FINAL SITE PLAN

BEMIS RIDGE ESTATES

SINGLE FAMILY DEVELOPMENT

PARCEL ID: 12-32-300-006, 12-32-400-005, 12-32-400-004

PITTSFIELD TOWNSHIP, WASHTENAW COUNTY, MICHIGAN

APPLICANT/DEVELOPER

RSG DEVELOPMENT, LLC
2864 CARPENTER RD #300
ANN ARBOR, MI 48108
PHONE: 734.971.3323
ATTN: NATALIE CECCOLINI

ENGINEER/PLANNER

ATWELL, LLC
311 NORTH MAIN STREET
ANN ARBOR, MICHIGAN 48104
PHONE: 734.260.1904
ATTN: TODD PASCOE

DEVELOPMENT NARRATIVE– OPENSPACE PRESERVATION OPTION DEVELOPMENT REQUEST

IN ACCORDANCE WITH THE PITTSFIELD TOWNSHIP ZONING ORDINANCE, SECTION 7.02, WE REQUEST APPROVAL OF THE BEMIS FARMS RESIDENTIAL SITE CONDOMINIUM DEVELOPMENT UNDER THE PROVISIONS OF THE OPEN SPACE PRESERVATION DEVELOPMENT OPTION (OSPDO).

THE PITTSFIELD TOWNSHIP ZONING ORDINANCES RECOMMENDS OSPDO DEVELOPMENT AS A MEANS TO PRESERVE NATURAL FEATURES THROUGH DEDICATED OPEN SPACE BY ALLOWING RESIDENCES TO BE CLUSTERED ON SMALLER LOTS. THE PROPOSED DEVELOPMENT OF THIS SITE AS AN OSPDO RESIDENTIAL NEIGHBORHOOD IS BASED ON THE SITE FEATURES, THE PITTSFIELD TOWNSHIP MASTER PLAN, ADJACENT USES AND THE INTERESTS OF THE GENERAL PUBLIC FOR MODERN RESIDENTIAL HOMES IN BEAUTIFUL RURAL SETTINGS IN CLOSE PROXIMITY TO LOCAL COMMUNITY ACTIVITIES, SCHOOLS, AND SHOPPING. BY UTILIZING THE OPEN SPACE PRESERVATION DEVELOPMENT OPTION, THE DEVELOPMENT ON THIS PROPERTY CAN BE SITUATED TO PROTECT NATURAL FEATURES AND PROVIDE GENEROUS OPEN SPACE IN BEAUTIFUL NATURAL AREAS ALONG THE EXISTING STREAM CORRIDOR.

THE PROJECT INCLUDES LAND TO BE TRANSFERRED FROM THE BYKOWSKI PARCEL. THIS IS THROUGH AN AGREEMENT BETWEEN THE PARCEL OWNER AND DEVELOPER. THIS TRANSFER AREA IS SHOWN ON THE PLAN

ELIGIBILITY OF PROPERTY

- CURRENT PARCEL IS ZONED AG AGRICULTURAL
- PARCEL AREA GREATER THAN 5 ACRES
- PARCELS WILL BE UNDER SINGLE OWNERSHIP
- PARENT PARCEL AND CONDO LOTS NOT DEPENDENT ON PUBLIC WATER OR SANITARY SEWER SERVICES
- MEETS THE PROVISIONS OF SECTION 7.02 I FOR PARENT LOT AREA WITH MORE THAN 50% OPEN SPACE

1. COMPATIBILITY WITH ADJACENT USES: THE PROPOSED OSPDO RESIDENTIAL NEIGHBORHOOD IS COMPATIBLE WITH THE ZONING OF THE ADJACENT PROPERTIES AND THE EXISTING SURROUNDING USES. THE PROPERTY FRONTS ON AN ALL–SEASON, PAVED, COUNTY ROAD WITH GOOD VISIBILITY AND ACCESS. THE PROPOSED DEVELOPMENT HAS EASY ACCESS TO SERVICES AND SCHOOLS LOCATED WITHIN APPROXIMATELY ¼ MILE OF THE SALINE CITY LIMITS. THE ADJACENT USES ARE RESIDENTIAL TO THE EAST, WEST AND SOUTH WITH RESIDENTIAL AND AGRICULTURE TO THE NORTH FROM THE PROPERTY LINE UP TO MICHIGAN AVENUE. THE PROPERTY TO THE SOUTH IS CURRENTLY A SMALL LOT RESIDENTIAL DEVELOPMENT LOCATED IN YORK TOWNSHIP.
2. COMPATIBILITY WITH THE MASTER PLAN: THE CURRENT PITTSFIELD TOWNSHIP MASTER PLAN HAS INDICATED THAT THIS PROPERTY IS IDENTIFIED AND PLANNED FOR RURAL RESIDENTIAL (R1A) DEVELOPMENT. PITTSFIELD TOWNSHIP HAS IDENTIFIED THIS BEMIS ROAD CORRIDOR FOR A NON–MOTORIZED PATH, WHICH CAN BE INCORPORATED INTO THE PROJECT.
3. TRAFFIC IMPACT: THE PROPOSED DEVELOPMENT HAS TWO ENTRANCES ONTO THE EXISTING BEMIS ROAD, WHICH IS A PAVED, ALL SEASON, TWO–LANE, COUNTY ROAD. THE 2012 SEMCOG TRAFFIC COUNT INDICATES A TOTAL DAILY TRAFFIC COUNT OF 6,740 WITH A DESIGN CAPACITY OF BEMIS ROAD AT OVER 30,000 VEHICLE TRIPS PER DAY. THE ADDITIONAL TRAFFIC IMPACT OF THIS PROPOSED BEMIS FARMS DEVELOPMENT IS SMALL AND SHOULD NOT ADVERSELY IMPACT TRAFFIC ON BEMIS ROAD.
4. IMPACT ON PUBLIC SERVICES: AS DISCUSSED ABOVE THE PROPERTY HAS GOOD ACCESS TO BEMIS ROAD, AS WELL AS PRIVATE GAS AND ELECTRIC UTILITIES. THE PROPERTY HAS GOOD SOILS AND GEOLOGY FOR ON–SITE WELL AND SEPTIC SYSTEMS TO MEET THE WASHTENAW COUNTY REQUIREMENTS FOR EACH LOT. THE PITTSFIELD PATHWAY PLAN TO BE DEVELOPED IN THE FUTURE WILL BE INCORPORATED INTO THIS DEVELOPMENT. THE SITE HAS EXCELLENT DRAINAGE DISCHARGE ACCESS TO THE EXISTING PITTSFIELD NO. 5 COUNTY DRAIN. THIS PROPERTY IS ON THE WESTERN EDGE OF PITTSFIELD TOWNSHIP WITHIN THE SALINE SCHOOL DISTRICT. THE CLOSEST SCHOOLS ARE WITHIN A 2 MILE RADIUS OF ALL LOTS IN PROPOSED IN THIS DEVELOPMENT. SOLID WASTE COLLECTION CAN EASILY BE ACCOMPLISHED ALONG THE PROPOSED INTERIOR ROAD NETWORK. THERE ARE NO UNUSUAL OR UNREASONABLE BURDENS PLACED ON PUBLIC SERVICES BY THIS DEVELOPMENT. FIRE PROTECTION WAS DISCUSSED WITH THE PITTSFIELD TWP FIRE CHIEF.
5. COMPLIANCE WITH ZONING STANDARDS: THIS PROPOSED DEVELOPMENT CONFORMS TO THE EXISTING ZONING OF THE PROPERTY AND WILL BE DESIGNED, CONSTRUCTED, OPERATED, AND MAINTAINED TO MEET THE STATED INTENT OF THE ZONING ORDINANCE AND COMPLY WITH APPLICABLE STANDARDS.
6. IMPACT ON OVERALL ENVIRONMENT: ONE OF THE MAIN OBJECTIVES OF THE PROPOSED OSPDO PLAN IS TO PRESERVE THE NATURAL FEATURES CONTAINED ON THIS PROPERTY, WHICH ARE NOT PROTECTED BY AGRICULTURAL USES. THE OPEN SPACE AS SHOWN ON THE PLANS GREATLY PROTECTS THESE NATURAL FEATURES. THE PROPOSED DETENTION AND STORM WATER INFILTRATION ON THE SITE PROVIDES WATER QUALITY AND QUANTITY TREATS TO FURTHER PROTECT THE EXISTING PITTSFIELD NO. 5 COUNTY DRAIN AND ADJACENT WETLANDS.
7. SECTION 7.02 OPEN SPACE PRESERVATION DEVELOPMENT OPTION (OSPDO)
   a. PRESERVE NATURAL DRAINAGE SYSTEMS, OPEN SPACE, FARMLANDS, RURAL CHARACTER, WOODLANDS AND WETLANDS, NATURAL TOPOGRAPHY AND ENVIRONMENTALLY SENSITIVE AREAS. THE PROPOSED DEVELOPMENT PROJECT ACHIEVES ALL OF THE OBJECTIVES NOTED ABOVE. THE EXISTING STREAM CORRIDOR REMAINS UNTOUCHED BY DEVELOPMENT AS IS FURTHER PROTECTED BY A PROPOSED EASEMENT TO THE WCWRC, OVER 50% OF THE SITE IS PRESERVED AS DEDICATED OPEN SPACE, THE DEVELOPMENT IS PROPOSED AS A RURAL SITE CONDOMINIUM NOT REQUIRING PUBLIC SANITARY SEWERS OR WATER MAINS, LARGE NUMBERS OF TREES INCLUDING MOST OF THE HERITAGE TREES ON THE SITE ARE PRESERVED, MUCH OF THE NATURAL TOPOGRAPHY REMAINS UNTOUCHED INCLUDING ENVIRONMENTALLY SENSITIVE AREAS ALONG THE WETLANDS, STREAM CORRIDOR AND FLOOD PLAIN.
   b. ACHIEVE A HIGHER QUALITY OF RESIDENTIAL DEVELOPMENT THAN COULD BE OTHERWISE ACHIEVED UNDER CONVENTIONAL ZONING. THE PROPOSED NATURAL OPEN SPACE AREAS OF THE SITE PROVIDE AN EXCELLENT BENEFIT TO THE FUTURE RESIDENTS WITH ACCESS TO NATURAL AREAS AND VIEWS. THE RESIDENTIAL LOTS ARE CLUSTERED ON THE SOUTHERN PORTION OF THE SITE, WITH THE NORTHERN AND WESTERN PORTIONS OF THE SITE SHALL BE UNDISTURBED BY DEVELOPMENT.
   c. PERMIT DEVELOPMENT THAT IS CONSISTENT WITH THE TOWNSHIP'S MASTER PLAN AND ANY OTHER APPLICABLE ADOPTED PLANS. THE TOWNSHIP'S MASTER PLAN IDENTIFIES THIS PARCEL FOR R–1, 1–ACRE RURAL RESIDENTIAL LOTS. THIS DEVELOPMENT PROPOSES LOTS CLUSTERED TO ALLOW LARGE OPEN SPACES AND PRESERVATION OF THE NATURAL FEATURES ON THE SITE. THE NATURAL VEGETATION IN THE OPEN SPACES, ALONG THE STREAM CORRIDOR, WITHIN THE WETLANDS AND BUFFER AREAS AND FLOOD PLAIN SHOULD REMAIN UNDISTURBED BY DEVELOPMENT.
   d. PRESERVE OPEN SPACE. THE DEVELOPMENT AS PROPOSED INCLUDES OVER 50% OF OPEN SPACE INCLUDING MANY OF THE NATURAL FEATURES, WETLANDS, STREAM CORRIDOR, AND FLOOD PLAIN AREAS.
   e. REDUCE CAPITAL COSTS OF DEVELOPMENT. INITIAL CAPITAL COSTS OF THE PROJECT ARE REDUCED BY PROVIDING THE LARGE OPEN SPACES, SMALLER LOTS AND NARROWER STREETS. THE SMALLER LOTS AND SIDEWALKS ALSO CREATE A SENSE OF COMMUNITY.
   f. LIMIT SOIL EROSION BY REDUCING THE CLEARING AND GRADING NEEDED FOR DEVELOPMENT. THE CREATION OF THE OPEN SPACE AND STORM WATER MANAGEMENT PLAN WILL PROTECT EXISTING NATURAL AREAS, THEREBY LIMITING THE AMOUNT OF SOIL EROSION ON THE PROJECT.

OPEN SPACE MANAGEMENT PLAN

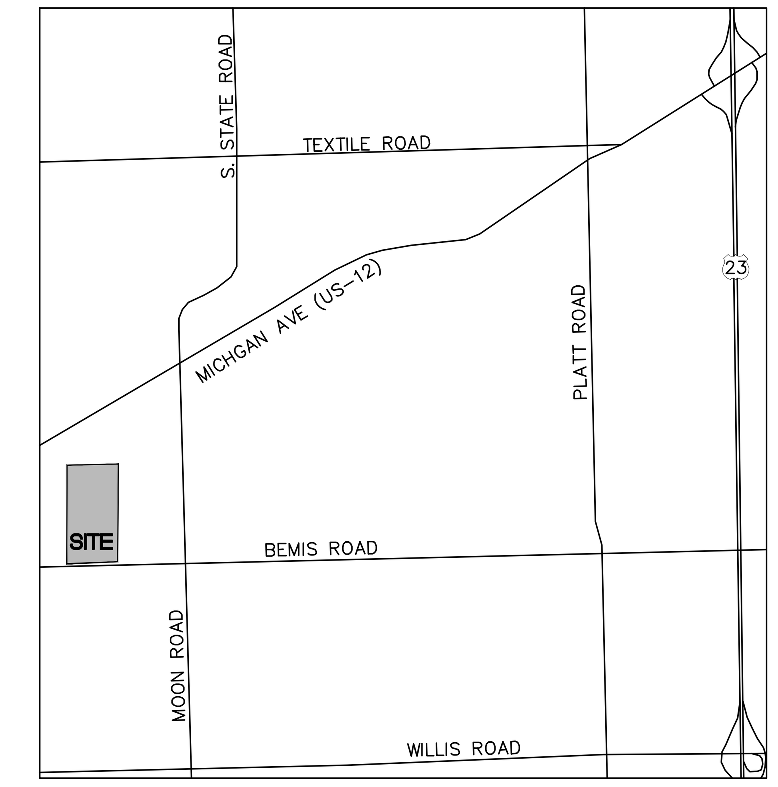
A. THE OPEN SPACE SHALL BE DEDICATED THROUGH AN IRREVOCABLE PERMANENT CONSERVATION EASEMENT RECORDED IN THE CONDOMINIUM DOCUMENTS TO BE MAINTAINED BY THE CONDOMINIUM ASSOCIATION.
B. THE OPEN SPACE SHALL BE RESTRICTED TO USE BY THE CONDOMINIUM LOT OWNERS ONLY.
C. THE PERMITTED USES OF THE OPEN SPACE SHALL BE WALKING, HIKING, AND NATURE OBSERVATION, ALONG WITH MAINTENANCE OF MOWED TRAILS AND REMOVAL OF HAZARDOUS CONDITIONS OR INVASIVE SPECIES.
D. NO BUILDINGS ARE PERMITTED IN THE CONSERVATION EASEMENT OPEN SPACE, NO STORING OR DUMPING OF REFUSE, OR HAZARDOUS MATERIALS SHALL BE PERMITTED.
E. MOTORIZED VEHICLES, BICYCLES, AND OTHER ACTIVITIES THAT MIGHT CAUSE SOIL EROSION ARE PROHIBITED IN THE OPEN SPACE AREAS.
F. CUTTING, FILLING OR REMOVAL OF VEGETATION FROM WETLAND OR WOODED AREAS IS PROHIBITED EXCEPT REMOVAL OF INVASIVE SPECIES AND ACCEPTABLE MANAGEMENT PRACTICES.
G. THE USE OF PESTICIDES, HERBICIDES AND FERTILIZERS IS PROHIBITED IN DEDICATED OPEN SPACE AREAS.
H. THE OPEN SPACE AREAS WILL BE SHOWN IN THE RECORDED CONDOMINIUM DOCUMENTS. THE CONDOMINIUM HOME OWNERS ASSOCIATION WILL BE RESPONSIBLE TO MAINTAIN THE OPEN SPACE AREAS IN ACCORDANCE WITH THE APPROVED MANAGEMENT PLAN; OR PITTSFIELD TWP MAY PERFORM THE REQUIRED MAINTENANCE WITH COSTS ASSESSED TO THE CONDO OWNERS.

PERMITS/APPROVALS REQUIRED STATUS

WASHTENAW COUNTY ROAD COMMISSION	IN PROCESS
WASHTENAW COUNTY WATER RESOURCES COMMISSIONER'S OFFICE	IN PROCESS
PITTSFIELD TOWNSHIP ENGINEERING	IN PROCESS
PITTSFIELD TOWNSHIP PLANNING	IN PROCESS
WASHTENAW COUNTY HEALTH DEPT.	IN PROCESS
MDEQ WETLANDS	RECEIVED

OVERALL DEVELOPMENT MAP
1" = 200 FEET

CSPA 17-25 Bemis Ridge Estates
Final Site Plan
2019-01-23



VICINITY MAP
NOT TO SCALE

SHEET INDEX

01	COVER SHEET
02	EXISTING CONDITIONS & DEMO PLAN
03	EXISTING CONDITIONS & DEMO PLAN
04	NATURAL FEATURES PROTECTION PLAN AREA 1
05	NATURAL FEATURES PROTECTION PLAN AREA 2
06	NATURAL FEATURES PROTECTION PLAN AREA 3
07	NATURAL FEATURES PROTECTION PLAN AREA 4
08	LAYOUT PLAN
09	LAYOUT PLAN AREA 1
10	LAYOUT PLAN AREA 2
11	LAYOUT PLAN AREA 3
12	LAYOUT PLAN AREA 4
13	WELL & SEPTIC PLAN OVERALL
14	GRADING PLAN OVERALL
15	GRADING PLAN AREA 1
16	GRADING PLAN AREA 2
17	GRADING PLAN AREA 3
18	GRADING PLAN AREA 4
19	INTERSECTION GRADING
20	TEST PIT SUMMARY TABLE
21	STORMWATER PLAN & PROFILE 1
22	STORMWATER PLAN & PROFILE 2
23	STORMWATER PLAN & PROFILE 3
24	STORMWATER PLAN & PROFILE 4
25	STORMWATER PLAN & PROFILE 5
26	STORMWATER PLAN & PROFILE 6
27	STORMWATER PLAN & PROFILE 7
28	STORMWATER PLAN & PROFILE 8
29	STORMWATER PLAN & PROFILE 9
30	STORMWATER PLAN & PROFILE 10
31	STORMWATER PLAN & PROFILE 11
32	STORMWATER CONVEYANCE CALCULATIONS
33	BASIN 1 DESIGN
34	BASIN 2 DESIGN
35	BASIN 3 DESIGN
36	DRAINAGE AREA PLAN
37	SOIL EROSION AND SEDIMENT CONTROL PLAN
38	FIRE PROTECTION PLAN
39	ROW IMPROVEMENT PLAN
40	LANDSCAPE PLAN AREA 1
41	LANDSCAPE PLAN AREA 2
42	DETAIL SHEET
43	MDOT DETAILS
44	PITTSFIELD TOWNSHIP EARTHWORK SPECIFICATIONS
45	PITTSFIELD TOWNSHIP STORMSEWER DETAILS AND SPECIFICATIONS
46	PITTSFIELD TOWNSHIP SOIL EROSION DETAILS AND NOTES
47	TREE LIST
48	TREE LIST
49	TREE LIST
50	TREE LIST
51	TREE LIST

SITE DATA TABLE

PARCEL DATA				
PARCEL ID #:	12-32-300-006, 12-32-400-005, 12-32-400-004			
EXISTING ZONING	AG (AGRICULTURAL) & R-1A (SINGLE FAMILY RURAL NON-FARM RESIDNTIAL)			
PROPOSED ZONING	OSPDO (OPEN SPACE PRESERVATION DEVELOPMENT OPTION)			
EXISTING LAND USE	AGRICULTURAL/RESIDENTIAL			
PROPOSED LAND USE	RESIDENTIAL			
LAND AREA				
GROSS SITE AREA	113.97 AC	±	4,964,533 SF	±
PUBLIC ROAD R.O.W.	0.95 AC	±	41,248 SF	±
WETLANDS	7.26 AC	±	316,098 SF	±
UTILITY EASEMENTS	0.25 AC	±	10,889 SF	±
NET SITE AREA	105.52 AC	±	4,596,298 SF	±
PROPOSED DENSITY				
TOTAL PROPOSED UNITS	55 UNITS			
TOTAL UNITS ALLOWED	84 UNITS	Net acreage x 0.80		
PROPOSED DENSITY (GROSS)	0.48 DU / AC	±		
PROPOSED DENSITY (NET)	0.52 DU / AC	±		
SITE DATA				
PROPOSED LOT SIZE (MIN.)	24,750 sf			
PROPOSED LOT WIDTH (MIN.)	110 FT			
PROPOSED GROUND FLOOR AREA	3,240 SF / UNIT	±		
INDIVIDUAL LOT COVERAGE	13.1 %	±		
TOTAL GROUND FLOOR AREA	178,200 SF	±		
GROSS LOT AREA RATIO	3.6%			
NET LOT AREA RATIO	3.9%			
TOTAL FLOOR AREA	356,400 SF	±		
GROSS LOT AREA RATIO	7.2%			
NET LOT AREA RATIO	7.8%			
PROPOSED BUILDING HEIGHT (2 STORI	35 FT	±		
PROPOSED IMPERVIOUS SURFACE	448,520 SF	±		
PROPOSED IMPERVIOUS SURFACE RAT	9.8 %	±		
PROPOSED OPEN SPACE AREA	62 AC	±	excluding detention areas	
PROPOSED OPEN SPACE PERCENTAGE	58%	±		
SETBACKS				
FRONT	35'			
REAR	35'			
SIDE	20' 40' TOTAL			
TOTAL UNIT COUNT	55			
PARKING REQUIREMENTS				
REQUIRED PARKING	110 SPACES (2 PER UNIT)			
PROVIDED PARKING	220 SPACES (4 PER UNIT)			

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
COVER SHEET

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

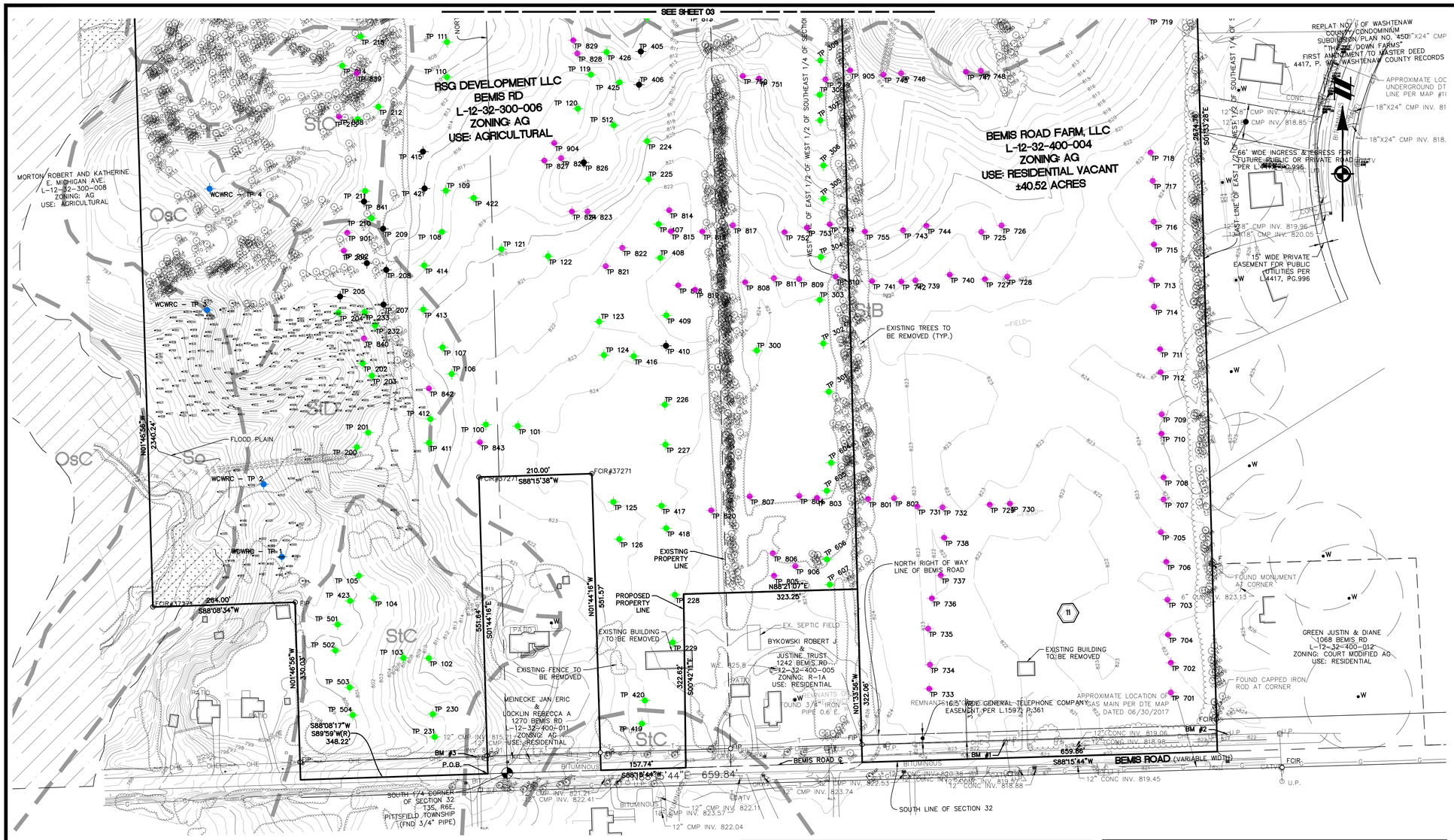
REVISIONS

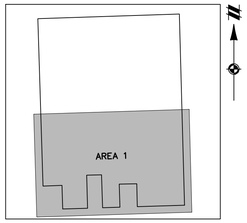
SCALE 0 100 200
1" = 200 FEET

DR. CR CH. ––
P.M. TP
BOOK ––
JOB 16002787
SHEET NO. 01

CSPA 17-25

K:\16002787 – GBC – BEMIS RIDGE\DWG\PLAN SETS\SITE–FINAL\16002787FSP–01–CV.DWG 1/22/2019 10:37 AM CHRIS ROTHHAAR





KEY MAP
(NOT TO SCALE)

DEMOLITION NOTES

1. ALL ON-SITE WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS AND STANDARD DETAILS OF PITTSFIELD TOWNSHIP, UNLESS OTHERWISE SPECIFIED.
2. THE CONTRACTOR SHALL DEMOLISH OR RELOCATE ANY SITE FEATURES AS APPROPRIATE TO FACILITATE THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
3. ALL DEMOLITION MATERIALS SHALL BE PROPERLY REMOVED FROM THE SITE AND DISPOSED OF IN A LEGALLY DESIGNATED DISPOSAL AREA.
4. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS AND NOTIFY ALL AFFECTED UTILITY COMPANIES PRIOR TO THE DEMOLITION OF ANY EXISTING STRUCTURES. ALL EXISTING UTILITIES SHALL BE CAPPED OFF OR REMOVED SO AS NOT TO INTERFERE WITH THE CONSTRUCTION PROJECT. ALL DEBRIS SHALL BE HAULED AWAY FROM THE SITE AND DISPOSED OF AT AN APPROVED LOCATION.
5. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE. PRIOR TO THE START OF ANY DEMOLITION OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AND FIELD LOCATE EXISTING UTILITIES.
6. ANY REMOVAL/ABANDONMENT OF EXISTING WELLS AND SEPTIC FIELDS, SHALL BE IN ACCORDANCE WITH WCEHD STANDARDS.

NOTE: 1.) TOPO, TREES, WETLANDS, FLOODPLAIN, ETC. FOR PARCEL L-12-32-300-006 PROVIDED BY OTHERS

LEGAL DESCRIPTION

DESCRIPTION OF A 113.97 ACRE PARCEL OF LAND LOCATED IN THE SOUTH 1/2 OF SECTION 32, T3S, R6E, PITTSFIELD TOWNSHIP, WASHTENAW COUNTY, MICHIGAN (AS SURVEYED BY ATWELL)

COMMENCING AT THE SOUTH 1/4 CORNER OF SECTION 32, T3S, R6E, PITTSFIELD TOWNSHIP, WASHTENAW COUNTY, MICHIGAN; THENCE S88°08'17"W (RECORDED AS S89°59'W) 36.00 FEET ALONG THE SOUTH LINE OF SAID SECTION 32, LYING IN BEMIS ROAD (VARIABLE WIDTH) FOR A PLACE OF BEGINNING; THENCE CONTINUING S88°08'17"W (RECORDED AS S89°59'W) 348.22 FEET ALONG THE SOUTH LINE OF SAID SECTION 32; THENCE N01°46'56"W (RECORDED AS N00°05'30"E) 330.03 FEET; THENCE S88°08'34"W (RECORDED AS S89°59'W) 264.00 FEET; THENCE N01°46'56"W (FEET (RECORDED AS N00°05'30"E 2340.71 FEET); THENCE N88°04'02"E (RECORDED AS N89°57'20"E) 657.46 FEET ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 32 TO THE CENTER POST OF SAID SECTION 32; THENCE N88°06'19"E (RECORDED AS N89°57'20"E) 1320.94 FEET ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 32; THENCE S01°33'28"E 2674.76 FEET ALONG THE EAST LINE OF THE EAST 1/2 OF THE WEST 1/2 OF THE SOUTHEAST 1/4 OF SAID SECTION 32; THENCE S88°15'44"W 659.86 FEET ALONG THE SOUTH LINE OF SAID SECTION 32; THENCE N01°33'56"W (RECORDED AS S00°18'30"W) 322.06 FEET ALONG THE WEST LINE OF THE EAST 1/2 OF THE WEST 1/2 OF THE SOUTHEAST 1/4 OF SAID SECTION 32; THENCE S88°21'07"W 323.25 FEET; THENCE S00°42'11"E 322.62 FEET; THENCE S88°15'44"W (RECORDED AS S89°52'W) 157.74 FEET ALONG THE SOUTH LINE OF SAID SECTION 32; THENCE N01°44'16"W (RECORDED AS S00°08'W) 551.57 FEET; THENCE S88°15'38"W (RECORDED AS S89°52'E) 210.00 FEET; THENCE S01°44'16"E (RECORDED AS N00°08'E) 551.64 FEET TO THE PLACE OF BEGINNING, BEING A PART OF THE SOUTH 1/2 OF SAID SECTION 32, CONTAINING 113.97 ACRES OF LAND, MORE OR LESS, BEING SUBJECT TO THE RIGHTS OF THE PUBLIC OVER THE SOUTHERLY 33 FEET THEREOF AS OCCUPIED BY SAID BEMIS ROAD, AND ALSO BEING SUBJECT TO EASEMENTS, CONDITIONS, RESTRICTIONS, AND EXCEPTIONS OF RECORD, IF ANY.

SOIL TYPE

Map Unit Type	Map Unit Name
Ho	Hoytville silty clay loam
MoC	Morley loam, 6 to 12 percent slopes
OsC	Oshtemo loamy sand, 6 to 12 percent slopes
OwB	Owosso-Miami complex, 2 to 6 percent slopes
So	Sloan silt loam, wet
SpC	Spinks loamy sand, 6 to 12 percent slopes
StB	St. Clair clay loam, 2 to 6 percent slopes
StC	St. Clair clay loam, 6 to 12 percent slopes
StD	St. Clair clay loam, 12 to 18 percent slopes

NOTES:

1) BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATES, SOUTH ZONE, INTERNATIONAL FEET. VERTICAL DATUM NAVD88.

2) WATER MAIN, STORM SEWER, SANITARY SEWER AND FRANCHISE UTILITIES HAVE BEEN FIELD LOCATED WHERE VISIBLE. NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, EXACTNESS, OR CORRECTNESS OF THEIR LOCATIONS.

*NOTE: THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.

3) REFERENCE DRAWING: SURVEY BY COLEMAN LAND SURVEYING, PLC, JOB NO. 1842, DATED 11-24-14.

4) THE SUBJECT PROPERTY LIES WITHIN FLOOD ZONE "X", AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN, AND FLOOD ZONE "A", AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, NO BASE FLOOD ELEVATIONS DETERMINED, PER FEMA FIRM MAP NUMBER 26161C0415E, EFFECTIVE DATE: APRIL 3, 2012.

BENCHMARKS:

SOURCE BENCHMARK: NGS NE0661
EL: 824.97 (NAVD88)

BENCHMARK 1: SET BENCH TIE IN NORTH FACE OF UTILITY POLE AT SOUTH END OF SITE
EL: 823.32 (NAVD88)

BENCHMARK 2: SET BENCH TIE IN WEST FACE OF UTILITY POLE AT SOUTHEAST END OF SITE
EL: 823.69 (NAVD88)

BENCHMARK 3: SET BENCH TIE IN SOUTHWEST FACE OF UTILITY POLE AT SOUTHWEST CORNER OF PARCEL L-12-32-400-011
EL: 813.53 (NAVD88)

SCHEDULE C PROPERTY DESCRIPTION (PER COMMITMENT FOR TITLE INSURANCE BY STEWART TITLE GUARANTY COMPANY, COUNTERSIGNED BY AMERICAN TITLE COMPANY OF WASHTENAW, COMMITMENT NUMBER: 110406, EFFECTIVE DATE: JUNE 01, 2017)

The land referred to in this Commitment is described as follows:

Land in the Township of Pittsfield, County of Washtenaw, Michigan, described as:

The East 1/2 of the West 1/2 of the Southeast 1/4, Section 32, Town 3 South, Range 6 East, Pittsfield Township, Washtenaw County, Michigan.

SCHEDULE B – SECTION II EXCEPTIONS (PER COMMITMENT FOR TITLE INSURANCE BY STEWART TITLE GUARANTY COMPANY, COUNTERSIGNED BY AMERICAN TITLE COMPANY OF WASHTENAW, COMMITMENT NUMBER: 110406, EFFECTIVE DATE: JUNE 01, 2017)

11. Easement, Agreement and Conditions in favor of General Telephone Company, as recorded in Liber 1597, Page 361, Washtenaw County Records. **AS SHOW HEREON**

LEGEND

BOUNDARY LINE	EXIST. GAS
EXIST. EASEMENT	EXIST. STORM
SECTION LINE	EXIST. OVERHEAD ELEC. LINE
BOUNDARY/PROPERTY LINE	EXIST. OVERHEAD TELE. LINE
EXIST. SETBACK	EXIST. CABLE LINE
EXIST. CONTOUR	EXIST. UNSPECIFIED UTILITIES
EXIST. TREE LINE	EXIST. CULVERT
EXIST. CURB AND GUTTER	EXIST. CATCH BASIN/INLET
EXIST. FENCE	EXIST. HYDRANT
EXIST. GRAVEL	EXIST. VALVE
EXIST. BUILDING	EXIST. SANITARY SEWER
EXIST. STRUCTURE	EXIST. UNSPECIFIED UTILITY
EXIST. WALL	EXIST. SIGN
EXIST. SOIL BOUNDARY	EXIST. LIGHT POLE
EXIST. SOILS TYPE	EXIST. WETLAND
EXIST. TREE	EXIST. WETLAND BUFFER
EXIST. WATER MAIN	
EXIST. SANITARY	TEST PIT LOCATION

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

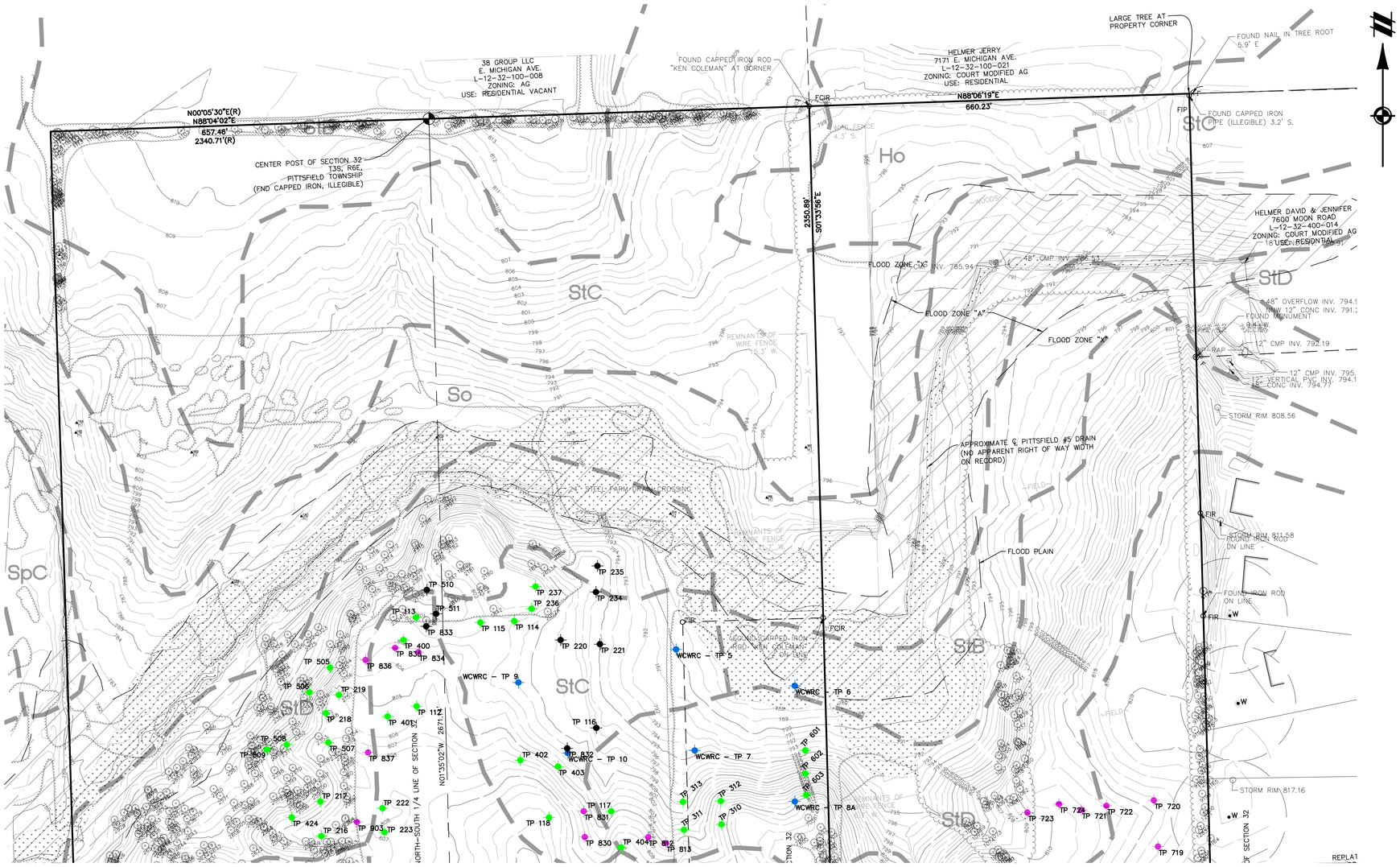
CLIENT
GUENTHER BUILDING COMPANY

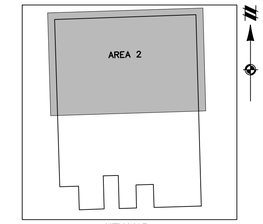
BEMIS RIDGE ESTATES
FINAL SITE PLAN
EXISTING CONDITIONS & DEMO PLAN

DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 50 100
1" = 100 FEET
DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
02





KEY MAP
(NOT TO SCALE)

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

EXISTING CONDITIONS &
DEMO PLAN

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

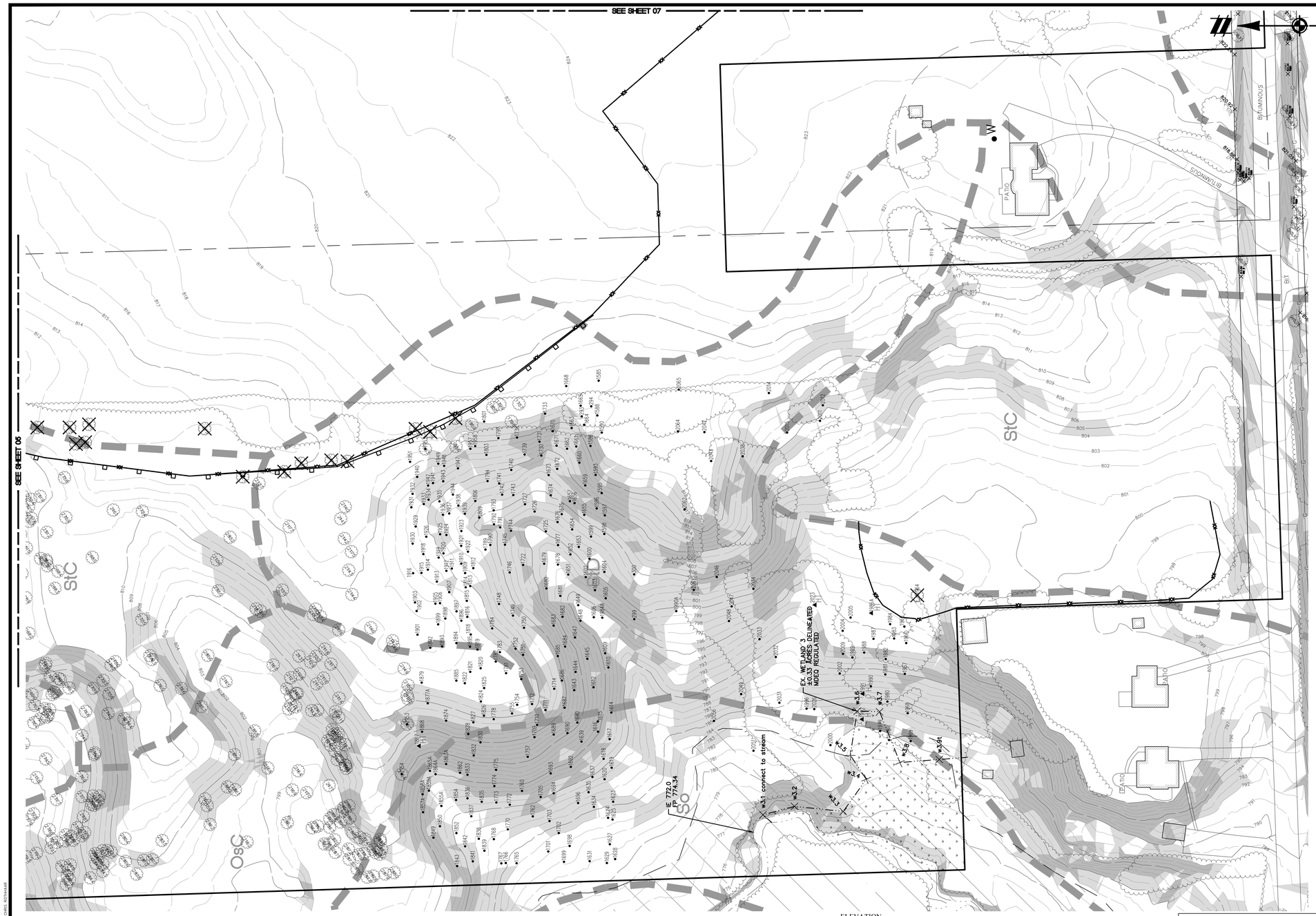
REVISIONS

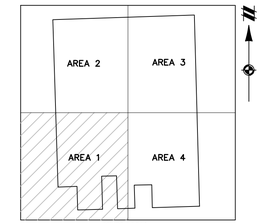
SCALE 0 50 100
1" = 100 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 03	

LEGEND

BOUNDARY LINE	EXIST. GAS
EXIST. EASEMENT	EXIST. STORM
SECTION LINE	EXIST. OVERHEAD ELEC. LINE
BOUNDARY/PROPERTY LINE	EXIST. OVERHEAD TELE. LINE
EXIST. SETBACK	EXIST. CABLE LINE
EXIST. CONTOUR	EXIST. UNSPECIFIED UTILITIES
EXIST. TREE LINE	EXIST. CULVERT
EXIST. CURB AND GUTTER	EXIST. CATCH BASIN/INLET
EXIST. FENCE	EXIST. HYDRANT
EXIST. GRAVEL	EXIST. VALVE
EXIST. BUILDING	EXIST. SANITARY SEWER
EXIST. STRUCTURE	EXIST. UNSPECIFIED UTILITY
EXIST. WALL	EXIST. SIGN
EXIST. SOIL BOUNDARY	EXIST. LIGHT POLE
EXIST. SOILS TYPE	EXIST. WETLAND
EXIST. TREE	EXIST. WETLAND BUFFER
EXIST. WATER MAIN	TEST PIT LOCATION
EXIST. SANITARY	





KEY MAP
(NOT TO SCALE)

DESCRIPTION OF NATURAL FEATURES

THE SUBJECT PROPERTY CONTAINS PRIMARILY ACTIVE AGRICULTURAL LAND AND OLD FIELDS, INTERSECTED BY TREE LINES AND BORDERED TO THE NORTH AND WEST BY UNDEVELOPED FORESTED AREAS ASSOCIATED WITH PITTSFIELD NO. 5 DRAIN AND WETLAND AREAS. SURROUNDING LAND USE CONSISTS OF A MIX OF EXISTING RESIDENTIAL DEVELOPMENT, COMMERCIAL DEVELOPMENT, AND AGRICULTURAL FIELDS, INTERSPERSED WITH UNDEVELOPED FORESTED AREAS, WETLANDS, AND STREAMS. IN ADDITION, THERE ARE SINGLE FAMILY RESIDENCES OUTSIDE OF THE PROPERTY BOUNDARY TO THE SOUTH ALONG BEMIS ROAD.

THE LIMITED FOREST HABITAT WITHIN THE SUBJECT PROPERTY IS PRIMARILY YOUNG, EARLY SUCCESSIONAL FOREST FOUND WITHIN TREE LINES AND CONSISTING OF BOX-ELDER (ACER NEGUNDO), WHITE PINE (PINUS STROBUS), BLACK CHERRY (PRUNUS SEROTINA), BLACK WALNUT (JUGLANS NIGRA), COTTONWOOD (POPULUS DELTOIDES), COMMON BUCKTHORN (RHAMNUS CATHARTICA), AND SCATTERED WITH HICKORIES (CARYA SPP), WHITE MULBERRY (MORUS ALBA), APPLE/CRABAPPLE (MALUS SPP), AND SIBERIAN ELM (ULMUS PUMILA) WITH TREES RANGING FROM 6 TO 40 INCHES DIAMETER AT BREAST HEIGHT (DBH). THESE TREE LINES CONTAIN A RELATIVELY DENSE SHRUB UNDERSTORY OF NON-NATIVE/WEEDY SPECIES, SUCH AS EURASIAN HONEYSUCKLE (LONICERA SPP) MULTI-FLORA ROSE (ROSA MULTIFLORA), AUTUMN-OLIVE (ELAEAGNUS UMBELLATA), AND BUCKTHORNS. THE FOREST HABITAT ON-SITE CAN BE CONSIDERED LOW QUALITY AND RELATIVELY WEEDY. OVERALL, THE SUBJECT PROPERTY IS EXPECTED TO SUPPORT RELATIVELY COMMON PLANTS AND WILDLIFE.

WETLANDS

FOUR (4) WETLANDS (WETLANDS 1–4) WERE IDENTIFIED WITHIN THE SUBJECT PROERTY. ONE (1) ON-SITE WATERCOURSE (PITTSFIELD NO. 5 DRAIN) WAS OBSERVED.

WETLAND 1 IS AN APPROXIMATELY 0.08-ACRE FORESTED AND SCRUB-SHRUB WETLAND SYSTEM IDENTIFIED WITHIN THE NORTHEAST CORNER OF THE SUBJECT PROPERTY, ADJACENT TO THE PITTSFIELD NO. 5 DRAIN. WETLAND 1 EXTENDS OFF-SITE TO THE EAST. THE DOMINANT TREE SPECIES WITHIN WETLAND 1 IS EASTERN COTTONWOOD (FAC) AND THE DOMINANT SHRUB SPECIES WITHIN WETLAND 1 IS GRAY DOGWOOD (CORNUS RACEMOSA; FAC). HERBACEOUS SPECIES WITHIN WETLAND 1 INCLUDE SPOTTED TOUCH-ME-NOT (IMPATIENS CAPENSIS; FACW), FRINGED YELLOW-LOOSESTRIFE (LYSIMACHIA ARVENSIS; FACW), BUR-CUCUMBER (SICYOS ANGULATUS), WATER-PEPPER (POLYGONUM HYDROPIPEROIDES; OBL), AND GRAY DOGWOOD SAPLINGS (FAC).

WETLAND 2 IS AN APPROXIMATELY 6.84-ACRE FORESTED, SCRUB-SHRUB AND EMERGENT WETLAND SYSTEM IDENTIFIED WITHIN THE NORTHERN PORTION OF THE SUBJECT PROPERTY AND ADJACENT TO THE PITTSFIELD NO. 5 DRAIN. EMERGENT VEGETATION WITHIN WETLAND 2 IS DOMINATED BY REED CANARY GRASS (PHALARIS ARUNDINACEA; FACW), SPOTTED TOUCH-ME-NOT (FACW), PANIC GRASS (PANICUM DICHOTOMIFLORUM; FACW); GREAT RAGWEED (AMBROSIA TRIFIDA; FAC), FALSE NETTLE (BOEHMERIA CYLINDRICA; OBL), AND JOE-PYE-WEED (EUTROCHIUM MACULATUM; OBL). SHRUB SPECIES INCLUDE GRAY DOGWOOD (FAC), COMMON ELDERBERRY (SAMBUCUS NIGRA; FAC), AND COMMON BUCKTHORN (FAC), AND TREE SPECIES INCLUDE COTTONWOOD (FAC), AMERICAN ELM (ULMUS AMERICANA; FACW), ASH, AND BOX-ELDER (FAC).

WETLAND 3 IS AN APPROXIMATELY 0.33-ACRE FORESTED AND EMERGENT WETLAND SYSTEM OCCURRING WITHIN THE SOUTHWESTERN PORTION OF THE SUBJECT PROPERTY AND ADJACENT TO THE PITTSFIELD NO. 5 DRAIN. WETLAND 3 EXTENDS OFF-SITE TO THE SOUTH. EMERGENT VEGETATION WITHIN WETLAND 3 IS DOMINATED BY REED CANARY GRASS (FACW), WOOD NETTLE (LAPORTEA CANADENSIS; FACW), AND STINGING NETTLE (URTICA DIOCA; FACW). DOMINANT TREE SPECIES ARE AMERICAN ELM (FACW) AND BOX-ELDER (FAC).

WETLAND 4 IS AN APPROXIMATELY 0.01-ACRE PEM AND PFO WETLAND SYSTEM OCCURRING WITHIN THE WOODLOT WITHIN THE FIELD, LOCATED SOUTH OF WETLAND 2. EMERGENT VEGETATION WITHIN WETLAND 4 IS DOMINATED BY REED CANARY GRASS (FACW), STINGING NETTLE (FACW), SENSITIVE FERN (ONOCLEA SENSIBILIS; FACW), LEAFY SATIN GRASS (MUHLENBERGIA MEXICANA; FACW), AND LATE GOLDENROD (SOLIDAGO GIGANTEA; FACW). DOMINANT TREE SPECIES INCLUDE AMERICAN ELM (FACW), BOX-ELDER (FAC), COTTONWOOD (FAC), AND SILVER MAPLE (ACER SACCHARINUM; FACW). SCATTERED SHRUBS INCLUDE GRAY DOGWOOD (FAC), COMMON ELDERBERRY (FAC), AND BOX-ELDER SAPLINGS.

WATERCOURSES

ONE (1) LARGE STREAM (PITTSFIELD NO. 5 DRAIN) WAS OBSERVED, WHICH FLOWS FROM THE NORTHEAST CORNER OF THE SUBJECT PROPERTY MEANDERS THROUGH THE NORTHERN PORTION OF THE SUBJECT PROPERTY, AND ENTERS THE SUBJECT PROPERTY AGAIN NEAR THE SOUTHWEST CORNER BEFORE EXITING OFF-SITE TO THE SOUTHWEST. AT THE TIME OF THE SITE VISIT, THE PITTSFIELD NO. 5 DRAIN EXHIBITED CLEAR WATER FLOWING SOUTHWEST AND APPEARED TO HAVE A SUBSTRATE CONSISTING OF A MIX OF SILT, SAND, AND WOODY DEBRIS. WETLANDS 1 – 3 ARE ADJACENT TO THE PITTSFIELD NO. 5 DRAIN.

PLANS FOR PROTECTION

THE OPEN SPACE PRESERVATION DEVELOPMENT OPTION, AS PROPOSED, PROTECTS THE MAJORITY OF THESE NATURAL SYSTEMS BY DEVELOPING IN UPLAND AND OPEN AREAS, WHILE LEAVING OVER 50% OF THE SITE AS PROTECTED OPEN SPACE. FUTURE FINAL SITE PLAN DESIGNS WILL INCORPORATE ADDITIONAL DETAILS FOR PROTECTION SYSTEMS SUCH AS TREE FENCING, SILT FENCING, NATURAL BUFFERS, SEDIMENT BASINS, STORM WATER BASINS, SEEDING, EROSION CONTROL BLANKETS, ETC.

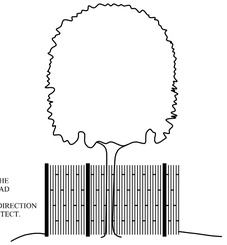
STEEP SLOPES

STEEP SLOPES, RANGING FROM 12–22%, EXISTING ON SITE. MOST OF THE STEEP SLOPES ARE PLANNED TO BE PRESERVED IN THE PROPOSED OPEN SPACE. ALL SLOPES ALONG THE PITTSFIELD NO. 5 DRAIN ARE BEING PRESERVED. A LIMITED AREA OF STEEP SLOPES LOCATED NEAR LOTS 17–18 IS BEING DEVELOPED. THIS AREA CURRENTLY IS ERODING AS A RESULT OF FARMING OPERATIONS. THE PROPOSED LOTS IN THIS AREA, WHEN DEVELOPED WILL ELIMINATE FUTURE EROSION. DURING DEVELOPMENT, SOIL EROSION CONTROL FENCING, SOIL MANAGEMENT PRACTICES, DRAINAGE DIVERSION TO DETENTION BASINS AND SEEDING WILL PROTECT THESE AREAS. POST DEVELOPMENT, LANDSCAPING, LAWNS, NATURAL VEGETATION AND MAINTENANCE OF THE STORM WATER MANAGEMENT SYSTEM WILL PROTECT THE SITE FROM FUTURE EROSION.

WETLAND IMPACT TABLE

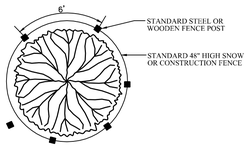
Wetland Area	MDEQ Regulated	Wetland Area (SF)	Wetland Area (AC)	Wetland Impact Area (SF)	Wetland Impact Area (AC)	Estimated Cut Impact Volume (cubic yards)	Estimated Fill Impact Volume (cubic yards)
1	Yes	3,485	0.08	0	0.00	0.0	0.0
2	Yes	297,950	6.84	0	0.00	0.0	0.0
3	Yes	14,375	0.33	0	0.00	0.0	0.0
4	Yes	436	0.01	436	0.01	0.0	15.0
Total (MDEQ)		**316,246**	**7.26**	**436**	**0.01**	**0.0**	**15.0**

ELEVATION



FENCE SHALL BE LOCATED AT THE OUTER PERIMETER OF THE SPREAD OF THE BRANCHES (DRIP-LINE), OR CLOSER ONLY AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.

PLAN



TREE PROTECTION NOTES:

1. ALL TREES TO BE REMOVED WILL BE IDENTIFIED BY RED FLAGGING.
2. TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
3. ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR MATERIAL OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP LINE OF ANY TREES TO BE SAVED.

TREE PROTECTION FENCE DETAIL

NO SCALE

NOTE: LOCATION TO BE PROVIDED IN FINAL SITE PLAN SUBMITTAL

LEGEND

	BOUNDARY LINE	G	EXIST. GAS
	EXIST. EASEMENT	C	EXIST. STORM
	SECTION LINE	OHE	EXIST. OVERHEAD ELEC. LINE
	BOUNDARY/PROPERTY LINE	OHT	EXIST. OVERHEAD TELE. LINE
	EXIST. SETBACK	TV	EXIST. CABLE LINE
890	EXIST. CONTOUR	U	EXIST. UNSPECIFIED UTILITIES
	EXIST. TREE LINE		EXIST. CULVERT
	EXIST. CURB AND GUTTER		EXIST. CATCH BASIN/INLET
X	EXIST. FENCE		EXIST. HYDRANT
	EXIST. GRAVEL		EXIST. VALVE
	EXIST. BUILDING		EXIST. SANITARY SEWER
	EXIST. STRUCTURE		EXIST. UNSPECIFIED UTILITY
	EXIST. WALL		EXIST. SIGN
	EXIST. SOIL BOUNDARY		EXIST. LIGHT POLE
MoC	EXIST. SOILS TYPE		EXIST. WETLAND
3533	EXIST. TREE		EXIST. WETLAND BUFFER
W	EXIST. WATER MAIN		STEEP SLOPES 12%-19%
	EXIST. SANITARY		STEEP SLOPES >19%
			PROP. SILTFENCE
			PROP. TREE PROTECTION

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
NATURAL FEATURES
PROTECTION PLAN AREA 1

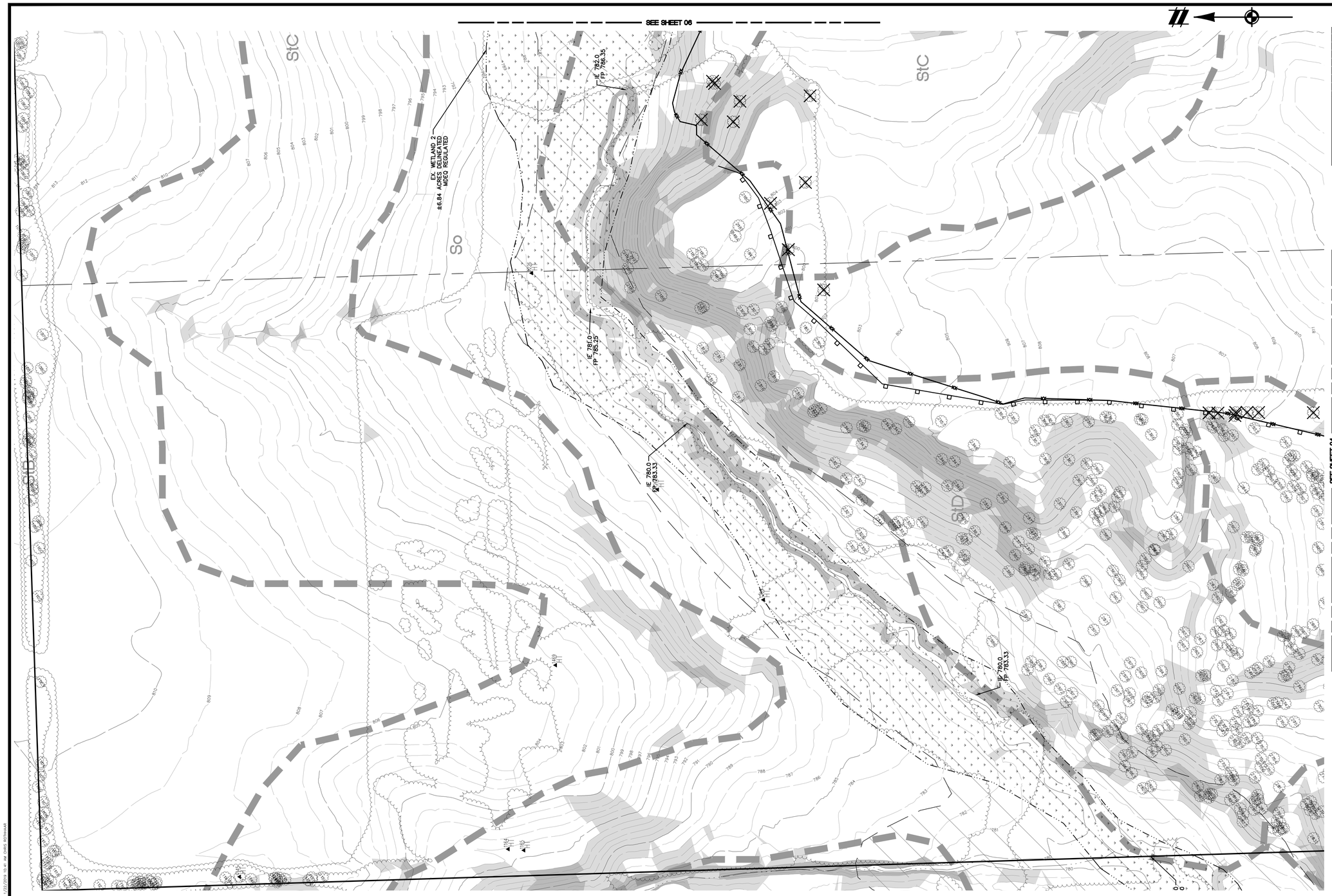
DATE
MARCH 14, 2018

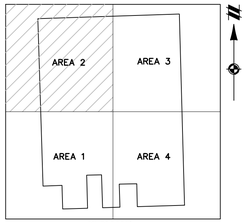
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
04





KEY MAP
(NOT TO SCALE)

LEGEND

	BOUNDARY LINE	G	EXIST. GAS	MoC	EXIST. SOILS TYPE
	EXIST. EASEMENT		EXIST. STORM	3533	EXIST. TREE
	SECTION LINE	OHE	EXIST. OVERHEAD ELEC. LINE	3529	EXIST. DEMO TREE
	BOUNDARY/PROPERTY LINE	OHT	EXIST. OVERHEAD TELE. LINE		
	EXIST. SETBACK	TV	EXIST. CABLE LINE		
890	EXIST. CONTOUR	U	EXIST. UNSPECIFIED UTILITIES		EXIST. WETLAND
	EXIST. TREE LINE		EXIST. CULVERT		EXIST. WETLAND BUFFER
	EXIST. CURB AND GUTTER		EXIST. CATCH BASIN/INLET		
X	EXIST. FENCE		EXIST. HYDRANT		STEEP SLOPES 12%–19%
	EXIST. GRAVEL		EXIST. VALVE		
	EXIST. BUILDING		EXIST. SANITARY SEWER		STEEP SLOPES >19%
	EXIST. STRUCTURE		EXIST. UNSPECIFIED UTILITY		
	EXIST. WALL		EXIST. SIGN		PROP. SILTFENCE
	EXIST. SOIL BOUNDARY		EXIST. LIGHT POLE		PROP. TREE PROTECTION

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
NATURAL FEATURES
PROTECTION PLAN AREA 2

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
05

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

NATURAL FEATURES
PROTECTION PLAN AREA 3

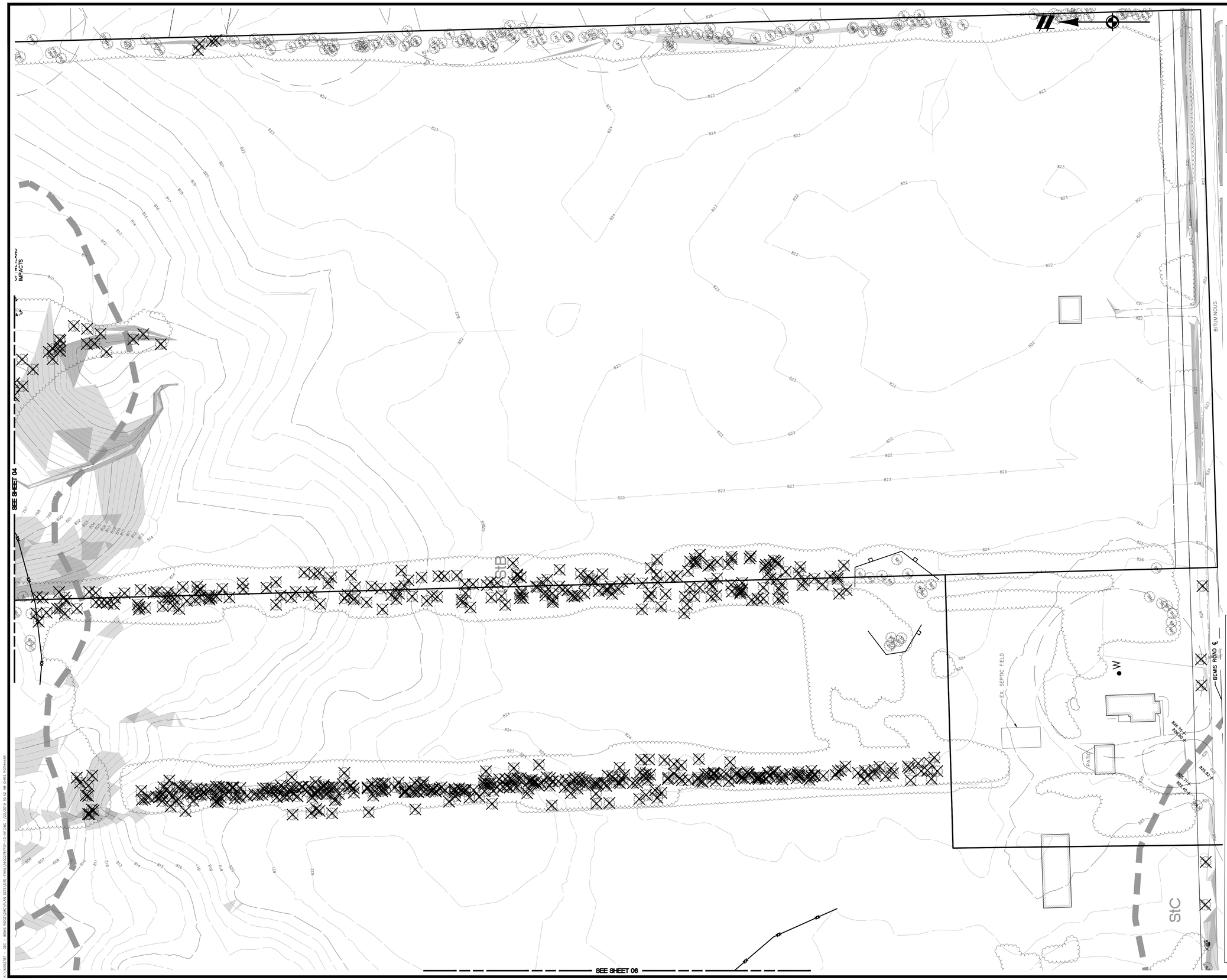
DATE
MARCH 14, 2018

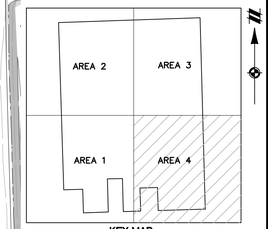
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
06





KEY MAP
(NOT TO SCALE)

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- 890 EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. STRUCTURE
- EXIST. WALL
- EXIST. SOIL BOUNDARY
- MoC EXIST. SOILS TYPE
- 3533 EXIST. TREE
- 3529 EXIST. DEMO TREE
- G EXIST. GAS
- C EXIST. STORM
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- U EXIST. UNSPECIFIED UTILITIES
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- EXIST. UNSPECIFIED UTILITY
- EXIST. SIGN
- EXIST. LIGHT POLE
- EXIST. WETLAND
- EXIST. WETLAND BUFFER
- EXIST. WATER MAIN
- EXIST. SANITARY
- PROP. SILTFENCE
- PROP. TREE PROTECTION
- STEEP SLOPES 12%–19%
- STEEP SLOPES >19%

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
NATURAL FEATURES
PROTECTION PLAN AREA 4

DATE
MARCH 14, 2018

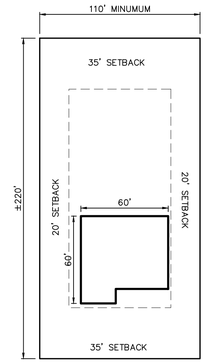
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
07

3	36776.14	31	35756.51
4	36776.14	32	36193.59
5	37649.39	33	40797.29
6	31919.55	34	35603.93
7	31937.50	35	41839.28
8	28105.00	36	26700.00
9	32467.24	37	26700.00
10	38451.82	38	26700.00
11	38271.20	39	30112.48
12	30718.78	40	28202.00
13	35818.45	41	24750.68
14	29350.55	42	24750.68
15	36427.96	43	24750.68
16	34492.52	44	28417.47
17	34492.52	45	30377.32
18	34492.52	46	36554.39
19	28931.73	47	31691.86
20	29095.27	48	31582.87
21	31355.49	49	35722.11
22	34713.32	50	31629.56
23	27622.54	51	31937.50
24	30111.89	52	31937.50
25	30089.15	53	31937.50
26	30066.41	54	31937.50
27	30043.67	55	38795.98
28	30020.93	AVG.	32539.96



TYPICAL LOT DETIAL

NO SCALE

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- DONATED LAND
- OBTAINED LAND

NOTE: STREET LIGHTING IS NOT PROPOSED

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES FINAL SITE PLAN

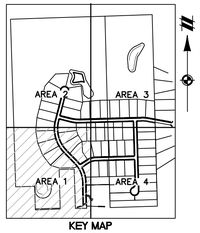
LAYOUT PLAN

DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 50 100
1" = 100 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 08	



KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
LAYOUT PLAN AREA 1

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

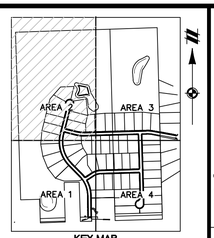
REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 09	

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- DONATED LAND
- OBTAINED LAND



KEY MAP
(1"=1000')

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- DONATED LAND
- OBTAINED LAND

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

LAYOUT PLAN AREA 2

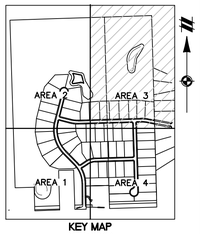
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO. 10



KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
LAYOUT PLAN AREA 3

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

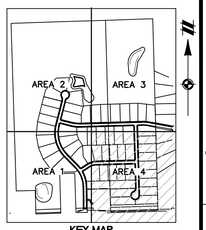
REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
11

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- DONATED LAND
- OBTAINED LAND



KEY MAP
(1"=1000')

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
LAYOUT PLAN AREA 4

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
12

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- DONATED LAND
- OBTAINED LAND

P=PRIMARY SEPTIC FIELD
E=EXPANSION AREA

NOTES:

GRADING AND TREE REMOVAL WILL BE MINIMIZED FOR PRELIMINARY SEPTIC FIELD CONSTRUCTION ON LOTS 2–10. THIS FINAL GRADING DETAIL WILL BE PROVIDED WITH THE FINAL SITE PLAN.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. WELL LOCATION
- EXIST. TEST WELL LOCATION
- EXIST. WELL

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

WELL & SEPTIC PLAN OVERALL

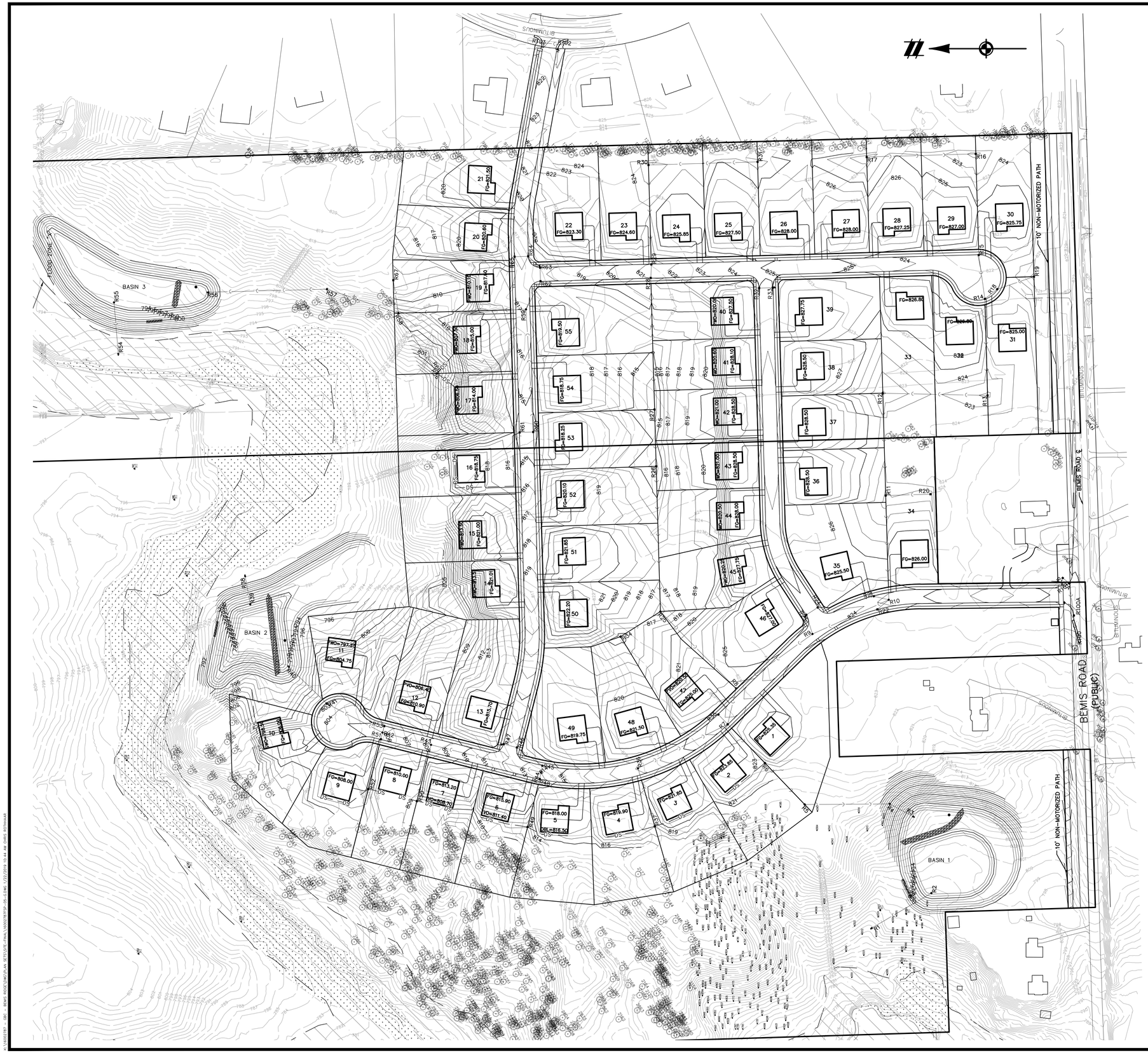
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 50 100
1" = 100 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 13	



CONSTRUCTION NOTES:

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF PITTSFIELD TOWNSHIP, WASHTENAW COUNTY WATER RESOURCE COMMISSIONER, WASHTENAW COUNTY ROAD COMMISSION AND MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT), WHERE APPLICABLE.

ALL CURB IS PITCH-IN, UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING THE PERIODS OF CONSTRUCTION.

PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG (811) TO VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND SHALL NOTIFY REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK.

ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES AND LIGHTS TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC.

ALL DISTURBED AREAS NOT TO BE PAVED, ARE TO BE SEEDED OR PLANTED IN ACCORDANCE WITH THE APPROVED PLAN.

CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ANY TREES, BRUSH, STUMPS, TRASH OR OTHER UNWANTED DEBRIS, AT THE OWNER'S DIRECTION, INCLUDING OLD BUILDING FOUNDATIONS AND FLOORS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROOF-ROLL DISTURBED ROAD RIGHT-OF WAY AREAS. ANY UNSUITABLE SOILS INDICATED BY PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH CONTROLLED FILL AT THE DIRECTION OF THE ENGINEER OR THE OWNER'S REPRESENTATIVE.

FILL MATERIAL UNDER BUILDINGS, PAVEMENT AND ROAD RIGHT-OF-WAY SHALL NOT CONTAIN ANY VEGETATION OR HAVE STONES IN EXCESS OF SIX INCHES IN DIAMETER. FILL SHALL BE PLACED IN LAYERS NOT GREATER THAN NINE INCHES IN DEPTH (LOOSE MEASURES) AND SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR DENSITY TEST A.S.T.M. SPEC. D-1557-78.

ALL EXISTING PAVEMENT TO BE SAW CUT FOR NEAT BUTT JOINT EDGES PRIOR TO PLACING NEW PAVEMENT.

PRIOR TO CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IF ANY PLAN DISCREPANCIES ARE DETECTED.

ALL SEWER TRENCHES UNDER OR WITHIN THREE (3) FEET OF THE 45 DEGREE ZONE OF INFLUENCE LINE OF EXISTING OR PROPOSED PAVEMENT SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST 95% OF MAXIMUM UNIT WEIGHT.

INDIVIDUAL MAILBOXES SHALL BE PROVIDED FOR EACH HOME.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- EXIST. UNSPECIFIED UTILITIES
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

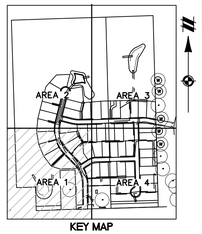
BEMIS RIDGE ESTATES
FINAL SITE PLAN
GRADING PLAN OVERALL

DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 50 100
1" = 100 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 14	



KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- EXIST. UNSPECIFIED UTILITIES
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. WELL
- EX. TEST WELL

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
GRADING PLAN AREA 1

DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 25 50
1" = 50 FEET
DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO. 15

KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC. NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- EXIST. UNSPECIFIED UTILITIES
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. WELL
- EX. TEST WELL

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

GRADING PLAN AREA 2

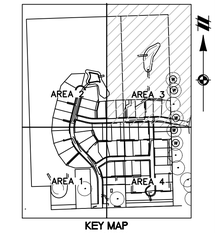
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO. 16



KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROPRIATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- 923 EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- X X EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- OHE OHE EXIST. OVERHEAD ELEC. LINE
- OHT OHT EXIST. OVERHEAD TELE. LINE
- TV TV EXIST. CABLE LINE
- U U EXIST. UNSPECIFIED UTILITIES
- G G EXIST. GAS
- C C C EXIST. STORM
- W EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- 923 PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- C C C PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- W PROP. WELL
- W EX. TEST WELL

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
GRADING PLAN AREA 3

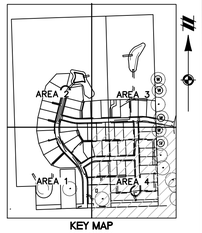
DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 17	

J:\16002787 - BEMIS RIDGE\DWG\PLAN SETS\SITE FINAL\16002787SP-05-G-SCMC 1/22/2019 10:48 AM CHRIS BOYNAUB



KEY MAP
(1"=1000')

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- 923 EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- X X EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- OHE OHE EXIST. OVERHEAD ELEC. LINE
- OHT OHT EXIST. OVERHEAD TELE. LINE
- TV TV EXIST. CABLE LINE
- U U EXIST. UNSPECIFIED UTILITIES
- G G EXIST. GAS
- C C EXIST. STORM
- W EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- 923 PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- W PROP. WELL
- W EX. TEST WELL

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
GRADING PLAN AREA 4

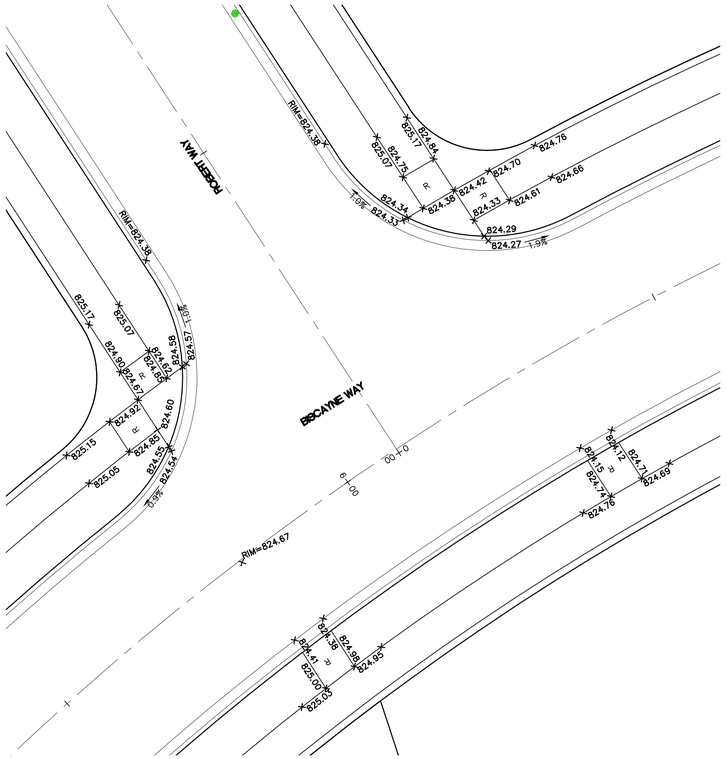
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

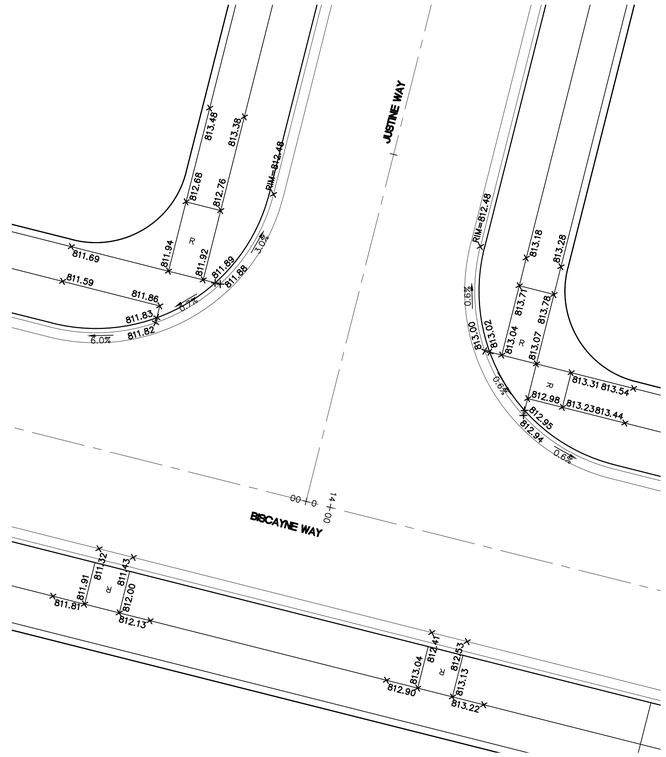
REVISIONS

SCALE 0 25 50
1" = 50 FEET

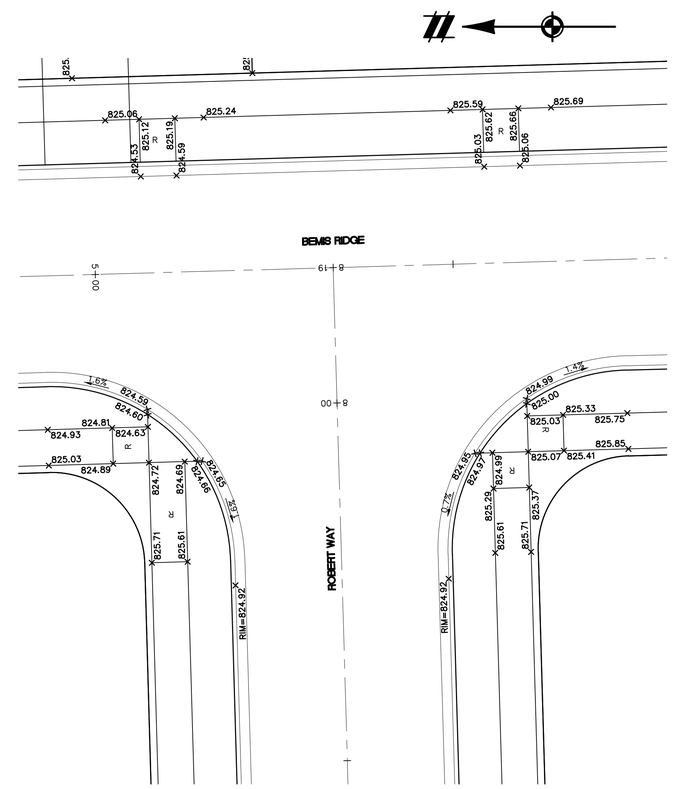
DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 18	



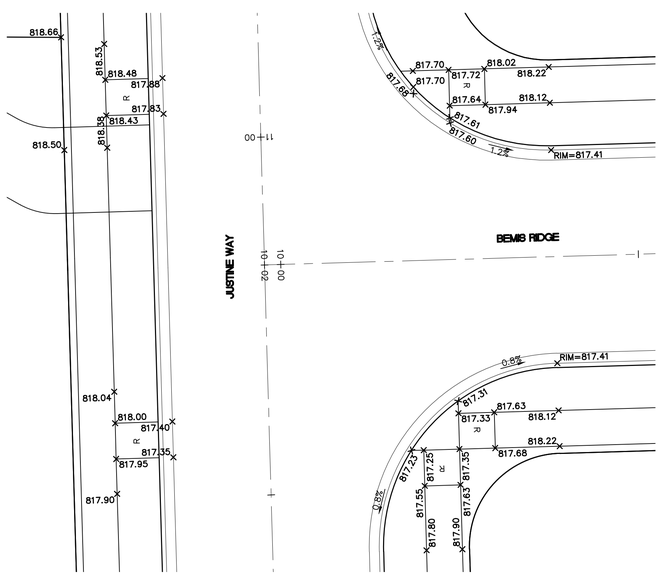
BISCAYNE WAY AND ROBERT WAY



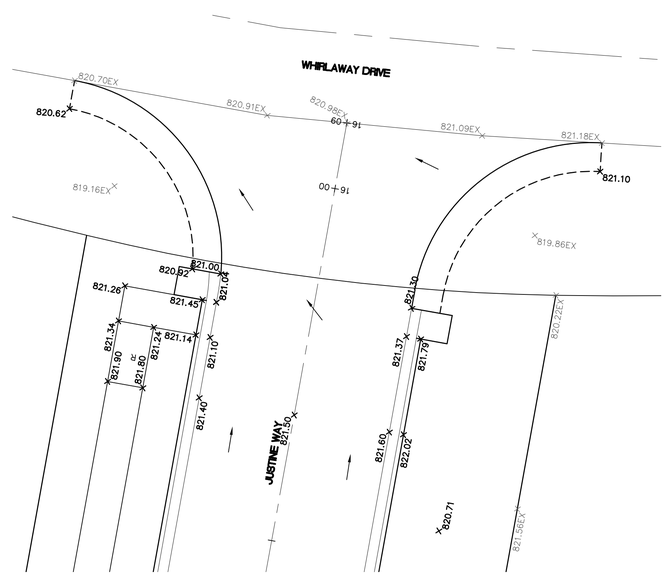
BISCAYNE WAY AND JUSTINE WAY



BEMIS RIDGE AND ROBERT WAY



BEMIS RIDGE AND JUSTINE WAY



JUSTINE WAY AND WHIRLAWAY DRIVE

NOTES:

FULL WIDTH DETECTIBLE WARNINGS SHALL BE INSTALLED FOR EACH RAMP PER THE DETAIL ON SHEET 43.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- EXIST. UNSPECIFIED UTILITIES
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC. NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
INTERSECTION GRADING

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

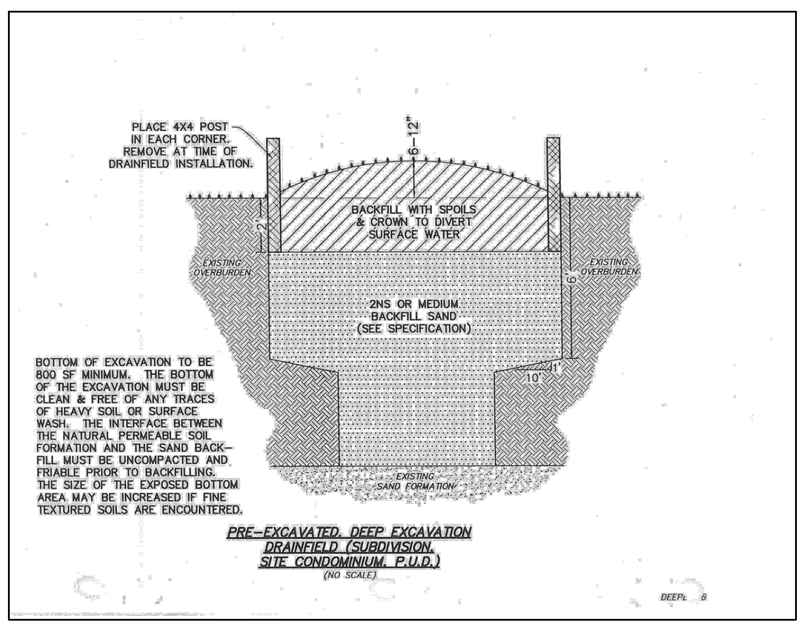
REVISIONS

SCALE 0 5 10
1" = 10 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 19	

Lot	Test pit	Depth to Sand	Ex. Ground Elevation	Pr. Ground Elevation	Depth to sand post grading				Approved formation	Additional Notes
1	100	11	822.37	822.89	12	0 - 1 Brn Loam	1 - 11 SCL		11-16 Med Brn Dry Sand	
1	843	11	822.29	822.29	11	0 - 1 Brn Loam	1 - 11 Brn CL		11-16 Med tan Dry Sand	no Mottling
2	412	12.5	818.30	818.30	13	0 - 1 Brn Loam	1 - 7 Brn SCL	7-12.5 Gray CL	12.5-16 Med Brn Dry Sand	
2	842	10	818.62	818.62	10	0 - 1 Brn Loam	1 - 10 Brn CL		10-16 Med Brn Dry Sand	no Mottling
3	232	7	813.77	813.87	7	0 - 1 Brn Loam	1 - 7 CL		7-11 Fine Brn Dry Sand	
3	233	9	812.92	812.92	9	0 - 1 Brn Loam	1 - 9 SCL		9-12 Fine Brn Dry Sand	
3	840	15	809.45	809.45	15	0 - 1 Brn Loam	1 - 8 SCL/SL	8 - 15 Sandy Silt CL	15-18+ Med white/tan Dry Sand	mottled at 5', caving
4	210	6.5	814.59	815.25	7	0 - 1 Brn Loam	1 - 6.5 Brn CL		6.5-11 Fine Brn Loamy Sand	11.5-12.5 mottled fine loamy sat. sand
4	841	NG	814.16	814.16	NG	0 - 1 Brn Loam	1 - 8 CL	8 - 13 gray clay		
4	901	9.5	816.00	816.00	10	0 - 1 Brn Loam	1 - 9.5 CL		9.5-13 loamy//Med Sand Red	13+ Gray Clay
4	902	7	816.02	816.02	7	0 - 1 Brn Loam	1 - 7 Brown/Reddish CL		7-12 Loamy Med tan/red Dry Sand	no Mottling
5	213	10.5	811.23	811.23	11	0 - 1 Brn Loam	1 - 10.5 SL		10.5-15 Med Brn Dry Sand	
5	838	9	810.93	810.93	9	0 - 1 Brn Loam	1 - 9 SCL		9-13 Med tan Dry Sand	no Mottling
6	214	11	805.41	805.41	11	0 - 1 Brn Loam	1 - 11 CL		11-15 Med Brn Dry Sand	
6	839	5	806.97	806.97	5	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 5 Orange SL Fine	5-9 Med tan Dry Sand	no Mottling
7	216	5	807.33	807.33	5	0 - 1 Brn Loam	1 - 5 CL		5-14.5 Med Brn Dry Sand	
7	903	4	808.04	808.10	4	0 - 2 Brn Loam	2 - 4 Brn SCL		4-9 Med tan Dry Sand	no Mottling
8	507	6	806.91	806.91	6	0 - 1 Brn Loam	1 - 6 Brn CL		6-13 Med Brn Dry Sand	
8	837	8	807.71	808.07	8	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 8 Brn SCL	8-12 Med tan Dry Sand	no Mottling
9	219	6	806.00	806.00	6	0 - 1 Brn Loam	1 - 6 CL		6-12 Med Brn Dry Sand	
9	836	8	802.95	802.95	8	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 8 Brn CL	8-13 Med Brn Dry Sand	no Mottling
10	400	10	802.87	803.18	10	0 - 1 Brn Loam	1 - 10 SCL		10-14 Med Brn Dry Sand	
10	833	NG	801.49	804.15	NG	0 - 1 Brn Loam	1-5 Brn SL	5-13 Brn Clay		13-16 Fine Brn Sand, Mot at 12'
10	834	10	803.23	804.25	11	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 10 Brn CL	10-14 Fine Sand	no water, mot at 10' Oversize
10	835	8	803.28	803.32	8	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 8 Brn CL	8-13 Med tan Dry Sand	no mottling, make primary
11	402	6	807.31	806.43	5	0 - 1 Brn Loam	1 - 6 SCL		6-12 Med Brn Dry Sand	
11	403	7	804.29	805.07	8	0 - 1 Brn Loam	1 - 7 SCL		7-12 Med Brn Dry Sand	
11	832	NG	801.12	802.78	NG	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 12 Brn SCL		12-15 Fine Sand, Mot at 12'
12	830	7	807.99	807.45	6	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 7 Brn SCL	7-12 Med tan Dry Sand	wet at 12' (expans. area), mot at 9'
12	831	7	806.67	805.96	6	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 7 Brn SCL	7-14 Fine Brn Dry Sand	wet at 14' (expans. area), mot at 9'
13	828	5	815.02	813.07	3	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 5 Brn SCL	5-10 Med tan Dry Sand	no Mottling
13	829	9	814.89	812.28	6	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 9 Brn SCL	9-14 Med tan Dry Sand	no Mottling
14	311	11	803.43	803.43	11	0 - 1 Brn Loam	1 - 11 SL	5 - 11 Brn Clay	11-15 Med Brn Dry Sand	
14	812	7	806.67	806.10	6	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 7 SL	7-12 Med tan Dry Sand	no Mottling
14	813	7.5	804.95	806.38	9	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 7.5 SL	7.5-13 Med tan Dry Sand	no Mottling
15	750	12	814.17	819.65	17	0 - 1 Brn Loam	1 - 12 Brn SL/SCL		12-15.5+ Med tan Dry Sand	caving
15	751	11	814.46	819.21	16	0 - 1 Brn Loam	2-9 tan sand/gravel loamy	9-11 silty SCL	11-15 Med tan Dry Sand	no Mottling
16	749	9	811.99	816.27	13	0 - 1 Brn Loam	1 - 9 Brn SL		9-14 Med tan Dry Sand	
16	905	7	814.03	816.08	9	0 - 1.5 Brn Loam	1.5 - 7 SCL		7-9 Med Brn Dry Sand	no Mottling
17	745	4	812.26	814.35	6	0 - 1 Brn Loam	1 - 4 Brn SL		4-9 Med tan Dry Sand	no Mottling
17	746	4	809.95	814.39	8	0 - 1 Brn Loam	1 - 4 Brn SL		4-9.5 Med tan Dry Sand	no Mottling
18	747	7	812.19	815.64	10	0 - 1 Brn Loam	1 - 7 Brn SL		7-11 Med tan Dry Sand	no Mottling
18	748	11	813.96	815.59	13	0 - 1 Brn Loam	1 - 11 Brn SL		11-15 Med tan Dry Sand & gravel	
19	723	11	809.86	810.52	12	0 - 1 Brn Loam	1 - 7 SCL	7-11 SCL	11-15 Med Brn Dry Sand	no Mottling
19	724	11.5	811.00	813.33	14	0 - 1 Brn Loam	1 - 11.5 SL brn		11.5-15.5 Coarse Brn Dry Sand	moist at 13', not mot
20	721	11	811.78	815.97	15	0 - 1 Brn Loam	1 - 4 SL	4-11 SCL	11-16 Med/coarse tan Dry Sand	no Mottling
20	722	10	813.11	816.28	13	0 - 1 Brn Loam	1 - 4 SL	4-10 SCL	10-14 Coarse Brn Dry Sand	no Mottling
21	719	9	816.69	820.40	13	0 - 1 Brn Loam	1 - 4 SL	4-9 Mot SCL	9-16 Med tan Dry Sand	no Mottling
21	720	9	816.02	818.08	11	0 - 1 Brn Loam	1 - 4 SL	4-9 SCL	9-13 Med tan Dry Sand	no Mottling
22	717	11	823.67	822.97	10	0 - 1 Brn Loam	1 - 11 Brn CL		11-15 Med tan Dry Sand	no Mottling
22	718	12	823.18	821.89	11	0 - 1 Brn Loam	1 - 7 Brn CL	7-12 Heavy Clay	12-16 Coarse/Med tan Dry Sand	no Mottling
23	715	11	823.36	823.29	11	0 - 1 Brn Loam	1 - 11 Brn CL		11-15 Med tan Dry Sand	no Mottling
23	716	14	823.77	824.58	15	0 - 1 Brn Loam	1 - 14 Brn CL		14-18 Med Brn Dry Sand	no Mottling
24	713	12	823.15	824.63	13	0 - 1 Brn Loam	1 - 12 Brn CL		12-16 coarse Brn Dry Sand	no Mottling
24	714	12	823.24	824.34	13	0 - 1 Brn Loam	1 - 12 Brn CL		12-17 Med/Coarse tan Dry Sand	no Mottling
25	711	11	823.52	825.92	13	0 - 1 Brn Loam	1 - 11 Brn CL		11-16 Med Brn Dry Sand	no Mottling
25	712	13	824.00	825.07	14	0 - 1 Brn Loam	1 - 11 Brn CL	11-13 Blue Clay	13-16.5 Med Brn Dry Sand	no Mottling
26	709	12	824.85	825.83	13	0 - .5 Brn Loam	.5 - 12 Brn CL		12-17 Med Brn Dry Sand	no Mottling
26	710	13	825.00	826.59	15	0 - 1 Brn Loam	1 - 10 Brn CL	10-13 Blue Clay	13-17 Med tan Dry Sand	no Mottling
27	707	12	823.77	824.59	13	0 - .5 Brn Loam	.5 - 12 Brn CL		12-16 Med Brn Dry Sand	mottled at 13', caving
27	708	11.5	824.36	825.08	12	0 - 1 Brn Loam	1 - 7 Brn CL	7-11.5 hard shiny C/CL	11.5-16 Med tan Dry Sand	top down mot @ 5'

Lot	Test pit	Depth to Sand	Ex. Ground Elevation	Pr. Ground Elevation	Depth to sand post grading				Approved formation	Additional Notes
28	705	11	822.94	825.71	14	0 - .5 Brn Loam	.5 - 11 Brn CL		11-17 Med Tan Sand	mot 11'
28	706	11	822.33	825.54	14	0 - .5 Brn Loam	.5 - 11 Brn CL		11-15 Med/coarse Brn Dry Sand	no Mottling
29	703	12	822.10	824.50	14	0 - .5 Brn Loam	.5 - 11 Brn CL		12-16 Med Brn Dry Sand	no Mottling
29	704	13	823.12	823.54	13	0 - .5 Brn Loam	.5 - 11 Brn CL		13-17 Med Brn Dry Sand	no Mottling
30	701	11	822.61	823.78	12	0 - .5 Brn Loam	.5 - 11 Brn CL		11-15 Med Brn Dry Sand	no Mottling
30	702	12	822.97	824.37	13	0 - .5 Brn Loam	.5 - 12 Brn CL		12-16 Med Brn Dry Sand	no Mottling
31	733	12	823.33	824.42	13	0 - 1 Brn Loam	1 - 12 SCL		12-17 Med/coarse Brn Dry Sand	no Mottling
31	734	11	823.05	823.22	11	0 - 1 Brn Loam	1 - 11 SCL		11-15 Med/Coarse Dry Sand	no Mottling
32	735	10	822.70	823.93	11	0 - 1 Brn Loam	1 - 10 SL		10-14.5 Med/coarse Brn Dry Sand	
32	736	9	822.33	824.65	11	0 - 1 Brn Loam	1 - 9 SCL		9-13 Med/coarse Brn Dry Sand	
33	737	10	821.90	823.96	12	0 - 1 Brn Loam	1 - 10 SCL		10-15 Med/coarse Brn Dry Sand	
33	738	10	822.21	822.79	11	0 - 1 Brn Loam	1 - 10 SCL		10-15 Med/coarse Brn Dry Sand	
34	805	12	824.00	822.64	11	0 - 1 Brn Loam	1 - 4 Brn SL	4 - 12 Brn SCL/CL	12-17 Med Brn Dry Sand	no Mottling
34	806	13	824.00	822.53	12	0 - 1 Brn Loam	1 - 4 Brn SL	4 - 13 Brn SCL	13-17 Med Brn Dry Sand	no Mottling
34	906	13	824.00	822.21	11	0 - 1 Brn Loam	1 - 13 CL		13-18 Med Brn Dry Sand	no Mottling
35	807	13	824.00	824.35	13	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 6 Gray CL top down Mot	6 - 13 Brn CL/C hardm shiny	13-17 Med tan Dry Sand, no mot
35	820	13	824.00	825.25	14	0 - 1 Brn Loam	1 - 7 Brn SCL	7-13 Gray CL mottled	13-17 Med/coarse Brn Dry Sand	mot @ 7'
36	803	16	823.86	825.39	18	0 - 1 Brn Loam	1 - 4 Brn SL	4 - 16 Brn SCL/CL	16-20 Med/Coarse Brn Dry Sand	no Mottling
36	804	12	823.93	825.52	14	0 - 1 Brn Loam	1 - 4 Brn SL	4 - 12 Brn SCL/CL	12-17 Med Brn Dry Sand	no Mottling
37	801	13	823.63	825.84	15	0 - 1 Brn Loam	1 - 4 Brn SL	4 - 13 Brn SCL	13-17.5 Med Brn Dry Sand	no Mottling
37	802	12	823.50	824.57	13	0 - 1 Brn Loam	1 - 4 Brn SL	4 - 12 Brn SCL	12-16 Med Brn Dry Sand	no Mottling
38	731	12	822.86	823.41	13	0 - 1 Brn Loam	1 - 3 SL brn	3 - 12 SCL, Mot, blocky	12-16 Med Brn/coarse Dry Sand	
38	732	10	822.75	824.36	12	0 - 1 Brn Loam	1 - 10 SL		10-14.5 Med Brn Dry Sand	
39	729	10	822.80	825.37	13	0 - 1 Brn Loam	1 - 10 SL brn		10-16 Med Brn Dry Sand	no Mottling
39	730	10	822.76	826.16	13	0 - 1 Brn Loam	1 - 10 SL brn		10-14 Med Brn Dry Sand	no Mottling
40	727	11	822.19	818.20	7	0 - 1 Brn Loam	1 - 5 SL	5-11 cobbly tan CL	11-16 Coarse Dry Sand	slightly loamy
40	728	11	821.79	819.97	9	0 - 1 Brn Loam	1 - 5 SL	5-11 cobbly tan CL	11-15 Coarse Dry Sand	no Mottling
41	739	11	822.24	817.75	7	0 - 1 Brn Loam	1 - 11 SCL		11-15 Med/Coarse Dry Sand	
41	740	11	822.66	816.87	5	0 - 1 Brn Loam	1-3 Brn SL	3 - 11 CL Blocky	11-15 Med tan Dry Sand	no Mottling
42	741	11	821.44	818.01	8	0 - 1 Brn Loam	1-3 Brn SL	3 - 11 CL Blocky	11-15 Med Tan Dry Sand	
42	742	12	821.98	817.90	8	0 - 1 Brn Loam	1-3 Brn SL	3 - 12 CL Blocky	12-16 Med tan Dry Sand	
43	303	12	823.02	818.92	8	0 - 1 Brn Loam	1 - 8 Brn SCL	8-12 Gray CL	12-16 Med Brn Dry Sand	
43	809	11	821.89	817.25	6	0 - 1 Brn Loam	1 - 11 Brn SCL/CL		11-17 Med tan Dry Sand	no Mottling
43	810	12	821.81	817.25	7	0 - 1 Brn Loam	1 - 12 Brn SCL/CL		12-19 Med tan Dry Sand	no Mottling
44	808	12	823.06	817.64	7	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 6 Gray CL top down Mot	6 - 12 Brn CL/C hardm shiny	12-17 Med tan Dry Sand, no mot
44	811	14.5	822.71	817.29	9	0 - 1 Brn Loam	1 - 14.5 Brn SCL/CL		14.5-19 Med tan Dry Sand	no Mottling
45	409	11	821.99	819.46	8	0 - 1 Brn Loam	1 - 11 SCL		11-15 Med Brn Dry Sand	
45	818	11	821.97	818.02	7	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 11 SL	11-15 Med tan Dry Sand	no Mottling
45	819	14	821.96	818.15	10	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 14 SL	14-19 Med/coarse Brn Dry Sand	no Mottling
46	123	13	822.78	823.44	14	0 - 1 Brn Loam	1 - 9 CL	9-13 Brn SL	13-17 Med Brn Dry Sand	
46	124	12	823.51	825.71	14	0 - 1 Brn Loam	1 - 3 Brn CL	3 - 12 Brn CL	12-17 Med Brn Dry Sand	
47	821	8	822.01	818.90	5	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 8 Brn CL	8-14 Med tan Dry Sand	
47	822	12	822.01	817.18	7	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 12 Brn CL	12-16 Med Brn Dry Sand	top down mot @ 4'
48	823	8	818.58	816.73	6	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 8 Brn CL	8-13 Med tan Dry Sand	no Mottling
48	824	5	817.83	817.92	5	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 5 Brn CL	5-10 Med tan Dry Sand	no Mottling
49	825	8	817.00	818.12	9	0 - 1 Brn Loam	1 - 4 Brn SCL	4 - 8 Brn CL	8-12 Med Brn Dry Sand	
49	826	NG	815.95	817.13	NG	0 - 1 Brn Loam	1 - 3 Brn SL	3 - 8 Brn CL, 8+ wet sat sand		mot @ 8'
49	827	7	818.02	819.01	8	0 - 1 Brn Loam	1 - 7 SCL		7-11 Med tan Dry Sand	no Mottling
49	904	5.5	818.02	818.51	6	0 - 1.5 Brn Loam	1.5 - 5.5 Brn SCL		5.5-9.5 Med tan Dry Sand	no Mottling
50	814	11	822.01	820.10	9	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 11 SL	11-15 Med tan Dry Sand	no Mottling
50	815	10	822.01	818.68	7	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 10 SL	10-16 Med tan Dry Sand	no Mottling
51	816	11	821.91	819.09	8	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 11 SL	11-16 Med tan Dry Sand	no Mottling
51	817	18	821.95	819.18	15	0 - 1 Brn Loam	1 - 4 Med Sand/SL	4 - 18 SL	18-22 Med tan Dry Sand	no Mottling
52	752	15	819.81	816.61	12	0 - 1 Brn Loam	1 - 3 brn SCL	3-15 Gray CL	15-19 Med tan Dry Sand	no Mottling
52	753	15	818.88	816.45	13	0 - 1 Brn Loam	1 - 3 brn SCL	3-15 Gray CL	15-19 Med tan Dry Sand	no Mottling
53	754	13	818.46	815.50	10	0 - 1 Brn Loam	1 - 3 brn SCL	3-13 SCL	13-18 Med tan Dry Sand	no Mottling
53	755	11	817.67	815.76	9	0 - 1 Brn Loam	1 - 3 brn SCL	3-11 SCL	11-15 Med tan Dry Sand	no Mottling
54	743	11	818.82	815.17	7	0 - 1 Brn Loam	1-3 Brn SL	3 - 10.5 CL Blocky	10.5-15 Med tan Dry Sand	
54	744	9	820.24	815.46	4	0 - 1 Brn Loam	1-3 Brn SL	3 - 9 CL Blocky	9-13 Med tan Dry Sand	
55	725	12	821.70	816.68	7	0 - 1 Brn Loam	1 - 5 SL	5-12 cobbly tan CL	12-16 Med/coarse tan Dry Sand	no Mottling
55	726	9	820.89	818.06	6	0 - 1 Brn Loam	1 - 5 SL	5-9 cobbly tan CL	9-13 Med tan Dry Sand	no Mottling



PRE-EXCAVATED, DEEP EXCAVATION DRAINFIELD (SUBDIVISION, SITE CONDOMINIUM, P.U.D.)
(NO SCALE)

DEEP6

NOTE:
PRE-EXCAVATION REQUIRED FOR FIELDS 10' OR MORE IN DEPTH

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN

TEST PIT SUMMARY TABLE

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
20

KEY MAP
(1"=1000')

R3–R35
VERT: 1"=5'
HORZ: 1"=50'

LEGEND

951	EXIST. CONTOUR
	EXIST. WOODS LINE
	EXIST. WETLAND
	25' WETLAND SETBACK
	SECTION CORNER
	SECTION LINE
	BOUNDARY/PROPERTY LINE
	EXIST. CURB AND GUTTER
	EXIST. EASEMENT
OHE	EXIST. OVERHEAD ELECTRIC
	EXIST. SANITARY SEWER
W	EXIST. WATER MAIN
	EXIST. STORM SEWER
	EXIST. UTILITY POLE
	EXIST. LIGHTPOLE
	EXIST. SIGN
T	EXIST. TELEPHONE RISER
	EXIST. MANHOLE
	EXIST. HYDRANT
	EXIST. WATER VALVE
	EXIST. END SECTION
	PROP. R.O.W. LINE
	PROP. EASEMENT
	PROP. LOT LINE
	PROP. SETBACK LINE
	PROP. BUILDING
	PROP. BACK/EDGE CURB
	PROP. ASPHALT
	PROP. SIDEWALK
	PROP. PATH
	PROP. SILT FENCE
	PROP. STORM SEWER
	PROP. SANITARY
W	PROP. WATER MAIN
	PROP. MANHOLE
	PROP. FIRE HYDRANT
	PROP. WATER VALVE IN WELL
	PROP. END SECTION
	PROP. CATCH BASIN/INLET
DS	4" ROOF DRAIN

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 1

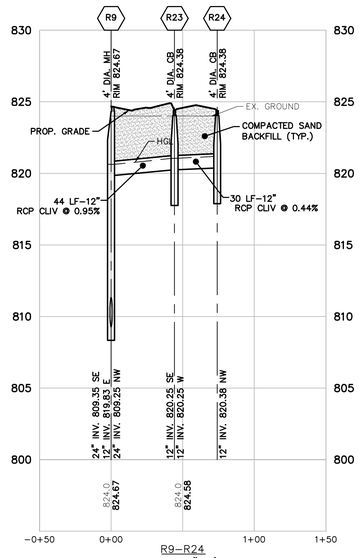
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

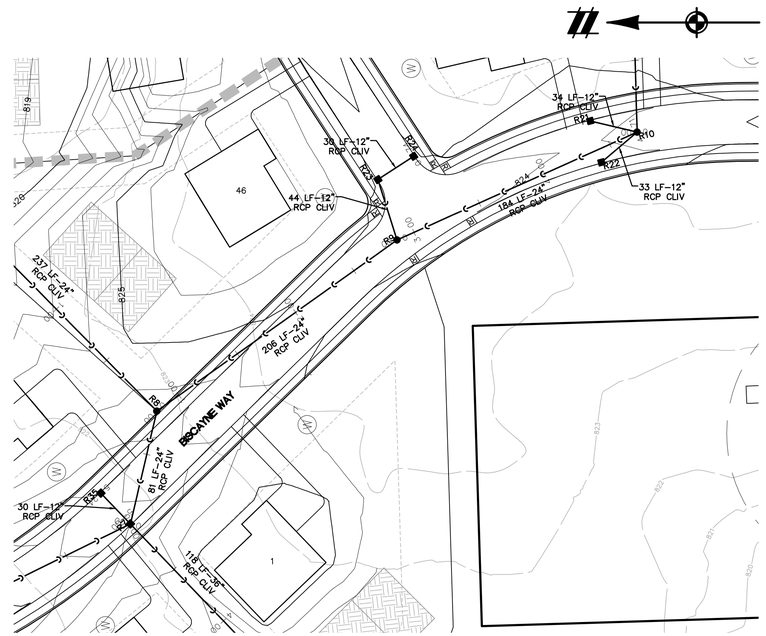
REVISIONS

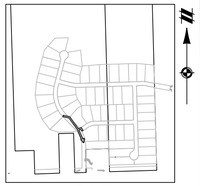
SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 21	

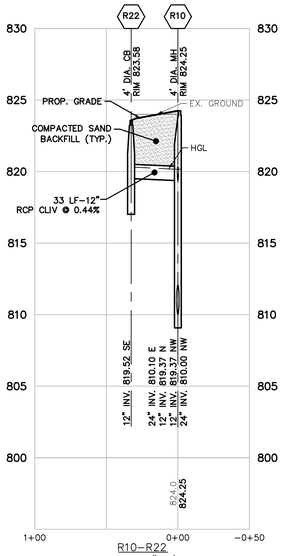


R9–R24
VERT: 1"=5'
HORZ: 1"=50'

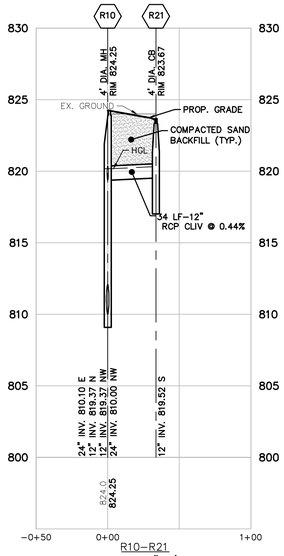




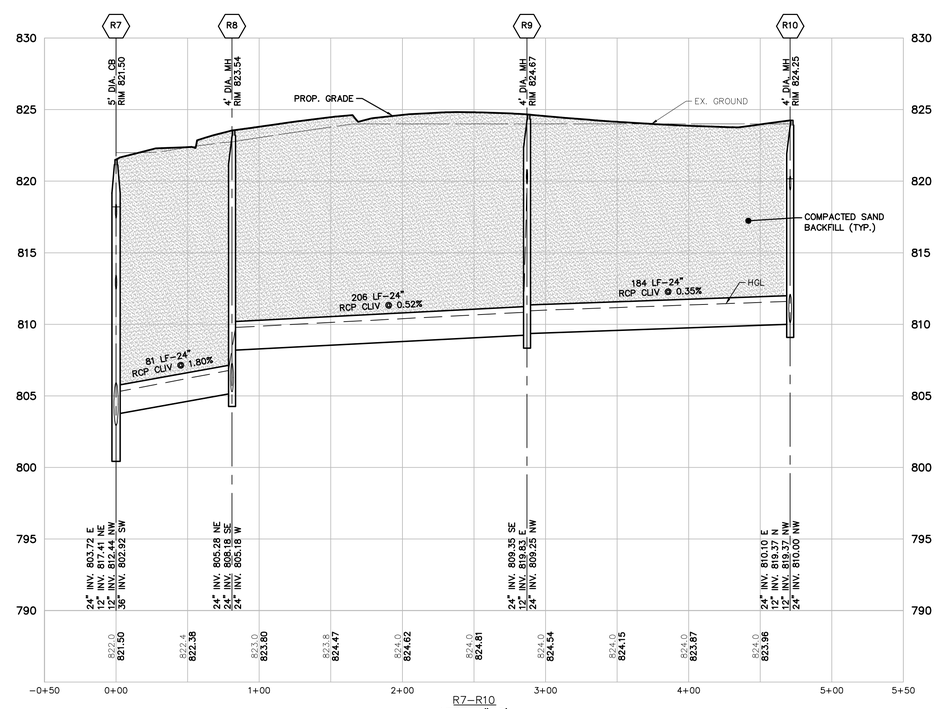
KEY MAP
(1"=1000')



R10–R22
VERT: 1"=5'
HORZ: 1"=50'



R10–R21
VERT: 1"=5'
HORZ: 1"=50'



R7–R10
VERT: 1"=5'
HORZ: 1"=50'

LEGEND

951	EXIST. CONTOUR
	EXIST. WOODS LINE
	EXIST. WETLAND
	25' WETLAND SETBACK
	SECTION CORNER
	SECTION LINE
	BOUNDARY/PROPERTY LINE
	EXIST. CURB AND GUTTER
	EXIST. EASEMENT
OHE OHE	EXIST. OVERHEAD ELECTRIC
	EXIST. SANITARY SEWER
W	EXIST. WATER MAIN
	EXIST. STORM SEWER
	EXIST. UTILITY POLE
	EXIST. LIGHTPOLE
	EXIST. SIGN
T	EXIST. TELEPHONE RISER
	EXIST. MANHOLE
	EXIST. HYDRANT
	EXIST. WATER VALVE
	EXIST. END SECTION
	PROP. R.O.W. LINE
	PROP. EASEMENT
	PROP. LOT LINE
	PROP. SETBACK LINE
	PROP. BUILDING
	PROP. BACK/EDGE CURB
	PROP. ASPHALT
	PROP. SIDEWALK
	PROP. PATH
	PROP. SILT FENCE
	PROP. STORM SEWER
	PROP. SANITARY
W	PROP. WATER MAIN
	PROP. MANHOLE
	PROP. FIRE HYDRANT
	PROP. WATER VALVE IN WELL
	PROP. END SECTION
	PROP. CATCH BASIN/INLET
DS DS	4" ROOF DRAIN

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

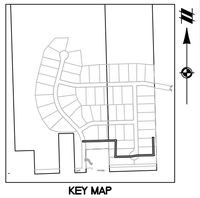
STORMWATER PLAN & PROFILE 2

DATE
MARCH 14, 2018

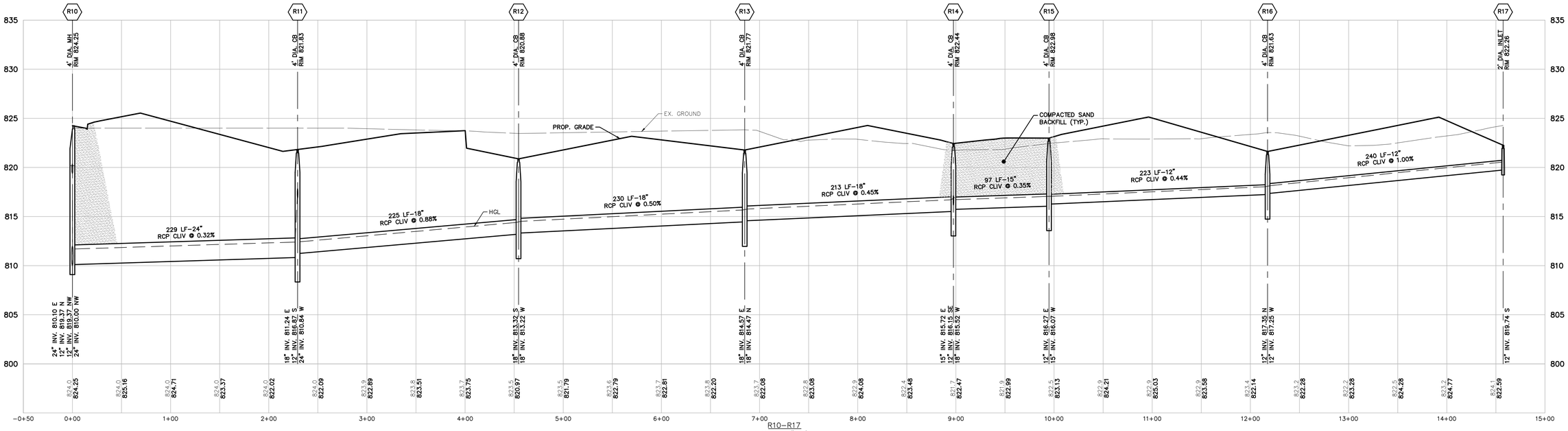
REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 22	



KEY MAP
(1"=1000')



LEGEND

- EXIST. CONTOUR
- EXIST. WOODS LINE
- EXIST. WETLAND
- 25' WETLAND SETBACK
- SECTION CORNER
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. CURB AND GUTTER
- EXIST. EASEMENT
- EXIST. OVERHEAD ELECTRIC
- EXIST. SANITARY SEWER
- EXIST. WATER MAIN
- EXIST. STORM SEWER
- EXIST. UTILITY POLE
- EXIST. LIGHTPOLE
- EXIST. SIGN
- EXIST. TELEPHONE RISER
- EXIST. MANHOLE
- EXIST. HYDRANT
- EXIST. WATER VALVE
- EXIST. END SECTION
- PROP. R.O.W. LINE
- PROP. EASEMENT
- PROP. LOT LINE
- PROP. SETBACK LINE
- PROP. BUILDING
- PROP. BACK/EDGE CURB
- PROP. ASPHALT
- PROP. SIDEWALK
- PROP. PATH
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- PROP. WATER MAIN
- PROP. MANHOLE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE IN WELL
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- 4" ROOF DRAIN

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 3

DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 23	

R11–R20
VERT: 1"=5'
HORZ: 1"=50'

R14–R19
VERT: 1"=5'
HORZ: 1"=50'

KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

LEGEND

- 951 — EXIST. CONTOUR
- EXIST. WOODS LINE
- EXIST. WETLAND
- 25' WETLAND SETBACK
- SECTION CORNER
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. CURB AND GUTTER
- EXIST. EASEMENT
- OHE — OHE — EXIST. OVERHEAD ELECTRIC
- EXIST. SANITARY SEWER
- W — EXIST. WATER MAIN
- EXIST. STORM SEWER
- EXIST. UTILITY POLE
- EXIST. LIGHTPOLE
- EXIST. SIGN
- T — EXIST. TELEPHONE RISER
- EXIST. MANHOLE
- EXIST. HYDRANT
- EXIST. WATER VALVE
- EXIST. END SECTION
- PROP. R.O.W. LINE
- PROP. EASEMENT
- PROP. LOT LINE
- PROP. SETBACK LINE
- PROP. BUILDING
- PROP. BACK/EDGE CURB
- PROP. ASPHALT
- PROP. SIDEWALK
- PROP. PATH
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- W — PROP. WATER MAIN
- PROP. MANHOLE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE IN WELL
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- DS — DS — 4" ROOF DRAIN

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 4

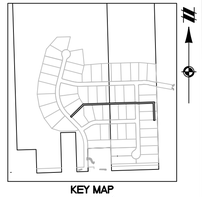
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

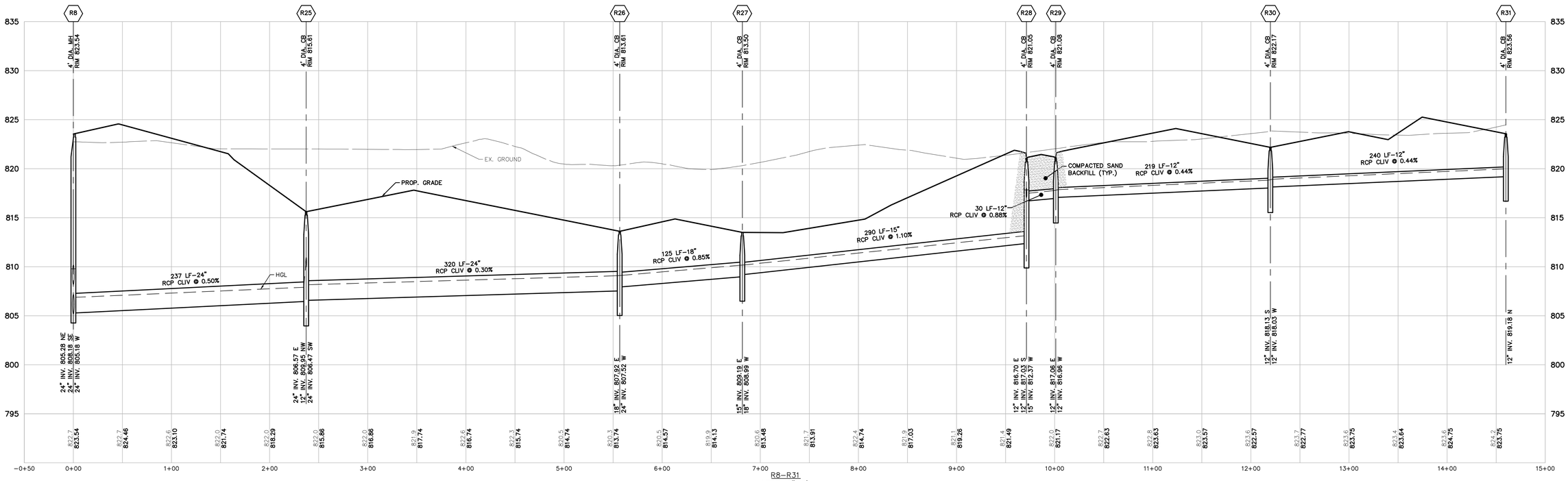
REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
24



KEY MAP
(1"=1000')



R8–R31
VERT: 1"=5'
HORZ: 1"=50'

LEGEND

EXIST. CONTOUR	EXIST. UTILITY POLE	PROP. R.O.W. LINE	PROP. PATH
EXIST. WOODS LINE	EXIST. LIGHTPOLE	PROP. EASEMENT	PROP. SILT FENCE
EXIST. WETLAND	EXIST. SIGN	PROP. LOT LINE	PROP. STORM SEWER
25' WETLAND SETBACK	EXIST. TELEPHONE RISER	PROP. SETBACK LINE	PROP. SANITARY
SECTION CORNER	EXIST. MANHOLE	PROP. BUILDING	PROP. WATER MAIN
SECTION LINE	EXIST. HYDRANT	PROP. BACK/EDGE CURB	PROP. MANHOLE
BOUNDARY/PROPERTY LINE	EXIST. WATER VALVE	PROP. ASPHALT	PROP. FIRE HYDRANT
EXIST. CURB AND GUTTER	EXIST. END SECTION	PROP. SIDEWALK	PROP. WATER VALVE IN WELL
EXIST. EASEMENT			PROP. END SECTION
EXIST. OVERHEAD ELECTRIC			PROP. CATCH BASIN/INLET
EXIST. SANITARY SEWER			4" ROOF DRAIN
EXIST. WATER MAIN			
EXIST. STORM SEWER			

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 5

DATE
MARCH 14, 2018

REVISIONS
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 25	

S:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787SP-15-01.DWG 1/22/2019 11:01 AM CHRIS BERGHAUS

KEY MAP
(1"=1000')

LEGEND

951	EXIST. CONTOUR
	EXIST. WOODS LINE
	EXIST. WETLAND
	25' WETLAND SETBACK
	SECTION CORNER
	SECTION LINE
	BOUNDARY/PROPERTY LINE
	EXIST. CURB AND GUTTER
	EXIST. EASEMENT
OHE	EXIST. OVERHEAD ELECTRIC
	EXIST. SANITARY SEWER
W	EXIST. WATER MAIN
	EXIST. STORM SEWER
	EXIST. UTILITY POLE
	EXIST. LIGHTPOLE
	EXIST. SIGN
T	EXIST. TELEPHONE RISER
	EXIST. MANHOLE
	EXIST. HYDRANT
	EXIST. WATER VALVE
	EXIST. END SECTION
	PROP. R.O.W. LINE
	PROP. EASEMENT
	PROP. LOT LINE
	PROP. SETBACK LINE
	PROP. BUILDING
	PROP. BACK/EDGE CURB
	PROP. ASPHALT
	PROP. SIDEWALK
	PROP. PATH
	PROP. SILT FENCE
	PROP. STORM SEWER
	PROP. SANITARY
W	PROP. WATER MAIN
	PROP. MANHOLE
	PROP. FIRE HYDRANT
	PROP. WATER VALVE IN WELL
	PROP. END SECTION
	PROP. CATCH BASIN/INLET
DS	4" ROOF DRAIN

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 6

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 26	

R7–R37
VERT: 1"=5'
HORZ: 1"=50'

KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

LEGEND

- 951 — EXIST. CONTOUR
- EXIST. WOODS LINE
- EXIST. WETLAND
- 25' WETLAND SETBACK
- SECTION CORNER
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. CURB AND GUTTER
- EXIST. EASEMENT
- OHE — EXIST. OVERHEAD ELECTRIC
- EXIST. SANITARY SEWER
- W — EXIST. WATER MAIN
- EXIST. STORM SEWER
- EXIST. UTILITY POLE
- EXIST. LIGHTPOLE
- EXIST. SIGN
- T — EXIST. TELEPHONE RISER
- EXIST. MANHOLE
- EXIST. HYDRANT
- EXIST. WATER VALVE
- EXIST. END SECTION
- PROP. R.O.W. LINE
- PROP. EASEMENT
- PROP. LOT LINE
- PROP. SETBACK LINE
- PROP. BUILDING
- PROP. BACK/EDGE CURB
- PROP. ASPHALT
- PROP. SIDEWALK
- PROP. PATH
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- W — PROP. WATER MAIN
- PROP. MANHOLE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE IN WELL
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- DS — DS — 4" ROOF DRAIN

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 7

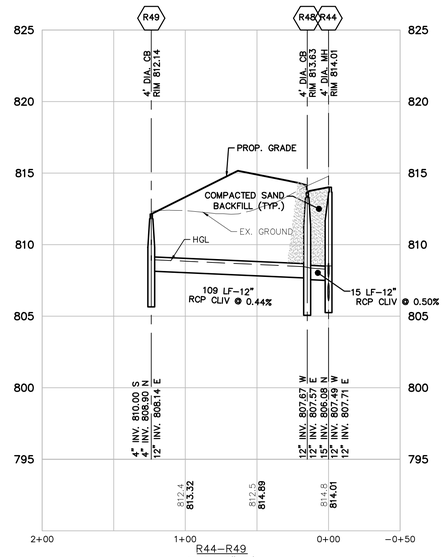
DATE
MARCH 14, 2018

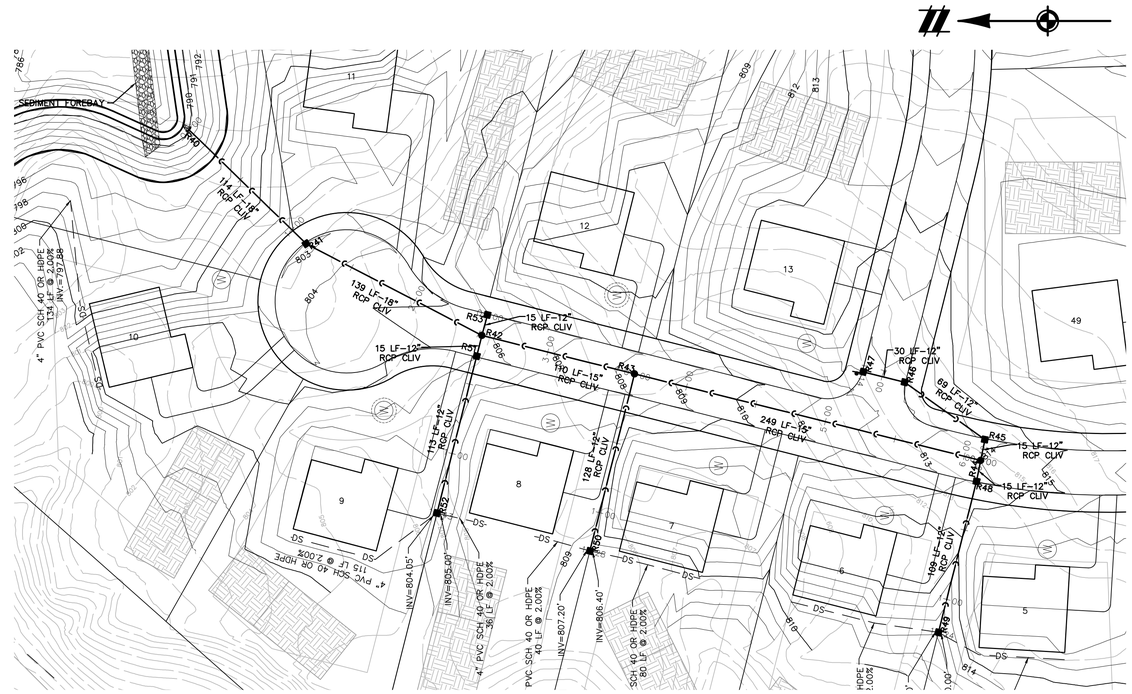
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

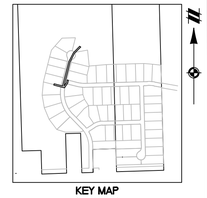
REVISIONS

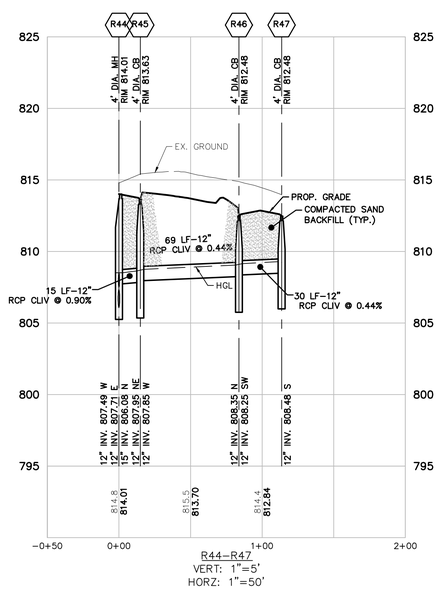
SCALE 0 25 50
1" = 50 FEET

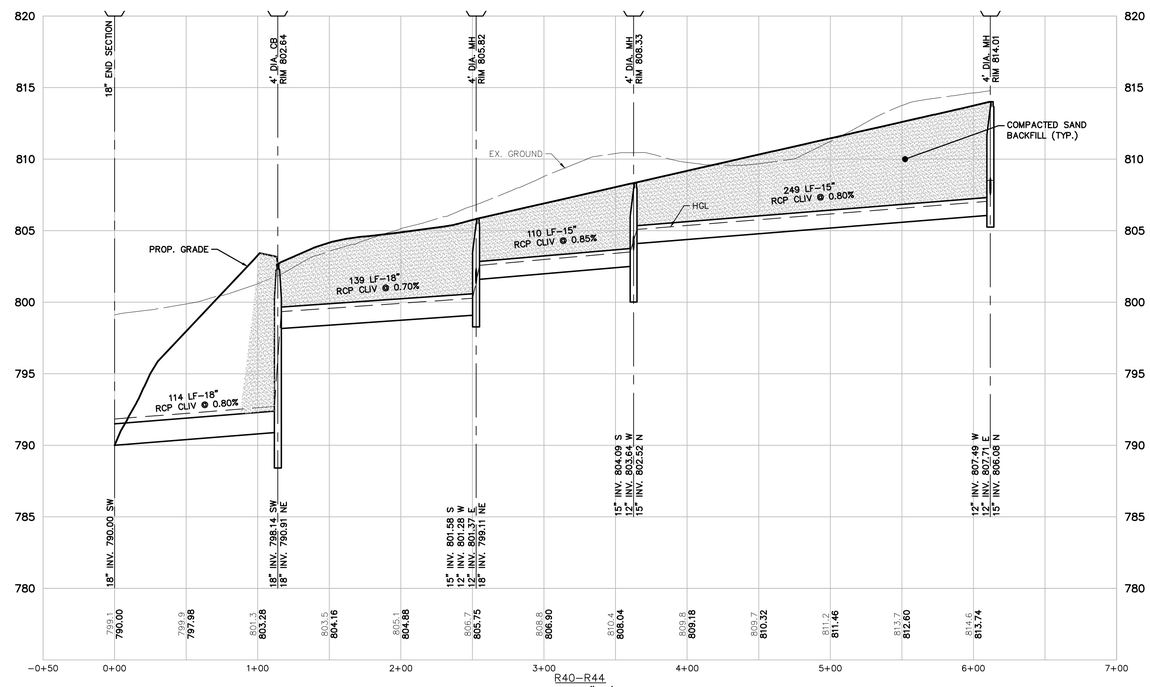
DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
27











LEGEND

- EXIST. CONTOUR (951)
- EXIST. WOODS LINE
- EXIST. WETLAND
- 25' WETLAND SETBACK
- SECTION CORNER
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. CURB AND GUTTER
- EXIST. EASEMENT
- EXIST. OVERHEAD ELECTRIC (OHE)
- EXIST. SANITARY SEWER
- EXIST. WATER MAIN (W)
- EXIST. STORM SEWER
- EXIST. UTILITY POLE
- EXIST. LIGHTPOLE
- EXIST. SIGN
- EXIST. TELEPHONE RISER (T)
- EXIST. MANHOLE
- EXIST. HYDRANT
- EXIST. WATER VALVE
- EXIST. END SECTION
- PROP. R.O.W. LINE
- PROP. EASEMENT
- PROP. LOT LINE
- PROP. SETBACK LINE
- PROP. BUILDING
- PROP. BACK/EDGE CURB
- PROP. ASPHALT
- PROP. SIDEWALK
- PROP. PATH
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- PROP. WATER MAIN (W)
- PROP. MANHOLE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE IN WELL
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- 4" ROOF DRAIN (DS)

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
STORMWATER PLAN & PROFILE 8

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	

SHEET NO.
28

R43–R50
VERT: 1"=5'
HORZ: 1"=50'

R42–R51
VERT: 1"=5'
HORZ: 1"=50'

KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 9

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

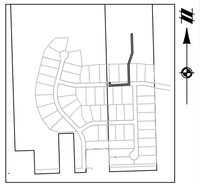
REVISIONS

SCALE 0 25 50
1" = 50 FEET

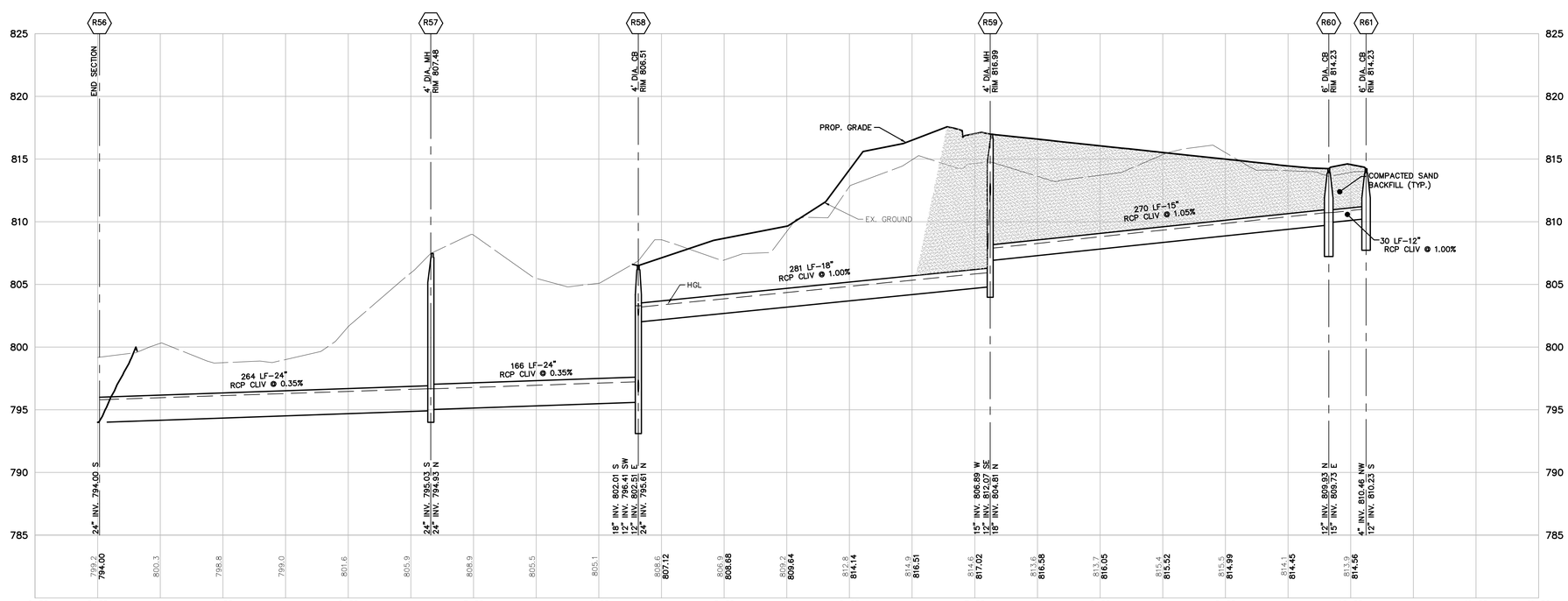
DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
29

LEGEND

- 951 — EXIST. CONTOUR
- EXIST. WOODS LINE
- EXIST. WETLAND
- 25' WETLAND SETBACK
- SECTION CORNER
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. CURB AND GUTTER
- EXIST. EASEMENT
- OHE — EXIST. OVERHEAD ELECTRIC
- EXIST. SANITARY SEWER
- W — EXIST. WATER MAIN
- EXIST. STORM SEWER
- EXIST. UTILITY POLE
- EXIST. LIGHTPOLE
- EXIST. SIGN
- T — EXIST. TELEPHONE RISER
- EXIST. MANHOLE
- EXIST. HYDRANT
- EXIST. WATER VALVE
- EXIST. END SECTION
- PROP. R.O.W. LINE
- PROP. EASEMENT
- PROP. LOT LINE
- PROP. SETBACK LINE
- PROP. BUILDING
- PROP. BACK/EDGE CURB
- PROP. ASPHALT
- PROP. SIDEWALK
- PROP. PATH
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- W — PROP. WATER MAIN
- PROP. MANHOLE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE IN WELL
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- DS — DS — 4" ROOF DRAIN



KEY MAP
(1"=1000')



R54–R59
VERT: 1"=5'
HORZ: 1"=50'

LEGEND

951	EXIST. CONTOUR
	EXIST. WOODS LINE
	EXIST. WETLAND
	25' WETLAND SETBACK
	SECTION CORNER
	SECTION LINE
	BOUNDARY/PROPERTY LINE
	EXIST. CURB AND GUTTER
	EXIST. EASEMENT
OHE OHE	EXIST. OVERHEAD ELECTRIC
	EXIST. SANITARY SEWER
W	EXIST. WATER MAIN
	EXIST. STORM SEWER
	EXIST. UTILITY POLE
	EXIST. LIGHTPOLE
	EXIST. SIGN
T	EXIST. TELEPHONE RISER
	EXIST. MANHOLE
	EXIST. HYDRANT
	EXIST. WATER VALVE
	EXIST. END SECTION
	PROP. R.O.W. LINE
	PROP. EASEMENT
	PROP. LOT LINE
	PROP. SETBACK LINE
	PROP. BUILDING
	PROP. BACK/EDGE CURB
	PROP. ASPHALT
	PROP. SIDEWALK
	PROP. PATH
	PROP. SILT FENCE
	PROP. STORM SEWER
	PROP. SANITARY
W	PROP. WATER MAIN
	PROP. MANHOLE
	PROP. FIRE HYDRANT
	PROP. WATER VALVE IN WELL
	PROP. END SECTION
	PROP. CATCH BASIN/INLET
DS DS	4" ROOF DRAIN

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

STORMWATER PLAN & PROFILE 10

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 30	

R58–R66
VERT: 1"=5'
HORZ: 1"=50'

R57–R63
VERT: 1"=5'
HORZ: 1"=50'

R56–R65
VERT: 1"=5'
HORZ: 1"=50'

KEY MAP
(1"=1000')

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
STORMWATER PLAN & PROFILE 11

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 31	

LEGEND

- EXIST. CONTOUR
- EXIST. WOODS LINE
- EXIST. WETLAND
- 25' WETLAND SETBACK
- SECTION CORNER
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. CURB AND GUTTER
- EXIST. EASEMENT
- EXIST. OVERHEAD ELECTRIC
- EXIST. SANITARY SEWER
- EXIST. WATER MAIN
- EXIST. STORM SEWER
- EXIST. UTILITY POLE
- EXIST. LIGHTPOLE
- EXIST. SIGN
- EXIST. TELEPHONE RISER
- EXIST. MANHOLE
- EXIST. HYDRANT
- EXIST. WATER VALVE
- EXIST. END SECTION
- PROP. R.O.W. LINE
- PROP. EASEMENT
- PROP. LOT LINE
- PROP. SETBACK LINE
- PROP. BUILDING
- PROP. BACK/EDGE CURB
- PROP. ASPHALT
- PROP. SIDEWALK
- PROP. PATH
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- PROP. WATER MAIN
- PROP. MANHOLE
- PROP. FIRE HYDRANT
- PROP. WATER VALVE IN WELL
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- 4" ROOF DRAIN

G:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787SP-13-SZ.DWG 1/22/2019 11:14 AM CHRIS BOSHAAR

CONVEYANCE CALCULATIONS

I = B/(T+D)^E B = 175.0 D = 25.0 E = 1
C = varies
T = 20 (min.)

FROM MH INPUT	TO MH	INCRE-MENT ACRES (A)	C	EQUIV. AREA 100% ACRES CA	TOTAL AREA 100% ACRES SUM CA	T TIME (MIN.)	I (IN PER HOUR)	Q=CIA C.F.S. FLOW	CAPAC-ITY OF SEWER (C.F.S.)	DIAM. OF PIPE (IN.)	LENGTH OF LINE (FT.)	SLOPE OF PIPE (%)	MIN HG BASED ON "Q" (%)	HG FOR 3.0 FPS GIVEN "D" (%)	ACTUAL HG (%)	VEL. FLOW FULL (FT./ SEC.)	TIME OF FLOW (MIN.)	H.G.L. ELEV. UPPER END	H.G.L. ELEV. LOWER END	GROUND ELEV. UPPER END	GROUND ELEV. LOWER END	INVERT ELEV. UPPER END	INVERT ELEV. LOWER END
Basin 1																							
R17	R16	0.68	0.40	0.27	0.27	20.00	3.89	1.06	3.56	12	240	1.00	0.09	0.44	0.44	4.5	0.9	820.54	818.15	822.26	821.63	819.74	817.35
R16	R15	0.70	0.38	0.27	0.54	20.90	3.81	2.06	2.36	12	223	0.44	0.33	0.44	0.44	3.0	1.2	818.04	817.07	821.63	822.98	817.25	816.27
R15	R14	0.88	0.53	0.46	1.00	22.10	3.72	3.72	3.82	15	97	0.35	0.33	0.32	0.33	3.1	0.5	817.05	816.72	822.98	822.44	816.07	815.72
R14	R13	0.99	0.46	0.46	1.90	22.60	3.68	7.00	7.05	18	213	0.45	0.44	0.25	0.44	4.0	0.9	816.71	815.77	822.44	821.77	815.52	814.57
R13	R12	0.52	0.30	0.15	2.06	23.50	3.61	7.43	7.43	18	230	0.50	0.50	0.25	0.50	4.2	0.9	815.67	814.52	821.77	820.88	814.47	813.32
R12	R11	2.43	0.29	0.71	2.77	24.40	3.54	9.82	9.85	18	225	0.88	0.87	0.25	0.87	5.6	0.7	814.40	812.44	820.88	821.83	813.22	811.24
R11	R10	1.35	0.30	0.40	3.58	25.10	3.49	12.52	12.80	24	229	0.32	0.31	0.17	0.31	4.1	0.9	812.40	811.70	821.83	824.25	810.84	810.10
R10	R9	0.00	0.00	0.00	3.91	26.00	3.43	13.42	13.46	24	184	0.35	0.35	0.17	0.35	4.3	0.7	811.60	810.95	824.25	824.67	810.00	809.35
R9	R8	0.00	0.00	0.00	4.79	26.70	3.38	16.22	16.31	24	206	0.52	0.51	0.17	0.51	5.2	0.7	810.84	809.78	824.67	823.54	809.25	808.18
R8	R7	0.00	0.00	0.00	9.05	27.40	3.34	30.24	30.35	24	81	1.80	1.79	0.17	1.79	9.7	0.1	806.77	805.32	823.54	821.50	805.18	803.72
R7	R6	0.45	0.62	0.28	9.82	27.50	3.33	32.72	33.35	36	118	0.25	0.24	0.10	0.24	4.7	0.4	805.31	805.03	821.50	822.08	802.92	802.63
R6	R5	0.11	0.48	0.05	9.87	27.90	3.31	32.72	33.35	36	126	0.25	0.24	0.10	0.24	4.7	0.4	804.91	804.61	822.08	818.06	802.53	802.21
R5	R4	0.00	0.00	0.00	9.87	28.30	3.28	32.72	33.35	36	187	0.25	0.24	0.10	0.24	4.7	0.7	804.49	804.04	818.06	810.24	802.11	801.64
R4	R3	0.00	0.00	0.00	9.87	29.00	3.24	32.72	33.35	36	57	0.25	0.24	0.10	0.24	4.7	0.2	797.38	797.24	810.24	798.67	797.14	797.00
R19	R18	0.88	0.25	0.22	0.22	20.00	3.89	0.86	2.36	12	85	0.44	0.06	0.44	0.44	3.0	0.5	817.58	817.21	820.78	822.10	816.78	816.41
R18	R14	0.45	0.50	0.22	0.45	20.50	3.85	1.71	2.36	12	35	0.44	0.23	0.44	0.44	3.0	0.2	817.11	816.95	822.10	822.44	816.31	816.15
R20	R11	1.54	0.27	0.41	0.41	20.00	3.89	1.60	2.36	12	98	0.44	0.20	0.44	0.44	3.0	0.5	818.10	817.67	821.30	821.83	817.30	816.87
R21	R10	0.36	0.59	0.21	0.21	20.00	3.89	0.82	2.36	12	34	0.44	0.05	0.44	0.44	3.0	0.2	820.32	820.17	823.67	824.25	819.52	819.37
R22	R10	0.18	0.65	0.11	0.11	20.00	3.89	0.45	2.36	12	33	0.44	0.02	0.44	0.44	3.0	0.2	820.31	820.17	823.58	824.25	819.52	819.37
R24	R23	0.72	0.50	0.36	0.36	20.00	3.89	1.40	2.36	12	30	0.44	0.15	0.44	0.44	3.0	0.2	821.18	821.05	824.38	824.38	820.38	820.25
R23	R9	0.87	0.60	0.52	0.88	20.20	3.87	3.42	3.47	12	44	0.95	0.92	0.44	0.92	4.4	0.2	821.04	820.63	824.38	824.67	820.25	819.83
R31	R30	0.57	0.30	0.17	0.17	20.00	3.89	0.66	2.36	12	240	0.44	0.03	0.44	0.44	3.0	1.3	819.98	818.93	823.56	822.17	819.18	818.13
R30	R29	0.94	0.31	0.29	0.46	21.30	3.78	1.72	2.36	12	219	0.44	0.23	0.44	0.44	3.0	1.2	818.82	817.86	822.17	821.08	818.03	817.06
R29	R28	0.78	0.55	0.43	0.89	22.50	3.68	3.27	3.34	12	30	0.88	0.84	0.44	0.84	4.3	0.1	817.75	817.50	821.08	821.05	816.96	816.70
R28	R27	0.37	0.48	0.18	1.78	22.60	3.68	6.54	6.77	15	290	1.10	1.02	0.32	1.02	5.5	0.9	813.15	810.19	821.05	813.50	812.37	809.19
R27	R26	2.70	0.32	0.86	2.64	23.50	3.61	9.51	9.68	18	125	0.85	0.82	0.25	0.82	5.5	0.4	810.15	809.12	813.50	813.61	808.99	807.92
R26	R25	2.46	0.30	0.75	3.38	23.90	3.58	12.10	12.39	24	320	0.30	0.29	0.17	0.29	3.9	1.3	809.08	808.17	813.61	815.61	807.52	806.57
R25	R8	1.36	0.29	0.39	4.26	25.20	3.49	14.86	16.00	24	237	0.50	0.43	0.17	0.43	5.1	0.8	807.90	806.88	815.61	823.54	806.47	805.28
R33	R32	0.64	0.57	0.37	0.37	20.00	3.89	1.42	2.36	12	30	0.44	0.16	0.44	0.44	3.0	0.2	821.65	821.52	824.92	824.92	820.85	820.72
R32	R28	0.57	0.60	0.35	0.71	20.20	3.87	2.75	4.36	12	239	1.50	0.60	0.44	0.60	5.6	0.7	821.42	817.83	824.92	821.05	820.62	817.03
R34	R25	1.49	0.33	0.49	0.49	20.00	3.89	1.90	2.36	12	103	0.44	0.29	0.44	0.44	3.0	0.6	811.20	810.75	814.41	815.61	810.40	809.95
R37	R36	0.20	0.64	0.13	0.13	20.00	3.89	0.50	2.36	12	133	0.44	0.02	0.44	0.44	3.0	0.7	814.89	814.31	818.09	818.10	814.09	813.51
R36	R7	0.00	0.00	0.00	0.13	20.70	3.83	0.50	2.36	12	220	0.44	0.02	0.44	0.44	3.0	1.2	814.20	813.24	818.10	821.50	813.41	812.44
R35	R7	0.76	0.46	0.35	0.35	20.00	3.89	1.35	2.36	12	30	0.44	0.14	0.44	0.44	3.0	0.2	818.34	818.21	821.54	821.50	817.54	817.41
Basin 2																							
R47	R46	0.37	0.54	0.20	0.20	20.00	3.89	0.79	2.36	12	30	0.44	0.05	0.44	0.44	3.0	0.2	809.28	809.15	812.48	812.48	808.48	808.35
R46	R45	0.42	0.63	0.27	0.47	20.20	3.87	1.82	2.36	12	69	0.44	0.26	0.44	0.44	3.0	0.4	809.05	808.75	812.48	813.63	808.25	807.95
R45	R44	0.85	0.47	0.39	0.86	20.60	3.84	3.32	3.38	12	15	0.90	0.87	0.44	0.87	4.3	0.1	808.64	808.51	813.63	814.01	807.85	807.71
R44	R43	0.00	0.00	0.00	1.49	20.70	3.83	5.72	5.78	15	249	0.80	0.79	0.32	0.79	4.7	0.9	807.04	805.09	814.01	808.33	806.08	804.09
R43	R42	0.00	0.00	0.00	1.58	21.60	3.76	5.95	5.96	15	110	0.85	0.85	0.32	0.85	4.9	0.4	803.51	802.58	808.33	805.82	802.52	801.58
R42	R41	0.00	0.00	0.00	2.32	22.00	3.72	8.62	8.79	18	139	0.70	0.67	0.25	0.67	5.0	0.5	800.28	799.34	805.82	802.64	799.11	798.14
R41	R40	0.56	0.34	0.19	2.51	22.50	3.68	9.23	9.40	18	114	0.80	0.77	0.25	0.77	5.3	0.4	792.72	791.84	802.64	791.25	790.91	790.00
R49	R48	0.16	0.58	0.09	0.09	20.00	3.89	0.36	2.36	12	109	0.44	0.01	0.44	0.44	3.0	0.6	808.94	808.47	812.14	813.63	808.14	807.67
R48	R44	1.03	0.52	0.54	0.63	20.60	3.84	2.42	2.52	12	15	0.50	0.46	0.44	0.46	3.2	0.1	808.36	808.29	813.63	814.01	807.57	807.49
R50	R43	0.15	0.61	0.09	0.09	20.00	3.89	0.34	2.36	12	128	0.44	0.01	0.44	0.44	3.0	0.7	804.99	804.44	808.20	808.33	804.20	803.64
R52	R51	0.14	0.62	0.09	0.09	20.00	3.89	0.34	2.36	12	113	0.44	0.01	0.44	0.44	3.0	0.6	802.73	802.24	806.00	805.44	801.94	801.44
R51	R42	0.68	0.58	0.40	0.49	20.60	3.84	1.87	2.36	12	15	0.44	0.27	0.44	0.44	3.0	0.1	802.15	802.08	805.44	805.82	801.35	801.28
R53	R42	0.53	0.47	0.25	0.25	20.00	3.89	0.96	2.36	12	15	0.44	0.07	0.44	0.44	3.0	0.1	802.24	802.17	805.44	805.82	801.44	801.37
Basin 3																							
R61	R60	1.66	0.51	0.85	0.85	20.00	3.89	3.31	3.56	12	30	1.00	0.86	0.44	0.86	4.5	0.1	810.99	810.73	814.23	814.23	810.23	809.93
R60	R59	1.65	0.51	0.85	1.70	20.10	3.88	6.59	6.62	15	270	1.05	1.04	0.32	1.04	5.4	0.8	810.71	807.89	814.23	816.99	809.73	806.89
R59	R58	0.00	0.00	0.00	2.71	20.90	3.81	10.35	10.50	18	281	1.00	0.97	0.25	0.97	5.9	0.8	805.93	803.21	816.99	806.51	804.81	802.01
R58	R57	0.45	0.31	0.14	3.48	21.70	3.75	13.04	13.38	24	166	0.35	0.33	0.17	0.33	4.3	0.6	797.23	796.68	806.51	807.48	795.61	795.03
R57	R56	0.00	0.00	0.00	3.48	22.30	3.70	13.04	13.38	24	264	0.35	0.33	0.17	0.33	4.3	1.0	796.68	795.80	807.48	794.50	794.93	794.00
														0.00									
R65	R64	0.49	0.60	0.30	0.30	20.00	3.89	1.16	2.36	12	30	0.44	0.11	0.44	0.44	3.0	0.2	814.71	814.58	817.91	817.91	813.91	813.78
R64	R63	0.63	0.41	0.26	0.56	20.20	3.87	2.16	2.36	12	36	0.44	0.37	0.44	0.44	3.0	0.2	814.37	814.21	817.91	817.41	813.57	813.41
R63	R62	0.78	0.46	0.36	0.92	20.40	3.85	3.53	3.56	12	30	1.00	0.98	0.44	0.98	4.5	0.1	814.10	813.81	817.41	817.41	813.31	813.01
R62	R59	0.15	0.65	0.10	1.01	20.50	3.85	3.90	3.90	12	70	1.20	1.20	0.44	1.20	5.0	0.2	813.71	812.87	817.41	816.99	812.91	812.07
														0.00									
R66	R58	0.36	0.54	0.19	0.19	20.00	3.89	0.75	2.36	12	158	0.44	0.04	0.44	0.44	3.0	0.9	797.92	797.23	799.33	806.51	797.10	796.41
														0.00									
R67	R58	1.53	0.28	0.43	0.43	20.00	3.89	1.69	6.90	12	73	3.75	0.22	0.44	0.44	8.8	0.1	806.05	803.31	812.62	806.51	805.25	802.51
Culverts																							
R101A	R101	0.75	0.50	0.38	0.38	20.00	3.89	1.46	2.36	12	22	0.44	0.17	0.44	0.44	3.0	0.1	822.72	822.62	824.00	824.08	821.82	821.73
R101	R100	0.25	0.70	0.18	0.55	20.10	3.88	2.13	2.36	12	143	0.44	0.36	0.44	0.44	3.0	0.8	822.62	822.00	824.08	821.75	821.63	821.00
														0.00									
R102	R103	2.00	0.50	1.00	1.00	20.00	3.89	3.89	4.79	15	59	0.55	0.36	0.32	0.36	3.9	0.3	820.47	820.26	820.18	819.86	819.34	819.01
Outlets																							
R2	R1	0.00	0.00	0.00	0.00	20.00	3.89	3.86	5.04	12	151	2.00	1.17	0.44	1.17	6.4	0.4	793.73	790.92	798.18	791.24	792.93	789.92
R39	R38	0.00	0.00	0.00	0.00	20.00	3.89	0.67	2.36	12	61	0.44	0.04	0.44	0.44	3.0	0.3	790.23	789.96	793.83	790.25	789.23	788.96
R55	R54	0.00	0.00	0.00	0.00	20.00	3.89	1.29	2.36	12	112	0.44	0.13	0.44	0.44	3.0	0.6	791.49	791.00	798.39	791.25	790.49	790.00

STRUCTURE SCHEDULE

Structure	Structure Type	Casting Type	Rim Elevation	Inverts	Inverts	Inverts	Inverts	Depth	Sump
R1	12" End Section	None	N/A	12" INV. 790.00 SE				N/A	No Sump
R2	48" Man Hole	None	798.18	12" INV. 792.93 NW				N/A	2' Sump
R3	36" End Section	None	N/A	36" INV. 797.00 NE				N/A	No Sump
R4	60" Man Hole	EJIW 1040Z, Type A Cover	810.24	36" INV. 797.14 SW	36" INV. 801.64 NE			8.60	No Sump
R5	60" Catch Basin	EJIW 1040Z with 1040 N 7"	818.06	36" INV. 802.11 S	36" INV. 802.21 N			15.85	2' Sump
R6	60" Catch Basin	EJIW 1040Z with 1040 N 7"	822.08	36" INV. 802.53 SW	36" INV. 802.63 NE	4" INV. 819.24 NW		19.45	2' Sump
R7	60" Catch Basin	EJIW 7045	821.54	36" INV. 802.92 SW	24" INV. 803.72 E	12" INV. 817.41 NE	12" INV. 812.44 NW	4.13	2' Sump
R8	48" Man Hole	EJIW 1040Z, Type A Cover	823.54	24" INV. 805.28 NE	24" INV. 808.18 SE	24" INV. 805.18 W		15.36	No Sump
R9	48" Man Hole	EJIW 1040Z, Type A Cover	824.67	24" INV. 809.35 SE	24" INV. 809.25 NW	12" INV. 819.83 E		4.84	No Sump
R10	48" Man Hole	EJIW 1040Z, Type A Cover	824.25	24" INV. 810.10 E	24" INV. 810.00 NW	12" INV. 819.37 N	12" INV. 819.37 NW	4.88	No Sump
R11	48" Catch Basin	EJIW 1040Z with 1040 N 7"	821.83	18" INV. 811.24 E	24" INV. 810.84 W	12" INV. 816.87 S		4.96	2' Sump
R12	48" Catch Basin	EJIW 1040Z with 1040 N 7"	820.88	18" INV. 813.32 S	18" INV. 813.22 W			7.56	2' Sump
R13	48" Catch Basin	EJIW 1040Z with 1040 N 7"	821.77	18" INV. 814.57 E	18" INV. 814.47 N			7.20	2' Sump
R14	48" Catch Basin	EJIW 7045	822.44	18" INV. 815.52 W	15" INV. 815.72 E	12" INV. 816.15 SE		6.29	2' Sump
R15	48" Catch Basin	EJIW 7045	822.98	15" INV. 816.07 W	12" INV. 816.27 E			6.71	2' Sump
R16	48" Catch Basin	EJIW 1040Z with 1040 N 7"	821.63	12" INV. 817.35 N	12" INV. 817.25 W			4.28	2' Sump
R17	24" Inlet	EJIW 1040Z with 1040 N 7"	822.26	12" INV. 819.74 S				2.52	No Sump
R18	48" Catch Basin	EJIW 7045	822.10	12" INV. 816.41 S	12" INV. 816.31 NW			5.69	2' Sump
R19	48" Catch Basin	EJIW 1040Z with 1040 N 7"	820.78	12" INV. 816.78 N				3.99	2' Sump
R20	48" Catch Basin	EJIW 1040Z with 1040 N 7"	821.30	12" INV. 817.30 N				4.00	2' Sump
R21	48" Catch Basin	EJIW 7045	823.67	12" INV. 819.52 S				4.15	2' Sump
R22	48" Catch Basin	EJIW 7045	823.58	12" INV. 819.52 SE				4.07	2' Sump
R23	48" Catch Basin	EJIW 7045	824.38	12" INV. 820.25 SE	12" INV. 820.25 W			4.13	2' Sump
R24	48" Catch Basin	EJIW 7045	824.38	12" INV. 820.38 NW				4.00	2' Sump
R25	48" Catch Basin	EJIW 1040Z with 1040 N 7"	815.61	24" INV. 806.57 E	24" INV. 806.47 SW	12" INV. 809.95 NW		5.66	2' Sump
R26	48" Catch Basin	EJIW 1040Z with 1040 N 7"	813.61	18" INV. 807.92 E	24" INV. 807.52 W			5.69	2' Sump
R27	48" Catch Basin	EJIW 1040Z with 1040 N 7"	813.50	18" INV. 808.99 W	15" INV. 809.19 E			4.31	2' Sump
R28	48" Catch Basin	EJIW 7045	821.05	15" INV. 812.37 W	12" INV. 817.03 S	12" INV. 816.70 E		4.01	2' Sump
R29	48" Catch Basin	EJIW 7045	821.08	12" INV. 817.06 E	12" INV. 816.96 W			4.02	2' Sump
R30	48" Catch Basin	EJIW 1040Z with 1040 N 7"	822.17	12" INV. 818.13 S	12" INV. 818.03 W			4.04	2' Sump
R31	48" Catch Basin	EJIW 1040Z with 1040 N 7"	823.56	12" INV. 819.18 N				4.38	2' Sump
R32	48" Catch Basin	EJIW 7045	824.92	12" INV. 820.72 S	12" INV. 820.62 N			4.20	2' Sump
R33	48" Catch Basin	EJIW 7045	824.92	12" INV. 820.85 N				4.07	2' Sump
R34	48" Catch Basin	EJIW 1040Z with 1040 N 7"	814.41	12" INV. 810.40 SE				4.01	2' Sump
R35	48" Catch Basin	EJIW 7045	821.54	12" INV. 817.54 SW				4.00	2' Sump
R36	48" Man Hole	EJIW 1040Z, Type A Cover	818.10	12" INV. 813.51 W	12" INV. 813.41 SE			4.59	No Sump
R37	48" Catch Basin	EJIW 1040Z with 1040 N 7"	818.09	12" INV. 814.09 E	4" INV. 815.44 N	4" INV. 816.00 S		4.00	2' Sump
R38	12" End Section	None	N/A	12" INV. 789.00 W				N/A	No Sump
R39	48" Man Hole	None	793.83	12" INV. 789.23 E				N/A	2' Sump
R40	18" End Section	None	N/A	18" INV. 790.00 SW				N/A	No Sump
R41	48" Catch Basin	EJIW 7045	802.64	18" INV. 798.14 SW	18" INV. 790.91 NE			4.50	2' Sump
R42	48" Man Hole	EJIW 1040Z, Type A Cover	805.82	18" INV. 799.11 NE	15" INV. 801.58 S	12" INV. 801.28 W	12" INV. 801.37 E	4.24	No Sump
R43	48" Man Hole	EJIW 1040Z, Type A Cover	808.33	15" INV. 804.09 S	15" INV. 802.52 N	12" INV. 803.64 W		4.24	2' Sump
R44	48" Man Hole	EJIW 1040Z, Type A Cover	814.01	15" INV. 806.08 N	12" INV. 807.71 E	12" INV. 807.49 W		6.30	No Sump
R45	48" Catch Basin	EJIW 7045	813.63	12" INV. 807.95 NE	12" INV. 807.85 W			5.68	2' Sump
R46	48" Catch Basin	EJIW 7045	812.48	12" INV. 808.35 N	12" INV. 808.25 SW			4.13	2' Sump
R47	48" Catch Basin	EJIW 7045	812.48	12" INV. 808.48 S				4.00	2' Sump
R48	48" Catch Basin	EJIW 7045	813.63	12" INV. 807.67 W	12" INV. 807.57 E			5.96	2' Sump
R49	48" Catch Basin	EJIW 1040Z with 1040 N 7"	812.14	12" INV. 808.14 E	4" INV. 808.90 N	4" INV. 810.00 S		4.00	2' Sump
R50	48" Catch Basin	EJIW 1040Z with 1040 N 7"	808.20	12" INV. 804.20 E	4" INV. 807.20 N	4" INV. 806.40 S		4.00	2' Sump
R51	48" Catch Basin	EJIW 7045	805.44	12" INV. 801.44 W	12" INV. 801.35 E			3.99	2' Sump
R52	48" Catch Basin	EJIW 1040Z with 1040 N 7"	806.00	12" INV. 801.94 E	4" INV. 804.05 NW	4" INV. 805.00 S		4.05	2' Sump
R53	48" Catch Basin	EJIW 7045	805.44	12" INV. 801.44 W				3.98	2' Sump
R54	12" End Section	None	N/A	12" INV. 790.00 E				N/A	No Sump
R55	48" Man Hole	None	798.39	12" INV. 790.49 W				N/A	No Sump
R56	24" End Section	None	N/A	24" INV. 794.00 S				N/A	No Sump
R57	48" Man Hole	EJIW 1040Z, Type A Cover	807.48	24" INV. 795.03 S	24" INV. 794.93 N			12.45	No Sump
R58	48" Catch Basin	EJIW 1040Z with 1040 N 7"	806.51	24" INV. 795.61 N	18" INV. 802.01 S	12" INV. 802.51 E	12" INV. 796.41 SW	4.00	2' Sump
R59	48" Man Hole	EJIW 1040Z, Type A Cover	816.99	18" INV. 804.81 N	15" INV. 806.89 W	12" INV. 812.07 SE		4.91	No Sump
R60	60" Catch Basin	EJIW 7045	814.23	15" INV. 809.73 E	12" INV. 809.93 N			4.30	2' Sump
R61	60" Catch Basin	EJIW 7045	814.23	12" INV. 810.23 S	4" INV. 810.46 NW			4.00	2' Sump
R62	48" Catch Basin	EJIW 7045	817.41	12" INV. 813.01 E	12" INV. 812.91 NW			4.40	2' Sump
R63	48" Catch Basin	EJIW 7045	817.41	12" INV. 813.41 NE	12" INV. 813.31 W			4.00	2' Sump
R64	48" Catch Basin	EJIW 7045	817.91	12" INV. 813.78 N	12" INV. 813.57 SW			4.13	2' Sump
R65	48" Catch Basin	EJIW 7045	817.91	12" INV. 813.91 S				4.00	2' Sump
R66	48" Catch Basin	EJIW 1040Z with 1040 N 7"	799.33	12" INV. 797.10 NE	4" INV. 798.00 SE	4" INV. 798.00 SW		2.23	No Sump
R67	48" Catch Basin	EJIW 1040Z with 1040 N 7"	812.62	12" INV. 805.25 W				7.37	2' Sump
R100	12" End Section	None	N/A	12" INV. 821.00 E				N/A	No Sump
R101	48" Catch Basin	EJIW 7045	824.08	12" INV. 821.63 W	12" INV. 821.73 NE			2.35	2' Sump
R101A	24" Inlet	EJIW 1040Z with 1040 N 7"	824.00	12" INV.821.82 SW				2.18	No Sump
R102	18" End Section	None	N/A	18" INV. 819.34 N				N/A	No Sump
R103	18" End Section	None	N/A	18" INV. 819.01 S				N/A	No Sump

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

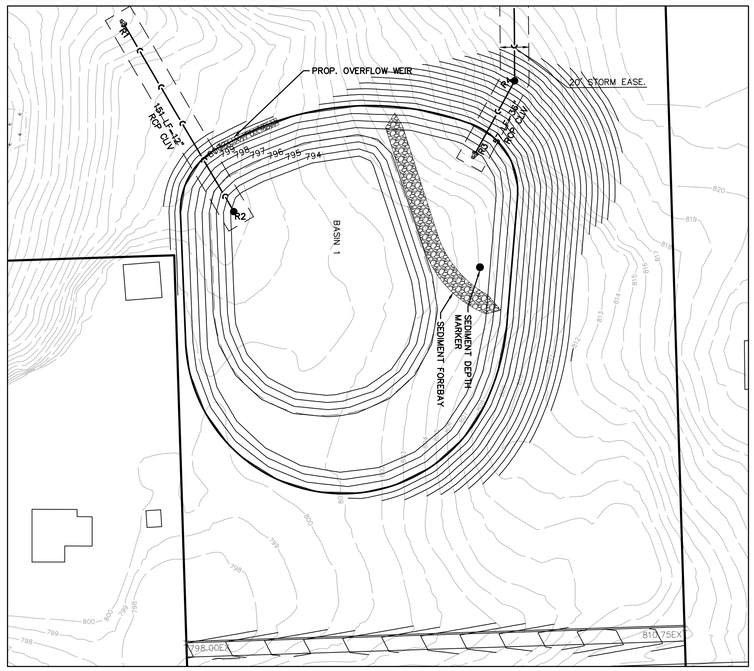
BEMIS RIDGE ESTATES
FINAL SITE PLAN
STORMWATER CONVEYANCE CALCULATIONS

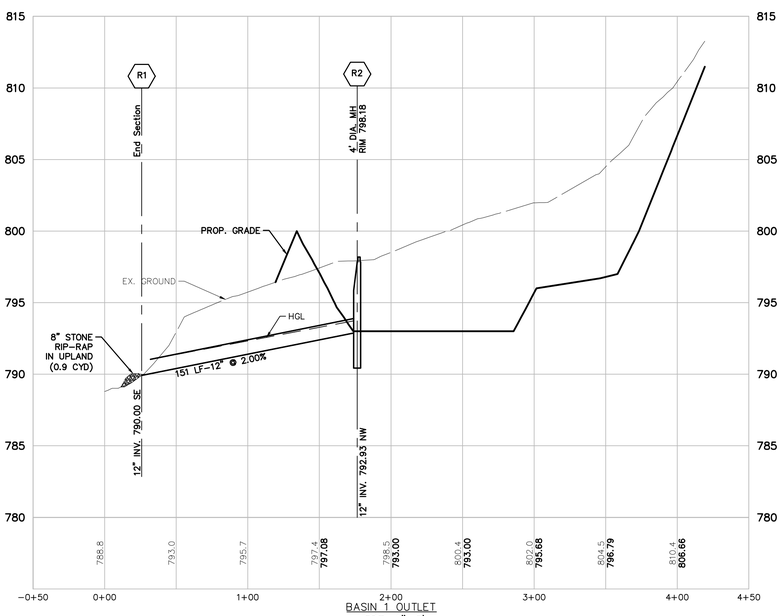
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

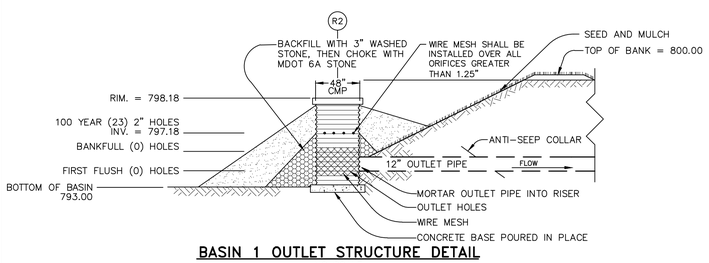
REVISIONS

SCALE 0 -- --
NO SCALE
DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
32

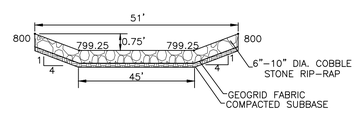




BASIN 1 OUTLET
VERT: 1"=5'
HORZ: 1"=50'



BASIN 1 OUTLET STRUCTURE DETAIL
NO SCALE



BASIN 1 OVERFLOW WEIR
NO SCALE

BASIN 1

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 26.4 Acres
Total Disturbed Area = 26.4 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Pavement, rooftops	D	219,900	5.05	0.95	208,905
Water Surfaces (bankfull in basin)	D	42,100	0.97	1.00	42,100
Developed Open Space, Good Condition	D	887,984	20.39	0.50	443,992
				Total - Sum (c)(Area) =	694,997
				Area Total (sf)=	1,149,984
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	**0.60**

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed Open Space, Good Condition	D	887,984	20.39	80	71,038,720
			0.00		0
			0.00		0
		Total - Sum (CN)(Area) =			71,038,720
		Area Total - Sum(ac) of Sum(sf)=			887,984
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			**80**

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Pavement, rooftops	D	219,900	5.05	98	21,550,200
Water Surfaces (bankfull in ponds)	D	42,100	0.97	98	4,125,800
			0.00		0
		Total - Sum (CN)(Area) =			25,676,000
		Area Total - Sum(ac) of Sum(sf)=			262,000
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			**98**

W2 First Flush Runoff Calculations (Vff)

A. Vff = (1") (1/12) (43560/1) (C) AC = **57,499** cf

W3 Predevelopment Bankfull Runoff Calculations (Vbf-pre)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN *(meadow, Type D soils)*	CN =	78	
C.	S = (1000/CN)-10	S =	2.82	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.69	in
E.	Pervious Cover Area	Area =	1,149,984	sf
F.	$V_{bf\text{-}pre}$ = Q(1/12)Area	$V_{bf\text{-}pre}$ =	**66,353**	cf

W4 Pervious Cover Post-development Bankfull Runoff Calculations (Vbf-per-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN	CN =	80	
C.	S = (1000/CN)-10	S =	2.50	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.79	in
E.	Pervious Cover Area	Area =	887,984	sf
F.	$V_{bf\text{-}per\text{-}post}$ = Q(1/12)Area	$V_{bf\text{-}per\text{-}post}$ =	**58,221**	cf

W5 Impervious Cover Post-development Bankfull Runoff Calculations (Vbf-imp-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Impervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.12	in
E.	Pervious Cover Area	Area =	262,000	sf
F.	$V_{bf\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{bf\text{-}imp\text{-}post}$ =	**46,323**	cf

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	80	
C.	S = (1000/CN)-10	S =	2.50	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.99	in
E.	Pervious Cover Area	Area =	887,984	sf
F.	$V_{100\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{100\text{-}imp\text{-}post}$ =	**221,185**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	262,000	sf
F.	$V_{100\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{100\text{-}imp\text{-}post}$ =	**106,394**	cf

W8 Determine Time of Concentration (Tc-hrs)

User specified; assume 30 minutes — Total Time of Concentration (hrs) = 0.50

W9 Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets

V_{ff} =	**57,499**	**cf***	
$V_{bf\text{-}pre}$ =	66,353	cf	
$V_{bf\text{-}per\text{-}post}$ =	58,221	cf	**Total BF Volume ($V_{bf\text{-}post}$)**
$V_{bf\text{-}imp\text{-}post}$ =	46,323	cf	104,544 cf
$V_{100\text{-}per\text{-}post}$ =	221,185	cf	**Total 100-year Volume (V_{100})**
$V_{100\text{-}imp\text{-}post}$ =	106,394	cf	327,579 cf

B. Determine Onsite Infiltration Requirement

$V_{bf\text{-}post}$ =	104,544	cf
$V_{bf\text{-}pre}$ =	66,353	cf
Bankfull Volume Difference =	**38,191**	**cf***

Infiltration Requirement (V_{Inf}) = **57,499** cf

Total Onsite Infiltration Requirement (Using 47.3 Acres) (V_{Inf}) = **104,736** cf

W10 Detention / Retention Requirement

A.	Q_o = 238.6 (T_c) ^ -0.82	421.23	cfs/in-mi^2
B.	Total Site Area	26.4	ac
C.	Q_{100} = $Q_{100\text{-}per}$ + $Q_{100\text{-}imp}$	7.86	in
D.	Peak Flow (PF) = (Q_o-Q_{100}+A)/640	136.607	cfs
E.	Delta = PF - 0.15A	132.647	cfs
F.	V_{det} = (Delta/PF) x V_{100}	**318,083**	**cf**

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft^2)	Storage Depth (ft)	Storage Volume (ft^3)	Ave. Design Infil. Rate	Infil. During Storm (ft^3)	Total Volume Reduction (ft^3)
Infiltration Basin	21,209	3.0	63,626	10.0	106,044	169,670

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **169,670** cf

Proposed BMP	Ave. Design Infil. Rate (ft/hr)*	Volume Rate (cf/hr)	Estimated Drawdown Time (hrs)
Infiltration Basin	0.8333	17,674	3.60

W12 Infiltration / Detention Summary

Total Infiltration Required per WCWRC Rules:	104,736	cf
Total Infiltration Provided:	169,670	cf
Difference:	64,934	cf
% Deficiency:	0.0%	
Pro-Rated 20% Detention Penalty:	**0.0%**	
Total Detention Required	148,413	cf
Total Detention Required w/ Pro-Rated Penalty	**148,413**	**cf**

Basin Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Total Volume	Vol. Excluding Infiltration	
800.0	53,185	51,138	1.0	238,408	174,860	
799.0	49,090	47,125	1.0	187,270	123,723	
798.0	45,160	43,270	1.0	140,145	76,598	
797.0	41,380	33,328	1.0	96,875	33,328	Detention
796.0	25,275	23,868	1.0	63,548	0	Infiltration
795.0	22,460	21,130	1.0	39,680	0	
794.0	19,800	18,550	1.0	18,550		
793.0	17,300	0	0.0	0		

Total Detention Provided: **174,860** cf

Vff Elev.= 795.75
Vbf Elev.= 797.18
V100 Elev.= 798.18

Forebay Sizing

Required Volume (Vfb)=0.05*V100 **16,379 cf**

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
799.0	10,260	9,260	1.0	16,615
798.0	8,260	7,355	1.0	7,355
797.0	6,450			

Outlet Control Structure Sizing

1. Standpipe outlet holes sizing - "first flush" runoff
Note: First Flush volume provided by infiltration - no outlet holes are proposed.

Qff = Vff / 24 hrs / 3600 sec	Qff=	0.665	cfs	
hff(ave) = 2/3 x (Xff - Xo)	hff(ave) =	0.498	ft	
Aff(required) = Qff / 0.62 x sqrt(2*32.2*h)	A(required) =	0.190	sf	
Selected Orifice Diameter =		**0**	**in**	
Area of each orifice =		0.000	sf	
Number of orifice holes required =	=	**0**	**holes at elev.**	**796.00**

2. Standpipe outlet holes sizing - "Bankfull flood" discharge
Note: Bankfull volume provided by infiltration - no outlet holes are proposed.

Selected Orifice Diameter =		**0**	**in**	
Area of each orifice =		0.0000	sf	
Number of orifice holes required =	=	**0**	**holes at elev.**	**795.75**

3. Standpipe outlet holes sizing - "100-yr flood" discharge

Q100 = Qa = 0.15 x Drainage Area	Q100 =	3.960	cfs
Release from above holes			
hff = (Xprovided-Xo)	hff =	1.175	ft
hbf = (Xprovided-Xff)	hbf =	2.429	ft
Q = A x 0.62 x sqrt(64.4*hff) + A x 0.62 x sqrt(64.4*hbf) =		0.000	cfs
Remaining flow =	Q100-Q=	3.960	cfs
A = Q100 /(.62 x sqrt(2*32.2*h))	A(required) =	0.511	sf
Selected Orifice Diameter =		**2**	**in**
Area of each orifice =		0.0218	sf
Number of orifice holes required =	=	**23**	**holes at elev.**	**797.18**

4. Riser Outlet Pipe Design
Outlet pipe designed to handle the 100-year restricted flow

100-year restricted flow =	Q =	3.96	cfs
Choose outflow pipe diameter =	d =	**12**	**in**
Choose outflow pipe slope =	S =	**2**	**%**
Assume roughness factor	n =	0.013	
Flow velocity at 100-yr restricted flow (Mannings	V =	6.42	fps
Design Pipe Capacity =	=	5.04	cfs

Basin Overflow Weir

Drainage Area, A =	26.4	ac
C-Factor (C) =	0.60	
Time of Conc. (T) =	20 min	
Intensity (I)	6.11 in/hr	I = 275/(T+25)
Design Flow (Q) =	96.80 cfs	C x I x A
Weir Coef (C)=	3.367	
Invert of Weir =	**799.25** ft	
Height of Weir (H) =	0.75 ft	
Min. Width of Weir (B) =	**44.3** **ft**	

L = Q/(C x H^(3/2))

811
Know what's **below.**
Call before you dig.
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32 TOWN 3 SOUTH, RANGE 6 EAST PITTSFIELD TOWNSHIP WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
BASIN 1 DESIGN

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET
DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
33

BASIN 2

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 10.1 Acres
Total Disturbed Area = 10.1 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Pavement, rooftops	D	95,260	2.19	0.95	90,497
Water Surfaces (bankfull in basin)	D	35,800	0.82	1.00	35,800
Developed Open Space, Good Condition	D	308,896	7.09	0.50	154,448
				Total - Sum (c)(Area) =	280,745
				Area Total (sf)=	439,956
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	**0.64**

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve	(CN)(Area)
Developed Open Space, Good Condition	D	308,896	7.09	80	24,711,680
			0.00		0
			0.00		0
		Total - Sum (CN)(Area) =			24,711,680
		Area Total - Sum(ac) of Sum(sf)=			308,896
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			**80**

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve	(CN)(Area)
Pavement, rooftops	D	95,260	2.19	98	9,335,480
Water Surfaces (bankfull in ponds)	D	35,800	0.82	98	3,508,400
			0.00		0
		Total - Sum (CN)(Area) =			12,843,880
		Area Total - Sum(ac) of Sum(sf)=			131,060
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			**98**

W2 First Flush Runoff Calculations (Vff)

A.	Vff = (1") (1/12) (43560/1) (C) AC =		**23,464**	cf

W3 Predevelopment Bankfull Runoff Calculations (Vbf-pre)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN *(meadow, Type D soils)*	CN =	78	
C.	S = (1000/CN)-10	S =	2.82	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.69	in
E.	Pervious Cover Area	Area =	439,956	sf
F.	V_{bf-pre} = Q(1/12)Area	V_{bf-pre} =	**25,385**	cf

W4 Pervious Cover Post-development Bankfull Runoff Calculations (Vbf-per-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN	CN =	80	
C.	S = (1000/CN)-10	S =	2.50	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.79	in
E.	Pervious Cover Area	Area =	308,896	sf
F.	$V_{bf-per-post}$ = Q(1/12)Area	$V_{bf-per-post}$ =	**20,253**	cf

W5 Impervious Cover Post-development Bankfull Runoff Calculations (Vbf-imp-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Impervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.12	in
E.	Pervious Cover Area	Area =	131,060	sf
F.	$V_{bf-imp-post}$ = Q(1/12)Area	$V_{bf-imp-post}$ =	**23,172**	cf

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	80	
C.	S = (1000/CN)-10	S =	2.50	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.99	in
E.	Pervious Cover Area	Area =	308,896	sf
F.	$V_{100-imp-post}$ = Q(1/12)Area	$V_{100-imp-post}$ =	**76,942**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	131,060	sf
F.	$V_{100-imp-post}$ = Q(1/12)Area	$V_{100-imp-post}$ =	**53,221**	cf

W8 Determine Time of Concentration (Tc-hrs)

User specified; assume 30 minutes — Total Time of Concentration (hrs) = 0.50

W9 Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets

V_{ff} =	**23,464**	cf*		
V_{bf-pre} =	25,385	cf		
$V_{bf-per-post}$ =	20,253	cf	**Total BF Volume ($V_{bf-post}$)**	
$V_{bf-imp-post}$ =	23,172	cf	43,425	cf
$V_{100-per-post}$ =	76,942	cf	**Total 100-year Volume (V_{100})**	
$V_{100-imp-post}$ =	53,221	cf	130,163	cf

B. Determine Onsite Infiltration Requirement

$V_{bf-post}$ =	43,425	cf
V_{bf-pre} =	25,385	cf
Bankfull Volume Difference =	**18,040**	cf*

Onsite Infiltration Requirement (V_{inf}) = **23,464** cf

W10 Detention / Retention Requirement

A.	Q_p = 238.6 (T_c) ^ -0.82	421.23	cfs/in-mi^2
B.	Total Site Area	10.1	ac
C.	$Q_{100} = Q_{100-per} + Q_{100-imp}$	7.86	in
D.	Peak Flow (PF) = ($Q_p \cdot Q_{100} \cdot$ A)/640	52.263	cfs
E.	Delta = PF - 0.15A	50.748	cfs
F.	V_{det} = (Delta/PF) x V_{100}	**126,390**	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate	Infil. During Storm (ft³)	Total Volume Reduction (ft³)
Infiltration Basin	0	0.0	0	0.0	0	0

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **0** cf

Proposed BMP	Ave. Design Infil. Rate (ft/hr)*	Volume Rate (cf/hr)	Estimated Drawdown Time (hrs)
Infiltration Basin	0.0000	0	0.00

W12 Infiltration / Detention Summary

Total Infiltration Required per WCWRC Rules:	23,464	cf
Total Infiltration Provided:	0	cf
Difference:	(23,464)	cf
% Deficiency:	100.0%	
Pro-Rated 20% Detention Penalty:	**0.0%**	(Provided in Basin 1)
Total Detention Required	126,390	cf
Total Detention Required w/ Pro-Rated Penalty	**126,390**	cf

Basin Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume	
795.0	58,050	54,400	1.0	188,913	
794.0	50,750	46,950	1.0	134,513	
793.0	43,150	39,475	1.0	87,563	
792.0	35,800	28,463	1.0	48,088	
791.0	21,125	19,625	1.0	19,625	
790.0	18,125	26,275	0.0	0	Detention
789.0	16,300	23,085	0.0	47,021	Water
789.0	13,570	19,125	1.0	47,021	
788.0	11,110	15,550	1.0	27,896	
787.0	8,880	12,346	1.0	12,346	
786.0	6,932				

Total Detention Provided:		**188,913**	cf
	Vff Elev.=	791.13	
	Vbf Elev.=	791.84	
	V100 Elev.=	793.83	1.17 freeboard

Forebay Sizing

Required Volume (Vfb)=0.05*V100 — **6,508 cf**

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
792.0	7,661	6,908	1.0	12,369
791.0	6,155	5,461	1.0	5,461
790.0	4,767	2,384	0.0	0

Outlet Control Structure Sizing

1. Standpipe outlet holes sizing - "first flush" runoff
First Flush discharge should be released from in 24 hours

Qff = Vff / 24 hrs / 3600 sec	Qff=	0.272	cfs
hff(ave) = 2/3 x (Xff - Xo)	hff(ave) =	0.757	ft
Aff(required) = Qff / 0.62 x sqrt(2*32.2*h)	A(required) =	0.063	sf
Selected Orifice Diameter =		**1**	in
Area of each orifice =		0.005	sf
Number of orifice holes required =	=	**10**	**holes at elev. 790.00**

Check First Flush discharge release time

Aff(actual) =	0.0545	ft²
Qff = A x 0.62 x sqrt(2*32.2*h) =	0.2360	cfs
Tff = Vff / (Qff x 3600)	27.6	hrs O.K.

2. Standpipe outlet holes sizing - "Bankfull flood" discharge
Bankfull should discharge within 36 to 48 hours

Check release from first flush holes only

hbf(ave) = 2/3 x (Xbf - Xo)	hbf(ave) =	0.557	ft
Qbf = A x 0.62 x sqrt(2*32.2*h) =	Qbf =	0.203	cfs
Tbf = Vbf / (Qbf x 3600) =	Tbf =	59.5	hrs

Add holes at to decrease storage time

The first flush volume will discharge in Tff	=	27.6	hrs
Additional volume between Xbf and Xff = Vbf - Vf	=	19,961	cf
Target Bankfull Discharge Time =		44.0	hrs
Vbf = Target Discharge Time - Tff	=	16.4	hrs
Qbf - Qff = (Vbf - Vff) / ((42-Tff) x 3600)	=	0.34	cfs
Hff=(2/3)(Xbf-Xff)+(Xff-Xo)	=	0.60	ft
$Q_1 = A_{ff}(.62)(SQRT(2gh)$	=	0.21	cfs
$V_1 = T_{rem} Q_1$	=	12,428	cf
$V_2 = V_{rem} - V_1$	=	7,533	
$Q_2 = V_2 / T_{rem}$	=	0.13	cfs
$H_{bf} = (2/3)(X_{bf} - X_{ff})$	=	0.47	
A_{bf}(required)	=	0.038	sf
Selected Orifice Diameter =		**1**	in
Area of each orifice =		0.0055	sf
Number of orifice holes required =	=	**6**	**holes at elev. 791.13**

3. Standpipe outlet holes sizing - "100-yr flood" discharge

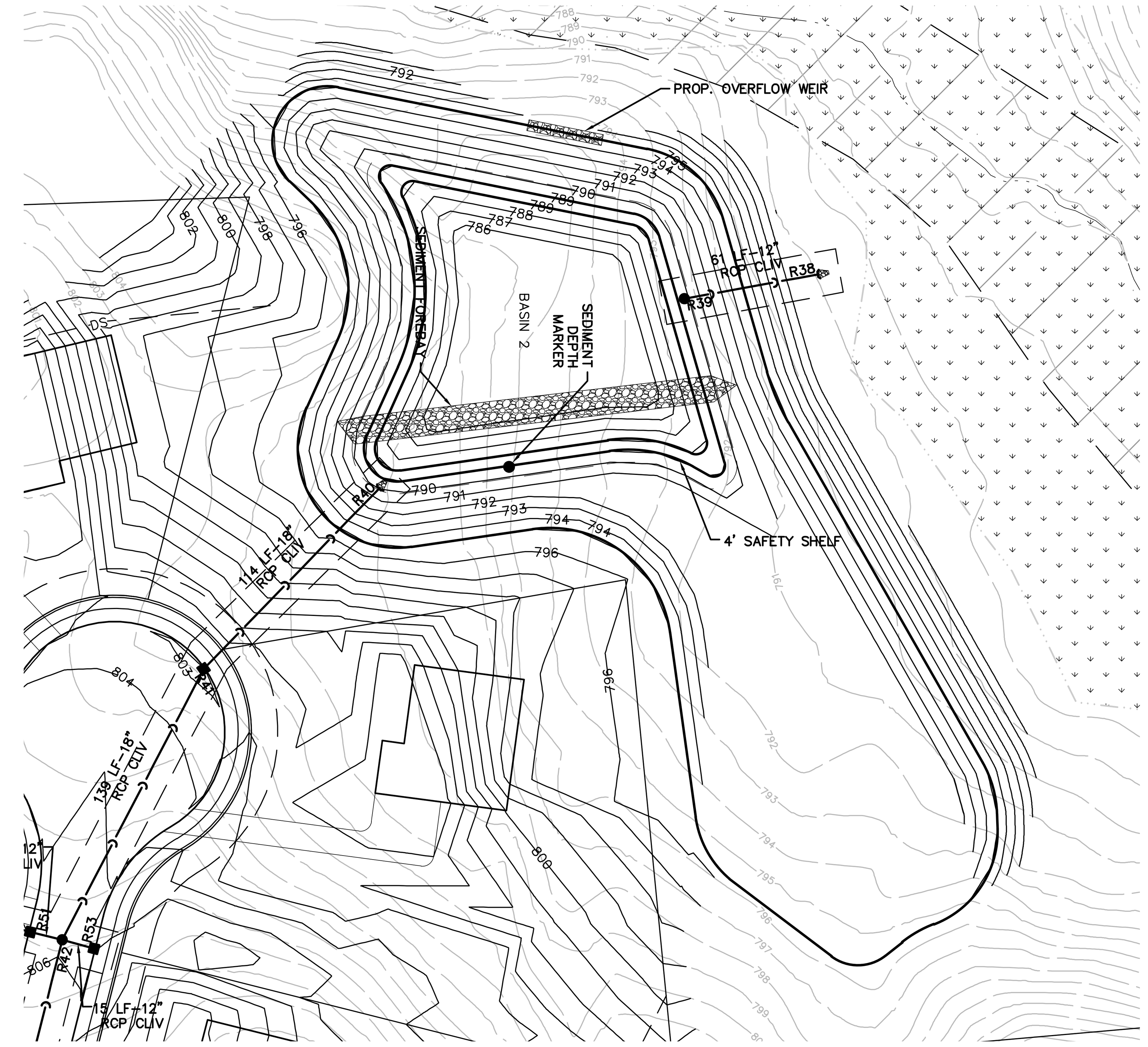
Q100 = Qa = 0.15 x Drainage Area	Q100 =	1.515	cfs
Release from above holes			
hff = (Xprovided-Xo)	hff =	2.827	ft
hbf = (Xprovided-Xff)	hbf =	2.692	ft
Q = A x 0.62 x sqrt(64.4*hff) + A x 0.62 x sqrt(64.4*hbf) =		0.723	cfs
Remaining flow =	Q100-Q=	0.792	cfs
A = Q100 /(.62 x sqrt(2*32.2*h))	A(required) =	0.097	sf
Selected Orifice Diameter =		**2**	in
Area of each orifice =		0.0218	sf
Number of orifice holes required =	=	**4**	**holes at elev. 791.84**

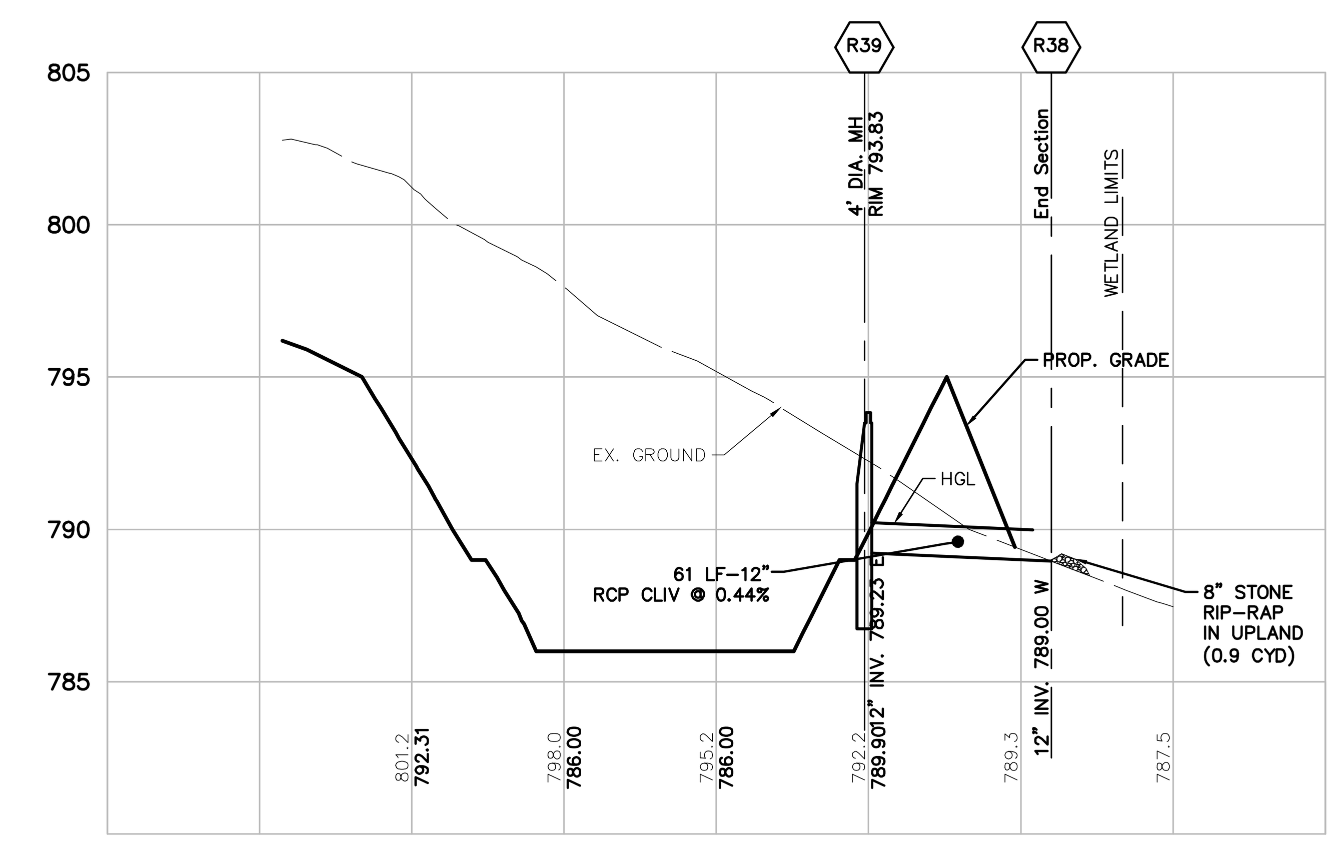
4. Riser Outlet Pipe Design
Outlet pipe designed to handle the 100-year restricted flow

100-year restricted flow =	Q =	0.72	cfs
Choose outflow pipe diameter =	d =	**12**	in
Choose outflow pipe slope =	S =	**0.44**	%
Assume roughness factor	n =	0.013	
Flow velocity at 100-yr restricted flow (Mannings	V =	3.01	fps
Design Pipe Capacity =	=	2.36	cfs

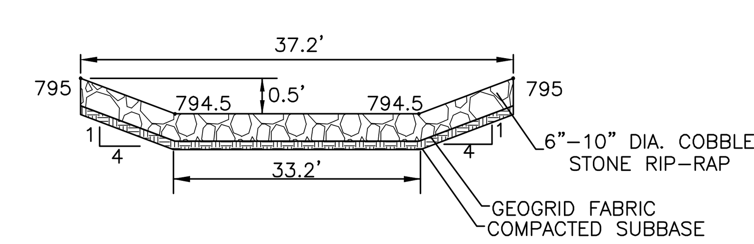
Basin Overflow Weir

Drainage Area, A =	10.1 ac	
C-Factor (C) =	0.64	
Time of Conc. (T) =	20 min	
Intensity (I)	6.11 in/hr	I = 275/(T+25)
Design Flow (Q) =	39.50 cfs	C x I x A
Weir Coef (C)=	3.367	
Invert of Weir =	**794.5** ft	
Height of Weir (H) =	0.5 ft	
Min. Width of Weir (B) =	**33.2** ft	
L = Q/(C x H^(3/2))		

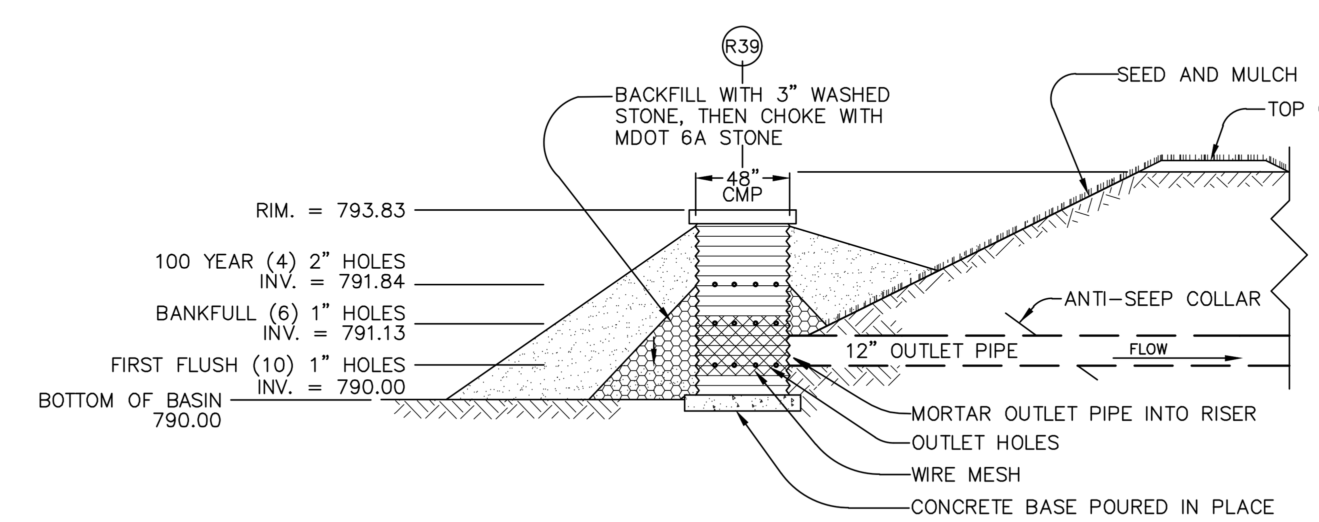




BASIN 2 OUTLET
VERT: 1"=5'
HORZ: 1"=50'



BASIN 2 OVERFLOW WEIR
NO SCALE



BASIN 2 OUTLET STRUCTURE DETAIL
NO SCALE

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
BASIN 2 DESIGN

DATE
MARCH 14, 2018

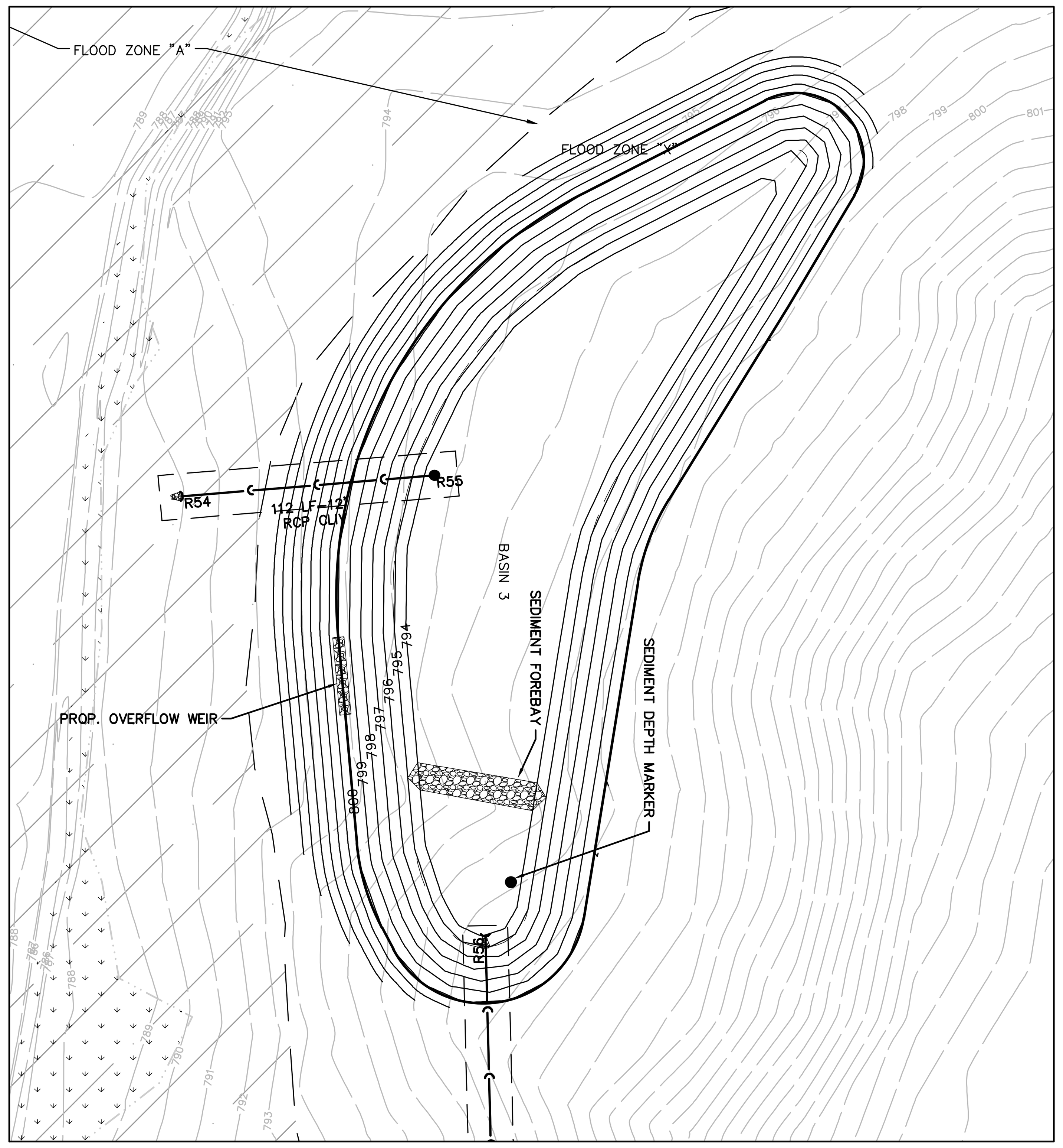
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

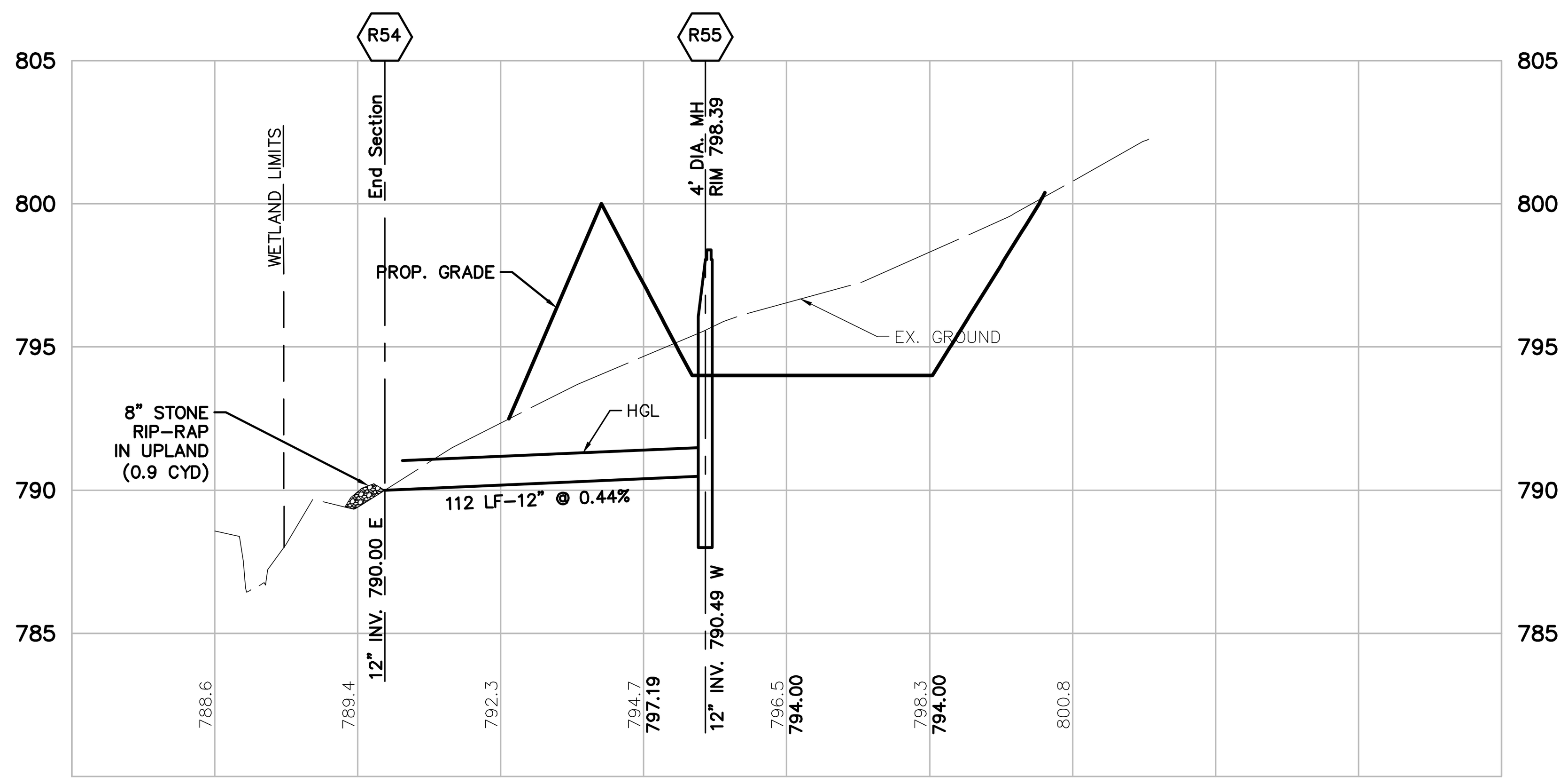
REVISIONS

SCALE 0 25 50
1" = 50 FEET

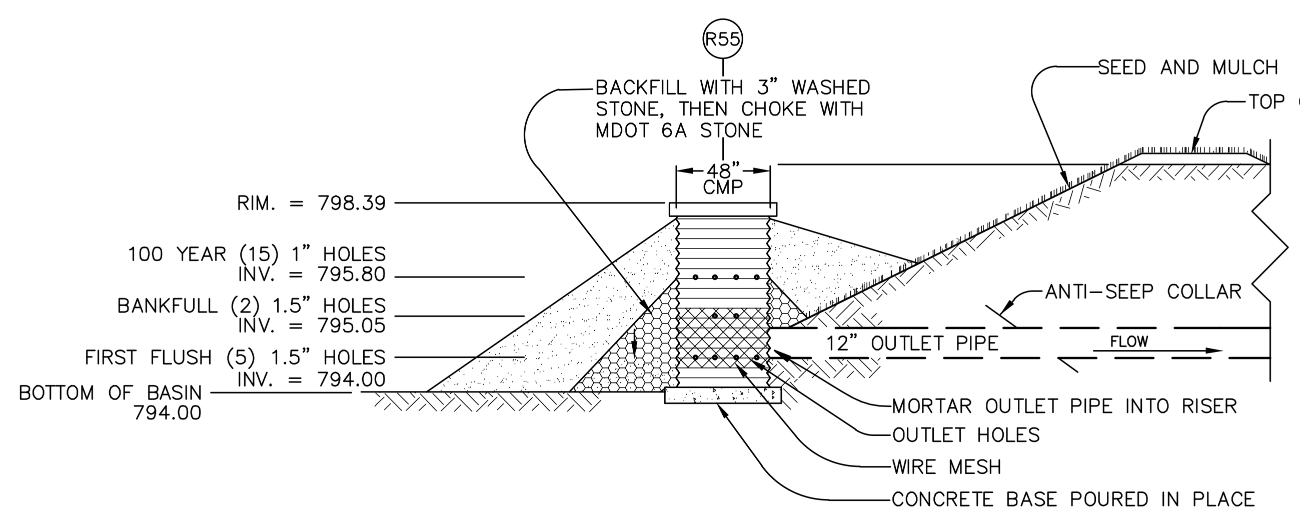
DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 34	

K:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787FSP-09-SW.DWG 1/22/2019 11:18 AM CHRIS ROTHHAAR

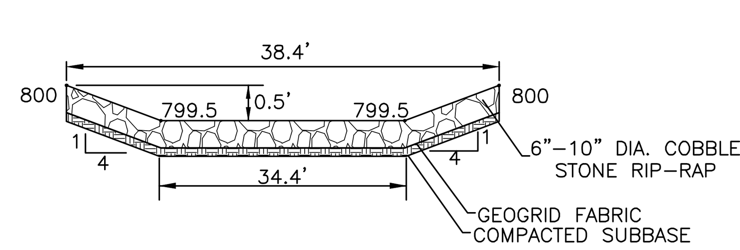




BASIN 3 OUTLET
VERT: 1"=5'
HORZ: 1"=50'



BASIN 3 OUTLET STRUCTURE DETAIL
NO SCALE



BASIN 1 OVERFLOW WEIR
NO SCALE

BASIN 3

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 11.0 Acres
Total Disturbed Area = 11.0 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Pavement, rooftops	D	90,120	2.07	0.95	85,614
Water Surfaces (bankfull in basin)	D	28,480	0.65	1.00	28,480
Developed Open Space, Good Condition	D	360,560	8.28	0.50	180,280
				Total - Sum (c)(Area) =	294,374
				Area Total (sf)=	479,160
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	0.61

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed Open Space, Good Condition	D	360,560	8.28	80	28,844,800
			0.00		0
			0.00		0
	Total - Sum (CN)(Area) =				28,844,800
	Area Total - Sum(ac) of Sum(sf)=				360,560
	Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=				80

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Pavement, rooftops	D	90,120	2.07	98	8,831,760
Water Surfaces (bankfull in ponds)	D	28,480	0.65	98	2,791,040
			0.00		0
	Total - Sum (CN)(Area) =				11,622,800
	Area Total - Sum(ac) of Sum(sf)=				118,600
	Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=				98

W2 First Flush Runoff Calculations (Vff)

A.	Vff = (1") (1/12) (43560/1) (C) AC =		**24,357**	cf

W3 Predevelopment Bankfull Runoff Calculations (Vbf-pre)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN *(meadow, Type D soils)*	CN =	78	
C.	S = (1000/CN)-10	S =	2.82	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.69	in
E.	Pervious Cover Area	Area =	479,160	sf
F.	V_{bf-pre} = Q(1/12)Area	V_{bf-pre} =	**27,647**	cf

W4 Pervious Cover Post-development Bankfull Runoff Calculations (Vbf-per-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN	CN =	80	
C.	S = (1000/CN)-10	S =	2.50	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.79	in
E.	Pervious Cover Area	Area =	360,560	sf
F.	$V_{bf-per-post}$ = Q(1/12)Area	$V_{bf-per-post}$ =	**23,640**	cf

W5 Impervious Cover Post-development Bankfull Runoff Calculations (Vbf-imp-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Impervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.12	in
E.	Pervious Cover Area	Area =	118,600	sf
F.	$V_{bf-imp-post}$ = Q(1/12)Area	$V_{bf-imp-post}$ =	**20,969**	cf

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	80	
C.	S = (1000/CN)-10	S =	2.50	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.99	in
E.	Pervious Cover Area	Area =	360,560	sf
F.	$V_{100-imp-post}$ = Q(1/12)Area	$V_{100-imp-post}$ =	**89,811**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	118,600	sf
F.	$V_{100-imp-post}$ = Q(1/12)Area	$V_{100-imp-post}$ =	**48,161**	cf

W8 Determine Time of Concentration (Tc-hrs)

User specified; assume 30 minutes — Total Time of Concentration (hrs) = 0.50

W9 Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets

V_{ff} =	**24,357**	cf*			
V_{bf-pre} =	27,647	cf			
$V_{bf-per-post}$ =	23,640	cf	**Total BF Volume ($V_{bf-post}$)**		
$V_{bf-imp-post}$ =	20,969	cf		44,609	cf
$V_{100-per-post}$ =	89,811	cf	**Total 100-year Volume (V_{100})**		
$V_{100-imp-post}$ =	48,161	cf		137,972	cf

B. Determine Onsite Infiltration Requirement

$V_{bf-post}$ =	44,609	cf
V_{bf-pre} =	27,647	cf
Bankfull Volume Difference =	**16,962**	cf*

Onsite Infiltration Requirement (V_{inf}) = **24,357** cf

W10 Detention / Retention Requirement

A.	Q_p = 238.6 (T_c) ^ -0.82	421.23	cfs/in-mi^2
B.	Total Site Area	11	ac
C.	$Q_{100} = Q_{100-per} + Q_{100-imp}$	7.86	in
D.	Peak Flow (PF) = (Q_p*Q_{100}*A)/640	56.920	cfs
E.	Delta = PF - 0.15A	55.270	cfs
F.	V_{det} = (Delta/PF) x V_{100}	**133,973**	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate	Infil. During Storm (ft³)	Total Volume Reduction (ft³)
Infiltration Basin	0	0.0	0	0.0	0	0

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **0** cf

Proposed BMP	Ave. Design Infil. Rate (ft/hr)*	Volume Rate (cf/hr)	Estimated Drawdown Time (hrs)
Infiltration Basin	0.0000	0	#DIV/0!

W12 Infiltration / Detention Summary

Total Infiltration Required per WCWRC Rules:	24,357	cf
Total Infiltration Provided:	0	cf
Difference:	(24,357)	cf
% Deficiency:	100.0%	
Pro-Rated 20% Detention Penalty:	**0.0%**	(Provided in Basin 1)
Total Detention Required	133,973	cf
Total Detention Required w/ Pro-Rated Penalty	**133,973**	cf

Basin Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume	
800.0	48,250	45,773	1.0	204,520	
799.0	43,295	40,898	1.0	158,748	
798.0	38,500	36,175	1.0	117,850	
797.0	33,850	31,600	1.0	81,675	
796.0	29,350	27,175	1.0	50,075	
795.0	25,000	22,900	1.0	22,900	
794.0	20,800	0	0.0	0	Detention

Total Detention Provided:	**204,520**	cf
Vff Elev.=	795.05	
Vbf Elev.=	795.80	
V100 Elev.=	798.39	

Forebay Sizing

Required Volume (Vfb)=0.05*V100 — **6,899** cf

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
795.0	20,806	19,508	1.0	19,508
794.0	18,209			

Outlet Control Structure Sizing

1. Standpipe outlet holes sizing - "first flush" runoff
First Flush discharge should be released from in 24 hours

Qff = Vff / 24 hrs / 3600 sec	Qff=	0.282	cfs	
hff(ave) = 2/3 x (Xff - Xo)	hff(ave) =	0.702	ft	
Aff(required) = Qff / 0.62 x sqrt(2*32.2*h)	A(required) =	0.068	sf	
Selected Orifice Diameter =		**1.5**	in	
Area of each orifice =		0.012	sf	
Number of orifice holes required =	=	**5**	**holes at elev.**	**794.00**

Check First Flush discharge release time

Aff(actual) =	0.0614	ft²	
Qff = A x 0.62 x sqrt(2*32.2*h) =	0.2559	cfs	
Tff = Vff / (Qff x 3600)	26.4	hrs	O.K.

2. Standpipe outlet holes sizing - "Bankfull flood" discharge
Bankfull should discharge within 36 to 48 hours

Check release from first flush holes only

hbf(ave) = 2/3 x (Xbf - Xo)	hbf(ave) =	1.199	ft
Qbf = A x 0.62 x sqrt(2*32.2*h) =	Qbf =	0.334	cfs
Tbf = Vbf / (Qbf x 3600) =	Tbf =	37.1	hrs

Add holes at to decrease storage time

The first flush volume will discharge in Tff	=	26.4	hrs	
Additional volume between Xbf and Xff = Vbf - Vf	=	20,252	cf	
Target Bankfull Discharge Time =		38.0	hrs	
Vbf = Target Discharge Time - Tff	=	11.6	hrs	
Qbf - Qff = (Vbf - Vff) / ((42-Tff) x 3600)	=	0.49	cfs	
Hff=(2/3)(Xbf-Xff)+(Xff-Xo)	=	1.55	ft	
$Q_1=A_{ff}(.62)(SQRT(2gh)$	=	0.38	cfs	
$V_1=T_{rem}Q_1$	=	15,817	cf	
$V_2=V_{rem}-V_1$	=	4,435		
$Q_2=V_2/T_{rem}$	=	0.11	cfs	
$H_{bf}=(2/3)(X_{bf}-X_{ff})$	=	0.50		
A_{bf}(required)	=	0.030	sf	
Selected Orifice Diameter =		**1.5**	in	
Area of each orifice =		0.0123	sf	
Number of orifice holes required =	=	**2**	**holes at elev.**	**795.05**

3. Standpipe outlet holes sizing - "100-yr flood" discharge

Q100 = Qa = 0.15 x Drainage Area	Q100 =	1.650	cfs	
Release from above holes				
hff = (Xprovided-Xo)	hff =	4.394	ft	
hbf = (Xprovided-Xff)	hbf =	3.341	ft	
Q = A x 0.62 x sqrt(64.4*hff) + A x 0.62 x sqrt(64.4*hbf) =		0.863	cfs	
Remaining flow =	Q100-Q=	0.787	cfs	
A = Q100 /(.62 x sqrt(2*32.2*h))	A(required) =	0.087	sf	
Selected Orifice Diameter =		**1**	in	
Area of each orifice =		0.0055	sf	
Number of orifice holes required =	=	**15**	**holes at elev.**	**795.80**

4. Riser Outlet Pipe Design
Outlet pipe designed to handle the 100-year restricted flow

100-year restricted flow =	Q =	0.86	cfs
Choose outflow pipe diameter =	d =	**12**	in
Choose outflow pipe slope =	S =	**0.44**	%
Assume roughness factor	n =	0.013	
Flow velocity at 100-yr restricted flow (Mannings	V =	3.01	fps
Design Pipe Capacity =	=	2.36	cfs

Basin Overflow Weir

Drainage Area, A =	11.0 ac	
C-Factor (C) =	0.61	
Time of Conc. (T) =	20 min	
Intensity (I)	6.11 in/hr	I = 275/(T+25)
Design Flow (Q) =	41.01 cfs	C x I x A
Weir Coef (C)=	3.367	
Invert of Weir =	**799.5** ft	
Height of Weir (H) =	0.5 ft	
Min. Width of Weir (B) =	**34.4** ft	
L = Q/(C x H^(3/2))		

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
BASIN 3 DESIGN

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
35

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- EXIST. UNSPECIFIED UTILITIES
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET

811

Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

DRAINAGE AREA PLAN

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 50 100
1" = 100 FEET

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
36

TEMPORARY STORMWATER MAINTENANCE TASKS AND SCHEDULE

TASKS	COMPONENTS							SCHEDULE
	Storm Sewer System	Catch Basin Inlet Filters	Silt Fence	Ditches and Swales	Outflow Control Structure	Rip-Rap	Detention/ Infiltration Basins	
Inspect for sediment, floatables, and debris	X	X	X	X	X	X	X	Weekly / Within 24 hrs after a Rain Event
Removal of sediment, floatables, and debris	X	X	X	X	X	X	X	As Needed
Inspection for erosion				X	X	X	X	Weekly / Within 24 hrs after a Rain Event
Re-establish permanent vegetation on eroded slopes				X	X	X	X	As needed
Replacement of stone					X			At turnover

NOTE: "As Needed" refers to when sediment has accumulated to a maximum of one foot depth and/or visually apparent debris exists

PERMANENT STORMWATER MAINTENANCE TASKS AND SCHEDULE

TASKS	COMPONENTS					SCHEDULE	Annual Cost
	Storm Sewer System	Ditches and Swales	Outflow Control Structure	Pond Outlet & Rip-Rap	Detention/ Infiltration Basins		
Inspect for sediment, floatables, and debris	X	X	X		X	Annually	$ 600.00
Removal of sediment, floatables, and debris	X	X	X		X	As Needed	$ 1,400.00
Inspection for erosion		X	X	X	X	Quarterly	$ 300.00
Re-establish permanent vegetation on eroded slopes		X	X	X	X	As needed	$ 500.00
Replacement of stone		X	X	X		As Needed	$ 700.00
Mowing		X				1-2 times per year	$ 400.00
Inspect Stormwater system components during wet weather and compare to as-built plans	X	X	X	X	X	Annually	$ 400.00
Make adjustments as determined by annual inspection	X	X	X	X	X	As needed	$ 500.00
						Total Cost=	$ 4,800.00

Note: Stormwater maintenance is the responsibility of the home owners association.
NOTE: "As Needed" refers to when sediment has accumulated to a maximum of one foot depth, visually apparent debris exists, or if either of the stormwater management basins do not drain within 48-72 hours after a rain event
NOTE: No chemicals are allowed in stormwater features or buffer zones with the following exception:
Invasive species may be treated with chemicals by a certified applicator.
NOTE: The Infiltaration basin shall be inspected following storms of 1" or more.

NOTES

1. CURB DEFLECTORS SHALL BE USED IN THE SILT SACKS FOR CURB STYLE CATCH BASINS

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND
- EXIST. TREE
- EXIST. WETLAND BUFFER
- EXIST. OVERHEAD ELEC. LINE
- EXIST. OVERHEAD TELE. LINE
- EXIST. CABLE LINE
- EXIST. UNSPECIFIED UTILITIES
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ASHPALT
- PROP. LOT LINE
- PROP. PARKING STRIPE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE WITH TREE PROTECTION FENCE IN TREE AREAS
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
SOIL EROSION AND SEDIMENT CONTROL PLAN

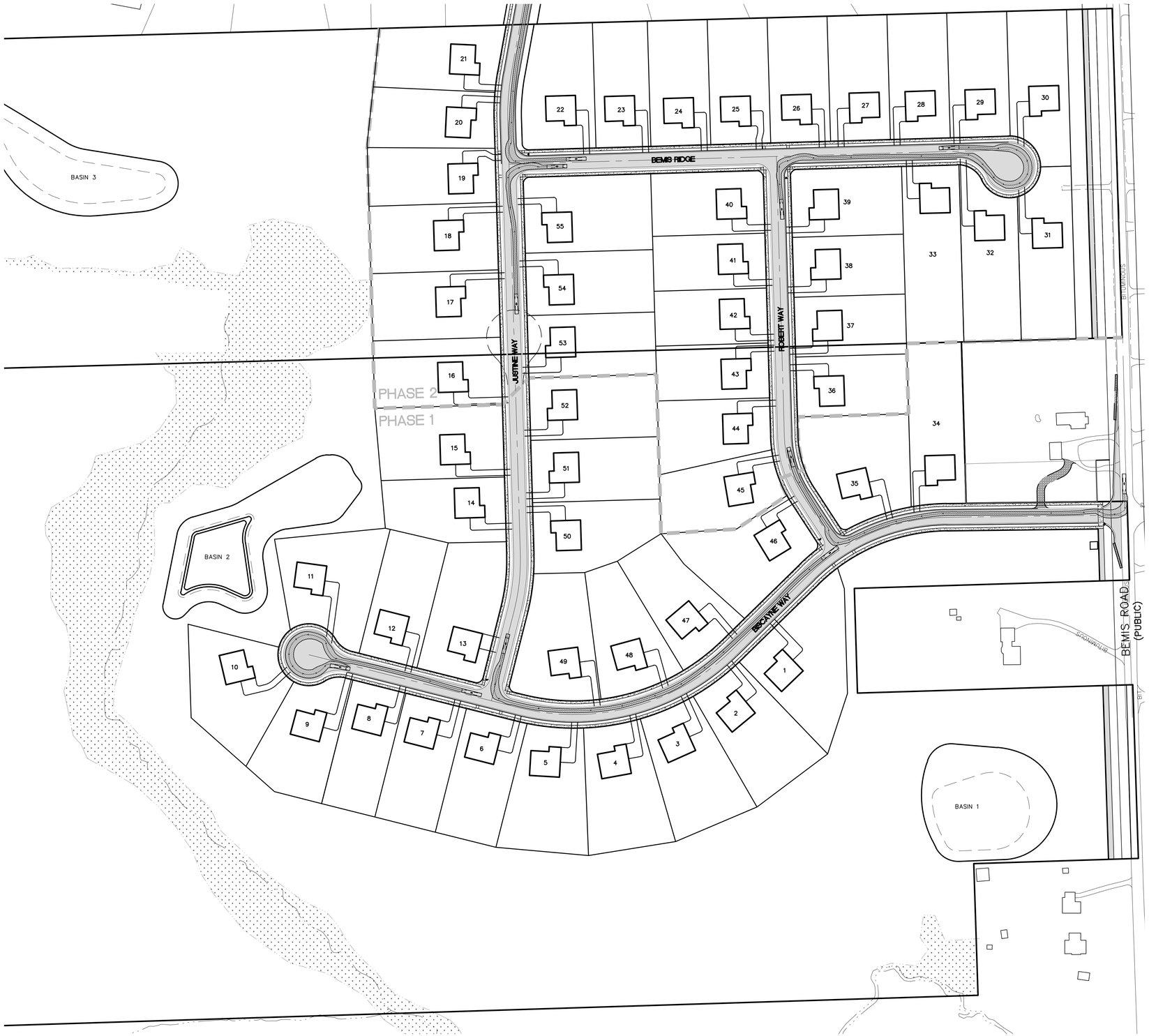
DATE
MARCH 14, 2018

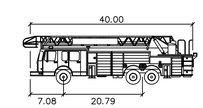
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 50 100
1" = 100 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 37	





T–2 Fire Truck feet

Width	: 6.90
Track	: 6.90
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

T–2 FIRETRUCK DETAIL

NOT TO SCALE

NOTES:

PROPOSED BUILDINGS WILL BE ONE OR TWO STORY SINGLE FAMILY HOMES.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES FINAL SITE PLAN

FIRE PROTECTION PLAN

DATE
MARCH 14, 2018

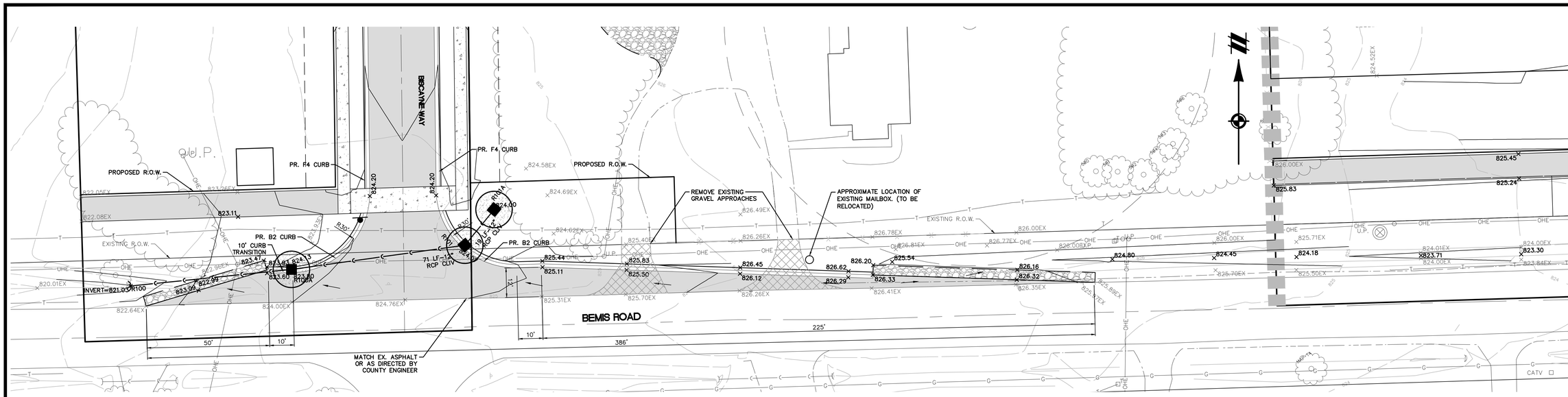
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

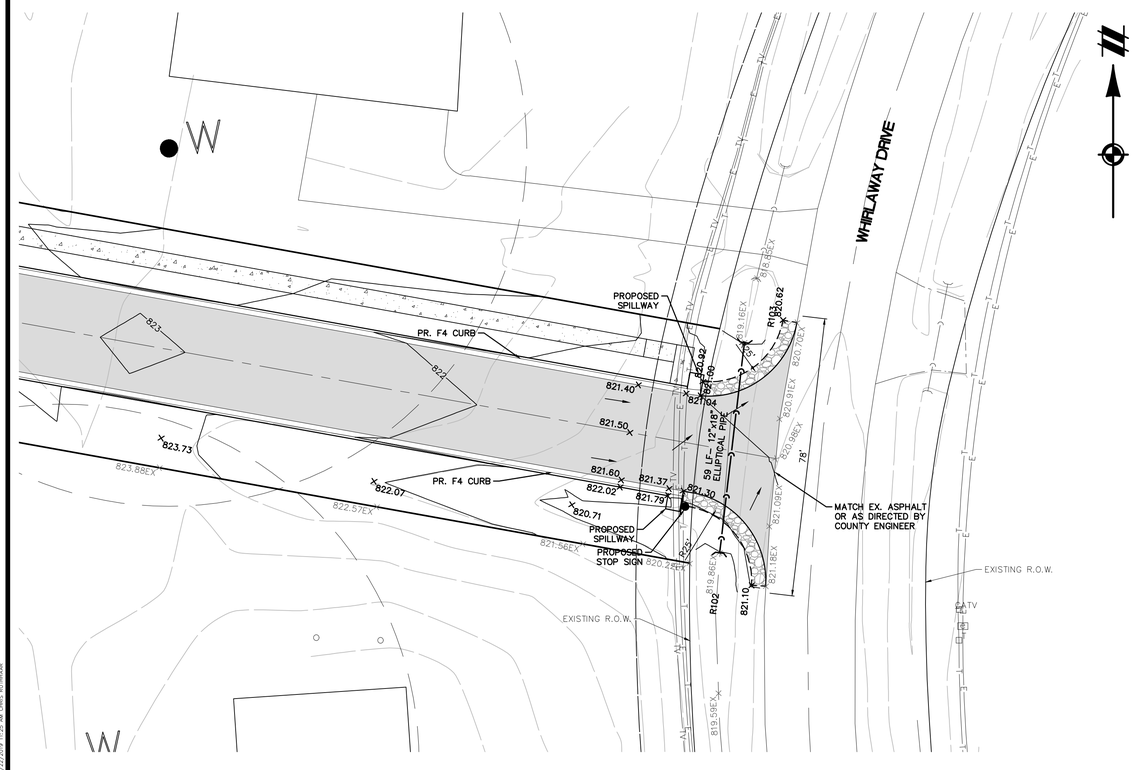
REVISIONS

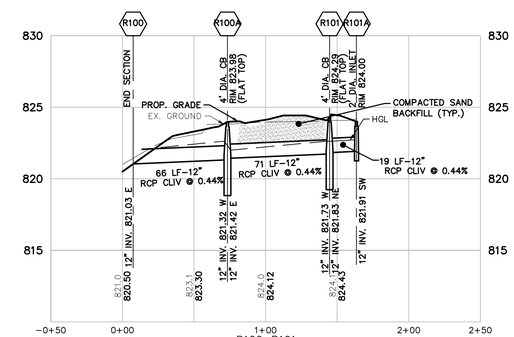
SCALE 0 50 100
1" = 100 FEET

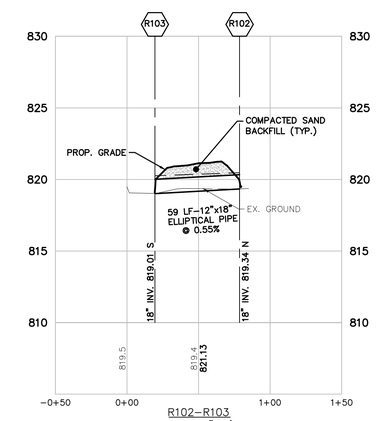
DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 38	

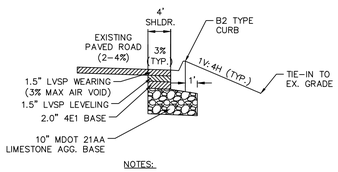
A:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE FINAL\16002787SP-11-FP.DWG 1/22/2019 11:52 AM CHRIS SCHWAUB









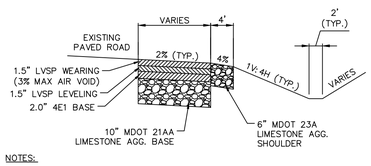


NOTES:

1. REFER TO CURRENTLY APPROVED WCRC HMA MIX DESIGNS AND BINDER REQUIREMENTS
2. ALL HMA SHALL LIMIT RAP TO 25%

TYPICAL PAVEMENT WIDENING CROSS-SECTION (WITH CURB)

NOT TO SCALE

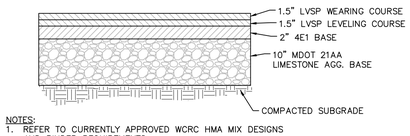


NOTES:

1. REFER TO CURRENTLY APPROVED WCRC HMA MIX DESIGNS AND BINDER REQUIREMENTS
2. ALL HMA SHALL LIMIT RAP TO 25%

TYPICAL PAVEMENT WIDENING CROSS-SECTION (NO CURB)

NOT TO SCALE



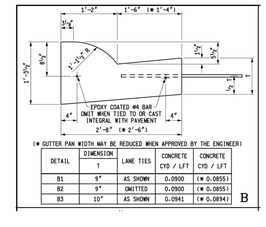
NOTES:

1. REFER TO CURRENTLY APPROVED WCRC HMA MIX DESIGNS AND BINDER REQUIREMENTS
2. THE HMA THICKNESS SHALL MATCH THE EXISTING HMA THICKNESS IF GREATER THAN 5"

R.O.W. ASPHALT PAVING SECTION

(FOR PAVEMENT WITHIN COUNTY ROW)

NOT TO SCALE



(* GUTTER PAN WIDTH MAY BE REDUCED WHEN APPROVED BY THE ENGINEER)

DETAIL	DIMENSION T	LANE TIES	CONCRETE CYD / LFT	CONCRETE CYD / LFT
B1	9"	AS SHOWN	0.0900	(* 0.0855)
B2	9"	OMITTED	0.0900	(* 0.0855)
B3	10"	AS SHOWN	0.0941	(* 0.0894)

GENERAL NOTES

1. ANY DAMAGE TO THE PUBLIC ROAD DURING THE CONSTRUCTION OF THE PROJECT SHALL REQUIRE AT A MINIMUM THE CONTRACTOR TO MILL OFF THE ENTIRE TRAVEL LANE OF WHERE THE DAMAGE OCCURRED AND RESURFACE THE ROADWAY'S 1.5-INCHES HMA TOP COURSE AT THE DIRECTION OF THE WCRC.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE
- PROP. WALK
- PROP. ASPH.
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. SIGN

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

ROW IMPROVEMENT PLAN

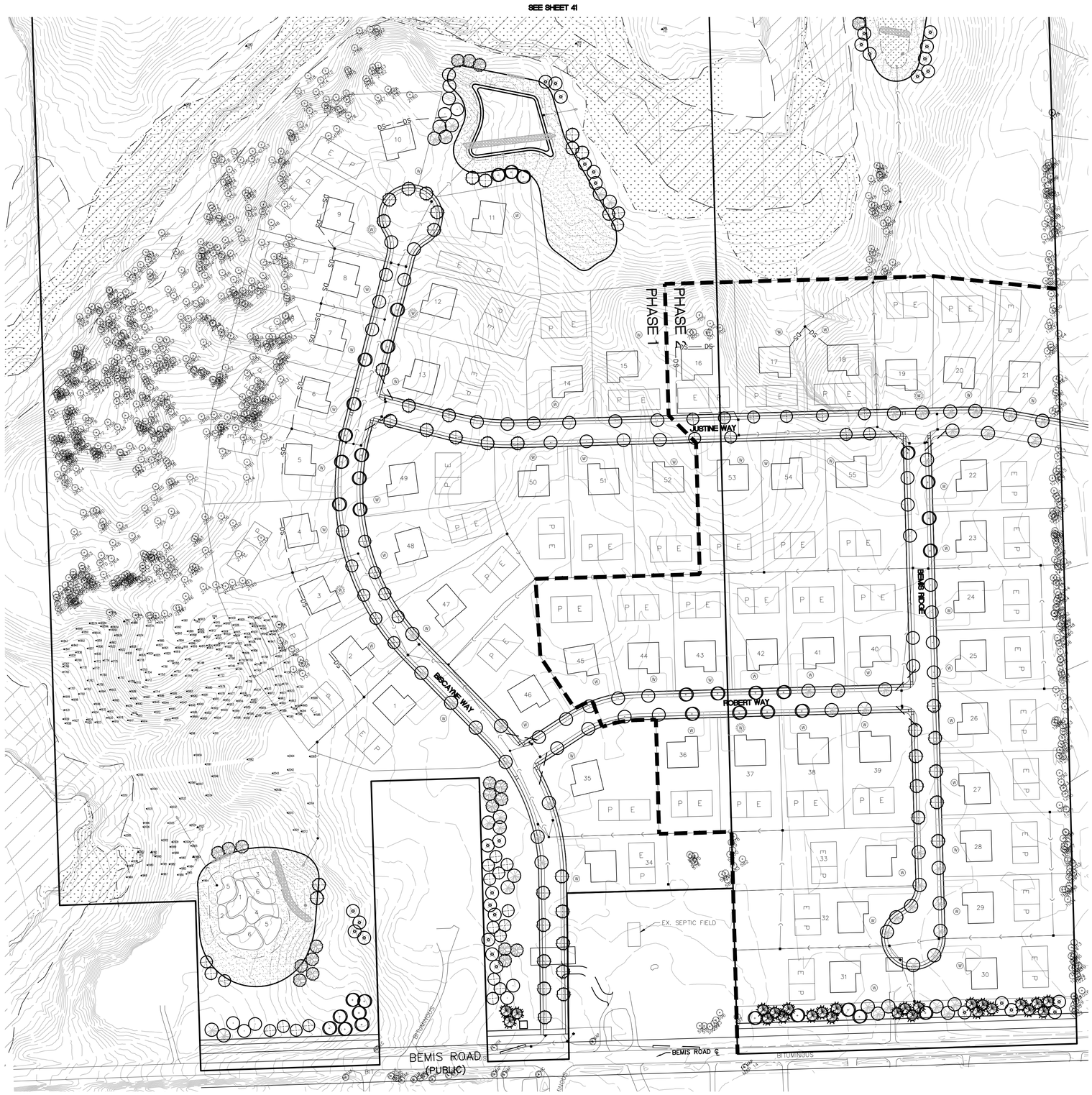
DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 10 20
1" = 20 FEET

DR. CR CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO. 39



LANDSCAPE LEGEND

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
	50	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	2 1/2" CAL. B&B
	29	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2" CAL. B&B
	44	NYSSA SYLVATICA	BLACK GUM	2 1/2" CAL. B&B
	53	OSTRYA VIRGINIANA	HOPHORNBEAM	2 1/2" CAL. B&B
	25	PICEA GLAUCA	BLACK HILLS SPRUCE	2 1/2" CAL. B&B
	34	QUERCUS ROBUR 'CRIMSON SPIRE'	CRIMSON SPIRE ENGLISH OAK	2 1/2" CAL. B&B
	40	TILIA CORDATA	LITTLE LEAF LINDEN	2 1/2" CAL. B&B
	37	ZELKOVA SERRATA	JAPANESE ZELKOVA	2 1/2" CAL. B&B

LANDSCAPE NOTES

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES.
2. LANDSCAPING OPERATIONS, INCLUDING PLANTING OF TREES AND SHRUBS, SHALL NOT DAMAGE ANY UTILITY OR INTERRUPT ANY UTILITY SERVICE, AND SHALL NOT DAMAGE OR CREATE A NUISANCE AFFECTING ADJACENT PROPERTY, PUBLIC STREETS, OR SIDEWALKS.
3. PLANT AND GRASS MATERIALS SHALL BE INSTALLED ACCORDING TO GENERALLY ACCEPTED PLANTING PROCEDURES & PITTSFIELD TOWNSHIP REQUIREMENTS.
4. OPEN OR OTHERWISE DISTURBED AREAS THAT ARE NOT SPECIFIED WITH OTHER PLANTING, PAVING OR SEED MIXTURES SHALL BE PLANTED WITH A STANDARD PERMANENT GRASS SEED MIXTURE TO INDUSTRY STANDARDS.
5. LANDSCAPING MATERIALS THAT ARE UNSIGHTLY, DEAD, DYING, OR THAT BECOME UNHEALTHY BECAUSE OF DAMAGE, NEGLECT, DRAINAGE PROBLEMS, DISEASE, INSECT INFESTATION, OR OTHER CAUSES SHALL BE REPLACED WITHIN ONE YEAR, OR THE NEXT PLANTING PERIOD, WHICHEVER OCCURS FIRST. REPLACEMENT MATERIALS SHALL MEET ALL STANDARDS OF THE ORIGINAL INSTALLATION.
6. THE PROPERTY OWNER (OR ANY APPLICABLE OWNER'S ASSOCIATION) SHALL BE RESPONSIBLE TO ENSURE THE PROPER CARE AND MAINTENANCE OF LANDSCAPE AREAS, INCLUDING KEEPING ALL LANDSCAPE MATERIALS IN A HEALTHY AND GROWING STATE. ALL LANDSCAPE ELEMENTS SUCH AS, BUT NOT LIMITED TO, FENCES, SCREENS, WALLS, OR LIGHTING SHALL BE KEPT IN GOOD REPAIR.
7. NO PLANT MATERIAL SHALL BE PLANTED CLOSER THAN 4 FEET FROM ANY PROPERTY LINE.
8. REMOVE ALL TWINE, WIRE, NURSERY GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALL. PEEL BACK THE BURLAP FROM EARTH BALLS AND REMOVE ANY BURLAP, TWINE OR WIRE AROUND THE TRUNK FLARE AND ABOVE.
9. ALL PLANTING AREAS ARE TO BE EXCAVATED OF ALL BUILDING / CONSTRUCTION AND FILL MATERIALS AND BACKFILLED WITH GOOD MEDIUM TEXTURED PLANTING SOIL.
10. RECOMMENDED PLANTING DATES ARE MARCH 15 TO JUNE 15 AND SEPTEMBER 15 TO NOVEMBER 15.

LANDSCAPE REQUIREMENTS

1. STREET TREES:
   - 2 PER LOT OR A MAXIMUM OF 50' ON CENTER =142 TOTAL

2. GREENBELT BUFFER:
   - 1 TREE PER 50 LF FRONTAGE ON BEMIS ROAD
   - 1248'/50 = 25 TREES

4. REPLACEMENT TREES
   - 415" DBH TOTAL HERITAGE TREES REMOVED
   - 415"/3" CAL = 139 REPLACEMENT TREES

TOTAL TREES REQUIRED: 306
TOTAL TREES PROVIDED: 312

STATE OF MICHIGAN
KATHRYN BONZ
Landscape Architect
No. 1266
REGISTERED LANDSCAPE ARCHITECT

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
LANDSCAPE PLAN AREA 1

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 50 100
1" = 100 FEET

DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 40	

SEE SHEET 40

LANDSCAPE LEGEND

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
	50	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	2 1/2" CAL. B&B
	29	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2" CAL. B&B
	44	NYSSA SYLVATICA	BLACK GUM	2 1/2" CAL. B&B
	53	OSTRYA VIRGINIANA	HOPHORNBEAM	2 1/2" CAL. B&B
	25	PICEA GLAUCA	BLACK HILLS SPRUCE	2 1/2" CAL. B&B
	34	QUERCUS ROBUR 'CRIMSON SPIRE'	CRIMSON SPIRE ENGLISH OAK	2 1/2" CAL. B&B
	40	TILIA CORDATA	LITTLE LEAF LINDEN	2 1/2" CAL. B&B
	37	ZELKOVA SERRATA	JAPANESE ZELKOVA	2 1/2" CAL. B&B

LIVE PLANTING LIST LEGEND

		DETENTION PONDS	QTY.
1	NODDING WILD ONION ALLIUM CERNUUM PLANTED 24" O.C.	1,565 SF	783
2	BLACK EYED SUSAN RUDBECKIA HIRTA PLANTED 24" O.C.	1,924 SF	962
3	JOE PYE WEED EUTROCHIUM PURPUREUM PLANTED 24" O.C.	1,517 SF	759
4	PURPLE CONEFLOWER ECHINACEA PURPUREA PLANTED 24" O.C.	2,008 SF	1,004
5	BLUE FLAG IRIS IRIS VERSICOLOR PLANTED 24" O.C.	3,295 SF	1,648
6	NEW ENGLAND ASTER ASTER NOVAE-ANGLIAE PLANTED 24" O.C.	3,921 SF	1,961

SEED MIXES

Detention Basin Side Slope Seed Mix

Botanical Name	Common Name
Permanent Grasses:	
Andropogon gerardii	Big Bluestem
Bouteloua curtipendula	Side Oats Grama
Carex spp.	Prairie Sedge Mix
Elymus canadensis	Canada Wild Rye
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Bluestem
Sorghastrum nutans	Indian Grass
Temporary Cover:	
Avena sativa	Common Oat
Lolium multiflorum	Annual Rye
Forbs:	
Asclepias syriaca	Common Milkweed
Asclepias tuberosa	Butterfly Weed
Chamaecrista fasciculata	Partridge Pea
Coreopsis lanceolata	Sand Coreopsis
Echinacea purpurea	Broad-leaved Purple Coneflower
Heliopsis helianthoides	False Sunflower
Lupinus perennis	Wild Lupine
Monarda fistulosa	Wild Bergamot
Penstemon digitalis	Foxglove Beard Tongue
Pycnanthemum virginianum	Common Mountain Mint
Ratibida pinnata	Yellow Coneflower
Rudbeckia hirta	Black-Eyed Susan
Solidago speciosa	Showy Goldenrod
Symphyotrichum laeve	Smooth Blue Aster
Symphyotrichum novae-angliae	New England Aster

PLANTING RATE PER ACRE: 10 LBS

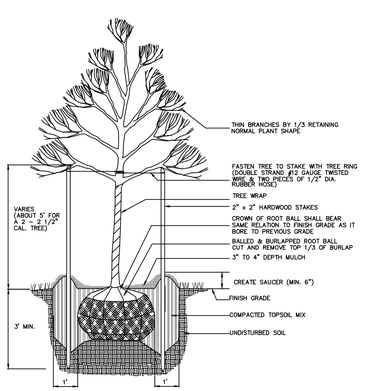
133,494 SF (3.1 AC) SEED MIX

Stormwater Basin Bottom Mix

Botanical Name	Common Name
Permanent Grasses/Sedges/Rushes:	
Bolboschoenus fluviatilis	River Bulrush
Carex cristatella	Crested Oval Sedge
Carex lurida	Bottlebrush Sedge
Carex vulpinoidea	Brown Fox Sedge
Elymus virginicus	Virginia Wild Rye
Glyceria striata	Fowl Manna Grass
Juncus effusus	Common Rush
Leersia oryzoides	Rice Cut Grass
Panicum virgatum	Switch Grass
Schoenoplectus tabernaemontani	Softstem Bulrush
Scirpus atrovirens	Dark Green Rush
Scirpus cyperinus	Wool Grass
Temporary Cover:	
Avena sativa	Common Oat
Lolium multiflorum	Annual Rye
Forbs & Shrubs:	
Alisma spp.	Water Plantain (Various Mix)
Asclepias incarnata	Swamp Milkweed
Bidens spp.	Bidens (Various Mix)
Helenium autumnale	Sneezeweed
Iris virginica	Blue Flag
Lycopus americanus	Common Water Horehound
Mimulus ringens	Monkey Flower
Oligoneuron riddellii	Riddell's Goldenrod
Penthorum sedoides	Ditch Stonecrop
Polygonum spp.	Pinkweed (Various Mix)
Rudbeckia subtomentosa	Sweet Black-Eyed Susan
Rudbeckia triloba	Brown-Eyed Susan
Sagittaria latifolia	Common Arrowhead
Senna hebecarpa	Wild Senna
Symphyotrichum novae-angliae	New England Aster
Thalictrum dasycarpum	Purple Meadow Rue

PLANTING RATE PER ACRE: 10 LBS

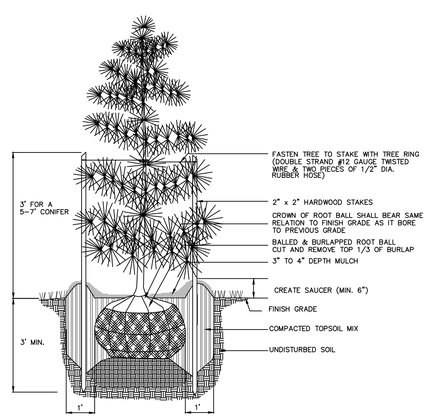
28,268 SF (0.65 AC) SEED MIX



NOTES:

1. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
2. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKE
3. REMOVE TREE RINGS, TREE WRAP AND STAKES TWO YEARS AFTER INSTALLATION
4. WATER TREE THOROUGHLY SUBSEQUENT TO INSTALLATION

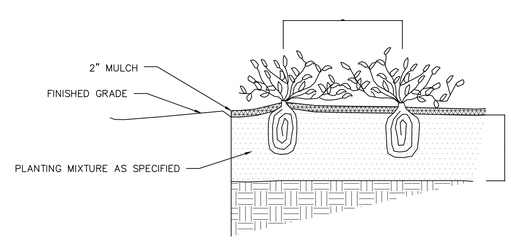
DECIDUOUS TREE PLANTING DETAIL
BALLED AND BURLAPPED
NO SCALE



NOTES:

1. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
2. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKE
3. REMOVE TREE RINGS AND STAKES TWO YEARS AFTER INSTALLATION
4. WATER TREE THOROUGHLY SUBSEQUENT TO INSTALLATION

CONIFEROUS TREE PLANTING DETAIL
BALLED AND BURLAPPED
NO SCALE



PERRENIAL PLANTING DETAIL
NO SCALE

WCWRC NOTES:

1. PLANTING SOILS MUST BE AMENDED WITH A COMPOSTED ORGANIC MATERIAL. SOILS MUST BE FREE OF CONSTRUCTION DEBRIS AND SUBSOILS. A RECOMMENDED SOIL BLEND INCLUDES 20% TO 30% COMPOST.
2. AT THE TIME OF PLANT AND SEED DELIVERY, A WCWRC LANDSCAPE REVIEWER MUST BE PRESENT. THE QUANTITY AND SPECIES DELIVERED WILL BE REVIEWED ON SITE. CONTACT CATIE WYTYCHAK AT WYTYCHAKC@EWASHTENAW.ORG OR (734)222-6813 TO COORDINATE.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WETLAND BUFFER
- EXIST. WETLAND
- PROP. SETBACK
- PROP. BUILDING
- PROP. BUILDING INTERIOR
- PROP. WALL
- PROP. PARKING STRIPE
- PROP. BACK OF CURB
- PROP. ROAD CENTERLINE

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN
LANDSCAPE PLAN AREA 2

DATE
MARCH 14, 2018

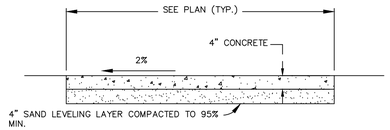
05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 50 100
1" = 100 FEET

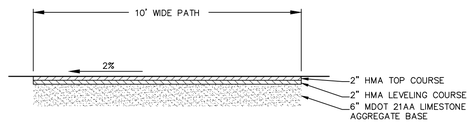
DR. CR	CH. --
P.M. TP	
BOOK --	
JOB 16002787	
SHEET NO. 41	

G:\16002787 - GBC - BEMIS RIDGE\CIVIL\PLAN SETS\SITE-FINAL\16002787PP-02F-LS.DWG 1/22/2019 11:35 AM CHRIS BOTHWELL



CONCRETE SIDEWALK DETAIL

NO SCALE



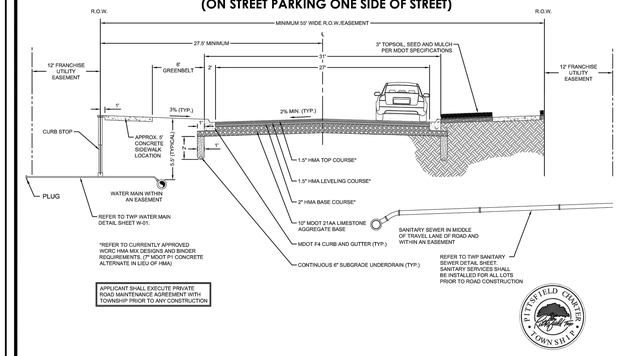
10' ASPHALT PATH

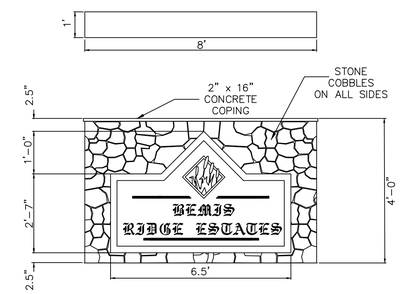
NO SCALE

RESIDENTIAL PRIVATE PAVED SURFACE WITH CURB AND GUTTER CROSS SECTION

55' R.O.W.

(ON STREET PARKING ONE SIDE OF STREET)

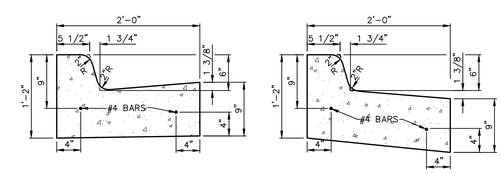




NOTE: FACE OF SIGN TO BE 15' MINIMUM FROM ROAD R/W

ENTRANCE SIGN DETAIL

NO SCALE



PITCH IN CURB

PITCH OUT CURB

NOTE:
BASE AND SUBBASE AGGREGATES TO EXTEND MINIMUM 1'-0" BEHIND BACK OF CURB.

F4 CURB DETAIL

NO SCALE

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY

BEMIS RIDGE ESTATES
FINAL SITE PLAN

DETAIL SHEET

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

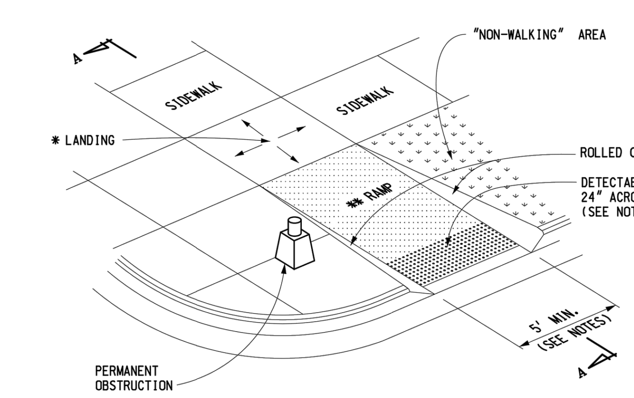
REVISIONS

SCALE 0 50 100
1" = 100 FEET

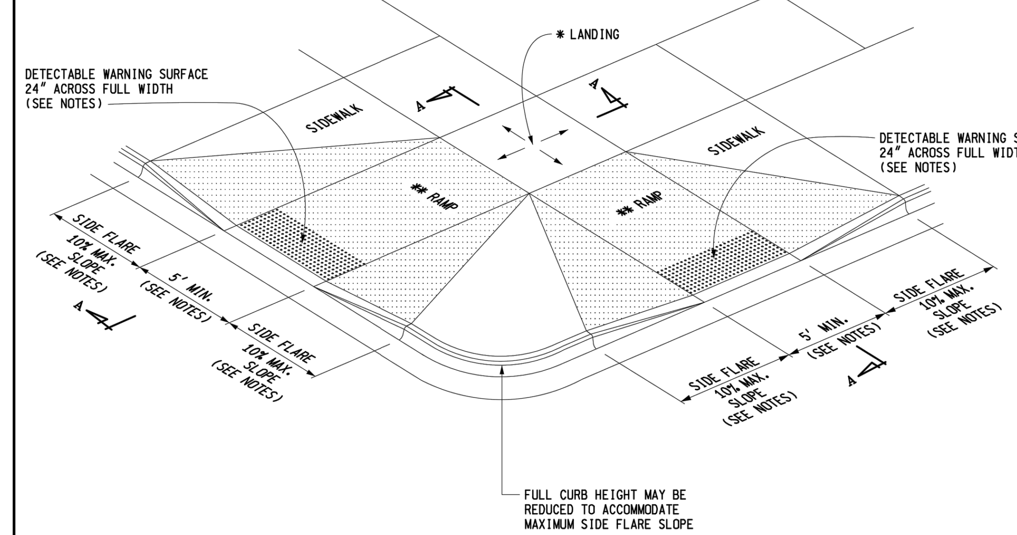
DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
42

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE R
(ROLLED SIDES)



SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)

MDOT
PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.T.
CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: ______ DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: ______ DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

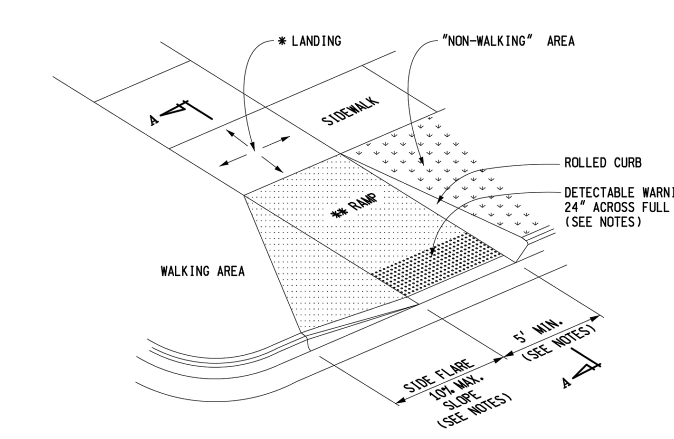
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 1 OF 7

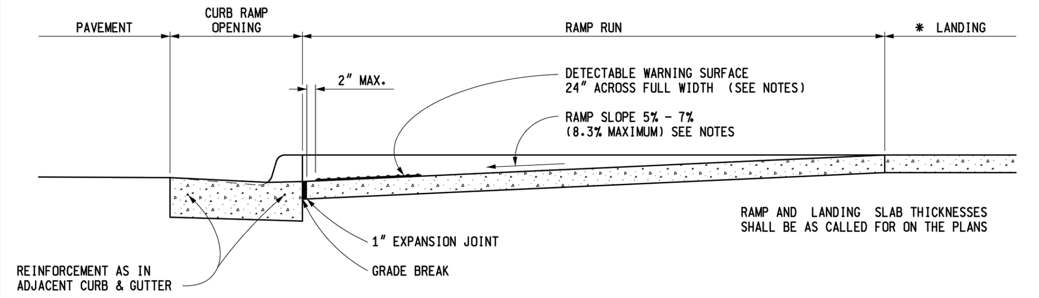
---

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



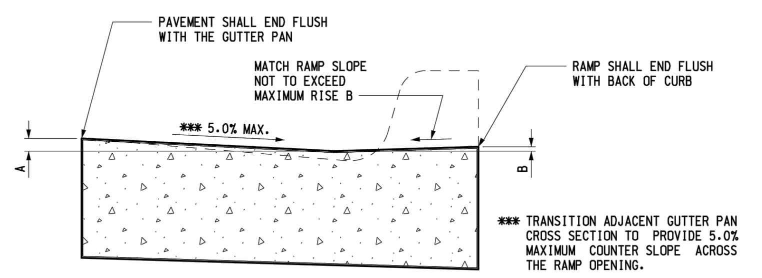
SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A

CURB TYPE	MAXIMUM RISE (INCHES) A	MAXIMUM RISE (INCHES) B
B1	3/4	1
B2	3/4	1
B3	3/4	1
D1	3/4	1
D2	3/4	1
D3	3/4	1
C1	1/2	1/2
C2	1/2	1/2
C3	3/4	1/2
C4	3/4	1/2
C5	1	1/2
C6	1	1/2
F1	1/2	1/2
F2	1/2	1/2
F3	3/4	1/2
F4	3/4	1/2
F5	1	1/2
F6	1	1/2

FOR CURB TYPES SEE STANDARD PLAN R-30-SERIES



SECTION THROUGH CURB RAMP OPENING
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

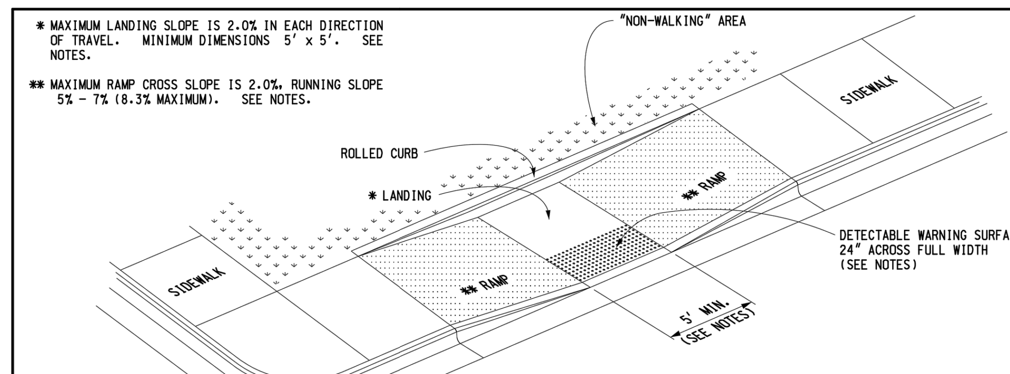
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 2 OF 7

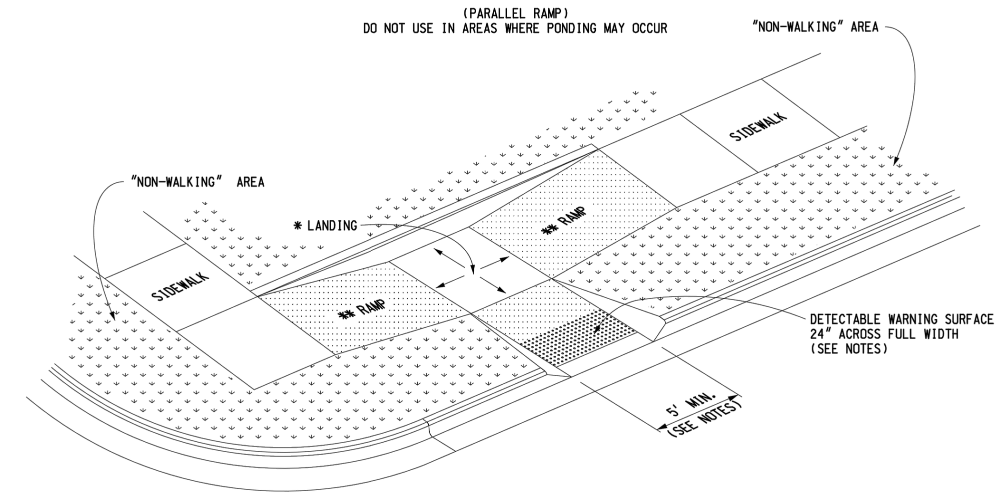
---

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

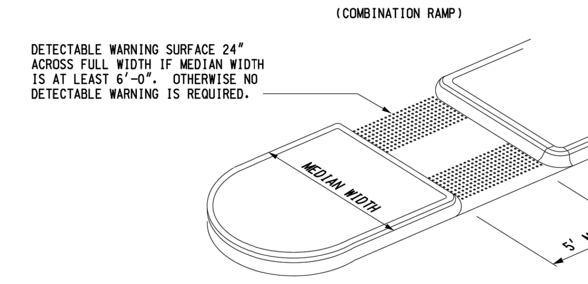
** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE P
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



SIDEWALK RAMP TYPE C
(COMBINATION RAMP)



SIDEWALK RAMP TYPE M
(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

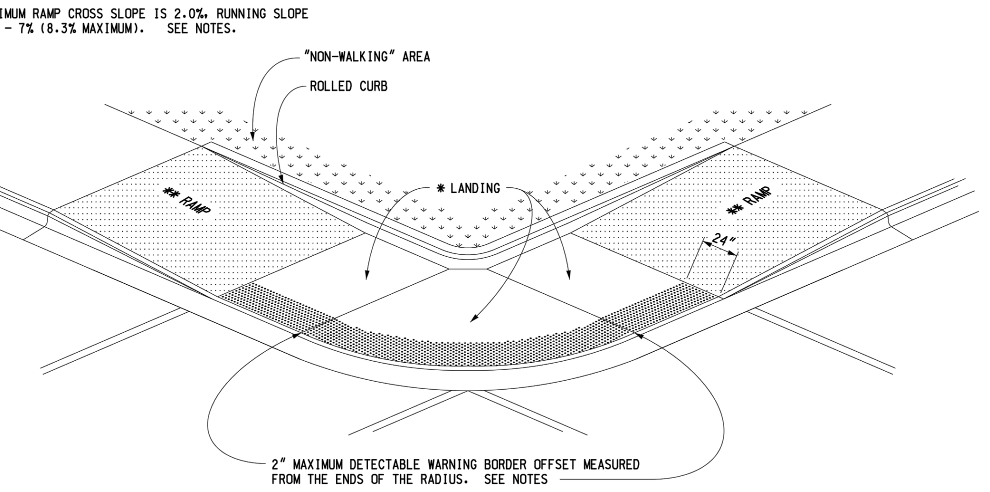
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 3 OF 7

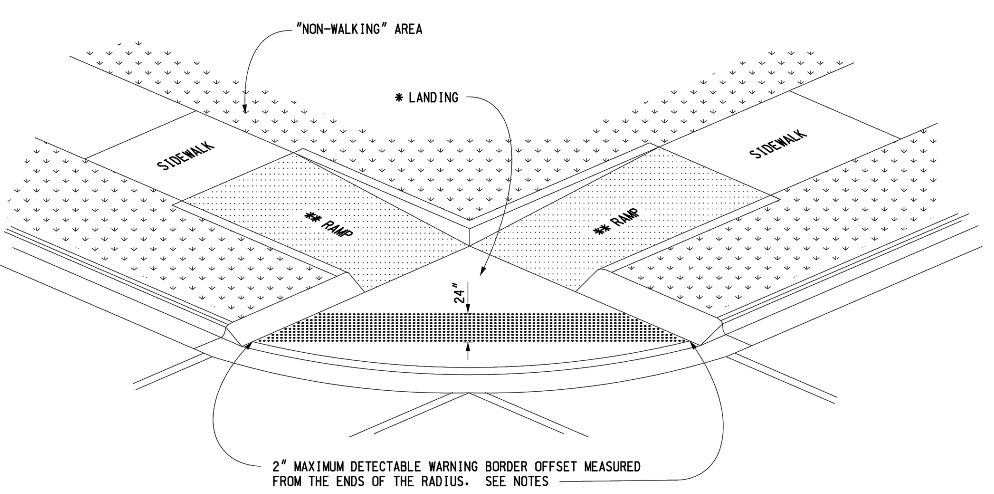
---

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%, RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



(RADIAL DETECTABLE WARNING SHOWN)



(TANGENT DETECTABLE WARNING SHOWN)

SIDEWALK RAMP TYPE D
(DEPRESSED CORNER)
USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

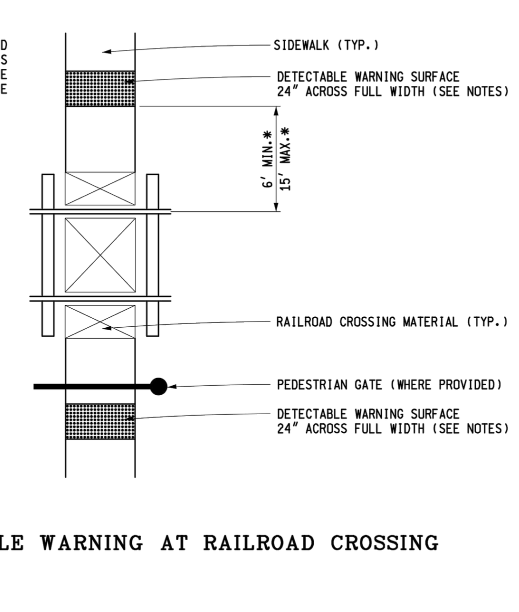
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

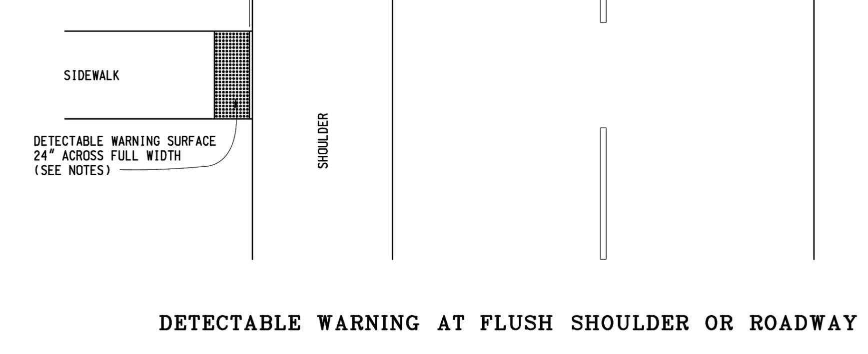
F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 4 OF 7

---

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.



DETECTABLE WARNING AT RAILROAD CROSSING

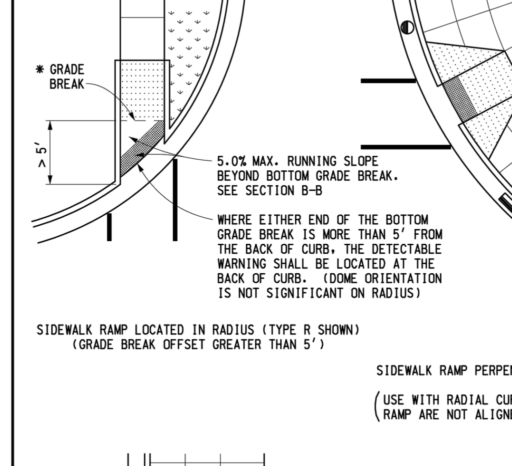


DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

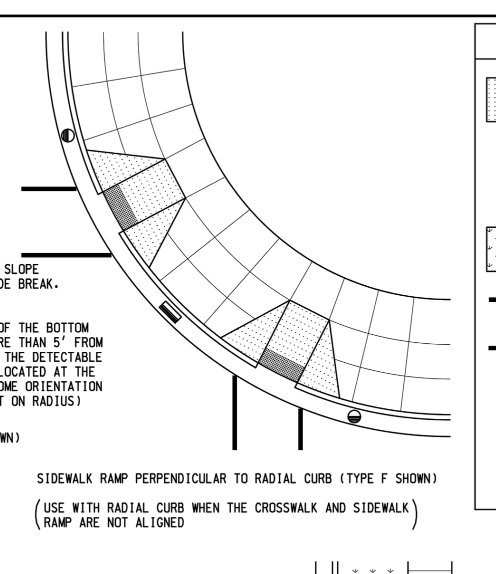
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 5 OF 7



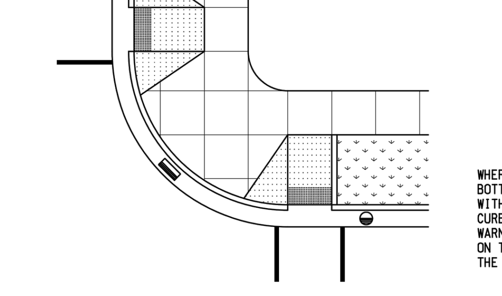
SIDEWALK RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET GREATER THAN 5')



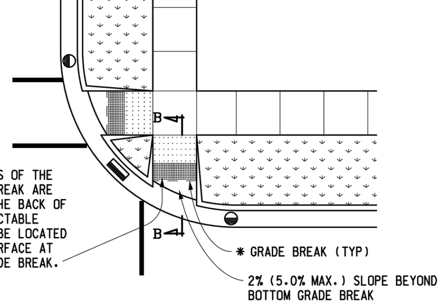
SIDEWALK RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND SIDEWALK RAMP ARE NOT ALIGNED)

LEGEND

- SLOPED SURFACE
- DETECTABLE WARNING
- "NON-WALKING" AREA
- CROSSWALK MARKING
- PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
- ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



SIDEWALK RAMP PERPENDICULAR TO TANGENT CURB
(TYPE F AND TYPE RF SHOWN)

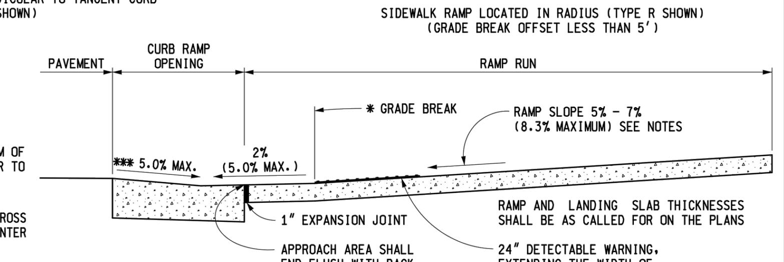


SIDEWALK RAMP LOCATED IN RADIUS (TYPE R SHOWN)
(GRADE BREAK OFFSET LESS THAN 5')

* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

SEE SHEET 2 FOR CURB RAMP OPENING DETAILS.



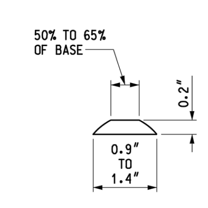
SECTION B-B

SIDEWALK RAMP ORIENTATION

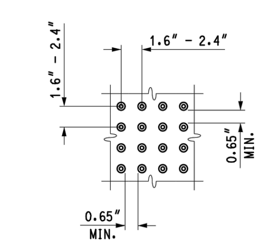
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

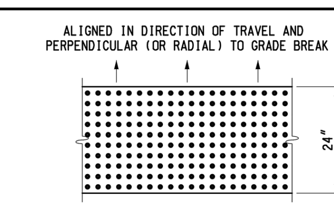
F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 6 OF 7



DOME SECTION



DOME SPACING



DOME ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5' MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

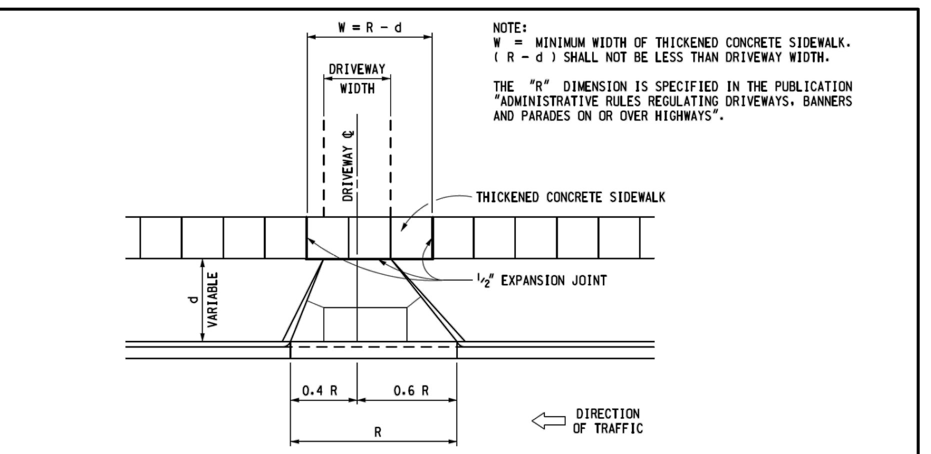
FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

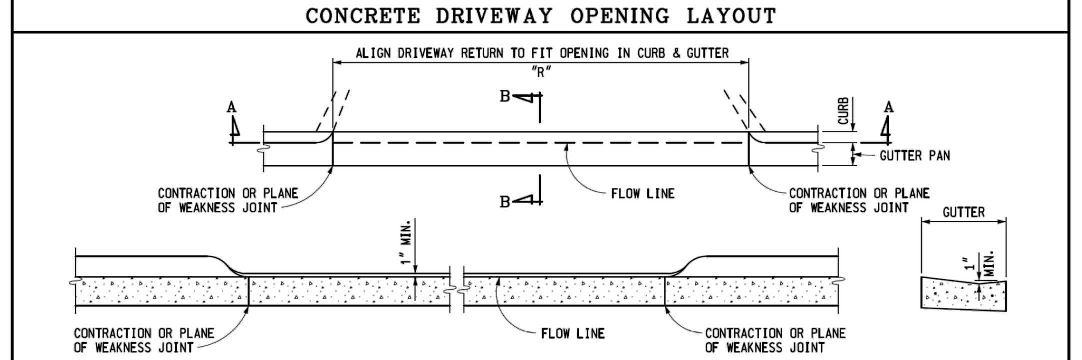
F.H.W.A. APPROVAL | 3-31-2017 PLAN DATE | R-28-J | SHEET 7 OF 7



NOTE:
W = MINIMUM WIDTH OF THICKENED CONCRETE SIDEWALK.
(R - d) SHALL NOT BE LESS THAN DRIVEWAY WIDTH.

THE "R" DIMENSION IS SPECIFIED IN THE PUBLICATION "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS AND PARADES ON OR OVER HIGHWAYS".

CONCRETE DRIVEWAY OPENING LAYOUT

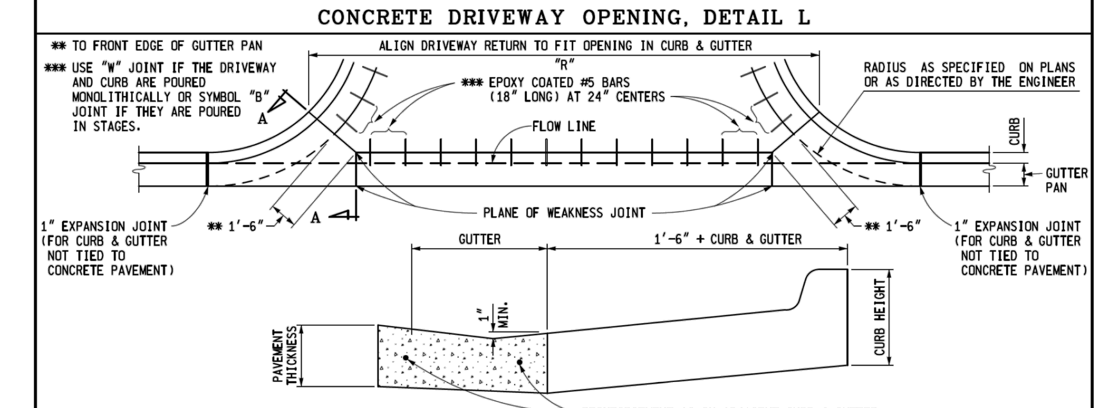


SECTION A - A | SECTION B - B

CONCRETE DRIVEWAY OPENING, DETAIL L

** TO FRONT EDGE OF GUTTER PAN

*** USE "W" JOINT IF THE DRIVEWAY AND CURB ARE POURED MONOLITHICALLY OR SYMBOL "B" JOINT IF THEY ARE POURED IN STAGES.



SECTION A - A

CONCRETE DRIVEWAY OPENING, DETAIL M

NOTE:
FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH THE LONGITUDINAL LANE TIES.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

9-30-2014 F.H.W.A. APPROVAL | 7-1-2014 PLAN DATE | R-29-I | SHEET 2 OF 4

811
Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN

MDOT DETAILS

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
43

K:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787FSP-14-DT2.DWG 1/22/2019 11:30 AM CHRIS ROTHHAAR

Earthwork

1.00 GENERAL

1.01 DESCRIPTION

A. The CONTRACTOR shall perform all excavation and backfilling necessary to complete the work. This shall include the excavation of earth and rock, the removal and disposal of unsuitable material, dewatering, placement of suitable fill and backfill material, pipe boring and jacking, all quality assurance testing, and the restoration and final grading for all earth surfaces.

1.02 WORK WITHIN RIGHTS-OF-WAY

A. Where the governmental bodies having jurisdiction of the streets or rights-of-way have specific specifications relating to the requirements for work within their jurisdiction, such requirements must be met as a minimum requirement, and if these Specifications impose further limitation on the work, they shall also be met as the required work standard.

B. During all operations of the CONTRACTOR in the streets and roadways, the CONTRACTOR shall maintain barricades, lights, and warning signs as required by the agency having jurisdiction.

1.03 WORK WITHIN EASEMENTS

A. During construction within any easements, the CONTRACTOR shall confine himself to the limits shown on the Plans. He shall notify property owners in advance of moving equipment on easements and use of the access routes which will be designated by the OWNER. The OWNER will cooperate in working out the details of access. The topsoil over the trench shall be removed and carefully replaced upon completion of the work. The backfill of the trench in the easement may be left slightly high to provide for any slight residual settlement. Any trees, shrubs, or bushes removed shall be replaced to the satisfaction of the property owner.

1.04 SOIL BORINGS

A. Soil boring results, if taken on a site, are appended to these Specifications with locations noted. Boring logs are shown to be generally representative of the site and to assist in the design and construction of the work.

2.00 PRODUCTS

2.01 BACKFILL MATERIAL

A. For areas not requiring "granular backfill" material, backfill shall be of the excavated material, with the exception that materials such as soft clay, topsoil, muck, cinders, vegetable matter, refuse, boulders and other objectionable and non-packing earth shall be excluded from the backfill and removed from the site. Stone larger than 3 inches in any dimension shall be excluded from the backfill and removed from the site by the CONTRACTOR.

B. Where "granular material" backfill is required as specified herein, backfill material shall be defined as a material meeting granular material Class II as defined in 2003 MDOT 902.08.

C. All utilities within road right-of-way corridor (existing or proposed) shall be backfilled with MDOT CL II granular material compacted to 95% maximum unit weight.

D. All utilities shall be installed with 2 NS sand bedding or better.

2.02 ENCASING PIPE

A. Steel encasing pipe for boring and jacking shall conform to the requirements of either, ASTM A53, Type E or S, Grade B or ASTM A139, Grade B.

B. Steel encasing pipe used under channels and highways shall meet the requirements of the governmental agency having jurisdiction and the following minimum requirements:

Nominal Diameter (Inches)	Maximum Wall Thickness
Under 13	0.188 inches
13-24	0.250 inches
25-36	0.312 inches
42	0.438 inches
48	0.500 inches
54	0.563 inches

C. Steel encasing pipe used under railroads shall meet the requirements of the railroad and the following minimum requirements:

	Minimum Wall Thickness (inches)	
Nominal Diameter (Inches)	Coated or Cathodically Protected	Uncoated & Unprotected
Under 14	0.180	0.251
14-16	0.219	0.282
18	0.250	0.313
20	0.281	0.344
22	0.312	0.375
24	0.344	0.407
26	0.375	0.438
28-30	0.406	0.469
32	0.438	0.501
34-36	0.469	0.532
38-42	0.500	0.563
48	0.563	0.626

D. Casing pipe joints shall be welded to form a leak-proof continuous casing.

E. The inside diameter of casing pipe shall be at least 2 inches greater than the largest outside diameter of the carrier pipe joints or couplings for carrier pipe less than 6 inches in diameter, and at least 4 inches greater than the largest outside diameter of the carrier pipe joints for carrier pipe 6 inches and over in diameter, unless otherwise shown on the Plans.

F. The steel casing pipe shall be of smooth interior and shall be placed accurately to line and grade, allowing for the encased pipe thickness and supports under each length of encased pipe.

3.00 EXECUTION

3.01 GENERAL EXCAVATION

A. Excavation shall be performed by any practicable method consistent with the integrity and protection of the work and neighboring structures, workmen, and the public. Topsoil shall be separately removed and stockpiled for reuse.

B. All excavation, except where necessary to tunnel, bore or jack under roads, railroads, tree roots and other obstructions within the limits indicated on the Plans, may be open cut from the surface. Tunneling or boring under trees shall be considered as incidental to construction and will not be considered as cause for request for additional payment.

C. Foreign material or unsuitable foundation material encountered such as wood, boulders, etc., which obstruct the excavation, shall be removed. Such materials found at the bottom of the excavation shall be removed and the foundation restored with approved materials.

D. If excess excavation is made or the material becomes disturbed so as to require removal beyond the prescribed limits, the resulting space shall be filled with selected material solidly tamped into place, in not more than 6-inch layers to the satisfaction of the ENGINEER, before the construction work proceeds. At the direction of the ENGINEER, the excess excavation may be filled with 2000 psi concrete at the CONTRACTOR's expense.

E. The excavation shall be kept dry during the work. Where water is encountered in the excavation, it shall be removed by pumping or well points. All necessary precautions shall be taken to prevent damage to existing wells and to completed or partially completed structures. The CONTRACTOR shall be responsible for all damages caused by him due to inadequate or improper protection.

F. The CONTRACTOR shall take ample precautions to protect all trees and ornamental shrubbery not within the limits of the construction areas, or within the construction areas shown on the Plans to be retained from injury by workmen, equipment, or any other agencies connected with the work, including subcontractors. Such protection shall be provided during the progress of the excavation, grading, or other phases of the work as necessary. Such trees or shrubbery shall be surrounded by protective posts or fencing before construction begins, when in judgment of the ENGINEER, such precautionary measures are necessary. If, as a result of any phase of the work, trees are damaged or it is necessary to remove limbs in the way of construction, the repair of the damage and such limb removal shall be done by the CONTRACTOR as directed by the ENGINEER. All costs for the protective work shall be borne by the CONTRACTOR as incidental the Contract work.

G. Any excavation not backfilled at the end of each day must be clearly marked and surrounded by appropriate safety fencing as directed by the ENGINEER. If directed by the ENGINEER, the CONTRACTOR shall cover the open excavation with a steel plate and light the excavated area.

3.02 EXCAVATION FOR SEWERS AND WATER MAINS

A. Trenches shall be excavated to the depth required with allowance for bedding the pipe. The trench shall be cut wider and deeper at each pipe joint location to provide for properly completing the pipe joint and to relieve the joint of all loadings.

B. The width of the trench at the top of a rigid pipe shall be sufficient to allow the pipe to be laid and jointed properly and shall provide for a minimum net clearance of 6 inches and a maximum net clearance of 12 inches on each side of the barrel of the pipe and to allow the backfill to be placed and properly compacted.

C. The width of trench at the top of a flexible pipe backfill when using concrete bedding shall be sufficient to allow the pipe to be laid and jointed properly with the minimum net clearance of 12 inches and a maximum net clearance of 18 inches on each side of the barrel of the pipe.

D. Where the conditions of the ground require or where the work is in close proximity of existing structures, the sides of excavation shall be securely held by bracing and/or sheeting which may be removed in units when the level of the backfill has reached a point where it is safe to pull the sheeting without disturbing the protected feature. No sheeting, bracing, or other timber shall be left in the excavation upon the completion of the main or other structures, except with the specific review and direction of the ENGINEER.

E. Other underground mains, sewers or structures encountered in the excavation shall be adequately supported during the CONTRACTOR's operations, and before backfilling, shall be given permanent support as directed by the ENGINEER to meet the standards or requirements of the owning utility or agency.

F. Water, sewer, gas and other utility services disturbed by the CONTRACTOR in his operations shall be repaired or replaced in a manner equal to the original condition by the CONTRACTOR at his own expense. Where these services are encountered and are undamaged, they shall be supported and/or protected by the CONTRACTOR at his expense against later settlement and/or damage after backfill. The CONTRACTOR shall consult the agency or the utility firm having jurisdiction over any duct line, gas main, etc., which may cross the excavation to determine method of supporting such duct or pipe.

G. All excavated material shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalks and driveways. Hydrants under pressure, valve manhole covers, valve boxes, curb stop boxes, fire and police call boxes, or other utility controls shall be left unobstructed and accessible until the work is completed. Gutters shall be kept clean, or other satisfactory provisions made for street drainage, and natural water courses shall not be obstructed except as otherwise provided for herein on a temporary basis.

3.03 EXCAVATION FOR STRUCTURES

A. Excavation for structures shall be extended sufficiently beyond the limits of the structure to provide ample room for form construction and for practicable construction methods to be followed.

B. Requirements for excavation of sewers and water mains shall also apply to this Section.

3.04 EXCAVATION FOR PAVED SURFACES

A. In excavating around manholes and catch basins or inlets, care shall be exercised to avoid removing the casings and pushing dirt into the structures. Dirt pushed into manholes, catch basins or inlets by the CONTRACTOR's operations shall be immediately removed so that the dirt will not be carried into the sewer by the flow of sewage or storm water.

B. The CONTRACTOR shall take ample precautions to protect all trees and ornamental shrubbery not within the limits of the construction area, or within the construction areas shown on the Plans to be retained from injury by workmen, equipment, or any other agencies connected with the work, including subcontractors. Such protection shall be provided during the progress of the excavation, grading, or other phases of the work as necessary. Such trees or shrubbery shall be surrounded by protective posts or fencing before construction begins, when in the judgment of the ENGINEER, such precautionary measures are necessary. If, as a result of any phase of the work, trees are damaged or it is necessary to remove limbs in the way of construction, the repair of the damage and such limb removal shall be done by the CONTRACTOR as directed by the ENGINEER. All costs for the protective work shall be borne by the CONTRACTOR as incidental to the Contract work.

3.05 ROCK EXCAVATION

A. Rock excavation shall consist of excavating igneous, metamorphic and sedimentary rock which cannot be excavated without continuous drilling and blasting or drilling and splitting to fracture the rock. Blasting shall be permitted only after it has been shown that other methods of excavation are impractical. All rock excavation shall be carried to a minimum depth of 8 inches below the pipe or manhole bottom and to the bottom of all footings. The width of the rock excavation shall not exceed the diameter of the pipe plus 12 inches on either side or the edge of the foundation footing.

B. When the use of explosives is necessary for the progression of the work, the CONTRACTOR shall comply with all laws, ordinances and applicable safety code requirements and regulations relative to the handling, storage and use of explosives and protection of life and property. A person competent and experienced in the use of explosives shall be employed to supervise the work. The CONTRACTOR shall schedule all blasting for a definite hour of the day and shall so notify all residents and businesses in the area as to the scheduled day and hour for such blasting operations. Explosive materials shall not be stockpiled and stored in residential areas. Explosives and initiating devices shall not be carried in the same vehicle.

C. Suitable weighted plank coverings or timber mats shall be provided to confine all materials lifted by blasting within the limits of the excavation of trench. Excessive blasting or overshooting shall not be permitted. Any material outside of the authorized excavation cross section which may be shattered or loosened shall be removed at the CONTRACTOR's expense. The CONTRACTOR shall be responsible for all damage resulting from the use of explosives.

3.06 PIPE BORING AND JACKING

A. The CONTRACTOR shall obtain all necessary permits for jacking the encasing pipe under channels, highways and/or railroads and shall notify the governmental agency and/or company having jurisdiction 48 hrs before work at any crossing is started. The CONTRACTOR shall pay all costs for an inspector and/or flagmen required by a railroad or governmental agency.

B. A suitable approach trench shall be opened, adjacent to the toe of the slope of the embankment. The approach trench shall be long enough to accommodate the length of pipe units to be placed, and wide enough to provide sufficient working room. Guide timbers or rails for keeping the pipe on-line and grade shall be installed in the bottom of the trench and heavy timber backstop supports installed at the rear of the trench to take the thrust of the jacks. A timber bearing a "pushing frame" shall be built and furnished to fit or match the end of the pipe to be jacked, so that the pressure of the jacks will be evenly distributed over the end of the pipe. Two (2) hydraulic jacks of sufficient power shall be used to apply pushing or jacking pressure. For firm ground, excavation shall be carried on from inside the pipe, not to exceed twelve (12) inches ahead of the lead pipe. For unstable ground, the lead pipe shall precede the auger. Excavation at the top and sides shall be accurately cut to line and grade. Adjoining sections of steel pipe shall be welded. Pipe shall be jacked on successive shifts until completed to guard against the "freezing of the line" due to settlement and compaction of surrounding soil.

C. The sheeting of pits along any road will be required if the leading edge of all work pits will be closer to the pavement edge than the shoulder point or ten (10) ft, which ever distance is greater, or on curb and gutter sections, at least five (5) ft from back of curb.

D. Upon completion of the installation of the steel pipe encasement, the contractor shall furnish and install a bolted style casing spacer as described below on the carrier pipe. Casing spacers shall be placed a maximum of seven (7) feet apart along the length of the carrier pipe with one casing spacer within 2-1/2 feet of each side of a pipe joint and the rest evenly spaced. Wood skids are not an acceptable method of supporting the carrier pipe.

1. Casing spacers for carrier pipes from 4" - 24" shall be made of a molded, segmented high density polyethylene plastic with 304 stainless steel connecting nuts and bolts. Minimum spacer width shall be 5.2" for carrier pipes from 4" - 12" and 7.0" for carrier pipes 14" - 24". Each casing spacer shall have at least six (6) integrally molded skids extending 1" beyond the bell or mechanical joint of the carrier pipe. The casing spacers shall be equal to the PSI Ranger as manufactured by Pipeline Seal and Insulator, Inc., Houston, TX.

2. Casing spacers for carrier pipes larger than 24" shall be a PVC fusion bonded coated (10-16 mils) steel shell (minimum 14 gauge steel) with a 90 mil PVC inner liner and 2" wide 30% glass reinforced polyester runners (minimum compressive strength = 18,000 psi) (polyethylene is not an acceptable runner material) attached by 3/8" coated steel studs welded to the steel shell. All bolts and nuts used to fasten the shell to the carrier pipe shall be cadmium plated steel. Where riser are required under the runners they shall be a minimum 10 gauge steel welded to the shell and coated as specified for the shell (epoxy is not an acceptable coating for the shell riser). The casing spacers shall be equal to the PSI Model C as manufactured by Pipeline Seal and Insulator, Inc., Houston, Texas.

E. Boring shall be performed by accepted and recognized methods which will provide adequate safety and protection at all times to workmen employed in the work and to inspectors and others involved in the construction.

F. If voids should develop around the outside of the encasing pipe, grouting or other methods approved by the ENGINEER shall be employed to fill such voids.

G. After the pipes are tested satisfactorily, the remaining space between the carrier pipe and the encasing pipe shall be pressure grouted or otherwise filled with concrete. The carrier pipe shall be adequately braced to prevent floating or movement of the pipe.

3.07 SHORING, SHEETING AND BRACING

A. Where sheet piling, shoring, sheeting, bracing, or other supports are necessary, they shall be furnished, placed, maintained, and except as shown or specified otherwise, removed by the CONTRACTOR.

B. All sheet piling, shoring, sheeting and bracing shall be designed by a professional engineer engaged by the CONTRACTOR with demonstrated competence and experience in such work. The sheeting system shall be designed to prevent bottom failure and hydrostatic uplift within the excavation. Provision shall also be made in the design for lateral pressures due to side slope and construction equipment or other surcharge loads, as applicable.

C. The CONTRACTOR shall provide to the ENGINEER for his review, design calculation and arrangement drawings of the sheeting system prior to ordering any materials for bracing, sheeting, etc., and prior to the commencement of the excavation.

D. All materials, except as otherwise specified, used for sheeting and sheet piling, lagging, braces, shores, and stringers, or waling strips shall be of approved quality and dimensions throughout.

E. Materials for sheeting systems shall be furnished and driven or set in place by the CONTRACTOR, where necessary or wherever ordered by the ENGINEER, whether the same is or is not considered necessary by the CONTRACTOR. If, in the opinion of the ENGINEER, the materials furnished by the CONTRACTOR are not of proper quality or sufficient size or not properly placed to ensure the safety of the work or of adjacent structures and property, the CONTRACTOR shall, upon notice from the ENGINEER to that effect, forthwith procure, furnish and set in place or drive other and satisfactory materials, or place the material in a satisfactory manner; and if he shall fail or neglect to do so, the ENGINEER may order all or any part of the work to be stopped until such materials so used are furnished and placed; and the CONTRACTOR shall not be entitled to claim, demand, or receive any compensation for larger size or better quality or different disposal of materials ordered by the ENGINEER, nor any compensation for allowance of any kind whatsoever for or on account of any damage or delay resulting from such stoppage of work.

F. Steel sheet piling may be either new or used. It shall be of adequate strength, straight and properly braced. Steel sheet piling shall be of the interlocking type. Friction in the interlocks shall not be assumed to contribute to the strength of the sheet piling.

G. The design, planning, installation and removal, if required, of all sheet piling, shoring, sheeting, and bracing shall be accomplished in such a manner as to maintain the required excavation or trench section and to maintain the undisturbed state of the soils below and adjacent to the excavation.

H. Steel sheet piling for the excavation shall be driven straight and in-line. The piling shall be supported above ground, before driving, by a guide frame at least 20 ft high which will keep the piling accurately in the required position and vertical. Each piece of piling shall be driven only a few feet at a time and driving shall proceed continuously around the perimeter so that the piles shall reach their full penetration together.

I. Walers and bracing shall be supplied and installed as required to complete the sheeting system. Walers and braces shall be of adequate strength for the load imposed. Splices in walers shall develop the full strength of the member in bending, shear, and axial compression.

J. If bracing members are to be removed during construction, the timing and procedure for removal shall not induce excessive stresses in the permanent structures or in steel sheet piling and bracing members.

K. If the construction sequence of structures requires the transfer of bracing to the completed portions of any structure, the CONTRACTOR shall secure written acceptance of the ENGINEER prior to the installation of such bracing.

L. In trenching operations the use of horizontal strutting below the barrel of pipe or the use of the pipe as support for trench racing will not be permitted. The use of a traveling shield for sewer construction shall require that the device be approved for use by a professional engineer. Sheet piling and timbers in trench excavations shall be withdrawn in a manner so as to prevent subsequent settlement of the pipe or additional backfill loadings which might overload the pipe.

M. The neglect, failure, or refusal of the ENGINEER to order the use of sheeting, or sheet piling or steel, or to order the same to be left in place, or the giving or failure to give of any order or directions as to the manner or methods of driving or placing sheeting, sheet piling, bracing, shores, etc., shall not in any way relieve the CONTRACTOR of any or all obligations under this Contract. Sheeting left in place shall be cut off one (1) ft below existing grade.

N. The rules of the OSHA and the State Department of Labor with respect to excavation and construction shall at all times be strictly observed.

3.08 GENERAL BACKFILLING

A. For all areas, unless otherwise noted, backfilling shall consist of placing excavated material as defined in Paragraph 2.01.A. of this Section, in 12-inch lifts to finish grade. Compaction of backfill shall be such as to obtain 90% of the maximum density.

B. Under pavements, curb, paved driveways, and sidewalks, and where pipe is within a one on one influence of pavement, compaction testing shall be performed by an independent testing laboratory. Testing shall be performed at intervals of one test per lift per 50 feet of trench or as determined necessary by the ENGINEER.

C. In residential developments, all backfill within the road corridor shall be granular material compacted in layers not to exceed 12 inches loose thickness with backfilling carried up to subgrade. Compaction of backfill shall be as such to obtain 95% of the maximum unit density as determined at the optimum moisture content. For purposes of this section, the road corridor is defined as front of house to front of house, including right-of-way and adjacent easements and setbacks.

3.09 BACKFILLING FOR SEWERS AND WATER MAINS

A. Backfilling shall consist of placement of the prescribed materials from a level 12 inches above the crown of the pipe. Placement shall be as follows:

1. Under gravel driveways, gravel roads and shoulders, the backfill shall be granular material which shall be solidly compacted by mechanical tamps in layers of not more than 12 inches loose thickness with backfilling carried up to within 12 inches of finished grade. Compaction of backfill shall be such as to obtain 95% of the maximum unit density as determined at the optimum moisture content.

2. Under pavements, curb, paved driveways, and sidewalks, the backfill shall be granular material compacted in layers not to exceed 12 inches loose thickness with backfilling carried up to subgrade. Compaction of backfill shall be such as to obtain 95% of the maximum unit density as determined at the optimum moisture content. After a period of about 60 days or less, if the backfill compaction is satisfactory to the ENGINEER, to provide for any slight settlement, the CONTRACTOR shall retrim neatly any broken edges of pavement and replace the top surface of the backfill within the pavement area with pavement surface equal to that surface which was removed. The pavement shall be replaced in accordance with the standard specifications of the agency having jurisdiction.

3. Backfill around lift stations, or buried underground structures shall be granular material compacted in 12-inch lifts. Compaction of backfill shall be such as to obtain 95% of the maximum unit density as determined at the optimum moisture content.

4. For all other areas, backfilling shall consist of placing excavated material as defined in Paragraph 2.01.A. of this Section, in 12-inch lifts to finish grade. Compaction of backfill shall be such as to obtain 90% of the maximum unit density as determined at the optimum moisture content.

3.10 FILLING AND BACKFILLING FOR STRUCTURES

A. Embankments underlying structural footings, streets and drives, sidewalks and around structures shall be granular material meeting the requirements of the Michigan Department of Transportation for granular material compacted to 95% density.

B. In all other areas, material required for embankments and backfilling shall be soil or soil-rock mixture free of organic and other deleterious matter and shall contain no more than 15% rocks or lumps larger than 2-1/2 inches in the greatest dimension, compacted to 90% density.

C. Under all interior and exterior floor slabs, an 8-inch thick granular cushion shall be placed. This material shall be clean mineral aggregate meeting the following gradation requirements:

Passing the No. 4 Sieve	100%
Passing the No. 200 Sieve	0-3%

D. Where embankment material is placed to achieve a new surface elevation, the top 4 inches shall be approved topsoil either salvaged from the site or hauled in by the CONTRACTOR.

3.11 FILLING AND BACKFILLING FOR PAVED SURFACES

A. Embankments, including sand cushions and granular fills, shall be placed in successive layers not more than 6 inches in depth the full width of the cross section, each layer to be thoroughly compacted by means of vibratory compactors or by an approved pneumatic-tired roller or combination thereof, as required by the ENGINEER. Each layer shall be compacted to not less than 95% of the maximum unit density as determined at the optimum moisture content. All parts of the embankment shall be uniformly compacted and the CONTRACTOR shall so direct all earthmoving equipment used in the work so that the same shall be attained. Embankment or fill outside the limits of the subgrade where sand or gravel is not required shall be made with suitable material which is free from perishable organic matter, rubbish, stones, broken concrete, roots, or other foreign materials, at no additional compensation. Before any embankments are begin, the base shall be made firm and cleared of topsoil, sod or other perishable material. The sides of the embankment shall be neatly and evenly dressed to the slope shown on the Plans, or such other slope as the ENGINEER may direct.

B. Upon completion of the placing of the curbs, and after the concrete has cured sufficiently, forms shall be removed and the excavated space behind the curb shall be backfilled with a good quality of surface soil, free of rubbish, stone, broken concrete, roots or other foreign material. Where adequate acceptable material for backfill behind the curb is not available, granular fill conforming to 2003 MDOT 8.02.06, Class II, shall be used. Where the area behind the curb is in cut, it shall be trimmed from the top of the curb on the slope shown on the Plans. If the area is in embankment or fill, an earth berm shall be placed immediately adjacent to the top of the curb and then the embankment of fill shall be finished to the slope shown on the Plans. All trimming and finishing shall be done in a neat, workmanlike manner. All excess concrete and debris shall be removed from the excavation behind the curb line before backfilling begins.

C. In construction of non-rigid pavements, backfilling back of curb and gutter shall be completed before placement and compaction of the base course of the roadway.

3.12 PREPARATION OF SUBGRADE FOR ROADWAY SURFACES

A. The bottom of the excavation for the pavement or top of the fill shall be known as the pavement subgrade and shall be smoothed, trimmed and compacted to the required line, grade and cross section to receive the road metal. It shall be thoroughly compacted by rolling with a roller of approved type weighing not less than 8 tons. The subgrade shall be compacted to at least 95% of the maximum density as designated by the test method AASHTO T-180. Inaccessible areas, where rolling is not practical, shall be thoroughly compacted by mechanical tampers capable of striking a blow equivalent to at least 250 foot-pounds per square foot. The subgrade thus formed shall be maintained in a smooth and compacted condition until the pavement has been placed. No base course, surfacing, curb, or curb and gutter, shall be placed until the subgrade has been reviewed by the ENGINEER. The subgrade shall be finished in an acceptable condition at least one day in advance of the pavement construction at all times. Six inches of compacted depth of granular material shall be used where uncompactable soil is encountered. The granular fill shall conform to the 2003 MDOT 9.02.08., Class II, compacted to 95% of its density.

B. Immediately prior to placing the pavement, the subgrade shall be tested for conformity with the cross section shown on the Plans by means of an approved template riding on the curb and gutter sections or on side forms. If necessary, materials shall be removed or added, as required, to bring all portions of the subgrade to the correct elevation. Corrected portions shall then be thoroughly compacted and again tested with the template. Pavement material shall not be placed at any portion of the subgrade which has not been tested for correct elevation.

C. The finished subgrade shall be maintained in a smooth and compacted condition until the pavement is placed. No storage piles of fine or coarse aggregate shall be placed directly upon the finished subgrade. Should the subgrade become rutted or disturbed in any manner, it shall be reshaped and recompacted.

3.13 GRADING

A. The CONTRACTOR shall grade the site to achieve the elevations as shown on the Plans. All disturbed areas beyond the grading limits shall be restored to prior condition.

B. Surplus excavated material not needed for embankment shall be disposed of by the CONTRACTOR. Headwalls, culverts, drains, sewers and appurtenances filled or damaged by the CONTRACTOR during the course of his operations shall be cleaned, repaired, or replaced at his expense.

C. All temporary earth changes shall be in conformance with the Soil and Erosion Control Act.

3.14 RESTORATION

A. Headwalls, culverts, and drainage systems filled or damaged by the CONTRACTOR during the course of his operations shall be cleaned, relaid or rebuilt with new materials to a condition equal to the original state, and of thickness equal to the original structure and to the original line and grade at the CONTRACTOR's expense.

B. Where the excavation is located beside a ditch and/or where an existing ditch is filled or disturbed in the CONTRACTOR's operations, the CONTRACTOR shall clean, repair, or replace the ditch with properly pitched bottom and side slopes and of section and capacity not less than the original section.

C. Where excavation has been through lawn areas, the CONTRACTOR shall restore the disturbed area by placing topsoil and seeding or sodding over the final backfill material.

D. The CONTRACTOR shall remove excess dirt and other construction material from the site of the work and leave the site in a condition equal to its original state.

E. The final condition of the streets and roadways shall be subject to the approval of the governmental body having jurisdiction thereof, as well as review by the ENGINEER.

Pittsfield Charter Township
6201 W. Michigan Ave.
Ann Arbor, MI 48108-9721
48108-9721
Tel. 734.822.3101
www.pittsfield-mi.gov

TWP REV	BWA	DRW	11.04.27
UPDATES	TTN	DRW	10.01.20
Revision	By	Appd.	YY.MM.DD
Issued	By	Appd.	YY.MM.DD
File Name: SE-02	TTN	DRW	07.10.01
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

Client/Project
PITTSFIELD TOWNSHIP

Pittsfield Township, Michigan

Title
EARTHWORK SPECIFICATIONS

Project No. 2075001300

Scale NOT TO SCALE

Revision

STORM SEWER AND DRAINAGE STRUCTURES

1.00 GENERAL

1.01 DESCRIPTION

A. Furnish all labor, tools, equipment and materials to construct all storm sewers, and drainage structures as herein specified. No sewers shall be accepted until the sewer system has passed the system acceptance tests.

1.02 TESTING

A. General

1. The CONTRACTOR shall furnish all equipment and personnel to conduct system acceptance tests as specified herein on all completed sewers. All tests shall be conducted under the supervision of the ENGINEER. No acceptance tests shall be conducted until the entire sewer system is constructed or just prior to placing the line in service providing the sewer pipe has been installed for not less than 30 days.

B. Test for Alignment

1. All sewers shall be laid accurately to the line and grade designed by the ENGINEER. The sewers will be tested for alignment by shining a light through the pipe at a manhole and viewing the light from an adjacent manhole. Any section of sewer in which a light cannot be seen from one manhole to the next shall be corrected to the satisfaction of the ENGINEER to pass this test.

C. Material Tests

1. The CONTRACTOR shall have tests of pipe strength made by an independent testing laboratory. Tests of up to 4 lengths of sewer pipe per hundred lengths may be required to show compliance with the Specifications. All pipe delivered to the job site shall be accompanied with a manufacturer's certificate of compliance to the Specifications.

D. Submittals

1. The CONTRACTOR shall submit shop drawings, or data sheets for all castings, steps and manholes.

2. The CONTRACTOR shall submit certification letters for all pipes. All letters must contain the following: Contractors name, project name, township name, current date, certification of pipe provided and letterhead of the certifying company.

2.00 PRODUCTS

2.01 PIPE

A. Reinforced concrete pipe and manhole tees shall be no less than the latest revision of ASTM C76, with the class designation as shown on the Plans or in the Proposal.

B. Concrete pipe shall have tongue and groove gasketed premium joints.

C. Corrugated steel pipe shall meet the requirements of AASHO M-190 for coated pipe latest revision. Minimum gage thickness shall be as shown on the Plans.

2.02 REINFORCED CONCRETE MANHOLES

A. Manholes shall conform to the current ASTM Specifications for precast reinforced concrete Manhole Sections, serial designation C478. Manhole section joints shall conform to ASTM Designation C990. All cones shall be eccentric with an offset step configuration. Concrete adjustment rings or riser rings shall not be used for adjusting the height of the structure.

B. All manhole component parts shall have the name of the manufacturer stenciled on the inside. The lettering or logo shall be a minimum of 4 inches high.

2.03 MORTAR FOR MANHOLES

A. Mortar for plastering manholes and drainage structures shall be made of one part Portland cement and two parts fine aggregate.

2.04 BRICK AND BLOCK

A. Brick for brick and mortar structures shall conform to the current ASTM Specification C32. Block for block and mortar structures shall conform to the current ASTM Specification C135.

B. The concrete block masonry used to construct manhole and catch basin walls shall be solid curved blocks with the inside and outside surfaces curved to the required radii. The blocks shall have tongue and groove or other approved type of joint at the ends so that the units interlock to form a strong, rigid structure. Curved blocks shall have the inside and outside surfaces parallel.

C. The block shall not exceed 18 inches in length or 8 inches in depth (height). No block shall be less than 6 inches in width (thickness). All blocks in one structure shall be of the same height dimension. The blocks shall be designed for length so that only full-length or half-length blocks are required to lay the circular wall of any one course.

D. Blocks intended for use in the cones or tops of manholes and catch basins shall have such shape as may be required to form the structure as shown on the Plans with inside and outside joint not to exceed 1/4-inch in thickness.

2.05 STRUCTURE FRAMES AND COVERS

A. Structures frames and covers shall weigh not less than 350 lbs. Each frame and cover shall have machined bearing surfaces and shall be suitably notched for convenient removal of the cover. Each solid manhole cover shall be marked Storm Sewer with letters integrally cast into the cover.

B. Frames and Covers shall be as follows:

1. For use on manholes: East Jordan 1040Z, with Type B cover lettered "STORM SEWER", or equal. Structures 24-inches in diameter shall have the 1045 Z frame.
2. For use on drainage structures in paved areas: East Jordan 1040Z, with Type M1 cover, with "DUMP NO WASTE" lettering and trout logo.
3. For use on drainage structures in curbed areas: East Jordan 7045 or 7065, with "DUMP NO WASTE" lettering and trout logo.
4. For use on drainage structures in landscaped areas: East Jordan 1040Z, with 1040 N 7", with "DUMP NO WASTE" lettering and trout logo.

C. All frames and covers shall be coated by the manufacturer with coal tar pitch varnish or other asphaltum coating reviewed by the ENGINEER.

D. All covers for drainage structures shall have storm drain markers affixed to the nearest available flat surface. The storm drain markers shall be manufactured by Das Manufacturing and shall be #SDR "No Dumping. Drains to River." The storm drain markers shall be installed per the manufacturer's recommendations.

2.06 MANHOLE STEPS

A. Steps shall be plastic coated steel. They shall be M.A. Industries PS1-PF for precast manholes, PS1-B for block manholes, or equal.

2.07 DRAINAGE STRUCTURES

A. All manholes and catch basins shall be precast unless otherwise specified.

B. Manhole and catch basin bottoms shall be concrete and top of slab shall have a troweled finish.

C. Upon approval by the ENGINEER, the manhole and catch basin walls may be constructed of concrete block masonry or concrete manhole pipe conforming to the requirements of the specifications previously listed. Construction shall be in accordance with the details for Catch Basin and Storm Sewer Manhole shown on the Plans.

D. A plaster coat of mortar 1/2-inch in thickness shall be applied to the inside and outside surface of all manholes and catch basins constructed with concrete block masonry or sewer brick. The inside coat of mortar shall be applied in a smooth, neat workmanlike manner.

E. Final adjustment of the top of manholes and catch basins, so that the manhole or catch basin cover is at finished elevations as shown on the Plans or meets the finished surface, may be accomplished with sewer brick conforming to the previously listed Specifications. The total height of brick for this purpose shall not exceed 9 inches. The total chimney height shall not exceed 18 inches.

F. All block and brick masonry units shall be laid in a full bed of mortar. The inside joints of the block masonry construction shall be tooled in a neat and workmanlike manner.

3.00 EXECUTION

3.01 EXCAVATION AND BACKFILL

A. All excavation and backfill 12 inches above the crown of pipe shall conform to Section 2.04, Earthwork of these specifications.

B. The trench shall be backfilled closely behind the pipe laying. Unless otherwise directed or permitted by the ENGINEER, the backfilling shall follow and be completed to the top of the trench within four pipe lengths behind pipe laying.

3.02 BEDDING

A. Concrete pipe shall be laid on a compacted granular material placed on the bottom of the trench to a depth of not less than 4 inches. Where indicated on the Plans or required by the ENGINEER, concrete encasement or cradle shall be used.

B. For all pipes, compacted aggregate material shall be placed at the sides of the pipe in 12-inch lifts and cover not less than 12 inches above the crown of the pipe.

C. "Granular Material" shall be MDOT class II, placed in not more than 6-inch layers and compacted to not less than 90% standard density.

3.03 PIPE INSTALLATION

A. All pipe shall be laid true to the required lines and grades. All trenches when pipe laying is in progress, shall be kept dry, and all pipes and fittings shall be uniformly supported on a properly trimmed bedding with holes at each joint to receive bells. All pipe shall be laid with bells uphill.

B. The grade as shown on the profiles is that of the pipe invert and that to which the work must conform. The grade shall be kept by laser or other tools which shall be furnished by the CONTRACTOR at his expense. Each pipe shall be laid accurately to the line and grade as shown on the Plans and in such manner as to form a close concentric joint with the adjoining pipe and prevent sudden offsets of the invert. The interior of sewers shall, as the work progresses, be cleaned of all dirt, cement, debris and other superfluous materials of every description. Bulkheads shall be used to keep foreign materials out of the open end of the sewer when work is not in progress.

C. The location of the piping as shown on the Plans has been determined to avoid, insofar as possible, interference with trees or structures or fixtures above ground and other underground mains, services, utilities or structures. Any change in location or alignment of piping, which may be found more feasible or practicable as the work progresses, shall be made by the CONTRACTOR, as the ENGINEER may direct.

D. All pipe shall be carefully lowered and moved into position in trench or vault in a controlled manner such as will prevent damage to the pipe and any coatings or lining. An excessive amount of scratching on the surface of the concrete pipe will be considered cause for rejection.

E. All cutting of the pipe shall be done in a neat workmanlike manner with the least amount of waste and without damage to existing or new lines. A fine toothsaw, tubing cutter or similar tool may be used to cut concrete pipe. Cuts must be square. Ragged edges shall be removed with a cutting tool or file.

F. Breaks in pipe or joints shall be repaired to the satisfaction of the ENGINEER and at the expense of the CONTRACTOR.

3.04 CONNECTIONS TO EXISTING MANHOLES

A. When a sewer is connected to an existing manhole, a hole adequate to receive the new pipe shall be cored into the manhole.

B. If the existing manhole is of brick construction, a single rowlock of brick shall be turned over the new pipe and the existing manhole brick work shall be cleaned, pointed and given a 1/2-inch mortar coat on the outside surface.

C. For connections to existing precast reinforced concrete manholes, a hole shall be cored into the concrete manhole wall to receive the pipe. Reinforcing steel shall not be cut out shall be bent and replaced in the area that is to be patched. A form shall be constructed over the area of pipe penetration. The formed area shall then be filled with concrete.

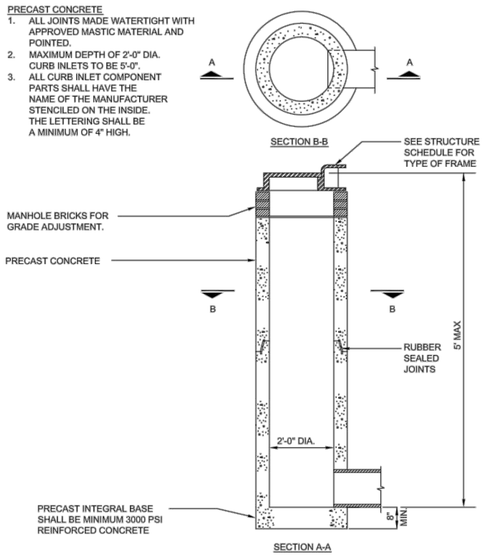
D. Closure of the manhole wall shall be made watertight using concrete.

3.05 ANIMAL GRATES

A. Animal grates shall be required on all endsections greater than 12-inch diameter.

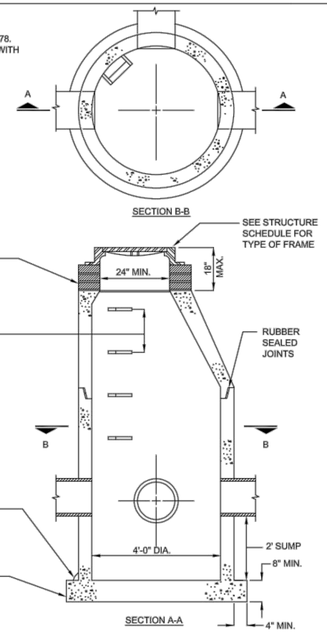
PCT February 2008

PRECAST CONCRETE
1. ALL JOINTS MADE WATERTIGHT WITH APPROVED MASTIC MATERIAL AND POINTED.
2. MAXIMUM DEPTH OF 2'-0" DIA. CURB INLETS TO BE 5'-0".
3. ALL CURB INLET COMPONENT PARTS SHALL HAVE THE NAME OF THE MANUFACTURER STENCILED ON THE INSIDE. THE LETTERING SHALL BE A MINIMUM OF 4" HIGH.



2' DIAMETER INLET

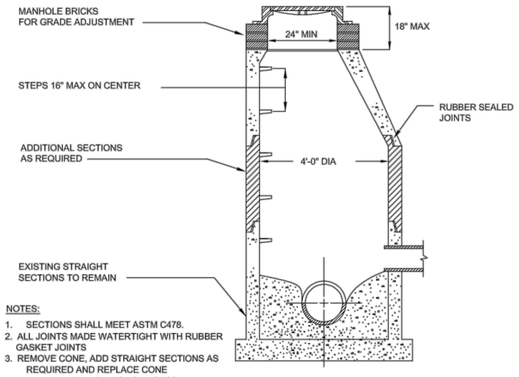
PRE-CAST CONCRETE MANHOLE
1. SECTIONS SHALL MEET ASTM C478.
2. ALL JOINTS MADE WATERTIGHT WITH RUBBER GASKET JOINTS.
3. CONE TO BE ECCENTRIC TYPE
4. ALL MANHOLE COMPONENT PARTS SHALL HAVE THE NAME OF THE MANUFACTURER STENCILED ON THE INSIDE. THE LETTERING SHALL BE A MINIMUM OF 4" HIGH.



4' DIAMETER CATCH BASIN

AFFIX TO SURFACE ON OR NEAR ALL DRAINAGE COVERS.

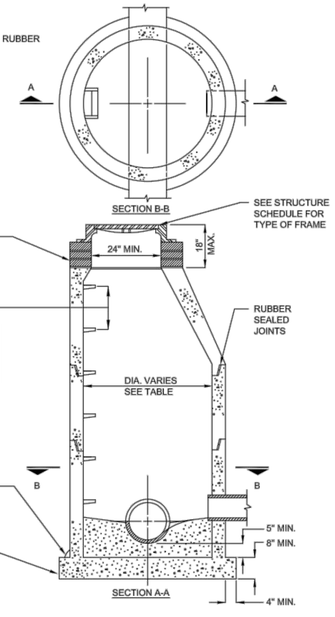
STORM DRAIN MARKER



NOTES:
1. SECTIONS SHALL MEET ASTM C478.
2. ALL JOINTS MADE WATERTIGHT WITH RUBBER GASKET JOINTS
3. REMOVE CONE, ADD STRAIGHT SECTIONS AS REQUIRED AND REPLACE CONE
4. ADD MANHOLE STEPS AS NECESSARY
5. ADD ADJUSTMENT RINGS FOR RIM GRADE ADJUSTMENT

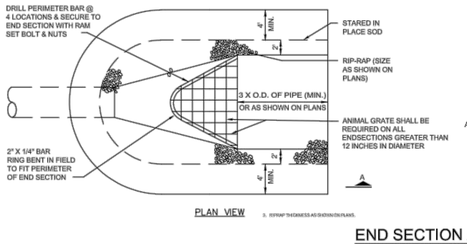
MANHOLE & CATCH BASIN RECONSTRUCTION DETAIL

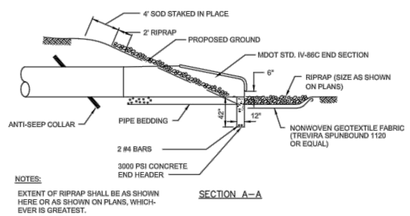
PRE-CAST CONCRETE MANHOLE
1. SECTIONS SHALL MEET ASTM C478.
2. ALL JOINTS MADE WATERTIGHT WITH RUBBER GASKET JOINTS
3. CONE TO BE ECCENTRIC TYPE
4. ALL MANHOLE COMPONENT PARTS SHALL HAVE THE NAME OF THE MANUFACTURER STENCILED ON THE INSIDE. THE LETTERING SHALL BE A MINIMUM OF 4" HIGH.



PIPE SIZE	MANHOLE DIAMETER
12"-24"	4'-0" MIN.
30"-36"	5'-0" MIN.
42"-48"	6'-0" MIN

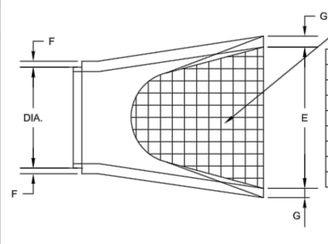
STORM SEWER MANHOLE



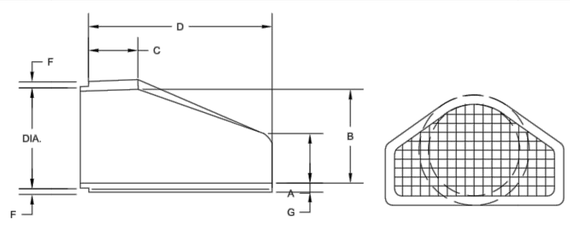


NOTES:
EXTENT OF RIPRAP SHALL BE AS SHOWN HERE OR AS SHOWN ON PLANS, WHICH-EVER IS GREATEST.

END SECTION AND RIPRAP DETAIL



DIA	A	B	C	D	E	F	G
12"	5"	13"	45.5"	72"	24"	2"	2"
15"	7"	16"	43.5"	72"	30"	2.25"	2.25"
18"	11"	19"	41.5"	72"	36"	2.5"	2.5"
24"	12"	25"	29"	72"	48"	3"	2"
30"	14"	31"	19"	72"	60"	3.5"	3.5"
36"	17"	37"	34.5"	96"	72"	4"	4"
42"	22"	43"	32.5"	96"	78"	4.5"	4.5"
48"	24"	49"	23.5"	96"	84"	5"	5"



NOTE:
FLARED END SECTIONS SHALL BE MANUFACTURED TO THE CLASS SPECIFICATIONS AS THE PIPE ITSELF.

STANDARD END SECTIONS FOR PRECAST CONCRETE

Pittsfield Charter Township
6201 W. Michigan Ave.
Ann Arbor, MI 48108–9721
48108–9721
Tel. 734.822.3101
www.pittsfield–mi.gov

Revision	By	Appd.	YY.MM.DD
UPDATES	MRH	DRW	14.01.24
TWP REV	BWA	DRW	12.08.09
TWP REV	BWA	DRW	11.04.27
UPDATES	BWA	DRW	10.10.25
UPDATES	TTN	DRW	10.01.20

Issued	By	Appd.	YY.MM.DD
File Name: ST–01	TTN	DRW	07.10.01
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

Client/Project
PITTSFIELD TOWNSHIP

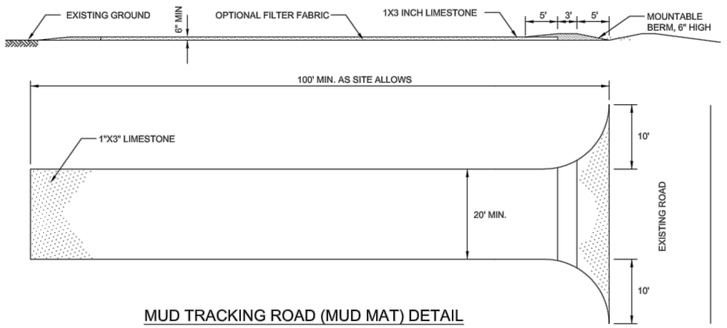
Pittsfield Township, Michigan

Title
STORM SEWER DETAILS AND SPECIFICATIONS

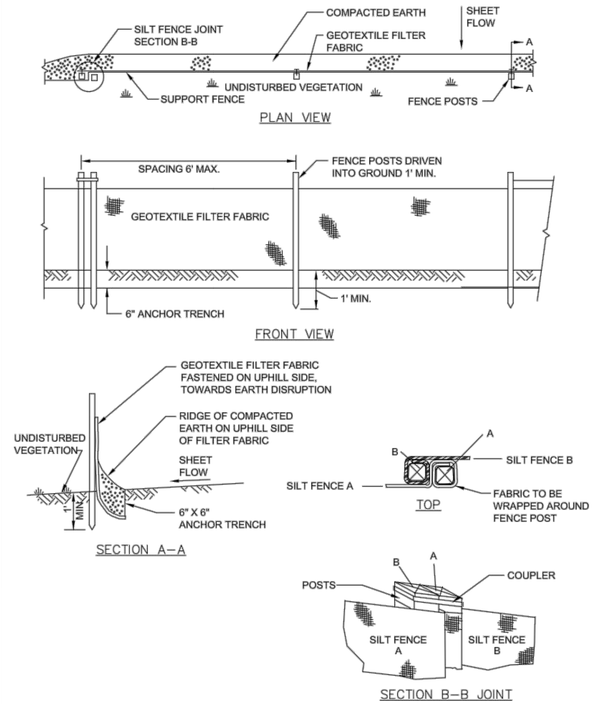
Project No. 2075001300

Scale NOT TO SCALE

Revision

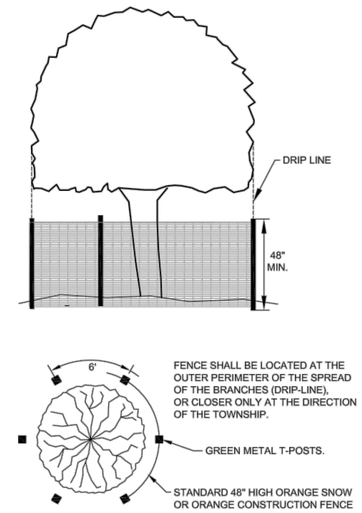


MUD TRACKING ROAD (MUD MAT) DETAIL



SILT FENCE

NOT TO SCALE



NOTES:

1. ALL TREES TO BE REMOVED WILL BE IDENTIFIED BY RED FLAGGING.
2. TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION AND GRADING IS COMPLETE.
3. ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR MATERIAL OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP LINE OF ANY TREES TO BE SAVED.

TREE PROTECTION FENCE DETAIL

NOT TO SCALE

PITTSFIELD CHARTER TOWNSHIP
SOIL EROSION AND SEDIMENTATION CONTROL NOTES

GENERAL

1. The contractor shall implement and maintain the soil erosion control measures as shown on the plans at all times during construction on this project. Any modifications or additions to the soil erosion control measures due to construction or changed conditions, shall be complied with as required or directed by the owner, project engineer or Pittsfield Township.
2. All soil erosion and sedimentation control work shall conform to the permit requirements of Pittsfield Township and the laws of the State of Michigan.
3. A NPDES construction activity permit is required for all sites greater than 5 acres.
4. Daily inspections shall be made by the contractor. Periodic inspections may be made by the owner/project engineer/Township to determine the effectiveness of erosion and sedimentation control measures. Any necessary corrections shall be made without delay.
5. Erosion and sedimentation from work on the site shall be contained on the site and not be allowed to collect on any off-site areas or in waterways.
6. All mud/dirt tracked onto roads from the site due to construction, shall be promptly removed by the contractor.
7. Restoration of all disturbed areas, including placement of topsoil, seed, fertilizer and mulch and/or sod shall be done within 5 days of the completion of final grade.
8. Construction operations shall be scheduled and performed so that preventative soil erosion control measures are in place prior to excavation in critical areas and temporary stabilization measures are in place immediately following backfilling operations.
9. Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
10. Proper dust control shall be maintained during construction by use of water trucks and/or chloride as required.
11. The contractor shall be responsible for maintaining all temporary soil erosion control measures and removal of some upon authorized completion of project. Completion of project will not be authorized until all site work, home building, road work and utility construction is complete and all soils are stabilized.
12. The contractor shall not grade in existing wetland or conservation areas to be protected. Silt fence shall be installed and maintained adjacent to existing wetland and conservation areas to prevent grading, erosion and sedimentation into them.
13. Tree protection fencing must remain intact until restoration of the site is complete.

SEQUENCE OF CONSTRUCTION

1. Install sediment fence and tree protection fencing prior to any grading operation.
2. Install mud-tracking pad.
3. Construct temporary sediment/detention basin.
4. Place topsoil, fertilizer, seed and mulch over the entire detention basin area.
5. Rough grade site, stockpile topsoil and begin building construction.
6. Install storm drainage system including riprap and parking lot inlet filters and detention basin standpipe.
7. Maintain erosion and sedimentation control measures, as required.
8. Install sanitary sewer and water systems.
9. Bring pavement areas to sub-base grade, place sub-base and bituminous pavement.
10. Install franchised utilities.
11. Finish grade, redistribute topsoil, seed and mulch all disturbed areas.
12. Remove any accumulated sediment within the detention basin and replace clean washed stone around standpipe.
13. Complete construction of site.
14. Insure all soil is stabilized. Remove all temporary soil erosion control measures.

SEEDING/SOD

1. Seed or sod in accordance with project specifications.
2. All areas of disturbed earth that are not to be paved or sodded shall have 4 inches of topsoil, seed, fertilizer and mulch.
3. Immediately after seeding, mulch all seeded areas with unweathered small grain straw (preferably wheat) or hay spread. Spread uniformly at the rate of 1 ½ to 2 tons or 100 pounds (2 to 3 bales) per 1,000 square foot. This mulch should be anchored with a disc-type mulch-anchoring tool.
4. Any disturbed area not paved, seeded or mulched, sodded or built upon by November 15, is to be mulched in the manner as specified above, in order to provide soil erosion protection during the winter and early spring.
5. All erosion and sedimentation control prevention procedures and structures are to comply with the Standards and Specifications for soil erosion and sediment control of the Washtenaw County Soil Conservation District.
6. Drainage ditches and slopes steeper than 1:4 (25%) shall be stabilized with erosion control blankets.
7. Steep slopes that do not take upon initial seeding must be re-seeded and stabilized with erosion control blankets.
8. Where excavation has been through lawn areas, the CONTRACTOR shall restore the disturbed area by placing topsoil and seeding or sodding over the final backfill material.

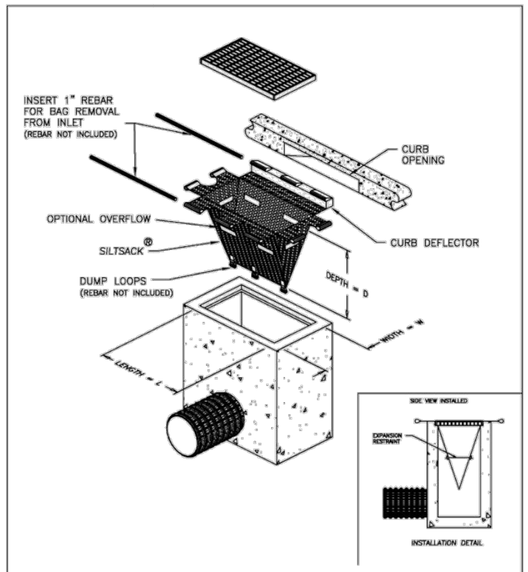
CATCH BASIN/MANHOLE PROTECTION

1. Protect storm sewer catch basins with Siltsack. or approved equivalent as follows:

ROADS

1. During construction, all roads shall be protected from unvegetated areas washing onto road surfaces by placement of silt fence behind curb or a 10 foot wide straw mulch bank behind the curb or other approved method and/or as shown on the plans.
2. During construction of any portion of the project, roads shall be maintained free of dirt, silt and construction debris.

Pittsfield SEC 9/22/2009



DETAIL OF INLET SEDIMENT CONTROL DEVICE
TYPE B – WITH CURB DEFLECTOR

Environmental
Your Complete Source for Geosynthetic Solutions

ACF Environmental, Inc.
2831 Cardwell Rd.
Richmond, Virginia 23234
(800) 448-3636

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

* HI-FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK ®WITH A WOVEN PILLOW INSERT.

SILTSACK DISTRIBUTORS:
PRICE & COMPANY
(www.priceandcompany.com)

METRO GRAND RAPIDS, MI
425 36TH STREET SW
WYOMING, MI 49548-2108
1-800-248-8230

METRO DETROIT, MI
29165 WALL STREET
WIXOM, MI 48393-3525
1-866-960-4300

(* HI-FLOW SILT SACK SHALL BE USED FOR ALL APPLICATIONS WITHIN PITTSFIELD TOWNSHIP)

SILTSACK

NOT TO SCALE

Pittsfield Charter Township
6201 W. Michigan Ave.
Ann Arbor, MI 48108-9721
48108-9721
Tel. 734.822.3101
www.pittsfield-mi.gov

Revision	By	Appd.	YY.MM.DD
SILTSACK	BWA	DRW	12.01.03
TWP REV	BWA	DRW	11.04.27
UPDATES	TTN	DRW	10.01.20

Issued	By	Appd.	YY.MM.DD
File Name: SE-01	TTN	DRW	07.10.01
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

Client/Project
PITTSFIELD TOWNSHIP

Pittsfield Township, Michigan

Title
SOIL EROSION DETAILS AND NOTES

Project No. 2075001300

Scale NOT TO SCALE

Revision

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
226	Bur Oak	*Quercus macrocarpa*	36	Fair	Heritage	
227	Northern Catalpa	*Catalpa Spe*	28	Very Poor	Heritage	
228	Northern Catalpa	*Catalpa Spe*	36	Poor	Heritage	
229	Silver Maple	*Acer saccharinum*	17, 6, 6	Good	Invasive	
230	Blue Spruce	*Picea pungens*	10	Good	Protected	
231	Blue Spruce	*Picea pungens*	8	Good	Protected	
232	Blue Spruce	*Picea pungens*	8	Good	Protected	
233	Blue Spruce	*Picea pungens*	7	Good	Protected	
271	Black Cherry	Prunus serotina	14	Poor	Protected	
272	Black Cherry	Prunus serotina	11	Good	Protected	
273	Maple	Acer	10	Good	Protected	
274	Black Cherry	Prunus serotina	12	Good	Protected	
275	Black Cherry	Prunus serotina	16	Good	Protected	Yes
276	Black Cherry	Prunus serotina	10	Good	Protected	
277	Maple	Acer	10	Good	Protected	
278	Black Cherry	Prunus serotina	11	Good	Protected	
279	Black Cherry	Prunus serotina	10	Good	Protected	
280	Black Cherry	Prunus serotina	11	Good	Protected	
281	Black Cherry	Prunus serotina	10	Fair	Protected	
283	Black Cherry	Prunus serotina	10	Poor	Protected	
284	Black Cherry	Prunus serotina	10	Good	Protected	
285	Maple	Acer	12	Good	Protected	
286	Black Cherry	Prunus serotina	12	Good	Protected	
287	Black Cherry	Prunus serotina	11	Good	Protected	
288	Black Cherry	Prunus serotina	12	Good	Protected	
289	Black Cherry	Prunus serotina	10	Good	Protected	
290	Black Cherry	Prunus serotina	10	Good	Protected	
291	Maple	Acer	10	Good	Protected	
292	Ash	Fraxinus	10	Poor	Invasive	
293	Ash	Fraxinus	11	Poor	Invasive	
294	Black Cherry	Prunus serotina	11	Good	Protected	
295	Black Cherry	Prunus serotina	10	Good	Protected	
296	Black Cherry	Prunus serotina	11	Good	Protected	
297	Black Cherry	Prunus serotina	10	Good	Protected	
298	Black Cherry	Prunus serotina	10	Good	Protected	
299	Black Cherry	Prunus serotina	14	Good	Protected	
300	Black Cherry	Prunus serotina	10	Good	Protected	
301	Black Cherry	Prunus serotina	10	Good	Protected	
597	Black Cherry	Prunus serotina	10	Good	Protected	
750	Box Elder	*Acer negundo*	9	Good	Invasive	
754	Black Cherry	*Prunus serotina*	16	Good	Protected	
756	Box Elder	*Acer negundo*	8	Poor	Invasive	
758	Black Cherry	*Prunus serotina*	6	Poor	Protected	
760	Box Elder	*Acer negundo*	8	Fair	Invasive	
761	Box Elder	*Acer negundo*	7	Fair	Invasive	
762	Box Elder	*Acer negundo*	8	Fair	Invasive	
763	Box Elder	*Acer negundo*	8	Fair	Invasive	
764	Box Elder	*Acer negundo*	9	Fair	Invasive	
765	Box Elder	*Acer negundo*	6	Fair	Invasive	
766	Box Elder	*Acer negundo*	6	Poor	Invasive	
767	Box Elder	*Acer negundo*	6	Fair	Invasive	
842	Box Elder	*Acer negundo*	6	Fair	Invasive	
843	Box Elder	*Acer negundo*	7	Fair	Invasive	
845	Box Elder	*Acer negundo*	6	Poor	Invasive	
881	Box Elder	*Acer negundo*	7	Fair	Invasive	
882	Box Elder	*Acer negundo*	9	Good	Invasive	
883	Box Elder	*Acer negundo*	7	Fair	Invasive	
886	Box Elder	*Acer negundo*	12	Fair	Invasive	
914	Black Walnut	*Juglans nigra*	8	Good	Protected	
915	Black Walnut	*Juglans nigra*	6, 7	Good	Protected	
916	Poplar	*Populus*	8	Good	Invasive	
936	Black Spruce	*Picea mariana*	6	Good	Protected	
939	Black Spruce	*Picea mariana*	6	Good	Protected	
940	Black Spruce	*Picea mariana*	7	Good	Protected	
946	Black Spruce	*Picea mariana*	6	Good	Protected	
949	Black Walnut	*Juglans nigra*	6, 7	Good	Protected	
950	Poplar	*Populus*	8	Good	Invasive	
951	Black Walnut	*Juglans nigra*	6	Good	Protected	
952	Black Cherry	*Prunus serotina*	6	Good	Protected	
953	Black Walnut	*Juglans nigra*	6	Good	Protected	
954	Poplar	*Populus*	26	Good	Heritage	
954.1	Black Walnut	*Juglans nigra*	6	Good	Protected	
954.2	Black Cherry	*Prunus serotina*	4, 5, 7	Good	Protected	
955	Black Walnut	*Juglans nigra*	2, 6	Good	Protected	
957	Black Spruce	*Picea mariana*	6	Good	Protected	
958	Black Spruce	*Picea mariana*	6	Good	Protected	
959	Black Spruce	*Picea mariana*	3, 5	Good	Protected	
960	Black Spruce	*Picea mariana*	7	Good	Protected	
961	Black Walnut	*Juglans nigra*	6	Good	Protected	
962	Black Walnut	*Juglans nigra*	8	Good	Protected	
963	Black Walnut	*Juglans nigra*	7	Good	Protected	
964	Black Cherry	*Prunus serotina*	5, 8, 8, 11	Poor	Protected	
965	Black Cherry	*Prunus serotina*	5, 8	Good	Protected	
966	Black Walnut	*Juglans nigra*	10	Good	Protected	
967	Black Cherry	*Prunus serotina*	7	Good	Protected	
968	Black Cherry	*Prunus serotina*	7	Good	Protected	
969	Black Cherry	*Prunus serotina*	3, 7, 7, 10	Good	Protected	
970	Black Cherry	*Prunus serotina*	6	Good	Protected	
971	White Cedar	*Thuja occidentalis*	6	Good	Protected	
972	Black Cherry	*Prunus serotina*	6	Good	Protected	
973	Black Cherry	*Prunus serotina*	6, 7, 8	Good	Protected	
974	Black Cherry	*Prunus serotina*	8	Good	Protected	
975	Black Cherry	*Prunus serotina*	6	Good	Protected	
976	Black Walnut	*Juglans nigra*	6	Good	Protected	
977	Black Cherry	*Prunus serotina*	6	Good	Protected	
978	Black Cherry	*Prunus serotina*	8	Good	Protected	
979	Black Walnut	*Juglans nigra*	7	Good	Protected	
980	Black Cherry	*Prunus serotina*	8	Good	Protected	
981	Black Cherry	*Prunus serotina*	6	Good	Protected	
982	Black Walnut	*Juglans nigra*	6	Good	Protected	
983	Black Walnut	*Juglans nigra*	7	Good	Protected	
984	Apple	*Malus domestica*	8, 8, 10, 10, 12, 14	Fair	Protected	
985	Black Cherry	*Prunus serotina*	13, 15	Fair	Protected	
986	Black Cherry	*Prunus serotina*	22	Poor	Heritage	
987	Black Cherry	*Prunus serotina*	3, 7	Fair	Protected	
988	Poplar	*Populus*	6	Good	Invasive	
989	Black Cherry	*Prunus serotina*	8	Good	Protected	
990	Black Cherry	*Prunus serotina*	12	Good	Protected	
991	Black Cherry	*Prunus serotina*	7, 16	Good	Protected	
992	Black Cherry	*Prunus serotina*	10, 12, 20	Good	Heritage	
993	Black Cherry	*Prunus serotina*	8, 8	Good	Protected	
994	Black Cherry	*Prunus serotina*	6	Good	Protected	
995	Black Cherry	*Prunus serotina*	6	Good	Protected	
996	Black Cherry	*Prunus serotina*	4, 6, 7	Good	Protected	
997	White Oak	*Quercus alba*	6	Good	Protected	
998	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
999	Black Cherry	*Prunus serotina*	12	Good	Protected	
1000	Crabapple	*Malus*	3, 6, 6	Good	Protected	
1001	Black Cherry	*Prunus serotina*	10, 10, 10	Fair	Protected	
1002	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1003	Black Cherry	*Prunus serotina*	10	Good	Protected	
1004	Black Cherry	*Prunus serotina*	6	Good	Protected	
1005	Black Cherry	*Prunus serotina*	12	Good	Protected	
1006	Black Cherry	*Prunus serotina*	8, 10, 10	Good	Protected	
1007	Box Elder	Acer negundo	6, 10, 14	Good	Invasive	
1008	Black Walnut	*Juglans nigra*	8	Good	Protected	
1009	Hackberry	*Celtis*	5, 10	Good	Protected	
1010	Hackberry	*Celtis*	4, 5, 6	Good	Protected	
1011	Beech	*Fagus*	9	Good	Protected	
1012	Black Cherry	*Prunus serotina*	12	Good	Protected	
1013	Beech	*Fagus*	10	Good	Protected	
1014	Beech	*Fagus*	10	Good	Protected	
1015	Bur Oak	*Quercus macrocarpa*	16	Good	Heritage	
1016	Beech	*Fagus*	6	Good	Protected	
1017	Black Cherry	*Prunus serotina*	6	Good	Protected	
1018	Shagbark Hickory	*Carya ovata*	24	Good	Heritage	
1019	Shagbark Hickory	*Carya ovata*	12	Good	Protected	
1020	Shagbark Hickory	*Carya ovata*	12	Good	Protected	
1021	Bur Oak	*Quercus macrocarpa*	22	Good	Heritage	
1022	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1023	Black Cherry	*Prunus serotina*	6	Good	Protected	
1024	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1025	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1026	Bur Oak	*Quercus macrocarpa*	7	Good	Protected	
1027	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1028	Bur Oak	*Quercus macrocarpa*	15	Good	Protected	
1029	Black Cherry	*Prunus serotina*	8	Fair	Protected	
1030	Black Cherry	*Prunus serotina*	8	Good	Protected	
1031	Bur Oak	*Quercus macrocarpa*	8	Good	Protected	
1032	Bur Oak	*Quercus macrocarpa*	16	Good	Heritage	
1034	Shagbark Hickory	*Carya ovata*	10	Good	Protected	
1035	Bur Oak	*Quercus macrocarpa*	10	Good	Protected	
1036	Bur Oak	*Quercus macrocarpa*	8	Good	Protected	
1037	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1038	Bur Oak	*Quercus macrocarpa*	7	Good	Protected	
1039	Bur Oak	*Quercus macrocarpa*	10	Good	Protected	
1040	Bur Oak	*Quercus macrocarpa*	8	Good	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
1042	Beech	*Fagus*	10	Good	Protected	
1043	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1044	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1045	Bur Oak	*Quercus macrocarpa*	17	Good	Heritage	
1046	Bur Oak	*Quercus macrocarpa*	16	Good	Heritage	
1047	Bur Oak	*Quercus macrocarpa*	28	Good	Heritage	
1048	Black Walnut	*Juglans nigra*	18	Good	Heritage	
1049	Black Cherry	*Prunus serotina*	10	Fair	Protected	
1050	Bur Oak	*Quercus macrocarpa*	8	Good	Protected	
1051	Bur Oak	*Quercus macrocarpa*	22	Good	Heritage	
1052	Black Cherry	*Prunus serotina*	14, 10	Good	Heritage	
1053	Shagbark Hickory	*Carya ovata*	6	Good	Protected	
1055	Black Cherry	*Prunus serotina*	18	Good	Heritage	
1056	Beech	*Fagus*	6	Good	Protected	
1057	Black Cherry	*Prunus serotina*	12	Good	Protected	
1058	Bur Oak	*Quercus macrocarpa*	15	Good	Protected	
1059	Black Cherry	*Prunus serotina*	8	Poor	Protected	
1060	Black Cherry	*Prunus serotina*	16	Fair	Protected	
1061	Bur Oak	*Quercus macrocarpa*	18	Good	Heritage	
1062	Black Cherry	*Prunus serotina*	8, 14	Poor	Protected	
1063	Bur Oak	*Quercus macrocarpa*	10	Good	Protected	
1064	Black Cherry	*Prunus serotina*	8	Good	Protected	
1065	Black Cherry	*Prunus serotina*	8	Good	Protected	
1066	Black Cherry	*Prunus serotina*	5, 6, 8, 10	Poor	Protected	
1067	Black Cherry	*Prunus serotina*	6	Fair	Protected	
1068	Crabapple	*Malus*	2, 4, 6	Good	Protected	
1070	Black Cherry	*Prunus serotina*	12	Good	Protected	
1071	Black Cherry	*Prunus serotina*	12	Good	Protected	
1072	Black Cherry	*Prunus serotina*	20	Poor	Heritage	
1073	Black Cherry	*Prunus serotina*	12	Good	Protected	
1074	Black Cherry	*Prunus serotina*	22	Good	Heritage	
1075	Bur Oak	*Quercus macrocarpa*	8	Good	Protected	
1076	Crabapple	*Malus*	6	Good	Protected	
1077	Black Cherry	*Prunus serotina*	14	Fair	Protected	
1078	Beech	*Fagus*	6	Good	Protected	
1080	Black Cherry	*Prunus serotina*	6	Good	Protected	
1081	Hackberry	*Celtis*	8	Good	Protected	
1084	Hackberry	*Celtis*	6	Good	Protected	
1085	Beech	*Fagus*	8	Good	Protected	
1086	Black Cherry	*Prunus serotina*	8, 10	Fair	Protected	
1087	Black Cherry	*Prunus serotina*	8, 8	Good	Protected	
1088	Black Cherry	*Prunus serotina*	8	Fair	Protected	
1089	Black Cherry	*Prunus serotina*	8, 10	Poor	Protected	
1090	Black Cherry	*Prunus serotina*	8, 10	Fair	Protected	
1091	Black Cherry	*Prunus serotina*	8	Good	Protected	
1092	Black Cherry	*Prunus serotina*	4, 6	Good	Protected	
1093	Black Cherry	*Prunus serotina*	10, 10	Good	Protected	
1094	Shagbark Hickory	*Carya ovata*	10	Good	Protected	
1095	Beech	*Fagus*	12	Good	Protected	
1096	Black Cherry	*Prunus serotina*	12, 12, 16	Good	Protected	
1097	Beech	*Fagus*	10	Good	Protected	
1098	Black Cherry	*Prunus serotina*	10	Good	Protected	
1099	Black Cherry	*Prunus serotina*	8	Good	Protected	
1100	Black Cherry	*Prunus serotina*	6, 11	Good	Protected	
1101	Bur Oak	*Quercus macrocarpa*	24	Good	Heritage	
1102	Black Cherry	*Prunus serotina*	8	Poor	Protected	
1103	Black Cherry	*Prunus serotina*	8, 11	Good	Protected	
1104	Beech	*Fagus*	12	Good	Protected	
1105	Bur Oak	*Quercus macrocarpa*	8	Good	Protected	
1106	Shagbark Hickory	*Carya ovata*	9	Good	Protected	
1107	Bur Oak	*Quercus macrocarpa*	22	Good	Heritage	
1108	Beech	*Fagus*	6	Good	Protected	
1109	Beech	*Fagus*	6	Good	Protected	
1110	Bur Oak	*Quercus macrocarpa*	10	Good	Protected	
1111	Bur Oak	*Quercus macrocarpa*	18, 20	Good	Heritage	
1112	Beech	*Fagus*	6	Good	Protected	
1113	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1115	Beech	*Fagus*	8	Good	Protected	
1117	Shagbark Hickory	*Carya ovata*	12	Good	Protected	
1118	Bur Oak	*Quercus macrocarpa*	6	Good	Protected	
1119	Bur Oak	*Quercus macrocarpa*	12	Fair	Protected	
1120	Bur Oak	*Quercus macrocarpa*	12	Fair	Protected	
1121	Bur Oak	*Quercus macrocarpa*	10	Fair	Protected	
1122	Bur Oak	*Quercus macrocarpa*	6	Fair	Protected	
1123	Bur Oak	*Quercus macrocarpa*	32	Good	Heritage	
1124	Bur Oak	*Quercus macrocarpa*	20	Good	Heritage	
1125	Bur Oak	*Quercus macrocarpa*	14	Fair	Protected	
1126	Shagbark Hickory	*Carya ovata*	10	Fair	Protected	
1127	Black Cherry	*Prunus serotina*	8		Protected	
1128	Black Cherry	*Prunus serotina*	9		Protected	
1129	Black Cherry	*Prunus serotina*	6	Good	Protected	
1130	Crabapple	*Malus*	4, 10, 10	Good	Protected	
1131	Crabapple	*Malus*	6	Good	Protected	
1132	Crabapple	*Malus*	6	Fair	Protected	
1134	Crabapple	*Malus*	6	Good	Protected	
1135	Crabapple	*Malus*	6	Fair	Protected	
1137	Crabapple	*Malus*	6	Good	Protected	
1139	Crabapple	*Malus*	6	Good	Protected	
1141	Crabapple	*Malus*	6	Good	Protected	
1142	Crabapple	*Malus*	6	Fair	Protected	
1143	Black Cherry	*Prunus serotina*	8		Protected	
1144	Shagbark Hickory	*Carya ovata*	8	Fair	Protected	
1145	Shagbark Hickory	*Carya ovata*	26	Good	Heritage	
1146	Black Cherry	*Prunus serotina*	8		Protected	
1147	Shagbark Hickory	*Carya ovata*	10	Fair	Protected	
1148	Shagbark Hickory	*Carya ovata*	6	Good	Protected	
1149	Shagbark Hickory	*Carya ovata*	9	Fair	Protected	
1150	Shagbark Hickory	*Carya ovata*	6	Good	Protected	
1151	Shagbark Hickory	*Carya ovata*	6	Fair	Protected	
1152	Shagbark Hickory	*Carya ovata*	10, 10	Good	Protected	
1153	Shagbark Hickory	*Carya ovata*	9	Fair	Protected	
1154	Beech	*Fagus*	6, 12		Protected	
1155	Beech	*Fagus*	8, 12		Protected	
1156	Beech	*Fagus*	12, 12	Good	Protected	
1157	Black Cherry	*Prunus serotina*	6	Fair	Protected	
1158	White Oak	*Quercus alba*	8	Good	Protected	
1159	Beech	*Fagus*	5		Protected	
1160	Shagbark Hickory	*Carya ovata*	6	Good	Protected	
1161	Shagbark Hickory	*Carya ovata*	6	Good	Protected	
1163	Bur Oak	*Quercus macrocarpa*	6	Fair	Protected	
1164	Black Cherry	*Prunus serotina*	16, 18	Good	Heritage	
1165	Black Cherry	*Prunus serotina*	22	Fair	Heritage	
1165.1	Black Cherry	*Prunus serotina*	8		Protected	
1166	Black Cherry	*Prunus serotina*	14	Good	Protected	
1167	Box Elder	Acer negundo	10, 12	Good	Invasive	
1168	Black Cherry	*Prunus serotina*	10	Fair	Protected	
1169	Black Cherry	*Prunus serotina*	10	Fair	Protected	
1171	Black Walnut	*Juglans nigra*	6	Good	Protected	
1172	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1175	Black Walnut	*Juglans nigra*	6	Good	Protected	
1178	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1179	Black Walnut	*Juglans nigra*	3, 6	Good	Protected	
1181	Black Walnut	*Juglans nigra*	6, 6	Good	Protected	
1183	Black Walnut	*Juglans nigra*	6	Good	Protected	
1190	Box Elder	Acer negundo	8	Poor	Invasive	
1191	Black Walnut	*Juglans nigra*	9	Good	Protected	
1193	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1198	Black Walnut	*Juglans nigra*	6	Good	Protected	
1201	Black Cherry	*Prunus serotina*	6	Fair	Protected	
1209	Black Cherry	*Prunus serotina*	6	Fair	Protected	
1210	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1212	Black Walnut	*Juglans nigra*	8	Fair	Protected	
1213	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1214	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1218	Black Walnut	*Juglans nigra*	8	Fair	Protected	
1219	Black Walnut	*Juglans nigra*	6	Fair	Protected	
1222	Black Walnut	*Juglans nigra*	9	Good	Protected	
1223	Black Walnut	*Juglans nigra*	9	Good	Protected	
1224	Black Walnut	*Juglans nigra*	6	Good	Protected	
1225	Black Walnut	*Juglans nigra*	6, 6	Good	Protected	
1226	Black Walnut	*Juglans nigra*	18	Good	Heritage	
1228	Black Walnut	*Juglans nigra*	9	Good	Protected	
1230	Black Walnut	*Juglans nigra*	10	Good	Protected	
1231	Black Walnut	*Juglans nigra*	6	Good	Protected	
1241	Black Walnut	*Juglans nigra*	8, 14	Good	Protected	
1245	Black Spruce	*Picea mariana*	6	Good	Protected	
1246	Red Pine	*Pinus resinosa*	6, 10	Good	Protected	
1247	Red Pine	*Pinus resinosa*	4, 6	Good	Protected	
1250	Black Spruce	*Picea mariana*	6	Good	Protected	
1253	Red Pine	*Pinus resinosa*	6	Good	Protected	
1254	Black Walnut	*Juglans nigra*	6	Good	Protected	
1255	Black Walnut	*Juglans nigra*	6	Good	Protected	
1256	Black Cherry	*Prunus serotina*	7	Good	Protected	
1257	Black Walnut	*Juglans nigra*	7	Good	Protected	
1258	Black Walnut	*Juglans nigra*	9	Good	Protected	
1259	Black Walnut	*Juglans nigra*	8	Good	Protected	
1262	Black Walnut	*Juglans nigra*	28	Good	Heritage	
1263	Black Walnut	*Juglans nigra*	17	Good	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
1264	Black Walnut	*Juglans nigra*	16	Good	Protected	
1265	Black Walnut	*Juglans nigra*	6	Good	Protected	
1266	Black Walnut	*Juglans nigra*	10	Good	Protected	
1268	Black Walnut	*Juglans nigra*	9	Good	Protected	
1269	Black Walnut	*Juglans nigra*	24	Good	Heritage	
1270	Crabapple	*Malus*	6	Good	Protected	
1271	Black Walnut	*Juglans nigra*	7	Good	Protected	
1272	Black Walnut	*Juglans nigra*	6	Good	Protected	
1273	Black Walnut	*Juglans nigra*	8	Good	Protected	
1274	White Cedar	*Thuja occidentalis*	7	Good	Protected	
1275	Black Cherry	*Prunus serotina*	10	Good	Protected	
1276	Black Walnut	*Juglans nigra*	10	Good	Protected	
1278	Black Cherry	*Prunus serotina*	14	Poor	Protected	
1279	Black Cherry	*Prunus serotina*	7, 12	Fair	Protected	
1280	Crabapple	*Malus*	7	Good	Protected	
1281	Black Walnut	*Juglans nigra*	6	Good	Protected	
1282	Crabapple	*Malus*	6	Good	Protected	
1283	Black Cherry	*Prunus serotina*	16	Good	Protected	
1284	Black Walnut	*Juglans nigra*	8	Good	Protected	
1285	Black Walnut	*Juglans nigra*	8	Good	Protected	
1286	Black Cherry	*Prunus serotina*	6	Good	Protected	
1288	Black Cherry	*Prunus serotina*	6	Good	Protected	
1291	Black Cherry	*Prunus serotina*	4, 6, 9	Good	Protected	
1292	Black Cherry	*Prunus serotina*	8, 9	Good	Protected	
1293	Apple	*Malus domestica*	4, 6	Good	Protected	
1294	Apple	*Malus domestica*	6, 6	Good	Protected	
1295	Apple	*Malus domestica*	8	Good	Protected	
1296	Apple	*Malus domestica*	4, 4, 8, 8	Good	Protected	
1297	Apple	*Malus domestica*	7	Good	Protected	
1298	Apple	*Malus domestica*	8	Good	Protected	
1299	Black Cherry	*Prunus serotina*	13	Good	Protected	
1300	Apple	*Malus domestica*	4, 4, 4, 6, 6, 9, 10	Good	Protected	4,
1301	Black Cherry	*Prunus serotina*	12	Good	Protected	
1302	Black Cherry	*Prunus serotina*	8, 10	Good	Protected	
1303	Black Cherry	*Prunus serotina*	9, 10	Poor	Protected	
1304	Black Cherry	*Prunus serotina*	8	Good	Protected	
1305	Black Cherry	*Prunus serotina*	6	Good	Protected	
1306	Black Cherry	*Prunus serotina*	8	Good	Protected	
1307	Black Cherry	*Prunus serotina*	14	Good	Protected	
1308	Box Elder	*Acer negundo*	4, 6, 8, 8, 10	Good	Invasive	
1310	Black Cherry	*Prunus serotina*	8	Good	Protected	
1312	Black Cherry	*Prunus serotina*	9	Good	Protected	
1313	Black Cherry	*Prunus serotina*	7	Good	Protected	
1314	Black Cherry	*Prunus serotina*	8, 8	Good	Protected	
1315	Apple	*Malus domestica*	6	Good	Protected	
1316	Black Walnut	*Juglans nigra*	13	Good	Protected	
1317	Black Cherry	*Prunus serotina*	8	Good	Protected	
1318	Black Cherry	*Prunus serotina*	8, 10	Good	Protected	
1319	Black Walnut	*Juglans nigra*	9	Good	Protected	
1320	Black Cherry	*Prunus serotina*	7	Good	Protected	
1321	Hackberry	*Celtis*	6	Good	Protected	
1322	Black Cherry	*Prunus serotina*	6	Good	Protected	
1323	Black Cherry	*Prunus serotina*	8	Good	Protected	
1326	Black Cherry	*Prunus serotina*	11	Good	Protected	
1327	Black Walnut	*Juglans nigra*	6	Good	Protected	
1328	Black Cherry	*Prunus serotina*	8, 9	Good	Protected	
1329	Black Cherry	*Prunus serotina*	7	Good	Protected	
1330	Black Cherry	*Prunus serotina*	8	Good	Protected	
1331	Black Walnut	*Juglans nigra*	10	Good	Protected	
1333	Black Cherry	*Prunus serotina*	11	Good	Protected	
1334	Black Cherry	*Prunus serotina*	10	Good	Protected	
1335	Black Walnut	*Juglans nigra*	8	Good	Protected	
1336	Apple	*Malus domestica*	6, 6	Good	Protected	
1338	Box Elder	*Acer negundo*	6, 8	Good	Invasive	
1339	Black Walnut	*Juglans nigra*	16	Good	Protected	
1340	Black Walnut	*Juglans nigra*	6	Good	Protected	
1341	Black Walnut	*Juglans nigra*	7	Good	Protected	
1342	Black Walnut	*Juglans nigra*	9	Good	Protected	
1343	Black Cherry	*Prunus serotina*	16	Good	Protected	
1344	Black Walnut	*Juglans nigra*	6	Good	Protected	
1345	Black Cherry	*Prunus serotina*	10	Good	Protected	
1346	Box Elder	*Acer negundo*	4, 8	Good	Invasive	
1348	Black Walnut	*Juglans nigra*	6	Good	Protected	
1349	Apple	*Malus domestica*	8	Good	Protected	
1350	Black Cherry	*Prunus serotina*	9	Good	Protected	
1351	Black Walnut	*Juglans nigra*	15	Good	Protected	
1352	Black Cherry	*Prunus serotina*	8	Good	Protected	
1353	Black Walnut	*Juglans nigra*	12	Good	Protected	
1354	Beech	*Fagus*	10	Good	Protected	
1355	Black Cherry	*Prunus serotina*	8	Good	Protected	
1357	Box Elder	*Acer negundo*	6	Poor	Invasive	
1358	Black Cherry	*Prunus serotina*	10	Good	Protected	
1359	Black Cherry	*Prunus serotina*	4, 8, 10	Fair	Protected	
1360	Black Walnut	*Juglans nigra*	10	Fair	Protected	
1361	Black Cherry	*Prunus serotina*	8	Good	Protected	
1362	Black Cherry	*Prunus serotina*	6	Good	Protected	
1363	Black Cherry	*Prunus serotina*	7	Good	Protected	
1364	Hackberry	*Celtis*	4, 4, 6	Good	Protected	
1365	Black Cherry	*Prunus serotina*	8, 8	Good	Protected	
1366	Black Cherry	*Prunus serotina*	7	Fair	Protected	
1367	Box Elder	*Acer negundo*	6	Good	Invasive	
1368	Black Cherry	*Prunus serotina*	8	Good	Protected	
1369	Black Cherry	*Prunus serotina*	8	Good	Protected	
1370	Black Cherry	*Prunus serotina*	6	Good	Protected	
1371	Black Cherry	*Prunus serotina*	7	Good	Protected	
1372	Apple	*Malus domestica*	6, 6, 6, 7	Fair	Protected	
1373	Black Walnut	*Juglans nigra*	8	Good	Protected	
1375	Black Cherry	*Prunus serotina*	10	Good	Protected	
1376	Black Cherry	*Prunus serotina*	8	Good	Protected	
1377	Black Cherry	*Prunus serotina*	6	Good	Protected	
1378	Black Cherry	*Prunus serotina*	5, 6	Good	Protected	
1381	Black Cherry	*Prunus serotina*	6	Good	Protected	
1382	Black Cherry	*Prunus serotina*	6	Good	Protected	
1383	Black Walnut	*Juglans nigra*	6	Good	Protected	
1384	Black Cherry	*Prunus serotina*	8, 10	Good	Protected	
1385	Black Cherry	*Prunus serotina*	6	Good	Protected	
1386	Black Cherry	*Prunus serotina*	6	Good	Protected	
1387	Black Cherry	*Prunus serotina*	7	Good	Protected	
1388	Black Cherry	*Prunus serotina*	6	Good	Protected	
1389	Black Cherry	*Prunus serotina*	6	Good	Protected	
1391	Black Cherry	*Prunus serotina*	6	Good	Protected	
1392	Black Cherry	*Prunus serotina*	6	Good	Protected	
1393	Black Cherry	*Prunus serotina*	8	Good	Protected	
1395	Black Cherry	*Prunus serotina*	6	Good	Protected	
1397	Black Cherry	*Prunus serotina*	10	Good	Protected	
1398	Black Cherry	*Prunus serotina*	8	Good	Protected	
1399	Black Cherry	*Prunus serotina*	8	Good	Protected	
1400	Black Cherry	*Prunus serotina*	8	Good	Protected	
1401	Black Cherry	*Prunus serotina*	6, 8	Good	Protected	
1402	Black Cherry	*Prunus serotina*	6	Good	Protected	
1403	Black Cherry	*Prunus serotina*	6	Good	Protected	
1404	Black Cherry	*Prunus serotina*	8	Good	Protected	
1405	Black Walnut	*Juglans nigra*	6	Good	Protected	
1406	Black Walnut	*Juglans nigra*	14	Good	Protected	
1407	Black Cherry	*Prunus serotina*	8	Good	Protected	
1408	Black Cherry	*Prunus serotina*	10	Good	Protected	
1409	Black Cherry	*Prunus serotina*	6	Good	Protected	
1412	Black Cherry	*Prunus serotina*	6	Good	Protected	
1413	Black Cherry	*Prunus serotina*	8	Good	Protected	
1414	Black Cherry	*Prunus serotina*	6	Good	Protected	
1417	Black Cherry	*Prunus serotina*	6	Good	Protected	
1418	Black Cherry	*Prunus serotina*	7	Good	Protected	
1421	Hackberry	*Celtis*	6	Good	Protected	
1422	Black Cherry	*Prunus serotina*	6	Good	Protected	
1423	Black Cherry	*Prunus serotina*	8	Good	Protected	
1424	Black Cherry	*Prunus serotina*	8	Good	Protected	
1426	Black Cherry	*Prunus serotina*	8	Good	Protected	
1427	Black Walnut	*Juglans nigra*	8	Good	Protected	
1428	Black Cherry	*Prunus serotina*	6	Good	Protected	
1429	Black Cherry	*Prunus serotina*	6	Good	Protected	
1430	Black Cherry	*Prunus serotina*	6	Good	Protected	
1431	Black Cherry	*Prunus serotina*	6	Good	Protected	
1432	Black Cherry	*Prunus serotina*	6	Good	Protected	
1433	Black Cherry	*Prunus serotina*	6, 18	Poor	Protected	
1434	Black Walnut	*Juglans nigra*	8	Good	Protected	
1435	Black Cherry	*Prunus serotina*	4, 16	Poor	Protected	
1436	Black Cherry	*Prunus serotina*	8	Poor	Protected	
1437	Apple	*Malus domestica*	8, 8	Good	Protected	
1438	Apple	*Malus domestica*	6	Good	Protected	
1439	Black Cherry	*Prunus serotina*	8, 10	Fair	Protected	
1441	Black Walnut	*Juglans nigra*	10	Good	Protected	
1442	Black Walnut	*Juglans nigra*	7	Good	Protected	
1443	Apple	*Malus domestica*	6, 8, 9	Good	Protected	
1444	Crabapple	*Malus*	4, 8	Good	Protected	
1445	Black Walnut	*Juglans nigra*	8	Good	Protected	
1446	Black Cherry	*Prunus serotina*	6	Good	Protected	
1447	Black Cherry	*Prunus serotina*	10	Good	Protected	
1448	Black Cherry	*Prunus serotina*	6	Good	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
1449	Black Cherry	*Prunus serotina*	8	Good	Protected	
1450	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1451	Black Walnut	*Juglans nigra*	7	Good	Protected	
1452	Black Cherry	*Prunus serotina*	6	Good	Protected	
1453	Black Cherry	*Prunus serotina*	8	Good	Protected	
1454	Black Cherry	*Prunus serotina*	6	Good	Protected	
1455	Black Cherry	*Prunus serotina*	8	Good	Protected	
1456	Black Cherry	*Prunus serotina*	6	Good	Protected	
1457	Black Cherry	*Prunus serotina*	7	Good	Protected	
1459	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1460	Black Cherry	*Prunus serotina*	6	Good	Protected	
1461	Black Cherry	*Prunus serotina*	6	Good	Protected	
1462	White Cedar	*Thuja occidentalis*	6, 12	Good	Protected	
1463	Black Cherry	*Prunus serotina*	6	Good	Protected	
1464	Black Cherry	*Prunus serotina*	7	Good	Protected	
1465	Black Cherry	*Prunus serotina*	8	Good	Protected	
1467	Black Cherry	*Prunus serotina*	10	Good	Protected	
1468	Black Cherry	*Prunus serotina*	8	Good	Protected	
1469	Black Walnut	*Juglans nigra*	18, 23	Poor	Heritage	
1470	Black Cherry	*Prunus serotina*	10	Good	Protected	
1471	Oak	*Quercus*	6	Good	Protected	
1474	Black Cherry	*Prunus serotina*	6	Good	Protected	
1475	Black Cherry	*Prunus serotina*	6	Good	Protected	
1476	Black Cherry	*Prunus serotina*	6	Good	Protected	
1477	Black Cherry	*Prunus serotina*	6	Good	Protected	
1478	Black Cherry	*Prunus serotina*	7, 7	Good	Protected	
1479	Black Cherry	*Prunus serotina*	8	Good	Protected	
1480	Black Cherry	*Prunus serotina*	6	Good	Protected	
1481	Black Cherry	*Prunus serotina*	8	Good	Protected	
1484	Black Cherry	*Prunus serotina*	8	Good	Protected	
1485	Black Cherry	*Prunus serotina*	8	Good	Protected	
1486	Black Cherry	*Prunus serotina*	7	Good	Protected	
1487	Black Cherry	*Prunus serotina*	7, 10	Good	Protected	
1488	Black Cherry	*Prunus serotina*	8	Good	Protected	
1489	Black Cherry	*Prunus serotina*	8, 10, 12	Good	Protected	
1490	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1491	Black Walnut	*Juglans nigra*	11	Good	Protected	
1492	Black Cherry	*Prunus serotina*	9	Good	Protected	
1493	Black Cherry	*Prunus serotina*	8	Good	Protected	
1494	Black Cherry	*Prunus serotina*	4, 7, 10	Good	Protected	
1495	Black Cherry	*Prunus serotina*	6	Good	Protected	
1497	Hackberry	*Celtis*	6, 8	Good	Protected	
1498	Black Cherry	*Prunus serotina*	6, 12	Good	Protected	
1499	Black Cherry	*Prunus serotina*	6	Good	Protected	
1500	Black Cherry	*Prunus serotina*	8	Good	Protected	
1501	Black Cherry	*Prunus serotina*	6	Good	Protected	
1502	Black Cherry	*Prunus serotina*	6	Good	Protected	
1503	Black Cherry	*Prunus serotina*	6	Good	Protected	
1504	Black Cherry	*Prunus serotina*	7	Good	Protected	
1505	Black Cherry	*Prunus serotina*	10	Good	Protected	
1508	Apple	*Malus domestica*	6	Good	Protected	
1509	Black Cherry	*Prunus serotina*	8	Good	Protected	
1511	Black Cherry	*Prunus serotina*	4, 6	Good	Protected	
1512	Black Cherry	*Prunus serotina*	11	Good	Protected	
1513	Black Cherry	*Prunus serotina*	9	Good	Protected	
1514	Black Cherry	*Prunus serotina*	10, 12	Good	Protected	
1515	Black Cherry	*Prunus serotina*	10	Good	Protected	
1516	Black Cherry	*Prunus serotina*	4, 6, 8, 8	Good	Protected	
1518	Black Cherry	*Prunus serotina*	11, 11	Good	Protected	
1519	Black Cherry	*Prunus serotina*	8	Good	Protected	
1520	Black Cherry	*Prunus serotina*	6, 10	Good	Protected	
1521	Black Cherry	*Prunus serotina*	9	Good	Protected	
1522	Apple	*Malus domestica*	4, 5, 5, 6	Good	Protected	
1524	Black Cherry	*Prunus serotina*	6, 10	Good	Protected	
1525	Black Cherry	*Prunus serotina*	10	Good	Protected	
1526	Black Cherry	*Prunus serotina*	9	Good	Protected	
1527	Black Cherry	*Prunus serotina*	6, 8	Good	Protected	
1528	Black Cherry	*Prunus serotina*	6	Good	Protected	
1530	Black Cherry	*Prunus serotina*	6	Good	Protected	
1532	Box Elder	*Acer negundo*	6	Good	Invasive	
1533	Black Cherry	*Prunus serotina*	6	Good	Protected	
1535	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1537	Black Cherry	*Prunus serotina*	10	Good	Protected	
1538	Black Cherry	*Prunus serotina*	8	Good	Protected	
1540	Black Cherry	*Prunus serotina*	8	Good	Protected	
1541	Black Cherry	*Prunus serotina*	6, 12	Good	Protected	
1542	Black Cherry	*Prunus serotina*	8	Good	Protected	
1543	Black Walnut	*Juglans nigra*	14	Good	Protected	
1544	Black Cherry	*Prunus serotina*	8, 10, 10	Good	Protected	
1545	Black Cherry	*Prunus serotina*	8	Good	Protected	
1546	Black Cherry	*Prunus serotina*	13	Good	Protected	
1547	Black Cherry	*Prunus serotina*	10	Good	Protected	
1548	Apple	*Malus domestica*	4, 6, 6, 10	Good	Protected	
1549	Black Cherry	*Prunus serotina*	6	Good	Protected	
1550	Black Cherry	*Prunus serotina*	8	Good	Protected	
1551	Black Cherry	*Prunus serotina*	8	Good	Protected	
1552	Black Cherry	*Prunus serotina*	16	Good	Protected	
1555	Black Cherry	*Prunus serotina*	8, 12	Poor	Protected	
1557	Black Cherry	*Prunus serotina*	6, 8	Good	Protected	
1558	Black Walnut	*Juglans nigra*	10	Good	Protected	
1559	Black Cherry	*Prunus serotina*	8, 8	Good	Protected	
1561	Black Cherry	*Prunus serotina*	14	Good	Protected	
1562	Black Cherry	*Prunus serotina*	10	Good	Protected	
1563	Black Cherry	*Prunus serotina*	8	Good	Protected	
1564	Black Cherry	*Prunus serotina*	6	Good	Protected	
1565	Apple	*Malus domestica*	8	Good	Protected	
1566	Black Cherry	*Prunus serotina*	5, 11	Good	Protected	
1567	Black Cherry	*Prunus serotina*	8	Good	Protected	
1568	Black Cherry	*Prunus serotina*	9	Good	Protected	
1569	Black Cherry	*Prunus serotina*	6	Good	Protected	
1570	Black Cherry	*Prunus serotina*	6	Good	Protected	
1571	Black Cherry	*Prunus serotina*	6	Good	Protected	
1572	Black Cherry	*Prunus serotina*	6	Good	Protected	
1573	Black Cherry	*Prunus serotina*	6	Good	Protected	
1574	Black Cherry	*Prunus serotina*	10, 14	Good	Protected	
1575	Black Cherry	*Prunus serotina*	8	Good	Protected	
1576	Black Cherry	*Prunus serotina*	8	Good	Protected	
1577	Black Cherry	*Prunus serotina*	6	Good	Protected	
1578	Black Cherry	*Prunus serotina*	6	Good	Protected	
1580	Black Cherry	*Prunus serotina*	6	Good	Protected	
1582	Black Cherry	*Prunus serotina*	8, 12	Good	Protected	
1583	Black Cherry	*Prunus serotina*	6	Good	Protected	
1585	Crabapple	*Malus*	6	Good	Protected	
1588	Black Cherry	*Prunus serotina*	6	Good	Protected	
1589	Black Cherry	*Prunus serotina*	7	Good	Protected	
1590	Black Cherry	*Prunus serotina*	4, 4, 6	Good	Protected	
1593	Ash	*Fraxinus*	5, 8	Good	Invasive	
1595	Black Cherry	*Prunus serotina*	6, 6, 2	Good	Protected	
1596	Black Cherry	*Prunus serotina*	8, 8, 7	Good	Protected	
1597	Black Cherry	*Prunus serotina*	8, 10	Good	Protected	
1598	Black Cherry	*Prunus serotina*	8	Good	Protected	
1599	Black Cherry	*Prunus serotina*	5, 6	Good	Protected	
1600	Black Cherry	*Prunus serotina*	7	Good	Protected	
1602	Black Cherry	*Prunus serotina*	6	Good	Protected	
1603	Black Cherry	*Prunus serotina*	11	Good	Protected	
1604	Black Cherry	*Prunus serotina*	9	Good	Protected	
1605	Black Cherry	*Prunus serotina*	8	Good	Protected	
1606	Black Cherry	*Prunus serotina*	8	Good	Protected	
1609	Black Cherry	*Prunus serotina*	7	Good	Protected	
1610	Black Cherry	*Prunus serotina*	7	Good	Protected	
1612	Black Cherry	*Prunus serotina*	6	Good	Protected	
1613	Black Cherry	*Prunus serotina*	10	Good	Protected	
1614	Black Cherry	*Prunus serotina*	9	Good	Protected	
1615	Black Cherry	*Prunus serotina*	6	Good	Protected	
1616	Black Cherry	*Prunus serotina*	6	Good	Protected	
1617	Black Cherry	*Prunus serotina*	11	Good	Protected	
1618	Black Cherry	*Prunus serotina*	9	Good	Protected	
1619	Black Cherry	*Prunus serotina*	13	Good	Protected	
1620	Black Cherry	*Prunus serotina*	8, 6	Good	Protected	
1622	Black Cherry	*Prunus serotina*	11	Good	Protected	
1623	Black Cherry	*Prunus serotina*	9	Good	Protected	
1624	Black Cherry	*Prunus serotina*	8	Good	Protected	
1625	Black Cherry	*Prunus serotina*	6	Good	Protected	
1627	Black Cherry	*Prunus serotina*	6	Good	Protected	
1628	Black Cherry	*Prunus serotina*	8	Good	Protected	
1629	Black Cherry	*Prunus serotina*	6	Good	Protected	
1630	Black Cherry	*Prunus serotina*	11, 12, 12	Good	Protected	
1631	Buckthorn	*Rhamnus*	6, 6	Good	Protected	
1632	American Elm	*Ulmus americana*	10	Good	Invasive	
1633	Mulberry	*Morus alba*	10, 6	Good	Protected	
1634	Black Cherry	*Prunus serotina*	7	Good	Protected	
1635	Apple	*Malus domestica*	8, 8, 8	Good	Protected	
1636	Black Cherry	*Prunus serotina*	10	Good	Protected	
1637	Black Cherry	*Prunus serotina*	8	Good	Protected	
1638	Black Cherry	*Prunus serotina*	12	Good	Protected	
1639	Black Cherry	*Prunus serotina*	6	Good	Protected	
1640	Black Cherry	*Prunus serotina*	6	Good	Protected	
1641	Black Cherry	*Prunus serotina*	7, 11	Good	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
1642	Black Cherry	*Prunus serotina*	10	Good	Protected	
1643	Black Cherry	*Prunus serotina*	9	Good	Protected	
1644	Black Cherry	*Prunus serotina*	4	Good	Protected	
1645	Black Cherry	*Prunus serotina*	9	Good	Protected	
1646	Black Cherry	*Prunus serotina*	11	Good	Protected	
1647	Black Cherry	*Prunus serotina*	11	Good	Protected	
1648	Black Cherry	*Prunus serotina*	6	Good	Protected	
1649	Black Cherry	*Prunus serotina*	11	Good	Protected	
1651	American Elm	*Ulmus americana*	20	Good	Invasive	
1652	American Elm	*Ulmus americana*	9	Good	Invasive	
1653	American Elm	*Ulmus americana*	9, 8	Good	Invasive	
1654	American Elm	*Ulmus americana*	9	Good	Invasive	
1655	American Elm	*Ulmus americana*	10	Good	Invasive	
1656	Apple	*Malus domestica*	6, 5, 5, 5	Good	Protected	
1657	Apple	*Malus domestica*	3, 4, 5, 6, 6	Good	Protected	
1659	Black Cherry	*Prunus serotina*	8	Good	Protected	
1660	Black Cherry	*Prunus serotina*	7	Good	Protected	
1661	Black Cherry	*Prunus serotina*	8	Good	Protected	
1662	Black Cherry	*Prunus serotina*	7	Good	Protected	
1663	Black Cherry	*Prunus serotina*	5	Good	Protected	
1664	Black Cherry	*Prunus serotina*	8	Good	Protected	
1665	Black Cherry	*Prunus serotina*	12,9	Good	Protected	
1666	Black Cherry	*Prunus serotina*	12	Good	Protected	
1667	Black Cherry	*Prunus serotina*	10	Good	Protected	
1668	Black Cherry	*Prunus serotina*	9	Good	Protected	
1670	Black Cherry	*Prunus serotina*	6	Good	Protected	
1671	Black Cherry	*Prunus serotina*	6	Good	Protected	
1672	Black Cherry	*Prunus serotina*	8	Good	Protected	
1673	Black Cherry	*Prunus serotina*	13	Good	Protected	
1674	Mullberry	*Morus alba*	7	Good	Protected	
1675	Black Cherry	*Prunus serotina*	8	Good	Protected	
1676	Black Cherry	*Prunus serotina*	8	Good	Protected	
1677	Black Cherry	*Prunus serotina*	7	Good	Protected	
1678	Black Cherry	*Prunus serotina*	9	Good	Protected	
1679	Black Cherry	*Prunus serotina*	19	Good	Protected	
1680	Black Cherry	*Prunus serotina*	11	Good	Protected	
1681	Black Cherry	*Prunus serotina*	8	Good	Protected	
1682	Black Cherry	*Prunus serotina*	8	Good	Protected	
1683	Black Cherry	*Prunus serotina*	8, 9	Good	Protected	
1684	Siberian Elm	*Ulmus pumila*	20	Poor	Invasive	
1685	Black Cherry	*Prunus serotina*	6, 6, 5	Good	Protected	
1686	Black Cherry	*Prunus serotina*	6	Good	Protected	
1687	Black Cherry	*Prunus serotina*	8	Good	Protected	
1688	Box Elder	*Acer negundo*	11	Good	Invasive	
1689	Box Elder	*Acer negundo*	8	Good	Invasive	
1690	Box Elder	*Acer negundo*	9	Good	Invasive	
1691	Box Elder	*Acer negundo*	14, 7	Good	Invasive	
1692	Black Cherry	*Prunus serotina*	9	Good	Protected	
1693	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1694	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1696	Black Cherry	*Prunus serotina*	6	Good	Protected	
1698	Apple	*Malus domestica*	9	Good	Protected	
1699	Black Cherry	*Prunus serotina*	4, 4, 5, 7	Good	Protected	
1700	Black Cherry	*Prunus serotina*	10, 9	Good	Protected	
1701	Black Cherry	*Prunus serotina*	6	Good	Protected	
1702	Black Cherry	*Prunus serotina*	6	Good	Protected	
1703	Black Cherry	*Prunus serotina*	8	Good	Protected	
1704	Black Cherry	*Prunus serotina*	10	Good	Protected	
1705	Black Cherry	*Prunus serotina*	5, 6, 6, 6	Good	Protected	
1709	Black Cherry	*Prunus serotina*	6, 6, 8	Good	Protected	
1710	Pear	*Pyrus calleryana*	9, 9	Good	Protected	
1711	Black Cherry	*Prunus serotina*	6	Good	Protected	
1712	Black Cherry	*Prunus serotina*	6	Good	Protected	
1714	Black Cherry	*Prunus serotina*	9	Good	Protected	
1722	Black Cherry	*Prunus serotina*	7, 8	Good	Protected	
1725	Black Cherry	*Prunus serotina*	6	Good	Protected	
1726	Black Cherry	*Prunus serotina*	8	Good	Protected	
1727	Black Cherry	*Prunus serotina*	4, 4, 8	Good	Protected	
1730	Black Cherry	*Prunus serotina*	8	Good	Protected	
1731	Black Cherry	*Prunus serotina*	6	Good	Protected	
1733	Black Cherry	*Prunus serotina*	5, 5, 6	Good	Protected	
1737	Black Cherry	*Prunus serotina*	8	Good	Protected	
1738	Apple	*Malus domestica*	4, 5, 6	Good	Protected	
1739	Black Cherry	*Prunus serotina*	16	Good	Protected	
1740	Black Cherry	*Prunus serotina*	6	Good	Protected	
1741	Black Cherry	*Prunus serotina*	6	Good	Protected	
1742	Black Cherry	*Prunus serotina*	7	Good	Protected	
1743	Black Cherry	*Prunus serotina*	8	Good	Protected	
1744	Black Cherry	*Prunus serotina*	10	Good	Protected	
1745	Black Cherry	*Prunus serotina*	6, 7	Good	Protected	
1746	Black Cherry	*Prunus serotina*	8	Good	Protected	
1748	Black Cherry	*Prunus serotina*	4, 6	Good	Protected	
1749	Black Cherry	*Prunus serotina*	5, 6, 7	Good	Protected	
1750	Black Cherry	*Prunus serotina*	6	Good	Protected	
1751	Black Cherry	*Prunus serotina*	9, 9	Poor	Protected	
1752	Black Cherry	*Prunus serotina*	6	Good	Protected	
1753	Black Cherry	*Prunus serotina*	5, 6, 6	Good	Protected	
1754	Black Cherry	*Prunus serotina*	5, 7, 8, 8, 8	Good	Protected	
1755	Black Cherry	*Prunus serotina*	6	Good	Protected	
1757	Black Cherry	*Prunus serotina*	8	Good	Protected	
1758	Black Cherry	*Prunus serotina*	9, 9, 12	Good	Protected	
1759	Black Cherry	*Prunus serotina*	12	Good	Protected	
1760	Black Cherry	*Prunus serotina*	5, 9	Good	Protected	
1761	Black Cherry	*Prunus serotina*	12	Good	Protected	
1762	Black Cherry	*Prunus serotina*	6	Good	Protected	
1763	Black Cherry	*Prunus serotina*	7, 12	Good	Protected	
1764	Black Cherry	*Prunus serotina*	10	Good	Protected	
1765	Black Cherry	*Prunus serotina*	8	Good	Protected	
1766	Black Cherry	*Prunus serotina*	7, 9	Good	Protected	
1767	Black Cherry	*Prunus serotina*	6, 6, 7	Good	Protected	
1768	Black Cherry	*Prunus serotina*	7	Good	Protected	
1769	Black Cherry	*Prunus serotina*	11	Good	Protected	
1770	Black Cherry	*Prunus serotina*	6	Good	Protected	
1772	Black Cherry	*Prunus serotina*	7, 8	Good	Protected	
1773	Black Cherry	*Prunus serotina*	7	Good	Protected	
1774	Black Cherry	*Prunus serotina*	8	Good	Protected	
1775	Black Cherry	*Prunus serotina*	6, 8, 9	Good	Protected	
1778	Black Cherry	*Prunus serotina*	6	Good	Protected	
1781	Black Cherry	*Prunus serotina*	10, 9	Good	Protected	
1782	Black Cherry	*Prunus serotina*	12	Good	Protected	
1783	Black Cherry	*Prunus serotina*	14	Good	Protected	
1784	Black Cherry	*Prunus serotina*	6, 6	Good	Protected	
1789	Black Cherry	*Prunus serotina*	7, 7	Good	Protected	
1790	Black Cherry	*Prunus serotina*	6	Good	Protected	
1791	Black Cherry	*Prunus serotina*	12	Good	Protected	
1792	Black Cherry	*Prunus serotina*	10	Good	Protected	
1793	Pear	*Pyrus calleryana*	8	Good	Protected	
1794	Black Cherry	*Prunus serotina*	7	Good	Protected	
1797	Box Elder	*Acer negundo*	15	Good	Invasive	
1798	Black Cherry	*Prunus serotina*	13	Good	Protected	
1799	Black Cherry	*Prunus serotina*	8	Good	Protected	
1800	Black Cherry	*Prunus serotina*	8	Good	Protected	
1801	Balsam Fir	*Abies balsamea*	7	Good	Protected	
1803	Black Cherry	*Prunus serotina*	8	Good	Protected	
1806	Black Cherry	*Prunus serotina*	7, 5, 6	Good	Protected	
1809	Black Cherry	*Prunus serotina*	6	Good	Protected	
1812	Black Cherry	*Prunus serotina*	6	Good	Protected	
1813	Black Cherry	*Prunus serotina*	6	Good	Protected	
1814	Black Cherry	*Prunus serotina*	8	Good	Protected	
1815	Black Cherry	*Prunus serotina*	8	Good	Protected	
1816	Black Cherry	*Prunus serotina*	10	Good	Protected	
1818	Box Elder	*Acer negundo*	8	Good	Invasive	
1819	Black Cherry	*Prunus serotina*	6	Good	Protected	
1820	Black Cherry	*Prunus serotina*	8	Good	Protected	
1821	Black Cherry	*Prunus serotina*	6	Good	Protected	
1822	Balsam Fir	*Abies balsamea*	6	Good	Protected	
1824	Black Cherry	*Prunus serotina*	8	Good	Protected	
1825	Black Cherry	*Prunus serotina*	6	Good	Protected	
1826	Black Cherry	*Prunus serotina*	6	Good	Protected	
1827	Black Cherry	*Prunus serotina*	8	Good	Protected	
1828	Black Cherry	*Prunus serotina*	6	Good	Protected	
1829	Black Cherry	*Prunus serotina*	10	Good	Protected	
1830	Black Cherry	*Prunus serotina*	8	Good	Protected	
1832	Black Cherry	*Prunus serotina*	8	Good	Protected	
1833	Black Cherry	*Prunus serotina*	6	Good	Protected	
1835	Black Cherry	*Prunus serotina*	8	Good	Protected	
1836	Black Cherry	*Prunus serotina*	8	Good	Protected	
1837	Black Cherry	*Prunus serotina*	8	Good	Protected	
1838	Black Cherry	*Prunus serotina*	6	Good	Protected	
1839	Black Cherry	*Prunus serotina*	6	Good	Protected	
1841	Black Cherry	*Prunus serotina*	6	Poor	Protected	
1842	Black Cherry	Prunus serotina	10	Good	Protected	Yes
1843	Black Cherry	Prunus serotina	10	Good	Protected	Yes
1844	Maple	Acer	10	Good	Protected	Yes
1845	Black Cherry	Prunus serotina	10	Good	Protected	
1846	Maple	Acer	10	Good	Protected	Yes
1847	Black Cherry	Prunus serotina	10	Fair	Protected	
1848	Black Cherry	Prunus serotina	10	Poor	Protected	

811
Know what's below.
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN

TREE LIST

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
47

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
1849	Maple	Acer	10	Fair	Protected	
1850	Maple	Acer	10	Good	Protected	
1851	Black Cherry	Prunus serotina	10	Poor	Protected	
1852	Black Cherry	Prunus serotina	10	Poor	Protected	
1853	Black Cherry	Prunus serotina	10	Poor	Protected	
1854	Maple	Acer	10	Good	Protected	
1855	Black Cherry	Prunus serotina	10	Poor	Protected	
1856	Maple	Acer	10	Poor	Protected	
1857	Black Cherry	Prunus serotina	10	Poor	Protected	
1858	Black Cherry	Prunus serotina	10	Poor	Protected	
1859	Maple	Acer	11	Fair	Protected	
1860	Black Cherry	Prunus serotina	10	Fair	Protected	
1862	Maple	Acer	11	Poor	Protected	
1863	Black Cherry	Prunus serotina	11	Poor	Protected	
1864	Maple	Acer	10	Poor	Protected	
1865	Black Cherry	*Prunus serotina*	6	Good	Protected	
1866	Maple	Acer	11	Poor	Protected	
1867	Black Cherry	Prunus serotina	18	Poor	Heritage	
1868	Black Cherry	Prunus serotina	11	Fair	Protected	
1869	Black Cherry	Prunus serotina	10	Good	Protected	
1870	Ash	Fraxinus	10	Poor	Invasive	
1871	Black Cherry	Prunus serotina	11	Poor	Protected	
1872	Black Cherry	Prunus serotina	11	Good	Protected	
1873	Black Cherry	Prunus serotina	10	Good	Protected	
1874	Black Cherry	Prunus serotina	10	Poor	Protected	
1875	Ash	Fraxinus	11	Poor	Invasive	
1876	Black Cherry	Prunus serotina	10	Poor	Protected	
1877	Black Cherry	Prunus serotina	12	Good	Protected	
1878	Ash	Fraxinus	10	Poor	Invasive	
1879	Ash	Fraxinus	11	Poor	Invasive	
1880	Ash	Fraxinus	10	Poor	Invasive	
1881	Ash	Fraxinus	11	Poor	Invasive	
1882	Black Cherry	Prunus serotina	10	Fair	Protected	
1883	Black Cherry	Prunus serotina	10	Fair	Protected	
1884	Black Cherry	Prunus serotina	10	Good	Protected	
1885	Maple	Acer	18	Good	Heritage	Yes
1886	Black Cherry	Prunus serotina	19	Poor	Heritage	Yes
1887	Black Cherry	Prunus serotina	10	Poor	Protected	Yes
1888	Black Cherry	Prunus serotina	16	Poor	Protected	
1889	Ash	Fraxinus	11	Poor	Invasive	
1890	Black Cherry	Prunus serotina	10	Good	Protected	
1891	Maple	Acer	12	Poor	Protected	
1892	Black Cherry	Prunus serotina	10	Fair	Protected	
1893	Black Cherry	Prunus serotina	10	Fair	Protected	
1894	Black Cherry	Prunus serotina	10	Fair	Protected	
1895	Black Cherry	Prunus serotina	10	Fair	Protected	
1896	Black Cherry	Prunus serotina	10	Poor	Protected	
1897	Black Cherry	Prunus serotina	11	Poor	Protected	
1898	Black Cherry	Prunus serotina	12	Poor	Protected	
1899	Maple	Acer	14	Fair	Protected	
1900	Maple	Acer	16	Poor	Heritage	
1901	Siberian Elm	*Ulmus pumila*	7	Good	Invasive	
1902	Siberian Elm	*Ulmus pumila*	8	Good	Invasive	
1903	Black Cherry	*Prunus serotina*	6	Good	Protected	
1904	Siberian Elm	*Ulmus pumila*	7, 15	Good	Invasive	
1905	Black Cherry	*Prunus serotina*	6	Good	Protected	
1906	Black Cherry	*Prunus serotina*	9	Good	Protected	
1907	Black Cherry	*Prunus serotina*	6	Good	Protected	
1909	Crabapple	*Malus*	6	Good	Protected	
1910	Crabapple	*Malus*	8	Good	Protected	
1911	Black Cherry	*Prunus serotina*	7	Good	Protected	
1912	Black Cherry	*Prunus serotina*	7	Good	Protected	
1913	Black Cherry	*Prunus serotina*	7	Good	Protected	
1914	Black Cherry	*Prunus serotina*	12	Good	Protected	
1915	Black Cherry	*Prunus serotina*	15	Good	Protected	
1916	Apple	*Malus domestica*	6	Poor	Protected	
1918	Black Cherry	*Prunus serotina*	6	Good	Protected	
1919	Black Cherry	*Prunus serotina*	8	Good	Protected	
1920	Black Cherry	*Prunus serotina*	7	Good	Protected	
1921	Black Cherry	*Prunus serotina*	5, 5, 6	Good	Protected	
1922	Black Cherry	*Prunus serotina*	9, 12	Good	Protected	
1923	Black Cherry	*Prunus serotina*	9	Good	Protected	
1924	Black Cherry	*Prunus serotina*	6	Good	Protected	
1925	Black Cherry	*Prunus serotina*	10, 11	Good	Protected	
1926	Black Cherry	*Prunus serotina*	10, 10	Good	Protected	
1929	Black Cherry	*Prunus serotina*	7	Good	Protected	
1930	Black Cherry	*Prunus serotina*	7	Good	Protected	
1931	Black Cherry	*Prunus serotina*	7	Good	Protected	
1932	Black Cherry	*Prunus serotina*	8	Good	Protected	
1933	Black Cherry	*Prunus serotina*	6	Good	Protected	
1934	Black Cherry	*Prunus serotina*	8	Good	Protected	
1935	Black Cherry	*Prunus serotina*	8	Good	Protected	
1936	Black Cherry	*Prunus serotina*	10	Good	Protected	
1937	Black Cherry	*Prunus serotina*	9	Good	Protected	
1938	Black Cherry	*Prunus serotina*	8	Good	Protected	
1939	Black Cherry	*Prunus serotina*	5, 10	Good	Protected	
1940	Black Cherry	*Prunus serotina*	7	Good	Protected	
1941	Black Cherry	*Prunus serotina*	4	Good	Protected	
1942	Pear	*Pyrus calleryana*	6	Good	Protected	
1943	Black Cherry	*Prunus serotina*	7	Good	Protected	
1944	Black Cherry	*Prunus serotina*	6	Good	Protected	
1947	Black Cherry	*Prunus serotina*	5, 7	Good	Protected	
1948	Black Cherry	*Prunus serotina*	9	Good	Protected	
1949	Black Cherry	*Prunus serotina*	10	Good	Protected	
1951	Black Cherry	*Prunus serotina*	6	Good	Protected	
1953	Black Cherry	*Prunus serotina*	7	Good	Protected	
1956	Black Cherry	*Prunus serotina*	8	Good	Protected	
1957	Black Cherry	*Prunus serotina*	15	Good	Protected	
1958	Black Cherry	*Prunus serotina*	8	Good	Protected	
1959	Black Cherry	*Prunus serotina*	6	Good	Protected	
1960	Black Cherry	*Prunus serotina*	6	Good	Protected	Yes
1962	Crabapple	*Malus*	6	Good	Protected	Yes
1963	Crabapple	*Malus*	6, 9, 9	Good	Protected	Yes
1964	Siberian Elm	*Ulmus pumila*	8, 8, 8, 8	Good	Invasive	Yes
1965	Siberian Elm	*Ulmus pumila*	24	Good	Invasive	
1966	Siberian Elm	*Ulmus pumila*	9	Good	Invasive	
1967	Siberian Elm	*Ulmus pumila*	12	Good	Invasive	
1968	Siberian Elm	*Ulmus pumila*	14	Good	Invasive	
1969	Siberian Elm	*Ulmus pumila*	6	Good	Invasive	
1970	Siberian Elm	*Ulmus pumila*	7	Good	Invasive	
1971	Siberian Elm	*Ulmus pumila*	15	Good	Invasive	
1972	Siberian Elm	*Ulmus pumila*	7	Good	Invasive	
1973	Siberian Elm	*Ulmus pumila*	8	Good	Invasive	
1974	Black Cherry	*Prunus serotina*	6	Good	Protected	
1975	Siberian Elm	*Ulmus pumila*	7, 15	Good	Invasive	
1976	Black Cherry	*Prunus serotina*	6	Good	Protected	
1977	Black Cherry	*Prunus serotina*	9	Good	Protected	
1978	Balsam Fir	*Abies balsamea*	6	Very Poor	Protected	
1979	Balsam Fir	*Abies balsamea*	6	Very Poor	Protected	
1980	Black Cherry	Prunus serotina	14	Good	Protected	
1981	Maple	Acer	12	Poor	Protected	
1981.1	Black Cherry	*Prunus serotina*	4, 6, 9	Good	Protected	
1982	Black Cherry	Prunus serotina	11	Good	Protected	
1983	Balsam Fir	*Abies balsamea*	8	Good	Protected	
1984	Black Cherry	Prunus serotina	12	Good	Protected	
1985	Maple	Acer	10	Good	Protected	
1986	Balsam Fir	*Abies balsamea*	7	Good	Protected	
1987	Maple	Acer	10	Good	Protected	
1988	Black Cherry	Prunus serotina	10	Good	Protected	
1989	Black Cherry	Prunus serotina	10	Good	Protected	
1990	Black Cherry	Prunus serotina	10	Good	Protected	
1991	Oak	Quercus	20	Good	Heritage	
1992	Oak	Quercus	27	Good	Heritage	
1994	Maple	Acer	12	Good	Protected	
1995	Black Cherry	Prunus serotina	10	Good	Protected	
1996	Black Cherry	Prunus serotina	12	Good	Protected	
1998	Black Cherry	Prunus serotina	18	Good	Heritage	
1999	Maple	Acer	10	Good	Protected	
2000	Black Cherry	Prunus serotina	12	Good	Protected	
2002	Black Cherry	*Prunus serotina*	9, 9, 12, 13	Good	Protected	
2004	Siberian Elm	*Ulmus pumila*	16	Very Poor	Invasive	
2005	Black Cherry	*Prunus serotina*	6, 6, 8, 10	Good	Protected	
2007	Balsam Fir	*Abies balsamea*	6	Very Poor	Protected	
2008	Balsam Fir	*Abies balsamea*	6	Good	Protected	
2009	Siberian Elm	*Ulmus pumila*	15, 15	Good	Invasive	
2010	Balsam Fir	*Abies balsamea*	6	Good	Protected	
2011	Balsam Fir	*Abies balsamea*	6	Good	Protected	
2012	Box Elder	*Acer negundo*	7	Good	Invasive	
2014	Balsam Fir	*Abies balsamea*	6	Good	Protected	
2015	Balsam Fir	*Abies balsamea*	6	Very Poor	Protected	
2017	Black Cherry	*Prunus serotina*	8	Good	Protected	
2018	Black Cherry	*Prunus serotina*	6, 6, 7	Good	Protected	
2020	Black Cherry	*Prunus serotina*	6, 6, 6	Very Poor	Protected	
2023	Black Cherry	*Prunus serotina*	24	Very Poor	Heritage	
2024	Black Cherry	*Prunus serotina*	6, 12	Good	Protected	
2025	Black Cherry	*Prunus serotina*	8	Good	Protected	
2026	Black Cherry	*Prunus serotina*	6	Good	Protected	
2028	Black Cherry	*Prunus serotina*	7, 8, 12, 14	Good	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
2031	Balsam Fir	*Abies balsamea*	12	Good	Protected	
2032	Balsam Fir	*Abies balsamea*	12	Good	Protected	
2033	Balsam Fir	*Abies balsamea*	6	Very Poor	Protected	
2034	Siberian Elm	*Ulmus pumila*	6	Good	Invasive	
2038	Siberian Elm	*Ulmus pumila*	7	Good	Invasive	
2042	Balsam Fir	*Abies balsamea*	6	Good	Protected	
2043	Balsam Fir	*Abies balsamea*	7	Poor	Protected	
2046	Black Cherry	*Prunus serotina*	7, 8, 9	Good	Protected	
2047	Black Cherry	*Prunus serotina*	9	Good	Protected	
2048	Balsam Fir	*Abies balsamea*	6	Good	Protected	
2049	Box Elder	*Acer negundo*	10, 12	Good	Invasive	
2051	Black Cherry	*Prunus serotina*	8, 4	Good	Protected	
2052	Apple	*Malus domestica*	4, 7, 8	Good	Protected	
2053	Maple	Acer	12	Poor	Protected	
2054	Black Cherry	Prunus serotina	11	Poor	Protected	Yes
2055	Black Cherry	*Prunus serotina*	7, 5	Good	Protected	Yes
2055	Black Cherry	Prunus serotina	10	Poor	Protected	
2056	Black Cherry	Prunus serotina	10	Poor	Protected	
2057	Maple	Acer	11	Fair	Protected	
2058	Black Cherry	Prunus serotina	10	Fair	Protected	
2059	Black Cherry	Prunus serotina	10	Poor	Protected	
2060	Black Cherry	Prunus serotina	10	Fair	Protected	
2061	Black Cherry	Prunus serotina	10	Poor	Protected	
2062	Maple	Acer	10	Fair	Protected	
2063	Black Cherry	Prunus serotina	10	Poor	Protected	
2064	Black Cherry	Prunus serotina	10	Poor	Protected	
2065	Maple	Acer	10	Poor	Protected	
2066	Oak	Quercus	36	Poor	Heritage	
2067	Black Cherry	Prunus serotina	10	Poor	Protected	
2068	Black Cherry	Prunus serotina	12	Fair	Protected	
2069	Black Cherry	Prunus serotina	10	Poor	Protected	
2070	Black Cherry	Prunus serotina	10	Poor	Protected	
2071	Black Cherry	Prunus serotina	10	Poor	Protected	
2072	Black Cherry	Prunus serotina	10	Poor	Protected	
2073	Maple	Acer	10	Poor	Protected	Yes
2074	Black Cherry	Prunus serotina	10	Poor	Protected	
2075	Black Cherry	Prunus serotina	11	Fair	Protected	
2076	Black Cherry	Prunus serotina	11	Fair	Protected	
2077	Black Cherry	Prunus serotina	14	Fair	Protected	
2078	Maple	Acer	14	Poor	Protected	
2079	Black Cherry	Prunus serotina	11	Fair	Protected	
2080	Black Cherry	Prunus serotina	12	Fair	Protected	
2081	Black Cherry	Prunus serotina	10	Fair	Protected	
2082	Black Cherry	Prunus serotina	10	Poor	Protected	
2083	Black Cherry	Prunus serotina	10	Fair	Protected	
2084	Black Cherry	Prunus serotina	10	Fair	Protected	
2085	Black Cherry	Prunus serotina	14	Fair	Protected	
2086	Black Cherry	Prunus serotina	12	Fair	Protected	
2087	Black Cherry	Prunus serotina	10	Fair	Protected	
2088	Black Cherry	Prunus serotina	14		Protected	
2089	Black Cherry	Prunus serotina	10	Fair	Protected	
2090	Black Cherry	Prunus serotina	11	Fair	Protected	
2091	Black Cherry	Prunus serotina	14	Poor	Protected	
2092	Black Cherry	Prunus serotina	11	Poor	Protected	
2093	Black Cherry	Prunus serotina	14	Good	Protected	
2094	Black Cherry	Prunus serotina	10	Good	Protected	
2096	Black Cherry	Prunus serotina	10	Good	Protected	
2097	Black Cherry	Prunus serotina	10	Good	Protected	
2098	Black Cherry	Prunus serotina	12	Fair	Protected	
2099	Black Cherry	Prunus serotina	10	Good	Protected	
2100	Black Cherry	Prunus serotina	10	Good	Protected	
2101	Black Cherry	Prunus serotina	8	Fair	Protected	
2102	Black Cherry	Prunus serotina	7	Fair	Protected	
2103	Black Cherry	Prunus serotina	7	Fair	Protected	
2104	Black Cherry	Prunus serotina	8	Fair	Protected	
2105	Black Cherry	Prunus serotina	8	Fair	Protected	
2106	Black Cherry	Prunus serotina	9	Fair	Protected	
2107	Black Cherry	Prunus serotina	6	Fair	Protected	
2108	Maple	Acer	7	Fair	Protected	
2109	Black Cherry	Prunus serotina	8	Fair	Protected	
2110	Black Cherry	Prunus serotina	7	Fair	Protected	
2111	Black Cherry	Prunus serotina	6	Fair	Protected	
2112	Black Cherry	Prunus serotina	6	Fair	Protected	
2113	Black Cherry	Prunus serotina	7	Fair	Protected	
2114	Black Cherry	Prunus serotina	8	Fair	Protected	
2115	Black Cherry	Prunus serotina	6	Fair	Protected	
2116	Black Cherry	Prunus serotina	8	Fair	Protected	
2117	Black Cherry	Prunus serotina	7	Fair	Protected	
2118	Black Cherry	Prunus serotina	7	Fair	Protected	
2119	Black Cherry	Prunus serotina	7	Fair	Protected	
2120	Black Cherry	Prunus serotina	7	Fair	Protected	
2121	Black Cherry	Prunus serotina	6	Poor	Protected	
2122	Black Cherry	Prunus serotina	10	Fair	Protected	
2123	Black Cherry	Prunus serotina	8	Fair	Protected	
2124	Black Cherry	Prunus serotina	8	Fair	Protected	
2125	Black Cherry	Prunus serotina	6	Fair	Protected	
2126	Black Cherry	Prunus serotina	8	Fair	Protected	
2127	Black Cherry	Prunus serotina	7	Fair	Protected	
2128	Black Cherry	Prunus serotina	8	Fair	Protected	
2129	Maple	Acer	6	Fair	Protected	
2130	Black Cherry	Prunus serotina	6	Fair	Protected	
2131	Black Cherry	Prunus serotina	8	Fair	Protected	
2132	Black Cherry	Prunus serotina	6	Fair	Protected	
2133	Spruce	Picea	10	Fair	Protected	
2134	Black Cherry	Prunus serotina	6	Fair	Protected	
2135	Black Cherry	Prunus serotina	9	Fair	Protected	
2136	Maple	Acer	6	Fair	Protected	
2137	Maple	Acer	6	Poor	Protected	
2138	Black Cherry	Prunus serotina	9	Fair	Protected	Yes
2139	Maple	Acer	7	Fair	Protected	Yes
2140	Black Cherry	Prunus serotina	6	Fair	Protected	
2141	Black Cherry	Prunus serotina	6	Fair	Protected	
2142	Black Cherry	Prunus serotina	8	Fair	Protected	
2143	Black Cherry	Prunus serotina	6	Fair	Protected	
2144	Spruce	Picea	6	Fair	Protected	
2145	Black Cherry	Prunus serotina	6	Fair	Protected	
2146	Black Cherry	Prunus serotina	6	Fair	Protected	
2147	Black Cherry	Prunus serotina	6	Fair	Protected	
2148	Black Cherry	Prunus serotina	9	Fair	Protected	
2149	Black Cherry	Prunus serotina	8	Poor	Protected	
2150	Black Cherry	Prunus serotina	9	Poor	Protected	
2151	Black Cherry	Prunus serotina	7	Poor	Protected	
2152	Black Cherry	Prunus serotina	6	Poor	Protected	
2153	Black Cherry	Prunus serotina	6	Poor	Protected	
2154	Black Cherry	Prunus serotina	6	Fair	Protected	
2155	Maple	Acer	9	Fair	Protected	
2156	Black Cherry	Prunus serotina	9	Fair	Protected	
2157	Black Cherry	Prunus serotina	7	Poor	Protected	
2158	Black Cherry	Prunus serotina	9	Fair	Protected	
2159	Black Cherry	Prunus serotina	8	Fair	Protected	
2160	Black Cherry	Prunus serotina	7	Poor	Protected	
2161	Black Cherry	Prunus serotina	6	Fair	Protected	
2162	Black Cherry	Prunus serotina	6	Fair	Protected	
2163	Black Cherry	Prunus serotina	10	Poor	Protected	
2164	Oak	*Quercus*	8	Poor	Protected	
2165	Chestnut	Castenea	8	Poor	Heritage	
2166	Black Cherry	Prunus serotina	9	Fair	Protected	
2167	Black Cherry	Prunus serotina	9	Poor	Protected	
2168	Black Cherry	Prunus serotina	14	Fair	Protected	
2169	Black Cherry	Prunus serotina	15	Fair	Protected	
2170	Oak	Quercus	11	Fair	Protected	
2171	Black Cherry	Prunus serotina	9	Fair	Protected	
2172	Spruce		6	Fair	Protected	
2173	Black Cherry	Prunus serotina	10	Poor	Protected	Yes
2174	Black Cherry	Prunus serotina	10	Poor	Protected	Yes
2175	Black Cherry	Prunus serotina	6	Fair	Protected	
2176	Black Cherry	Prunus serotina	6	Fair	Protected	
2177	Spruce	Picea	8	Fair	Protected	
2178	Black Cherry	Prunus serotina	6	Poor	Protected	
2179	Maple	Acer	8	Poor	Protected	Yes
2180	Black Cherry	Prunus serotina	7	Fair	Protected	
2181	Chestnut	Castanea	7	Poor	Protected	
2182	Black Cherry	Prunus serotina	7	Fair	Protected	
2182	Oak	*Quercus*	9	Poor	Protected	
2183	Black Cherry	Prunus serotina	6	Fair	Protected	
2184	Black Cherry	Prunus serotina	8	Fair	Protected	
2185	Black Cherry	Prunus serotina	7	Fair	Protected	
2186	Maple	Acer	6	Fair	Protected	
2187	Black Cherry	Prunus serotina	7	Fair	Protected	
2188	Black Cherry	Prunus serotina	8	Fair	Protected	
2189	Maple	Acer	8	Fair	Protected	
2190	Black Cherry	Prunus serotina	7	Fair	Protected	
2191	Black Cherry	Prunus serotina	7	Fair	Protected	
2192	Black Cherry	Prunus serotina	6	Fair	Protected	
2197	Black Cherry	Prunus serotina	9	Fair	Protected	
2301	Black Cherry	Prunus serotina	8	Poor	Protected	
2302	Black Cherry	Prunus serotina	7	Poor	Protected	
2303	Black Cherry	Prunus serotina	7	Poor	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
2304	Black Cherry	Prunus serotina	8	Poor	Protected	
2305	Black Cherry	Prunus serotina	6	Poor	Protected	
2306	Maple	Acer	7	Fair	Protected	
2307	Black Cherry	Prunus serotina	6	Poor	Protected	
2308	Black Cherry	Prunus serotina	7	Fair	Protected	
2309	Maple	Acer	8	Poor	Protected	
2310	Black Cherry	Prunus serotina	6	Poor	Protected	
2311	Black Cherry	Prunus serotina	6	Poor	Protected	
2312	Maple	Acer	8	Poor	Protected	
2313	Chestnut	Castanea	6	Poor	Protected	
2314	Maple	Acer	8	Fair	Protected	
2315	Black Cherry	Prunus serotina	8	Poor	Protected	
2316	Black Cherry	Prunus serotina	6	Poor	Protected	
2317	Black Cherry	Prunus serotina	8	Poor	Protected	
2318	Maple	Acer	8	Poor	Protected	
2319	Maple	Acer	9	Poor	Protected	
2320	Black Cherry	Prunus serotina	8	Poor	Protected	
2321	Black Cherry	Prunus serotina	6	Poor	Protected	
2322	Black Cherry	Prunus serotina	7	Fair	Protected	
2323	Black Cherry	Prunus serotina	8	Poor	Protected	
2324	Black Cherry	Prunus serotina	6	Poor	Protected	
2325	Maple	Acer	8	Poor	Protected	
2326	Black Cherry	Prunus serotina	8	Fair	Protected	
2327	Black Cherry	Prunus serotina	9	Poor	Protected	
2328	Black Cherry	Prunus serotina	8	Fair	Protected	
2329	Black Cherry	Prunus serotina	8	Fair	Protected	
2330	Maple	Acer	9	Fair	Protected	
2331	Black Cherry	Prunus serotina	8	Fair	Protected	
2332	Black Cherry	Prunus serotina	8	Fair	Protected	
2333	Black Cherry	Prunus serotina	6	Fair	Protected	
2334	Black Cherry	Prunus serotina	6	Poor	Protected	
2335	Maple	Acer	6	Fair	Protected	
2336	Black Cherry	Prunus serotina	6	Poor	Protected	
2337	Black Cherry	Prunus serotina	6	Poor	Protected	
2338	Black Cherry	Prunus serotina	6	Poor	Protected	
2339	Black Cherry	Prunus serotina	6	Poor	Protected	
2340	Black Cherry	Prunus serotina	6	Poor	Protected	
2341	Black Cherry	Prunus serotina	8	Poor	Protected	
2342	Black Cherry	Prunus serotina	9	Poor	Protected	
2343	Black Cherry	Prunus serotina	6	Poor	Protected	
2344	Black Cherry	Prunus serotina	6	Poor	Protected	
2345	Black Cherry	Prunus serotina	6	Poor	Protected	
2346	Maple	Acer	8	Fair	Protected	
2347	Black Cherry	Prunus serotina	8	Fair	Protected	
2348	Maple	Acer	7	Poor	Protected	
2349	Black Cherry	Prunus serotina	7	Poor	Protected	
2350	Black Cherry	Prunus serotina	8	Poor	Protected	
2351	Black Cherry	Prunus serotina	6	Poor	Protected	
2352	Maple	Acer	8	Fair	Protected	
2353	Black Cherry	Prunus serotina	8	Fair	Protected	
2354	Black Cherry	Prunus serotina	6	Fair	Protected	
2355	Black Cherry	Prunus serotina	6	Fair	Protected	
2356	Black Cherry	Prunus serotina	6	Poor	Protected	
2357	Black Cherry	Prunus serotina	8	Poor	Protected	
2358	Black Cherry	Prunus serotina	9	Poor	Protected	
2359	Black Cherry	Prunus serotina	6	Fair	Protected	
2360	Black Cherry	Prunus serotina	7	Fair	Protected	
2361	Black Cherry	Prunus serotina	7	Poor	Protected	
2362	Black Cherry	Prunus serotina	8	Poor	Protected	
2363	Black Cherry	Prunus serotina	7	Poor	Protected	
2364	Black Cherry	Prunus serotina	9	Poor	Protected	
2365	Black Cherry	Prunus serotina	7	Poor	Protected	
2366	Ash	Fraxinus	10	Poor	Invasive	
2367	Black Cherry	Prunus serotina	7	Poor	Protected	
2368	Black Cherry	Prunus serotina	8	Fair	Protected	
2369	Black Cherry	Prunus serotina	7	Fair	Protected	
2370	Black Cherry	Prunus serotina	8	Poor	Protected	
2371	Black Cherry	Prunus serotina	6	Poor	Protected	
2372	Black Cherry	Prunus serotina	6	Fair	Protected	
2373	Black Cherry	Prunus serotina	6	Poor	Protected	
2374	Black Cherry	Prunus serotina	6	Fair	Protected	
2375	Black Cherry	Prunus serotina	6	Fair	Protected	
2376	Black Cherry	Prunus serotina	6	Fair	Protected	
2377	Maple	Acer	8	Fair	Protected	
2378	Maple	Acer	9	Fair	Protected	
2379	Maple	Acer	8	Fair	Protected	
2380	Maple	Acer	8	Fair	Protected	
2381	Maple	Acer	8	Fair	Protected	
2382	Oak	Quercus	9	Poor	Protected	
2383	Oak	Quercus	9	Poor	Protected	
2384	Oak	Quercus	6	Poor	Protected	
2385	Maple	Acer	8	Fair	Protected	
2386	Maple	Acer	9	Fair	Protected	
2387	Maple	Acer	9	Fair	Protected	
2388	Black Cherry	Prunus serotina	9	Poor	Protected	
2389	Black Cherry	Prunus serotina	9	Fair	Protected	
2390	Birch	Betula	12	Fair	Heritage	
2392	Black Cherry	Prunus serotina	7	Poor	Protected	
2393	Black Cherry	Prunus serotina	9	Fair	Protected	
2394	Black Cherry	Prunus serotina	9	Poor	Protected	
2395	Black Cherry	Prunus serotina	7	Fair	Protected	
2396	Black Cherry	Prunus serotina	9	Fair	Protected	
2397	Black Cherry	Prunus serotina	7	Poor	Protected	
2398	Black Cherry	Prunus serotina	8	Fair	Protected	
2399	Maple	Acer	6	Fair	Protected	
2400	Black Cherry	Prunus serotina	7	Fair	Protected	
2501	Black Cherry	Prunus serotina	6	Fair	Protected	
2502	Black Cherry	Prunus serotina	6	Fair	Protected	
2503	Black Cherry	Prunus serotina	6	Poor	Protected	
2504	Black Cherry	Prunus serotina	6	Poor	Protected	
2505	Black Cherry	Prunus serotina	6	Poor	Protected	
2506	Black Cherry	Prunus serotina	6	Poor	Protected	
2507	Black Cherry	Prunus serotina	9	Poor	Protected	Yes
2508	Black Cherry	Prunus serotina	8	Poor	Protected	Yes
2509	Black Cherry	Prunus serotina	9	Poor	Protected	Yes
2510	Black Cherry	Prunus serotina	8	Poor	Protected	Yes
2511	Black Cherry	Prunus serotina	9	Poor	Protected	Yes
2512	Black Cherry	Prunus serotina	6	Fair	Protected	
2513	Black Cherry	Prunus serotina	9	Fair	Protected	
2514	Black Cherry	Prunus serotina	9	Fair	Protected	
2515	Black Cherry	Prunus serotina	7	Fair	Protected	
2516	Black Cherry	Prunus serotina	7	Fair	Protected	
2517	Black Cherry	Prunus serotina	6	Poor	Protected	
2518	Maple	Acer	9	Poor	Protected	
2519	Chestnut	Castanea	9	Poor	Heritage	
2520	Black Cherry	Prunus serotina	7	Poor	Protected	
2521	Black Cherry	Prunus serotina	7	Poor	Protected	
2522	Black Cherry	Prunus serotina	7	Poor	Protected	
2523	Black Cherry	Prunus serotina	9	Poor	Protected	
2524	Black Cherry	Prunus serotina	8	Fair	Protected	
2525	Black Cherry	Prunus serotina	7	Poor	Protected	
2526	Black Cherry	Prunus serotina	8	Fair	Protected	
2527	Black Cherry	Prunus serotina	9	Fair	Protected	
2528	Black Cherry	Prunus serotina	9	Fair	Protected	
2529	Black Cherry	Prunus serotina	6	Poor	Protected	
2530	Black Cherry	Prunus serotina	9	Poor	Protected	
2531	Black Cherry	Prunus serotina	9	Fair	Protected	
2532	Black Cherry	Prunus serotina	9	Fair	Protected	
2533	Maple	Acer	8	Fair	Protected	
2534	Black Cherry	Prunus serotina	9	Poor	Protected	
2535	Black Cherry	Prunus serotina	9	Fair	Protected	
2536	Black Cherry	Prunus serotina	6	Poor	Protected	
2537	Black Cherry	Prunus serotina	8	Fair	Protected	
2538	Black Cherry	Prunus serotina	8	Poor	Protected	
2539	Black Cherry	Prunus serotina	9	Poor	Protected	
2540	Black Cherry	Prunus serotina	9	Poor	Protected	
2541	Maple	Acer	6	Poor	Protected	
2542	Black Cherry	Prunus serotina	7	Poor	Protected	
2543	Black Cherry	Prunus serotina	6	Poor	Protected	
2544	Black Cherry	Prunus serotina	6	Fair	Protected	
2545	Black Cherry	Prunus serotina	6	Fair	Protected	
2546	Black Cherry	Prunus serotina	8	Poor	Protected	Yes
2547	Black Cherry	Prunus serotina	6	Poor	Protected	
2548	Black Cherry	Prunus serotina	7	Poor	Protected	
2549	Black Cherry	Prunus serotina	8	Poor	Protected	
2550	Black Cherry	Prunus serotina	7	Poor	Protected	
2551	Black Cherry	Prunus serotina	8	Poor	Protected	
2552	Oak	Quercus	9	Poor	Protected	Yes
2553	Black Cherry	Prunus serotina	9	Poor	Protected	
2554	Black Cherry	Prunus serotina	9	Poor	Protected	
2555	Black Cherry	Prunus serotina	6	Poor	Protected	
2556	Black Cherry	Prunus serotina	6	Poor	Protected	
2557	Black Cherry	Prunus serotina	7	Poor	Protected	
2558	Black Cherry	Prunus serotina	8	Poor	Protected	
2559	Black Cherry	Prunus serotina	7	Fair	Protected	
2560	Black Cherry	Prunus serotina	8	Poor	Protected	
2561	Black Cherry	Prunus serotina	6	Fair	Protected	
2562	Black Cherry	Prunus serotina	8	Poor	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
2563	Black Cherry	Prunus serotina	8	Poor	Protected	
2564	Black Cherry	Prunus serotina	8	Fair	Protected	
2565	Maple	Acer	7	Poor	Protected	
2566	Maple	Acer	8	Poor	Protected	
2567	Black Cherry	Prunus serotina	8	Poor	Protected	
2568	Black Cherry	Prunus serotina	7	Fair	Protected	
2569	Black Cherry	Prunus serotina	6	Poor	Protected	
2570	Black Cherry	Prunus serotina	8	Poor	Protected	
2571	Oak	Quercus	9	Fair	Protected	
2572	Black Cherry	Prunus serotina	9	Poor	Protected	
2573	Black Cherry	Prunus serotina	8	Poor	Protected	
2574	Black Cherry	Prunus serotina	9	Poor	Protected	
2575	Black Cherry	Prunus serotina	6	Poor	Protected	
2576	Black Cherry	Prunus serotina	6	Poor	Protected	
2577	Oak	Quercus	7	Poor	Protected	
2578	Oak	Quercus	9	Fair	Protected	
2579	Black Cherry	Prunus serotina	9	Poor	Protected	
2580	Oak	Acer	6	Poor	Protected	
2581	Oak	*Quercus*	6	Fair	Protected	
2583	Oak	*Quercus*	9	Poor	Protected	
2584	Oak	*Quercus*	6	Poor	Protected	
2585	Oak	*Quercus*	7	Poor	Protected	
2586	Maple	Acer	9	Fair	Protected	
2587	Maple	Acer	9	Fair	Protected	
2588	Black Cherry	Prunus serotina	9	Poor	Protected	
2589	Black Cherry	Prunus serotina	9	Fair	Protected	
2590	Maple	Acer	6	Poor	Protected	
2591	Black Cherry	Prunus serotina	8	Poor	Protected	
2592	Black Cherry	Prunus serotina	7	Poor	Protected	
2593	Black Cherry	Prunus serotina	7	Fair	Protected	
2594	Black Cherry	Prunus serotina	6	Fair	Protected	
2595	Black Cherry	Prunus serotina	7	Fair	Protected	
2596	Black Cherry	Prunus serotina	7	Poor	Protected	
2597	Black Cherry	Prunus serotina	6	Poor	Protected	
2598	Black Cherry	Prunus serotina	6	Fair	Protected	
2599	Black Cherry	Prunus serotina	9	Poor	Protected	
2600	Black Cherry	Prunus serotina	7	Poor	Protected	
2601	Black Cherry	Prunus serotina	6	Poor	Protected	
2602	Black Cherry	Prunus serotina	7	Fair	Protected	
2603	Black Cherry	Prunus serotina	6	Fair	Protected	
2604	Black Cherry	Prunus serotina	7	Poor	Protected	
2605	Black Cherry	Prunus serotina	8	Poor	Protected	
2606	Chestnut	Castanea	8	Poor	Heritage	
2607	Oak	Quercus	8	Poor	Protected	
2609	Black Cherry	Prunus serotina	10	Fair	Protected	
2610	Black Cherry	Prunus serotina	12	Poor	Protected	
2611	Black Cherry	Prunus serotina	12	Poor	Protected	
2612	Black Cherry	Prunus serotina	8	Poor	Protected	
2613	Black Cherry	Prunus serotina	10	Poor	Protected	
2614	Black Cherry	Prunus serotina	8	Fair	Protected	
2615	Black Cherry	Prunus serotina	6	Poor	Protected	
2616	Black Cherry	Prunus serotina	7	Fair	Protected	
2617	Black Cherry	Prunus serotina	10	Fair	Protected	
2618	Black Cherry	Prunus serotina	10	Poor	Protected	
2619	Black Cherry	Prunus serotina	10	Fair	Protected	
2620	Black Cherry	Prunus serotina	9	Poor	Protected	
2621	Black Cherry	Prunus serotina	7	Fair	Protected	
2622	Black Cherry	Prunus serotina	6	Poor	Protected	
2623	Black Cherry	Prunus serotina	9	Poor	Protected	
2624	Black Cherry	Prunus serotina	9	Poor	Protected	
2625	Black Cherry	Prunus serotina	9	Fair	Protected	
2626	Black Cherry	Prunus serotina	7	Fair	Protected	
2627	Black Cherry	Prunus serotina	10	Fair	Protected	
2628	Black Cherry	Prunus serotina	8	Fair	Protected	
2629	Black Cherry	Prunus serotina	8	Fair	Protected	
2630	Black Cherry	Prunus serotina	8	Fair	Protected	
2631	Black Cherry	Prunus serotina	8	Fair	Protected	
2632	Black Cherry	Prunus serotina	6	Poor	Protected	
2633	Black Cherry	Prunus serotina	7	Fair	Protected	
2634	Black Cherry	Prunus serotina	6	Fair	Protected	
2635	Black Cherry	Prunus serotina	8	Fair	Protected	
2636	Black Cherry	Prunus serotina	6	Fair	Protected	
2637	Maple	Acer	6	Poor	Protected	
2638	Black Cherry	Prunus serotina	6	Fair	Protected	
2639	Black Cherry	Prunus serotina	10	Fair	Protected	
2640	Black Cherry	Prunus serotina	6	Fair	Protected	
2641	Black Cherry	Prunus serotina	10	Fair	Protected	
2642	Black Cherry	Prunus serotina	9	Poor	Protected	
2643	Maple	Acer	7	Poor	Protected	
2644	Black Cherry	Prunus serotina	7	Poor	Protected	
2645	Black Cherry	Prunus serotina	8	Poor	Protected	
2646	Black Cherry	Prunus serotina	6	Poor	Protected	
2647	Black Cherry	Prunus serotina	10	Poor	Protected	
2648	Black Cherry	Prunus serotina	6	Poor	Protected	
2649	Black Cherry	Prunus serotina	7	Poor	Protected	
2650	Maple	Acer	6	Fair	Protected	
2651	Black Cherry	Prunus serotina	6	Fair	Protected	
2652	Black Cherry	Prunus serotina	12	Fair	Protected	
2653	Black Cherry	Prunus serotina	6	Fair	Protected	
2654	Black Cherry	Prunus serotina	7	Poor	Protected	
2655	Black Cherry	Prunus serotina	6	Poor	Protected	
2656	Black Cherry	Prunus serotina	6	Poor	Protected	
2657	Black Cherry	Prunus serotina	8	Poor	Protected	
2658	Black Cherry	Prunus serotina	6	Fair	Protected	
2659	Black Cherry	Prunus serotina	6	Poor	Protected	
2660	Black Cherry	Prunus serotina	8	Poor	Protected	
2661	Maple	Acer	7	Fair	Protected	
2662	Black Cherry	Prunus serotina	6	Poor	Protected	
2663	Black Cherry	Prunus serotina	7	Poor	Protected	
2664	Black Cherry	Prunus serotina	7	Poor	Protected	
2665	Black Cherry	Prunus serotina	6	Poor	Protected	
2666	Black Cherry	Prunus serotina	8	Poor	Protected	
2667	Black Cherry	Prunus serotina	8	Fair	Protected	
2668	Black Cherry	Prunus serotina	7	Poor	Protected	
2669	Black Cherry	Prunus serotina	7	Poor	Protected	
2670	Black Cherry	Prunus serotina	7	Poor	Protected	
2671	Black Cherry	Prunus serotina	10	Poor	Protected	
2672	Maple	Acer	10	Fair	Protected	
2673	Black Cherry	Prunus serotina	7	Fair	Protected	
2674	Black Cherry	Prunus serotina	9	Fair	Protected	
2675	Black Cherry	Prunus serotina	7	Fair	Protected	
2676	Black Cherry	Prunus serotina	8	Fair	Protected	
2677	Black Cherry	Prunus serotina	8	Fair	Protected	
2678	Black Cherry	Prunus serotina	8	Fair	Protected	
2679	Black Cherry	Prunus serotina	7	Fair	Protected	
2680	Maple	Acer	9	Fair	Protected	
2681	Black Cherry	Prunus serotina	8	Fair	Protected	
2682	Black Cherry	Prunus serotina	8	Fair	Protected	
2683	Black Cherry	Prunus serotina	9	Fair	Protected	
2684	Black Cherry	Prunus serotina	8	Fair	Protected	
2685	Black Cherry	Prunus serotina	7	Fair	Protected	
2686	Black Cherry	Prunus serotina	7	Fair	Protected	
2687	Black Cherry	Prunus serotina	9	Fair	Protected	Yes
2688	Black Cherry	Prunus serotina	6	Fair	Protected	
2689	Black Cherry	Prunus serotina	8	Poor	Protected	
2690	Black Cherry	Prunus serotina	8	Fair	Protected	
2691	Black Cherry	Prunus serotina	8	Poor	Protected	
2692	Black Cherry	Prunus serotina	9	Fair	Protected	
2693	Black Cherry	Prunus serotina	8	Fair	Protected	
2694	Black Cherry	Prunus serotina	8	Fair	Protected	
2695	Black Cherry	Prunus serotina	9	Fair	Protected	
2696	Maple	Acer	8	Fair	Protected	
2697	Black Cherry	Prunus serotina	8	Fair	Protected	
2698	Black Cherry	Prunus serotina	7	Fair	Protected	
2699	Black Cherry	Prunus serotina	9	Fair	Protected	
2700	Black Cherry	Prunus serotina	6	Fair	Protected	
2701	Black Cherry	Prunus serotina	9	Fair	Protected	
2702	Black Cherry	Prunus serotina	10	Fair	Protected	
2703	Black Cherry	Prunus serotina	6	Poor	Protected	
2704	Black Cherry	Prunus serotina	8	Poor	Protected	
2705	Black Cherry	Prunus serotina	10	Fair	Protected	
2706	Black Cherry	Prunus serotina	9	Fair	Protected	
2707	Black Cherry	Prunus serotina	6	Fair	Protected	
2708	Black Cherry	Prunus serotina	8	Fair	Protected	
2709	Black Cherry	Prunus serotina	9	Poor	Protected	
2710	Black Cherry	Prunus serotina	6	Poor	Protected	
2711	Black Cherry	Prunus serotina	6	Poor	Protected	
2712	Black Cherry	Prunus serotina	9	Poor	Protected	
2713	Black Cherry	Prunus serotina	7	Poor	Protected	
2714	Black Cherry	Prunus serotina	7	Poor	Protected	
2715	Black Cherry	Prunus serotina	6	Poor	Protected	
2716	Black Cherry	Prunus serotina	10	Poor	Protected	
2717	Black Cherry	Prunus serotina	6	Fair	Protected	
2718	Black Cherry	Prunus serotina	12	Fair	Protected	
2719	Black Cherry	Prunus serotina	12	Fair	Protected	
2720	Black Cherry	Prunus serotina	8	Fair	Protected	
2721	Black Cherry	Prunus serotina	7	Fair	Protected	
2722	Black Cherry	Prunus serotina	7	Fair	Protected	

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
2723	Black Cherry	Prunus serotina	6	Fair	Protected	
2724	Black Cherry	Prunus serotina	9	Fair	Protected	
2725	Black Cherry	Prunus serotina	6	Poor	Protected	
2726	Black Cherry	Prunus serotina	7	Fair	Protected	
2727	Black Cherry	Prunus serotina	9	Fair	Protected	
2728	Black Cherry	Prunus serotina	8	Fair	Protected	
2729	Black Cherry	Prunus serotina	10	Fair	Protected	
2730	Black Cherry	Prunus serotina	10	Fair	Protected	
2731	Black Cherry	Prunus serotina	6	Poor	Protected	
2732	Black Cherry	Prunus serotina	12	Poor	Protected	
2733	Black Cherry	Prunus serotina	12	Poor	Protected	
2734	Black Cherry	Prunus serotina	7	Fair	Protected	
2735	Black Cherry	Prunus serotina	10	Fair	Protected	
2736	Black Cherry	Prunus serotina	7	Fair	Protected	
2737	Black Cherry	Prunus serotina	9	Poor	Protected	
2738	Black Cherry	Prunus serotina	7	Poor	Protected	
2739	Black Cherry	Prunus serotina	9	Poor	Protected	
2740	Black Cherry	Prunus serotina	7	Poor	Protected	
2741	Black Cherry	Prunus serotina	8	Fair	Protected	
2742	Black Cherry	Prunus serotina	12	Fair	Protected	
2743	Black Cherry	Prunus serotina	12	Poor	Protected	
2744	Black Cherry	Prunus serotina	7	Fair	Protected	
2745	Black Cherry	Prunus serotina	8	Poor	Protected	
2746	Black Cherry	Prunus serotina	6	Fair	Protected	
2747	Black Cherry	Prunus serotina	9	Fair	Protected	
2748	Black Cherry	Prunus serotina	6	Poor	Protected	
2749	Black Cherry	Prunus serotina	8	Poor	Protected	
2750	Maple	Acer	12	Fair	Protected	
2751	Black Cherry	Prunus serotina	7	Fair	Protected	
2752	Black Cherry	Prunus serotina	7	Fair	Protected	
2753	Black Cherry	Prunus serotina	6	Fair	Protected	
2754	Black Cherry	Prunus serotina	9	Fair	Protected	
2755	Black Cherry	Prunus serotina	9	Fair	Protected	
2756	Black Cherry	Prunus serotina	7	Fair	Protected	
2757	Black Cherry	Prunus serotina	9	Poor	Protected	
2758	Black Cherry	Prunus serotina	6	Fair	Protected	
2759	Black Cherry	Prunus serotina	6	Fair	Protected	
2760	Black Cherry	Prunus serotina	6	Fair	Protected	
2761	Black Cherry	Prunus serotina	6	Fair	Protected	
2762	Black Cherry	Prunus serotina	6	Fair	Protected	
2763	Black Cherry	Prunus serotina	9	Fair	Protected	
2764	Black Cherry	Prunus serotina	6	Fair	Protected	
2765	Black Cherry	Prunus serotina	7	Fair	Protected	
2766	Black Cherry	Prunus serotina	7	Fair	Protected	
2767	Black Cherry	Prunus serotina	6	Fair	Protected	
2768	Black Cherry	Prunus serotina	7	Fair	Protected	
2769	Maple	Acer	6	Fair	Protected	
2770	Black Cherry	Prunus serotina	8	Fair	Protected	
2771	Black Cherry	Prunus serotina	8	Fair	Protected	
2772	Black Cherry	Prunus serotina	10	Fair	Protected	
2773	Black Cherry	Prunus serotina	9	Fair	Protected	
2774	Black Cherry	Prunus serotina	8	Poor	Protected	
2775	Black Cherry	Prunus serotina	6	Poor	Protected	
2776	Black Cherry	Prunus serotina	8	Poor	Protected	
2777	Black Cherry	Prunus serotina	8	Poor	Protected	
2778	Black Cherry	Prunus serotina	6	Poor	Protected	
2779	Black Cherry	Prunus serotina	9	Poor	Protected	
2780	Black Cherry	Prunus serotina	8	Fair	Protected	
2781	Black Cherry	Prunus serotina	8	Fair	Protected	
2782	Black Cherry	Prunus serotina	10	Fair	Protected	
2783	Black Cherry	Prunus serotina	8	Fair	Protected	
2784	Black Cherry	Prunus serotina	6	Fair	Protected	
2785	Black Cherry	Prunus serotina	6	Fair	Protected	
2786	Black Cherry	Prunus serotina	7	Fair	Protected	
2787	Black Cherry	Prunus serotina	7	Fair	Protected	
2788	Black Cherry	Prunus serotina	6	Fair	Protected	
2789	Black Cherry	Prunus serotina	6	Fair	Protected	
2790	Black Cherry	Prunus serotina	11	Fair	Protected	
2791	Black Cherry	Prunus serotina	6	Fair	Protected	
2792	Black Cherry	Prunus serotina	10	Fair	Protected	
2793	Black Cherry	Prunus serotina	10	Fair	Protected	
2794	Black Cherry	Prunus serotina	12	Fair	Protected	
2795	Black Cherry	Prunus serotina	9	Fair	Protected	
2796	Black Cherry	Prunus serotina	11	Fair	Protected	
2797	Black Cherry	Prunus serotina	8	Fair	Protected	
2798	Black Cherry	Prunus serotina	6	Poor	Protected	
2799	Black Cherry	Prunus serotina	7	Poor	Protected	
2800	Black Cherry	Prunus serotina	9	Fair	Protected	
2801	Black Cherry	Prunus serotina	12	Fair	Protected	
2802	Black Cherry	Prunus serotina	6	Fair	Protected	
2803	Black Cherry	Prunus serotina	10	Fair	Protected	
2804	Black Cherry	Prunus serotina	6	Fair	Protected	
2805	Black Cherry	Prunus serotina	9	Fair	Protected	
2806	Black Cherry	Prunus serotina	9	Fair	Protected	
2807	Oak	Quercus	7	Fair	Protected	
2808	Black Cherry	Prunus serotina	8	Fair	Protected	
2809	Black Cherry	Prunus serotina	7	Poor	Protected	
2810	Black Cherry	Prunus serotina	8	Fair	Protected	
2811	Black Cherry	Prunus serotina	6	Fair	Protected	
2812	Black Cherry	Prunus serotina	9	Fair	Protected	
2813	Black Cherry	Prunus serotina	6	Fair	Protected	
2814	Black Cherry	Prunus serotina	6	Fair	Protected	
2815	Black Cherry	Prunus serotina	7	Fair	Protected	
2816	Black Cherry	Prunus serotina	6	Fair	Protected	
2817	Black Cherry	Prunus serotina	6	Fair	Protected	
2818	Black Cherry	Prunus serotina	6	Fair	Protected	
2819	Black Cherry	Prunus serotina	7	Fair	Protected	
2820	Black Cherry	Prunus serotina	6	Fair	Protected	
2821	Black Cherry	Prunus serotina	7	Fair	Protected	
2822	Black Cherry	Prunus serotina	6	Fair	Protected	
2823	Black Cherry	Prunus serotina	10	Fair	Protected	
2824	Black Cherry	Prunus serotina	6	Fair	Protected	
2825	Black Cherry	Prunus serotina	10	Poor	Protected	
2826	Black Cherry	Prunus serotina	6	Poor	Protected	
2827	Black Cherry	Prunus serotina	8	Fair	Protected	Yes
2828	Black Cherry	Prunus serotina	8	Fair	Protected	
2829	Black Cherry	Prunus serotina	8	Fair	Protected	
2831	Black Cherry	Prunus serotina	6	Fair	Protected	
2832	Maple	Acer	6	Fair	Protected	
2833	Black Cherry	Prunus serotina	6	Fair	Protected	
2835	Black Cherry	Prunus serotina	8	Fair	Protected	
2836	Black Cherry	Prunus serotina	6	Fair	Protected	
2837	Black Cherry	Prunus serotina	9	Fair	Protected	
2838	Black Cherry	Prunus serotina	7	Fair	Protected	
2839	Black Cherry	Prunus serotina	8	Fair	Protected	
2840	Black Cherry	Prunus serotina	8	Fair	Protected	
2842	Black Cherry	Prunus serotina	7	Fair	Protected	
2843	Black Cherry	Prunus serotina	11	Poor	Protected	
2844	Black Cherry	Prunus serotina	6	Fair	Protected	
2845	Black Cherry	Prunus serotina	8	Fair	Protected	
2847	Black Cherry	Prunus serotina	9	Fair	Protected	
2848	Black Cherry	Prunus serotina	7	Fair	Protected	
2849	Black Cherry	Prunus serotina	8	Fair	Protected	
2850	Black Cherry	Prunus serotina	8	Fair	Protected	
2851	Black Cherry	Prunus serotina	8	Fair	Protected	
2852	Black Cherry	Prunus serotina	7	Fair	Protected	
2853	Black Cherry	Prunus serotina	6	Fair	Protected	
2855	Black Cherry	Prunus serotina	9	Fair	Protected	
2856	Black Cherry	Prunus serotina	9	Fair	Protected	
2857	Black Cherry	Prunus serotina	7	Fair	Protected	
2858	Black Cherry	Prunus serotina	7	Fair	Protected	
2859	Black Cherry	Prunus serotina	7	Fair	Protected	
2860	Black Cherry	Prunus serotina	6	Fair	Protected	
2861	Black Cherry	Prunus serotina	7	Fair	Protected	
2862	Black Cherry	Prunus serotina	7	Fair	Protected	
2863	Maple	Acer	7	Fair	Protected	
2864	Black Cherry	Prunus serotina	11	Poor	Protected	
2865	Black Cherry	Prunus serotina	11	Fair	Protected	
2866	Black Cherry	Prunus serotina	8	Fair	Protected	
2867	Black Cherry	Prunus serotina	10	Good	Protected	
2868	Black Cherry	Prunus serotina	11	Fair	Protected	
2869	Black Cherry	Prunus serotina	10	Fair	Protected	
2870	Black Cherry	Prunus serotina	7	Fair	Protected	
2871	Black Cherry	Prunus serotina	8	Fair	Protected	
2872	Black Cherry	Prunus serotina	8	Fair	Protected	
2873	Black Cherry	Prunus serotina	6	Fair	Protected	
2874	Black Cherry	Prunus serotina	7	Fair	Protected	
2875	Black Cherry	Prunus serotina	6	Fair	Protected	
2876	Black Cherry	Prunus serotina	10	Fair	Protected	
2877	Black Cherry	Prunus serotina	10	Fair	Protected	
2878	Black Cherry	Prunus serotina	7	Fair	Protected	
2879	Black Cherry	Prunus serotina	8	Fair	Protected	
2880	Black Cherry	Prunus serotina	10	Fair	Protected	
2881	Black Cherry	Prunus serotina	6	Poor	Protected	
2882	Black Cherry	Prunus serotina	6	Poor	Protected	
2883	Black Cherry	Prunus serotina	7	Poor	Protected	
2884	Black Cherry	Prunus serotina	7	Fair	Protected	
2885	Black Cherry	Prunus serotina	6	Poor	Protected	

811
Know what's below. Call before you dig.
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN

TREE LIST

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
48

K:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787FSP-02-EC.DWG 1/22/2019 11:31 AM CHRIS ROTHHAAR

TREE SURVEY: L-12-32-300-006

Tag No.	Common Name	Scientific Name	Size (DBH)	Condition	Type	To Be Removed
2886	Black Cherry	Prunus serotina	9	Poor	Protected	
2887	Black Cherry	Prunus serotina	6	Fair	Protected	
2888	Black Cherry	Prunus serotina	6	Poor	Protected	
2889	Black Cherry	Prunus serotina	6	Poor	Protected	
2890	Black Cherry	Prunus serotina	8	Poor	Protected	
2891	Black Cherry	Prunus serotina	6	Poor	Protected	
2892	Black Cherry	Prunus serotina	6	Fair	Protected	
2893	Black Cherry	Prunus serotina	6	Poor	Protected	
2894	Maple	Acer	9	Poor	Protected	
2895	Black Cherry	Prunus serotina	9	Good	Protected	
2896	Black Cherry	Prunus serotina	9	Fair	Protected	
2897	Black Cherry	Prunus serotina	7	Fair	Protected	
2898	Black Cherry	Prunus serotina	8	Poor	Protected	
2899	Black Cherry	Prunus serotina	8	Poor	Protected	
2900	Black Cherry	Prunus serotina	6	Fair	Protected	
2941	Black Cherry	Prunus serotina	6	Fair	Protected	
2965	Black Cherry	Prunus serotina	11	Good	Protected	
3834	Black Cherry	Prunus serotina	6	Fair	Protected	
1632.1	Buckthorn	Rhamnus cathartica	7	Good	Protected	
1684.1	Black Cherry	Prunus serotina	6, 10, 10, 14	Good	Protected	
1842a	Black Cherry	Prunus serotina	6	Poor	Protected	
1843a	Black Cherry	Prunus serotina	8	Poor	Protected	
1849a	Black Cherry	Prunus serotina	6	Good	Protected	
1850a	Black Cherry	Prunus serotina	8	Good	Protected	
1852a	Black Cherry	Prunus serotina	6	Good	Protected	
1854a	Black Cherry	Prunus serotina	6	Good	Protected	
1855a	Black Cherry	Prunus serotina	6	Good	Protected	
1857a	Apple	Malus domestica	5, 6, 7	Good	Protected	
1858a	Black Cherry	Prunus serotina	6	Good	Protected	
1859a	Black Cherry	Prunus serotina	6	Good	Protected	
1862a	Black Cherry	Prunus serotina	7, 8	Good	Protected	
1863a	Black Cherry	Prunus serotina	15	Good	Protected	
1864a	Black Cherry	Prunus serotina	8	Good	Protected	
1867a	Black Cherry	Prunus serotina	6	Good	Protected	
1868a	Black Cherry	Prunus serotina	11	Good	Protected	
1874a	Black Cherry	Prunus serotina	6	Good	Protected	
1877a	Black Cherry	Prunus serotina	4, 5, 6	Good	Protected	
1879a	Black Cherry	Prunus serotina	7	Good	Protected	
1885a	Black Cherry	Prunus serotina	7	Good	Protected	
1886a	Black Cherry	Prunus serotina	11	Good	Protected	
1889a	Black Cherry	Prunus serotina	10	Poor	Protected	
1892a	Black Cherry	Prunus serotina	9	Good	Protected	
1893a	Black Cherry	Prunus serotina	6	Good	Protected	
1894a	Siberian Elm	Ulmus pumila	24	Good	Invasive	
1895.a	Siberian Elm	Ulmus pumila	9	Good	Invasive	
1896a	Siberian Elm	Ulmus pumila	12	Good	Invasive	
1897a	Siberian Elm	Ulmus pumila	14	Good	Invasive	
1898a	Siberian Elm	Ulmus pumila	6	Good	Invasive	
1899a	Siberian Elm	Ulmus pumila	7	Good	Invasive	
1900a	Siberian Elm	Ulmus pumila	15	Good	Invasive	
1980a	Box Elder	Acer negundo	6, 6	Very Poor	Invasive	
1981a	Balsam Fir	Abies balsamea	6	Good	Protected	
1984a	Balsam Fir	Abies balsamea	7	Good	Protected	
1986a	Maple	Acer	16	Good	Heritage	
1987a	Black Cherry	Prunus serotina	6	Good	Protected	
1988a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
1989a	Box Elder	Acer negundo	4, 11	Good	Invasive	
1990a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
1991a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
1992a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
1994a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
1995a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
1996a	Siberian Elm	Ulmus pumila	6	Good	Invasive	
1997a	Black Cherry	Prunus serotina	21	Good	Heritage	
1999a	Balsam Fir	Abies balsamea	6	Very Poor	Protected	
2000a	Siberian Elm	Ulmus pumila	6	Poor	Invasive	
2052a	Black Cherry	Prunus serotina	18	Poor	Heritage	Yes
2053a	Black Cherry	Prunus serotina	8	Good	Protected	Yes
2056a	Black Cherry	Prunus serotina	6	Good	Protected	Yes
2058a	Black Cherry	Prunus serotina	12	Good	Protected	
2060a	Black Cherry	Prunus serotina	8, 7	Good	Protected	
2061a	Black Cherry	Prunus serotina	6	Good	Protected	
2062a	Black Cherry	Prunus serotina	9	Good	Protected	
2064a	Black Cherry	Prunus serotina	9	Good	Protected	
2065a	Crabapple	Malus	10	Good	Protected	
2308a	Black Cherry	Prunus serotina	7	Poor	Protected	
2381a	Oak	Quercus	6	Fair	Protected	
2382a	Maple	Acer	9	Fair	Protected	
2383a	Black Cherry	Prunus serotina	7	Fair	Protected	
2384a	Black Cherry	Prunus serotina	6	Fair	Protected	
2385a	Oak	Quercus	7	Poor	Protected	
2386a	Maple	Acer	6	Fair	Protected	
2387a	Black Cherry	Prunus serotina	9	Fair	Protected	
2388a	Black Cherry	Prunus serotina	6	Fair	Protected	
2390a	Maple	Acer	6	Poor	Protected	
2391a	Black Cherry	Prunus serotina	8	Poor	Protected	
2392a	Maple	Acer	6	Fair	Protected	
2393a	Black Cherry	Prunus serotina	7	Fair	Protected	
2394a	Black Cherry	Prunus serotina	6	Fair	Protected	
2395a	Black Cherry	Prunus serotina	6	Poor	Protected	
2396a	Black Cherry	Prunus serotina	7	Poor	Protected	
2397a	Black Cherry	Prunus serotina	6	Poor	Protected	
2827a	Black Cherry	Prunus serotina	18	Fair	Heritage	
2832a	Black Cherry	Prunus serotina	22	Poor	Heritage	
973.1	Black Walnut	Juglans nigra	7	Good	Protected	

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	Botanical Name	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List[ϕ]	To be Removed
245312.75	13291708.86	13	Pinus strobus	White Pine	PIST	15.5	Good		No	No	Yes
245309.193	13291692.77	14	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245316.036	13291683.72	15	Acer negundo	Box-elder	ACNE	8.5	Fair	inner bark rot	No	Yes	Yes
245320.883	13291693.58	16	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245318.225	13291702.63	17	Pinus strobus	White Pine	PIST	13.5	Fair		No	No	Yes
245328.057	13291692.92	18	Acer negundo	Box-elder	ACNE	6.5	Good		No	Yes	Yes
245340.701	13291681.98	19	Acer negundo	Box-elder	ACNE	14.0	Fair	leaning tree	No	Yes	Yes
245331.793	13291701.93	20	Pinus strobus	White Pine	PIST	19.0	Good		Yes	No	Yes
245342.14	13291696.31	21	Pinus strobus	White Pine	PIST	21.0	Good		Yes	No	Yes
245363.801	13291696.15	22	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245370.164	13291686.84	23	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245383.268	13291689.76	25	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245377.4	13291697.93	26	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245383.319	13291694.16	27	Pinus strobus	White Pine	PIST	18.5	Good		Yes	No	Yes
245390.914	13291687.67	28	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245394.686	13291693.32	29	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245402.767	13291690.68	30	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245417.694	13291698.28	31	Pinus strobus	White Pine	PIST	9.0	Fair		No	No	Yes
245422.928	13291693.69	32	Pinus strobus	White Pine	PIST	19.0	Good		Yes	No	Yes
245429.324	13291688.57	33	Pinus strobus	White Pine	PIST	15.0	Good		No	No	Yes
245426.475	13291692.71	34	Pinus strobus	White Pine	PIST	17.5	Good		No	No	Yes
245443.939	13291687.08	35	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245361.445	13291690.17	38	Pinus strobus	White Pine	PIST	22.0	Good		Yes	No	Yes
245454.491	13291687.96	49	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245454.15	13291687.98	50	Pinus strobus	White Pine	PIST	17.0	Good		No	No	Yes
245458.003	13291693.11	51	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245462.466	13291684.74	52	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245457.279	13291686.09	53	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245462.041	13291687.3	54	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
245460.311	13291682.54	55	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245472.121	13291687.61	56	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245474.219	13291687.84	57	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245473.756	13291688.57	58	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245475.493	13291684.45	59	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
245493.838	13291685.18	60	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245483.307	13291689.66	62	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245489.085	13291687.97	63	Pinus strobus	White Pine	PIST	15.0	Good		No	No	Yes
245498.576	13291685.2	64	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245500.984	13291692.42	65	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245503.479	13291691.81	66	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245511.74	13291683.78	67	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245507.389	13291687.21	68	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245512.35	13291683.78	69	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245509.56	13291690.72	70	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245518.37	13291685.67	71	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245520.37	13291683.41	72	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245519.612	13291685.25	73	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245521.165	13291684.95	74	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245531.819	13291688.83	75	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245532.318	13291689.85	76	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245537.068	13291689.1	77	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245533.87	13291691.7	78	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245545.517	13291690.6	79	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245547.417	13291689.65	80	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245558.982	13291689.64	81	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245554.103	13291703.56	82	Acer negundo	Box-elder	ACNE	10.0	Good		No	Yes	Yes
245523.339	13291684.82	83	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245540.749	13291684.77	84	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245536.78	13291683.77	85	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245539.118	13291685.5	86	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245547.689	13291689.41	87	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
245555.613	13291680.93	88	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245552.204	13291684.51	89	Pinus strobus	White Pine	PIST	15.5	Good		No	No	Yes
245565.16	13291688.15	90	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
245571.003	13291681.27	91	Pinus strobus	White Pine	PIST	7.0	Fair		No	No	Yes
245573.918	13291689.71	92	Pinus strobus	White Pine	PIST	10.0	Fair		No	No	Yes
245572.692	13291689.51	93	Pinus strobus	White Pine	PIST	10.5	Fair		No	No	Yes
245573.203	13291690.94	94	Pinus strobus	White Pine	PIST	15.0	Good		No	No	Yes
245583.548	13291688.97	95	Pinus strobus	White Pine	PIST	6.0	Good		No	No	Yes
245574.155	13291684.45	96	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
245579.998	13291689.1	97	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245578.141	13291686.94	98	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
245588.147	13291681.1	99	Pinus strobus	White Pine	PIST	12.0	Fair		No	No	Yes
245592.313	13291682.98	100	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245591.821	13291685.15	101	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245620.353	13291701.21	102	Ulmus pumila	Siberian Elm	ULPU	11.5	Good		No	Yes	Yes
245611.227	13291681.97	103	Morus alba	White Mulberry	MOAL	11.0	Good		No	No	Yes
245603.04	13291682.11	104	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
245613.38	13291684.6	105	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245611.744	13291699.48	106	Morus alba	White Mulberry	MOAL	14.0	Good		No	No	Yes
245620.439	13291689.93	108	Pinus strobus	White Pine	PIST	13.5	Fair		No	No	Yes
245627.715	13291683.26	110	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245653.39	13291664.61	112	Morus alba	White Mulberry	MOAL	9.0	Good		No	No	Yes
245661.394	13291659.78	113	Morus alba	White Mulberry	MOAL	13.0	Fair		No	No	Yes
245642.653	13291670.32	114	Acer negundo	Box-elder	ACNE	18.5	Poor	inner bark rot	No	Yes	Yes
245651.125	13291682.35	115	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245648.556	13291688.53	116	Pinus strobus	White Pine	PIST	16.5	Good		No	No	Yes
245656.679	13291688.02	117	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245653.572	13291689.29	118	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
245654.192	13291684.76	119	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245668.837	13291678.63	120	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245663.908	13291679.11	121	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245684.708	13291696.88	122	Ulmus pumila	Siberian Elm	ULPU	10.0	Good	2 Trunks (2T)	No	Yes	Yes
						8.5					
245684.182	13291678.35	123	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245681.102	13291683.04	124	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
245679.086	13291688.31	125	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245692.985	13291685.94	126	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245685.905	13291679.78	127	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
245690.593	13291682.68	128	Pinus strobus	White Pine	PIST	6.5	Fair		No	No	Yes
245698.482	13291687.34	129	Pinus strobus	White Pine	PIST	6.5	Fair		No	No	Yes
245715.003	13291678.6	130	Acer negundo	Box-elder	ACNE	18.0	Fair	3 Trunks (3T)	No	Yes	Yes
						16.5					
						11.0					
245702.35	13291678.86	131	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245712.602	13291678.89	132	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245711.524	13291678.25	133	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245710.595	13291677.33	134	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245712.593	13291666.09	135	Acer negundo	Box-elder	ACNE	9.0	Fair	severely leaning	No	Yes	Yes
245725.419	13291675.86	136	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245723.555	13291682.62	137	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245729.261	13291683.96	138	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245732.672	13291679.7	139	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245734.376	13291671.92	140	Acer negundo	Box-elder	ACNE	11.0	Good		No	Yes	Yes
245742.438	13291666.67	141	Morus alba	White Mulberry	MOAL	11.0	Good	2T	No	No	Yes
						10.5					
245732.049	13291685.55	142	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245737.251	13291684.36	143	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245728.3	13291681.12	144	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
245749.554	13291673.78	145	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245739.502	13291682.2	146	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245748.417	13291682.92	147	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245744.184	13291675.57	148	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245763.701	13291680.78	149	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245767.02	13291684.47	150	Pinus strobus	White Pine	PIST	9.0	Fair	dead branches	No	No	Yes
245757.143	13291680.72	151	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
245767.395	13291675.47	152	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245770.849	13291685.54	153	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245777.024	13291678.17	154	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245781.095	13291676.24	155	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
245784.932	13291680.29	156	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245791.793	13291680.77	157	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
245788.45	13291682.42	159	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245792.15	13291671.78	160	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	Botanical Name	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List[ϕ]	To be Removed
245793.946	13291666.5	161	Acer negundo	Box-elder	ACNE	10.0	Good		No	Yes	Yes
245790.993	13291681.7	162	Pinus strobus	White Pine	PIST	15.0	Good		No	No	Yes
245801.661	13291684.37	164	Pinus strobus	White Pine	PIST	8.0	Fair	leaning tree	No	No	Yes
245805.022	13291683.92	165	Pinus strobus	White Pine	PIST	9.0	Good	leaning tree	No	No	Yes
245803.237	13291685.53	166	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245806.767	13291673.59	168	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245814.723	13291673.32	169	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245814.199	13291683.91	170	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245809.171	13291676.29	171	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245810.65	13291681.51	172	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
245822.496	13291674.23	173	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245817.737	13291675.58	174	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245812.863	13291682.3	175	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
245819.666	13291683.28	176	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245827.06	13291683.3	177	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245829.353	13291673.86	178	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245834.025	13291669.57	179	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245835.502	13291654.12	180	Acer negundo	Box-elder	ACNE	16.5	Good	fused trunk measurement	No	Yes	Yes
245833.647	13291679.27	181	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245837.483	13291678.07	182	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245840.23	13291677.81	183	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245836.972	13291673.38	184	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245837.205	13291678.49	185	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245843.395	13291681.08	187	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245844.6	13291681.84	188	Prunus serotina	Black Cherry	PRSE	11.0	Good		No	No	Yes
245845.343	13291678.2	189	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245840.843	13291676.42	190	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245844.438	13291669.12	191	Acer negundo	Box-elder	ACNE	11.5	Good		No	Yes	Yes
245850.471	13291662.31	192	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245857.266	13291670.41	194	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245867.017	13291669.1	195	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245866.798	13291671.01	196	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245870.93	13291670.46	197	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245874.423	13291672.4	198	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245879.538	13291668.02	199	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245879.847	13291670.64	201	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245879.878	13291671.51	202	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245884.526	13291668.02	203	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245890.948	13291670.12	205	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245896.988	13291671.96	206	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245895.235	13291673.62	207	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245904.365	13291671.43	208	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245906.633	13291670.39	209	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245908.977	13291670.89	210	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
245912.295	13291670.38	211	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245916.313	13291679.78	212	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245915.896	13291668.38	213	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245917.875	13291675.83	214	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245919.858	13291676.91	215	Pinus strobus	White Pine	PIST	7.0	Good		No	No	Yes
245926.726	13291679.28	216	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245922.836	13291668.06	217	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
245924.717	13291669.37	218	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245926.142	13291647.47	219	Malus species	Apple/Crabapple	MASP	8.0	Good		No	No	Yes
245928.642	13291668.15	220	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245937.928	13291667.97	221	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
245938.164	13291669.36	222	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
245938.929	13291668.09	223	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245943.012	13291672.13	224	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245932.088	13291673.1	225	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245943.633	13291672.77	226	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245946.017	13291679.51	227	Pinus strobus	White Pine	PIST	7.0	Good		No	No	Yes
245950.127	13291673.63	228	Pinus strobus	White Pine	PIST	17.5	Good		No	No	Yes
245961.639	13291670.4	229	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
245962.116	13291678.17	230	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245964.766	13291678.14	231	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
245970.493	13291678.65	232	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
245965.461	13291668.97	233	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245965.951	13291670.99	234	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245967.85	13291676.99	235	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245974.014	13291669.21	236	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
245982.568	13291672.3	237	Prunus serotina	Black Cherry	PRSE	10.5	Fair		No	No	Yes
245976.017	13291663.87	238	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245982.751	13291673.7	239	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
245999.163	13291672.61	240	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
245998.711	13291667.33	241	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
246002.625	13291675.35	242	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
246003.73	13291674.99	243	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
246011.81	13291677.38	244	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246011.842	13291671.24	245	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
246010.045	13291690.68	246	Acer negundo	Box-elder	ACNE	9.5	Fair	leaning tree	No	Yes	Yes
246020.117	13291659.63	247	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
246024.192	13291673.41	248	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
246021.551	13291673.76	249	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
246026.552	13291672.38	250	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
246030.002	13291665.96	251	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
246039.476	13291645.75	254	Acer negundo	Box-elder	ACNE	12.5	Fair		No	Yes	Yes
246034.353	13291676.24	257	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246028.291	13291673.41	258	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
246034.568	13291674.53	259	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246032.012	13291665.86	260	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246032.099	13291672.12	261	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
246042.021	13291668.4	262	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246043.746	13291665.36	263	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246044.05	13291679.94	264	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
246045.708	13291667.04	265	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246052.237	13291674.69	266	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
246048.005	13291661.73	267	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
246053.608	13291668.76	268	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
246059.174	13291673.94	269	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246060.518	13291674.2	270	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
246067.101	13291673.23	271	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
246070.7	13291666.04	272	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246072.648	13291673.36	273	Prunus serotina	Black Cherry	PRSE	7.5	Good		No	No	Yes
246065.385	13291662.94	274	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
246073.743	13291669.94	275	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
246081.248	13291672.43	277	Pinus strobus	White Pine	PIST	7.0	Good		No	No	Yes
246082.218	13291663.21	278	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246077.82	13291664.05	279	Pinus strobus	White Pine	PIST	6.0	Good		No	No	Yes
246089.908	13291661.84	280	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
246085.078	13291675.9	281	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246086.593	13291669.64	282	Pinus strobus	White Pine	PIST	14.0	Good		No	No	Yes
246095.137	13291672.57	283	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
246089.218	13291670.03	284	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246094.932	13291672.28	285	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
246095.376	13291668.67	286	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
246102.654	13291672.34	288	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
246106.937	13291664.86	289	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
246106.246	13291672.39	291	Pinus strobus	White Pine	PIST	6.5	Good		No	No	Yes
246125.057	13291663.56	292	Pinus strobus	White Pine	PIST	15.0	Good		No	No	Yes
246133.439	13291661.47	293	Pinus strobus	White Pine	PIST	10.0	Good		No	No	Yes
246134.429	13291667.65	294	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
246132.956	13291672.8	295	Pinus strobus	White Pine	PIST	15.0	Good		No	No	Yes
246142.803	13291673.36	297	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
246149.97	13291664.74	298	Prunus serotina	Black Cherry	PRSE	13.0	Good		No	No	Yes
246149.358	13291672.2	299	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
246152.751	13291673.35	300	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
246139.448	13291660.23	301	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
246138.854	13291664.53	302	Pinus strobus	White Pine	PIST	6.2	Good		No	No	Yes
246162.214	13291656.99	303	Pinus strobus	White Pine	PRSE	11.0	Good		No	No	Yes
246156.321	13291672.31	306	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246158.29	13291674.17	307	Pinus strobus	White Pine	PIST	7.0	Good		No	No	Yes
246161.815	13291674.71	308	Pinus strobus	White Pine	PIST	11.0	Good		No	No	Yes
246161.935	13291664.25	309	Ulmus rubra	Slippery Elm	ULRU	11.0	Good		No	No	Yes
246165.717	13291669.22	310	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	Botanical Name	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List[ϕ]	To be Removed
246168.268	13291671.31	311	Pinus strobus	White Pine	PIST	6.0	Good		No	No	Yes
246180.343	13291663.28	312	Acer negundo	Box-elder	ACNE	10.0	Fair	2T	No	Yes	Yes
						9.0					
246174.781	13291665.64	313	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
246172.427	13291670.9	314	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
246179.874	13291664.69	315	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
246179.125	13291671.43	316	Pinus strobus	White Pine	PIST	6.0	Good		No	No	Yes
246183.758	13291668.61	317	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
246191.555	13291661.38	318	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246189.614	13291665.92	319	Acer negundo	Box-elder	ACNE	8.5	Good		No	Yes	Yes
246188.526	13291657.6	320	Pinus strobus	White Pine	PIST	8.0	Good		No	No	Yes
246192.077	13291667.77	321	Pinus strobus	White Pine	PIST	6.0	Good		No	No	Yes
246184.571	13291672.51	322	Acer negundo	Box-elder	ACNE	9.0	Fair		No	Yes	Yes
246198.581	13291673.98	323	Pinus strobus	White Pine	PIST	9.0	Good		No	No	Yes
246197.135	13291675.65	324	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
246195.334	13291666.26	325	Pinus strobus	White Pine	PIST	14.5	Good		No	No	Yes
246208.783	13291657.09	326	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
246207.084	13291673.83	327	Pinus strobus	White Pine	PIST	8.5	Good		No	No	Yes
246204.538	13291672.83	328	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
246206.724	13291659.59	329	Pinus strobus	White Pine	PIST	13.0	Good		No	No	Yes
246213.284	13291662.26	330	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246216.939	13291667.01	331	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
246219.613	13291671.68	333	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
246215.471	13291651.2	335	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246225.055	13291657.36	336	Acer negundo	Box-elder	ACNE	14.0	Good		No	Yes	Yes
246226.938	13291667.24	337	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246226.769	13291663.07	338	Pinus strobus	White Pine	PIST	7.0	Good		No	No	Yes
246232.757	13291662.82	339	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
246229.361	13291661.63	341	Pinus strobus	White Pine	PIST	12.0	Good		No	No	Yes
246241.413	13291661.87	342	Acer negundo	Box-elder	ACNE	10.5	Good		No	Yes	Yes
246249.385	13291659	343	Prunus serotina	Black Cherry	PRSE	7.5	Good		No	No	Yes
246223.806	13291673.76	344	Pinus strobus	White Pine	PIST	9.5	Good		No	No	Yes
246245.941	13291659.65	345	Pinus strobus	White Pine	PIST	10.5	Good		No	No	Yes
246249.991	13291669.51	346	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
246341.305	13291898.04	348	Acer negundo	Box-elder	ACNE	9.5	Good		No	Yes	Yes
246290.332	13291891.99	357	Prunus serotina	Black Cherry	PRSE	12.5	Fair	2T; tree in fenceline	No	No	Yes
						7.5					
246280.765	13291897.48	359	Prunus serotina	Black Cherry	PRSE	8.0	Good		No	No	Yes
246232.156	13291904.6	366	Acer negundo	Box-elder	ACNE	9.0	Fair	leaning tree	No	Yes	Yes
246235.55	13291903.49	367	Acer negundo	Box-elder	ACNE	9.0	Fair		No	Yes	Yes
246224.701	13291887.8	368	Acer negundo	Box-elder	ACNE	11.0	Fair		No	Yes	Yes
246217.793	13291898.2	369	Acer negundo	Box-elder	ACNE	9.0	Fair		No	Yes	Yes
246212.644	13291888.1	371	Acer negundo	Box-elder	ACNE	11.0	Fair		No	Yes	Yes
246211.174	13291896.16	374	Acer negundo	Box-elder	ACNE	9.0	Good		No	Yes	Yes
246184.048	13291910.92	378	Acer negundo	Box-elder	ACNE	11.0	Fair	leaning tree	No	Yes	Yes
246180.941	13291898.07	380	Prunus serotina	Black Cherry	PRSE	11.0	Good		No	No	Yes
246179.941	13291907.47	381	Acer negundo	Box-elder	ACNE	6.5	Poor	dead inner bark	No	Yes	Yes
246169.43	13291895.57	382	Prunus serotina	Black Cherry	PRSE	8.5	Good	2T	No	No	Yes
						9.0					
246167.18	13291897.68	383	Prunus serotina	Black Cherry	PRSE	10.5	Good		No	No	Yes
246161.385	13291899.51	385	Prunus serotina	Black Cherry	PRSE	14.0	Fair		No	No	Yes
246129.57	13291907.78	388	Prunus serotina	Black Cherry	PRSE	21.0	Fair	inner bark rot	Yes	No	Yes
246102.067	13291909.58	390	Acer negundo	Box-elder	ACNE	10.5	Good	leaning tree	No	Yes	Yes
246090.714	13291889.49	391	Acer negundo	Box-elder	ACNE	13.5	Good		No	Yes	Yes
246090.914	13291916.2	392	Juglans nigra	Black Walnut	JUNI	17.0	Excellent		No	No	Yes
246085.385	13291900.45	394	Juglans nigra	Black Walnut	JUNI	11.0	Good		No	No	Yes
246052.374	13291900.62	396	Prunus serotina	Black Cherry	PRSE	15.5	Poor	inner bark rot	No	No	Yes
246048.963	13291904.57	397	Acer negundo	Box-elder	ACNE	9.5	Good		No	Yes	Yes
245983.747	13291892.24	400	Acer negundo	Box-elder	ACNE	9.0	Good		No	Yes	Yes
245967.384	13291908.64	401	Prunus serotina	Black Cherry	PRSE	9.5	Fair		No	No	Yes
245964.989	13291883.98	403	Acer negundo	Box-elder	ACNE	11.5	Fair	leaning	No	Yes	Yes
245945.48	13291902.61	406	Prunus serotina	Black Cherry	PRSE	27.5	Fair	fused trunk measurement	Yes	No	Yes
245929.886	13291899.25	408	Prunus serotina	Black Cherry	PRSE	21.0	Excellent		Yes	No	Yes
245912.596	13291894.09	410	Acer negundo	Box-elder	ACNE	8.5	Fair	3T	No	Yes	Yes
						6.0					
						4.0					
245906.404	13291900.32	411	Prunus serotina	Black Cherry	PRSE	8.0	Good		No	No	Yes
245900.406	13291898.76	412	Acer negundo	Box-elder	ACNE	15.0	Fair	2T	No	Yes	Yes
						8.5					
245871.67	13291895.5	413	Prunus serotina	Black Cherry	PRSE	18.0	Good	5 Trunks (5T)	Yes	No	Yes
						16.0					
						16.0					
						14.0					
						11.5					
245866.852	13291903.42	414	Prunus serotina	Black Cherry	PRSE	20.0	Good	near fence	Yes	No	Yes
245870.666	13291892.26	415	Acer negundo	Box-elder	ACNE	10.0	Fair	leaning tree	No	Yes	Yes
245841.603	13291912.71	421	Acer negundo	Box-elder	ACNE	9.0	Fair		No	Yes	Yes
245824.283	13291899.65	423	Acer negundo	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245819.856	13291889.28	424	Acer negundo	Box-elder	ACNE	10.5	Fair	2T	No	Yes	Yes
						8.5					
245802.455	13291902.34	425	Acer negundo	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245801.214	13291901.72	426	Acer negundo	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245800.194	13291905.01	427	Acer negundo	Box-elder	ACNE	8.0	Fair		No	Yes	Yes
245805.559	13291924.28	428	Acer negundo	Box-elder	ACNE	13.5	Fair		No	Yes	Yes
245810.725	13291938.74	432	Acer negundo	Box-elder	ACNE	10.0	Good		No	Yes	Yes
245822.746	13291910.56	434	Acer negundo	Box-elder	ACNE	9.5	Good		No	Yes	Yes
245781.65	13291910.42	435	Acer negundo	Box-elder	ACNE	12.0	Fair	2T; inner bark rot	No	Yes	Yes
						9.0					
245764.238	13291902.98	436	Acer negundo	Box-elder	ACNE	10.5	Good	severely leaning	No	Yes	Yes
245772.446	13291904.43	437	Acer negundo	Box-elder	ACNE	8.0	Good		No	Yes	Yes
245763.685	13291892.69	438	Acer negundo	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245783.326	13291911.09	439	Acer negundo	Box-elder	ACNE	7.5	Fair		No	Yes	Yes
245801.572	13291921.99	440	Acer negundo	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245776.055	13291915.76	441	Acer negundo	Box-elder	ACNE	9.5	Fair	leaning tree	No	Yes	Yes
245763.646	13291895.55	446	Acer negundo	Box-elder	ACNE	10.0	Poor	leaning tree	No	Yes	Yes
245746.12	13291906.89	449	Acer negundo	Box-elder	ACNE	17.0	Dead		No	Yes	Yes
245721.857	13291923.56	452	Acer negundo	Box-elder	ACNE	9.0	Good		No	Yes	Yes
245717.298	13291920.24	453	Acer negundo	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245716.993	13291918.34	454	Acer negundo	Box-elder	ACNE	10.5	Fair		No	Yes	Yes
245709.281	13291905.83	455	Acer negundo	Box-elder	ACNE	6.0	Fair		No	Yes	Yes
245695.226	13291911.24	456	Acer negundo	Box-elder	ACNE	9.0	Fair		No	Yes	Yes
245698.398	13291907.14	457	Acer negundo	Box-elder	ACNE	7.5	Fair		No	Yes	Yes
245700.757	13291907.3	458	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245681.353	13291916.22	459	Pinus strobus	White Pine	PIST	11.0	Fair	2T	No	No	Yes
						9.0					
245693.703	13291902.34	460	Pinus strobus	White Pine	PIST	13.5	Good		No	No	Yes
245704.845	13291925.75	461	Acer negundo	Box-elder	ACNE	8.5	Fair	leaning tree	NO	Yes	Yes
245685.804	13291908	463	Pinus strobus	White Pine	PIST	17.0	Good		No	No	Yes
245641.116	13291924.87	466	Prunus serotina	Black Cherry	PRSE	7.5	Good		No	No	Yes
245649.996	13291899.03	468	Pinus strobus	White Pine	PIST	17.0	Good		No	No	Yes
245624.924	13291922.31	471	Acer negundo	Box-elder	ACNE	12.5	Poor	dead inner bark	No	Yes	Yes
245616.94	13291923.59	472	Acer negundo	Box-elder	ACNE	9.5	Fair		No	Yes	Yes
245607.46	13291898.87	473	Pinus strobus	White Pine	PIST	12.5	Good		NO	No	Yes
245596.473	13291899.66	474	Acer negundo	Box-elder	ACNE	13.0	Fair	2T; leaning tree	No	Yes	Yes
						6.0					
245590.194	13291909.43	475	Pinus strobus	White Pine	PIST	11.5	Good		No	No	Yes
245601.742	13291910.05	476	Pinus strobus	White Pine	PIST	7.5	Good		No	No	Yes
245589.719	13291948.6	477	Populus deltoides	Cottonwood	PODE	13.0	Good		No	Yes	Yes
245595.561	13291943.76	478	Populus deltoides	Cottonwood	PODE	10.5	Good		No	Yes	Yes
245601.275	13291940.68	479	Populus deltoides	Cottonwood	PODE	11.0	Good		No	Yes	Yes
245594.797	13291940.51	480	Populus deltoides	Cottonwood	PODE	10.0	Good		No	Yes	Yes
245593.941	13291938.43	481	Populus deltoides	Cottonwood	PODE	8.5	Good		No	Yes	Yes
245577.462	13291914.55	483	Pinus strobus	White Pine	PIST	17.5	Good		No	No	Yes
245575.021	13291911.14	484	Pinus strobus	White Pine	PIST	12.5	Good		No	No	Yes
245569.38	13291920.67	485	Pinus strobus	White Pine	PIST	17.5	Good		No	No	Yes
245576.362	13291898.81	486	Acer negundo	Box-elder	ACNE	8.5	Good		No	Yes	Yes
245579.922	13291935.52	487	Populus deltoides	Cottonwood	PODE	11.5	Good		No	Yes	Yes
245577.518	13291936.75	488	Acer negundo	Box-elder	ACNE	11.5	Good		No	Yes	Yes
245551.794	13291905.19	490	Pinus strobus	White Pine	PIST	16.5	Good		No	No	Yes
245552.784	13291913.28	491	Pinus strobus	White Pine	PIST	16.0	Good		No	No	Yes
245556.174	13291937.34	492	Populus deltoides	Cottonwood	PODE	15.0	Excellent		No	Yes	Yes
245552.192	13291943.41	493	Salix fragilis	Crack Willow	SAFR	8.0	Fair		No	Yes	Yes
245552.599	13291946.2	494	Salix fragilis	Crack Willow	SAFR	8.0	Fair		No	Yes	Yes
245531.061	13291944.23	496	Salix fragilis	Crack Willow	SAFR	7.0	Fair		No	Yes	Yes

811

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
TREE LIST

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
49

K:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787FSP-02-EC.DWG 1/22/2019 11:31 AM CHRIS ROTHHAAR

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	*Botanical Name*	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List$^{\phi}$	To be Removed
245529.586	13291946.72	497	*Populus deltoides*	Cottonwood	PODE	14.0	Good		No	Yes	Yes
245539.694	13291915.38	498	*Acer negundo*	Box-elder	ACNE	10.0	Poor		No	Yes	Yes
245543.224	13291907.87	499	*Pinus strobus*	White Pine	PIST	10.0	Good		No	No	Yes
245540.099	13291907.34	500	*Acer negundo*	Box-elder	ACNE	9.5	Fair	dead branches	No	Yes	Yes
245541.96	13291904.5	502	*Acer negundo*	Box-elder	ACNE	9.5	Fair		No	Yes	Yes
245539.984	13291905.15	503	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	Yes
245542.358	13291902.71	504	*Pinus strobus*	White Pine	PIST	10.0	Good		No	No	Yes
245521.719	13291896.85	505	*Acer saccharinum*	Silver Maple	ACSAN	11.0	Good		No	Yes	Yes
245528.385	13291894.85	506	*Pinus strobus*	White Pine	PIST	10.5	Good		No	No	Yes
245514.627	13291909.69	507	*Acer negundo*	Box-elder	ACNE	25.0	Fair		No	Yes	Yes
245512.897	13291934.31	509	*Populus deltoides*	Cottonwood	PODE	8.0	Good		No	Yes	Yes
245511.706	13291936.61	510	*Populus deltoides*	Cottonwood	PODE	8.0	Good		No	Yes	Yes
245502.394	13291941.91	511	*Populus deltoides*	Cottonwood	PODE	10.0	Good		No	Yes	Yes
245500.444	13291940.8	512	*Populus deltoides*	Cottonwood	PODE	6.5	Good		No	Yes	Yes
245507.275	13291937.07	513	*Populus deltoides*	Cottonwood	PODE	13.0	Good		No	Yes	Yes
245497.045	13291939.07	514	*Populus deltoides*	Cottonwood	PODE	8.5	Good		No	Yes	Yes
245509.254	13291927	515	*Juglans nigra*	Black Walnut	JUNI	6.5	Good		No	No	Yes
245506.284	13291920.79	518	*Pinus strobus*	White Pine	PIST	15.5	Good		No	No	Yes
245496.271	13291907.9	520	*Pinus strobus*	White Pine	PIST	13.5	Good		No	No	Yes
245499.058	13291919.56	521	*Pinus strobus*	White Pine	PIST	6.5	Good		No	No	Yes
245497.213	13291896.14	522	*Acer negundo*	Box-elder	ACNE	13.5	Fair	leaning tree	No	Yes	Yes
245491.667	13291898.18	523	*Pinus strobus*	White Pine	PIST	12.5	Good		No	No	Yes
245492.922	13291913.66	526	*Pinus strobus*	White Pine	PIST	7.0	Fair	inner bark rot	No	No	Yes
246346.248	13291885.04	547	*Acer negundo*	Box-elder	ACNE	12.0	Fair		No	Yes	Yes
246349.619	13291884.95	548	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	Yes
246362.07	13291880.2	549	*Acer negundo*	Box-elder	ACNE	8.5	Good		No	Yes	Yes
246374.116	13291879.23	550	*Prunus serotina*	Black Cherry	PRSE	13.0	Good	2T	No	No	Yes
						14.0					
246380.148	13291879.07	551	*Prunus serotina*	Black Cherry	PRSE	12.0	Good	2T	No	No	No
						10.5					
246398.171	13291880.46	552	*Prunus serotina*	Black Cherry	PRSE	8.0	Good	5T	No	No	No
						11.0					
						9.0					
						8.5					
						7.0					
245488.367	13291928.56	560	*Juglans nigra*	Black Walnut	JUNI	10.5	Good		No	No	Yes
245468.722	13291912.6	561	*Acer negundo*	Box-elder	ACNE	17.0	Poor	dead inner bark	No	Yes	Yes
245466.704	13291918.02	562	*Acer negundo*	Box-elder	ACNE	18.0	Good		No	Yes	Yes
245470.928	13291934.22	563	*Acer negundo*	Box-elder	ACNE	9.5	Fair	leaning tree	No	Yes	Yes
245473.203	13291926.81	564	*Acer negundo*	Box-elder	ACNE	8.0	Fair	leaning tree	No	Yes	Yes
245454.17	13291920.55	565	*Acer negundo*	Box-elder	ACNE	8.0	Fair	leaning tree	No	Yes	Yes
245419.541	13291935.93	566	*Prunus serotina*	Black Cherry	PRSE	6.5	Fair	leaning tree	No	No	Yes
245426.771	13291920.05	567	*Prunus serotina*	Black Cherry	PRSE	19.0	Fair	2T; leaning tree	Yes	No	Yes
						15.0					
245426.917	13291922.76	568	*Acer nigrum*	Black Maple	ACNI	7.0	Good		No	No	Yes
245435.577	13291923.17	569	*Acer negundo*	Box-elder	ACNE	13.0	Fair	leaning tree	No	Yes	Yes
245444.973	13291913.31	570	*Acer negundo*	Box-elder	ACNE	21.0	Poor		No	Yes	Yes
245425.166	13291902.51	571	*Acer negundo*	Box-elder	ACNE	8.0	Fair		No	Yes	Yes
245362.942	13291844.29	572	*Picea glauca*	White Spruce	PIGL	9.5	Fair		No	No	
245354.694	13291846.63	573	*Picea glauca*	White Spruce	PIGL	9.0	Fair		No	No	
245365.519	13291840.92	574	*Picea glauca*	White Spruce	PIGL	7.5	Fair		No	No	
245363.587	13291850.62	575	*Picea glauca*	White Spruce	PIGL	10.0	Fair		No	No	
245351.251	13291850.04	576	*Picea glauca*	White Spruce	PIGL	12.0	Fair		No	No	
245416.452	13291906.91	577	*Juglans nigra*	Black Walnut	JUNI	6.0	Good		No	No	Yes
245400.479	13291926.08	578	*Acer negundo*	Box-elder	ACNE	15.0	Fair	2T	No	Yes	
						9.5					
245389.26	13291921.33	579	*Acer nigrum*	Black Maple	ACNI	6.0	Good		No	No	
245374.578	13291923.86	580	*Acer negundo*	Box-elder	ACNE	31.0	Fair	leaning tree; in fence	No	Yes	
245365.881	13291918.67	581	*Acer negundo*	Box-elder	ACNE	10.5	Poor	inner bark rot	No	Yes	
245356.719	13291942.91	582	*Juglans nigra*	Black Walnut	JUNI	6.0	Good		No	No	
245344.03	13291926.08	583	*Juglans nigra*	Black Walnut	JUNI	10.5	Good		No	No	
245756	13291911.1	586	*Prunus serotina*	Black Cherry	PRSE	13.0	Good		No	No	Yes
245327.053	13291903.04	587	*Juglans nigra*	Black Walnut	JUNI	14.0	Good		No	No	
245329.623	13291909.73	588	*Acer saccharum*	Sugar Maple	ACSA	8.0	Good		No	No	
245316.441	13291913.44	589	*Juglans nigra*	Black Walnut	JUNI	25.0	Excellent		Yes	No	
245032.676	13291859.93	590	*Picea pungens*	Blue Spruce	PIPU	12.0	Fair	dead lower branches	No	No	
245032.494	13291868.77	591	*Picea pungens*	Blue Spruce	PIPU	8.5	Fair	dead lower branches	No	No	
245031.313	13291879.35	592	*Picea pungens*	Blue Spruce	PIPU	6.5	Poor	dead lower branches	No	No	
245043.852	13291891.31	593	*Picea pungens*	Blue Spruce	PIPU	12.0	Fair	dead lower branches	No	No	
245037.416	13291888.02	594	*Acer saccharum*	Sugar Maple	ACSA	10.5	Good		No	No	
244995.505	13291911.56	595	*Acer saccharum*	Sugar Maple	ACSA	28.0	Poor	Topped; inner bark decay	Yes	No	
245058.183	13291898.88	596	*Picea pungens*	Blue Spruce	PIPU	13.0	Fair		No	No	
245050.118	13291932.91	597	*Acer negundo*	Box-elder	ACNE	11.0	Poor	inner bark rot	No	Yes	
246381.386	13291847.41	600	*Acer negundo*	Box-elder	ACNE	10.0	Good		No	Yes	
246373.765	13291898.79	701	*Prunus avium*	Sweet Cherry	PRAV	9.0	Fair	inner bark rot	No	No	Yes
246389.87	13291899.17	702	*Acer negundo*	Box-elder	ACNE	9.0	Good	leaning tree	No	Yes	
246366.411	13291897.61	703	*Acer negundo*	Box-elder	ACNE	6.5	Fair	leaning tree	No	Yes	Yes
246347.273	13291904.54	704	*Acer negundo*	Box-elder	ACNE	7.0	Fair	2T; leaning tree	No	Yes	Yes
						7.0					
246414.429	13291859.19	705	*Ulmus americana*	American Elm	ULAM	8.0	Good		No	Yes*	
246371.408	13291869.49	706	*Acer negundo*	Box-elder	ACNE	10.0	Good		No	Yes	Yes
246381.06	13291840.64	707	*Acer negundo*	Box-elder	ACNE	7.0	Fair		No	Yes	
246339.142	13291894.33	708	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	Yes
246340.471	13291879.05	709	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	Yes
246326.135	13291884.94	710	*Acer negundo*	Box-elder	ACNE	7.0	Good		No	Yes	Yes
246303.962	13291903.51	711	*Acer negundo*	Box-elder	ACNE	6.5	Fair	leaning tree	No	Yes	Yes
246311.727	13291904.96	712	*Acer negundo*	Box-elder	ACNE	7.5	Fair	leaning tree	No	Yes	Yes
246303.492	13291892.41	713	*Prunus serotina*	Black Cherry	PRSE	14.0	Fair	3T; inner bark rot	No	No	Yes
						9.0					
						7.0					
246296.768	13291892.17	714	*Prunus serotina*	Black Cherry	PRSE	7.0	Fair		No	No	Yes
246290.541	13291891.61	715	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	Yes
246282.467	13291890.16	716	*Prunus serotina*	Black Cherry	PRSE	7.0	Good		No	No	Yes
246269.933	13291903.1	718	*Acer negundo*	Box-elder	ACNE	12.0	Good		No	Yes	Yes
246254.463	13291889.73	719	*Prunus serotina*	Black Cherry	PRSE	9.0	Good		No	No	Yes
246250.987	13291907.12	720	*Acer negundo*	Box-elder	ACNE	13.0	Fair	2T	No	Yes	Yes
						7.0					
246253.082	13291884	721	*Prunus serotina*	Black Cherry	PRSE	8.0	Fair	3T	No	No	Yes
						12.0					
						6.0					
246252.46	13291886.95	722	*Prunus serotina*	Black Cherry	PRSE	22.0	Good		Yes	No	Yes
246245.444	13291885.56	723	*Rhamnus cathartica*	Common Buckthorn	RHCA	7.0	Fair	2T	No	Yes	Yes
						6.0					
246222.009	13291897.87	724	*Acer negundo*	Box-elder	ACNE	12.0	Fair		No	Yes	Yes
246205.331	13291884.55	725	*Acer negundo*	Box-elder	ACNE	7.0	Fair		No	Yes	Yes
246218.694	13291904.22	726	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	Yes
246209.564	13291901.97	727	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	Yes
246201.005	13291910.53	728	*Prunus serotina*	Black Cherry	PRSE	8.0	Fair		No	No	Yes
246196.235	13291894.11	729	*Prunus serotina*	Black Cherry	PRSE	16.0	Poor		No	No	Yes
246186.47	13291895.19	730	*Prunus serotina*	Black Cherry	PRSE	11.0	Fair	inner bark rot	No	No	Yes
246170.393	13291897.39	731	*Prunus serotina*	Black Cherry	PRSE	6.5	Good	2T	No	No	Yes
						5.5					
246183.268	13291905.57	733	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	Yes
246169.835	13291900.42	734	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	Yes
246145.917	13291898.17	735	*Prunus serotina*	Black Cherry	PRSE	15.0	Good		No	No	Yes
246154.26	13291908.26	736	*Acer negundo*	Box-elder	ACNE	9.0	Fair	leaning tree	No	Yes	Yes
246130.352	13291914.89	737	*Acer negundo*	Box-elder	ACNE	14.5	Fair	2T	No	Yes	Yes
						13.5					
246067.32	13291904.5	738	*Prunus serotina*	Black Cherry	PRSE	40.5	Poor	Split trunk; inner bark rot	Yes	No	Yes
246072.756	13291898.23	739	*Acer saccharum*	Sugar Maple	ACSA	17.0	Excellent		Yes	No	Yes
246045.701	13291925.56	740	*Morus alba*	White Mulberry	MOAL	6.5	Good		No	No	Yes
246039.42	13291927.37	741	*Morus alba*	White Mulberry	MOAL	7.5	Good		No	No	Yes
245997.382	13291910.19	742	*Crataegus species*	Hawthorn	CRSP	6.5	Good		No	No	Yes
246006.125	13291901.55	743	*Crataegus species*	Hawthorn	CRSP	6.0	Good	2T	No	No	Yes
						4.0					
246002.294	13291924.34	744	*Ulmus pumila*	Siberian Elm	ULPU	8.5	Good		No	Yes	Yes
246025.75	13291921.77	745	*Acer negundo*	Box-elder	ACNE	8.0	Fair	leaning tree	No	Yes	Yes
246057.427	13291927.57	746	*Acer negundo*	Box-elder	ACNE	6.5	Fair	leaning tree	No	Yes	Yes
246038.819	13291890.51	747	*Prunus serotina*	Black Cherry	PRSE	8.5	Good		No	No	Yes
246029.145	13291914.82	748	*Crataegus species*	Hawthorn	CRSP	8.0	Good	5T	No	No	Yes
						8.0					
						8.0					
						6.5					
						5.0					

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	*Botanical Name*	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List$^{\phi}$	To be Removed
246009.567	13291897.06	749	*Crataegus species*	Hawthorn	CRSP	7.5	Good	3T	No	No	Yes
						6.0					
						5.0					
245997.713	13291896.96	750	*Crataegus species*	Hawthorn	CRSP	9.0	Good	3T	No	No	Yes
						6.0					
						4.0					
245999.038	13291895.5	751	*Crataegus species*	Hawthorn	CRSP	6.0	Good		No	No	Yes
245978.018	13291911.05	752	*Prunus serotina*	Black Cherry	PRSE	7.0	Good		No	No	Yes
245948.568	13291895.99	753	*Prunus serotina*	Black Cherry	PRSE	13.0	Fair		No	No	Yes
245954.513	13291900.94	754	*Prunus serotina*	Black Cherry	PRSE	38.0	Fair	fused trunk measurement	Yes	No	yes
245948.888	13291909.09	756	*Acer negundo*	Box-elder	ACNE	8.0	Fair		No	Yes	Yes
245942.583	13291929.93	757	*Acer negundo*	Box-elder	ACNE	10.0	Poor	inner bark rot	No	Yes	Yes
245918.698	13291921.63	758	*Acer negundo*	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245934.249	13291918.36	759	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	Yes
245939.019	13291911.59	760	*Prunus avium*	Sweet Cherry	PRAV	7.5	Good		No	No	Yes
245898.947	13291923.33	761	*Juglans nigra*	Black Walnut	JUNI	6.0	Good		No	No	Yes
245891.721	13291923.03	762	*Acer negundo*	Box-elder	ACNE	11.0	Fair	leaning tree	No	Yes	Yes
245867.689	13291913.89	763	*Acer negundo*	Box-elder	ACNE	8.0	Fair	leaning tree	No	Yes	Yes
245877.047	13291923.98	764	*Acer negundo*	Box-elder	ACNE	8.5	Fair	2T; leaning tree	No	Yes	Yes
						8.5					
245860.909	13291886.37	765	*Acer negundo*	Box-elder	ACNE	11.5	Fair	leaning tree	No	Yes	Yes
245837.126	13291916.33	766	*Acer negundo*	Box-elder	ACNE	6.0	Fair		No	Yes	Yes
245836.325	13291898	767	*Acer negundo*	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245858.053	13291913.86	768	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	Yes
245829.164	13291915.41	769	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	Yes
245805.905	13291925.17	770	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	Yes
245809.944	13291916.32	771	*Quercus bicolor*	Swamp White Oak	QUBI	10.0	Good		No	No	Yes
245802.649	13291897.17	772	*Acer negundo*	Box-elder	ACNE	11.0	Fair		No	Yes	Yes
245798.805	13291897.53	773	*Acer negundo*	Box-elder	ACNE	6.5	Fair	leaning tree	No	Yes	Yes
245772.459	13291900.42	774	*Acer negundo*	Box-elder	ACNE	6.0	Fair	leaning tree	No	Yes	Yes
245751.621	13291907.09	775	*Acer negundo*	Box-elder	ACNE	12.0	Fair		No	Yes	Yes
245755.653	13291930.94	776	*Acer negundo*	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245770.044	13291919.21	777	*Acer negundo*	Box-elder	ACNE	14.0	Good	2T	No	Yes	Yes
						10.0					
245740.737	13291900.21	778	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	Yes
245738.087	13291899.18	779	*Acer negundo*	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
245734.454	13291900.28	780	*Acer negundo*	Box-elder	ACNE	6.0	Fair	leaning tree	No	Yes	Yes
245730.576	13291926.22	781	*Prunus serotina*	Black Cherry	PRSE	8.5	Good		No	No	Yes
245725.779	13291916.92	782	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	Yes
245714.22	13291917.33	783	*Acer negundo*	Box-elder	ACNE	7.0	Poor	inner bark rot	No	Yes	Yes
245658.301	13291884.1	784	*Morus alba*	White Mulberry	MOAL	6.0	Good		No	No	Yes
245647.443	13291903.41	785	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	Yes
245657.897	13291914.91	786	*Pinus strobus*	White Pine	PIST	19.0	Good		No	No	Yes
245673.081	13291919.68	787	*Pinus strobus*	White Pine	PIST	19.0	Good		No	No	Yes
245640.312	13291942.95	788	*Prunus serotina*	Black Cherry	PRSE	7.0	Good		No	No	Yes
245647.867	13291933.01	789	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	Yes
245639.474	13291916.23	790	*Prunus serotina*	Black Cherry	PRSE	6.5	Poor		No	No	Yes
245630.236	13291901.98	791	*Prunus serotina*	Black Cherry	PRSE	10.0	Good		No	No	Yes
245635.69	13291887.12	792	*Ulmus pumila*	Siberian Elm	ULPU	7.5	Good		No	Yes	Yes
245608.36	13291879.36	793	*Ulmus pumila*	Siberian Elm	ULPU	7.0	Good		No	Yes	Yes
245605.077	13291890.02	794	*Morus alba*	White Mulberry	MOAL	6.0	Good		No	No	Yes
245570.321	13291900.71	795	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	Yes
245603.775	13291929.34	796	*Prunus serotina*	Black Cherry	PRSE	9.0	Fair		No	No	Yes
245569.336	13291940.26	797	*Salix fragilis*	Crack Willow	SAFR	6.5	Fair		No	Yes	Yes
245726.229	13291902.77	798	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	Yes
245514.777	13291896.65	799	*Acer negundo*	Box-elder	ACNE	8.0	Fair	leaning tree	No	Yes	Yes
245374.689	13292570.1	1000	*Acer negundo*	Box-elder	ACNE	10.5	Good		No	Yes	
245357.354	13292575.46	1001	*Acer negundo*	Box-elder	ACNE	14.5	Poor	inner bark rot	No	Yes	
245354.398	13292575.13	1002	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	
245348.665	13292585.51	1003	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	
245278.809	13292575.26	1004	*Acer negundo*	Box-elder	ACNE	10.0	Fair	leaning tree	No	Yes	
245297.862	13292569.9	1005	*Acer negundo*	Box-elder	ACNE	10.0	Good	2T	No	Yes	
						9.0					
245297.53	13292565.63	1006	*Acer negundo*	Box-elder	ACNE	6.5	Fair		No	Yes	
245299.372	13292576.79	1007	*Prunus serotina*	Black Cherry	PRSE	17.5	Good		No	No	
245304.956	13292578.22	1008	*Acer saccharum*	Sugar Maple	ACSA	8.5	Good		No	No	
245321.982	13292578	1009	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	
245331.113	13292578.98	1010	*Acer negundo*	Box-elder	ACNE	10.5	Good		No	Yes	
245330.305	13292586.84	1011	*Acer negundo*	Box-elder	ACNE	10.5	Good		No	Yes	
245339.023	13292579.52	1012	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	
245194.709	13292587.84	1013	*Prunus serotina*	Black Cherry	PRSE	15.0	Fair		No	No	
245185.062	13292582.76	1014	*Acer saccharum*	Sugar Maple	ACSA	9.0	Good	2T	No	No	
						8.5					
245171.348	13292588.07	1015	*Acer saccharum*	Sugar Maple	ACSA	6.0	Good		No	No	
245168.121	13292582.37	1016	*Acer negundo*	Box-elder	ACNE	16.0	Good	3T	No	Yes	
						16.5					
						15.5					
245166.607	13292586.3	1017	*Acer saccharum*	Sugar Maple	ACSA	8.0	Good		No	No	
245157.882	13292586.76	1018	*Prunus serotina*	Black Cherry	PRSE	8.0	Fair		No	No	
245149.968	13292596.7	1019	*Acer saccharum*	Sugar Maple	ACSA	7.0	Good		No	No	
245149.005	13292590.67	1020	*Acer saccharum*	Sugar Maple	ACSA	8.5	Good		No	No	
245145.099	13292583.77	1021	*Acer saccharum*	Sugar Maple	ACSA	12.0	Good	2T	No	No	
						7.0					
245128.288	13292595.48	1022	*Prunus serotina*	Black Cherry	PRSE	7.0	Poor	inner bark rot	No	No	
245145.206	13292589.71	1023	*Acer saccharum*	Sugar Maple	ACSA	6.0	Good		No	No	
245132.433	13292593.37	1024	*Acer saccharum*	Sugar Maple	ACSA	12.0	Good		No	No	
245129.964	13292584.62	1025	*Prunus serotina*	Black Cherry	PRSE	11.5	Fair		No	No	
245101.139	13292602.79	1026	*Acer saccharum*	Sugar Maple	ACSA	16.0	Good		No	No	
245089.359	13292587.99	1027	*Acer saccharum*	Sugar Maple	ACSA	9.5	Good		No	No	
245090.929	13292587.78	1028	*Acer saccharum*	Sugar Maple	ACSA	9.0	Good		No	No	
245080.781	13292591.08	1029	*Acer saccharum*	Sugar Maple	ACSA	8.5	Excellent		No	No	
245073.321	13292587.61	1030	*Acer saccharum*	Sugar Maple	ACSA	13.0	Good		No	No	
245065.667	13292584.76	1031	*Acer negundo*	Box-elder	ACNE	15.0	Good	2T	No	Yes	
						12.0					
245060.861	13292589.43	1032	*Malus species*	Apple/Crabapple	MASP	9.0	Fair	2T; minor dead limb	No	No	
						6.0					
246545.605	13292223.74	1033	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	Yes
246544.911	13292223.14	1034	*Acer negundo*	Box-elder	ACNE	7.0	Good		No	Yes	Yes
246547.413	13292221.39	1035	*Acer negundo*	Box-elder	ACNE	8.0	Good		No	Yes	Yes
246593.197	13292216.99	1036	*Prunus serotina*	Black Cherry	PRSE	15.0	Good	2T	No	No	
						16.5					
246577.567	13292222.46	1037	*Juglans nigra*	Black Walnut	JUNI	20.0	Excellent		Yes	No	
246624.038	13292218.8	1038	*Acer negundo*	Box-elder	ACNE	9.0	Poor	trunk damage	No	Yes	
246599.153	13292225.63	1039	*Acer negundo*	Box-elder	ACNE	9.5	Fair		No	Yes	
246631.685	13292223.75	1040	*Juglans nigra*	Black Walnut	JUNI	11.0	Good		No	No	
246660.882	13292220.61	1041	*Juglans nigra*	Black Walnut	JUNI	17.0	Excellent	2T	No	No	
						15.0					
246705.151	13292204.94	1042	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	
246704.104	13292209.58	1043	*Juglans nigra*	Black Walnut	JUNI	9.0	Good		No	No	
246694.381	13292212.01	1044	*Juglans nigra*	Black Walnut	JUNI	10.0	Good		No	No	
246686.996	13292210.37	1045	*Acer negundo*	Box-elder	ACNE	10.0	Good		No	Yes	
246687.004	13292208.87	1046	*Acer negundo*	Box-elder	ACNE	12.0	Good		No	Yes	
246679.668	13292193	1047	*Acer negundo*	Box-elder	ACNE	6.5	Fair		No	Yes	
246646.853	13292188.47	1048	*Acer negundo*	Box-elder	ACNE	22.0	Fair		No	Yes	
246627.68	13292200.3	1049	*Acer negundo*	Box-elder	ACNE	12.5	Good		No	Yes	
246628.869	13292194.27	1050	*Juglans nigra*	Black Walnut	JUNI	6.0	Good		No	No	
246612.734	13292201.68	1051	*Juglans nigra*	Black Walnut	JUNI	9.5	Good		No	No	
246612.824	13292201.56	1052	*Juglans nigra*	Black Walnut	JUNI	6.5	Good		No	No	
246615.792	13292194.71	1053	*Juglans nigra*	Black Walnut	JUNI	6.0	Good		No	No	
246543.847	13292193.61	1054	*Acer negundo*	Box-elder	ACNE	17.0	Fair	inner bark rot	No	Yes	
246535.761	13292196.17	1055	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
246522.77	13292190.11	1056	*Acer negundo*	Box-elder	ACNE	8.0	Good		No	Yes	
246502.511	13292188.8	1057	*Juglans nigra*	Black Walnut	JUNI	8.0	Excellent		No	No	
246498.299	13292218.53	1058	*Rhamnus cathartica*	Common Buckthorn	RHCA	12.0	Good	fused trunk measurement	No	Yes	
246505.974	13292220.75	1059	*Acer negundo*	Box-elder	ACNE	9.5	Good		No	Yes	
246517.306	13292234.85	1060	*Juglans nigra*	Black Walnut	JUNI	6.5	Good		No	No	
246479.551	13292220.34	1061	*Prunus serotina*	Black Cherry	PRSE	8.0	Good		No	No	Yes
246464.713	13292226.57	1062	*Acer negundo*	Box-elder	ACNE	12.0	Good		No	Yes	Yes
246450.186	13292216.04	1063	*Prunus serotina*	Black Cherry	PRSE	13.5	Good		No	No	Yes
246446.494	13292208.54	1064	*Acer negundo*	Box-elder	ACNE	11.0	Good	2T	No	Yes	Yes
						9.0					
246446.949	13292190.39	1065	*Carya ovata*	Shagbark Hickory	CAOV	11.0	Good		No	No	Yes
246452.892	13292182.68	1066	*Prunus serotina*	Black Cherry	PRSE	9.0	Good		No	No	Yes
246437.102	13292167.64	1067	*Acer negundo*	Box-elder	ACNE	17.0	Good		No	Yes	Yes

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	*Botanical Name*	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List$^{\phi}$	To be Removed
246443.356	13292164.1	1068	*Prunus serotina*	Black Cherry	PRSE	6.5	Good		No	No	Yes
246400.329	13292151.5	1069	*Acer negundo*	Box-elder	ACNE	8.5	Good	2T	No	Yes	Yes
						7.0					
246408.773	13292133.29	1070	*Acer negundo*	Box-elder	ACNE	8.5	Good		No	Yes	Yes
246400.748	13292136.26	1071	*Acer negundo*	Box-elder	ACNE	8.0	Good		No	Yes	Yes
246390.265	13292147.86	1072	*Acer negundo*	Box-elder	ACNE	9.5	Good	2T	No	Yes	Yes
						10.0					
246391.013	13292179.47	1073	*Malus species*	Apple/Crabapple	MASP	16.0	Fair	3T	Yes	No	Yes
						16.5					
						12.5					
246378.157	13292167.74	1074	*Acer negundo*	Box-elder	ACNE	12.0	Good		No	Yes	Yes
246354.946	13292180.05	1075	*Acer negundo*	Box-elder	ACNE	9.0	Fair		No	Yes	Yes
246359.413	13292188.63	1076	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	Yes
246354.443	13292192.12	1077	*Acer negundo*	Box-elder	ACNE	13.0	Good		No	Yes	Yes
246345.992	13292189.56	1078	*Prunus serotina*	Black Cherry	PRSE	9.5	Good		No	No	Yes
246346.058	13292194.67	1079	*Acer negundo*	Box-elder	ACNE	10.5	Fair		No	Yes	Yes
246345.522	13292201.94	1080	*Acer negundo*	Box-elder	ACNE	10.0	Fair		No	Yes	Yes
246346.861	13292203.02	1081	*Prunus serotina*	Black Cherry	PRSE	8.0	Good	2T	No	No	Yes
						9.0					
246329.821	13292219.18	1082	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	yes
246314.205	13292215.76	1083	*Ulmus americana*	American Elm	ULAM	10.0	Good		No	Yes*	yes
246305.247	13292198.27	1084	*Prunus serotina*	Black Cherry	PRSE	6.5	Good		No	No	yes
246314.588	13292197.75	1085	*Acer negundo*	Box-elder	ACNE	6.0	Fair	inner bark rot	No	Yes	yes
246291.221	13292188.34	1086	*Acer negundo*	Box-elder	ACNE	9.5	Good	3T	No	Yes	yes
						20.0					
						10.5					
246298.289	13292209.9	1087	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	Yes
246259.574	13292203.33	1088	*Prunus serotina*	Black Cherry	PRSE	10.0	Good	2T	No	No	Yes
						13.0					
246247.669	13292209.4	1089	*Acer negundo*	Box-elder	ACNE	15.0	Fair		No	Yes	Yes
246227	13292197.57	1090	*Acer negundo*	Box-elder	ACNE	12.0	Fair	4 Trunks (4T); inner bark rot; split trunk	No	Yes	Yes
						14.5					
						16.5					
						10.5					
245396.634	13292566.45	1093	*Acer negundo*	Box-elder	ACNE	8.0	Good		No	Yes	
245409.668	13292571.03	1094	*Acer negundo*	Box-elder	ACNE	12.5	Good		No	Yes	
245672.138	13292567	1095	*Acer negundo*	Box-elder	ACNE	13.0	Good		No	Yes	
245384.892	13292574.71	1097	*Acer negundo*	Box-elder	ACNE	8.0	Good		No	Yes	
245382.005	13292568.76	1098	*Acer negundo*	Box-elder	ACNE	7.5	Good		No	Yes	
245376.057	13292567.89	1100	*Acer negundo*	Box-elder	ACNE	10.5	Good		No	Yes	
246424.13	13292545.67	1201	*Prunus serotina*	Black Cherry	PRSE	26.0	Good		No	No	
246400.26	13292540.48	1202	*Malus species*	Apple/Crabapple	MASP	8.5	Good		No	No	
246393.214	13292537.24	1203	*Acer negundo*	Box-elder	ACNE	18.0	Good	fused trunk measurement	No	Yes	
246357.398	13292541.62	1204	*Prunus serotina*	Black Cherry	PRSE	17.0	Poor	3T; dead inner bark; dead limbs	No	No	
						17.0					
						12.0					
246351.83	13292543.02	1205	*Morus alba*	White Mulberry	MOAL	12.5	Good		No	No	
246344.795	13292535.62	1206	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	
246232.696	13292552.31	1207	*Prunus serotina*	Black Cherry	PRSE	21.0	Good		No	No	
246228.224	13292545.41	1208	*Prunus serotina*	Black Cherry	PRSE	13.5	Good		No	No	
246183.051	13292545.07	1209	*Acer negundo*	Box-elder	ACNE	14.0	Good		No	No	Yes
246181.127	13292552.76	1210	*Prunus serotina*	Black Cherry	PRSE	16.5	Good		No	No	Yes
246166.925	13292555.84	1211	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	Yes
246161.969	13292556.8	1212	*Prunus serotina*	Black Cherry	PRSE	11.0	Good		No	No	Yes
246154.513	13292557.55	1213	*Carya glabra*	Pignut Hickory	CAGL	25.0	Good	2T	Yes	No	
						10.0					
246140.367	13292555.51	1214	*Prunus serotina*	Black Cherry	PRSE	8.0	Good		No	No	
246116.045	13292558.58	1215	*Prunus serotina*	Black Cherry	PRSE	6.5	Fair		No	No	
246111.187	13292552.81	1216	*Acer negundo*	Box-elder	ACNE	16.0	Fair	2T; inner bark rot	No	Yes	
						14.0					
246099.893	13292557.51	1217	*Prunus serotina*	Black Cherry	PRSE	8.0	Good		No	No	
246103.868	13292554.88	1218	*Prunus serotina*	Black Cherry	PRSE	15.5	Good		No	No	
246097.33	13292545.56	1219	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	
246072.873	13292548.82	1220	*Acer negundo*	Box-elder	ACNE	16.0	Good	2T		Yes	
						7.0					
246062.427	13292553.58	1221	*Acer negundo*	Box-elder	ACNE	7.0	Good		No	Yes	
246057.666	13292556.73	1222	*Carya cordiformis*	Bitternut Hickory	CACO	11.0	Good		No	No	
246045.559	13292560.19	1223	*Acer negundo*	Box-elder	ACNE	17.0	Fair	4T	No	Yes	
						16.5					
						14.0					
						9.0					
246035.7	13292554.09	1224	*Acer negundo*	Box-elder	ACNE	12.5	Good	2T	No	Yes	
						10.5					
246033.227	13292546.21	1225	*Acer negundo*	Box-elder	ACNE	7.0	Poor	inner bark rot	No	Yes	
246027.696	13292546.98	1226	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
246024.358	13292544.44	1227	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	
246021.999	13292549.97	1228	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
245995.248	13292550.83	1229	*Prunus serotina*	Black Cherry	PRSE	8.5	Fair		No	No	
245990.448	13292549.35	1230	*Acer negundo*	Box-elder	ACNE	7.0	Fair	inner bark rot	No	Yes	
245986.677	13292553.92	1231	*Prunus serotina*	Black Cherry	PRSE	6.5	Good		No	No	
245988.899	13292551.9	1232	*Acer negundo*	Box-elder	ACNE	10.5	Good		No	Yes	
245986.061	13292548.98	1233	*Acer negundo*	Box-elder	ACNE	7.0	Good		No	Yes	
245976.073	13292551.79	1234	*Acer negundo*	Box-elder	ACNE	6.0	Good	2T	No	Yes	
						11.5					
245969.17	13292553.74	1235	*Acer negundo*	Box-elder	ACNE	15.5	Good		No	Yes	
245953.888	13292555.28	1236	*Prunus serotina*	Black Cherry	PRSE	7.0	Good		No	No	
245956.068	13292557.96	1237	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
245939.313	13292550.01	1238	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	
245935.739	13292567.72	1239	*Acer negundo*	Box-elder	ACNE	15.5	Good	2T	No	yes	
						6.5					
245934.149	13292554.78	1240	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	
245924.988	13292556.18	1241	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
245925.586	13292555.51	1242	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
245903.556	13292547.69	1243	*Acer negundo*	Box-elder	ACNE	20.0	Good	2T	No	Yes	
						12.0					
245885.976	13292564.32	1244	*Prunus serotina*	Black Cherry	PRSE	15.5	Good		No	No	
245876.34	13292554.87	1245	*Rhamnus cathartica*	Common Buckthorn	RHCA	19.0	Fair	dead limb	No	Yes	
245894.788	13292553.4	1246	*Rhamnus cathartica*	Common Buckthorn	RHCA	6.0	Fair	2T		Yes	
						5.5					
245903.86	13292554.37	1247	*Acer negundo*	Box-elder	ACNE	15.5	Good		No	Yes	
245814.365	13292574.05	1248	*Prunus serotina*	Black Cherry	PRSE	7.0	Good		No	No	
245825.269	13292566.22	1249	*Prunus serotina*	Black Cherry	PRSE	16.0	Fair	2T	No	No	
245821.178	13292565.82	1250	*Prunus serotina*	Black Cherry	PRSE	11.0	Good		No	No	
						9.5					
245834.311	13292561.43	1251	*Carya cordiformis*	Bitternut Hickory	CACO	15.0	Excellent		No	No	
245836.379	13292563.53	1252	*Carya cordiformis*	Bitternut Hickory	CACO	13.0	Excellent		No	No	
246479.705	13292541.27	1253	*Prunus serotina*	Black Cherry	PRSE	19.0	Good		Yes	No	
245865.977	13292563.32	1254	*Prunus serotina*	Black Cherry	PRSE	26.0	Good		Yes	No	
245870.191	13292557.59	1255	*Acer negundo*	Box-elder	ACNE	16.5	Fair	leaning tree	No	Yes	
245859.419	13292553.64	1257	*Acer negundo*	Box-elder	ACNE	12.5	Fair	severely leaning	No	Yes	
245863.185	13292555.61	1258	*Acer negundo*	Box-elder	ACNE	9.0	Fair		No	Yes	
245847.265	13292554.47	1259	*Acer negundo*	Box-elder	ACNE	9.0	Fair	inner bark rot	No	Yes	
245846.373	13292552.36	1260	*Acer negundo*	Box-elder	ACNE	11.5	Fair	leaning tree	No	Yes	
245834.482	13292549.91	1261	*Acer negundo*	Box-elder	ACNE	8.5	Poor	leaning tree; dead inner bark	No	Yes	
245834.404	13292548.75	1262	*Acer negundo*	Box-elder	ACNE	9.5	Fair	leaning tree	No	Yes	
245813.565	13292563.1	1263	*Carya glabra*	Pignut Hickory	CAGL	41.0	Good	dead major limb	Yes	No	
245809.624	13292559.95	1264	*Acer negundo*	Box-elder	ACNE	11.5	Fair	leaning tree; dead limb	No	Yes	
245799.963	13292570.63	1265	*Prunus serotina*	Black Cherry	PRSE	13.0	Good		No	No	
245795.691	13292566.53	1266	*Prunus serotina*	Black Cherry	PRSE	16.0	Fair	inner bark rot	No	No	
245787.135	13292554.94	1267	*Acer negundo*	Box-elder	ACNE	8.5	Good		No	Yes	
245780.579	13292567.45	1268	*Acer negundo*	Box-elder	ACNE	7.5	Fair		No	Yes	
245776.695	13292558.28	1269	*Acer negundo*	Box-elder	ACNE	6.0	Fair	3T	No	Yes	
						5.5					
						4.0					
245745.965	13292561.73	1271	*Acer negundo*	Box-elder	ACNE	14.5	Fair		No	Yes	
245744.634	13292560.55	1272	*Acer negundo*	Box-elder	ACNE	15.5	Good	2T	No	Yes	
						13.0					
245726.973	13292560.22	1273	*Acer negundo*	Box-elder	ACNE	14.0	Good		No	Yes	
245718.888	13292563.18	1274	*Acer negundo*	Box-elder	ACNE	26.5	Fair	dead limb	Yes	Yes	
245715.036	13292564.15	1275	*Acer negundo*	Box-elder	ACNE	16.0	Good	2T	No	Yes	
						17.0					

811

Know what's **below.**
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
TREE LIST

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
50

K:\16002787 - GBC - BEMIS RIDGE\DWG\PLAN SETS\SITE-FINAL\16002787FSP-02-EC.DWG 1/22/2019 11:31 AM CHRIS ROTHHAAR

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	*Botanical Name*	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List*	To be Removed
246496.727	13292541.96	1276	*Prunus serotina*	Black Cherry	PRSE	12.0	Good	3T	No	No	
						12.0					
						12.5					
245705.004	13292564.77	1277	*Acer negundo*	Box-elder	ACNE	12.0	Good	2T	No	Yes	
						14.5					
245686.367	13292552.33	1278	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	
245653.776	13292569.54	1279	*Acer negundo*	Box-elder	ACNE	26.5	Fair		No	Yes	
245627.279	13292554.9	1280	*Acer negundo*	Box-elder	ACNE	13.0	Good		No	Yes	
245627.317	13292551.33	1281	*Acer negundo*	Box-elder	ACNE	10.0	Fair		No	Yes	
245622.901	13292549.68	1282	*Acer negundo*	Box-elder	ACNE	10.5	Good		No	Yes	
245624.776	13292569.69	1283	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	
245616.314	13292565.68	1284	*Acer negundo*	Box-elder	ACNE	10.5	Fair		No	Yes	
245605.223	13292566.44	1285	*Acer negundo*	Box-elder	ACNE	17.0	Fair	inner bark rot	No	Yes	
245592.358	13292564.07	1286	*Acer negundo*	Box-elder	ACNE	20.0	Good	3T	No	Yes	
						17.0					
						16.5					
245580.356	13292562.67	1287	*Acer negundo*	Box-elder	ACNE	7.5	Fair		No	Yes	
245577.75	13292570.87	1288	*Prunus serotina*	Black Cherry	PRSE	14.0	Excellent		No	No	
245568.896	13292560.11	1289	*Acer negundo*	Box-elder	ACNE	14.0	Good		No	Yes	
245557.945	13292558.26	1290	*Acer negundo*	Box-elder	ACNE	19.0	Fair	inner bark rot	No	Yes	
245556.126	13292566.38	1291	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	
245524.196	13292559.36	1292	*Acer negundo*	Box-elder	ACNE	20.0	Good	2T	No	Yes	
						14.5					
245506.543	13292562.76	1293	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	
245494.814	13292567.22	1294	*Rhamnus cathartica*	Common Buckthorn	RHCA	6.5	Good	3T	No	Yes	
						6.0					
						7.0					
245483.499	13292570.16	1295	*Acer negundo*	Box-elder	ACNE	9.0	Good	2T	No	Yes	
						8.5					
245461.664	13292559.53	1296	*Acer negundo*	Box-elder	ACNE	26.0	Fair	dead major limb	No	Yes	
245453.798	13292572.31	1297	*Acer negundo*	Box-elder	ACNE	17.0	Good		No	Yes	
245408.901	13292572.29	1298	*Acer negundo*	Box-elder	ACNE	15.0	Good	2T	No	Yes	
						8.0					
245759.888	13292560.88	1720	*Acer negundo*	Box-elder	ACNE	13.0	Fair	2T; leaning tree	No	Yes	
						6.0					
246326.365	13291685.07	9098	*Acer negundo*	Box-elder	ACNE	11.0	Fair	2T	No	Yes	Yes
						13.5					
246322.304	13291679.07	9099	*Acer negundo*	Box-elder	ACNE	11.0	Fair	inner bark rot	No	Yes	Yes
246308.555	13291647.48	9100	*Prunus serotina*	Black Cherry	PRSE	8.5	Fair	inner bark rot	No	No	Yes
246306.534	13291646.3	9101	*Acer negundo*	Box-elder	ACNE	11.5	Fair	inner bark rot	No	Yes	Yes
246311.271	13291641.99	9102	*Acer negundo*	Box-elder	ACNE	10.0	Fair	inner bark rot	No	Yes	Yes
246312.955	13291641.86	9103	*Acer negundo*	Box-elder	ACNE	10.0	Fair	inner bark rot	No	YES	Yes
246315.692	13291664.25	9104	*Prunus serotina*	Black Cherry	PRSE	12.0	Good		No	No	Yes
246312.951	13291663.45	9105	*Ulmus americana*	American Elm	ULAM	9.0	Good	2T	No	Yes*	Yes
						8.0					
246312.521	13291675.62	9106	*Acer negundo*	Box-elder	ACNE	10.5	Fair			Yes	Yes
246307.984	13291687.52	9107	*Acer negundo*	Box-elder	ACNE	7.5	Fair		No	Yes	Yes
246216.908	13291681.73	9108	*Acer negundo*	Box-elder	ACNE	12.0	Fair		No	Yes	Yes
246197.972	13291645.55	9109	*Prunus serotina*	Black Cherry	PRSE	7.5	Good		No	No	Yes
246156.11	13291661.54	9110	*Pinus strobus*	White Pine	PIST	6.5	Good		No	No	Yes
246159.624	13291655.9	9111	*Ulmus rubra*	Slippery Elm	ULRU	10.0	Good		No	No	Yes
246159.686	13291659.44	9112	*Prunus serotina*	Black Cherry	PRSE	6.5	Good		No	No	Yes
246141.395	13291673.46	9113	*Pinus strobus*	White Pine	PIST	6.5	Good		No	No	Yes
246112.443	13291664.44	9114	*Acer negundo*	Box-elder	ACNE	6.0	Fair		No	Yes	Yes
246116.53	13291665.7	9115	*Acer negundo*	Box-elder	ACNE	6.5	Fair		No	Yes	Yes
246072.197	13291685.71	9116	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	Yes
246100.979	13291667.91	9117	*Prunus serotina*	Black Cherry	PRSE	9.5	Good		No	No	Yes
246041.283	13291669.82	9118	*Pinus strobus*	White Pine	PIST	6.5	Good		No	No	Yes
246071.22	13291641.33	9119	*Ulmus rubra*	Slippery Elm	ULRU	9.0	Good		No	No	Yes
246049.235	13291643.27	9120	*Prunus serotina*	Black Cherry	PRSE	10.5	Fair	inner bark rot	No	No	Yes
246043.183	13291647.89	9121	*Acer negundo*	Box-elder	ACNE	7.5	Fair	253 old tag	No	Yes	Yes
246024.488	13291642.87	9122	*Malus species*	Apple/Crabapple	MASP	6.0	Fair		No	No	Yes
246021.306	13291658.32	9123	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	Yes
246016.668	13291665.74	9124	*Pinus strobus*	White Pine	PIST	6.0	Good		No	No	Yes
245977.278	13291677.25	9125	*Pinus strobus*	White Pine	PIST	6.0	Good		No	No	Yes
245981.307	13291644.21	9126	*Prunus serotina*	Black Cherry	PRSE	8.5	Good		No	No	Yes
245901.784	13291668.56	9127	*Pinus strobus*	White Pine	PIST	7.0	Good		No	No	Yes
245886.243	13291656.69	9128	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	Yes
245878.833	13291663.06	9129	*Acer negundo*	Box-elder	ACNE	9.5	Good		No	Yes	Yes
245862.134	13291661.59	9130	*Prunus serotina*	Black Cherry	PRSE	10.5	Good		No	No	Yes
245843.543	13291676.86	9131	*Pinus strobus*	White Pine	PIST	7.0	Good		No	No	Yes
245842.671	13291692.57	9132	*Pinus strobus*	White Pine	PIST	8.0	Good		No	no	Yes
245809.751	13291696.27	9133	*Ulmus pumila*	Siberian Elm	ULPU	7.5	Good		No	Yes	Yes
245800.811	13291672.89	9134	*Pinus strobus*	White Pine	PIST	6.5	Good	leaning	No	No	Yes
245786.935	13291679.16	9135	*Pinus strobus*	White Pine	PIST	9.0	Good		No	No	Yes
245764.828	13291652.22	9136	*Ulmus pumila*	Siberian Elm	ULPU	6.0	Good		No	Yes	Yes
245779.978	13291700.3	9137	*Ulmus pumila*	Siberian Elm	ULPU	6.0	Good		No	Yes	Yes
245696.787	13291655.05	9138	*Ulmus pumila*	Siberian Elm	ULPU	6.0	Good		No	Yes	Yes

TREE SURVEY: L-12-32-400-004 & L-12-32-400-005

Northing	Easting	Tree Tag #	*Botanical Name*	Common Name	Species Code	DBH (in)	Condition	Comments	Heritage Tree	Weeds & Invasive List*	To be Removed
245783.912	13291680.17	9141	*Prunus serotina*	Black Cherry	PRSE	7.0	Good		No	No	Yes
245712.129	13291654.31	9142	*Ulmus pumila*	Siberian Elm	ULPU	6.5	Good		No	Yes	Yes
245700.474	13291675.31	9144	*Pinus strobus*	White Pine	PIST	6.5	Fair		No	No	Yes
245660.464	13291691.33	9145	*Acer negundo*	Box-elder	ACNE	7.0	Good		No	Yes	Yes
245659.157	13291706.26	9146	*Acer negundo*	Box-elder	ACNE	10.0	Poor	severe leaning tree	No	Yes	Yes
245649.861	13291706.55	9147	*Ulmus pumila*	Siberian Elm	ULPU	7.0	Good		No	Yes	Yes
245631.715	13291705.91	9148	*Ulmus pumila*	Siberian Elm	ULPU	7.5	Good	2T	No	Yes	Yes
						5.5					
245640.019	13291661.2	9149	*Ulmus pumila*	Siberian Elm	ULPU	7.5	Good		No	Yes	Yes
245635.373	13291667.03	9150	*Prunus serotina*	Black Cherry	PRSE	6.0	Good		No	No	Yes
245627.174	13291685.01	9151	*Pinus strobus*	White Pine	PIST	15.5	Good		No	No	Yes
245590.985	13291707.02	9152	*Ulmus pumila*	Siberian Elm	ULPU	14.0	Good		No	Yes	Yes
245586.56	13291680.14	9153	*Pinus strobus*	White Pine	PIST	6.0	Fair		No	No	Yes
245492.252	13291682.97	9154	*Pinus strobus*	White Pine	PIST	6.5	Good		No	No	Yes
245473.339	13291691.54	9155	*Pinus strobus*	White Pine	PIST	6.0	Fair		No	No	Yes
245396.141	13291683.06	9156	*Acer negundo*	Box-elder	ACNE	7.0	Good	3T	No	Yes	Yes
						7.0					
						6.0					
245343.818	13291698.38	9158	*Pinus strobus*	White Pine	PIST	7.0	Good		No	No	Yes
246244.881	13292558.21	9159	*Prunus serotina*	Black Cherry	PRSE	9.5	Fair	inner bark rot	No	No	
246263.606	13292551.98	9160	*Prunus serotina*	Black Cherry	PRSE	11.0	Good		No	No	
246268.266	13292553.05	9161	*Carya glabra*	Pignut Hickory	CAGL	9.0	Excellent		No	No	
246289.999	13292552.77	9162	*Prunus serotina*	Black Cherry	PRSE	16.0	Good		No	No	
246292.626	13292559.65	9163	*Acer negundo*	Box-elder	ACNE	12.0	Good	3T	No	Yes	
						7.0					
						6.0					
246378.885	13292557.79	9164	*Acer negundo*	Box-elder	ACNE	8.0	Good	3T	No	Yes	
						10.0					
						8.0					
246479.547	13292555.9	9165	*Acer negundo*	Box-elder	ACNE	13.5	Good		No	Yes	
246506.44	13292543.68	9166	*Acer negundo*	Box-elder	ACNE	12.0	Good		No	Yes	
246572.412	13292544.88	9167	*Acer negundo*	Box-elder	ACNE	17.5	Fair		No	Yes	
246610.907	13292544.28	9168	*Acer negundo*	Box-elder	ACNE	7.5	Fair		No	Yes	
246609.137	13292546.8	9169	*Acer negundo*	Box-elder	ACNE	7.5	Fair		No	Yes	
246577.123	13292549.7	9170	*Acer negundo*	Box-elder	ACNE	8.5	Fair		No	Yes	
246592.226	13292549.15	9171	*Acer negundo*	Box-elder	ACNE	9.5	Fair	3T	No	Yes	
						7.5					
						5.5					
246580.466	13292547.5	9172	*Acer negundo*	Box-elder	ACNE	9.0	Good		No	Yes	
246587.172	13292554.12	9173	*Acer negundo*	Box-elder	ACNE	7.5	Good		No	Yes	
246808.548	13292544.98	9174	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	
246808.149	13292545.72	9175	*Acer negundo*	Box-elder	ACNE	11.5	Good	2T	No	Yes	
						11.0					
246705.762	13292537.63	9176	*Acer negundo*	Box-elder	ACNE	20.0	Good		No	Yes	
246699.355	13292531.49	9177	*Acer negundo*	Box-elder	ACNE	13.5	Good		No	Yes	
246677.276	13292530.37	9178	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	
246683.351	13292542.03	9179	*Acer negundo*	Box-elder	ACNE	6.0	Good		No	Yes	
246685.228	13292542.27	9180	*Prunus serotina*	Black Cherry	PRSE	16.5	Good	2T	No	No	
						15.0					
246665.825	13292537.07	9181	*Acer negundo*	Box-elder	ACNE	16.0	Good		No	Yes	
246652.748	13292544.72	9182	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	
246656.159	13292537.47	9183	*Acer negundo*	Box-elder	ACNE	13.5	Good		No	Yes	
246654.952	13292533.27	9184	*Acer negundo*	Box-elder	ACNE	6.5	Good	2T	No	Yes	
						9.0					
246654.213	13292535.71	9185	*Acer negundo*	Box-elder	ACNE	11.0	Good		No	Yes	
246702.679	13292534.72	9186	*Acer negundo*	Box-elder	ACNE	9.5	Good	4T	No	Yes	
						10.5					
						10.5					
						8.5					
246713.723	13292546.8	9187	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	
246710.807	13292537.43	9188	*Acer negundo*	Box-elder	ACNE	11.5	Good		No	Yes	
246646.491	13292534.03	9189	*Acer negundo*	Box-elder	ACNE	13.5	Good		No	Yes	
246625.119	13292546.13	9190	*Acer negundo*	Box-elder	ACNE	11.0	Good	2T 6	No	Yes	
						6.0					
246626.678	13292535.85	9191	*Acer negundo*	Box-elder	ACNE	6.5	Good		No	Yes	
246601.022	13292536.54	9192	*Prunus serotina*	Black Cherry	PRSE	21.0	Good		Yes	No	
246591.997	13292531.08	9193	*Acer negundo*	Box-elder	ACNE	8.5	Good		No	Yes	
246567.036	13292530.36	9194	*Acer negundo*	Box-elder	ACNE	7.0	Good		No	Yes	
246533.648	13292539.45	9195	*Prunus serotina*	Black Cherry	PRSE	7.5	Good	4T	No	No	
						6.0					
						12.5					
						6.0					
246521.89	13292537.81	9197	*Quercus alba*	Quercus alba	QUAL	6.0	Fair	leaning tree	No	No	
246480.976	13292532.79	9198	*Acer negundo*	Box-elder	ACNE	10.5	Excellent		No	Yes	
246456.226	13292543.17	9199	*Quercus velutina*	Black Oak	QUVE	19.5	Fair	tree in fence line	Yes	No	
246432.84	13292548.03	9200	*Acer negundo*	Box-elder	ACNE	7.5			No	Yes	

TREE SUMMARY

TOTAL TREES SURVEYED–	2515
HERITAGE TREES SURVEYED–	76
TOTAL TREES TO BE REMOVED–	644
HERITAGE TREES TO BE REMOVED–	19
REMAINING TREES–	1871
REMAINING HERITAGE TREES–	57

811 Know what's **below.** **Call** before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

COPYRIGHT © 2018 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC

ATWELL
866.850.4200 www.atwell-group.com
311 N. MAIN STREET
ANN ARBOR, MI 48104
734.994.4000

SECTION 32
TOWN 3 SOUTH, RANGE 6 EAST
PITTSFIELD TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
GUENTHER BUILDING COMPANY
BEMIS RIDGE ESTATES
FINAL SITE PLAN
TREE LIST

DATE
MARCH 14, 2018

05/21/2018 PER TWP.
06/15/2018 PER TWP. & AGENCIES
07/23/2018 PER TWP. & AGENCIES
08/28/2018 PER WCRC
12/07/2018 PER TWP.
01/22/2019 PER TWP.

REVISIONS

SCALE 0 -- --
NO SCALE

DR. CR | CH. --
P.M. TP
BOOK --
JOB 16002787
SHEET NO.
51