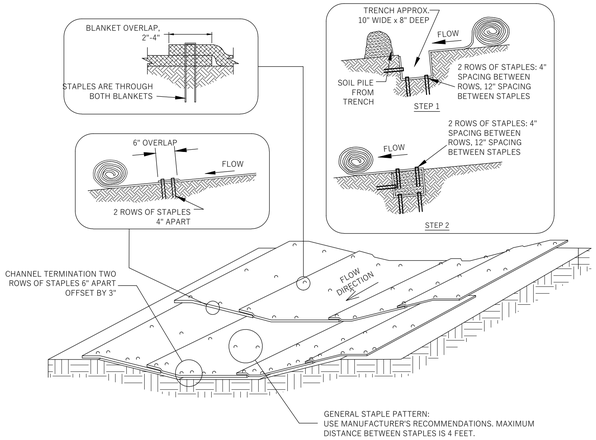
INSPECTION & MAINTENANCE NOTES

1. STONE TRACKING PADS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD.
2. ADDITIONAL AGGREGATE SHALL BE PLACED IF THE TRACKING PAD BECOMES BURIED OR IF SEDIMENT IS NOT BEING REMOVED EFFECTIVELY FROM THE VEHICLE TIRES.
3. A MINIMUM 30-FEET WIDE BY 50-FEET LONG BY 12-INCH THICK PAD SHALL BE MAINTAINED AT ALL TIMES.
4. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.
5. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING AT THE END OF EACH WORKING DAY.
6. MAINTENANCE SHALL BE COMPLETED AS SOON AS POSSIBLE WITH CONSIDERATION FOR SITE CONDITIONS.

CONSTRUCTION ENTRANCE (TRACKING PAD)

ANCHOR TRENCH DETAIL

SEE PLANS FOR ANCHOR TRENCH LOCATIONS



MATERIAL NOTES

1. ONLY PRODUCTS LISTED IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) ARE ACCEPTABLE FOR USE.
2. STAPLES USED FOR CLASS I TYPES A & B MATS SHALL BE 1-2 INCH WIDE, U-SHAPED, MADE OF NO.11 (3.05mm) OR LARGER DIAMETER STEEL WIRE, AND NOT LESS THAN 6 INCHES LONG FOR FIRM SOILS AND 12 INCHES LONG FOR LOOSE SOILS.

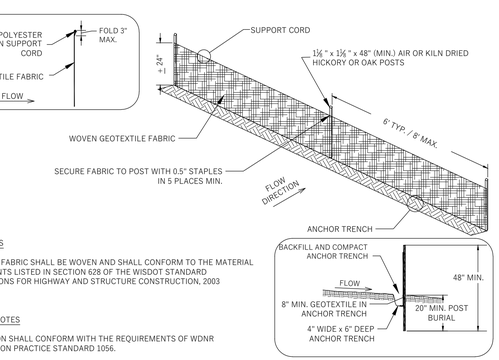
INSTALLATION NOTES

1. EROSION CONTROL REVEGETATIVE MATS (ECRM) SHALL BE INSTALLED AFTER TOPSOIL AND SEED HAVE BEEN PLACED.
2. INSTALLATION OF ECRM SHOULD BE COORDINATED WITH PERMANENT RESTORATION PRACTICES.
3. INSTALLATION SHALL CONFORM WITH WDNR CONSERVATION PRACTICE STANDARD 1053.
4. ALL PRODUCTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. THIS STANDARD DETAIL IS AN EXAMPLE OF TYPICAL INSTALLATION GUIDANCE.
5. MATS SHALL BE IN FIRM AND CONTINUOUS CONTACT WITH THE SOIL.
6. IF SECTIONS OF ECRM NEED TO BE OVERLAPPED, ENSURE THAT THE OVERLAP IS FACING DOWNSTREAM TO PREVENT WATER FROM FLOWING BENEATH THE ECRM.

INSPECTION & MAINTENANCE NOTES

1. INSTALL ADDITIONAL ANCHORING IN AREAS OF OBSERVED RILLING AND CONCENTRATED FLOW BENEATH THE EROSION MAT. IF RILLING IS SEVERE ENOUGH TO PREVENT VEGETATION ESTABLISHMENT, REMOVE EROSION MAT, REGRADE, COMPACT, RE-SEED, AND REPLACE THE SECTION OF MAT.
2. IF PRODUCTS WITH PLASTIC NETTING ARE USED, REMOVE NETTING OR REPLACE MAT IF SEPARATION OF THE NETTING FROM THE MAT IS OBSERVED.
3. ALL MAINTENANCE ACTIVITIES SHOULD OCCUR AS SOON AS POSSIBLE WITH CONSIDERATION OF SITE CONDITIONS.

EROSION CONTROL MAT (CHANNELS)



MATERIAL NOTES

1. GEOTEXTILE FABRIC SHALL BE WOVEN AND SHALL CONFORM TO THE MATERIAL REQUIREMENTS LISTED IN SECTION 628 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 2003 EDITION.

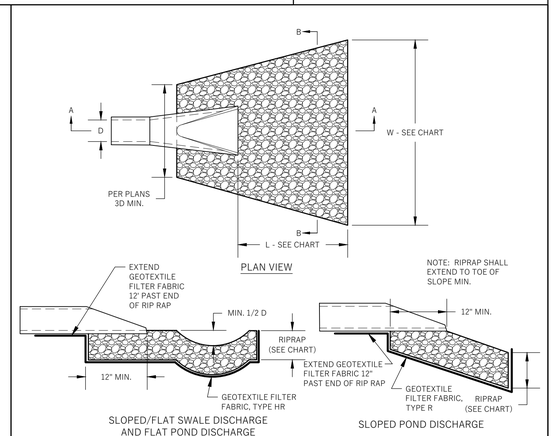
INSTALLATION NOTES

1. INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1056.
2. CONSTRUCT THE SILT FENCE IN AN ARC WITH THE ENDS POINTING UPSLOPE TO AVOID EROSION AROUND THE ENDS OF THE FENCE.
3. FAILURE TO PROPERLY ANCHOR SILT FENCE COULD RESULT IN WATER AND SEDIMENT RELEASE BENEATH THE SILT FENCE. PROPERLY SECURE THE SILT FENCE INTO THE ANCHOR TRENCH.
4. CONSTRUCT THE FENCE FROM A CONTINUOUS ROLL OF GEOTEXTILE TO AVOID JOINTS. WHERE JOINTS ARE NECESSARY, OVERLAP TO THE NEXT POST OR WRAP ADJOINING FABRICS TOGETHER AROUND THE JOINT POST AND TIGHTLY FASTEN.
5. SILT FENCE SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW.

INSPECTION & MAINTENANCE NOTES

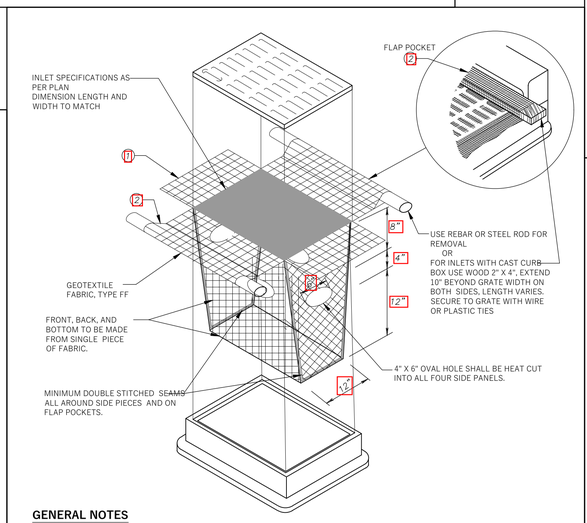
1. AT A MINIMUM, PERFORM INSPECTIONS WEEKLY AND WITHIN 24 HOURS OF PRECIPITATION EVENTS PRODUCING 0.5 INCHES OR MORE OF RAINFALL.
2. INSPECT FENCES FOR DAMAGE TO STAKES AND FABRIC, UNDERCUTTING, EXCESSIVE SEDIMENT ACCUMULATION (GREATER THAN ½ OF THE FENCE HEIGHT), AND INDICATIONS OF SCOUR AROUND THE EDGES.
3. REPAIR OR REPLACE SILT FENCE WITHIN 24 HOURS OF IDENTIFYING AND DEFICIENCIES.

SILT FENCE



STRUCTURE	W	L	DEPTH	TYPE
STM AE NO. 1	8.8'	7.5'	1.1'	LIGHT RIPRAP
STM AE NO. 3	4.7'	3.33'	1.7'	LIGHT RIPRAP

RIP RAP AND ENDWALL



GENERAL NOTES

THE WDNR TECHNICAL STANDARD 1060 FOR INLET PROTECTION SHALL BE FOLLOWED AT ALL TIMES. IF ANY VARIATION BETWEEN THIS DETAIL AND THE WDNR TECHNICAL STANDARD ARE FOUND, THE WDNR TECHNICAL STANDARD SHALL GOVERN.

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

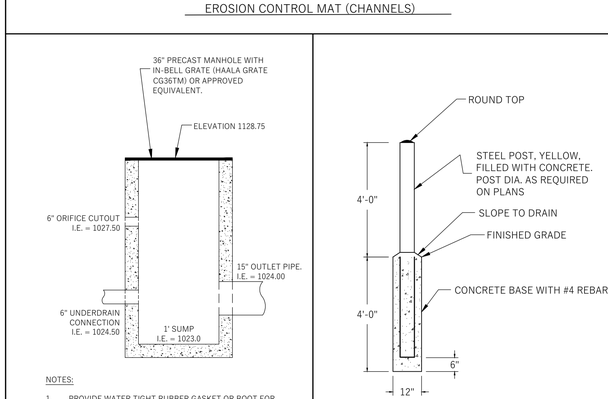
INSTALLATION NOTES

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. USE TYPE C INLET PROTECTION WITHIN SHALLOW INLETS.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

TYPE D INLET PROTECTION



NOTES:

1. PROVIDE WATER TIGHT RUBBER GASKET OR BOOT FOR PLASTIC PVC CONNECTION TO CONCRETE MANHOLE.

BIO-RETENTION BASIN OUTLET STRUCTURE (STM MH NO. 1)

CONCRETE BOLLARD

MATERIAL	THICKNESS	SPECIFICATION
BITUMINOUS UPPER LAYER	1.50"	SECTION 460, TABLE 460-1, 9.5 MM
BITUMINOUS LOWER LAYER	2.50"	SECTION 460, TABLE 460-1, 12.5 MM
DENSE GRADED BASE	10.0"	SECTION 301 AND 305, 31.5 MM
TOTAL THICKNESS	14.0"	

1. SPECIFICATIONS BASED ON GEOTECHNICAL REPORT AS PREPARED BY CGC, INC., DATED NOVEMBER 23, 2015. IF ANY DISCREPANCY BETWEEN THIS DETAIL AND THE GEOTECHNICAL REPORT IS FOUND, THE GEOTECHNICAL REPORT HOLDS.
2. REFERENCED SPECIFICATION IS WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, INCLUDING SUPPLEMENT SPECIFICATIONS, BUT EXCLUDING SECTION 460.3.2 RELATING LAYER THICKNESS TO AGGREGATE SIZE.
3. COMPACTION REQUIREMENTS
   3.1. BITUMINOUS CONCRETE: REFER TO SECTION 460-3.
   3.2. BASE COURSE: REFER TO SECTION 301.3.4.2, STANDARD COMPACTION
4. MIXTURE TYPE MT BITUMINOUS PAVEMENT IS RECOMMENDED, REFER TO SECTION 460, TABLE 460-2 OF THE STANDARD SPECIFICATIONS.
5. CONCRETE SLAB SECTION (AT LOADING AREAS):
   5.1. CONCRETE: 6" PORTLAND CEMENT CONCRETE WITH EPOXY COATED #4 REBAR AT 18" ON CENTER.
   5.2. BASE COURSE: 10" BASE COURSE WITH SAME SPECIFICATIONS AS ASPHALT.

PAVEMENT SECTIONS

NORTH

1 DETAILS
N.T.S.

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:
DATE NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
02.09.2018

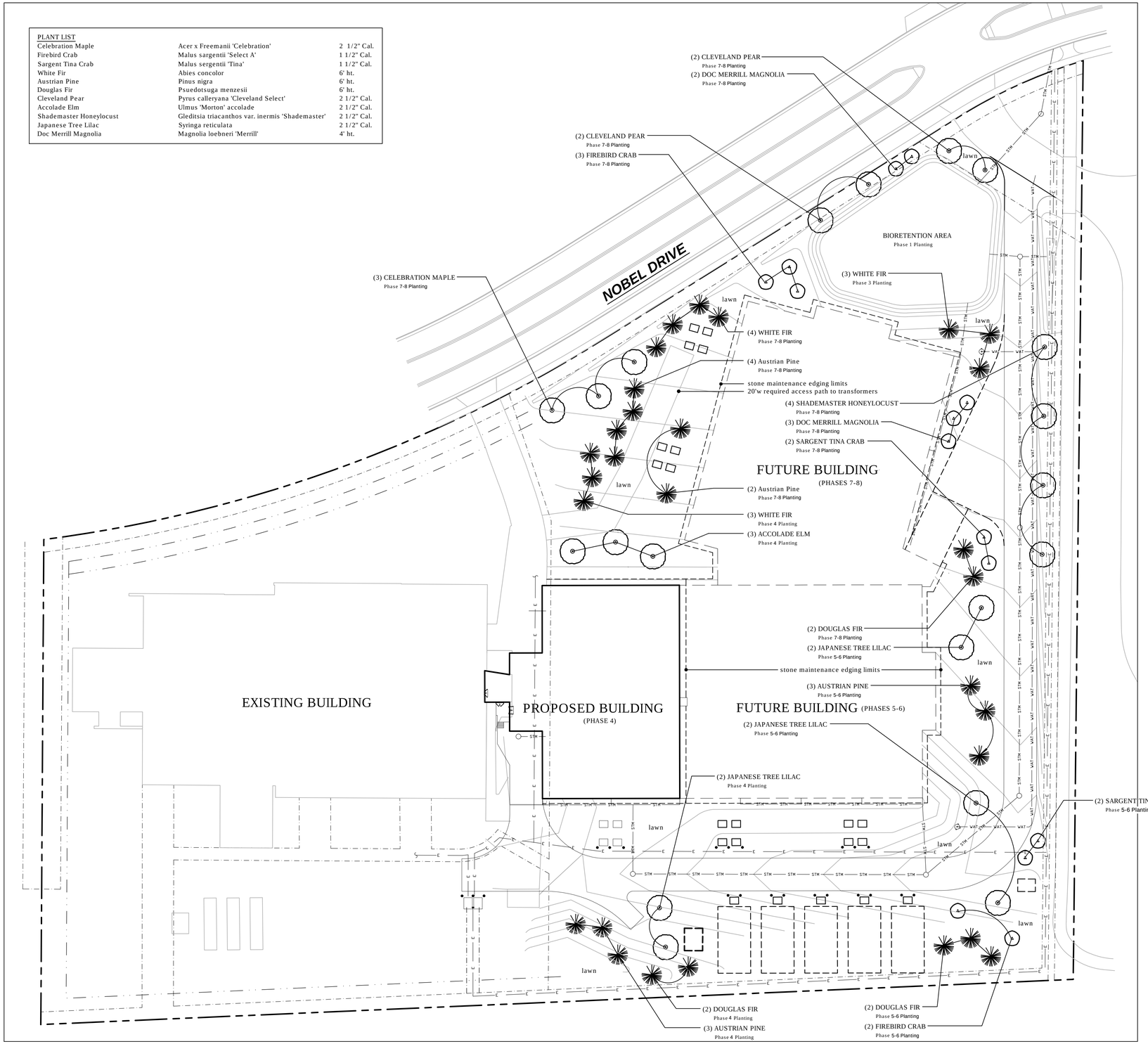
SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
DETAILS

SHEET:
C400

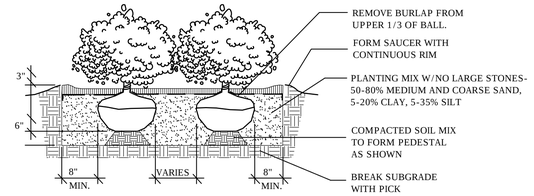
File: W:\2016\160362_Invision - OneNeck IT Civil Design.dwg Layout: Details User: WYSER - Z240 - W10 Plotted: Feb 09, 2018 - 9:00am

PLANT LIST		
Celebration Maple	Acer x Freemanii 'Celebration'	2 1/2" Cal.
Firebird Crab	Malus sargentii 'Select A'	1 1/2" Cal.
Sargent Tina Crab	Malus sergentii 'Tina'	1 1/2" Cal.
White Fir	Abies concolor	6' ht.
Austrian Pine	Pinus nigra	6' ht.
Douglas Fir	Psuedotsuga menzesii	6' ht.
Cleveland Pear	Pyrus calleryana 'Cleveland Select'	2 1/2" Cal.
Accolade Elm	Ulmus 'Morton' accolade	2 1/2" Cal.
Shademaster Honeylocust	Gleditsia triacanthos var. inermis 'Shademaster'	2 1/2" Cal.
Japanese Tree Lilac	Syringa reticulata	2 1/2" Cal.
Doc Merrill Magnolia	Magnolia loebneri 'Merrill'	4' ht.



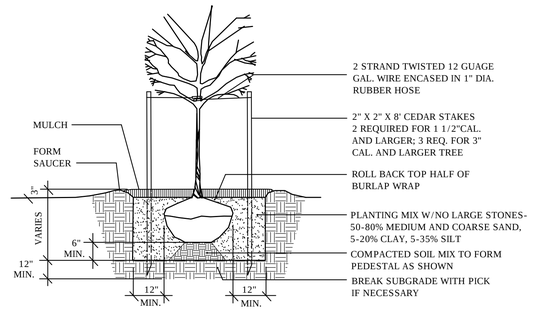
1 MASTER LANDSCAPE PLAN

1" = 40'-0"
0' 40' 80'
NORTH



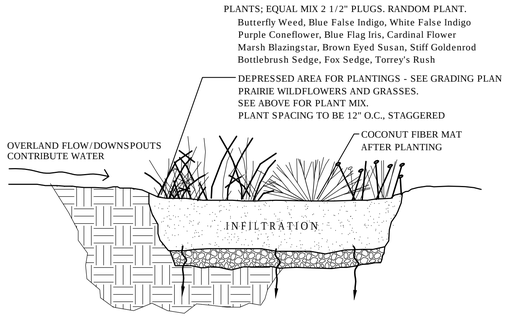
2 SHRUB PLANTING

NTS



3 TREE PLANTING

NTS



4 BIORETENTION AREAS

NTS

Notes:
1. Individual tree and shrub groupings found within lawn areas are to receive wood mulch rings and/or wood mulch beds consisting of a mixture of recycled brown dyed wood mulch spread to a 3" min. depth over a pre-emergent herbicide.
2. "Edging" to be professional grade polyethylene lawn edging available in 20' flat strips. Basis of Design: Valley View Black Diamond. Valley View Industries. (www.valleyviewind.com/professional/)
3. "Lawn" areas shall be finish graded and seeded at a rate of 4 lbs. per 1,000 sq. ft. Basis of Design: Madison Parks Lawn Seed Mix. EarthCarpet Corporation. (www.seedsolutions.com)
4. "Stone" to be clean washed 1 ½" - 2 ½" durable landscape stone spread to a 3" min. depth over a commercial grade weed barrier fabric.
5. Contractor is responsible for repairing any and all damage to the adjacent properties. Planted areas shall be replanted, damaged lawn areas shall be repaired with sod and adjacent curbs and pavement shall be re-paved.
6. Maintenance, watering and warranty of plants to extend for 12 months after project completion/acceptance. Maintenance, watering and warranty period for seed to extend 60 days from project completion/acceptance of installation.

SHEET RESPONSIBILITY:

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com
CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING
STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058

DATE: 01.29.2018

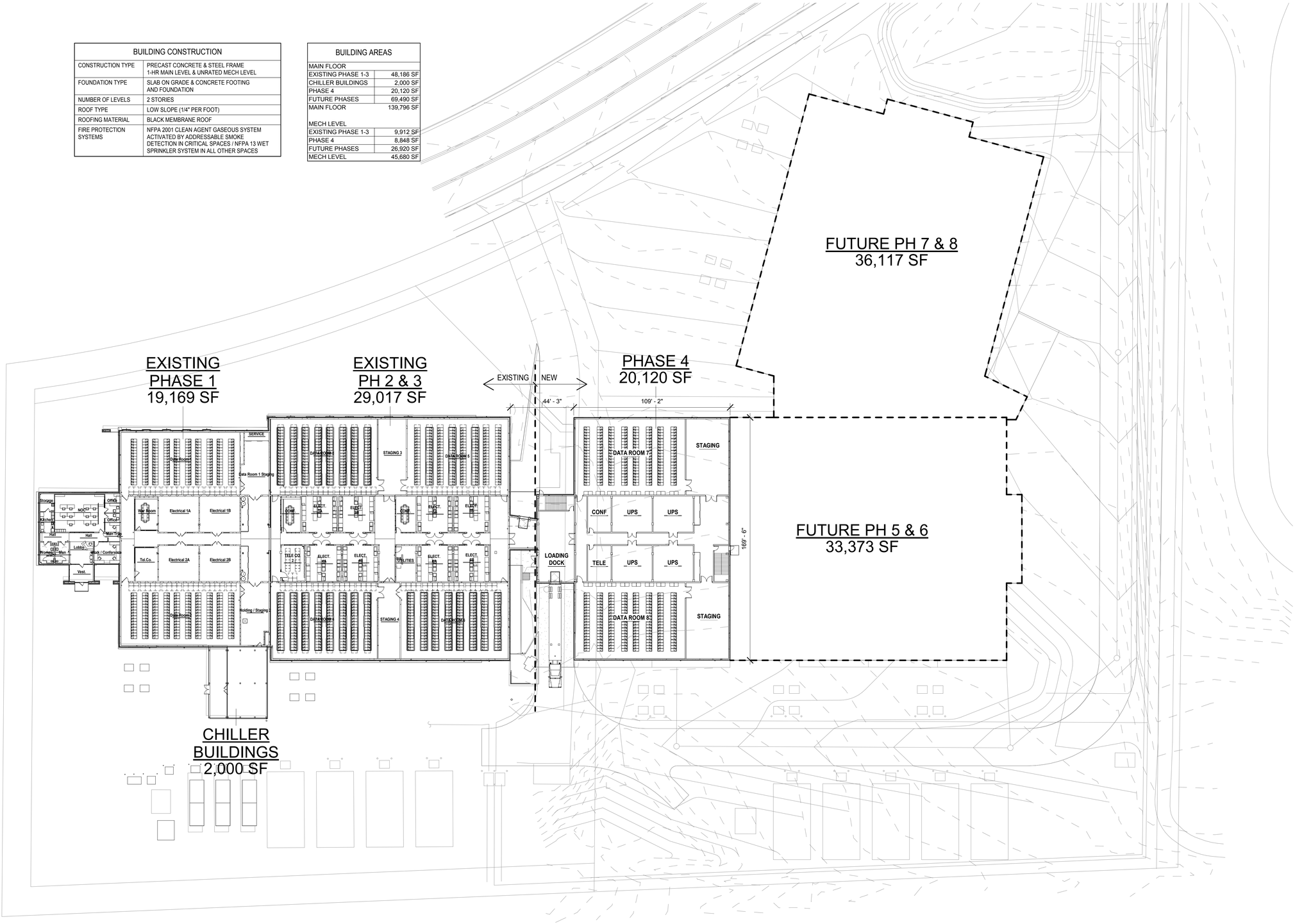
SHEET SET: ARCHITECTURAL & DESIGN REVIEW

SHEET NAME: LANDSCAPE PLAN

SHEET: SDL1.10

BUILDING CONSTRUCTION	
CONSTRUCTION TYPE	PRECAST CONCRETE & STEEL FRAME 1-HR MAIN LEVEL & UNRATED MECH LEVEL
FOUNDATION TYPE	SLAB ON GRADE & CONCRETE FOOTING AND FOUNDATION
NUMBER OF LEVELS	2 STORIES
ROOF TYPE	LOW SLOPE (1/4" PER FOOT)
ROOFING MATERIAL	BLACK MEMBRANE ROOF
FIRE PROTECTION SYSTEMS	NFPA 2001 CLEAN AGENT GASEOUS SYSTEM ACTIVATED BY ADDRESSABLE SMOKE DETECTION IN CRITICAL SPACES / NFPA 13 WET SPRINKLER SYSTEM IN ALL OTHER SPACES

BUILDING AREAS	
MAIN FLOOR	
EXISTING PHASE 1-3	48,186 SF
CHILLER BUILDINGS	2,000 SF
PHASE 4	20,120 SF
FUTURE PHASES	69,490 SF
MAIN FLOOR	139,796 SF
MECH LEVEL	
EXISTING PHASE 1-3	9,912 SF
PHASE 4	8,848 SF
FUTURE PHASES	26,920 SF
MECH LEVEL	45,680 SF



1 MAIN FLOOR PLAN OVERALL - PHASE 4
1/32" = 1'-0"

NORTH

PRELIMINARY NOT FOR CONSTRUCTION

SHEET RESPONSIBILITY:Author 12/21/2017 2:56:48 PM C:\Revit Local Files\17058_OneNeck_MSN_Exp_Arch_R18_barte.rvt

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

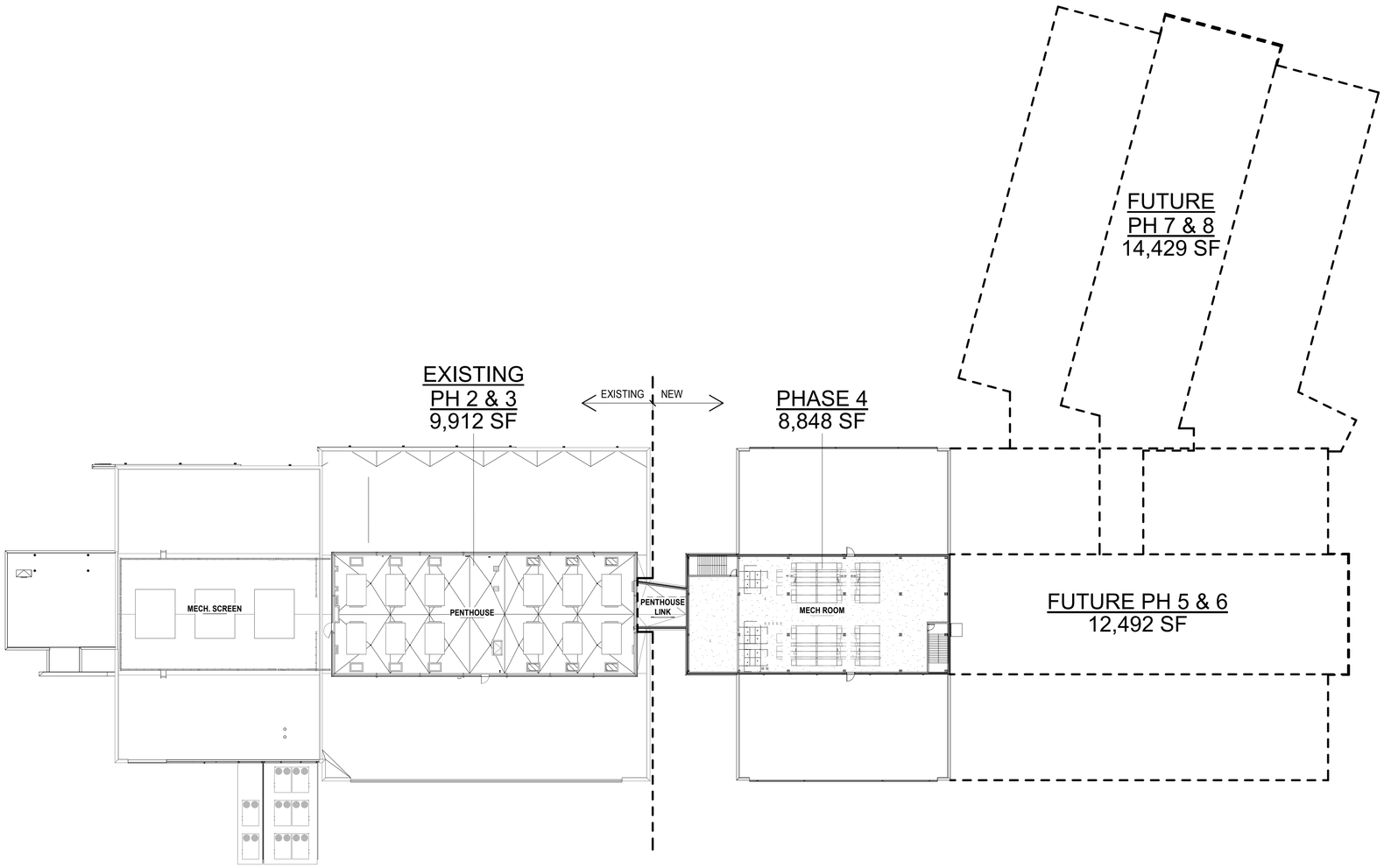
PROJECT NO:
17058

DATE:
12.21.2017

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
MAIN FLOOR PLAN - PHASE 4

SHEET:
SDA1.10



NORTH

1 MECHANICAL FLOOR PLAN OVERALL - PHASE 4
1/32" = 1'-0"

PRELIMINARY NOT FOR CONSTRUCTION

SHEET RESPONSIBILITY: Author

12/21/2017 2:56:49 PM C:\RevitLocalFiles\17058_OneNeck_MSN_Exp_Arch_R18_barte.rvt

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

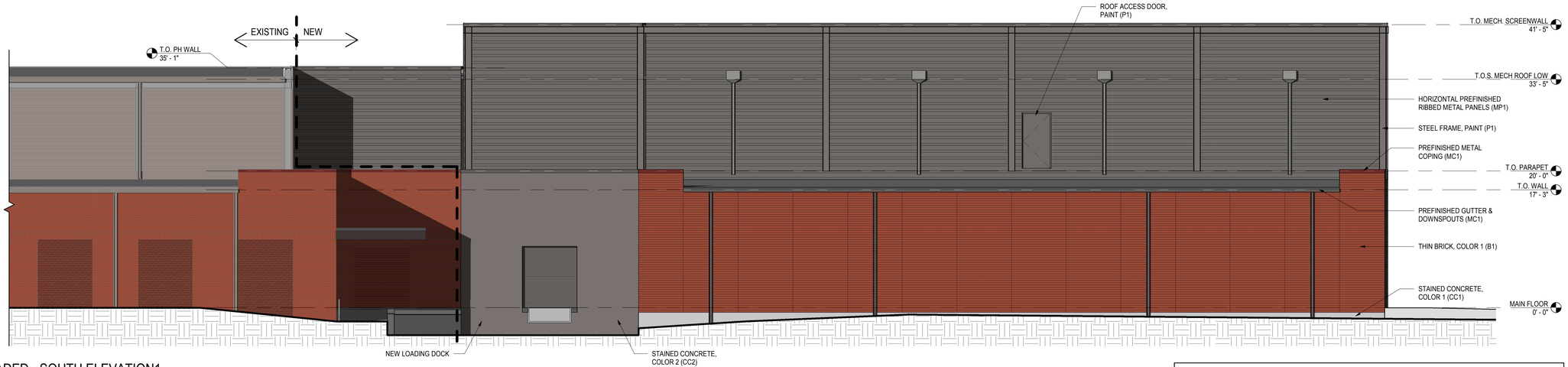
PROJECT NO: 17058

DATE: 12.21.2017

SHEET SET: ARCHITECTURAL & DESIGN REVIEW

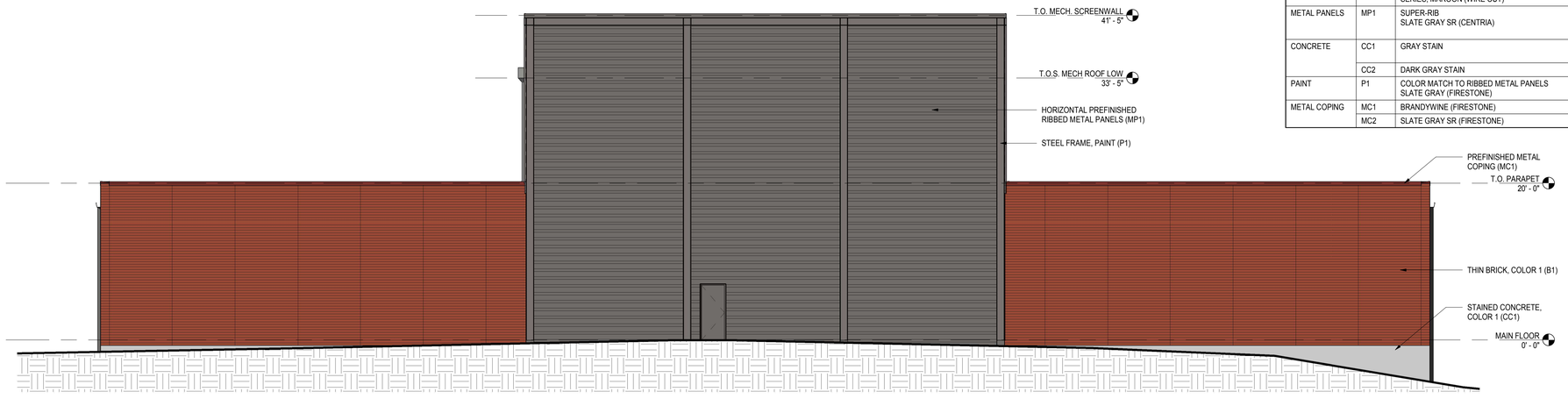
SHEET NAME: MECHANICAL FLOOR PLAN - PHASE 4

SHEET: SDA1.20



3 SHADED - SOUTH ELEVATION1
1/8" = 1'-0"

EXTERIOR FINISH SCHEDULE			
MATERIAL	**TYPE**	**DESCRIPTION**	**COMMENTS**
BRICK	B1	THIN BRICK TO MATCH - GLEN-GERY CLASSIC SERIES, MAROON (WIRE CUT)	WARM RED - MAIN FIELD COLOR
METAL PANELS	MP1	SUPER-RIB SLATE GRAY SR (CENTRIA)	PREFINISHED RIBBED METAL PANELS ON MECHANICAL STORY, VERIFY COLOR MATCH W/ FIRESTONE SLATE GRAY
CONCRETE	CC1	GRAY STAIN	CONCRETE FOUNDATIONS & COLONNADE INFILL PANELS
	CC2	DARK GRAY STAIN	CONCRETE WALL PANELS
PAINT	P1	COLOR MATCH TO RIBBED METAL PANELS SLATE GRAY (FIRESTONE)	MISC. STEEL LINTELS, & STEEL FRAMING
METAL COPING	MC1	BRANDYWINE (FIRESTONE)	COPING AT BRICK B1
	MC2	SLATE GRAY SR (FIRESTONE)	COPING AT RIBBED METAL PANEL MP1



2 SHADED - EAST ELEVATION
1/8" = 1'-0"

1 SHADED - NORTH ELEVATION
1/8" = 1'-0"

PRELIMINARY NOT FOR CONSTRUCTION

SHEET RESPONSIBILITY:Author 12/21/2017 2:57:05 PM C:\Revit\LocalFiles\17058_OneNeck_MSN_Exp_Arch_R18_barfe.rvt

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:
DATE NAME

OneNeck IT Solutions
MSN DATA CENTER - PHASE 4
5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
12.21.2017

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
EXTERIOR ELEVATIONS

SHEET:
SDA2.00

EXTERIOR FINISH SCHEDULE			
MATERIAL	**TYPE**	**DESCRIPTION**	**COMMENTS**
BRICK	B1	THIN BRICK TO MATCH - GLEN-GERY CLASSIC SERIES, MAROON (WIRE CUT)	WARM RED - MAIN FIELD COLOR
METAL PANELS	MP1	SUPER-RIB SLATE GRAY SR (CENTRIA)	PREFINISHED RIBBED METAL PANELS ON MECHANICAL STORY, VERIFY COLOR MATCH W/ FIRESTONE SLATE GRAY
CONCRETE	CC1	GRAY STAIN	CONCRETE FOUNDATIONS & COLONNADE INFILL PANELS
	CC2	DARK GRAY STAIN	CONCRETE WALL PANELS
PAINT	P1	COLOR MATCH TO RIBBED METAL PANELS SLATE GRAY (FIRESTONE)	MISC. STEEL LINTELS, & STEEL FRAMING
METAL COPING	MC1	BRANDYWINE (FIRESTONE)	COPING AT BRICK B1
	MC2	SLATE GRAY SR (FIRESTONE)	COPING AT RIBBED METAL PANEL MP1

PRELIMINARY NOT FOR CONSTRUCTION

SHEET RESPONSIBILITY: Author
12/21/2017 2:57:06 PM
C:\Revit\LocalFiles\17058_OneNeck_MSN_Exp_Arch_R18_barte.rvt

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
12.21.2017

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
EXTERIOR PERSPECTIVES

SHEET:
SDA2.01

EXTERIOR FINISH SCHEDULE			
MATERIAL	**TYPE**	**DESCRIPTION**	**COMMENTS**
BRICK	B1	THIN BRICK TO MATCH - GLEN-GERY CLASSIC SERIES, MAROON (WIRE CUT)	WARM RED - MAIN FIELD COLOR
METAL PANELS	MP1	SUPER-RIB SLATE GRAY SR (CENTRIA)	PREFINISHED RIBBED METAL PANELS ON MECHANICAL STORY, VERIFY COLOR MATCH W/ FIRESTONE SLATE GRAY
CONCRETE	CC1	GRAY STAIN	CONCRETE FOUNDATIONS & COLONNADE INFILL PANELS
	CC2	DARK GRAY STAIN	CONCRETE WALL PANELS
PAINT	P1	COLOR MATCH TO RIBBED METAL PANELS SLATE GRAY (FIRESTONE)	MISC. STEEL LINTELS, & STEEL FRAMING
METAL COPING	MC1	BRANDYWINE (FIRESTONE)	COPING AT BRICK B1
	MC2	SLATE GRAY SR (FIRESTONE)	COPING AT RIBBED METAL PANEL MP1

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS

501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
12.21.2017

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

SHEET NAME:
EXTERIOR PERSPECTIVES

SHEET:
SDA2.02

SHEET RESPONSIBILITY:Author 12/21/2017 2:57:06 PM C:\Revit\LocalFiles\17058_OneNeck_MSN_Exp_Arch_R18_barte.rvt

OneNeck Phase 4

Fitchburg, WI

Site Photometric Plan

LIGHT FIXTURE SCHEDULE			
Type	Qty	Model Number	Manufacturer
OA	10	GLEON-AF-09-LED-E1-SQ-BK	McGraw-Edison
B	7	ENC-600-LED-E1-B14-BK	Imtuit

FAITH TECHNOLOGIES
One Menasha Center Building
201 Main St. Suite 1 P.O. BOX 260
Menasha, WI 54952
www.faithtechnologies.com

RESP.:	REVISIONS:	NO.:	DATE:

PROJECT NUMBER

DRAWN BY: A.Heffington
DESIGNED BY: A.Heffington
APPROVED BY: C.Campfield
DATE: 01/23/2018
SCALE: 1"=30'-0"

SHEET
Site Photometrics

STORMWATER MANAGEMENT REPORT & EROSION CONTROL PLAN

OneNeck IT Solutions MSN Expansion

December 20, 2017

Prepared For: OneNeck IT Solutions

Wyser Engineering Project No.: 16-0362

TABLE OF CONTENTS

APPENDICIES

Future questions and comments can be directed to:

Adam Watkins, P.E.
Project Engineer

Wyser Engineering, LLC
312 E. Main Street
Mount Horeb, WI 53572

adam.watkins@wyserengineering.com
(608) 437-1980

1.0 Introduction

OneNeck IT Solutions is proposing an expansion to their existing information technology data center located on a 9.97-acre CSM lot formerly Lots 22 & 23 of the Fitchburg Technology Campus located on Nobel Drive. The site is currently zoned as Specialized Industrial. The lot is part of the watershed for a regional detention basin that has partially been constructed on the east end of the plat.

Proposed improvements for the lot include an 20,120-square foot building expansion with access driveway extension, loading areas and utility pads adding up to 51,209 square feet of new paved area. An additional 69,490 square feet of future building expansions and 16,466 square feet of pavement/utility pad area have also been included within the site calculations. The existing site improvements include 87,953 square feet of impervious area. In addition, there is an existing public bike path within an easement along the east property line. This adds an additional 7,070 square feet of impervious area to the site for a total full buildout post-development impervious area of 232,088. This is an impervious area ratio for the entire lot at final build out of 0.53. A total disturbance limit of 240,900 square feet will be required to complete the project. A bioretention basin for the site is proposed to meet applicable stormwater requirements for full buildout. The basin will capture runoff from the proposed improvements as well as the future building additions. Ultimately, the stormwater devices discharge into the regional detention basin to the east of the site to provide final stormwater runoff treatment before final discharge into Swan Creek. The proposed stormwater improvements on the site incorporate site specific stormwater management for water quality and runoff volume to meet applicable requirements.

Erosion control Best Management Practices (BMP's) within this report have been provided for the current phase of construction. Future phases will require additional erosion control plans and permit applications as necessary.

2.0 Existing Conditions

The existing site conditions consist of a previously mass graded site including several feet of fill material. It is currently a grassy field. Prior to the mass grading, the site was an agricultural area. Generally, the site drains from the southwest to the northeast. A natural berm exists on the south side of the lot that prevents off-site water from entering the site and the bike path along the east property line has been constructed to prevent site runoff from flowing on to the property to the east. There is a 12" HDPE pipe collecting stormwater runoff for the lot with an inlet in the far northeast corner of the site that connects into public storm sewer in Nobel Drive. The storm sewer within Nobel is 42" RCP. Both of these systems drain into a regional detention basin located to the east of the site. The discharge for the regional basin is Swan Creek. Please refer to **Appendix A** for graphical representation.

There are three native onsite soils that are classified as Dodge, St. Charles and Troxel silt loams (DnB, ScB and TrB). ScB and TrB have Hydrologic Soil Group (HSG) classification 'B' and DnB has a HSG classification 'C'. However, it should be noted that development has taken place on this site that has included removal of topsoil and significant fill and replacement of a mixed topsoil. These soils properties may no longer be valid. Silt Loam has been assumed when calculating soil loss and HSG B soils have been assumed for both pre- and post-development conditions. Note that this matches the assumptions made for the regional detention basin design. Soil test pit and associated stormwater evaluation for the development area were provided by CGC on September 19, 2017 with supplemental information provided on October 23, 2017.

The soil borings generally indicated an 8" mixed silt loam topsoil fill over a lean clay 5.5-foot-thick over fine to medium sand layers. The testing indicated design infiltration rates between 0.04 in/hr and 1.6 in/hr with a depth to limiting factor of 42"-66" described as the potential of "perched infiltrating water or seasonally elevated groundwater levels." The soils information also indicates that silt loam seams will limit infiltration potential unless soil is excavated and turned over to break up silt loam seams. It has been assumed that the silt loam seams within the fine sand layers will be broken up and an infiltration rate of 0.50 in/hr has been assumed as is typical for fine sands. Poorer soils were found nearer the surface. Please refer to **Appendix B** for soil reports, soil map and summary output.

3.0 Design Criteria

Wisconsin Administrative Code
Department of Natural Resources (WDNR)
Chapter NR 151 & NR 216

City of Fitchburg, WI – City Code of Ordinances
Title III Building and Environmental Control, Chapter 30 – Environment
Article II. – Erosion Control and Stormwater Management

4.0 Stormwater Management Analysis / Design

The proposed improvements include a 20,120-square foot building expansion with access driveway extension, loading areas and utility pads adding up to 51,209 square feet of new paved area. An additional 69,490 square feet of future building expansions and 16,466 square feet of pavement/utility pad area have also been included within the site calculations. The building will be served by one loading docks on the southwest corner and; a loading dock will be added in future phases as well. A public bike path within an easement has already been completed along the east property line. The existing lot contains three full access driveway entries onto Nobel Drive that will remain. The driveway entry in the northeast corner is utilized for an access drive to the adjacent property to the east via an easement. An extension of the existing OneNeck site access drive will be looped around the proposed building expansions and will be connected into the existing drive in the northeast corner of the site. Please refer to **Appendix C** for the proposed plan set.

In total, this project, including future additions and pavement area, includes 137,165 square feet of new impervious area over a total disturbance limit of 240,900 square feet on the 9.97-acre lot. Including the existing lot improvements, the total impervious area is 232,088 square feet. This is a total impervious ratio of the full build out site of 0.53. As a result, the site will be required to meet the City of Fitchburg standards for new development.

An existing infiltration facility is located north of the original OneNeck IT Solutions Data Center construction and a stormwater management plan was prepared at the time of that construction to meet applicable standards. As such, it has been assumed that the infiltration facility is designed adequately to continue providing treatment as approved in the original stormwater management plan and the undeveloped 5.93-acre portion of the lot (former Lot 22 of Fitchburg Techlands) will be analyzed

separately for stormwater management. The existing storm sewer system that discharges into the infiltration facility as part of the original construction will be maintained accordingly and a separate system will be installed as part of the proposed phase of construction for discharge into a separate stormwater facility.

In general, the pavement and rooftop areas drain into a bioretention basin for pretreatment, oil and grease, and infiltration before discharging offsite. A large majority of the site will flow into the bioretention basin with a small portion draining either off-site untreated or into the existing infiltration basin north of the existing Data Center. The basin discharges into the public storm sewer system within Nobel Drive. Ultimately, the runoff from the site is safely conveyed into the regional detention basin for runoff rate control and total suspended solids reduction. The final discharge of the regional detention basin is Swan Creek.

Specifically, please note the following:

4.1 Water Quality

Sediment Control: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(1)(a)

The regional detention basin will provide the required sediment control for this site.

Oil and Grease Control: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(2)

The oil and grease control is designed to be provided by way of the proposed bioretention basin collecting stormwater runoff from the proposed pavement and loading areas.

Temperature Control: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(7)

The proposed development is located in the Swan Creek watershed. This is not identified as a Cold Water Community or a Class I, II, or III Trout Stream and is therefore exempt from temperature control requirements.

4.2 Storm Water Discharge Quantity

Runoff Rate Control – Hydrologic Calculations: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(3)

A regional detention basin provides runoff rate control for the development area. Appropriate curve numbers have been used for infiltration design. This has assumed the previously mass graded site has been deep tilled and all soils have a Type B HSG.

Runoff Rate Control – Design Standards: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(4)

A regional detention basin provides runoff rate control for the development area.

Outlets: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(5)

The storm sewer system has been designed per the SPS 'Area method' as described within SPS 382.36(5)(a)1. Please refer to **Appendix D** for analysis results. The bioretention basin drains into the public storm sewer system within Nobel Drive. The associated public systems that the site discharges into have been designed to handle runoff from a fully developed site. The downstream receiving stream is protected by the regional detention basin which was designed to accommodate the additional runoff rate from the proposed development area.

Infiltration: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(2) and Resolution CARPC No. 2009-15

RECARGA (Version 2.3) software has been used to analyze recharge and infiltration characteristics for the existing site and proposed site improvements. RECARGA uses the average annual storm for the area (Madison 1981) to determine the stormwater volume which stays on the site versus the stormwater volume which runs off the site after passing through the proposed infiltration system. Soil borings for the larger regional area on the site indicate the presence of fine sands 6 feet below the original site surface. The facilities will need to be excavated to a minimum depth of 100" and refilled with sandy soils with at least an infiltration rate of sand up to the bottom of the system.

The proposed infiltration facilities include 11,000 square feet of dedicated infiltration area. This is 4.2% of the development site. This provides a total of 100.0% of the predevelopment stay-on volume. The site also exceeds the recharge standard (9.55 inches per year based on the Wisconsin Geological and Natural History Survey's 2012 report, *Groundwater Recharge in Dane County, Estimated by a GIS-Based Water-Balanced Model*) for the entire disturbed area on a volume basis. This calculation was completed by running a predevelopment RECARGA model for the entire disturbed area and multiplying it by 9.55 inches per year and comparing it to the total watershed for the infiltration systems and remaining pervious areas not draining to dedicated infiltration systems. Refer to Table 1 for output summary. Please refer to **Appendix D** for RECARGA output.

Table 1: RECARGA based output for infiltration and recharge for the site development area.

Infiltration Volume Summary	
Total Area (Acres)	5.93
Pre-Development Infiltration Volume (Acre-Feet)	13.35
Post-Development Infiltration Volume Required (100%) (Acre-Feet)	13.35
Post-Development Infiltration Volume Provided (Acre-Feet)	13.37
Recharge Volume Summary	
Total Area (Acres)	5.93
Pre-Development Recharge (Inches)	9.55
Post-Development Recharge Required (Inches)	9.55
Post-Development Recharge Provided (Inches)	13.50

5.0 Erosion Control Analysis / Design

Erosion control measures proposed for the project site have been designed in accordance with the WDNR, and City of Fitchburg requirements. Erosion control Best Management Practices (BMP's) within this report have been provided for the current phase of construction. Future phases will require additional erosion control plans and permit applications as necessary. BMP's for the site include stone tracking pad, silt fencing, check dams, seeding, mulching, erosion mat, etc. Construction sequencing, as follows, has been documented in accordance with soil loss rate calculations for the construction period per the Universal Soil Loss Equation included as **Appendix E**:

04/14/2018	Pre-development construction meeting. Install Perimeter BMP's (silt fence, stone tracking pad, etc.)
04/15/2018	Strip topsoil and stockpile. Provide silt fence around stockpile and seed within 7 days. Install bioretention basin to act as a temporary sediment basin during construction.
05/01/2018	Mass Grading / Subgrade preparation (note all 4:1 or greater slopes must be stabilized as soon as practicable and, at a minimum, within 14 days of finishing the grading.
10/15/2018	Prior to winter and while doing internal construction activities, mulch and/or temporary seed the site.
03/01/2019	Re-open the site for grading and utility construction.
05/15/2019	Final seeding and mulching. Install Bioretention Vegetation Plan in accordance with WDNR Technical Standard 1004. Fix any landscaping issues including bioretention area. Provide City with a post-development as-built survey of bioretention basin.

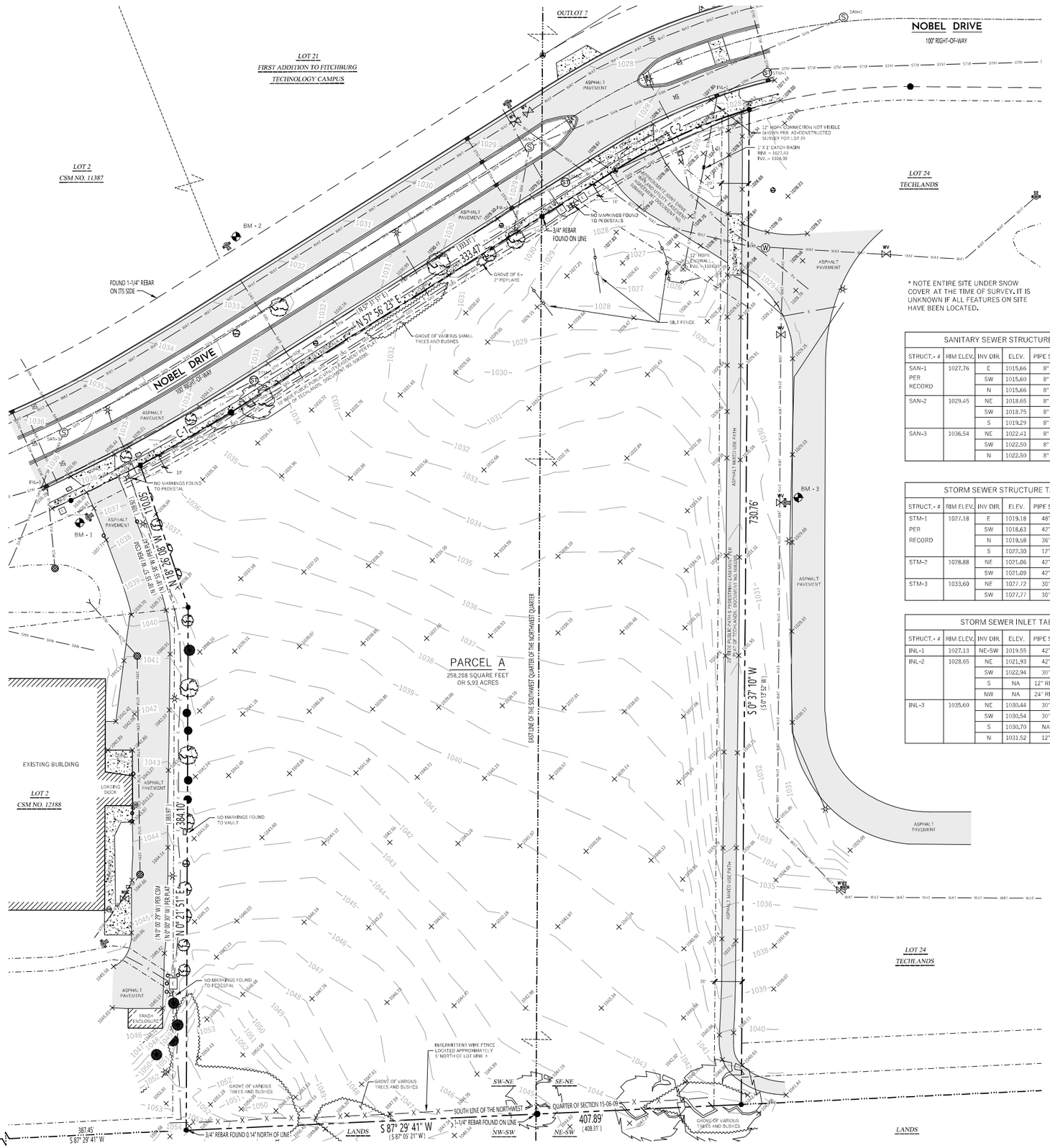
For additional information relative to erosion control, please refer to the Grading & Erosion Control Plan found in **Appendix C**.

6.0 Conclusion

Construction and Post Development BMP's for erosion control and stormwater management have been designed in accordance with applicable requirements of the City of Fitchburg Code of Ordinance, CARPC Resolution and Wisconsin Administrative Code. Stormwater runoff generated by the proposed development area will be collected within a bioretention basin to provide pretreatment, infiltration and oil and grease control. Runoff rate reduction and water quality treatment will be provided by the existing regional detention basin. Consistent with existing conditions, a portion of the stormwater runoff will be conveyed to the public storm sewer system of Nobel Drive and a small portion will be collected into the existing storm sewer system and discharged into an existing infiltration basin. Erosion control practices have been designed to limit the soil loss rate to less than 5.0 tons per acre per year, regulating soil transportation within the boundaries of the project site.

APPENDIX A

Existing Conditions Exhibit



SANITARY SEWER STRUCTURE TABLE					
STRUCT.- #	RIM ELEV.	INV DIR.	ELEV.	PIPE SIZE	PIPE MATERIAL
SAN-1 PER RECORD	1027.76	E	1015.66	8"	PVC
		SW	1015.60	8"	PVC
		N	1015.66	8"	PVC
SAN-2	1029.45	NE	1018.65	8"	PVC
		SW	1018.75	8"	PVC
		S	1019.29	8"	PVC
SAN-3	1036.54	NE	1022.41	8"	PVC
		SW	1022.59	8"	PVC
		N	1022.59	8"	PVC

STORM SEWER STRUCTURE TABLE					
STRUCT.- #	RIM ELEV.	INV DIR.	ELEV.	PIPE SIZE	PIPE MATERIAL
STM-1 PER RECORD	1027.18	E	1019.18	48"	RCP
		SW	1018.63	42"	RCP
		N	1019.58	36"	RCP
		S	1022.30	12"	RCP
STM-2	1028.88	NE	1021.06	42"	RCP
		SW	1021.09	42"	RCP
STM-3	1033.60	NE	1027.72	30"	RCP
		SW	1027.77	30"	RCP

STORM SEWER INLET TABLE					
STRUCT.- #	RIM ELEV.	INV DIR.	ELEV.	PIPE SIZE	PIPE MATERIAL
INL-1	1027.13	NE-SW	1019.55	42"	RCP HOLE IN PIPE
INL-2	1028.65	NE	1021.93	42"	RCP
		SW	1022.94	30"	RCP
		S	NA	12" REC.	RCP PER RECORD
		NW	NA	24" REC.	PIPE NOT VIS.
INL-3	1035.60	NE	1030.44	30"	RCP
		SW	1030.54	30"	RCP
		S	1030.70	NA	TOP NOT VIS.
		N	1031.52	12"	RCP

LEGEND

- FOUND 1-1/4" REBAR
- FOUND 3/4" REBAR
- FOUND PK NAIL
- SIGN
- BOLLARD
- SANITARY MANHOLE
- SEWER CLEANOUT
- FIRE HYDRANT
- WATER VALVE
- WATER MANHOLE
- STORM MANHOLE
- STORM CATCH BASIN
- INLETS
- LIGHT POLE
- ELECTRICAL TRANSFORMER
- UTILITY PEDESTAL
- UTILITY VAULT
- DECIDUOUS TREE
- CONIFEROUS TREE
- PROPERTY LINE
- PLATTED LINE
- RIGHT-OF-WAY LINE
- CENTERLINE
- SECTION LINE
- EASEMENT LINE
- BUILDING FOOTPRINT
- EDGE OF CONCRETE
- EDGE OF ASPHALT
- STORMWATER POND LINE
- SILT FENCE
- FENCE LINE
- SANITARY SEWER
- WATER MAIN
- STORM SEWER
- NATURAL GAS LINE
- COMMUNICATION LINE
- ELECTRIC LINE
- FIBER OPTIC LINE
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- CONTOUR MAJOR
- CONTOUR MINOR

NORTH

0' 20' 40' 80'
1" = 40' on 22"x34"
1"= 80' on 11"x17"

DIGGERS HOTLINE
Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

GENERAL NOTES

1. FIELD WORK PERFORMED BY WYSER ENGINEERING, LLC. ON DECEMBER 5TH, 9TH AND 20TH , 2016. SURVEY PERFORMED UNDER SNOW COVERED CONDITIONS. FEATURES MAY BE PRESENT THAT WERE NOT VISIBLE AT THE TIME OF SURVEY
2. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)12A.
3. NORTH REFERENCE FOR THIS EXISTING CONDITIONS SURVEY AND MAP ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, NAD 83 (2011) WISCRS DANE, GRID NORTH. THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 15, T6N, R9E, BEARS S 87°29' 41" W
4. SUBSURFACE UTILITIES AND FIXTURES SHOWN ON THIS MAP HAVE BEEN APPROXIMATED BY LOCATING SURFACE FEATURES AND ACCESSORIES, DIGGERS HOTLINE FIELD MARKINGS AND EXISTING MAPS AND RECORDS.
5. BEFORE EXCAVATION, APPROPRIATE UTILITY COMPANIES SHOULD BE CONTACTED. FOR EXACT LOCATION OF UNDERGROUND UTILITIES, CONTACT DIGGERS HOTLINE, AT 1.800.242.8511 OR 811
6. THIS PARCEL IS SUBJECT TO ALL EASEMENTS AND AGREEMENTS, BOTH RECORDED AND UNRECORDED.
7. INTERCONNECTIONS BETWEEN COMMUNICATION LINES COULD NOT BE DETERMINED ON SITE NO MARKINGS PEDESTALS OR VAULTS FOUND
8. FEATURES HAVE BEEN LOCATED BY SURVEYOR IN FIELD THAT MAY HAVE ADVERSE TITLE ELEMENTS, AS TO WHICH ELEMENT ENCROACHMENT, CLAIM OF UNRECORDED EASEMENT, PRESCRIPTIVE EASEMENT, AND SO FORTH CAN NOT BE DETERMINED BY SURVEYOR.

LEGAL DESCRIPTION

PARCEL A:

LOT 25 TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

PARCEL NO. 225/0609-152-6765-2

SURVEYORS CERTIFICATE

I, JULIUS W. SMITH, WISCONSIN PROFESSIONAL LAND SURVEYOR S-3091, DO HEREBY CERTIFY THAT THIS SURVEY AND MAP IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF WITH THE INFORMATION PROVIDED, BY THE ORDER OF THOSE LISTED HERON, AND THAT THIS SURVEY COMPLIES WITH AE 7 OF THE WISCONSIN ADMINISTRATIVE CODE.

JULIUS W. SMITH, S-3091
WISCONSIN PROFESSIONAL LAND SURVEYOR

DATE

WISCONSIN JULIUS W. SMITH S-3091 CROSS PLAINS, WISCONSIN LAND SURVEYOR

CURVE TABLE					
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	77.04'	1105.00'	3° 59' 41"	N 59° 56' 14" E	77.03'
( )	(77.90')		(4° 02' 21")	(N 59° 33' 01" E)	(77.88')
C2	108.39'	400.00'	15° 31' 30"	N 65° 42' 08" E	108.05'
( )	(108.32')		(15° 30' 58")	(N 65° 17' 20" E)	(107.99')

BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

WYSER ENGINEERING

PREPARED BY:
312 EAST MAIN STREET
MOUNT HOREB, WI 53572
www.wyserengineering.com

PREPARED FOR:
ONE NECK IT SOLUTIONS
1200 WEST SUBURBAN
EDEN PRAIRIE, MN 55344

SURVEYED BY: JWS
DRAWN BY: JWS
APPROVED BY: JWS

5505 NOBEL DRIVE
FITCHBURG, WI 53711

LOT 25 TECHLANDS BEING A PART OF THE SW 1/4 OF THE NW 1/4 AND THE SE 1/4 OF THE NW 1/4, SEC. 15 T6N, R9E, CITY OF FITCHBURG DANE COUNTY, WI

Sheet Title: BOUNDARY, TOPOGRAPHIC AND UTILITY SURVEY

Revisions:

No.	Date:	Description:

Graphic Scale 0' 10' 20' 40' 60'

Wyser Number 16-0362

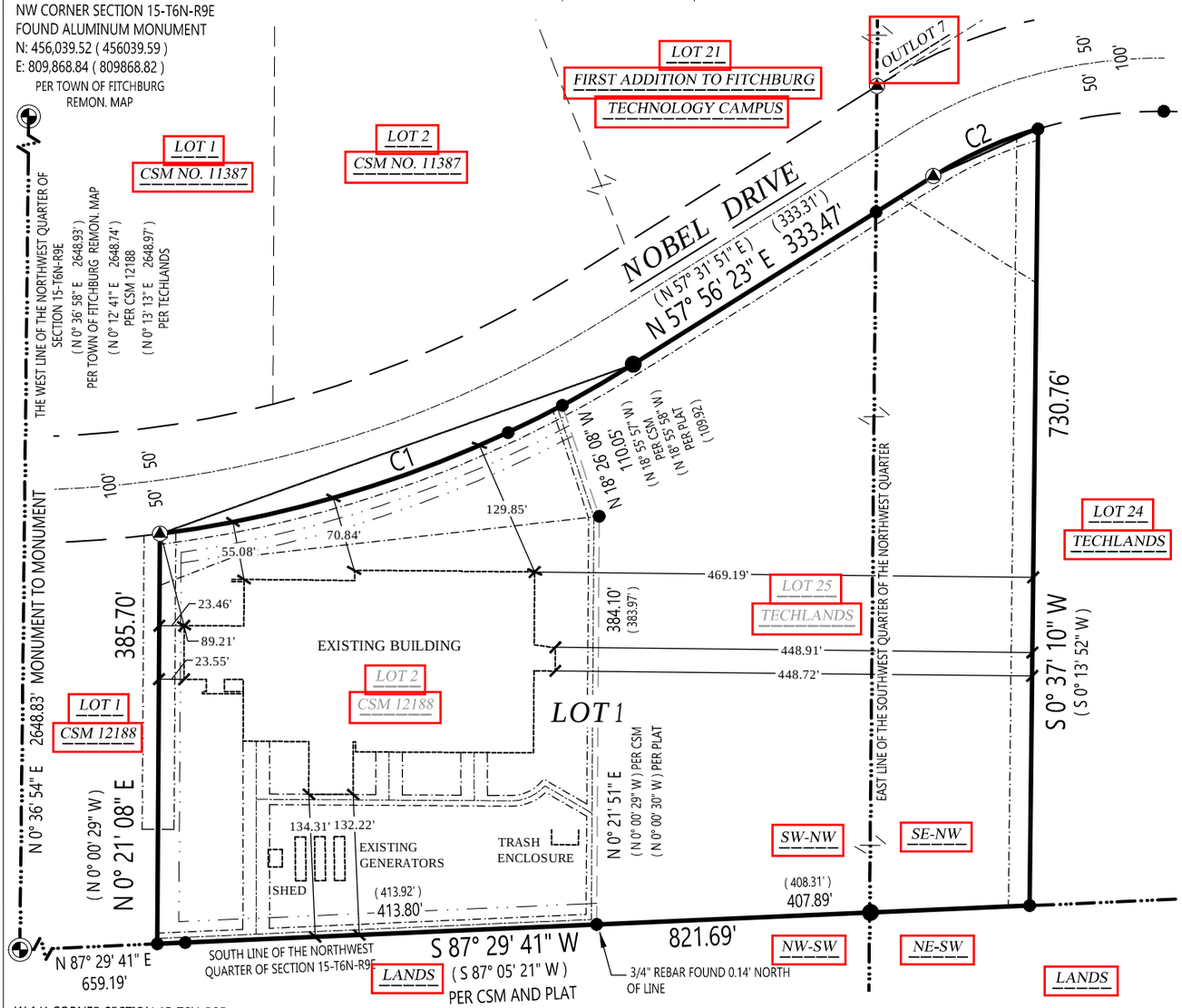
Set Type EXCON

Date Issued 12/22/2016

Sheet Number V001

CERTIFIED SURVEY MAP NO._____

CONSOLIDATION OF LOT 2, CERTIFIED SURVEY MAP NO. 12188, RECORDED ON JUNE 29, 2007 IN VOLUME 75 OF CERTIFIED SURVEY MAPS, ON PAGES 168-170, AS DOCUMENT NO. 4328586 AND LOT 25, TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.



W 1/4 CORNER SECTION 15-T6N-R9E
FOUND DANE COUNTY ALUMINUM MONUMENT
N: 453,390.84 (453,390.81)
E: 809,840.40 (809,840.34)
PER TOWN OF FITCHBURG REMON. MAP

CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
C1	476.72'	1105.00'	24° 43' 06"	N 70° 17' 56" E	473.03'	MID CURVE	N 57° 56' 23" E
C2	108.39'	400.00'	15° 31' 30"	N 65° 42' 08" E	108.05'	N 57° 56' 23" E	MID CURVE
( )	(108.32')		(15° 30' 58")	(N 65° 17' 20" E)	(107.99')		

LEGEND

- SECTION CORNER FOUND
- 3/4" REBAR FOUND
- 1-1/4" REBAR FOUND
- SURVEY NAIL FOUND
- CSM BOUNDARY
- RIGHT-OF-WAY LINE
- CENTERLINE
- CHORD LINE
- SECTION LINE
- PLATTED LINE
- EXISTING EASEMENT LINE
- VISION CORNER LINE
- EXISTING BUILDING/STRUCT.
- (XXX) RECORDED INFORMATION

NOTES:

1. FIELD WORK PERFORMED BY WYSER ENGINEERING, LLC. ON THE WEEKS OF DECEMBER 12TH AND 19TH, 2016 AND FEBRUARY 14, 2017.
2. NORTH REFERENCE FOR THIS SURVEY AND MAP ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, NAD 83 (2011) WISCRS DANE, GRID NORTH . THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 15 BEARS N 00° 36' 54" E
3. THIS PARCEL IS SUBJECT TO ALL EASEMENTS AND AGREEMENTS, BOTH RECORDED AND UNRECORDED.
4. SEE SHEETS 2 AND 3 OF 4 FOR EASEMENT DETAILS AND NOTES
5. LOT 1 CONTAINS 434,387 SQUARE FEET OR 9.97 ACRES

NORTH

0' 75' 150'

WYSER ENGINEERING

PREPARED BY:
312 EAST MAIN STREET
MOUNT HOREB, WI 53572
www.wyserengineering.com

PREPARED FOR:
ONENECK IT SOLUTIONS
10290 W 70TH ST.
EDEN PRAIRIE, MN 55344

SURVEYED BY: JWS
DRAWN BY: JWS
APPROVED BY: JWS

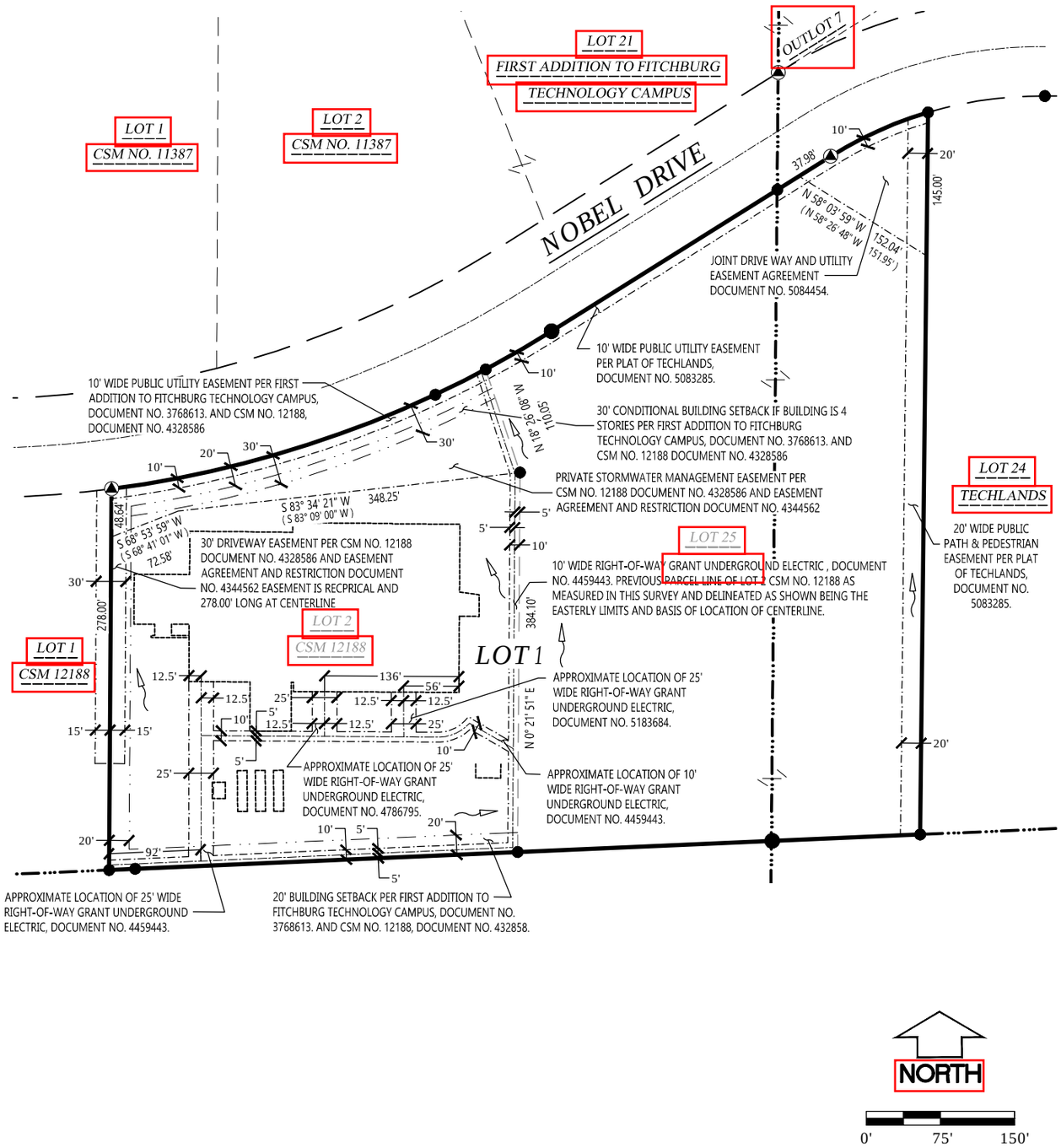
PROJECT NO: 16-0362
SHEET NO: 1 of 4

VOL. _____ PAGE _____
DOC. NO. _____
C.S.M. NO. _____

*CERTIFIED SURVEY MAP NO.*_____

CONSOLIDATION OF LOT 2, CERTIFIED SURVEY MAP NO. 12188, RECORDED ON JUNE 29, 2007 IN VOLUME 75 OF CERTIFIED SURVEY MAPS, ON PAGES 168-170, AS DOCUMENT NO. 4328586 AND LOT 25, TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

EASEMENT DETAIL



LEGEND

- CSM BOUNDARY
- RIGHT-OF-WAY LINE
- CENTERLINE
- SECTION LINE
- PLATTED LINE
- EXISTING EASEMENT LINE
- SETBACK LINE
- EXISTING STRUCTURE
- DRAINAGE ARROW
- ( ) RECORDED AS

NOTES:

1. LOCATIONS FOR THE RIGHT-OF-WAY GRANTS FOR UNDERGROUND ELECTRIC SHOWN HEREON IN DOCUMENT NOS. 4459443, 4786795 AND 5183684 HAVE BEEN APPROXIMATED FOR THE PORTIONS NOT RUNNING PARALLEL WITH PREVIOUSLY ESTABLISHED PARCEL LINES. LOCATIONS OF CENTERLINE WERE APPROXIMATED FROM EXISTING BUILDING, UTILITY INSTALLS AND ROUGH DIMENSIONS GIVEN.
2. THE EASTERLY 20' BUILDING SETBACK PER FIRST ADDITION TO FITCHBURG TECHNOLOGY CAMPUS, DOCUMENT NO. 3768613. AND CSM NO. 12188, DOCUMENT NO. 432858. WAS NOT SHOWN AS THE PARCEL DIVISION IS BEING ELIMINATED WITH THIS CSM.
3. SEE SHEET 3 OF 4 FOR ADDITIONAL EASEMENT AND TITLE NOTES

NORTH

0' 75' 150'

WYSER ENGINEERING

PREPARED BY:
312 EAST MAIN STREET
MOUNT HOREB, WI 53572
www.wyserengineering.com

PREPARED FOR:
ONENECK IT SOLUTIONS
10290 W 70TH ST.
EDEN PRAIRIE, MN 55344

SURVEYED BY: JWS
DRAWN BY: JWS
APPROVED BY: JWS

PROJECT NO: 16-0362
SHEET NO: 2 of 4

VOL. _____ PAGE _____
DOC. NO. _____
C.S.M. NO. _____

*CERTIFIED SURVEY MAP NO.*_____

CONSOLIDATION OF LOT 2, CERTIFIED SURVEY MAP NO. 12188, RECORDED ON JUNE 29, 2007 IN VOLUME 75 OF CERTIFIED SURVEY MAPS, ON PAGES 168-170, AS DOCUMENT NO. 4328586 AND LOT 25, TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

NOTES ON PREVIOUS SUBDIVISIONS

NOTES PER METROTECH, CSM 12188 AND REFERENCED ON FIRST ADDITION TO FITCHBURG TECHNOLOGY CAMPUS

1. THE FINAL GRADE ESTABLISHED BY THE SUBDIVIDER ON THE UTILITY EASEMENTS SHALL NOT BE ALTERED BY MORE THAN SIX INCHES BY THE SUBDIVIDER, AGENT, OR SUBSEQUENT OWNERS OF THE LOTS ON WHICH SUCH UTILITY EASEMENTS ARE LOCATED EXCEPT WITH WRITTEN CONSENT OF THE UTILITY OR UTILITIES INVOLVED

2. UTILITY EASEMENTS, NO POLES OR BURIED CABLES ARE TO BE PLACED SUCH THAT THE INSTALLATION WOULD DISTURB ANY SURVEY STAKE, OR OBSTRUCT VISION ALONG THE LOT LINE. THE DISTURBANCE OF A SURVEY MONUMENT BY ANYONE IS A VIOLATION OF SECTION 236.32 OF WISCONSIN STATUTES. UTILITY EASEMENTS AS HEREIN SET FORTH ARE FOR THE USE OF PUBLIC BODIES AND PRIVATE PUBLIC UTILITIES HAVING THE RIGHT TO SERVE THE AREA.

3. SUBJECT TO DEVELOPMENT AGREEMENT BETWEEN FITCHBURG TECHNOLOGY CAMPUS, LLC AND THE CITY OF FITCHBURG, WISCONSIN, RECORDED AS DOC. NO. 3957446.

NOTES EXCLUSIVE TO METROTECH

4. MINIMUM OPEN SPACE AND MAXIMUM IMPERVIOUS SURFACE RATIOS SHALL BE AS FOLLOWS FOR LOTS 1, 2, 3, 4, 22, 23, 24 & 25• MINIMUM OPEN SPACE-30.00%. MAXIMUM IMPERVIOUS RATIO-70.00%.

5. LOTS 1, 2, 3, 4, 22, 23, 24 & 25 ARE OBLIGATED TO DESIGN AND CONSTRUCT STORM WATER MANAGEMENT FACILITIES THAT INFILTRATE, EVAPOTRONSPIRATE OR REUSE A MINIMUM OF 100% OF PREDEVELOPMENT STAY— ON VOLUME ON A LOT—BY—LOT BASIS UNLESS A REGIONAL FACILITY IS DESIGNED AND CONSTRUCTED TO FULFILL THIS REQUIREMENT. STORM WATER MANAGEMENT FACILITIES SHALL BE IN PLACE AND FUNCTIONING PROPERLY PRIOR TO REQUESTING BUILDING OCCUPANCY INSPECTION.

6. DRAINAGE ARROWS: ARROWS INDICATE THE DIRECTION OF SURFACE DRAINAGE AT INDIVIDUAL PROPERTY LINES. SAID DRAINAGE SWALE SHALL BE GRADED WITH THE CONSTRUCTION OF EACH PRINCIPAL STRUCTURE AND MAINTAINED BY THE LOT OWNER UNLESS MODIFIED WITH THE APPROVAL OF THE CITY ENGINEER. LOTS WITH TWO ARROWS TYPICALLY CHANGE DIRECTION 30 FEET FROM THE FRONT PROPERTY LINE.

NOTES EXCLUSIVE TO CSM 12188 AND FIRST ADDITION TO FITCHBURG TECHNOLOGY CAMPUS.

7. EACH S.I.P. SHALL HOVE THE GRADING PLAN REVIEWED AND APPROVED TO CONFORM TO THE DRAINAGE ARROWS INDICATED ON THE PLAT. —NO FUTURE DEVELOPMENT SHALL OCCUR ON LOTS 19-24 UNTIL THE DETENTION POND ON OUTLOT 8 HAS BEEN CONSTRUCTED.

8. TYPICAL BUILDING SETBACKS TECHNOLOGY DEVELOPMENT SITES: 20' MINIMUM (G1) 3 STORIES FROM NOBEL DRIVE. 30' MINIMUM (§) 4 STORIES FROM NOBEL DRIVE. 20' MINIMUM FROM RESEARCH PARK DRIVE. 20' MINIMUM FROM . ADJOINING PROPERTIES.

9. LOT 17 WILL BE PRIVATELY OWNED BY THE RESEARCH PARK ASSOCIATION AND WILL BE AVAILABLE FOR BOTH PUBLIC ENJOYMENT AND PRIVATE FUNCTIONS.

10. SUBJECT TO DECLARATION OF PROTECTIVE COVENANTS RECORDED AS DOC. #3785847, FIRST AMENDMENT RECORDED AS DOC. #3841515, SECOND AMENDMENT RECORDED AS DOC. #3999880, THIRD AMENDMENT RECORDED AS DOC. #4145076, AND FOURTH AMENDMENT RECORDED AS DOC. #4170696.

11. SUBJECT TO AGREEMENT FOR SUBDIVISION IMPROVEMENTS RECORDED AS DOC. #3575640 AND SUPPLEMENT TO AGREEMENT FOR SUBDIVISION IMPROVEMENTS RECORDED AS DOC. #3729123.

12. INFILTRATION REQUIREMENTS FOR LOT 1 AND LOT 2 OF THIS CERTIFIED SURVEY MAP SHALL BE MET BY AN INFILTRATION BASIN ON LOT 2. A MAINTENANCE AGREEMENT FOR THIS INFILTRATION BASIN AND MAINTENANCE OF PRIVATE STORM SEWER LINES SHALL BE RECORDED VIA A SEPARATE DOCUMENT AFTER THIS CERTIFIED SURVEY MAP IS RECORDED.

13. MINIMUM OPEN SPACE AND MAXIMUM IMPERVIOUS SURFACE RATIO'S SHALL BE AS FOLLOWS: LOT NO. - MIN OPEN SPACE - MAX IMPERVIOUS RATIO, LOT 1 -27.93% MIN OS - 72.07% MAX IR, LOT 2 - 52.07% MIN OS - 47.93% MAX IR, LOT 3 - 40.00% MIN OS - 60.00% MAX IR

14. IMPERVIOUS SURFACE RATIO (ISR) IS REQUIRED BY THE APPROVED GENERAL IMPLEMENTATION PLAN TO BE 60% FOR ALL LOTS IN THIS CSM. THE OWNER HAS ASKED FOR A SPECIAL CONSIDERATION TO ALLOW THE LOTS 1 AND 2 TO BE COMBINED FOR PURPOSES OF ISR CALCULATION WHERE BOTH LOTS ARE NOT TO EXCEED 60%. THE TABLE OF OPEN SPACE AND IMPERVIOUS SURFACE RATIOS IS TO ASSURE THAT SUFFICIENT OPEN SPACE EXISTS AND THAT THE 60% IMPERVIOUS SURFACE RATIO IS NOT EXCEEDED FOR THE COMBINED LOTS. .

LEGAL DESCRIPTION

CONSOLIDATION OF LOT 2, CERTIFIED SURVEY MAP NO. 12188, RECORDED ON JUNE 29, 2007 IN VOLUME 75 OF CERTIFIED SURVEY MAPS, ON PAGES 168-170, AS DOCUMENT NO. 4328586 AND LOT 25, TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST,
CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

SAID PARCEL CONTAINS 434,387 SQ. FT. OR 9.97 ACRES

SURVEYOR'S CERTIFICATE

I, JULIUS W. SMITH, WISCONSIN PROFESSIONAL LAND SURVEYOR S-3091, DO HEREBY CERTIFY THAT BY DIRECTION ONENECK IT SOLUTIONS, I HAVE SURVEYED, DIVIDED, AND MAPPED THE LANDS DESCRIBED HEREON AND THAT THE MAP IS A CORRECT REPRESENTATION IN ACCORDANCE WITH THE INFORMATION PROVIDED. I FURTHER CERTIFY THAT THIS CERTIFIED SURVEY MAP IS IN FULL COMPLIANCE WITH CHAPTER 236.34 OF THE WISCONSIN STATUTES AND THE SUBDIVISION REGULATIONS OF THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

_____ _____

JULIUS W. SMITH, S-3091 DATE
WISCONSIN PROFESSIONAL LAND SURVEYOR

WYSER ENGINEERING

PREPARED BY:
312 EAST MAIN STREET
MOUNT HOREB, WI 53572
www.wyserengineering.com

PREPARED FOR:
ONENECK IT SOLUTIONS
10290 W 70TH ST.
EDEN PRAIRIE, MN 55344

SURVEYED BY: JWS
DRAWN BY: JWS
APPROVED BY: JWS

PROJECT NO: 16-0362
SHEET NO: 3 of 4

VOL. _____ PAGE _____
DOC. NO. _____
C.S.M. NO. _____

*CERTIFIED SURVEY MAP NO.*_____

CONSOLIDATION OF LOT 2, CERTIFIED SURVEY MAP NO. 12188, RECORDED ON JUNE 29, 2007 IN VOLUME 75 OF CERTIFIED SURVEY MAPS, ON PAGES 168-170, AS DOCUMENT NO. 4328586 AND LOT 25, TECHLANDS, RECORDED JULY 11TH, 2014 IN VOLUME 60-028A OF PLATS ON PAGES 144-145, AS DOCUMENT NO. 5083285, BEING A PART OF THE SOUTHWEST QUARTER OF NORTHWEST QUARTER AND A PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, ALL IN SECTION 15, TOWN 06 NORTH, RANGE 09 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

OWNER'S CERTIFICATE

WE, ONENECK DATA CENTER HOLDINGS LLC, AS OWNER, HEREBY CERTIFY THAT WE CAUSED THE LANDS DESCRIBED HEREON TO BE SURVEYED, DIVIDED, MAPPED AND DEDICATED AS SHOWN. WE ALSO CERTIFY THAT THIS CERTIFIED SURVEY MAP IS REQUIRED BY S. 236.34 WISCONSIN STATUTES, TO BE SUBMITTED TO THE CITY OF FITCHBURG FOR APPROVAL OR OBJECTION.

WITNESS THE HAND AND SEAL OF SAID OWNER THIS _____ DAY OF _____, 2017

BY: _____
AUTHORIZED MEMBER

STATE OF WISCONSIN) SS
DANE COUNTY) SS

PERSONALLY CAME BEFORE ME THIS_____DAY OF_____, 2017,

THE ABOVE NAMED_____ AUTHORIZED MEMBER OF ONENECK DATA CENTER HOLDINGS, LLC, TO ME KNOWN TO BE THE PERSON WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THE SAME.

_____ _____
NOTARY PUBLIC, STATE OF WISCONSIN MY COMMISSION EXPIRES

CITY OF FITCHBURG APPROVAL

THIS CERTIFIED SURVEY MAP, INCLUDING THE DEDICATIONS SHOWN HEREON, HAS BEEN DULY FILED WITH AND APPROVED BY THE COMMON COUNCIL OF THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

DATED THIS _____ DAY OF _____, 2017

_____
PATTI ANDERSON,
CITY CLERK, CITY OF FITCHBURG

OFFICE OF THE REGISTER OF DEEDS

_____COUNTY, WISCONSIN

RECEIVED FOR RECORD_____,

20____ AT_____O'CLOCK_____M AS

DOCUMENT # _____

IN VOL. _____ OF CERTIFIED SURVEY

MAPS ON PAGE(S) _____ .

_____
REGISTER OF DEEDS

WYSER ENGINEERING

PREPARED BY:
312 EAST MAIN STREET
MOUNT HOREB, WI 53572
www.wyserengineering.com

PREPARED FOR:
ONENECK IT SOLUTIONS
10290 W 70TH ST.
EDEN PRAIRIE, MN 55344

SURVEYED BY: JWS
DRAWN BY: JWS
APPROVED BY: JWS

PROJECT NO: 16-0362
SHEET NO: 4 of 4

File: W:\2016\160362_invision - OneNeck IT Solutions\dwg\160362_Nobel Drive_CSM.dwg Layout: CSM 4 OF 4 User: Jule Plotted: Aug 17, 2017 - 4:06pm

APPENDIX B

Soils Information

OneNeck IT Expansion Soils Map

October 13, 2017

Soils

Hydrologic Soil Group

A

A/D

B

B/D

C

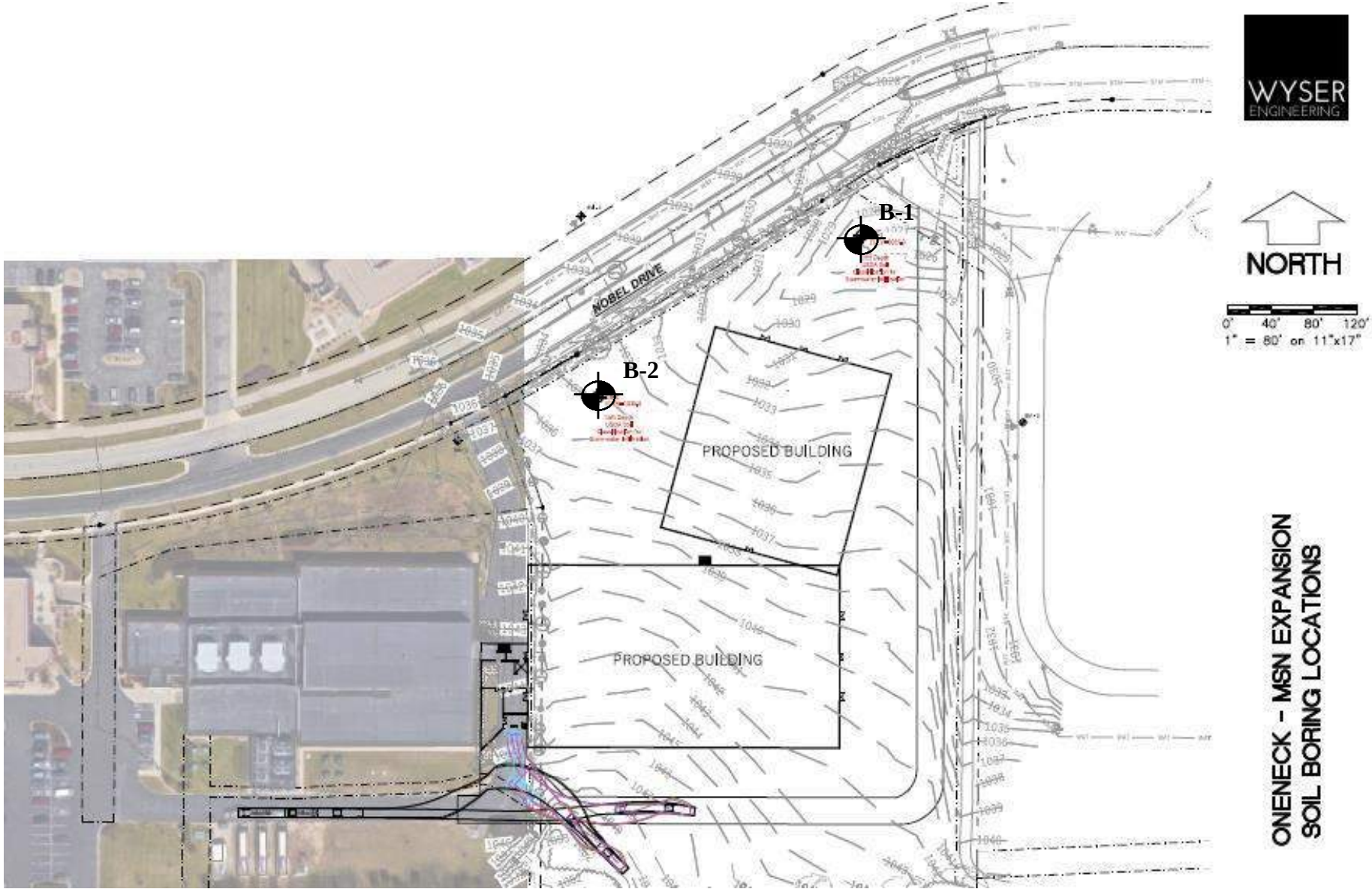
C/D

D

Tax Parcels

1 inch = 300 feet

0 190 380 760 Feet



Legend

Denotes Boring Location and Number

Notes

1. Boring drilled by Badger State Drilling on September 19 & October 23, 2017.
2. Base map provided by Invision Architects.
3. Boring locations are approximate.

Job No. C17377	**CGC, Inc.**	**SOIL BORING LOCATION EXHIBIT** **Proposed Stormwater Management Area** **OneNeck IT Solutions Expansion** **Nobel Drive** **City of Fitchburg, Dane County, WI**
Date: 10/2017		

Wisconsin Department of Safety & Professional Services
Division of Safety and Buildings

SOIL EVALUATION - STORM

in accordance with Comm 82.365 & 85, Wis. Adm. Code

County	Dane
Parcel I.D.	060915267652
Review by	Date

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

Personal information you provide may be used for secondary purposes (Privacy Law, s.15.04 (1) (m)).

Property Owner
OneNeck Data Center Holdings, LLC % Tax Dept.

Property Location
Govt. Lot SE 1/4 NW 1/4 S 15 T 06 N R 09 E

Property Owner's Mailing Address
8401 Greenway Blvd, Suite 230

Lot # 25 | Block # | Subd. Name or CSM# Techlands

City	State	Zip Code	Phone Number
Middleton	WI	53562	

[X] City [ ] Village [ ] Town — Nearest Road: 5505 Nobel Drive

Fitchburg

Drainage area_____ [ ] sq. ft. [ ] acres

Optional:

Test Site Suitable for (check all that apply)

[ ] Irrigation [ ] Bioretention trench [ ] Trench(es)
[ ] Rain Garden [ ] Grassed Swale [ ] Reuse
[ ] Infiltration trench [ ] SDS (>15' wide) [ ] Other _____

Hydraulic Application Test Method

[X] Morphological Evaluation
[ ] Double-Ring Infiltrometer
[ ] Other (Specify)_____

1 Obs. # [X] Boring [ ] Pit — Ground Surface Elev. 1027 ft — Depth to limiting factor 42 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate Inches/Hr
1	0 - 8		Topsoil - No Sample Collected		-	-	-	-	-
2	8 - 42	10 YR 5/3, 5/2	None	SiCL	3msbk	mfi	gs	<5	0.04
3	42 - 72	10 YR 5/2	C2P 7.5 YR 4/4	SiCL	1msbk	mfr	gs	<5	0.04
4	72 - 126	10 YR 5/6	None	GRLS/SiL	0sg	ml	gs	10 - 20	0.13 - 1.6(2)
5	126 - 180	10 YR 5/4	None	GRSL/SiL	1msbk	mvfr		10 - 20	0.13 - 0.5(2)

(1) Redox encountered in Horizons 3 may be from perched/infiltrating water or seasonally elevated groundwater levels.

(2) Silt loam seams will limit infiltration potential; infiltration potential can potentially be improved if soil is excavated and turned over to break up silt loam seams.

2 Obs. # [X] Boring [ ] Pit — Ground Surface Elev. 1035 ft — Depth to limiting factor 66 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate Inches/Hr
1	0 - 5		Topsoil - No Sample Collected		-	-	-	-	-
2	5 - 66	10 YR 3/2, 4/3	None	SiCL/SL (Fill)	Variable	Variable	gs	5 - 10	0.04
3	66 - 96	10 YR 5/4	C2F 10 YR 5/2	SiCL	0m	mvfr	gs	<5	0.04
4	96 - 120	10 YR 3/3	None	SCL	0m	mvfr	gs	<5	0.11
5	120 - 156	10 YR 6/4	None	FS	0sg	ml	gs	<5	0.5
6	156 - 180	10 YR 6/3	None	LS/SiL	0sg	ml		5 - 10	0.13 - 0.5(2)

(1) Redox encountered in Horizons 3 may be from perched/infiltrating water or seasonally elevated groundwater levels.

(2) Silt loam seams will limit infiltration potential; infiltration potential can potentially be improved if soil is excavated and turned over to break up silt loam seams.

CST/PSS Name (Please Print)	Signature	CST/PSS Number
DAVID A STAAB	David Staab	1042602
Address	**Date Evaluation Conducted**	**Telephone Number**
641 PIPER DRIVE, MADISON, WI	9/19/2017, 10/23/2017	608/279-4530

Property Owner OneNeck Data Center Holdings, LLC Parcel ID# 060915267652 Page 2 of 2

Obs. # ☐ Boring ☐ Pit Ground Surface Elev. _____ ft Depth to limiting factor _____ in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate Inches/Hr

Obs. # ☐ Boring ☐ Pit Ground Surface Elev. _____ ft Depth to limiting factor _____ in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate Inches/Hr

Obs. # ☐ Boring ☐ Pit Ground Surface Elev. _____ ft Depth to limiting factor _____ in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate Inches/Hr

Comments: The shallow to intermediate depth clay soils with redox indicate presence of saturation. The saturation may be from regularly-occuring ponded surface water infiltrating into the subsurface or from elevated groundwater levels. The level where redox occured likely represents the seasonal high groundwater table. Scattered lower permeability silt loam seams in otherwise primarily gravelly loamy sand, gravelly sandy loam and loamy sand will limit the infiltration potention unless the soil is excavated and turned over to break up the low permeability seams. Supplemental test pits should be excavated in the bottom of the basin during construction to document the soil is suitable for the design infiltration rate.

CGC Inc.

LOG OF TEST BORING

Project: One Neck IT Solutions
5505 Nobel Drive
Location: Fitchburg, WI

Boring No. 1
Surface Elevation (ft) 1027±
Job No. C17377
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						8 in.± TOPSOIL (OL)					
1		16	M	20		Very Stiff to Hard, Brown/Gray Lean CLAY, Trace Sand and Fine Roots (CL) *USDA: 10YR 5/3, 5/2 Silty Clay Loam*	(4.0)				
2		8	M	11	5	Stiff, Gray/Brown (Mottled) Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/2 Silty Clay Loam* *(Redox: C2D 7.5YR 4/4)*	(1.75)				
3		12	M	14		Medium Dense, Yellow-Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Silt Seams (SP-SM/SM) *USDA: 10YR 5/6 Gravelly Loamy Sand, Scattered Silt Loam Seams*		6.9			
4		16	M	22	10	*P200 (Sample 3): 17.5%*					
5		12	M	36		Dense, Brown Fine to Medium SAND, Some Silt and Some Gravel, Scattered Cobbles/Boulders and Thin Silt Seams (SM) *USDA: 10YR 5/4 Gravelly Sandy Loam, Scattered Silt Loam Seams*		6.6			
6		14	M/W	32	15	*P200 (Sample 5): 18.1%*					
						End of Boring at 15 ft Backfilled with Bentonite Chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water NW ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 9/19/17 End 9/19/17
Driller BSD Chief MC Rig CME
Logger MG Editor DAS 55
Drill Method 2.25" HSA Autohammer

CGC Inc.

LOG OF TEST BORING

Project: One Neck IT Solutions
5505 Nobel Drive
Location: Fitchburg, WI

Boring No. 2
Surface Elevation (ft) 1035±
Job No. C17377
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						5 in.± TOPSOIL FILL (OL)					
1		18	M	16		FILL: Very Stiff, Dark Gray/Brown Silty to Lean Clay, Intermixed with Silty Sand, Little Gravel *USDA: 10YR 3/2, 4/3 Silty Clay Loam and Sandy Loam (Fill)*	(2.25)				
2		8	M	13			(4.0)				
					5						
3		18	M	5		Soft to Medium to Stiff, Brown/Gray (Lightly Mottled) Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/4 Silty Clay Loam (Redox: C2F 10YR 5/2)*	(0.5)				
4		18	M/W	6		Loose, Dark Brown Clayey Fine SAND (SC) *USDA:10YR 3/3 Sandy Clay Loam*					
					10						
5		16	M	15		Medium Dense, Light Brown Fine SAND, Trace to Little Silt (SP/SP-SM) *USDA: 10YR 6/4 Fine Sand*					
6		16	M	21		Medium Dense, Brown Fine to Medium SAND, Little to Some Silt, Little Gravel, Scattered Silt Seams (SP-SP/SM) *USDA: 10YR 6/3 Loamy Sand, Scattered Silt Loam Seams* *P200 (Sample 6): 24.4%, USDA Composite: Sandy Loam*		10.4			
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW — Upon Completion of Drilling NW
Time After Drilling
Depth to Water — NW ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/23/17 End 10/23/17
Driller BSD Chief KD Rig D-50
Logger DB Editor DAS
Drill Method 2.25" HSA Autohammer

Particle Size Distribution Report

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.9	14.6	4.7	8.1	47.2	17.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
3/4	92.1		
1/2	88.2		
3/8	84.1		
#4	77.5		
#8	73.4		
#10	72.8		
#16	71.1		
#30	68.5		
#40	64.7		
#50	55.8		
#80	38.1		
#100	31.4		
#200	17.5		

* (no specification provided)

Material Description

Brown Fine to Medium Sand, Some Gravel and Silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 16.1014 D_{85}= 10.0859 D_{60}= 0.3464
D_{50}= 0.2508 D_{30}= 0.1434 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

USDA: Gravelly Loamy Sand

Sample Number: B-1: S-3

Date: 9/20/17

CGC, Inc.

Client: Invision Arehiteeture
Project: One Neek 1T Solutions

Project No: C17377 **Figure**

Tested By: DRW **Checked By:** DAS

Particle Size Distribution Report

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	8.5	13.2	4.4	11.2	44.6	18.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
3/4	91.5		
1/2	84.4		
3/8	81.9		
#4	78.3		
#8	74.5		
#10	73.9		
#16	72.0		
#30	68.5		
#40	62.7		
#50	51.2		
#80	32.1		
#100	26.8		
#200	18.1		

* (no specification provided)

Material Description

Brown Fine to Medium Sand, Some Gravel and Silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 17.8658 D_{85}= 13.3435 D_{60}= 0.3860
D_{50}= 0.2903 D_{30}= 0.1683 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

USDA: Gravelly Sandy Loam

Sample Number: B-1: S-5

Date: 9/20/17

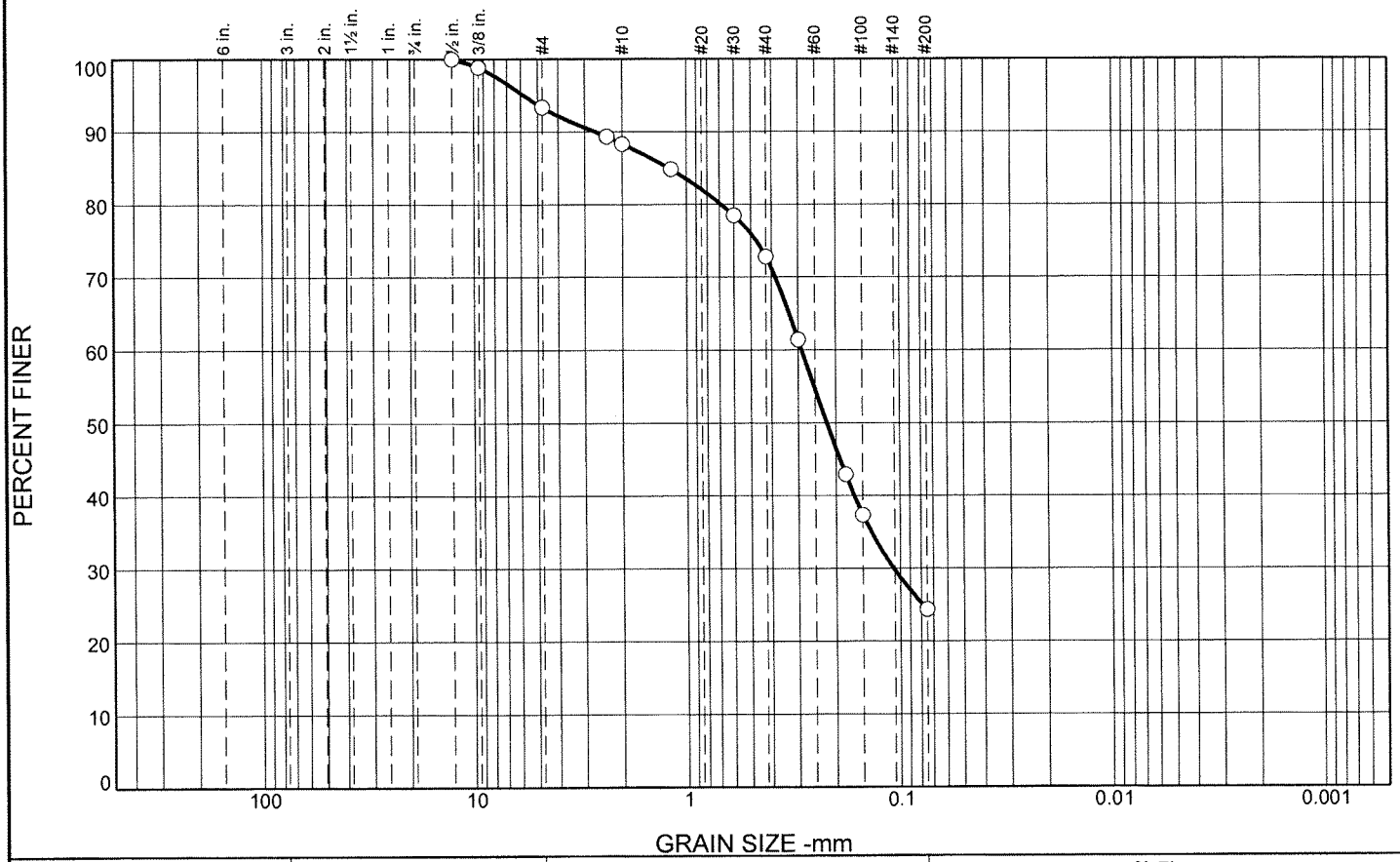
CGC, Inc.

Client: Invision Architecture
Project: One Neck IT Solutions

Project No: C17377 **Figure**

Tested By: DRW **Checked By:** DAS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.6	5.1	15.5	48.4	24.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2	100.0		
3/8	98.9		
#4	93.4		
#8	89.3		
#10	88.3		
#16	84.8		
#30	78.5		
#40	72.8		
#50	61.4		
#80	42.9		
#100	37.4		
#200	24.4		

* (no specification provided)

Material Description

Brown Fine to Coarse Sand, Some Silt, Little Gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.6608 D_{85}= 1.2057 D_{60}= 0.2887
D_{50}= 0.2205 D_{30}= 0.1077 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

USDA: Sandy Loam

Sample Number: B-2: S-6

Date: 10/25/17

CGC, Inc.

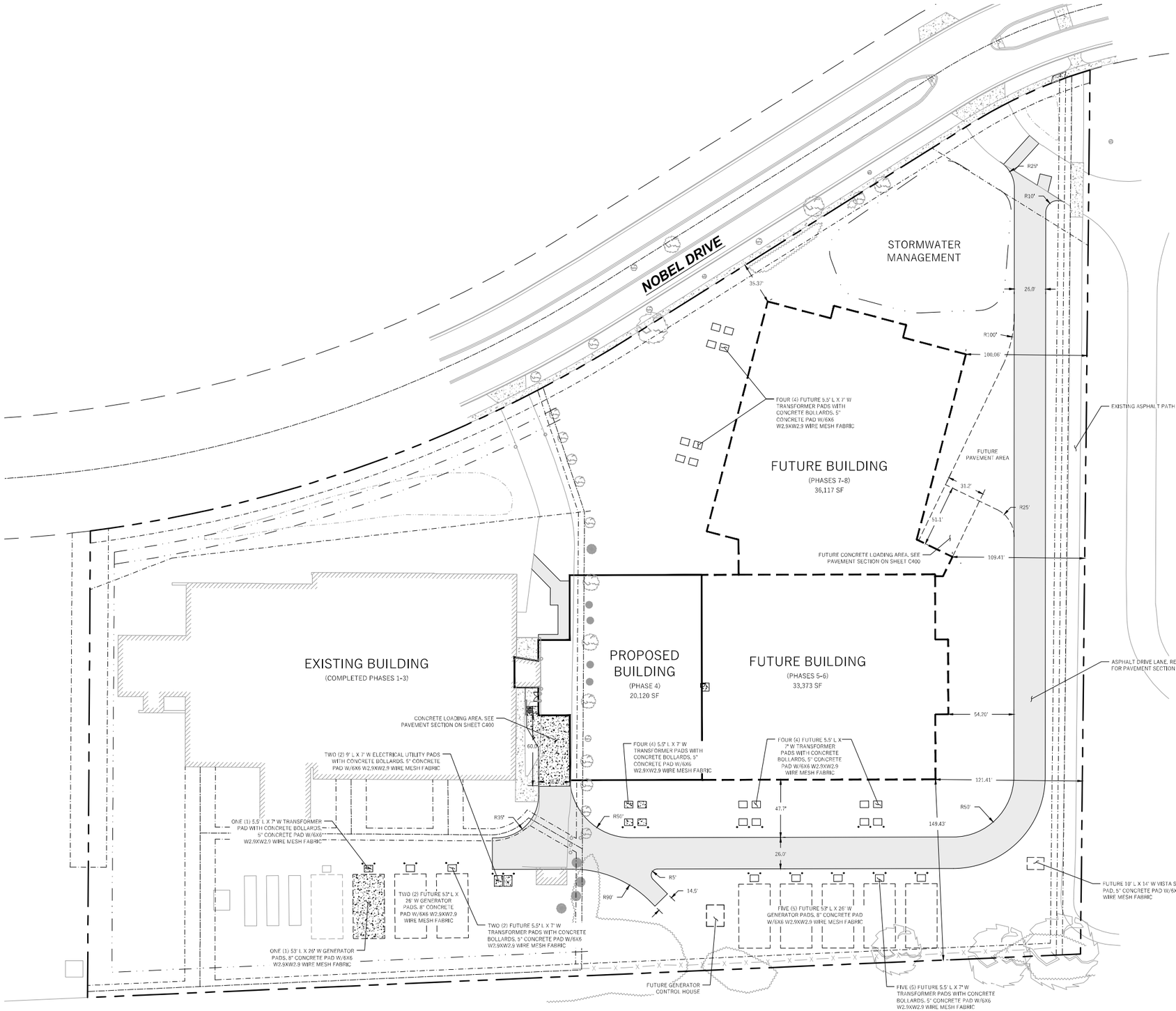
Client: Invision Architecture
Project: One Neck IT Solutions

Project No: C17377 **Figure**

Tested By: DRW **Checked By:** DAS

APPENDIX C

Proposed Construction Plans



1 OVERALL SITE PLAN
1" = 40'

NORTH

LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- STORMWATER TREATMENT FACILITY

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

SITE INFORMATION BLOCK:

SITE ADDRESS: 5055 NOBEL DRIVE (LOT 1 CSM 14613)
SITE ACREAGE: 9.97 AC
USE OF PROPERTY: INFORMATION TECHNOLOGY
ZONING: SPECIALIZED INDUSTRIAL (I-S)

SETBACKS:
FRONT YARD: 20-FEET
REAR YARD: 30-FEET
SIDE YARD: 10-FEET

EXISTING IMPERVIOUS SURFACE AREA (PHASES 1-3): 94,923 SQ.FT.
ROOFTOP: 52,022 SQ.FT.
PAVEMENT: 30,104 SQ.FT.
BIKE PATH: 7,070 SQ. FT.
UTILITY PADS: 5,727 SQ.FT.

PHASE 4 IMPERVIOUS SURFACE AREA: 51,209 SQ. FT.
ROOFTOP: 20,120 SQ.FT.
PAVEMENT: 29,393 SQ.FT.
UTILITY PADS: 1,696 SQ.FT.

FUTURE (PHASES 5-8) IMPERVIOUS SURFACE AREA: 85,956 SQ. FT.
FUTURE ADDITIONS: 69,490 SQ. FT.
FUTURE PAVEMENT: 5,795 SQ. FT.
FUTURE UTILITY PADS: 10,671 SQ. FT.

FULL BUILDOUT TOTAL IMPERVIOUS SURFACE AREA: 232,088 SQ.FT.
FULL BUILDOUT IMPERVIOUS SURFACE RATIO: 53.4%

DISTURBANCE LIMITS: 240,900 SQ. FT.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

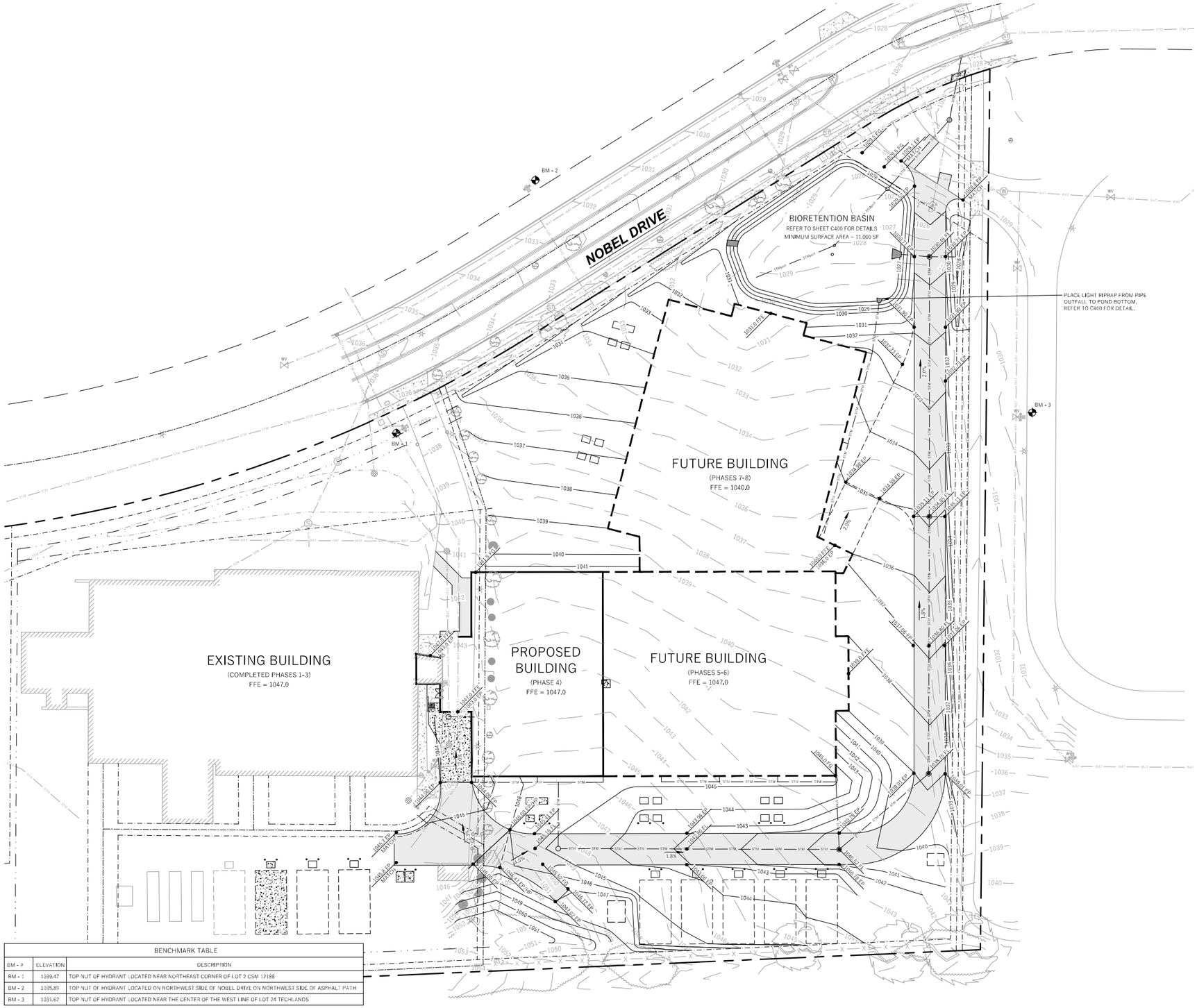
OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions
MSN DATA CENTER - PHASE 4
5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058
DATE: 12.21.2017
SHEET SET: ARCHITECTURAL & DESIGN REVIEW
SHEET NAME: OVERALL SITE PLAN
SHEET: C100

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Site Plan User: WYSER - Z240 - W10 Plotted: Dec 20, 2017 - 3:39pm



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 GRADING AND EROSION CONTROL PLAN - OVERALL
1" = 40'

LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 1030 PROPOSED MAJOR CONTOUR
- 1029 PROPOSED MINOR CONTOUR
- STM STM STM PROPOSED STORM SEWER
- 1030.46 EP SPOT GRADE
- DRAINAGE GRADE BREAK
- 1.0% DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. CONTRACTOR SHALL CHISEL-PLOW OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY JUST PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
9. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014)
10. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
11. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
    a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET.
    b. WISDOT P-AL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 SHALL USE PRESCRIPTIVE COMPLIANCE INCLUDING SLOPE INTERRUPTION PER WDNR TECH. STD. 1071. SOIL STABILIZATION (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS II, TYPE B MATTING IN DRAINAGE SWALES) AND LIMITING THE MAX PERIOD OF BARE SOIL TO 60 DAYS FOR LAND DISTURBANCE BETWEEN SEPTEMBER 16 AND MAY AND 30 DAYS FOR LAND DISTURBANCE BETWEEN MAY 2 AND SEPTEMBER 15.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
12.21.2017

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

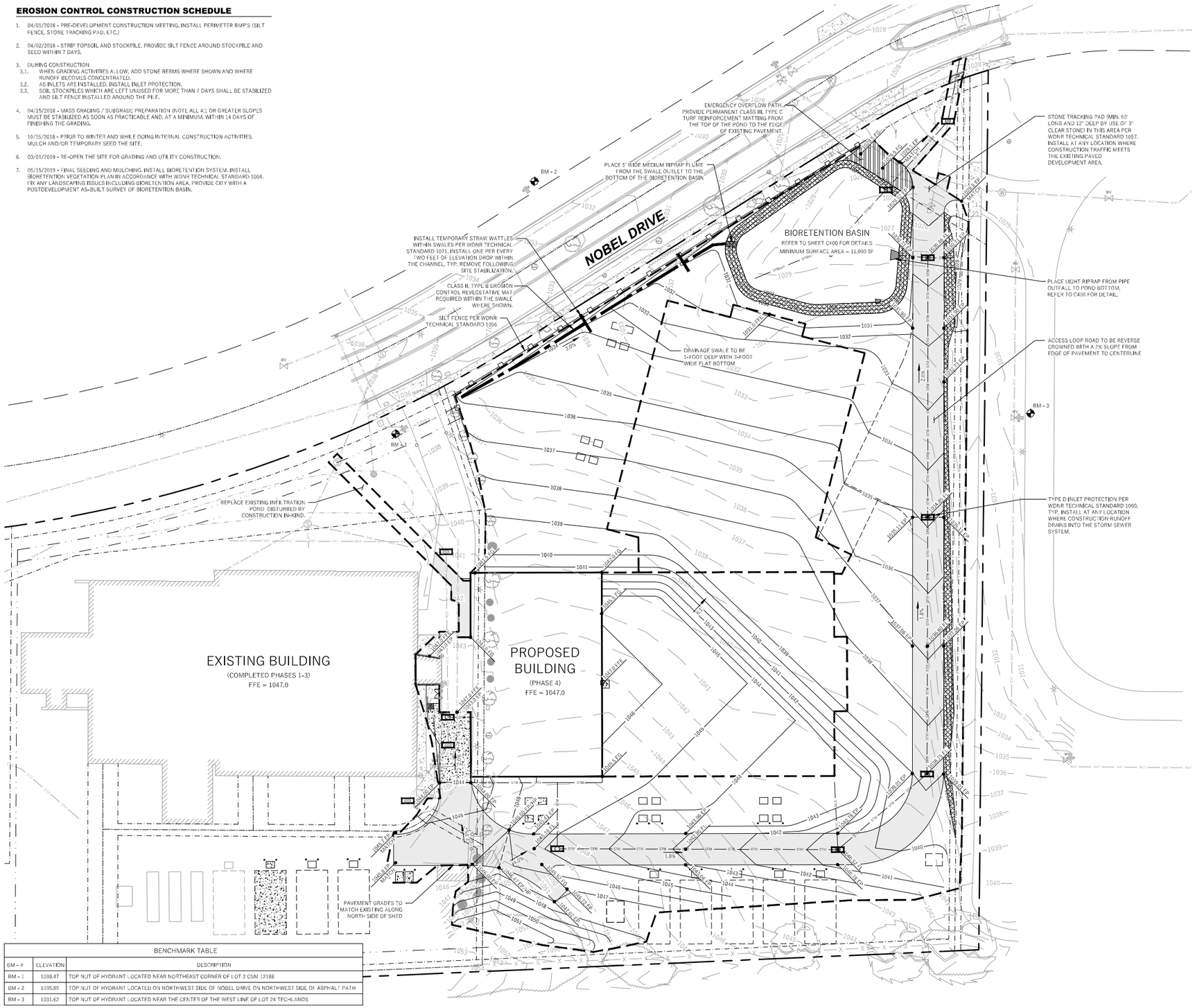
SHEET NAME:
FULL BUILDOUT GRADING PLAN

SHEET:
C200

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Grading Plan - Overall User: WYSER - Z240 - W10 Plotted: Dec 20, 2017 - 3:39pm

EROSION CONTROL CONSTRUCTION SCHEDULE

1. 04/01/2018 - PRE-DEVELOPMENT CONSTRUCTION MEETING. INSTALL PERIMETER BMP'S (SILT FENCE, STONE TRACKING PAD, ETC.)
2. 04/02/2018 - STRIP TOPSOIL AND STOCKPILE. PROVIDE SILT FENCE AROUND STOCKPILE AND SEED WITHIN 7 DAYS.
3. DURING CONSTRUCTION
   - 3.1. WHEN GRADING ACTIVITIES ALLOW, ADD STONE BERMS WHERE SHOWN AND WHERE RUNOFF BECOMES CONCENTRATED.
   - 3.2. AS INLETS ARE INSTALLED, INSTALL INLET PROTECTION.
   - 3.3. SOIL STOCKPILES WHICH ARE LEFT UNUSED FOR MORE THAN 7 DAYS SHALL BE STABILIZED AND SILT FENCE INSTALLED AROUND THE PILE.
4. 04/15/2018 - MASS GRADING / SUBGRADE PREPARATION (NOTE ALL 4:1 OR GREATER SLOPES MUST BE STABILIZED AS SOON AS PRACTICABLE AND, AT A MINIMUM, WITHIN 14 DAYS OF FINISHING THE GRADING.
5. 10/15/2018 - PRIOR TO WINTER AND WHILE DOING INTERNAL CONSTRUCTION ACTIVITIES, MULCH AND/OR TEMPORARY SEED THE SITE.
6. 03/01/2019 - RE-OPEN THE SITE FOR GRADING AND UTILITY CONSTRUCTION.
7. 05/15/2019 - FINAL SEEDING AND MULCHING. INSTALL BIORETENTION SYSTEM. INSTALL BIORETENTION VEGETATION PLAN IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004. FIX ANY LANDSCAPING ISSUES INCLUDING BIORETENTION AREA. PROVIDE CITY WITH A POSTDEVELOPMENT AS-BUILT SURVEY OF BIORETENTION BASIN.



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 GRADING AND EROSION CONTROL PLAN - PHASE 4
1" = 40'

LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK
- SWALE EROSION MATTING
- EROSION MATTING
- CLASS III, TYPE C TURF REINFORCEMENT MATTING
- 1030 PROPOSED MAJOR CONTOUR
- 1029 PROPOSED MINOR CONTOUR
- DISTURBED AREA LIMITS
- STM PROPOSED STORM SEWER
- 1030.46 FP SPOT GRADE
- DRAINAGE GRADE BREAK
- 1.0% DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS (dnr.wi.gov).
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
3. ENGINEER / CITY OF FITCHBURG / WDNR HAS THE RIGHT TO REQUIRE CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.CONTRACTOR MUST NOTIFY THE CITY OF FITCHBURG BUILDING INSPECTOR TWO (2) WORKING DAYS IN ADVANCE OF ANY SOIL DISTURBANCE ACTIVITIES.
4. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ONCE PER WEEK AND FOLLOWING EACH RAINFALL EVENT. INSPECTION REPORTING SHALL BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES IN WORKING ORDER. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. DEWATERING PRACTICES SHALL COMPLY WITH TECHNICAL STANDARD 1061.
7. DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
9. SEED MIX AND RATE SHALL BE, AT A MINIMUM, IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1059.
10. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE VEGETATION PLAN FOR ENGINEER / OWNER APPROVAL. VEGETATION PLAN AND BIORETENTION INSTALLATION SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004.
11. CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL EROSION CONTROL PERMIT AND WDNR NOI AND FOLLOWING ALL APPLICABLE REQUIREMENTS.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. CONTRACTOR SHALL CHISEL-PLOW OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY JUST PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
9. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014)
10. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
11. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
    - a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET.
    - b. WISDOT PAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 SHALL USE PRESCRIPTIVE COMPLIANCE INCLUDING SLOPE INTERRUPTION PER WDNR TECH. STD. 1071. SOIL STABILIZATION (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS III, TYPE B MATTING IN DRAINAGE SWALES) AND LIMITING THE MAX PERIOD OF BARE SOIL TO 60 DAYS FOR LAND DISTURBANCE BETWEEN SEPTEMBER 16 AND MAY AND 30 DAYS FOR LAND DISTURBANCE BETWEEN MAY 2 AND SEPTEMBER 15.

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:
DATE NAME

OneNeck IT Solutions
MSN DATA CENTER - PHASE 4
5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058
DATE: 12.21.2017
SHEET SET: ARCHITECTURAL & DESIGN REVIEW
SHEET NAME: GRADING & EROSION CONTROL PLAN - PHASE 4
SHEET: C201

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Grading Plan - Phase 4 User: WYSER - Z240 - W10 Plotted: Dec 20, 2017 - 3:39pm

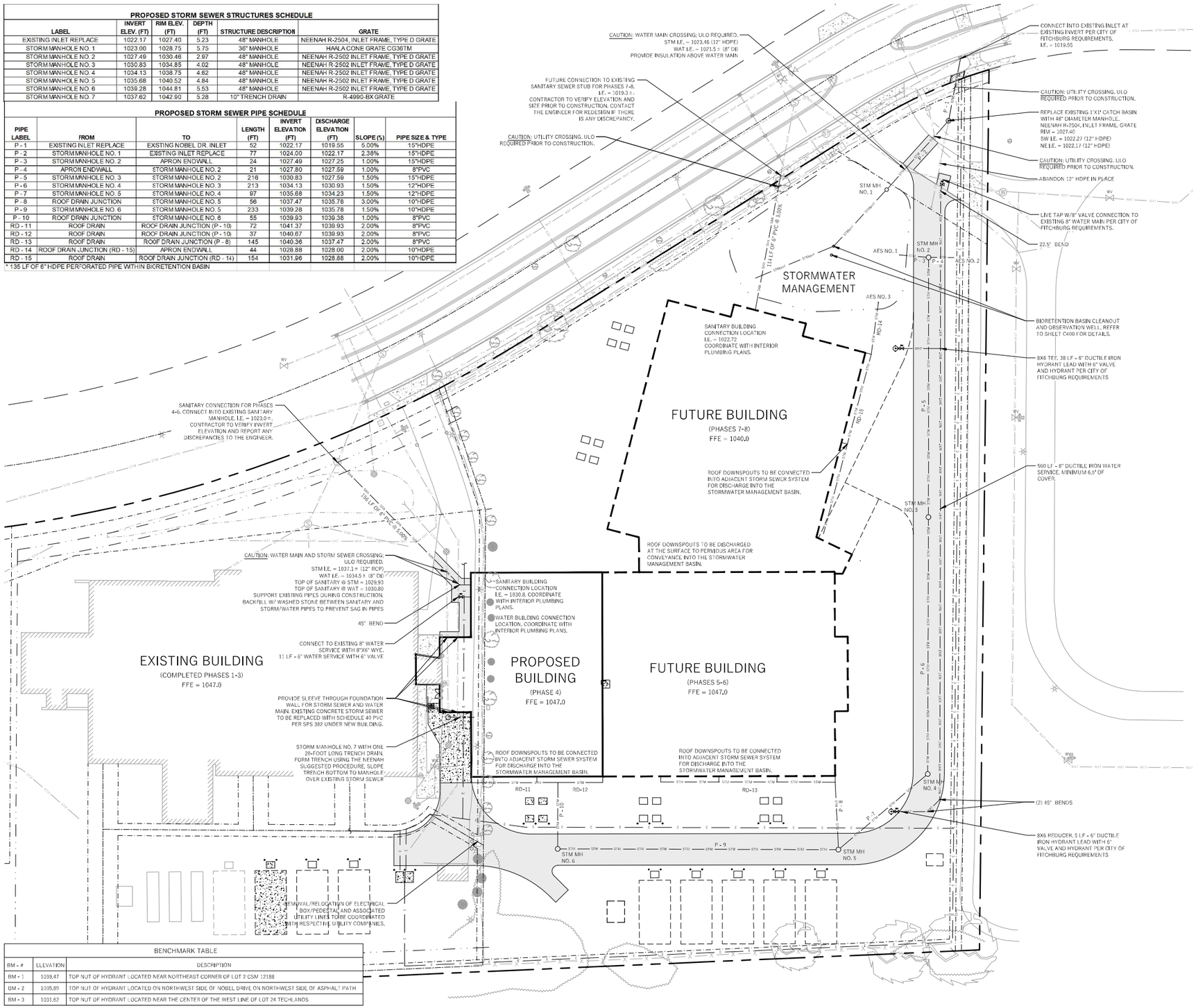
PROPOSED STORM SEWER STRUCTURES SCHEDULE

LABEL	INVERT ELEV. (FT)	RIM ELEV. (FT)	DEPTH (FT)	STRUCTURE DESCRIPTION	GRATE
EXISTING INLET REPLACE	1022.17	1027.40	5.23	48" MANHOLE	NEENAH R-2504, INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 1	1023.00	1028.75	5.75	36" MANHOLE	HAALA CONE GRATE CG36TM
STORM MANHOLE NO. 2	1027.49	1030.46	2.97	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 3	1030.83	1034.85	4.02	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 4	1034.13	1038.75	4.62	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 5	1035.68	1040.52	4.84	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 6	1039.28	1044.81	5.53	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 7	1037.62	1042.90	5.28	10" TRENCH DRAIN	R-4990-BX GRATE

PROPOSED STORM SEWER PIPE SCHEDULE

PIPE LABEL	FROM	TO	LENGTH (FT)	INVERT ELEVATION (FT)	DISCHARGE ELEVATION (FT)	SLOPE (%)	PIPE SIZE & TYPE
P - 1	EXISTING INLET REPLACE	EXISTING NOBEL DR. INLET	52	1022.17	1019.55	5.00%	15"HDPE
P - 2	STORM MANHOLE NO. 1	EXISTING INLET REPLACE	77	1024.00	1022.17	2.38%	15"HDPE
P - 3	STORM MANHOLE NO. 2	APRON ENDWALL	24	1027.49	1027.25	1.00%	15"HDPE
P - 4	APRON ENDWALL	STORM MANHOLE NO. 2	21	1027.80	1027.59	1.00%	8"PVC
P - 5	STORM MANHOLE NO. 3	STORM MANHOLE NO. 2	216	1030.83	1027.59	1.50%	15"HDPE
P - 6	STORM MANHOLE NO. 4	STORM MANHOLE NO. 3	213	1034.13	1030.93	1.50%	12"HDPE
P - 7	STORM MANHOLE NO. 5	STORM MANHOLE NO. 4	97	1035.68	1034.23	1.50%	12"HDPE
P - 8	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 5	56	1037.47	1035.78	3.00%	10"HDPE
P - 9	STORM MANHOLE NO. 6	STORM MANHOLE NO. 5	233	1039.28	1035.78	1.50%	10"HDPE
P - 10	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 6	55	1039.93	1039.38	1.00%	8"PVC
RD - 11	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	72	1041.37	1039.93	2.00%	8"PVC
RD - 12	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	37	1040.67	1039.93	2.00%	8"PVC
RD - 13	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 8)	145	1040.36	1037.47	2.00%	8"PVC
RD - 14	ROOF DRAIN JUNCTION (RD - 15)	APRON ENDWALL	44	1028.88	1028.00	2.00%	10"HDPE
RD - 15	ROOF DRAIN	ROOF DRAIN JUNCTION (RD - 14)	154	1031.96	1028.88	2.00%	10"HDPE

* 135 LF OF 6" HDPE PERFORATED PIPE WITHIN BIORETENTION BASIN



BENCHMARK TABLE

BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 UTILITY PLAN - OVERALL
1" = 40'

LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED GAS SERVICE (DESIGN BY OTHERS)
- PROPOSED ELECTRIC SERVICE (DESIGN BY OTHERS)
- STORMWATER TREATMENT FACILITY
- DRAINAGE GRADE BREAK
- 1.0% DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

UTILITY NOTES

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
2. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERING PLANS DESIGNED TO MEET ORDINANCES AND REQUIREMENTS OF THE MUNICIPALITY AND WISDOT, WISDSPS, AND WDNR.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
   - EXAMINING ALL SITES CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
   - VERIFYING UTILITY ELEVATIONS AND NOTIFYING ENGINEER OF ANY DISCREPANCY. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
   - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
   - NOTIFYING THE DESIGN ENGINEER AND MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION OBSERVATION.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
7. ANY SANITARY SEWER , SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. NO BLASTING IS ALLOWED WITHIN 30 FEET OF EXISTING UTILITIES.
8. ALL PRIVATE INTERCEPTOR WATER MAIN AND WATER SERVICES SHALL BE INSTALLED WITH A 6' MINIMUM BURY. PROVIDE INSULATION ABOVE PIPES WITH LESS THAN 5' OF GROUND COVER.
9. GRANULAR BACKFILL MATERIALS ARE REQUIRED IN ALL UTILITY TRENCHES UNDER SIDEWALKS AND PROPOSED PAVED AREAS (UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER). ALL UTILITY TRENCH BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS. ALL PAVEMENT PATCHING SHALL COMPLY WITH THE CITY OF FITHBURG STANDARD SPECIFICATIONS. ADDITIONAL PAVEMENT MILLING AND OVERLAY MAY BE REQUIRED BY PERMIT.
10. CONTRACTOR SHALL NOTIFY THE MUNICIPAL PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS BEFORE CONNECTING TO PUBLIC UTILITIES.
11. ALL NON-METALLIC BUILDING SEWER AND WATER SERVICES MUST BE ACCOMPANIED BY MEANS OF LOCATING UNDERGROUND PIPE. TRACER WIRE VALVE BOXES SHALL BE INSTALLED ON ALL LATERALS AND AS INDICATED ON THESE PLANS.
12. ALL, EXTERIOR CLEANOUTS SHALL BE PROVIDED WITH A FROST SLEEVE IN ACCORDANCE WITH SPS 382.34(5)(a)b AND SPS 384.30(2)(c).
13. ALL PRIVATE SANITARY BUILDING SEWER PIPE AND TUBING SHALL CONFORM TO SPS 384.30-3.
14. ALL PRIVATE STORM BUILDING PIPE AND TUBING SHALL CONFORM TO SPS 384.30-6.
15. ALL PRIVATE PIPE AND TUBING FOR WATER SERVICE SHALL CONFORM TO SPS 384.30-7.
16. ALL PRIVATE PIPE SHALL BE INSTALLED PER SPS 384.40-8 INCLUDING AT LEAST 8' OF HORIZONTAL DISTANCE BETWEEN WATER PIPING AND SANITARY SEWER FROM CENTER OF PIPE TO CENTER OF PIPE AND 6' OF SEPARATION BETWEEN STORM SEWER AND WATER PIPING.
17. THE CONTRACTOR SHALL ALLOW 10 WORKING DAYS FOR THE CONSTRUCTION OF GAS MAINS WHEN SCHEDULING THE WORK AND SHALL NOT RESTRICT ACCESS TO THE GAS MAIN CONTRACTOR OR OTHER UTILITY COMPANIES.
18. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTIONS WITH THE BUILDING PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO BE IN CONFORMANCE WITH THE CITY EROSION CONTROL AND STORMWATER ORDINANCE, AND DNR ADMINISTRATIVE RULE NR 216 AT ALL TIMES.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058

DATE: 12.21.2017

SHEET SET: ARCHITECTURAL & DESIGN REVIEW

SHEET NAME: UTILITY PLAN - FULL BUILD OUT

SHEET: C300

File: W:\2016\160362_Invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Utility Plan - Overall User: WYSER - Z240 - W10 Plotted: Dec 20, 2017 - 4:10pm

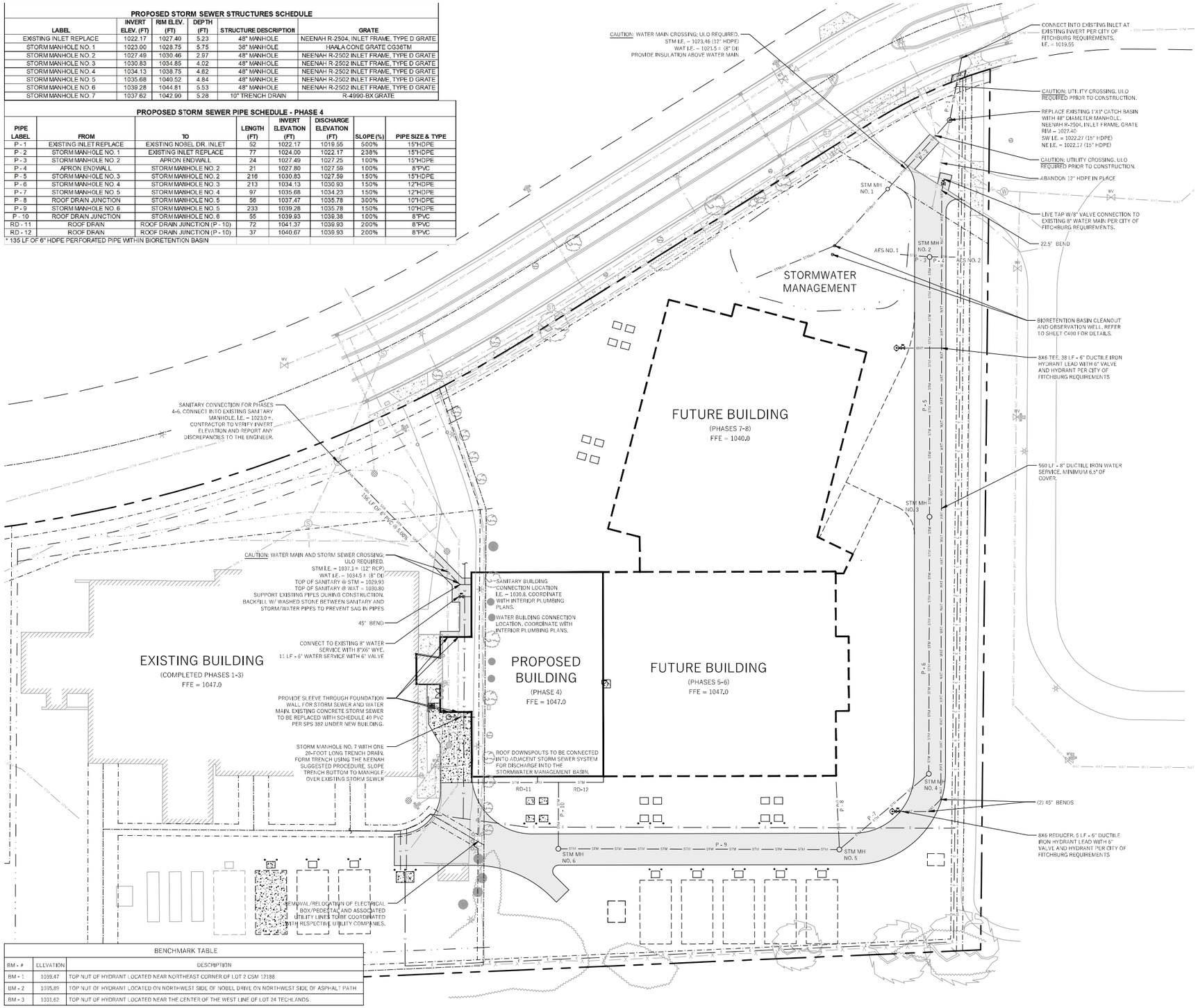
PROPOSED STORM SEWER STRUCTURES SCHEDULE

LABEL	INVERT ELEV. (FT)	RIM ELEV. (FT)	DEPTH (FT)	STRUCTURE DESCRIPTION	GRATE
EXISTING INLET REPLACE	1022.17	1027.40	5.23	48" MANHOLE	NEENAH R-2504, INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 1	1023.00	1028.75	5.75	36" MANHOLE	HAALA CONE GRATE CG36TM
STORM MANHOLE NO. 2	1027.49	1030.46	2.97	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 3	1030.83	1034.85	4.02	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 4	1034.13	1038.75	4.62	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 5	1035.68	1040.52	4.84	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 6	1039.28	1044.81	5.53	48" MANHOLE	NEENAH R-2502 INLET FRAME, TYPE D GRATE
STORM MANHOLE NO. 7	1037.62	1042.90	5.28	10" TRENCH DRAIN	R-4990-BX GRATE

PROPOSED STORM SEWER PIPE SCHEDULE - PHASE 4

PIPE LABEL	FROM	TO	LENGTH (FT)	INVERT ELEVATION (FT)	DISCHARGE ELEVATION (FT)	SLOPE (%)	PIPE SIZE & TYPE
P - 1	EXISTING INLET REPLACE	EXISTING NOBEL DR. INLET	52	1022.17	1019.55	5.00%	15"HDPE
P - 2	STORM MANHOLE NO. 1	EXISTING INLET REPLACE	77	1024.00	1022.17	2.38%	15"HDPE
P - 3	STORM MANHOLE NO. 2	APRON ENDWALL	24	1027.49	1027.25	1.00%	15"HDPE
P - 4	APRON ENDWALL	STORM MANHOLE NO. 2	21	1027.80	1027.59	1.00%	8"PVC
P - 5	STORM MANHOLE NO. 3	STORM MANHOLE NO. 2	216	1030.83	1027.59	1.50%	15"HDPE
P - 6	STORM MANHOLE NO. 4	STORM MANHOLE NO. 3	213	1034.13	1030.93	1.50%	12"HDPE
P - 7	STORM MANHOLE NO. 5	STORM MANHOLE NO. 4	97	1035.68	1034.23	1.50%	12"HDPE
P - 8	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 5	56	1037.47	1035.78	3.00%	10"HDPE
P - 9	STORM MANHOLE NO. 6	STORM MANHOLE NO. 5	233	1039.28	1035.78	1.50%	10"HDPE
P - 10	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 6	55	1039.93	1039.38	1.00%	8"PVC
RD - 11	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	72	1041.37	1039.93	2.00%	8"PVC
RD - 12	ROOF DRAIN	ROOF DRAIN JUNCTION (P - 10)	37	1040.67	1039.93	2.00%	8"PVC

* 135 LF OF 6" HDPE PERFORATED PIPE WITHIN BIORETENTION BASIN



BENCHMARK TABLE		
BM - #	ELEVATION	DESCRIPTION
BM - 1	1039.47	TOP NUT OF HYDRANT LOCATED NEAR NORTHEAST CORNER OF LOT 2 CSM 12188
BM - 2	1035.89	TOP NUT OF HYDRANT LOCATED ON NORTHWEST SIDE OF NOBEL DRIVE ON NORTHWEST SIDE OF ASPHALT PATH
BM - 3	1031.62	TOP NUT OF HYDRANT LOCATED NEAR THE CENTER OF THE WEST LINE OF LOT 24 TECHLANDS

NORTH

1 UTILITY PLAN - PHASE 4
1" = 40'

LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED GAS SERVICE (DESIGN BY OTHERS)
- PROPOSED ELECTRIC SERVICE (DESIGN BY OTHERS)
- STORMWATER TREATMENT FACILITY
- DRAINAGE GRADE BREAK
- 1.0% DRAINAGE ARROW

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

UTILITY NOTES

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
2. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERING PLANS DESIGNED TO MEET ORDINANCES AND REQUIREMENTS OF THE MUNICIPALITY AND WISDOT, WISDSPS, AND WDNR.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
   - EXAMINING ALL SITES CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
   - VERIFYING UTILITY ELEVATIONS AND NOTIFYING ENGINEER OF ANY DISCREPANCY. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
   - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
   - NOTIFYING THE DESIGN ENGINEER AND MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION OBSERVATION.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
7. ANY SANITARY SEWER , SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. NO BLASTING IS ALLOWED WITHIN 30 FEET OF EXISTING UTILITIES.
8. ALL PRIVATE INTERCEPTOR WATER MAIN AND WATER SERVICES SHALL BE INSTALLED WITH A 6' MINIMUM BURY. PROVIDE INSULATION ABOVE PIPES WITH LESS THAN 5' OF GROUND COVER.
9. GRANULAR BACKFILL MATERIALS ARE REQUIRED IN ALL UTILITY TRENCHES UNDER SIDEWALKS AND PROPOSED PAVED AREAS (UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER). ALL UTILITY TRENCH BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS. ALL PAVEMENT PATCHING SHALL COMPLY WITH THE CITY OF FITHBURG STANDARD SPECIFICATIONS. ADDITIONAL PAVEMENT MILLING AND OVERLAY MAY BE REQUIRED BY PERMIT.
10. CONTRACTOR SHALL NOTIFY THE MUNICIPAL PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS BEFORE CONNECTING TO PUBLIC UTILITIES.
11. ALL NON-METALLIC BUILDING SEWER AND WATER SERVICES MUST BE ACCOMPANIED BY MEANS OF LOCATING UNDERGROUND PIPE. TRACER WIRE VALVE BOXES SHALL BE INSTALLED ON ALL LATERALS AND AS INDICATED ON THESE PLANS.
12. ALL EXTERIOR CLEANOUTS SHALL BE PROVIDED WITH A FROST SLEEVE IN ACCORDANCE WITH SPS 382.34(5)(a)b AND SPS 384.30(2)(c).
13. ALL PRIVATE SANITARY BUILDING SEWER PIPE AND TUBING SHALL CONFORM TO SPS 384.30-3.
14. ALL PRIVATE STORM BUILDING PIPE AND TUBING SHALL CONFORM TO SPS 384.30-6.
15. ALL PRIVATE PIPE AND TUBING FOR WATER SERVICE SHALL CONFORM TO SPS 384.30-7.
16. ALL PRIVATE PIPE SHALL BE INSTALLED PER SPS 384.40-8 INCLUDING AT LEAST 8' OF HORIZONTAL DISTANCE BETWEEN WATER PIPING AND SANITARY SEWER FROM CENTER OF PIPE TO CENTER OF PIPE AND 6" OF SEPARATION BETWEEN STORM SEWER AND WATER PIPING.
17. THE CONTRACTOR SHALL ALLOW 10 WORKING DAYS FOR THE CONSTRUCTION OF GAS MAINS WHEN SCHEDULING THE WORK AND SHALL NOT RESTRICT ACCESS TO THE GAS MAIN CONTRACTOR OR OTHER UTILITY COMPANIES.
18. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTIONS WITH THE BUILDING PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO BE IN CONFORMANCE WITH THE CITY EROSION CONTROL AND STORMWATER ORDINANCE, AND DNR ADMINISTRATIVE RULE NR 216 AT ALL TIMES.

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

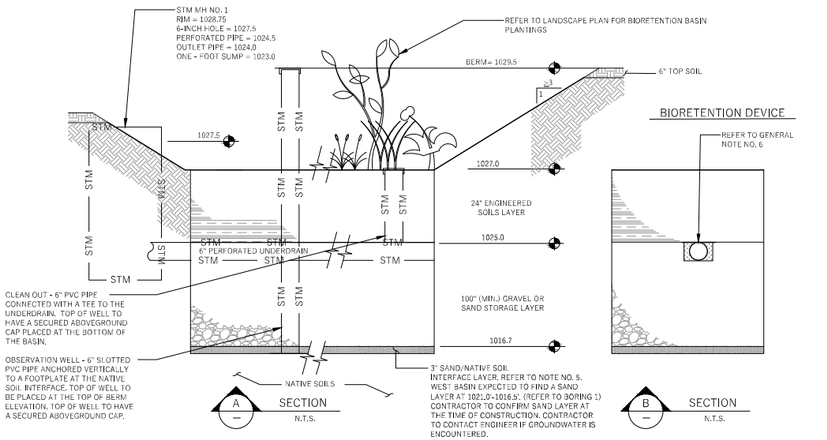
OWNER SIGN-OFF:

DATE	NAME

OneNeck IT Solutions
MSN DATA CENTER - PHASE 4
5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO: 17058
DATE: 12.21.2017
SHEET SET: ARCHITECTURAL & DESIGN REVIEW
SHEET NAME: UTILITY PLAN - PHASE 4
SHEET: C301

File: W:\2016\160362_Invision – OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Utility Plan – Phase 4 User: WYSER – 2240 – W10 Plotted: Dec 20, 2017 – 4:11pm

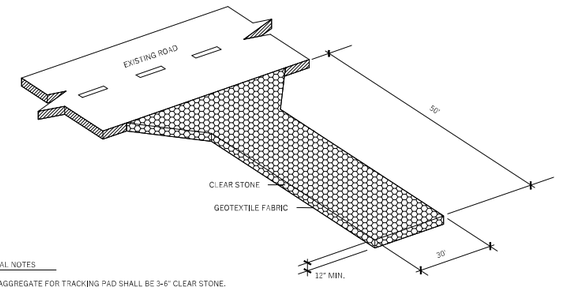


GENERAL NOTES:

1. ALL CONSTRUCTION PRACTICES SHALL MEET THE SPECIFICATIONS OF THE WDNR TECHNICAL STANDARD 1004 - BIORETENTION FOR INFILTRATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THIS STANDARD AND CONSTRUCT THE BIORETENTION DEVICE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED THEREIN.
2. CONTRACTOR SHALL SEED THE BASIN WITH NATIVE SEEDS AND INSTALL A CLASS II EROSION CONTROL MAT (OVERLAPPED AND ANCHORED WITH MIN. 6" LONG HARDWOOD STAKES). CUT AN "X" IN THE MATTING AND AUGER DOWN TO PLACE APPROPRIATE PLANTING PLUGS EVERY 12 INCHES ON CENTER.
3. CONTRACTOR SHALL INSTALL 24" OF ENGINEERED SOIL CONSISTING OF: 70% ASTM C33 SAND AND 30% CERTIFIED COMPOST (SEE GENERAL NOTE 4).
4. CERTIFIED COMPOST SHALL CONSIST OF: >40% ORGANIC MATTER, <60% ASH CONTENT, PH OF 6-8, AND MOISTURE CONTENT OF 35-50% BY WEIGHT.
5. SAND/NATIVE SOIL INTERFACE LAYER SHALL BE FORMED BY A LAYER OF SAND 3 INCHES DEEP, WHICH IS VERTICALLY MIXED WITH THE NATIVE SOIL TO A DEPTH OF 2-4 INCHES. A CONSTRUCTION REPRESENTATIVE MUST BE ON SITE DURING OVER EXCAVATION TO APPROVE OF THE DEPTH AND SOIL TYPES.
6. FILTER FABRIC SHALL BE PLACED ABOVE THE PERFORATED PIPE, BETWEEN THE PEA GRAVEL AND THE ENGINEERED SOIL, A WIDTH OF 4 FEET CENTERED OVER THE FLOW LINE OF THE PIPE.
7. ANNUAL RYE GRASS SHALL BE SEEDED AT 40 LB/ACRE WITH THE SEED MIX IN THE AREAS SURROUNDING THE BASIN, ON SIDE SLOPES, AND OVER ANY LAND THAT DISCHARGES INTO THE BASIN FOR EROSION CONTROL. WHEN BASIN IS BROUGHT ON-LINE, ROOTSTOP AND PLUGS ARE REQUIRED TO ESTABLISH VEGETATION AT THE INVERT OF THE BASIN.
8. RUNOFF MUST INFILTRATE WITHIN 24-HOURS. BASINS UNABLE TO MAINTAIN THESE RATES MUST BE DEEP TILLED, REGRADED, AND IF NECESSARY REPLANTED TO RESTORE ORIGINAL INFILTRATION RATES.
9. ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH APPLICABLE LOCAL, REGIONAL, AND STATE STORMWATER STANDARDS FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER.
10. REFER TO LANDSCAPE PLAN FOR PLANTING REQUIREMENTS.

INFILTRATION DEVICES ARE DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR), COUNTY, MUNICIPALITY, AND ENGINEERING STANDARD OF CARE, ALL DESIGNATED INFILTRATION AREAS (e.g. RAIN GARDENS, INFILTRATION BASINS, BIORETENTION DEVICES) SHALL BE FENCED PRIOR TO CONSTRUCTION AND REMAIN UNDISTURBED AND PROTECTED DURING THE CONSTRUCTION OF PROPOSED SITE IMPROVEMENTS. PROPOSED BIORETENTION DEVICES SHALL NOT BE CONSTRUCTED UNTIL THE DEVICE'S CONTRIBUTING WATERSHED AREA MEETS ESTABLISHED VEGETATION REQUIREMENTS SET FORTH WITHIN THE RESPECTIVE WDNR TECHNICAL STANDARDS. IF THE LOCATION OF THE INFILTRATION AREA CONFLICTS WITH CONSTRUCTION STAGING AND/OR CONSTRUCTION TRAFFIC AND IS DISTURBED, COMPACTION MITIGATION WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR IS REQUIRED TO PROVIDE QUALIFIED STAFF FOR INSPECTION AND OBSERVATION OF THE CONSTRUCTION ACTIVITIES RELATING TO ALL JOB SITE REGULATORY COMPLIANCE INCLUDING THE PROTECTION AND CONSTRUCTION OF ALL STORMWATER MANAGEMENT FEATURES. ANY OBSERVATION OF PLAN OR SITE DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.



MATERIAL NOTES

1. THE AGGREGATE FOR TRACKING PAD SHALL BE 3-6" CLEAR STONE.
2. THE TRACKING PAD SHALL BE UNDERLAIN WITH A WDOT TYPE R GEOTEXTILE FABRIC.

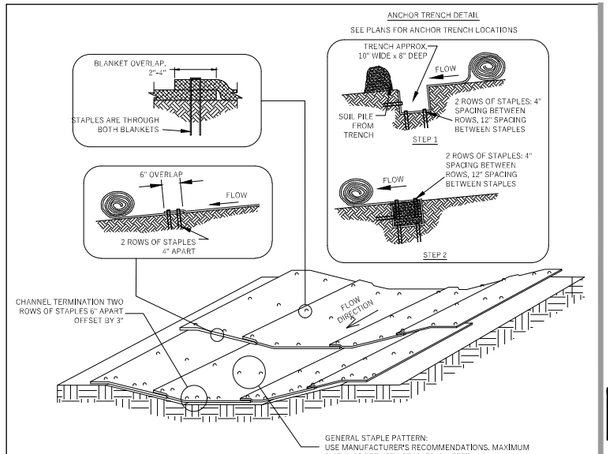
INSTALLATION NOTES

1. INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1057.
2. THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. STONE TRACKING PAD SHALL BE USED AT ALL POINTS OF CONSTRUCTION EGRESS.
3. DIMENSIONS OF THE TRACKING PAD SHALL BE MINIMUM AS NOTED ON THE FIGURE ABOVE.
4. SURFACE WATER SHALL BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM USING CULVERTS OR OTHER PRACTICES.
5. TRACKING PAD SHALL BE REMOVED OR INCORPORATED INTO GRAVEL DRIVEWAY ONLY AFTER CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED.

INSPECTION & MAINTENANCE NOTES

1. STONE TRACKING PADS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD.
2. ADDITIONAL AGGREGATE SHALL BE PLACED IF THE TRACKING PAD BECOMES BURIED OR IF SEDIMENT IS NOT BEING REMOVED EFFECTIVELY FROM THE VEHICLE TIRES.
3. A MINIMUM 30-FEET WIDE BY 50-FEET LONG BY 12-INCH THICK PAD SHALL BE MAINTAINED AT ALL TIMES.
4. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.
5. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING AT THE END OF EACH WORKING DAY.
6. MAINTENANCE SHALL BE COMPLETED AS SOON AS POSSIBLE WITH CONSIDERATION FOR SITE CONDITIONS.

CONSTRUCTION ENTRANCE (TRACKING PAD)



MATERIAL NOTES

1. ONLY PRODUCTS LISTED IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) ARE ACCEPTABLE FOR USE.
2. STAPLES USED FOR CLASS I TYPES A & B MATS SHALL BE 1-2 INCH WIDE, U-SHAPED, MADE OF NO.13 (2.05 mm) OR LARGER DIAMETER STEEL WIRE, AND NOT LESS THAN 6 INCHES LONG FOR FIRM SOILS AND 12 INCHES LONG FOR LOOSE SOILS.

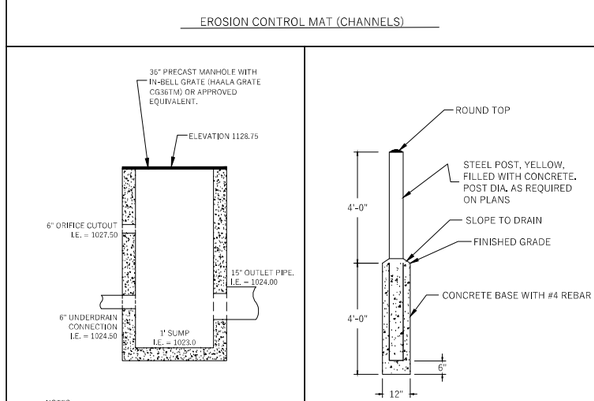
INSTALLATION NOTES

1. EROSION CONTROL REVEGETATIVE MATS (ECRM) SHALL BE INSTALLED AFTER TOPSOIL AND SEED HAVE BEEN PLACED.
2. INSTALLATION OF ECRM SHOULD BE COORDINATED WITH PERMANENT RESTORATION PRACTICES.
3. INSTALLATION SHALL CONFORM WITH WDNR CONSERVATION PRACTICE STANDARD 1053.
4. ALL PRODUCTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. THIS STANDARD DETAIL IS AN EXAMPLE OF TYPICAL INSTALLATION GUIDANCE.
5. MATS SHALL BE IN FIRM AND CONTINUOUS CONTACT WITH THE SOIL.
6. IF SECTIONS OF ECRM NEED TO BE OVERLAPPED, ENSURE THAT THE OVERLAP IS FACING DOWNSTREAM TO PREVENT WATER FROM FLOWING BENEATH THE ECRM.

INSPECTION & MAINTENANCE NOTES

1. INSTALL ADDITIONAL ANCHORING IN AREAS OF OBSERVED RILLING AND CONCENTRATED FLOW BENEATH THE EROSION MAT. IF RILLING IS SEVERE ENOUGH TO PREVENT VEGETATION ESTABLISHMENT, REMOVE EROSION MAT, REGRADE, COMPACT, RE-SEED, AND REPLACE THE SECTION OF MAT.
2. IF PRODUCTS WITH PLASTIC NETTING ARE USED, REMOVE NETTING OR REPLACE MAT IF SEPARATION OF THE NETTING FROM THE MAT IS OBSERVED.
3. ALL MAINTENANCE ACTIVITIES SHOULD OCCUR AS SOON AS POSSIBLE WITH CONSIDERATION OF SITE CONDITIONS.

EROSION CONTROL MAT (CHANNELS)

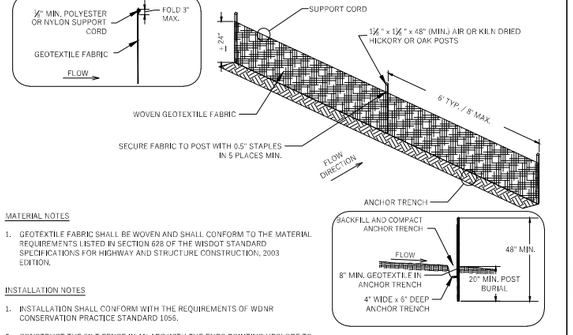


NOTES:

1. PROVIDE WATER TIGHT RUBBER GASKET OR BOOT FOR PLASTIC PVC CONNECTION TO CONCRETE MANHOLE.

BIO-RETENTION BASIN OUTLET STRUCTURE

CONCRETE BOLLARD



MATERIAL NOTES

1. GEOTEXTILE FABRIC SHALL BE WOVEN AND SHALL CONFORM TO THE MATERIAL REQUIREMENTS LISTED IN SECTION 628 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 2003 EDITION.

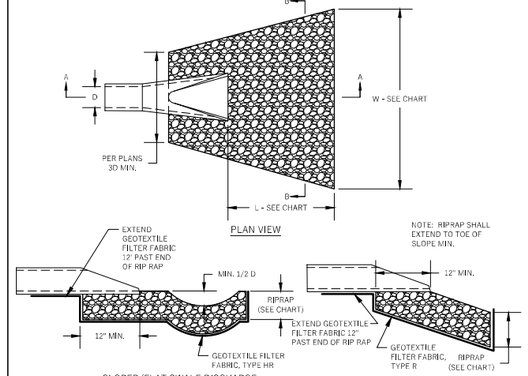
INSTALLATION NOTES

1. INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1056.
2. CONSTRUCT THE SILT FENCE IN AN ARC WITH THE ENDS POINTING UPSLOPE TO AVOID EROSION AROUND THE ENDS OF THE FENCE.
3. FAILURE TO PROPERLY ANCHOR SILT FENCE COULD RESULT IN WATER AND SEDIMENT RELEASE BENEATH THE SILT FENCE. PROPERLY SECURE THE SILT FENCE INTO THE ANCHOR TRENCH.
4. CONSTRUCT THE FENCE FROM A CONTINUOUS ROLL OF GEOTEXTILE TO AVOID JOINTS. WHERE JOINTS ARE NECESSARY, OVERLAP TO THE NEXT POST OR WRAP ADJOINING FABRICS TOGETHER AROUND THE JOINT POST AND TIGHTLY FASTEN.
5. SILT FENCE SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW.

INSPECTION & MAINTENANCE NOTES

1. AT A MINIMUM, PERFORM INSPECTIONS WEEKLY AND WITHIN 24 HOURS OF PRECIPITATION EVENTS PRODUCING 0.5 INCHES OR MORE OF RAINFALL.
2. INSPECT FENCES FOR DAMAGE TO STAKES AND FABRIC, UNDERCUTTING, EXCESSIVE SEDIMENT ACCUMULATION (GREATER THAN ½ OF THE FENCE HEIGHT), AND INDICATIONS OF SCOUR AROUND THE EDGES.
3. REPAIR OR REPLACE SILT FENCE WITHIN 24 HOURS OF IDENTIFYING AND DEFICIENCIES.

SILT FENCE

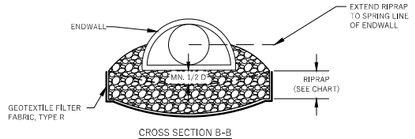


SLOPED/FLAT SWALE DISCHARGE AND FLAT POND DISCHARGE

SLOPED POND DISCHARGE

CROSS SECTION A-A

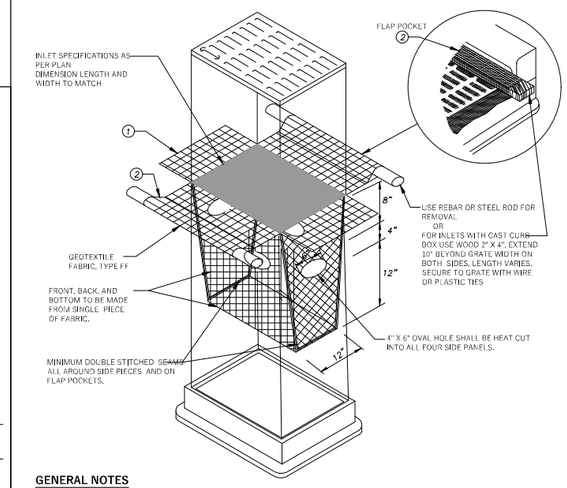
1) JOINT TIES SHALL BE INSTALLED AT THE LAST (DOWNSTREAM) TWO JOINTS ON ANY PIPE RUN ENDING IN AN APRON ENDWALL



CROSS SECTION B-B

STRUCTURE	W	L	DEPTH	TYPE
STM AE NO. 1	8.8'	7.5'	1.1'	LIGHT RIPRAP
STM AE NO. 3	4.7'	3.33'	1.7'	LIGHT RIPRAP

RIP RAP AND ENDWALL



GENERAL NOTES

THE WDNR TECHNICAL STANDARD 1060 FOR INLET PROTECTION SHALL BE FOLLOWED AT ALL TIMES. IF ANY VARIATION BETWEEN THIS DETAIL AND THE WDNR TECHNICAL STANDARD ARE FOUND, THE WDNR TECHNICAL STANDARD SHALL GOVERN.

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. USE TYPE C INLET PROTECTION WITHIN SHALLOW INLETS.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

TYPE D INLET PROTECTION

MATERIAL	THICKNESS	SPECIFICATION
BITUMINOUS UPPER LAYER	1.50"	SECTION 460, TABLE 460-1, 9.5 MM
BITUMINOUS LOWER LAYER	2.50"	SECTION 460, TABLE 460-1, 12.5 MM
DENSE GRADED BASE	10.0"	SECTION 301 AND 305, 31.5 MM
TOTAL THICKNESS	14.0"	

1. SPECIFICATIONS BASED ON GEOTECHNICAL REPORT AS PREPARED BY CGC, INC., DATED NOVEMBER 23, 2015. IF ANY DISCREPANCY BETWEEN THIS DETAIL AND THE GEOTECHNICAL REPORT IS FOUND, THE GEOTECHNICAL REPORT HOLDS.
2. REFERENCED SPECIFICATION IS WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, INCLUDING SUPPLEMENT SPECIFICATIONS, BUT EXCLUDING SECTION 460.3.2 RELATING LAYER THICKNESS TO AGGREGATE SIZE.
3. COMPACTION REQUIREMENTS
   3.1. BITUMINOUS CONCRETE: REFER TO SECTION 460-3.
   3.2. BASE COURSE: REFER TO SECTION 301.3.4.2, STANDARD COMPACTION
4. MIXTURE TYPE MT BITUMINOUS PAVEMENT IS RECOMMENDED, REFER TO SECTION 460, TABLE 460-2 OF THE STANDARD SPECIFICATIONS.
5. CONCRETE SLAB SECTION (AT LOADING AREAS):
   5.1. CONCRETE: 8" PORTLAND CEMENT CONCRETE WITH EPOXY COATED #4 REBAR AT 18" ON CENTER.
   5.2. BASE COURSE: 10" BASE COURSE WITH SAME SPECIFICATIONS AS ASPHALT.

PAVEMENT SECTIONS

1 DETAILS
N.T.S.

NORTH

PRELIMINARY NOT FOR CONSTRUCTION

INVISION
PLANNING | ARCHITECTURE | INTERIORS
501 Sycamore Street
Suite 101
Waterloo, IA 50703
319.233.8419
319.233.9772 Fax
www.invisionarch.com

CONSULTANT:
CIVIL & LANDSCAPING
WYSER ENGINEERING

STRUCTURAL ENGINEERING
BISHOP CONSULTING ENGINEERS

REVISIONS:

Description	Date

OWNER SIGN-OFF:

DATE NAME

OneNeck IT Solutions

MSN DATA CENTER - PHASE 4

5505 NOBEL DRIVE
FITCHBURG, WI 53711

PROJECT NO:
17058

DATE:
12.21.2017

SHEET SET:
ARCHITECTURAL & DESIGN REVIEW

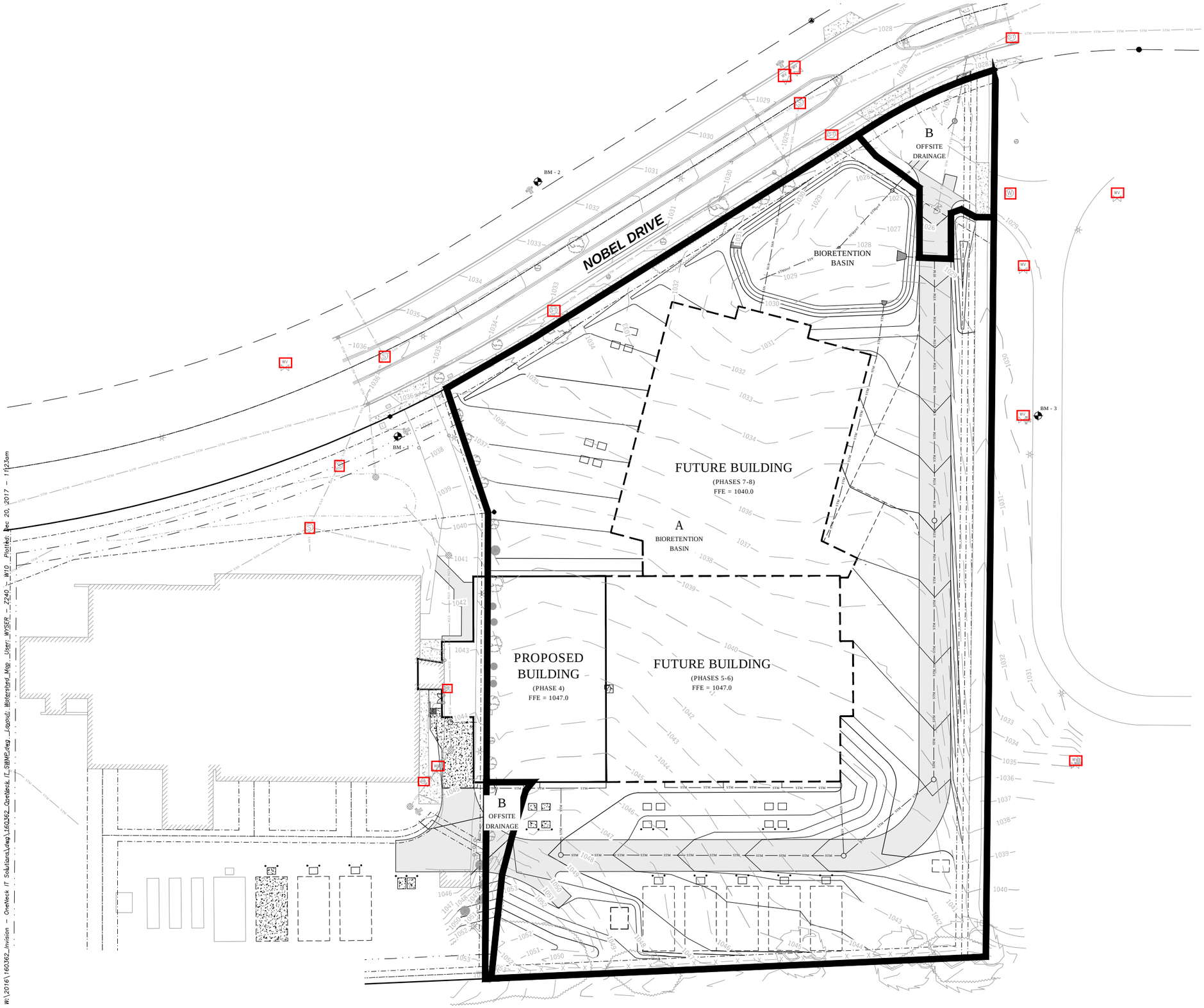
SHEET NAME:
DETAILS

SHEET:
C400

File: W:\2016\160362_invision - OneNeck IT Solutions\dwg\160362_OneNeck IT Civil Design.dwg Layout: Details User: WYSER - Z240 - W10 Plotted: Dec 20, 2017 - 3:37pm

APPENDIX D

Post Development Hydrologic Modeling



LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- WATERSHED BOUNDARY
- 1180 PROPOSED MAJOR CONTOUR
- 1181 PROPOSED MINOR CONTOUR
- STM PROPOSED STORM SEWER

NORTH

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

WYSER ENGINEERING

OneNeck IT SOLUTIONS a TDS Company

5055 NOBEL DRIVE
FITCHBURG, WI 53711

ONENECK MSN EXPANSION

CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title: PROPOSED WATERSHED MAP

Revisions:		
No.	Date:	Description:

Graphic Scale	0' 20' 40' 60'
Wyser Number	16-0362
Set Type	PERMIT
Date Issued	12/20/2017
Sheet Number	C001

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

File: W:\2016\16O362_Invision - OneNeck IT Solutions\dwg\16O362_OneNeck_IT_SWMP.dwg Layout: Watershed_Map User: WYSER - Z240 - W10 Plotted: Dec 20, 2017 - 1:12:32pm

Infiltration Calculations - RECARGA

Project: OneNeck IT Solutions - MSN Expansion
Wyser Project #: 16-0362
Modeled By: AJW
Date: 12/18/2017

WYSER ENGINEERING
312 East Main Sreet
Mount Horeb, WI 53572

*Note: Bioretention Basins are modeled with 61 Pervious CN, 24" Engineered Soil, 100" Sand Storage, 6" ponding area, 6" underdrain

Watershed	A Area (Acres)	B Open Area (Acres)	C Percent Impervious = 1 - (B/A) (%)	D Facility Area (Square Feet)	E Pre-Development Overall Stay-On See RECARGA** (Inches)	F Pre-Development Overall Recharge See Graphic (Inches)	G Post-Development Pervious Stay-On See RECARGA** (Inches)	H Post-Development Pervious Recharge See Graphic (Inches)	I Dev Open Area Volume = B * (G/12) (Acre-Feet)	J Dev Open Area Recharge = B * (H/12) (Acre-Feet)	K Recarga Stay-On See RECARGA (Inches)	L Recarga Stay-On Volume = A * (K/12) (Acre-Feet)	M Recarga Recharge within pond See RECARGA (Inches)	N Recarga Recharge Volume = A * (M/12) (Acre-Feet)	Total Stay-On Volume = L OR I (Acre-Feet)	Total Recharge Volume = [(N+J) * 12] / A (Inches)
Bioretention Basin Southwest	5.65	2.73	51.7%	11000	-	-	-	9.55	-	2.17	27.78	13.08	9.34	4.40	13.08	13.95
Offsite Area	0.28	0.13	54.6%	-	-	-	27.01	9.55	0.29	0.10	-	-	-	-	0.29	4.33
	5.93	2.86	51.8%	-	27.01	9.55			0.29	2.27	-	13.08	-	4.40	13.37	13.50

** Pre-Development and Post-Development Stay-On is equal to the RECARGA Calculated Initial Abstration for the associated site CN. The initial abstraction is calculated from RECARGA by subtracting the Pervious Runoff from the total rainfall (28.81 in/yr)

Site Infiltration Map

December 18, 2017

Tax Parcels	7-9	11-13
0-5	9-10	13-15
5-7	10-11	15-46

1 inch = 200 feet

0 125 250 500 Feet

RECARGA_2_3

Units English

RECARGA Version 2.3

Bioretention/Raingarden Sizing Program

Planview Data

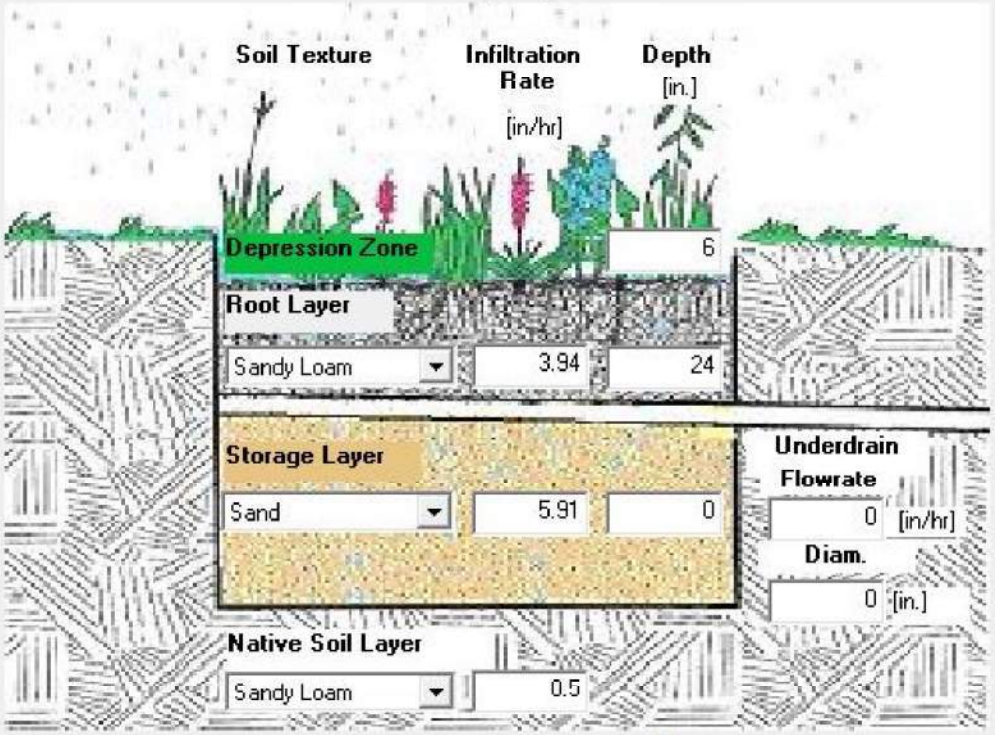
Facility Area	1	[sf]
Tributary Area	5.93	[acre]
Percent Impervious	0	
Pervious CN	68	

Files

Regional Ave. ET	0.13	[in./day]
Simulation Type	Continuous	
Input File Length	266	days
Precip. File Name	Mad1981us	
Output File Name	MadkXXAXX	

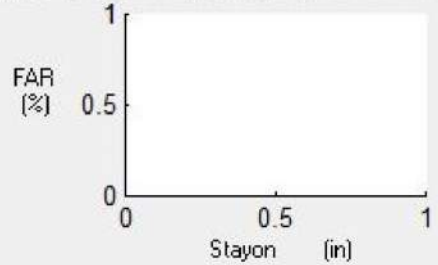
☐ Summary ☐ Record

Facility Inputs



Target Stay-on	0	[in]
Facility Area Ratio (%)	Edit Text	[%]

Run FAR



Results

Plant Survivability

(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	32	226
Number of overflows		11

Tributary Runoff

	[in]
Precipitation	28.81
Impervious Runoff	0
Pervious Runoff	1.8031

Raingarden Water

	[in.]	%
Runon	1.8031	6.2587
Runoff	1.8024	6.2562
Recharge	0.00064	0.002242
Evaporation	0.00010	0.000352
Underdrain	0	0
Soil Moisture	-	-
Stay-on	**27.0076**	93.7438

RUN SIMULATION

CLEAR RESULTS

Developed by the University of Wisconsin-Madison
Civil & Environmental Engineering Water Resources Group
(D. Atchison, A. Dussailliant, L. Severson)

RECARGA_2_3

Units: English

RECARGA Version 2.3

Bioretention/Raingarden Sizing Program

Planview Data

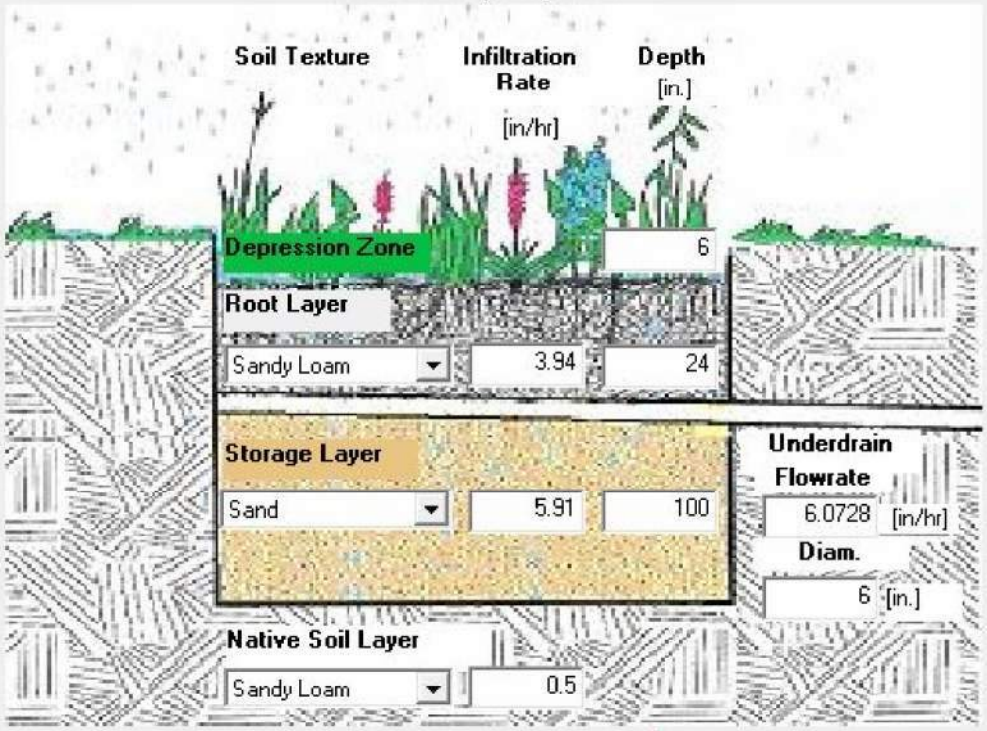
Facility Area	11000	[sf]
Tributary Area	5.65	[acre]
Percent Impervious	51.7	
Pervious CN	61	

Files

Regional Ave. ET	0.13	[in./day]
Simulation Type	Continuous	
Input File Length	266	days
Precip. File Name	Mad1981us	
Output File Name	MadkXXAXX	

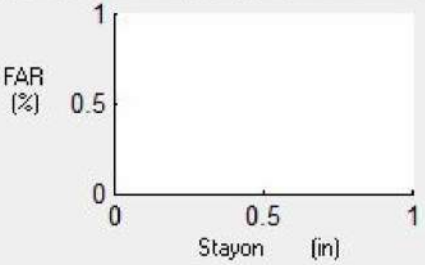
☐ Summary ☐ Record

Facility Inputs



Target Stay-on	0	[in]
Facility Area Ratio (%)	Edit Text	[%]

Run FAR



Results

Plant Survivability

(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	4.75	19.75
Number of overflows		3

Tributary Runoff [in]

Precipitation	28.81
Impervious Runoff	20.8212
Pervious Runoff	0.91048

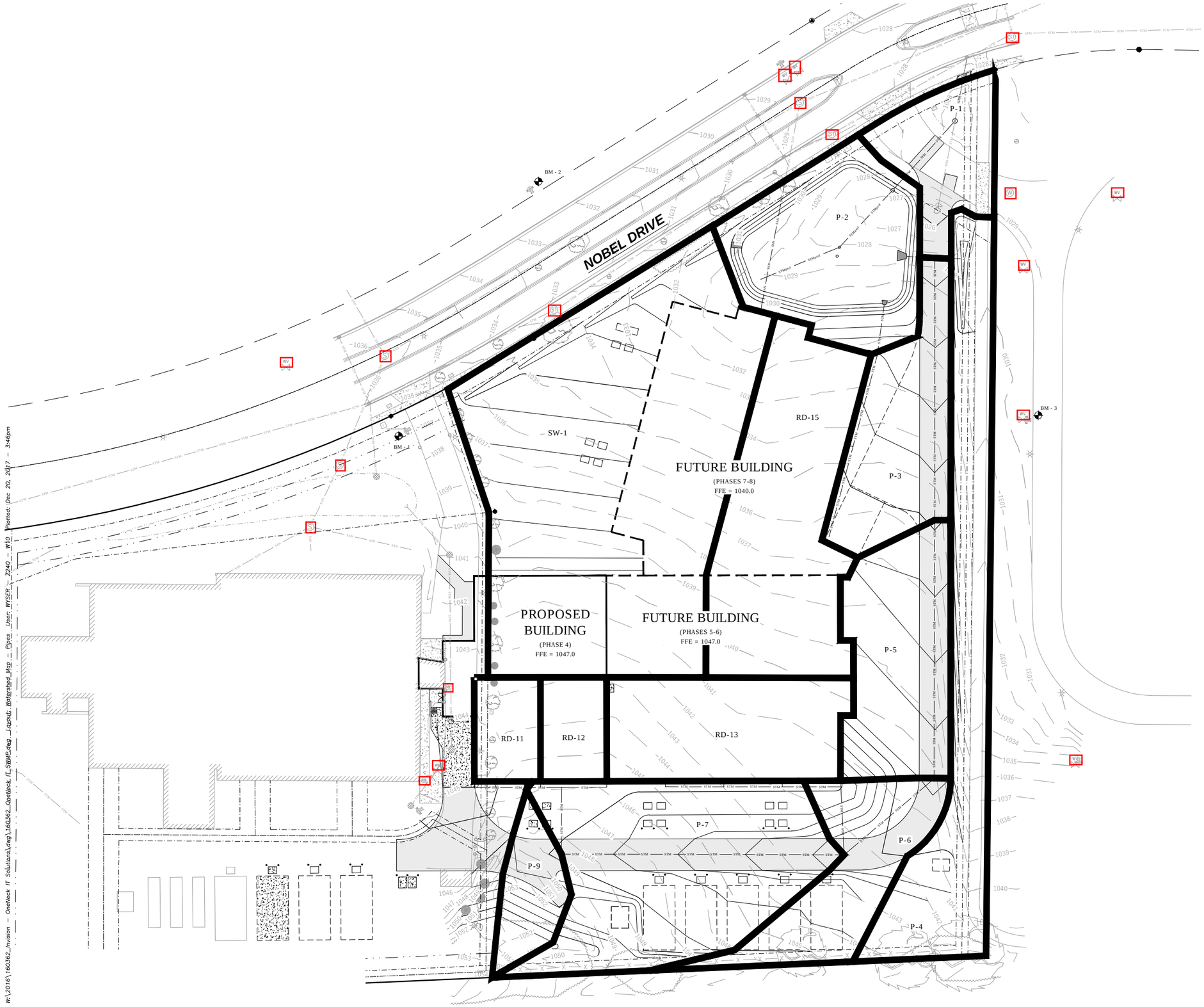
Raingarden Water

	[in.]	%
Runon	11.6157	40.3185
Runoff	0.72546	2.5181
Recharge	9.3381	32.4128
Evaporation	1.5625	5.4233
Underdrain	0.30654	1.064
Soil Moisture	-0.31684	-1.0998
Stay-on	**27.778**	96.4179

RUN SIMULATION

CLEAR RESULTS

Developed by the University of Wisconsin-Madison
Civil & Environmental Engineering Water Resources Group
(D. Atchison, A. Dussailliant, L. Severson)



LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- WATERSHED BOUNDARY
- 1180 PROPOSED MAJOR CONTOUR
- 1181 PROPOSED MINOR CONTOUR
- STM PROPOSED STORM SEWER

NORTH

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING IN DECEMBER 2016 AND FEBRUARY 2017. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

WYSER ENGINEERING

OneNeck IT SOLUTIONS a TDS Company

5055 NOBEL DRIVE
FITCHBURG, WI 53711

ONENECK MSN EXPANSION

CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title: PROPOSED WATERSHED MAP

Revisions:		
No.	Date:	Description:

Graphic Scale	0' 20' 40' 60'
Wyser Number	16-0362
Set Type	PERMIT
Date Issued	12/20/2017
Sheet Number	C002

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

Storm Sewer Sizing
Area Method

Project: OneNeck IT Solutions - MSN Expansion
Wyser Project #: 16-0362
Date: 12/18/2017

WYSER ENGINEERING
312 E. Main St.
Mt. Horeb, Wisconsin 53572
Ph: (608) 437-1980

Pipe Label	Roof Tops		Paved or graveled ground		Lawns, parks and similar land surfaces		Subcatchment Flow		Total Flow
	Contributing Area	Conversion	Contributing Area	Conversion	Contributing Area	Conversion			
	ft^2	ft^2/gpm	ft^2	ft^2/gpm	ft^2	ft^2/gpm	gpm	cfs	cfs
P - 1	0	26	5970	32.5	3660	104	218.88	0.49	10.51
P - 2	0	26	20962	32.5	0	104	644.98	1.44	10.02
P - 3	0	26	11450	32.5	4014	104	390.90	0.87	6.21
P - 4	0	26	5875	32.5	19550	104	368.75	0.82	0.82
P - 5	0	26	5495	32.5	11640	104	281.00	0.63	4.52
P - 6	0	26	3040	32.5	10635	104	195.80	0.44	3.89
P - 7	0	26	5925	32.5	25520	104	427.69	0.95	3.46
P - 8	0	26	0	32.5	0	104	0.00	0.00	1.44
P - 9	0	26	1865	32.5	3820	104	94.12	0.21	1.07
P - 10	0	26	0	33.5	0	104	0.00	0.00	0.86
RD - 11	5000	26	0	34.5	0	104	192.31	0.43	0.43
RD - 12	5000	26	0	36.5	0	104	192.31	0.43	0.43
RD - 13	16775	26	0	32.5	0	104	645.19	1.44	1.44
RD - 14	0	26	0	32.5	0	104	0.00	0.00	2.37
RD - 15	27655	26	0	28.5	0	104	1063.65	2.37	2.37

Note: Total Flow based on the "Area Method" as outlined in SBS. 382.36(5)1
Please refer to Proposed Watershed, sheet C002 for the watershed areas

Pipe	P - 1	P - 2	P - 3	P - 4	P - 5	P - 6	P - 7	P - 8	P - 9	P - 10	RD - 11	RD - 12	RD - 13	RD - 14	RD - 15
From	EXISTING INLET REPLACE	STORM MANHOLE NO. 1	STORM MANHOLE NO. 2	APRON ENDWALL	STORM MANHOLE NO. 3	STORM MANHOLE NO. 4	STORM MANHOLE NO. 5	ROOF DRAIN JUNCTION	STORM MANHOLE NO. 6	ROOF DRAIN JUNCTION	ROOF DRAIN	ROOF DRAIN	ROOF DRAIN	ROOF DRAIN JUNCTION (RD - 15	ROOF DRAIN
To	EXISTING NOBEL DR. INLET	EXISTING INLET REPLACE	APRON ENDWALL	STORM MANHOLE NO. 2	STORM MANHOLE NO. 2	STORM MANHOLE NO. 3	STORM MANHOLE NO. 4	STORM MANHOLE NO. 5	STORM MANHOLE NO. 5	STORM MANHOLE NO. 6	ROOF DRAIN JUNCTION (P - 10)	ROOF DRAIN JUNCTION (P - 10)	ROOF DRAIN JUNCTION (P - 8)	APRON ENDWALL	ROOF DRAIN JUNCTION (RD - 14
Pipe Material	HDPE	HDPE	HDPE	PVC	HDPE	HDPE	HDPE	HDPE	HDPE	PVC	PVC	PVC	PVC	HDPE	HDPE
Manning's n	**0.011**	**0.011**	**0.011**	**0.010**	**0.011**	**0.011**	**0.011**	**0.011**	**0.011**	**0.010**	**0.010**	**0.010**	**0.010**	**0.011**	**0.011**
Invert Elevation	1022.17	1024.00	1027.49	1027.80	1030.83	1034.13	1035.68	1037.47	1039.28	1039.93	1041.37	1040.67	1040.36	1028.88	1031.96
Discharge Invert	**1019.55**	**1022.17**	**1027.25**	**1027.59**	**1027.59**	**1030.93**	**1034.23**	**1035.78**	**1035.78**	**1039.38**	**1039.93**	**1039.93**	**1037.47**	**1028.00**	**1028.88**
Length	**52.36**	**76.93**	**24.36**	**21.09**	**215.55**	**213.24**	**97.20**	**56.16**	**233.08**	**55.00**	**72.00**	**37.17**	**144.77**	**43.84**	**154.36**
Slope	**5.00%**	**2.38%**	**1.00%**	**1.00%**	**1.50%**	**1.50%**	**1.50%**	**3.00%**	**1.50%**	**1.00%**	**2.00%**	**2.00%**	**2.00%**	**2.00%**	**2.00%**
Pipe size (in)	**15**	**15**	**15**	**8**	**15**	**12**	**12**	**10**	**10**	**8**	**8**	**8**	**8**	**10**	**10**
Pipe Radius (ft)	0.63	0.63	0.63	0.33	0.63	0.50	0.50	0.42	0.42	0.33	0.33	0.33	0.33	0.42	0.42
Pipe Area	1.23	1.23	1.23	0.35	1.23	0.79	0.79	0.55	0.55	0.35	0.35	0.35	0.35	0.55	0.55
Pipe Circumference	3.93	3.93	3.93	2.09	3.93	3.14	3.14	2.62	2.62	2.09	2.09	2.09	2.09	2.62	2.62
Hydraulic Radius	0.31	0.31	0.31	0.17	0.31	0.25	0.25	0.21	0.21	0.17	0.17	0.17	0.17	0.21	0.21
Velocity	13.91	9.60	6.22	4.50	7.62	6.57	6.57	8.22	5.81	4.50	6.36	6.36	6.36	6.71	6.71
Q, Flowing Full	17.07	11.78	7.63	1.57	9.35	5.16	5.16	4.48	3.17	1.57	2.22	2.22	2.22	3.66	3.66
Q_{10}, Required	**10.51**	**10.02**	**6.21**	**0.82**	**4.52**	**3.89**	**3.46**	**1.44**	**1.07**	**0.86**	**0.43**	**0.43**	**1.44**	**2.37**	**2.37**
Sizing ?	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Rim Elevation	1027.40	1028.75	1030.46	-	1034.85	1038.75	1040.52	-	1044.81	-	-	-	-	-	-
Invert to Top of Pipe	1.42	1.42	1.42	0.75	1.42	1.08	1.08	0.92	0.92	0.75	0.75	0.75	0.75	0.92	0.92
Cover	3.82	3.33	1.55	-	2.61	3.54	3.75	-	4.61	-	-	-	-	-	-
Cover OK ?	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

ENDWALL RIPRAP SIZING

Project: **OneNeck IT Solutions - MSN Expansion**
Wyser Project #: 16-0362
Designed By: AJW
Date: 12/19/2017

HEC14 - EQUATION 10.4
$D_{50} = 0.2D\{Q/(\sqrt{g}*D^{2.5})\}^{(4/3)}*(D/TW)$

g	acceleration due to gravity		32.2	ft/sec^2
TW	Tailwater Depth (Assumed)	0.4*D		ft
*	Assumed Full Pipe Capacity			
STA	Structure			

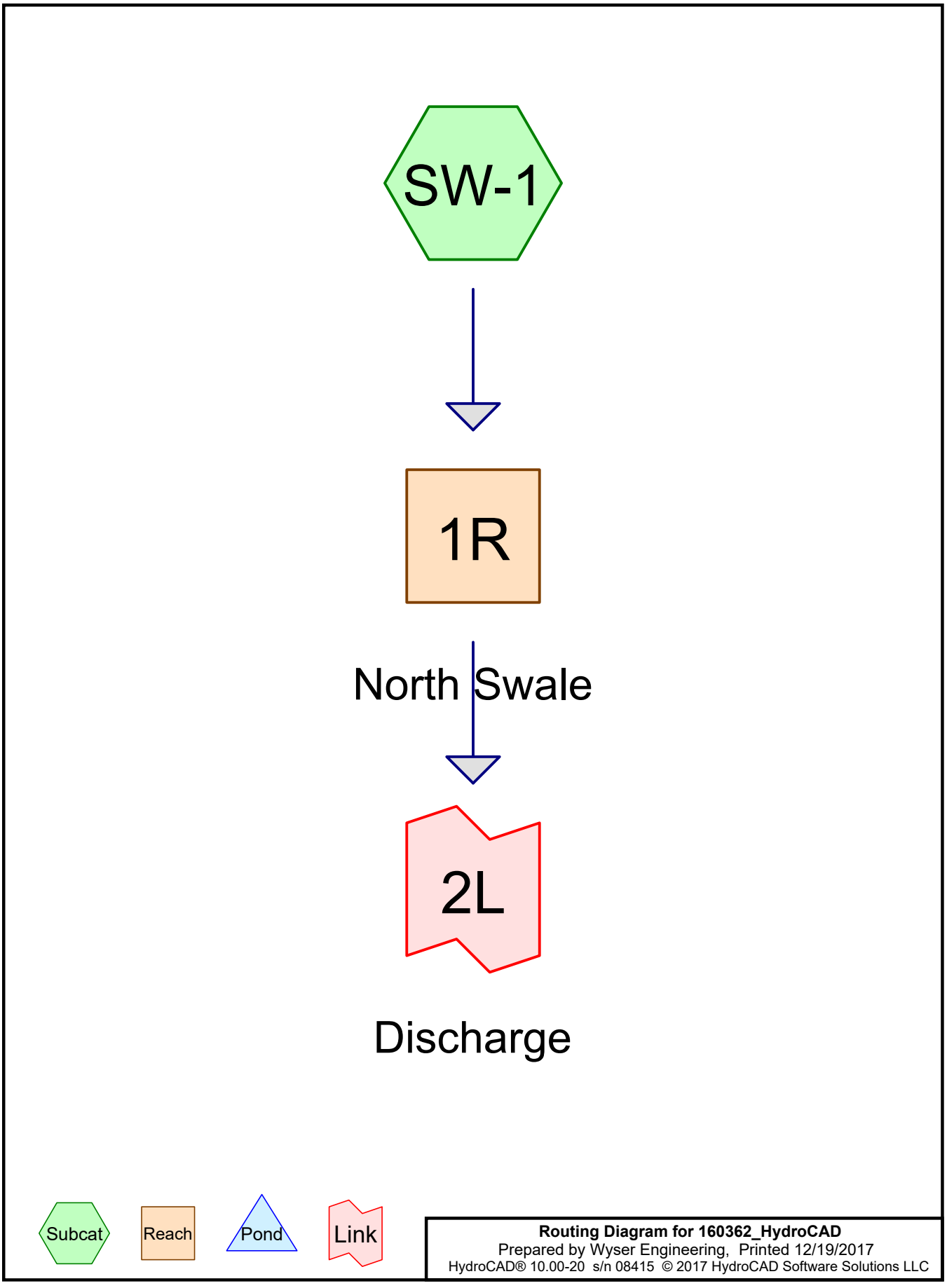
Table 10.1. Example Riprap Classes and Apron Dimensions

Class	D_{50} (mm)	D_{50} (in)	Apron Length[1]	Apron Depth
1	125	5	4D	$3.5D_{50}$
2	150	6	4D	$3.3D_{50}$
3	250	10	5D	$2.4D_{50}$
4	350	14	6D	$2.2D_{50}$
5	500	20	7D	$2.0D_{50}$
6	550	22	8D	$2.0D_{50}$

[1]D is the culvert rise.

	Pipe Diameter D (ft)	Design Flow* Q (cfs)	Tailwater Depth TW (ft)	Riprap size D_{50} (in)	Riprap class (See Table 10.1) Type	D_{50}	WisDOT*	Apron Dimentions (See Table 10.1) Length	Depth	Width @ End	Width @ Pipe
AES NO. 1	1.25	7.63	0.5	5.2904184	2	6	Light Riprap	7.5	1.1	8.8	3.75
AES NO. 3	0.83333	4.03	0.333332	5.8176514	2	6	Light Riprap	3.33332	1.7	4.7	2.49999

*Refer to Section 606 and 312 for material type.
Select Crushed Material and Light Riprap require Type R geotextile Fabric
Medium, Heavy and Extra-Heavy Riprap require Type HR geotextile Fabric



Routing Diagram for 160362_HydroCAD
Prepared by Wyser Engineering, Printed 12/19/2017

Summary for Subcatchment SW-1:

Runoff = 2.08 cfs @ 12.14 hrs, Volume= 0.104 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-yr_NRCS Rainfall=2.49"

Area (sf)	CN	Description
33,150	98	Unconnected roofs, HSG B
32,850	61	>75% Grass cover, Good, HSG B
66,000	80	Weighted Average
32,850		49.77% Pervious Area
33,150		50.23% Impervious Area
33,150		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

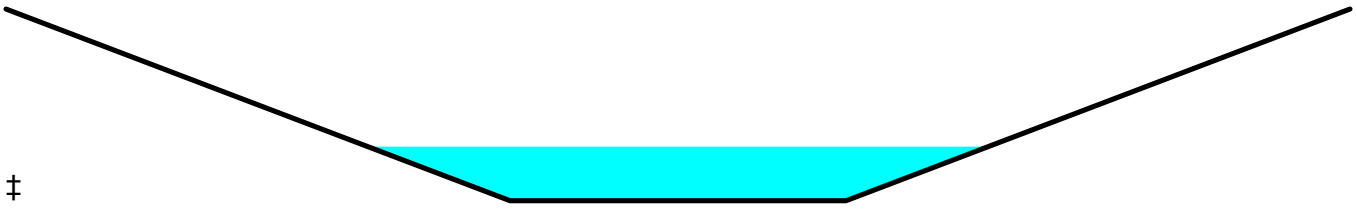
Summary for Reach 1R: North Swale

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 0.83" for 1-yr_NRCS event
Inflow = 2.08 cfs @ 12.14 hrs, Volume= 0.104 af
Outflow = 1.88 cfs @ 12.19 hrs, Volume= 0.104 af, Atten= 9%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.47 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 5.0 min

Peak Storage= 205 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 24.69 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 255.0' Slope= 0.0196 '/'
Inlet Invert= 1,035.00', Outlet Invert= 1,030.00'



‡

Summary for Link 2L: Discharge

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 0.82" for 1-yr_NRCS event
Inflow = 1.88 cfs @ 12.19 hrs, Volume= 0.104 af
Primary = 1.88 cfs @ 12.19 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SW-1:

Runoff = 2.68 cfs @ 12.14 hrs, Volume= 0.134 af, Depth> 1.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-yr_NRCS Rainfall=2.84"

Area (sf)	CN	Description
33,150	98	Unconnected roofs, HSG B
32,850	61	>75% Grass cover, Good, HSG B
66,000	80	Weighted Average
32,850		49.77% Pervious Area
33,150		50.23% Impervious Area
33,150		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

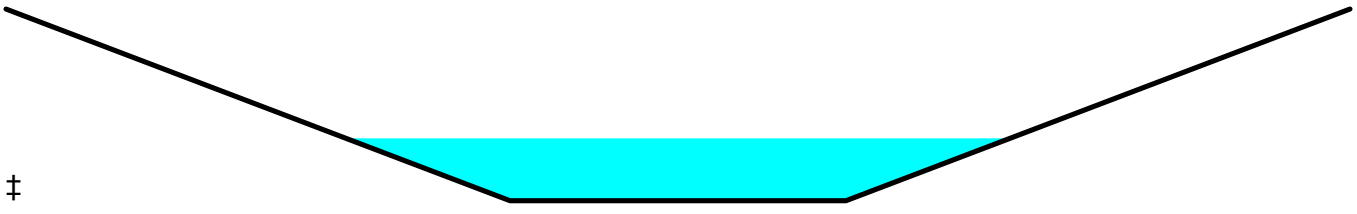
Summary for Reach 1R: North Swale

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 1.06" for 2-yr_NRCS event
Inflow = 2.68 cfs @ 12.14 hrs, Volume= 0.134 af
Outflow = 2.43 cfs @ 12.18 hrs, Volume= 0.134 af, Atten= 9%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.67 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 4.7 min

Peak Storage= 247 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 24.69 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 255.0' Slope= 0.0196 '/'
Inlet Invert= 1,035.00', Outlet Invert= 1,030.00'



‡

Summary for Link 2L: Discharge

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 1.06" for 2-yr_NRCS event
Inflow = 2.43 cfs @ 12.18 hrs, Volume= 0.134 af
Primary = 2.43 cfs @ 12.18 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SW-1:

Runoff = 5.02 cfs @ 12.13 hrs, Volume= 0.253 af, Depth> 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-yr_NRCS Rainfall=4.09"

Area (sf)	CN	Description
33,150	98	Unconnected roofs, HSG B
32,850	61	>75% Grass cover, Good, HSG B
66,000	80	Weighted Average
32,850		49.77% Pervious Area
33,150		50.23% Impervious Area
33,150		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach 1R: North Swale

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 2.00" for 10-yr_NRCS event
Inflow = 5.02 cfs @ 12.13 hrs, Volume= 0.253 af
Outflow = 4.60 cfs @ 12.17 hrs, Volume= 0.252 af, Atten= 8%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.20 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.05 fps, Avg. Travel Time= 4.0 min

Peak Storage= 390 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 24.69 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 255.0' Slope= 0.0196 '/'
Inlet Invert= 1,035.00', Outlet Invert= 1,030.00'

‡

Summary for Link 2L: Discharge

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 2.00" for 10-yr_NRCS event
Inflow = 4.60 cfs @ 12.17 hrs, Volume= 0.252 af
Primary = 4.60 cfs @ 12.17 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SW-1:

Runoff = 6.83 cfs @ 12.13 hrs, Volume= 0.348 af, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 25-yr_NRCS Rainfall=5.01"

Area (sf)	CN	Description
33,150	98	Unconnected roofs, HSG B
32,850	61	>75% Grass cover, Good, HSG B
66,000	80	Weighted Average
32,850		49.77% Pervious Area
33,150		50.23% Impervious Area
33,150		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach 1R: North Swale

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 2.76" for 25-yr_NRCS event
Inflow = 6.83 cfs @ 12.13 hrs, Volume= 0.348 af
Outflow = 6.32 cfs @ 12.16 hrs, Volume= 0.347 af, Atten= 7%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.49 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 3.8 min

Peak Storage= 490 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 24.69 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 255.0' Slope= 0.0196 '/'
Inlet Invert= 1,035.00', Outlet Invert= 1,030.00'

‡

Summary for Link 2L: Discharge

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 2.75" for 25-yr_NRCS event
Inflow = 6.32 cfs @ 12.16 hrs, Volume= 0.347 af
Primary = 6.32 cfs @ 12.16 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Subcatchment SW-1:

Runoff = 10.14 cfs @ 12.13 hrs, Volume= 0.528 af, Depth> 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-yr_NRCS Rainfall=6.66"

Area (sf)	CN	Description
33,150	98	Unconnected roofs, HSG B
32,850	61	>75% Grass cover, Good, HSG B
66,000	80	Weighted Average
32,850		49.77% Pervious Area
33,150		50.23% Impervious Area
33,150		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Reach 1R: North Swale

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 4.18" for 100-yr_NRCS event
Inflow = 10.14 cfs @ 12.13 hrs, Volume= 0.528 af
Outflow = 9.50 cfs @ 12.16 hrs, Volume= 0.527 af, Atten= 6%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.89 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.23 fps, Avg. Travel Time= 3.5 min

Peak Storage= 656 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.65'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 24.69 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 255.0' Slope= 0.0196 '/'
Inlet Invert= 1,035.00', Outlet Invert= 1,030.00'

‡

Summary for Link 2L: Discharge

Inflow Area = 1.515 ac, 50.23% Impervious, Inflow Depth > 4.17" for 100-yr_NRCS event
Inflow = 9.50 cfs @ 12.16 hrs, Volume= 0.527 af
Primary = 9.50 cfs @ 12.16 hrs, Volume= 0.527 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Shear Stress Calculations - SW1

Variable	Variable Description (Associated Equation Refereance)	Equation	Value	Units
$S_{o\,=}$	Channel Slope		0.0196	ft/ft
Q_{10} =	Flow in Channel (See HydroCAD)		5.02	cfs
	Side Slope		0.33	ft/ft
	bottom width		1.0	ft
T =	Channel Top Width		3.7	ft
	Max Channel Depth		1.5	ft
d_i =	Channel Depth (See HydroCAD)		0.45	ft
γ_w =	Specific Weight (water)		62.4	lf/ft^3
τ_s =	Shear Stress on sides of channel	$K_1\tau_d$	0.5	Pa
τ_d =	Shear Stress in channel at maximum depth	$\gamma_w dS_o$	0.6	Pa
K_1 =	ratio of channel side to bottom sheer stress (3.4)	0.066Z+.67	0.9	-
Z =	horizontal dimension 1:Z		3.0	ft

WisDOT Class I Type B or WisDOT Class II Type A

APPENDIX E

Universal Soils Loss Equation Worksheet(s)

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Official Version 1.0 (05-15-2015)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 1

Developer: OneNeck IT Solutions

Project: MSN Expansion

Date: 12/19/2017

County: Dane

Version 1.0

Activity	Begin Date	End Date	Period % R	Annual R Factor	Sub Soil Texture	Soil Erodibility K Factor	Slope (%)	Slope Length (feet)	LS Factor	Land Cover C Factor	Soil loss A (tons/acre)	Sediment Control Practice	Sediment Discharge (tons/acre)
Bare Ground	4/15/2018	5/1/2018	3.0%	150	Silt Loam	0.43	2.5%	200	0.30	1.00	0.6	Sediment Basin	0.1
Bare Ground	5/1/2018	10/15/2018	85.0%	150	Silt Loam	0.43	2.0%	100	0.20	1.00	11.0	Sediment Basin	2.0
Seed with Mulch or Er	10/15/2018	3/1/2019	8.0%	150	Silt Loam	0.43	2.0%	100	0.20	0.10	0.1	Sediment Basin	0.0
Bare Ground	3/1/2019	4/15/2019	4.0%	150	Silt Loam	0.43	2.0%	100	0.20	1.00	0.5	Sediment Basin	0.1
End	4/15/2019	-----	-----	-----	-------	-----	2.0%	100	0.20	------	-----	Sediment Basin	0.0
		-----	-----	-----	-------	-----	0.0%	0	-----	------	-----		0.0
										TOTAL	**12.2**	**TOTAL**	**2.2**
												% Reduction Required	**NONE**

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.
The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Recommended Permanent Seeding Dates:

4/1-5/15	and	8/7-8/29	Turf, introduced grasses and legumes
Thaw-6/30			Native Grasses, forbs, and legumes

Designed By:	AJW
Date	12/19/2017

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Official Version 1.0 (05-15-2015)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 2

Developer: OneNeck IT Solutions

Project: MSN Expansion

Date: 12/20/2017

County: Dane

Version 1.0

Activity	Begin Date	End Date	Period % R	Annual R Factor	Sub Soil Texture	Soil Erodibility K Factor	Slope (%)	Slope Length (feet)	LS Factor	Land Cover C Factor	Soil loss A (tons/acre)	Sediment Control Practice	Sediment Discharge (tons/acre)
Bare Ground	7/15/2018	10/15/2018	42.0%	150	Silt Loam	0.43	2.0%	100	0.20	1.00	5.4	Sediment Basin	1.0
Seed with Mulch or En	10/15/2018	3/1/2019	8.0%	150	Silt Loam	0.43	2.0%	100	0.20	0.10	0.1	Sediment Basin	0.0
Bare Ground	3/1/2019	5/15/2019	12.0%	150	Silt Loam	0.43	2.0%	100	0.20	1.00	1.6	Sediment Basin	0.3
Seed with Mulch or En	5/15/2019	7/15/2019	38.0%	150	Silt Loam	0.43	2.0%	100	0.20	0.10	0.5	Sediment Basin	0.0
End	7/15/2019	-----	-----	-----	-------	-----			-----	------	-----		0.0
		-----	-----	-----	-------	-----			-----	------	-----		0.0
										TOTAL	**7.6**	**TOTAL**	**1.3**
												% Reduction Required	**NONE**

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.
The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Recommended Permanent Seeding Dates:

4/1-5/15	and	8/7-8/29	Turf, introduced grasses and legumes
Thaw-6/30			Native Grasses, forbs, and legumes

Designed By:	AJW
Date	12/19/2017

APPENDIX F

Declaration of Conditions, Covenants and Restrictions for

Maintenance of Stormwater Management Measures

DECLARATION OF CONDITIONS, CONVENANTS AND RESTRICTIONS FOR MAINTENANCE OF STORMWATER MANAGEMENT MEASURES

RECITALS:

A. OneNeck Data Center Holdings LLC ("Owner") is the owner of Lot 1 CSM 14613, more particularly described on Exhibit A attached hereto (the "Property").

B. Owner desires to construct stormwater management measures on the Property in accordance with certain plans and specifications approved by the City of Fitchburg (the "City").

C. The City requires Owner to record this Declaration of Conditions, Covenants and Restrictions for Maintenance of Stormwater Management Measures (this "Declaration") regarding maintenance of certain stormwater management measures ("Stormwater Management Measures") to be located on the Property all as more particularly described on Exhibit A. Owner agrees to maintain the Stormwater Management Measures and to grant to the City the rights set forth below.

NOW, THEREFORE, in consideration of the declarations herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the owner agrees as follows:

This space reserved for recording data

Return to:
City of Fitchburg
5520 Lacy Road
Fitchburg, WI 53711

PIN#: 225/0609-152-4538-2

1. Maintenance. Owner and its successors and assigns shall be responsible to repair and maintain the Stormwater Management Measures located on the Property in good condition and in working order and such that the measures comply with approved plans on file with the City. Said maintenance shall be solely at the Owner's cost and expense. Owner will conduct such maintenance or repair work in accordance with all applicable laws, codes, regulations, and similar requirements. Any specific maintenance tasks and their schedules shall be conducted in accordance with Exhibit A.

2. Easement to City. If Owner fails to maintain the Stormwater Management Measures as required in Section 1, then the City shall have the right, after providing Owner with written notice of the maintenance issue (each, a "Maintenance Notice") and thirty (30) days to comply with the City's Maintenance Notice, to enter the Property in order to conduct the maintenance specified in the Maintenance Notice. The City will conduct such maintenance work in accordance with all applicable laws, codes, regulations, and similar requirements and will not unreasonably interfere with Owner's use of Property. All costs and expenses incurred by the City in conducting such maintenance may be charged to Owner by placing the amount on the tax roll for the Property as a special assessment in accordance with Section 66.0703, Wis. Stats.

3. Term/Termination. The term of this Declaration shall commence on the date that this Declaration is field of record with the Register of Deeds Office for Dane County, Wisconsin, and except as otherwise herein specifically provided, shall continue in perpetuity. Notwithstanding the foregoing, this Declaration may be terminated by recording with the Register of Deeds Office for Dane County, Wisconsin, a written instrument of termination signed by the City and all of the then-owners of the Property.

4. Miscellaneous.

(a) Notices. Any notice, request or demand required or permitted under this Declaration shall be in writing and shall be deemed given when personally served or three (3) days after the same has been deposited with the United States Post Office, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

If to Owner: OneNeck Data Center Holdings LLC
c/o Tax Dept
8401 Greenway Blvd Suite 230
Middleton, WI 53562

If to the City: City Engineering Division
5520 Lacy Road
Fitchburg, WI 53711

Attn: City Engineer

Any party may change its address for the receipt of notice by written notice to the other.

(b) Governing Law. This Declaration shall be governed and construed in accordance with the laws of the State of Wisconsin.

(c) Amendments or Further Agreements to be in Writing. This Declaration may not be modified in whole or in part unless such agreement is in writing and signed by all parties bound hereby.

(d) Covenants Running with the Land. All of the easements, restrictions, covenants, and agreements set forth in this Declaration are intended to be and shall be construed as covenants running with the land, binding upon, inuring to the benefit of, and enforceable by the parties hereto and their respective successors and assigns.

(e) Partial Invalidity. If any provisions, or portions thereof, of this Declaration or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Declaration, or the application of such provision, or portion thereof, to any other persons or circumstances shall be affected thereby and each provision of this Declaration shall be valid and enforceable to the fullest extend permitted by law.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this ____ day of _____, 20 __.

_____
Owner:

By: _____

STATE OF WISCONSIN)
) ss
COUNTY OF DANE)

Personally came before me this ____ day of _____, 20__, the above named _____, to me known to be the person who executed the foregoing instrument and acknowledged the same.

_____
NOTARY PUBLIC SIGNATURE

_____
PRINTED NAME OF NOTARY PUBLIC

My Commission Expires: _____

Drafted by: Wyser Engineering
312 East Main Street
Mount Horeb, WI 53572

EXHIBIT A
Stormwater Management Maintenance Measures

Legal Description of Property: Lot 1 CSM 14613

PIN: 225/0609-152-4538-2

Stormwater Management Measures Included in this Agreement as shown on Sheets C200 and C400 of the OneNeck IT Solutions MSN Expansion construction drawings, hereby made a part of Exhibit A, specifically:

- All site storm sewer pipes and structures
- Bioretention Basin located in the northeast corner of the site
- Stormwater Conveyance Channel south of Nobel Drive right-of-way

Specific Maintenance Requirements:

Short Term Maintenance(during construction and/or restoration):

- The building construction contractor at the owner's expense or as agreed to by the owner and contractor shall perform inspection of all facilities during construction and until site stabilization.
- Inspections during construction shall be weekly and/or after a rainfall event of 0.5" or more.
- Repairs necessary to restore the facility to design performance will be made within 48 hours of the inspection.
- Deficiencies include, but are not limited to, rill erosion, sediment deposition in the infiltration pond or behind perimeter control, and deposition of sediment on the tracking pad.
- Tracking on the public right-of-way shall be inspected regularly during days that construction traffic is leaving the construction site. Any excessive sediment tracked onto the public right-of-way shall be scraped immediately. Thorough sweeping, with appropriate equipment that physically picks up and removes the sediment (vs. pushing it to other locations within the public right-of-way) shall be conducted at the end of each working day during construction activities.

Long Term Maintenance:

- Inspector qualifications for Long Term Maintenance: Inspectors under this item shall maintain a current Registered Professional Engineer License in the State of Wisconsin or possess an alternate certification approved by the **City of Fitchburg's** Public Works Department.
- All stormwater provisions constructed as part of this project are permanent in location and function over time. The constructed stormwater provisions such as infiltration ponds, inlet filters, and storm structures shall not be removed or significantly altered without written permission from the **City of Fitchburg's** Public Works Department. Owner shall maintain records of inspections and maintenance as described below in accordance with Chapter 30 – Article II of the **City of Fitchburg** Municipal Code of Ordinances. Inspections and maintenance reports shall be submitted to the **City of Fitchburg's** Public Works Department on an annual basis.

EXHIBIT A

Stormwater Management Maintenance Measures

- To maximize filtration, mowing in buffer areas around stormwater ponds should be minimized. If occasional mowing is necessary, the mowing height is recommended to be no shorter than 6 inches. Applications of fertilizer, herbicide, pesticide or other chemicals are discouraged unless an approved chemical application plan is on file with the **City of Fitchburg's** Public Works Department.
- Facilities showing signs of soil erosion should be repaired with emphasis put on grassed waterways being maintained for proper stormwater conveyance.
- Facilities or parts of facilities with no vegetation shall be restored to good vegetated catch.
- Inspections of the infiltration facilities shall be done at least semi-annually in early spring and early fall. Infiltration area inspections shall include spreader and overflow spillway for indication of failure. Note the condition of vegetation as part of inspection. If standing water is observed over 50% of the pond floor 3 days after rainfall, the pond is clogged and measures should be undertaken to unclog it. Acceptable measures include removing the top 2 to 3 inches, chisel plowing and adding topsoil and engineered compost material. If deep tilling is used, the pond shall be drained and the soils dried to a depth of 8 inches. After procedures, the owner /operator shall replant with State-approved native plugs.

EXHIBIT A
Stormwater Management Maintenance Measures

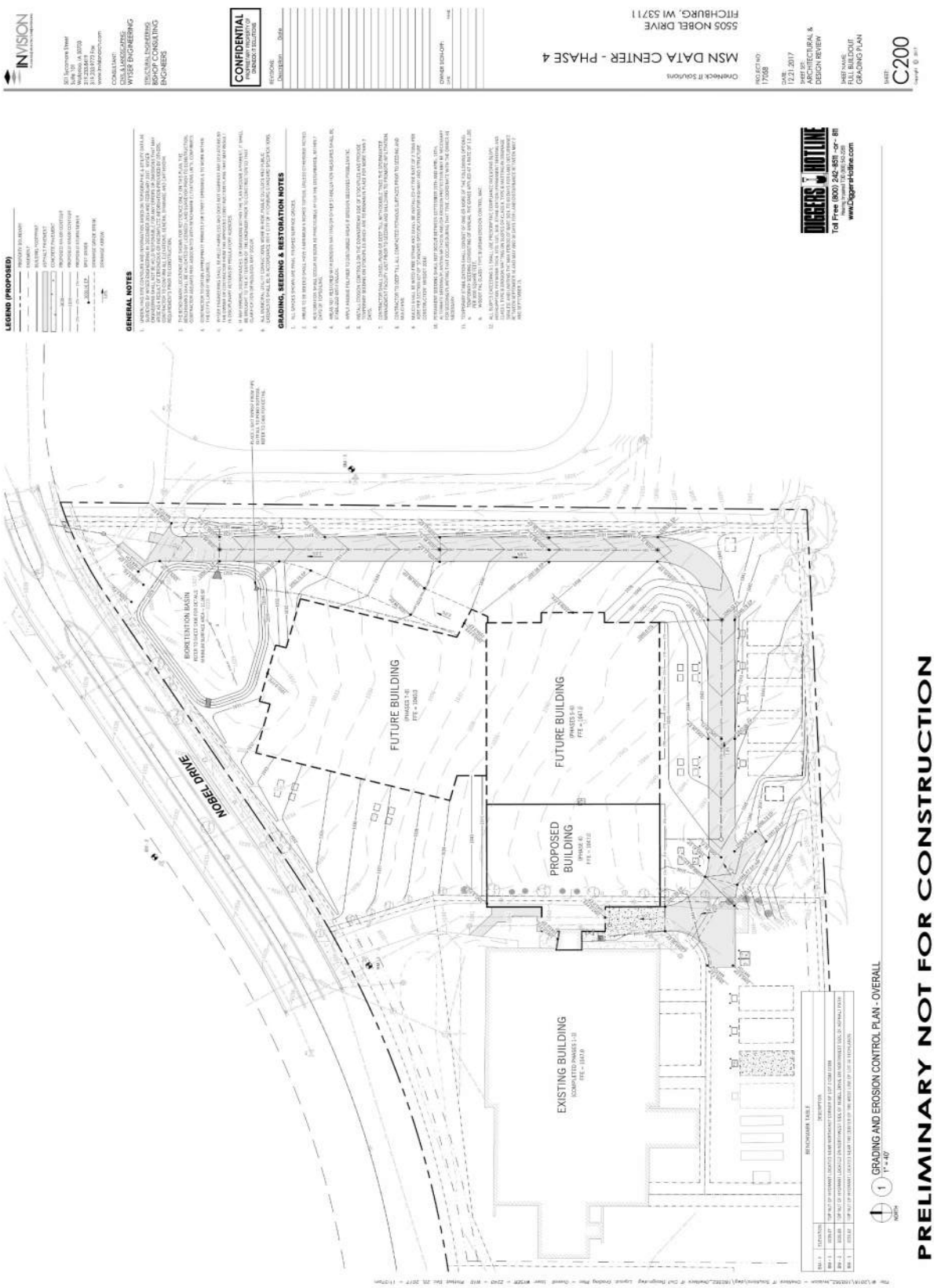
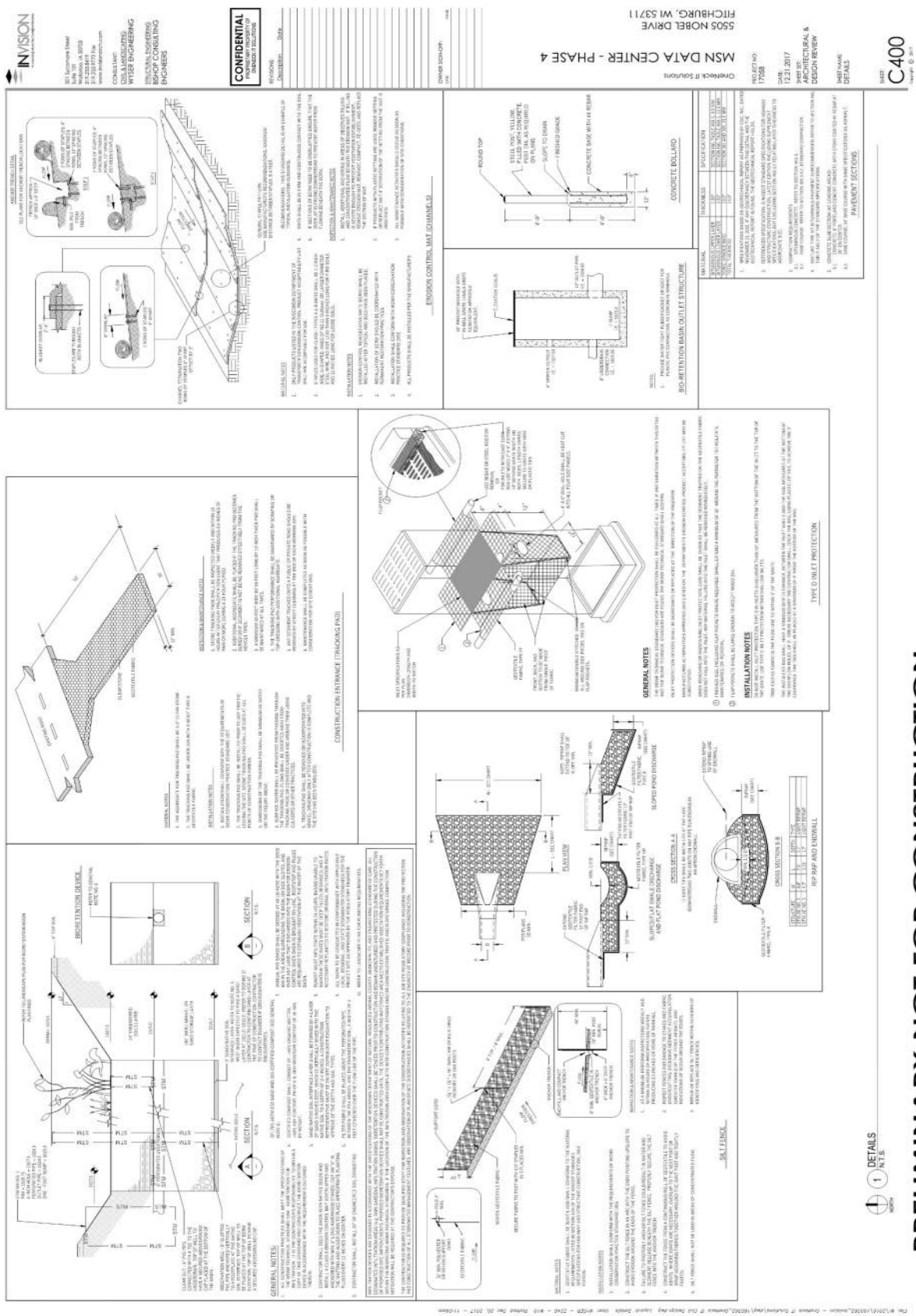


EXHIBIT A
Stormwater Management Maintenance Measures



APPENDIX G

Stormwater Management and Erosion Control Best Management Practice

Preliminary Opinion of Probable Construction Costs

WYSER ENGINEERING

Stormwater Management and Erosion Control Best Management Practice Preliminary Opinion of Probable Construction Costs

Item	Quantity	Unit	Unit Cost	Total
Tracking Control Pad	1	EA	$ 1,000.00	$ 1,000.00
Silt Fence	450	LF	$ 2.50	$ 1,125.00
Erosion Mat	850	SY	$ 1.75	$ 1,487.50
Fertilizer, Seed & Mulch (WisDOT Seed #20)	13,850	SY	$ 1.50	$ 20,775.00
Check Dam	4	EA	$ 500.00	$ 2,000.00
Inlet Protection	11	EA	$ 500.00	$ 5,500.00
Bioretention System	11,000	SF	$ 12.00	$ 132,000.00
				$ 163,887.50

TYPE OA

McGraw-Edison

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 3000K, 5000K and 6000K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. QUICK MOUNT ARM: Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

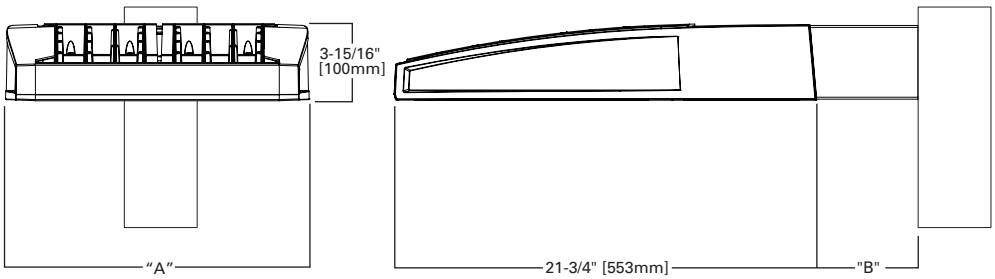
Warranty
Five-year warranty.

GLEON
GALLEON LED

1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

DIMENSIONS



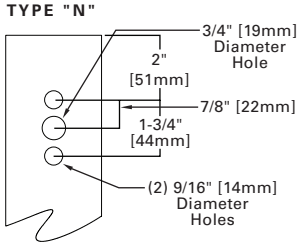
DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length [1]	Weight with Arm (lbs.)	EPA with Arm [2] (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.5 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	63 (28.6 kgs.)	1.12

NOTES: 1. Optional arm length to be used when mounting two fixtures at 90° on a single pole. **2.** EPA calculated with optional arm length.

DRILLING PATTERN

TYPE "N"



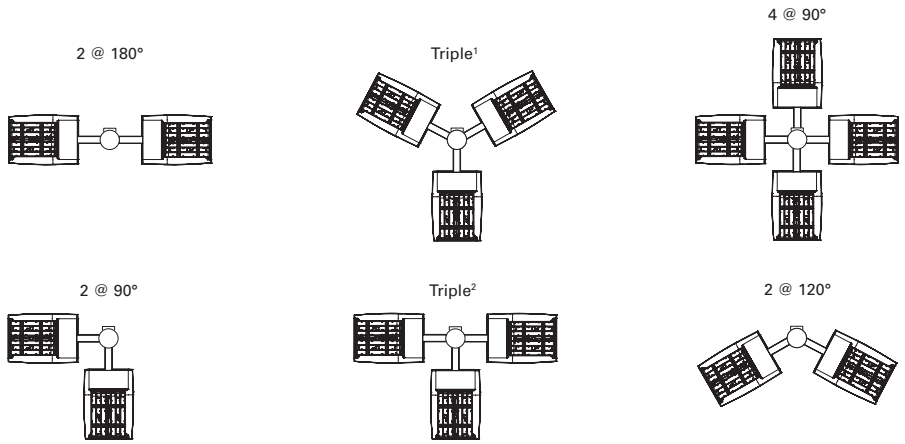
CERTIFICATION DATA
UL/cUL Wet Location Listed
ISO 9001
LM79 / LM80 Compliant
3G Vibration Rated
IP66 Rated
DesignLights Consortium™ Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V & 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

*www.designlights.org

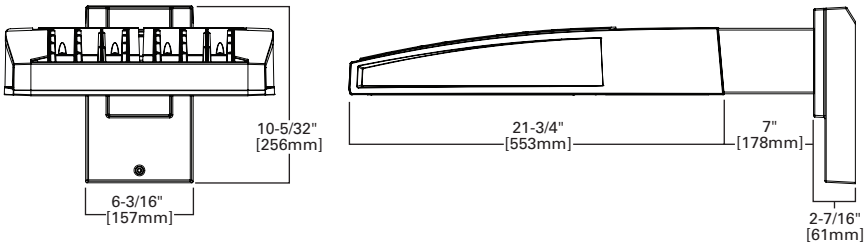
ARM MOUNTING REQUIREMENTS

Configuration	90° Apart	120° Apart
GLEON-AF-01	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-02	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-03	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-04	7" Arm (Standard)	7" Arm (Standard)
GLEON-AF-05	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AF-06	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AF-07	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AF-08	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AF-09	16" Extended Arm (Required)	16" Extended Arm (Required)
GLEON-AF-10	16" Extended Arm (Required)	16" Extended Arm (Required)

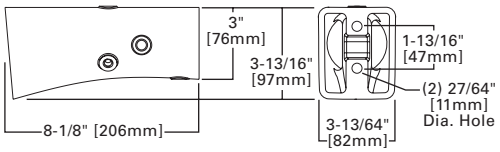


NOTES: 1 Round poles are 3 @ 120°. Square poles are 3 @ 90°. **2** Round poles are 3 @ 90°.

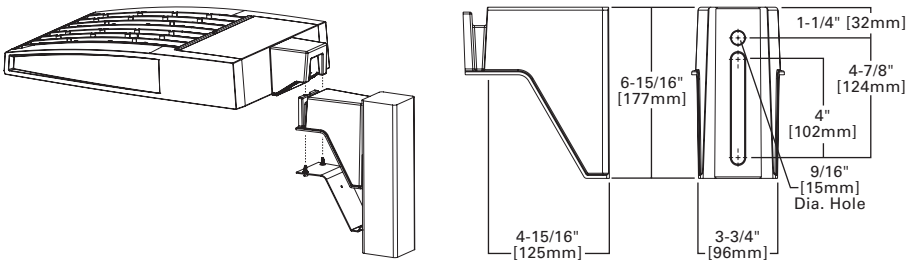
STANDARD WALL MOUNT



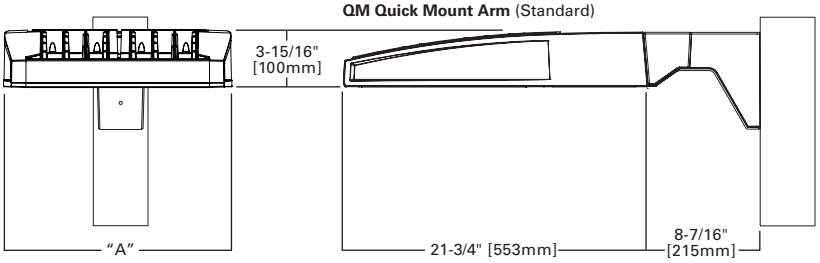
MAST ARM MOUNT



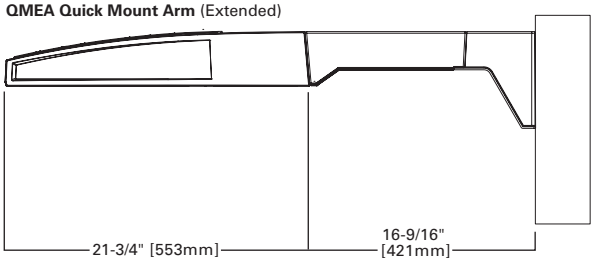
QUICK MOUNT ARM (INCLUDES FIXTURE ADAPTER)



QM Quick Mount Arm (Standard)



QMEA Quick Mount Arm (Extended)

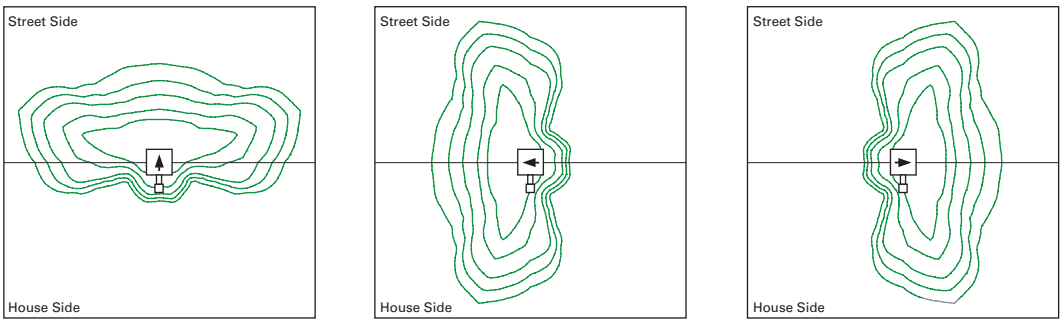


QUICK MOUNT ARM DATA

Number of Light Squares [1,2]	**"A" Width**	**Weight with QM Arm** (lbs.)	**Weight with QMEA Arm** (lbs.)	**EPA** (Sq. Ft.)
1-4	15-1/2" (394mm)	35 (15.91 kgs.)	38 (17.27 kgs.)	1.11
5-6 [3]	21-5/8" (549mm)	46 (20.91 kgs.)	49 (22.27 kgs.)	
7-8	27-5/8" (702mm)	56 (25.45 kgs.)	59 (26.82 kgs.)	

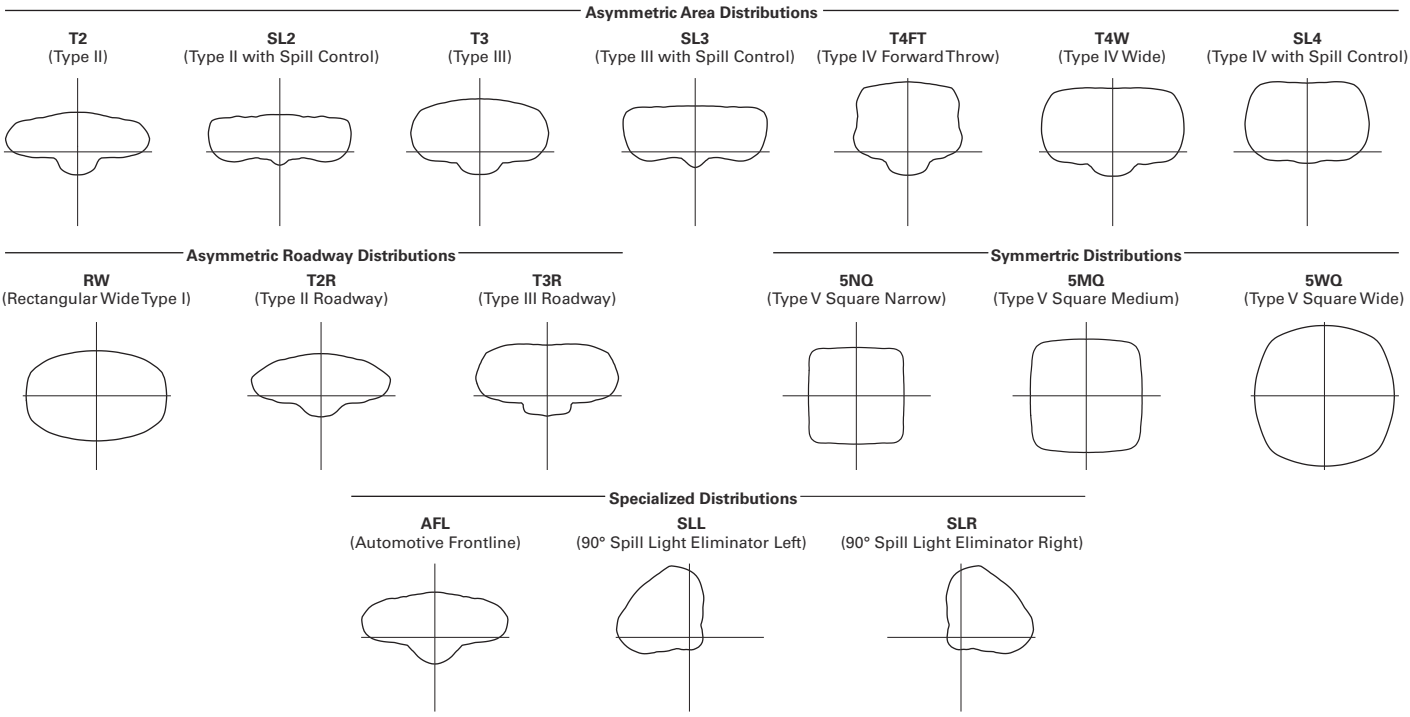
NOTES: 1 QM option available with 1-8 light square configurations. **2** QMEA option available with 1-6 light square configurations. **3** QMEA arm to be used when mounting two fixtures at 90° on a single pole.

OPTIC ORIENTATION



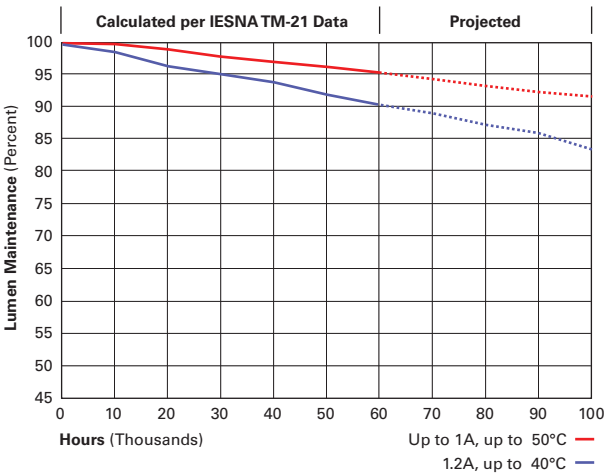
Standard | **Optics Rotated Left @ 90°** [L90] | **Optics Rotated Right @ 90°** [R90]

OPTICAL DISTRIBUTIONS



LUMEN MAINTENANCE

Drive Current	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Projected L70 (Hours)
Up to 1A	Up to 50°C	> 95%	416,000
1.2A	Up to 40°C	> 90%	205,000



LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Powering Business Worldwide

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

NOMINAL POWER LUMENS (1.2A)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		67	129	191	258	320	382	448	511	575	640
Input Current @ 120V (A)		0.58	1.16	1.78	2.31	2.94	3.56	4.09	4.71	5.34	5.87
Input Current @ 208V (A)		0.33	0.63	0.93	1.27	1.57	1.87	2.22	2.52	2.8	3.14
Input Current @ 240V (A)		0.29	0.55	0.80	1.10	1.35	1.61	1.93	2.18	2.41	2.71
Input Current @ 277V (A)		0.25	0.48	0.70	0.96	1.18	1.39	1.69	1.90	2.09	2.36
Input Current @ 347V (A)		0.20	0.39	0.57	0.78	0.96	1.15	1.36	1.54	1.72	1.92
Input Current @ 480V (A)		0.15	0.30	0.43	0.60	0.73	0.85	1.03	1.16	1.28	1.45
Optics											
T2	4000K/5000K Lumens	6,709	13,111	19,562	25,848	32,026	38,325	45,324	51,355	57,286	63,424
	3000K Lumens	5,939	11,606	17,316	22,881	28,349	33,925	40,121	45,459	50,710	56,143
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T2R	4000K/5000K Lumens	7,122	13,919	20,769	27,442	34,000	40,687	48,117	54,519	60,816	67,333
	3000K Lumens	5,939	11,606	17,316	22,881	28,349	33,925	40,121	45,459	50,710	56,143
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3	4000K/5000K Lumens	6,838	13,363	19,939	26,346	32,642	39,062	46,196	52,343	58,388	64,646
	3000K Lumens	6,053	11,829	17,650	23,321	28,895	34,578	40,893	46,334	51,685	57,225
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T3R	4000K/5000K Lumens	6,990	13,660	20,382	26,931	33,368	39,930	47,223	53,506	59,686	66,081
	3000K Lumens	6,188	12,092	18,042	23,839	29,537	35,346	41,802	47,364	52,834	58,495
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T4FT	4000K/5000K Lumens	6,878	13,440	20,055	26,499	32,832	39,289	46,464	52,646	58,726	65,020
	3000K Lumens	6,088	11,897	17,753	23,457	29,063	34,779	41,130	46,602	51,984	57,556
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T4W	4000K/5000K Lumens	6,789	13,267	19,795	26,156	32,408	38,781	45,864	51,967	57,968	64,180
	3000K Lumens	6,010	11,744	17,523	23,153	28,688	34,329	40,599	46,001	51,313	56,812
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL2	4000K/5000K Lumens	6,697	13,088	19,529	25,804	31,970	38,259	45,245	51,267	57,186	63,315
	3000K Lumens	5,928	11,585	17,287	22,842	28,300	33,867	40,051	45,382	50,621	56,046
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL3	4000K/5000K Lumens	6,837	13,361	19,936	26,342	32,639	39,057	46,189	52,336	58,380	64,636
	3000K Lumens	6,052	11,827	17,647	23,318	28,892	34,573	40,887	46,328	51,678	57,216
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL4	4000K/5000K Lumens	6,496	12,695	18,943	25,029	31,011	37,110	43,886	49,727	55,470	61,414
	3000K Lumens	5,750	11,238	16,768	22,156	27,451	32,850	38,848	44,018	49,102	54,364
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	7,052	13,781	20,564	27,171	33,664	40,285	47,641	53,981	60,215	66,669
	3000K Lumens	6,242	12,199	18,203	24,052	29,799	35,660	42,172	47,784	53,302	59,015
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
5MQ	4000K/5000K Lumens	7,182	14,034	20,942	27,671	34,284	41,027	48,518	54,975	61,323	67,896
	3000K Lumens	6,358	12,423	18,538	24,494	30,348	36,317	42,948	48,664	54,283	60,102
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
5WQ	4000K/5000K Lumens	7,201	14,073	20,998	27,744	34,375	41,136	48,648	55,121	61,487	68,077
	3000K Lumens	6,374	12,457	18,587	24,559	30,429	36,414	43,063	48,793	54,428	60,262
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
SLL/SLR	4000K/5000K Lumens	6,009	11,741	17,519	23,148	28,681	34,321	40,589	45,990	51,301	56,798
	3000K Lumens	5,319	10,393	15,508	20,491	25,388	30,381	35,929	40,710	45,412	50,278
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
RW	4000K/5000K Lumens	6,989	13,657	20,378	26,925	33,360	39,921	47,211	53,494	59,672	66,066
	3000K Lumens	6,187	12,089	18,039	23,834	29,530	35,338	41,791	47,353	52,822	58,482
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
AFL	4000K/5000K Lumens	7,014	13,706	20,452	27,023	33,481	40,066	47,383	53,688	59,888	66,306
	3000K Lumens	6,209	12,133	18,104	23,921	29,637	35,466	41,943	47,525	53,013	58,694
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G4

* Nominal data for 70 CRI.

NOMINAL POWER LUMENS (1A)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		59	113	166	225	279	333	391	445	501	558
Input Current @ 120V (A)		0.51	1.02	1.53	2.03	2.55	3.06	3.56	4.08	4.6	5.07
Input Current @ 208V (A)		0.29	0.56	0.82	1.11	1.37	1.64	1.93	2.19	2.46	2.75
Input Current @ 240V (A)		0.26	0.48	0.71	0.96	1.19	1.41	1.67	1.89	2.12	2.39
Input Current @ 277V (A)		0.23	0.42	0.61	0.83	1.03	1.23	1.45	1.65	1.84	2.09
Input Current @ 347V (A)		0.17	0.32	0.50	0.64	0.82	1.00	1.14	1.32	1.50	1.68
Input Current @ 480V (A)		0.14	0.24	0.37	0.48	0.61	0.75	0.91	0.99	1.12	1.28
Optics											
T2	4000K/5000K Lumens	6,116	11,951	17,833	23,563	29,195	34,937	41,317	46,814	52,221	57,817
	3000K Lumens	5,414	10,579	15,786	20,858	25,843	30,926	36,574	41,440	46,226	51,180
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T2R	4000K/5000K Lumens	6,493	12,688	18,932	25,015	30,994	37,090	43,863	49,699	55,439	61,380
	3000K Lumens	5,748	11,231	16,759	22,143	27,436	32,832	38,828	43,994	49,075	54,334
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3	4000K/5000K Lumens	6,234	12,181	18,176	24,017	29,756	35,609	42,111	47,715	53,225	58,930
	3000K Lumens	5,518	10,783	16,089	21,260	26,340	31,521	37,277	42,237	47,115	52,165
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
T3R	4000K/5000K Lumens	6,372	12,453	18,580	24,550	30,418	36,400	43,048	48,776	54,409	60,239
	3000K Lumens	5,640	11,023	16,447	21,732	26,926	32,221	38,106	43,177	48,163	53,324
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
T4FT	4000K/5000K Lumens	6,270	12,252	18,282	24,156	29,929	35,815	42,356	47,992	53,534	59,271
	3000K Lumens	5,550	10,845	16,183	21,383	26,493	31,703	37,494	42,483	47,388	52,467
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T4W	4000K/5000K Lumens	6,189	12,094	18,045	23,844	29,543	35,352	41,809	47,372	52,843	58,506
	3000K Lumens	5,479	10,706	15,973	21,107	26,151	31,294	37,009	41,934	46,777	51,790
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL2	4000K/5000K Lumens	6,105	11,931	17,803	23,522	29,144	34,877	41,245	46,734	52,130	57,717
	3000K Lumens	5,404	10,561	15,759	20,822	25,798	30,873	36,510	41,369	46,145	51,091
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL3	4000K/5000K Lumens	6,233	12,180	18,174	24,013	29,753	35,604	42,106	47,708	53,218	58,921
	3000K Lumens	5,517	10,782	16,088	21,256	26,337	31,517	37,272	42,231	47,109	52,157
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL4	4000K/5000K Lumens	5,922	11,572	17,268	22,816	28,269	33,829	40,006	45,330	50,566	55,984
	3000K Lumens	5,242	10,244	15,286	20,197	25,024	29,945	35,413	40,126	44,761	49,557
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	6,429	12,563	18,746	24,768	30,688	36,723	43,429	49,208	54,891	60,775
	3000K Lumens	5,691	11,121	16,594	21,925	27,165	32,507	38,443	43,559	48,590	53,798
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
5MQ	4000K/5000K Lumens	6,547	12,794	19,090	25,224	31,253	37,400	44,228	50,114	55,902	61,893
	3000K Lumens	5,795	11,325	16,898	22,328	27,665	33,106	39,151	44,361	49,484	54,788
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
5WQ	4000K/5000K Lumens	6,564	12,828	19,141	25,291	31,336	37,499	44,347	50,248	56,051	62,058
	3000K Lumens	5,810	11,355	16,944	22,388	27,739	33,194	39,256	44,480	49,616	54,934
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
SLL/SLR	4000K/5000K Lumens	5,478	10,703	15,970	21,102	26,145	31,286	37,001	41,924	46,765	51,777
	3000K Lumens	4,849	9,474	14,137	18,679	23,144	27,694	32,753	37,111	41,396	45,833
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	6,371	12,449	18,576	24,544	30,411	36,392	43,037	48,764	54,396	60,225
	3000K Lumens	5,640	11,020	16,443	21,726	26,920	32,214	38,096	43,166	48,151	53,311
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
AFL	4000K/5000K Lumens	6,394	12,494	18,644	24,634	30,521	36,524	43,194	48,942	54,593	60,444
	3000K Lumens	5,660	11,060	16,504	21,806	27,017	32,331	38,235	43,323	48,326	53,505
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4

* Nominal data for 70 CRI.

NOMINAL POWER LUMENS (800MA)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		44	85	124	171	210	249	295	334	374	419
Input Current @ 120V (A)		0.39	0.77	1.13	1.54	1.90	2.26	2.67	3.03	3.39	3.80
Input Current @ 208V (A)		0.22	0.44	0.62	0.88	1.06	1.24	1.50	1.68	1.87	2.12
Input Current @ 240V (A)		0.19	0.38	0.54	0.76	0.92	1.08	1.30	1.46	1.62	1.84
Input Current @ 277V (A)		0.17	0.36	0.47	0.72	0.83	0.95	1.19	1.31	1.42	1.67
Input Current @ 347V (A)		0.15	0.24	0.38	0.49	0.63	0.77	0.87	1.01	1.15	1.52
Input Current @ 480V (A)		0.11	0.18	0.29	0.37	0.48	0.59	0.66	0.77	0.88	0.96
Optics											
T2	4000K/5000K Lumens	4,941	9,656	14,408	19,038	23,588	28,227	33,382	37,823	42,191	46,713
	3000K Lumens	4,374	8,547	12,754	16,852	20,880	24,987	29,550	33,481	37,347	41,350
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
T2R	4000K/5000K Lumens	5,246	10,251	15,296	20,211	25,041	29,966	35,439	40,154	44,791	49,592
	3000K Lumens	4,644	9,074	13,540	17,891	22,166	26,526	31,371	35,544	39,649	43,899
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
T3	4000K/5000K Lumens	5,037	9,842	14,685	19,404	24,041	28,770	34,024	38,551	43,003	47,612
	3000K Lumens	4,459	8,712	12,999	17,176	21,281	25,467	30,118	34,125	38,066	42,146
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3R	4000K/5000K Lumens	5,148	10,061	15,011	19,835	24,576	29,409	34,780	39,408	43,959	48,669
	3000K Lumens	4,557	8,906	13,288	17,558	21,755	26,033	30,787	34,884	38,913	43,082
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4FT	4000K/5000K Lumens	5,066	9,899	14,770	19,516	24,181	28,936	34,221	38,774	43,252	47,888
	3000K Lumens	4,484	8,763	13,074	17,276	21,405	25,614	30,292	34,323	38,287	42,390
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	4000K/5000K Lumens	5,000	9,771	14,579	19,264	23,869	28,562	33,779	38,274	42,694	47,269
	3000K Lumens	4,426	8,649	12,905	17,052	21,129	25,283	29,901	33,880	37,793	41,843
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL2	4000K/5000K Lumens	4,933	9,639	14,383	19,005	23,547	28,178	33,324	37,758	42,118	46,632
	3000K Lumens	4,367	8,532	12,732	16,823	20,844	24,943	29,498	33,423	37,283	41,279
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL3	4000K/5000K Lumens	5,036	9,841	14,683	19,401	24,039	28,766	34,019	38,546	42,997	47,605
	3000K Lumens	4,458	8,711	12,997	17,174	21,279	25,464	30,114	34,121	38,061	42,140
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL4	4000K/5000K Lumens	4,784	9,350	13,951	18,434	22,840	27,332	32,323	36,624	40,854	45,232
	3000K Lumens	4,235	8,277	12,349	16,318	20,218	24,194	28,612	32,420	36,164	40,039
	BUG Rating	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	5,194	10,150	15,145	20,011	24,794	29,670	35,088	39,757	44,349	49,102
	3000K Lumens	4,598	8,985	13,406	17,714	21,948	26,264	31,060	35,193	39,258	43,465
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G3
5MQ	4000K/5000K Lumens	5,290	10,337	15,424	20,380	25,250	30,217	35,734	40,489	45,165	50,006
	3000K Lumens	4,683	9,150	13,653	18,040	22,351	26,748	31,632	35,841	39,980	44,265
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
5WQ	4000K/5000K Lumens	5,304	10,365	15,465	20,434	25,318	30,297	35,830	40,597	45,286	50,139
	3000K Lumens	4,695	9,175	13,690	18,088	22,411	26,819	31,717	35,936	40,087	44,383
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
SLL/SLR	4000K/5000K Lumens	4,426	8,648	12,903	17,049	21,124	25,278	29,894	33,872	37,784	41,832
	3000K Lumens	3,918	7,655	11,422	15,092	18,699	22,376	26,462	29,983	33,446	37,030
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	5,147	10,058	15,009	19,830	24,570	29,402	34,771	39,399	43,949	48,658
	3000K Lumens	4,556	8,903	13,286	17,554	21,749	26,027	30,779	34,876	38,904	43,072
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4
AFL	4000K/5000K Lumens	5,166	10,095	15,063	19,903	24,659	29,509	34,898	39,542	44,108	48,835
	3000K Lumens	4,573	8,936	13,334	17,618	21,828	26,121	30,892	35,003	39,044	43,229
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3

* Nominal data for 70 CRI.

NOMINAL POWER LUMENS (600MA)

Number of Light Squares		1	2	3	4	5	6	7	8	9	10
Nominal Power (Watts)		34	66	96	129	162	193	226	257	290	323
Input Current @ 120V (A)		0.30	0.58	0.86	1.16	1.44	1.73	2.03	2.33	2.59	2.89
Input Current @ 208V (A)		0.17	0.34	0.49	0.65	0.84	0.99	1.14	1.30	1.48	1.63
Input Current @ 240V (A)		0.15	0.30	0.43	0.56	0.74	0.87	1.00	1.13	1.30	1.43
Input Current @ 277V (A)		0.14	0.28	0.41	0.52	0.69	0.81	0.93	1.04	1.22	1.33
Input Current @ 347V (A)		0.11	0.19	0.30	0.39	0.49	0.60	0.69	0.77	0.90	0.99
Input Current @ 480V (A)		0.08	0.15	0.24	0.30	0.38	0.48	0.53	0.59	0.71	0.77
Optics											
T2	4000K/5000K Lumens	4,029	7,874	11,749	15,525	19,235	23,019	27,222	30,844	34,406	38,093
	3000K Lumens	3,566	6,970	10,400	13,743	17,027	20,376	24,097	27,303	30,456	33,720
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G4
T2R	4000K/5000K Lumens	4,278	8,360	12,474	16,482	20,421	24,437	28,900	32,745	36,527	40,441
	3000K Lumens	3,787	7,400	11,042	14,590	18,077	21,632	25,582	28,986	32,334	35,798
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
T3	4000K/5000K Lumens	4,107	8,026	11,976	15,824	19,605	23,461	27,746	31,438	35,068	38,827
	3000K Lumens	3,636	7,105	10,601	14,007	17,354	20,768	24,561	27,829	31,042	34,370
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
T3R	4000K/5000K Lumens	4,198	8,205	12,242	16,175	20,041	23,982	28,363	32,137	35,848	39,689
	3000K Lumens	3,716	7,263	10,837	14,318	17,740	21,229	25,107	28,448	31,733	35,133
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
T4FT	4000K/5000K Lumens	4,131	8,072	12,045	15,915	19,719	23,597	27,907	31,620	35,272	39,052
	3000K Lumens	3,657	7,145	10,662	14,088	17,455	20,888	24,703	27,990	31,223	34,569
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	4000K/5000K Lumens	4,077	7,968	11,889	15,710	19,465	23,292	27,546	31,212	34,816	38,547
	3000K Lumens	3,609	7,053	10,524	13,906	17,230	20,618	24,384	27,629	30,819	34,122
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL2	4000K/5000K Lumens	4,022	7,861	11,729	15,498	19,202	22,979	27,175	30,791	34,347	38,028
	3000K Lumens	3,560	6,959	10,383	13,719	16,998	20,341	24,055	27,256	30,404	33,662
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
SL3	4000K/5000K Lumens	4,106	8,025	11,974	15,821	19,603	23,458	27,742	31,433	35,064	38,821
	3000K Lumens	3,635	7,104	10,599	14,005	17,353	20,765	24,557	27,824	31,039	34,364
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
SL4	4000K/5000K Lumens	3,902	7,624	11,377	15,033	18,626	22,289	26,359	29,867	33,316	36,886
	3000K Lumens	3,454	6,749	10,071	13,307	16,488	19,730	23,333	26,438	29,491	32,651
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	4000K/5000K Lumens	4,236	8,277	12,351	16,319	20,219	24,196	28,614	32,422	36,166	40,042
	3000K Lumens	3,750	7,327	10,933	14,446	17,898	21,418	25,329	28,700	32,014	35,445
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3
5MQ	4000K/5000K Lumens	4,314	8,429	12,578	16,619	20,591	24,641	29,141	33,019	36,832	40,779
	3000K Lumens	3,819	7,461	11,134	14,711	18,227	21,812	25,796	29,228	32,604	36,098
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
5WQ	4000K/5000K Lumens	4,325	8,452	12,611	16,664	20,646	24,707	29,219	33,106	36,930	40,888
	3000K Lumens	3,828	7,482	11,163	14,751	18,276	21,871	25,865	29,305	32,690	36,194
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
SLL/SLR	4000K/5000K Lumens	3,609	7,052	10,522	13,903	17,226	20,613	24,378	27,622	30,812	34,114
	3000K Lumens	3,195	6,242	9,314	12,307	15,248	18,247	21,579	24,451	27,275	30,198
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
RW	4000K/5000K Lumens	4,197	8,202	12,239	16,171	20,036	23,977	28,356	32,129	35,839	39,680
	3000K Lumens	3,715	7,260	10,834	14,315	17,736	21,224	25,101	28,441	31,725	35,125
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
AFL	4000K/5000K Lumens	4,213	8,232	12,284	16,230	20,109	24,064	28,459	32,246	35,969	39,824
	3000K Lumens	3,729	7,287	10,874	14,367	17,800	21,301	25,192	28,544	31,840	35,252
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3

* Nominal data for 70 CRI.

CONTROL OPTIONS

0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

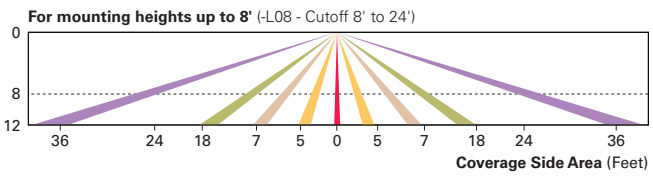
Photocontrol (P, R and PER7)
Optional button-type photocontrol (P) and photocontrol receptacles (R and PER7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

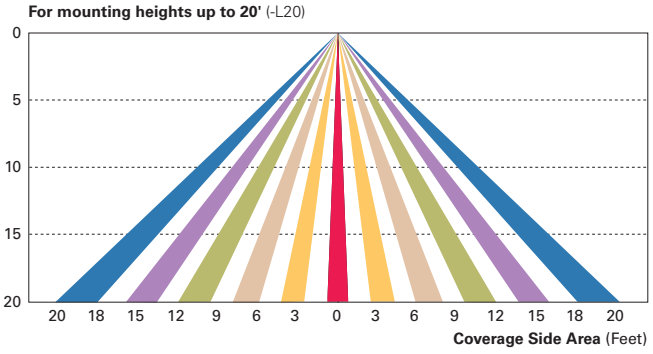
After Hours Dim (AHD)
This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

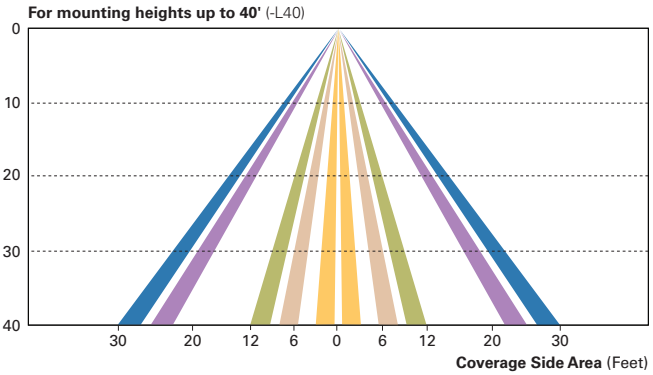
Dimming Occupancy Sensor (MS/DIM-LXX, MS/X-LXX and MS-LXX)
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines.

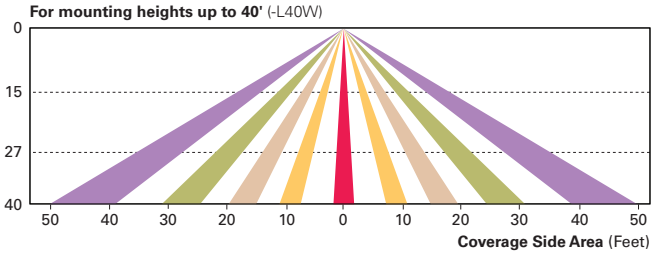
These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for "dusk-to-dawn" control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-40'.



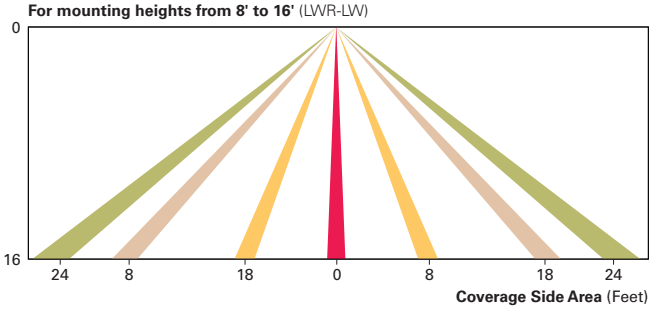


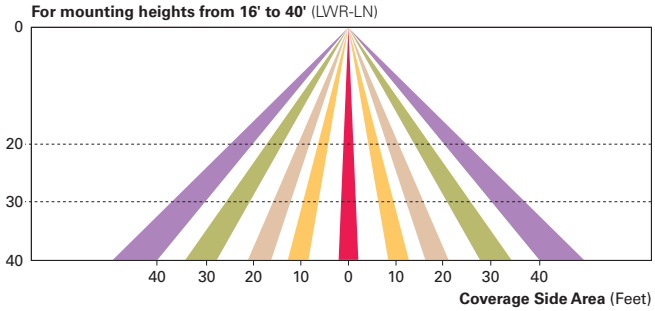




LumaWatt Wireless Control and Monitoring System (LWR-LW and LWR-LN)
The LumaWatt system is a peer-to-peer wireless network of luminaire-integral sensors for any sized project. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication. The end-user can securely create and manage sensor profiles with browser-based management software. The software will automatically broadcast to the sensors via wireless gateways for zone-based and individual luminaire control. The LumaWatt software provides smart building solutions by utilizing the sensor to provide easy-to-use dashboard and analytic capabilities such as improved energy savings, traffic flow analysis, building management software integration and more.

For additional details, refer to the LumaWatt product guides.





ORDERING INFORMATION

Sample Number: GLEON-AF-04-LED-E1-T3-GM-QM

Product Family [1, 2]	Light Engine	Number of Light Squares [3]	Lamp Type	Voltage	Distribution	Color	Mounting
GLEON=Galleon	**AF**=1A Drive Current	**01**=1 **02**=2 **03**=3 **04**=4 **05**=5 **06**=6 **07**=7 [4] **08**=8 [4] **09**=9 [5] **10**=10 [5]	**LED**=Solid State Light Emitting Diodes	**E1**=120-277V **347**=347V [6] **480**=480V [6, 7]	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White	**[Blank]**=Arm for Round or Square Pole **EA**=Extended Arm [8] **MA**=Mast Arm Adapter [9] **WM**=Wall Mount **QM**=Quick Mount Arm (Standard Length) [10] **QMEA**=Quick Mount Arm (Extended Length) [11]

Options (Add as Suffix)	**Accessories** (Order Separately)
7030=70 CRI 3000K [12] **8030**=80 CRI 3000K [13] **7050**=70 CRI 5000K [12] **7060**=70 CRI 6000K [12] **600**=Drive Current Factory Set to Nominal 600mA [14] **800**=Drive Current Factory Set to Nominal 800mA [14] **1200**=Drive Current Factory Set to Nominal 1200mA [14, 15] **F**=Single Fuse (120, 277 or 347V. Must Specify Voltage) **FF**=Double Fuse (208, 240 or 480V. Must Specify Voltage) **2L**=Two Circuits [16, 17] **DIM**=External 0-10V Dimming Leads **P**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Volatage) **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle **R**=NEMA Twistlock Photocontrol Receptacle **AHD145**=After Hours Dim, 5 Hours [18] **AHD245**=After Hours Dim, 6 Hours [18] **AHD255**=After Hours Dim, 7 Hours [18] **AHD355**=After Hours Dim, 8 Hours [18] **HA**=50°C High Ambient [19] **MS/DIM-L08**=Motion Sensor for Dimming Operation, Maximum 8' Mounting Height [20, 21] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [20, 22] **MS/DIM-L40**=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [20, 23] **MS/DIM-L40W**=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height (Wide Range) [20, 24] **MS/X-L08**=Bi-Level Motion Sensor, Maximum 8' Mounting Height [20, 21, 25] **MS/X-L20**=Bi-Level Motion Sensor, 9' - 20' Mounting Height [20, 22, 25] **MS/X-L40**=Bi-Level Motion Sensor, 21' - 40' Mounting Height [20, 23, 25] **MS/X-L40W**=Bi-Level Motion Sensor, 21' - 40' Mounting Height (Wide Range) [20, 24, 25] **MS-L08**=Motion Sensor for ON/OFF Operation, Maximum 8' Mounting Height [20, 21] **MS-L20**=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height [20, 22] **MS-L40**=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [20, 23] **MS-L40W**=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height (Wide Range) [20, 24] **LWR-LW**=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [26] **LWR-LN**=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [26] **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **MT**=Factory Installed Mesh Top **TH**=Tool-less Door Hardware **LCF**=Light Square Trim Plate Painted to Match Housing [27] **HSS**=Factory Installed House Side Shield [28] **CE**=CE Marking [29]	**OA/RA1016**=NEMA Photocontrol Multi-Tap - 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=120V Photocontrol **MA1252**=10kV Surge Module Replacement **MA1036-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1037-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1197-XX**=3@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1188-XX**=4@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1189-XX**=2@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1190-XX**=3@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1038-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1039-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1192-XX**=3@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1194-XX**=2@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1195-XX**=3@90° Tenon Adapter for 3-1/2" O.D. Tenon **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [20] **GLEON-MT1**=Field Installed Mesh Top for 1-4 Light Squares **GLEON-MT2**=Field Installed Mesh Top for 5-6 Light Squares **GLEON-MT3**=Field Installed Mesh Top for 7-8 Light Squares **GLEON-MT4**=Field Installed Mesh Top for 9-10 Light Squares **GLEON-QM**=Quick Mount Arm Kit **GLEON-QMEA**=Quick Mount Extended Arm Kit **LS/HSS**=Field Installed House Side Shield [28, 30]

NOTES:

1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium™ Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Standard 4000K CCT and minimum 70 CRI.
4. Not compatible with extended quick mount arm (QMEA).
5. Not compatible with standard quick mount arm (QM) or extended quick mount arm (QMEA).
6. Requires the use of an internal step down transformer when combined with sensor options. Not available with sensor at 1200mA. Not available in combination with the HA high ambient and sensor options at 1A.
7. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
8. May be required when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table.
9. Factory installed.
10. Maximum 8 light squares.
11. Maximum 6 light squares.
12. Extended lead times apply. Use dedicated IES files for 3000K, 5000K and 6000K when performing layouts. These files are published on the Galleon luminaire product page on the website.
13. Extended lead times apply. Use dedicated IES files for 3000K, 5000K and 6000K when performing layouts. These files are published on the Galleon luminaire product page on the website.
14. 1 Amp standard. Use dedicated IES files for 600mA, 800mA and 1200mA when performing layouts. These files are published on the Galleon luminaire product page on the website.
15. Not available with HA option.
16. 2L is not available with MS, MS/X or MS/DIM at 347V or 480V. 2L in AF-02 through AF-04 requires a larger housing, normally used for AF-05 or AF-06. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table.
17. Not available with LumaWatt wireless sensors.
18. Requires the use of P photocontrol or the PER7 or R photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
19. 50°C lumen maintenance data applies to 600mA, 800mA and 1A drive currents.
20. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
21. Approximately 22' detection diameter at 8' mounting height.
22. Approximately 40' detection diameter at 20' mounting height.
23. Approximately 60' detection diameter at 40' mounting height.
24. Approximately 100' detection diameter at 40' mounting height.
25. Replace X with number of Light Squares operating in low output mode.
26. LumaWatt wireless sensors are factory installed only requiring network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information.
27. Not available with house side shield (HSS).
28. Only for use with SL2, SL3, SL4 and AFL distributions. The Light Square trim plate is painted black when the HSS option is selected.
29. CE is not available with the LWR, MS, MS/X, MS/DIM, P, R or PER7 options. Available in 120-277V only.
30. One required for each Light Square.

TYPE OB

Invue

DESCRIPTION

The Entri LED luminaire features a classic and stylish design with the added benefits of solid state lighting technology, offering outstanding uniformity and energy savings. Using Eaton's proprietary LED LightBAR™ technology and AccuLED Optics™ system, the Entri LED luminaire offers designers vast versatility in system design, function and performance. Use Entri LED for wall mount architectural lighting applications and egress lighting requirements. UL/cUL listed for use in wet locations.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction

HOUSING: Heavy wall, one-piece, die-cast aluminum construction for precise tolerance control and repeatability in manufacturing. Integral extruded aluminum heat sink provides superior thermal heat transfer in +40°C ambient environments. FACEPLATE / DOOR: One-piece, die-cast aluminum construction. Captive, side hinged faceplate swings open via release of one flush mount die-cast aluminum latch on housing side panel. GASKET: One-piece molded silicone gasket mates perfectly between the door and housing for repeatable seal. LENS: Uplight lens is impact-resistant, 5/32" thick tempered frosted glass sealed to housing with continuous bead silicone gasket. Downlight lens is LED board integrated acrylic over-optics, each individually sealed for IP66 rating. HARDWARE: Stainless steel mounting screws and latch hardware allow access to electrical components for installation and servicing.

Optics

Choice of six patented, high-efficiency AccuLED Optic distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optic technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K CCT and 5000K CCT.

Electrical

LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Emergency egress options for -20°C ambient environments, occupancy sensor and dimming options available.

Mounting

JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box. LightBARs mount facing downward. Fixture slides over mounting plate and is secured with two stainless steel fasteners. Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates. Optional mounting arrangements utilize a die-cast mounting adaptor box to allow for LED battery pack, surface conduit and through branch wiring. The Entri LED luminaire is approved for mounting on combustible surfaces.

Finish

Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

Warranty

Five-year warranty.

ENC/ENT/ENV
ENTRI LED

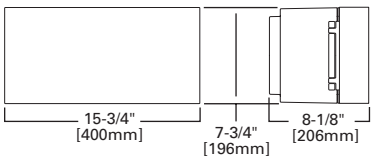
1 - 2 LightBARs

Solid State LED

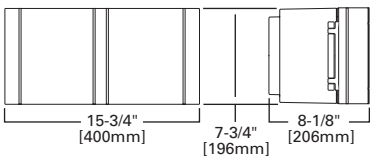
ARCHITECTURAL WALL LUMINAIRE

DIMENSIONS

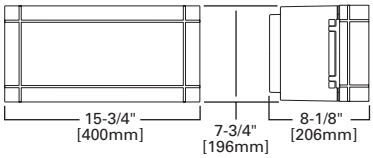
ENC (Round Clean)



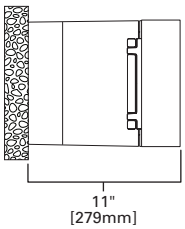
ENT (Triangle Reveals)



ENV (Round Reveals)



CONDUIT MOUNT / BATTERY BACK BOX



CERTIFICATION DATA

UL/cUL Listed
ISO 9001
IP66 LightBARs
LM79 / LM80 Compliant

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA

Approximate Net Weight:
16 lbs. (7.3 kgs.)

Powering Business Worldwide

CONTROL OPTIONS

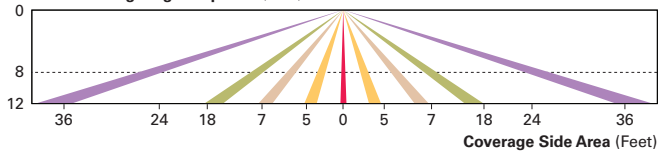
0-10V
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Dimming Occupancy Sensor (MS/DIM-LXX and MS-LXX)
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines.

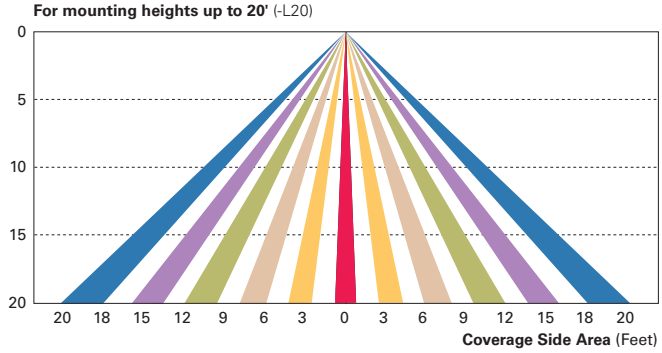
These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for “dusk-to-dawn” control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8’-40’.

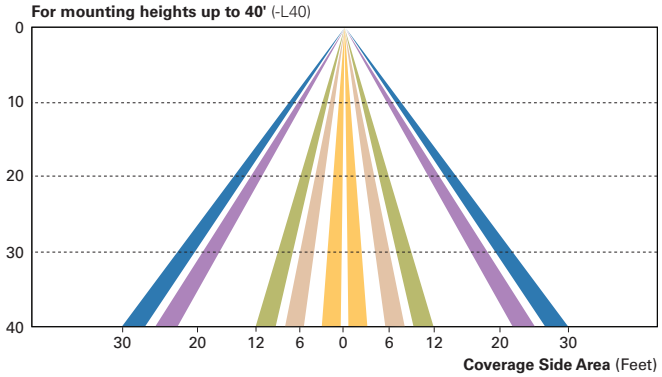
For mounting heights up to 8' (-L08)



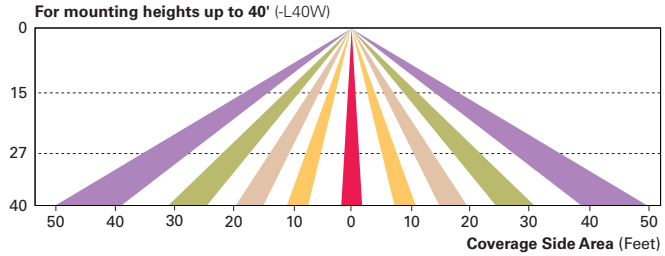
For mounting heights up to 20' (-L20)



For mounting heights up to 40' (-L40)



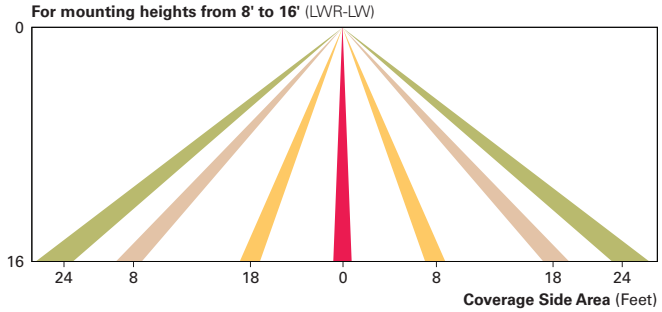
For mounting heights up to 40' (-L40W)



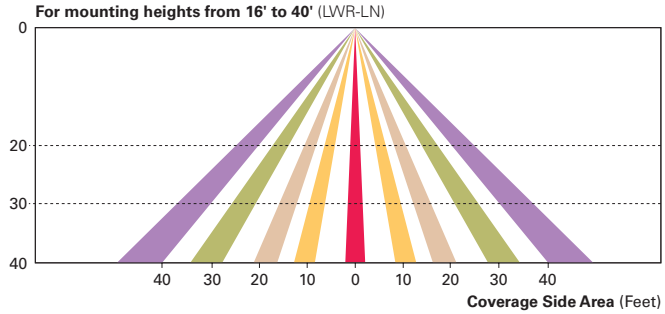
LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)
The LumaWatt Pro system is a peer-to-peer wireless network of luminaire-integral sensors for any sized project. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication. The end-user can securely create and manage sensor profiles with browser-based management software. The software will automatically broadcast to the sensors via wireless gateways for zone-based and individual luminaire control. The LumaWatt Pro software provides smart building solutions by utilizing the sensor to provide easy-to-use dashboard and analytic capabilities such as improved energy savings, traffic flow analysis, building management software integration and more.

For additional details, refer to the LumaWatt Pro product guides.

For mounting heights from 8' to 16' (LWR-LW)



For mounting heights from 16' to 40' (LWR-LN)



POWER AND LUMENS BY BAR COUNT

Number of LightBARs		E01	E02	F01	F02
		21 LED LightBAR		7 LED LightBAR	
Drive Current		350mA		1A	
Power (Watts)	120-277V	25W	47W	26W	50W
Current (A)	120V	0.22	0.40	0.22	0.42
	277V	0.10	0.18	0.10	0.19
Power (Watts)	347V or 480V	31W	52W	32W	55W
Current (A)	347V	0.11	0.16	0.11	0.17
	480V	0.16	0.18	0.16	0.18
Optics					
BL2	Lumens	2,738	5,476	2,260	4,521
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1
BL3	Lumens	2,702	5,405	2,231	4,462
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1
BL4	Lumens	2,613	5,225	2,157	4,313
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1
GZW	Lumens	2,785	5,570	2,299	4,598
	Bug Rating	B2-U0-G2	B3-U0-G3	B1-U0-G1	B2-U0-G2
SLR/SLL	Lumens	2,435	4,869	2,010	4,020
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G2

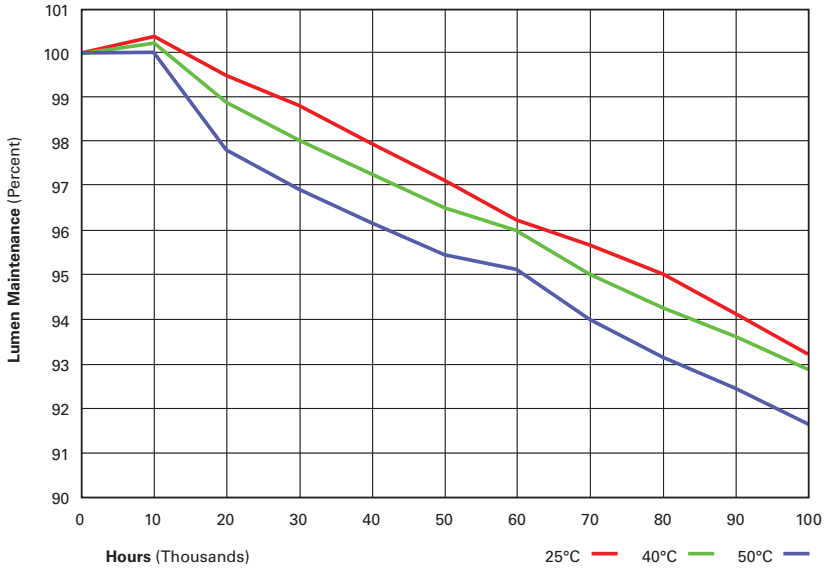
LUMEN MAINTENACE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25ºC	> 99%	> 97%	> 96%	> 93%	> 450,000
40ºC	> 98%	> 97%	> 96%	> 92%	> 425,000
50ºC	> 97%	> 96%	> 95%	> 91%	> 400,000

* Per IESNA TM-21 data.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10ºC	1.02
15ºC	1.01
25ºC	1.00
40ºC	0.99



ORDERING INFORMATION

Sample Number: ENC-E02-LED-E1-BL3-GM

Product Family	Number of LightBARs [1]	Lamp Type	Voltage	Distribution	Color [3]
ENC=Entri Round Clean **ENT**=Entri Triangle Reveals **ENV**=Entri Round Reveals	**E01**=(1) 21 LED LightBAR **E02**=(2) 21 LED LightBARs **F01**=(1) 7 LED LightBAR **F02**=(2) 7 LED LightBARs	**LED**=Solid State Light Emitting Diodes	**E1**=Electronic (120-277V) **347**=347V **480**=480V [2]	**BL2**=Type II w/Back Light Control **BL3**=Type III w/Back Light Control **BL4**=Type IV w/Back Light Control **GZW**=Wall Grazer Wide **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Accessories** (Order Separately) [9]
ULG=Uplight Glow (For Uplight Only) **PC**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) **WG**=Wire Guard **TP**=Tamper Resistant Hardware **LCF**=LightBAR Cover Plate Matches Housing Finish **7030**=70 CRI / 3000K CCT [4] **7050**=70 CRI / 5000K CCT [4] **8030**=80 CRI / 3000K CCT [4] **OSB**=Occupancy Sensor with Back Box (Specify 120V or 277V) [5] **BBB**=Battery Pack with Back Box (Specify 120V or 277V) [6] **CWB**=Cold Weather Battery Pack with Back Box (Specify 120V or 277V) [7] **DIM**=0-10V Dimming Driver **LWR-LW**= LumaWatt Pro Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [8] **LWR-LN**= LumaWatt Pro Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [8]	**VA2001-XX**=Thru-Way Conduit Box **VA6172**=Wire Guard **VA6173**=Tamper-Resistant Driver Bit **MA1253**=10kV Circuit Module Replacement

NOTES:

1. Standard 4000K CCT and greater than 70 CRI. LightBARs for downlight use only.
2. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems)
3. Custom and RAL color matching available upon request. Consult your lighting representative at Eaton for more information.
4. Extended lead times apply.
5. Available with E02 or F02, only one bar on street side will be wired to sensor. Time delay factory setting 15-minutes. When ordered with PC option, both bars are connected to photocontrol as primary switching means. Standard sensor lens covers 8' mounting height, 360° coverage, maximum 48' diameter. Not available in all configurations or with BBB or CWB options.
6. Specify 120V or 277V. LED standard integral battery pack is rated for minimum operating temperature 32°F (0°C). Operates one bar for 90-minutes. Not available in all configurations or with OSB option. Consult factory.
7. Specify 120V or 277V. LED cold weather integral battery pack is rated for minimum operating temperature -4°F (-20°C). Operates one bar for 90-minutes. Not available in all configurations or with OSB option. Consult factory.
8. LumaWatt Pro wireless sensors are factory installed only, order with OSB backbox, requiring network components LWP-EM-1,LWP-GW-1,LWP-PoE8 in appropriate quantities. See www.eaton.com/lighting for LumaWatt Pro application information.
9. Replace XX with color suffix.