

# A G E N D A

## REGULAR MEETING OF THE MIDLAND CITY PLANNING COMMISSION, TO TAKE PLACE ON TUESDAY, JUNE 28, 2016, 7:00 P.M., COUNCIL CHAMBERS, CITY HALL, MIDLAND, MICHIGAN

1. **Call to Order**
2. **Pledge of Allegiance to the Flag**
3. **Roll Call**
4. **Approval of the Minutes**  
Regular Meeting – June 14, 2016
5. **Public Hearings**
  - a. **Site Plan No. 351** – initiated by Fred Eddy Jr, on behalf of the Dow Gardens for site plan review and approval for improvements at both Dow Gardens and Whiting Forest, located at 2303 Eastman Avenue.  
  
Public Hearing Process
    1. Staff presentation and overview of petition
    2. Petitioner presentation
    3. Public comments in support of the petition
    4. Public comments in opposition to the petition
    5. Opportunity for petitioner rebuttal and final comments
    6. Closing of public hearing
    7. Deliberation and possible decision by Planning Commission
6. **Old Business**
  - a. **Site Plan No. 350** – initiated by Primrose Retirement Communities, LLC for site plan review and approval for a 118,416 square foot retirement community, located at 5900 Waldo Avenue.
7. **Public Comments (unrelated to items on the agenda)**
8. **New Business**
9. **Communications**
10. **Report of the Chairperson**
11. **Report of the Planning Director**
12. **Items for Next Agenda – July 12, 2016**
  - a. Capital Improvement Plan
  - b. Public Participation Plan
  - c. Zoning Ordinance Revision – Article 9.02 I
13. **Adjournment**

**MINUTES OF THE MEETING OF THE  
MIDLAND CITY PLANNING COMMISSION  
WHICH TOOK PLACE ON  
TUESDAY, JUNE 14, 2016, 7:00 P.M.,  
COUNCIL CHAMBERS, CITY HALL, MIDLAND, MICHIGAN**

1. The meeting was called to order at 7:00 p.m. by Chairman McLaughlin
2. The Pledge of Allegiance was recited in unison by the members of the Commission and the other individuals present.

3. **Roll Call**

**PRESENT:** Bain, Hanna, Koehlinger, Mayville, McLaughlin, Pnacek, Senesac, and Tanzini

**ABSENT:** Heying

**OTHERS PRESENT:** Brad Kaye, Assistant City Manager for Development Services; Grant Murschel, Community Development Planner; and eleven (11) others.

4. **Approval of Minutes**

Moved by Hanna and seconded by Mayville to approve of the amended minutes of the regular meeting of May 24, 2016. Motion passed unanimously.

5. **Public Hearing**

- a. Site Plan No. 350– initiated by Primrose Retirement Communities, LLC for site plan review and approval for an 118,416 square foot retirement community, located at 5900 Waldo Avenue.

Kaye gave the staff presentation. He highlighted site details and explained that the proposal is a permitted use within the recently approved RB Multiple-Family Residential zoning district. The outstanding items still needed to comply with site plan requirements were noted and explained. The site access issues were discussed, including the comments received from the City's traffic consultant.

Mayville wondered about the driveway distances.

Hanna commented that she thinks this is a once in a lifetime opportunity to get access correct on this corridor. She does not want single access drives that will result a situation like Eastman Avenue. Kaye commented that the proposal has worked with staff to address these issues.

Bain questioned the mechanism for ensuring optimal future driveway distances are developed. Kaye commented that there is no guarantee for future access points to be optimally spaced at this point. McLaughlin commented that he agreed with Hanna.

Senesac commented that other areas of the city that are developed are difficult to alleviate congestion because we are trying to retrofit a solution. Now is the time to consider the best development design in this area to avoid another mall situation. He believes a shared access agreement between the subject property and the property to the north would be helpful since there is a chance that the property to the north will not develop exactly as the property owner has indicated.

John Morey, D&M Site, spoke as the consulting engineer for the project. He spoke to the details of the site as gave information on the nature of each component of the site development.

Mark McNeary, general counsel for Primrose Retirement Communities, explained that his team has worked diligently to respond to the comments by staff. He corrected his statement that he made to the City Council the night before by indicating that his construction team would like to get the site developed starting this year, rather than beginning in early spring 2017. The development should not be compared to a Kroger development given the substantially less vehicle traffic that a Primrose development generates.

Senesac questioned why Primrose is against the idea of the potential for shared access with the property to the north for future development. McNeary commented that he would need to know the specific conditions of such an agreement before providing an answer.

Dave Rapanos, 16 Pinehaven Circle, spoke as the property owner to the north. He explained that he agrees to a single boulevard entrance farther to the north for his property. In his opinion, he thinks the shared access idea works better with commercially developed areas rather than residential. He will accept one entrance off of Waldo Avenue to the remainder of his property to the north of the subject site.

There were no public comments in support or opposition of the petition. The public hearing was closed.

Senesac and McLaughlin indicated that they believe the outstanding issues warrant a revised plan submitted to the City before a recommendation is rendered; therefore a waiver of the procedural requirements was not made.

Koehlinger questioned the comments by the City's traffic consultant. Kaye reviewed the timeline that led to the final comments and decision by the consultant.

Following regular procedural requirements, the site plan will be back on the Planning Commission's agenda during the next meeting on Tuesday, June 28, 2016.

- b. Zoning Petition No. 607 – initiated by Wahlack, LLC to zone the property located at 204 Commerce Drive from Residential A-2 Single-Family Residential zoning to Residential A-4 One and Two-Family Residential zoning.

Murschel gave the staff presentation. He explained the subject area and its proximity to recent rezoning and approved development. He reviewed the rezoning criteria, point by point. The subject property is immediately east of a recent rezoning that contained conditions in order to be later able to permit the multiple family development, Clear Pointe Landing.

Mark Wahl, of Wahlack, LLC, addressed the Commission and welcomed any questions.

There were no comments in support or opposition of the petition. The public hearing was closed.

A motion was made by Senesac to waive the procedural requirements to delay a decision on the site plan until the next meeting. The motion was seconded by Hanna. The motion was approved unanimously.

Pnacek indicated that he believes the zoning amendment makes sense given the development patterns in the area.

It was moved by Senesac and supported by Hanna to recommend approval of Zoning Petition No. 607 initiated by Wahlack, LLC to zone the property located at 204 Commerce Drive from Residential A-2 Single-Family Residential zoning to Residential A-4 One and Two-Family Residential zoning.

YEAS:           Bain, Hanna, Koehlinger, Mayville, McLaughlin, Pnacek, Senesac, and Tanzini.

NAYS: None  
ABSENT: Heying

- c. Zoning Text Amendment No. 158 – initiated by the City of Midland, to amend Section 8.09 of the Zoning Ordinance being the sign regulations of the Center City Authority Overlay district.

Murschel gave the overview of the proposed text amendment. He indicated that the ordinance language that was included in the staff report has been approved as to form by the City Attorney.

Senesac wondered if there was consideration for allowing the 30 day permits to be pulled consecutively. Murschel indicated that this was considered and due to specific sales or events that run for longer than 30 days, the committee thought it was necessary to allow for consecutive permits.

There were no public comments in support or opposition of the proposal. The public hearing was closed.

A motion was made by Pnacek to waive the procedural requirements to delay a decision on the site plan until the next meeting. The motion was seconded by Hanna. The motion was approved unanimously.

Pnacek commented that the proposal appears straightforward. Senesac agreed.

It was moved by Pnacek and supported by Hanna to recommend approval of Zoning Text Amendment No. 158 initiated by the City of Midland, to amend Section 8.09 of the Zoning Ordinance being the sign regulations of the Center City Overlay district.

YEAS: Bain, Hanna, Koehlinger, Mayville, McLaughlin, Pnacek, Senesac, and Tanzini.  
NAYS: None  
ABSENT: Heying

## 6. **Old Business**

## 7. **Public Comments (unrelated to items on the agenda)**

None

## 8. **New Business**

- a. Capital Improvement Plan (CIP)

Kaye gave an overview of the plan and indicated that the document is intended to feed the City budget process on a yearly basis. The CIP has a span of six (6) years. Staff intends to bring this item forward for public hearing during the July 12, 2016.

Senesac commented that he would like to see additional departments added because the planning process itself is beneficial. He also explained that he thinks the \$5,000 threshold is too small and that it should be increased.

## 9. **Communications**

The May 2016 edition of the Planning & Zoning News and the Michigan Planner magazines were given to the Commissioners.

## 10. **Report of the Chairperson**

McLaughlin welcomed Koehlinger to the Commission.

**11. Report of the Planning Director**

Kaye provided updates on the approval of the Primrose rezoning request, the approval of the Northwood student housing site plan, the downtown Midland streetscape process and the non-motorized wayfinding signage.

Hanna commented that she would like to visit the gas to energy process because it is such a great asset that recycles waste and turns it into a usable resource.

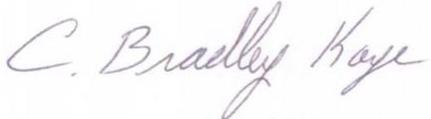
**12. Items for Next Agenda – June 28, 2016**

- a. Site Plan No. 351 – initiated by Fred Eddy Jr. on behalf of the Dow Gardens for site plan review and approval for improvements at both Dow Gardens and Whiting Forest, located at 2303 Eastman Avenue.
- b. Zoning Ordinance Revision – Article 9.02 I
- c. Site Plan No. 350– initiated by Primrose Retirement Communities, LLC for site plan review and approval for an 118,416 square foot retirement community, located at 5900 Waldo Avenue.

**13. Adjourn**

It was motioned by Senesac and seconded by Hann to adjourn at 9:06 p.m. Motion passed unanimously.

Respectfully submitted,



C. Bradley Kaye, AICP, CFM  
Assistant City Manager for Development Services

MINUTES ARE NOT FINAL UNTIL APPROVED BY THE PLANNING COMMISSION



Site Plan SP #351

Date: June 22, 2016

**STAFF REPORT TO THE PLANNING COMMISSION**

SUBJECT: Whiting Forest/Dow Gardens

APPLICANT: Fred Eddy Jr.

LOCATION: 2303 Eastman Avenue

ZONING: (COM) Community

ADJACENT ZONE: North: (RA-1) Single-Family Residential  
 South: (COM) Community & (LCMR) Limited Commercial, Manufacturing & Research  
 East: (RA-1) Single-Family Residential  
 West: (COM) Community & (RA-1) Single-Family Residential

ADJACENT DEV: North: Single-family residential  
 South: MSU STEM Center, Grace A. Dow Memorial Library, Dow Gardens  
 East: Midland Country Club, cemetery, single-family residential  
 West: Cemetery and single-family residential

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**REPORT**

Site Plan No. 351, initiated by Fred Eddy, Jr. is site plan proposal for an extensive alteration of this Whiting Forest site. The plan includes an elevated canopy walk, modifications to the Whiting house to become a visitor’s center, reconfiguration of the vehicle access on Eastman Avenue, parking lot modifications, and pedestrian bridge connections to the Grace A. Dow Memorial Library and Dow Gardens over St. Andrews Road.

Recreational facilities are permitted uses by right within the Community zoning district. Site plan review and approval under Section 27.02(A) of the Zoning Ordinance is required for this proposed use. Section 27.06(A) of the Zoning Ordinance states that: “The following criteria shall be used as a basis upon which site plans will be reviewed and approved:”

**BASIS FOR ACTION**

**1. Adequacy of Information**

The site plan shall include all required information in sufficiently complete and understandable form to provide an accurate description of the proposed uses and

structures.

The site plan contains all of the information required for site plan approval but is in need of final approval of the following items:

- A final stormwater permit to be approved by the City Engineering Department.
- A final soil erosion and sedimentation control permit to be approved by the City Building Department.
- Final approval from the Michigan Department of Transportation for the driveway modifications.
- A license agreement for the pedestrian bridge access to the Grace A. Dow Memorial Library property to the satisfaction of the City Library Director and the City Attorney.
- A license agreement for the pedestrian bridge access to Dow Gardens over St. Andrews Road to the satisfactory of the City Engineer and the City Attorney.
- A license agreement for the creek bank restoration activity to take place on City-owned property to the satisfaction of the City Engineer and the City Attorney.
- Final approval from the Michigan Department of Environmental Quality for work conducted in the floodplain.

2. **Site Design Characteristics**

All elements of the site design shall be harmoniously and efficiently organized in relation to topography, the size and type of parcel, the character of adjoining property, and the type and size of buildings. The site shall be developed so as not to impede the normal and orderly development or improvement of surrounding property for uses permitted by this Ordinance.

The proposed project includes a canopy walk and enhanced connectivity provisions for Whiting Forest and Dow Gardens. The site design is seen as appropriate for the location given the existing topography, natural features and existing built environment of the area.

3. **Appearance**

Landscaping, earth berms, fencing, signs, walls and other similar site features shall be designed and located on the site so that the proposed development is aesthetically pleasing and harmonious with nearby existing or future developments.

The site improvements are seen as harmonious with the site and surrounding existing developments.

4. **Compliance with District Regulations**

The site plan shall comply with the district requirements for height of building, lot size, lot coverage, density, and all other requirements set forth in the Schedule of Regulations (Article 26.00) unless otherwise provided in this Ordinance.

The project meets all setbacks, lot area, height and other dimensional requirements for the proposed use in the (COM) Community zoning district.

5. **Preservation and Visibility of Natural Features**

Natural features shall be preserved as much as possible, by minimizing tree and soil removal alteration to the natural drainage course and the amount of cutting, filling, and grading.

The proposal is utilizing the natural drainage course of the site and minimizes the amount of cutting and filling required. The site design maximizes preservation of existing trees on the site while adding an appropriate amount of new vegetation. The proposed elements are designed to showcase the natural features of the site so preservation and visibility of these features is the one of the main priorities.

The site plan does include work to be done within the 100-year floodplain; as such, final permit approval is the responsibility of the Michigan Department of Environmental Quality (DEQ). The applicant has submitted documentation supporting their conversations with staff at DEQ to indicate that permit approval will be given at an upcoming date.

**6. Privacy**

The site design shall provide reasonable visual and sound privacy. Fences, walls, barriers, and landscaping shall be used, as appropriate if permitted, for the protection and enhancement of property and the safety and privacy of occupants and uses.

The site development is mainly located within the heavily-wooded site, with the two pedestrian bridges extending to adjoining sites. There are no privacy provisions required for this type of development in this zoning district.

**7. Emergency Vehicle Access**

All buildings or groups of buildings shall be so arranged as to permit convenient and direct emergency vehicle access.

The Fire Department has reviewed the proposed site plan for adequate emergency vehicle access and is satisfied with the plan as proposed. Adequate access will exist on all sides of the buildings and adequate fire hydrant coverage has been provided. The proposed gates are to include Knox boxes for easy access by the Fire Department or other emergency personnel.

**8. Ingress and Egress**

Every structure or dwelling unit shall be provided with adequate means of ingress and egress via public or private streets and pedestrian walkways.

Adequate vehicular site access is proposed utilizing a reconfigured access driveway on Eastman Avenue. The access points associated with the site will be reduced from two (2) down to one (1). The emergency access point on St. Andrews Road will be retained.

Final driveway permit approval from MDOT is still outstanding; however, the applicant has submitted documentation confirming that a permit application has been submitted. It is anticipated that MDOT will not take issue with the proposal, especially as the number of driveways accessing the site will be reduced to one.

**9. Pedestrian Circulation**

Each site plan shall provide a pedestrian circulation system, which is insulated as completely as is reasonably possible from the vehicular circulation system.

Pedestrian circulation for this proposal is seen as adequate. Access to the building is given on all sides. The pedestrian bridge connections will facility uses from Dow Gardens and the Library.

**10. Vehicular and Pedestrian Circulation Layout**

The layout of vehicular and pedestrian circulation systems shall respect the pattern of existing or planned streets or pedestrian or bicycle pathways in the vicinity of the site. The width of streets and drives shall be appropriate for the volume of traffic they will carry in accordance with subsection 3.10. In order to insure public safety and promote efficient traffic flow and turning movements, the applicant may be required to limit street access points or construct a secondary access road.

Both vehicle and pedestrian circulation are considered appropriate for this development.

11. **Parking.**

The proposed development shall provide adequate off-street parking in accordance with the requirements in Article 5.00 of this ordinance.

The parking proposed for the new development is compliant with Article 5.00 of the Zoning Ordinance.

12. **Drainage**

The project must comply with the City's Stormwater Ordinance.

The City Engineering Department has reviewed the proposal and indicated that the calculations presented are sufficient to meet the City's stormwater management ordinance. The final stormwater permit must still be signed off by the City Engineering Department.

Work within the floodplain will require DEQ approval. The applicant has submitted documentation supporting ongoing conversations with staff at the DEQ to ensure the project receives the appropriate approvals.

13. **Soil Erosion and Sedimentation**

The proposed development shall include measures to prevent soil erosion and sedimentation during and upon completion of construction, in accordance with current State, County, and City standards.

Soil erosion and sedimentation control details have been submitted for review and approval. The City Building Department will give final approval on this permit, which is typically addressed at the final permitting stage.

14. **Exterior Lighting**

Exterior lighting shall be designed so that it is deflected away from adjoining properties and so that it does not impede vision of drivers along adjacent streets and comply with the provisions in Section 3.12.

The applicant is not proposing any changes to the exterior lighting at this time, therefore a photometric plan is not required.

15. **Public Services**

Adequate services and utilities, including water, sewage disposal, sanitary sewer, and storm water control services, shall be available or provided, and shall be designed with sufficient capacity and durability to properly serve the development. All streets and roads, water, sewer, and drainage systems, and similar facilities shall conform to the design and construction standards of the City.

As previously discussed, a final stormwater management permit must be approved by the City Engineering Department. This is typically addressed at final permitting stage.

The other minor changes associated with the public utilities, including the single fire hydrant addition, and been reviewed and approved by the City Utility Department and the City Engineering Department.

**16. Screening**

Off-street parking, loading and unloading areas, outside refuse storage areas, and other storage areas shall be screened by walls or landscaping of adequate height and shall comply with Articles 6.00 and 7.00 of this Ordinance. All roof-top mechanical equipment shall be screened from view from all residential districts and public roadways.

The proposal meets all City screening requirements.

**17. Health and Safety Concerns**

Any use in any zoning district shall comply with all applicable public health, pollution, and safety laws and regulations.

No health and safety concerns have been identified.

**18. Sequence of Development**

All development phases shall be designed in logical sequence to insure that each phase will independently function in a safe, convenient and efficient manner without being dependent upon subsequent improvements in a later phase or on other sites.

The applicant has indicated that this project will development in one phase. Construction of the pedestrian bridge crossings to Dow Gardens and the Library will require extensive coordination with the City, thus necessitating the various license agreements to protect the interests of the City. The City Building, Planning and Engineering Departments, as well as the City Attorney's Office, will facilitate the construction process.

**19. Coordination with Adjacent Sites**

All site features; including circulation, parking, building orientation, landscaping, lighting, utilities, common facilities, and open space shall be coordinated with adjacent properties.

The proposal is mostly contained on a single site; however, coordination with the City is necessary for the two pedestrian bridge crossings. Dow Gardens and Whiting Forest, and their associated agents, have been in discussion with City staff to coordinate these crossings. Appropriate agreements will be put in place to address the interests of the City, Dow Gardens, and Whiting Forest.

The City Library Director, City Engineer and the City Attorney's Office will give final approval of the license agreement for the pedestrian connection to the Library site to ensure the final construction design addresses any and all concerns of the City while protecting the interests of the Library.

The City Engineer and the City Attorney's Office will give final approval of the license agreement for the pedestrian connection to the Dow Gardens site to ensure the final construction design addresses any and all concerns of the City while protecting the City's interest of this public right-of-way.

20. **Signs.**

All proposed signs shall be in compliance with the regulations in Article 8.00 of this Ordinance

No signage is proposed at this time with this project. Any future signage will need to meet the requirements of Article 8 and be approved by the City Building Department before installation.

**CONTINGENCY ITEMS**

Based on consideration of the site plan thus far, staff is of the opinion that the proposal adequately meets city requirements and is designed in a manner which is harmonious with the existing built and natural environments of the surrounding area. That said, however, approval of the site plan should be considered subject to the following contingencies:

1. A final stormwater permit to be approved by the City Engineering Department.
2. A final soil erosion and sedimentation control permit to be approved by the City Building Department.
3. Final approval from the Michigan Department of Transportation for the driveway modifications.
4. A license agreement for the pedestrian bridge access to the Grace A. Dow Memorial Library property to the satisfaction of the City Library Director, City Engineer and the City Attorney.
5. A license agreement for the pedestrian bridge access to Dow Gardens over St. Andrews Road to the satisfactory of the City Engineer and the City Attorney.
6. A license agreement for the creek bank restoration activity to take place on City-owned property to the satisfaction of the City Engineer and the City Attorney.
7. Final approval from the Michigan Department of Environmental Quality for work conducted in the floodplain.

**PLANNING COMMISSION ACTION**

Staff currently anticipates that the Planning Commission will hold a public hearing on this request during its regular meeting on June 28, 2016 and will formulate a recommendation to City Council thereafter. If recommended to City Council the same evening, we anticipate that on July 18, 2016 the City Council will consider the site plan and Planning Commission recommendation. Please note that these dates are merely preliminary and may be adjusted due to Planning Commission action and City Council agenda scheduling.

Respectfully Submitted,

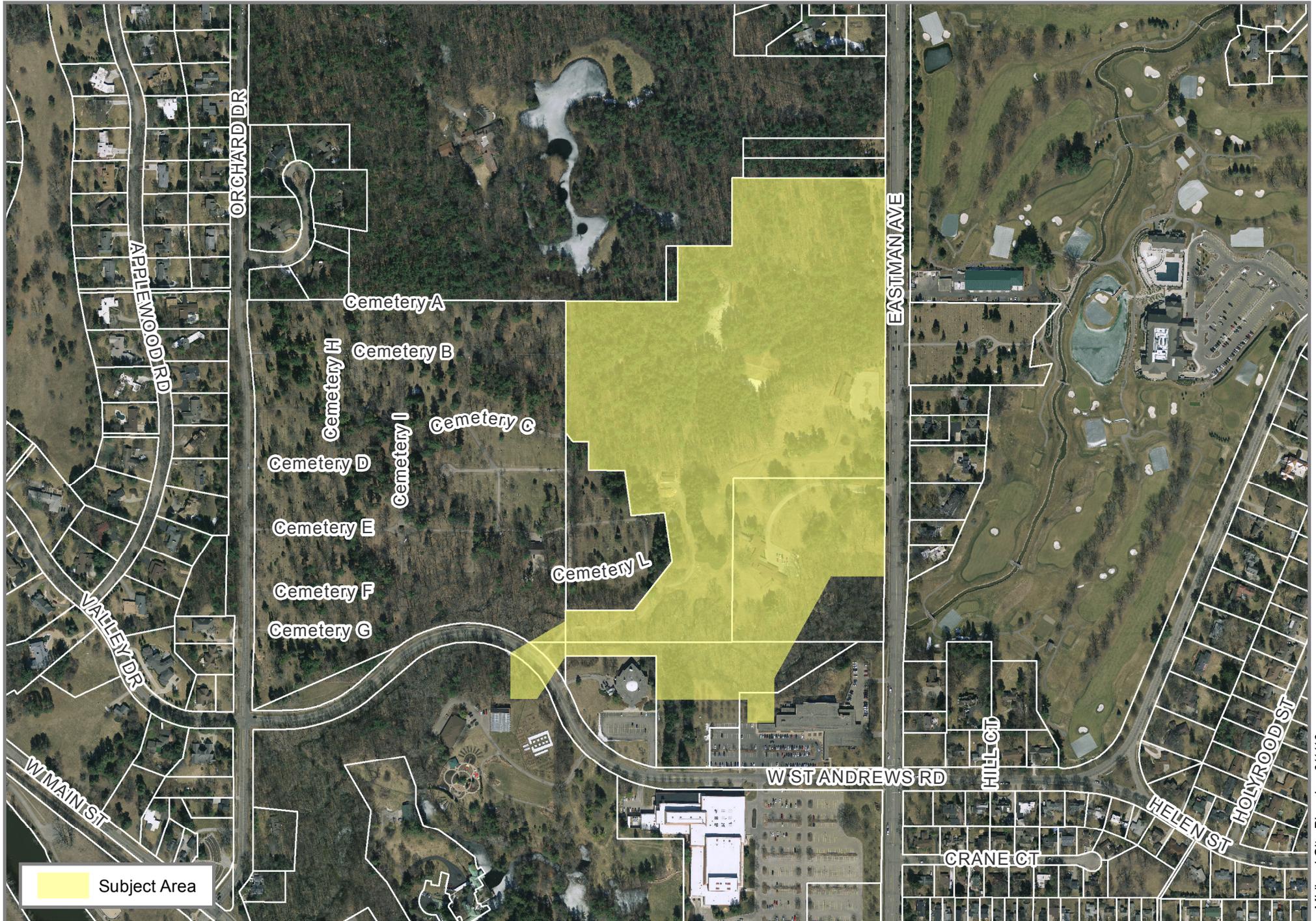


C. Bradley Kaye, AICP, CFM  
Assistant City Manager for Development Services

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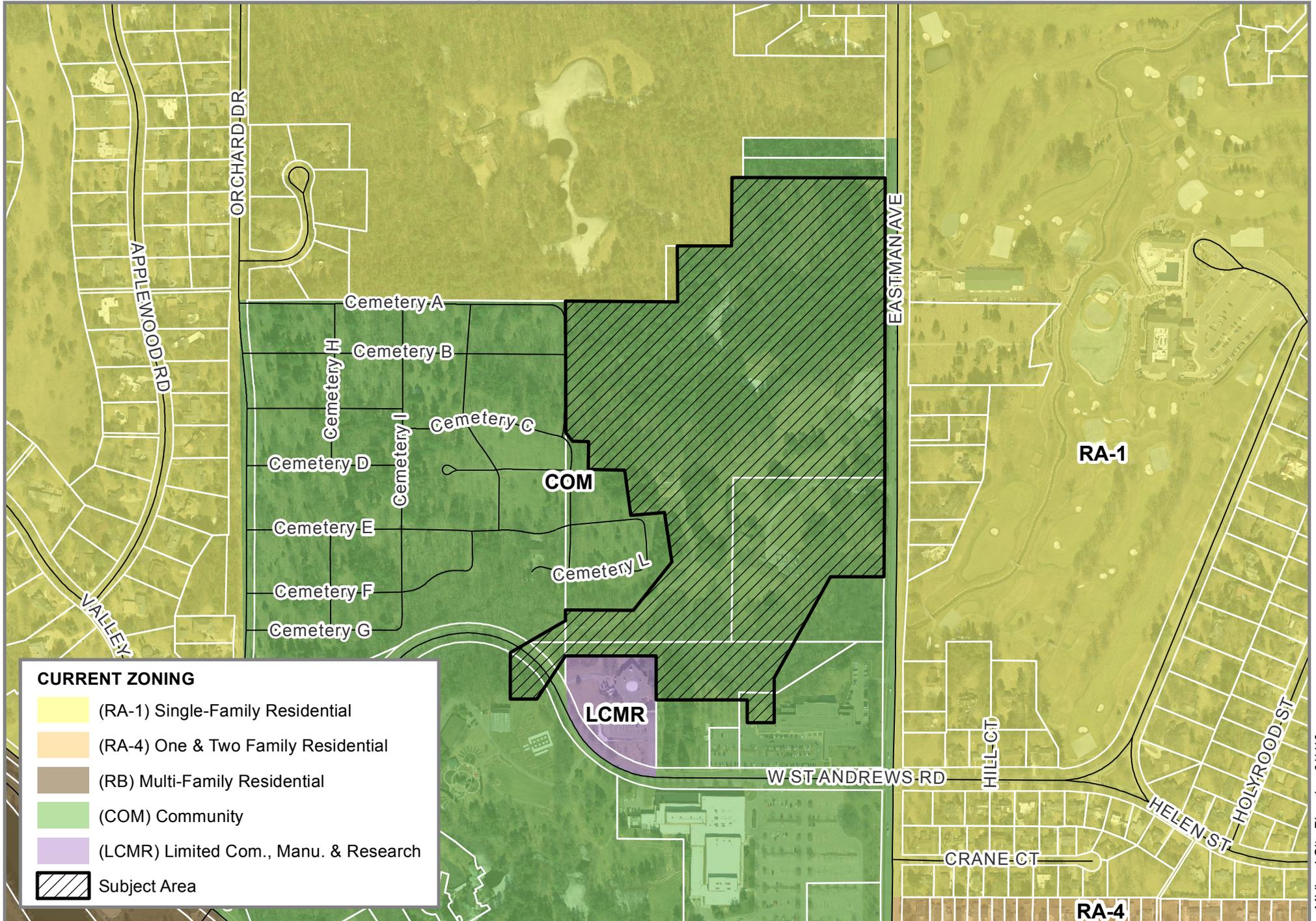
# SP #351 | Dow Gardens and Whiting Forest

> 2303 Eastman Avenue - Fred Eddy Jr.



# SP #351 | Dow Gardens and Whiting Forest

> 2303 Eastman Avenue - Fred Eddy Jr.



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Owner's Representative Contact  
Fred Eddy Jr.  
T: 989-859-2565  
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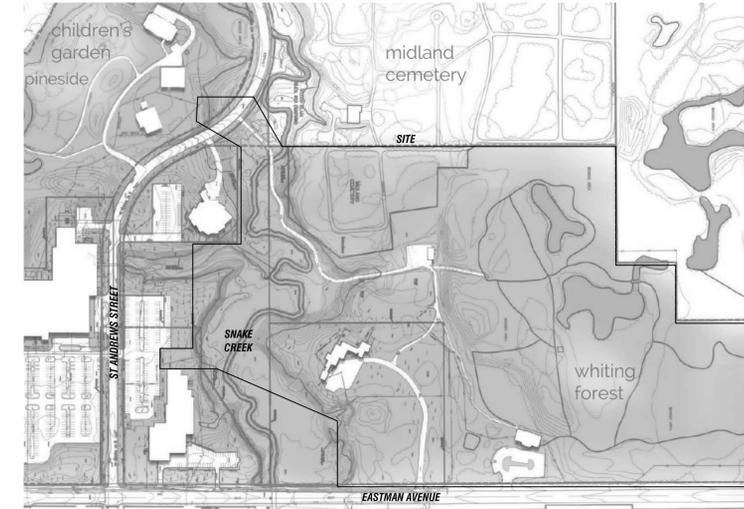
## GENERAL PROJECT NOTES

- WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS WHICH INCLUDE THE OWNER/CONTRACT AGREEMENT, GENERAL AND SUPPLEMENTARY CONDITIONS, THE SPECIFICATIONS, THE DRAWINGS, AND ALL ADDENDA AND BULLETINS ISSUED BY THE ARCHITECT.
- WORK SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL CONSTRUCTION, SAFETY, ACCESSIBILITY, AND SANITARY LAWS, CODES, STATUTES AND ORDINANCES. ALL DISCREPANCIES, VARIATIONS, OR OMISSIONS IN THE CONTRACT DOCUMENTS SHALL BE REPORTED PROMPTLY.
- THE CONTRACTOR SHALL COORDINATE, FILE, OBTAIN AND PAY FEES FOR BUILDING DEPARTMENT AND OTHER AGENCY APPROVALS, PERMITS AND INSPECTIONS. COPIES OF TRANSACTIONS ARE TO BE FORWARDED TO ARCHITECT AND BUILDING MANAGEMENT PRIOR TO COMMENCING WORK. CONTRACTOR SHALL POST ALL APPLICABLE BUILDING PERMITS IN A VISIBLE LOCATION READY FOR INSPECTION BY THE PROPER AUTHORITIES HAVING JURISDICTION.
- THE CONTRACT AREA SHALL REMAIN SECURE DURING CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION. THE OWNER SHALL BE NOTIFIED OF ALL DISCREPANCIES OR OMISSIONS WHICH WOULD INTERFERE WITH THE SATISFACTORY COMPLETION OF THE WORK, PRIOR TO THE START OF ALL WORK.
- DRAWINGS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE DIAGRAMMATIC ONLY. THE WORK INDICATED ON THE DRAWINGS SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPLIANCES AND LABOR NECESSARY TO COMPLETE THE WORK. VERIFY ALL EQUIPMENT LOCATIONS WITH THE OWNER.
- CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS ON THE JOB SITE AND CONFIRM THAT WORK AS INDICATED ON CONSTRUCTION DOCUMENTS (ALSO KNOWN AS CONSTRUCTION PLANS) CAN BE ACCOMPLISHED AS SHOWN BEFORE PROCEEDING.
- NOTIFY THE ARCHITECT REPRESENTATIVE OF ANY MAJOR DISCREPANCY REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS, AND/OR DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THIS CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK IN QUESTION.
- INSTALL ALL EQUIPMENT AND MATERIALS PER MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFIED OTHERWISE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- CONTRACTOR SHALL REVIEW SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT. THE ARCHITECT SHALL NOT REVIEW ANY SUBMITTAL WITHOUT THE CONTRACTOR'S SIGNED REVIEW STATEMENT.
- SHOP DRAWING REVIEW SHALL BE FOR DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONS, COORDINATION WITH OTHER TRADES, AND MEANS.
- REQUESTS FOR SUBSTITUTIONS SHALL BE CONSIDERED BY THE ARCHITECT ONLY IF SHOWN TO BE ADVANTAGEOUS TO THE PROJECT. SUBMIT SUPPORTIVE INFORMATION.
- CONFIRM TO OWNER THE ORDERING AND DELIVERY DATES OF LONG LEAD ITEMS TO INSURE AGAINST DELAYS IN PROJECT COMPLETION OR TO FORCE SUBSTITUTIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, FOR THE COORDINATION OF WORK AND FOR THE WORK PERFORMED BY HIS SUBCONTRACTORS.
- PROTECT BUILDING PREMISES AND OCCUPANTS ON PROJECT SITE FROM DAMAGE WITH TEMPORARY PROTECTING COVERS AND BARRIERS, DUST PROOFING, AND SHORING, OR AS REQUIRED. REPAIR ANY DAMAGE IN SHORING AS REQUIRED. REPAIR ANY DAMAGE IN KIND AT DO ADDITIONAL COST TO THE PARTY AFFECTED.
- AT SUBSTANTIAL COMPLETION OF THE WORK, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ARCHITECT FOR THE ON-SITE PUNCHLIST WALK-THROUGH.
- THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS TO THE OWNER/TENANT AT THE COMPLETION OF WORK.
- CONTRACTOR SHALL VISIT JOB SITE TO REVIEW SCOPE OF WORK AND EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO MECHANICAL SERVICE, ELECTRICAL SERVICE AND OVERALL COORDINATION.
- ALL TELEPHONE/DATA EQUIPMENT LAYOUT SPECIFICATIONS, PERFORMANCE, INSTALLATION AND THEIR FINAL LOCATION ARE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH THE WORK AND CLEARANCES REQUIRED BY OTHERS RELATED TO SAID EQUIPMENT.
- ALL WORK PERFORMED AND MATERIALS SHALL MEET THE HIGHEST TRADE STANDARDS. AS A MINIMUM STANDARD, CONFORM WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK.
- ELECTRICAL SYSTEMS SHALL BE INSTALLED PER N.E.C. AND IN ACCORDANCE WITH ALL APPLICABLE UTILITY COMPANY SPECIFICATIONS AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- CONTRACTOR SHALL PROVIDE SUPERVISION WHILE ANY SUBCONTRACTORS OR WORKMEN ARE ON THE JOB SITE AND SHALL SUPERVISE AND DIRECT ALL WORK.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA DURING CONSTRUCTION.
- VERIFY ALL FINAL EQUIPMENT LOCATIONS WITH THE OWNER'S REPRESENTATIVE.
- DIMENSIONS ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE
- CLEAN-UP AND SAFETY: KEEP PROJECT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH & EQUIPMENT REMOVED AND NOT SPECIFIED AS THE REMAINING PROPERTY OF THE OWNER, ETC. LEAVE PREMISES IN A VACUUM AND BROOM CLEAN CONDITION: FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SYSTEMS.

## ABBREVIATIONS

ABV	ABOVE	LAV	LAVATORY
AFF	ABOVE FINISHED FLOOR	LBL	LABEL
ADJ	ADJACENT	MAX	MAXIMUM
ALUM	ALUMINUM	MTL	METAL
&	AND	MIN	MINIMUM
@	AT	MISC	MISCELLANEOUS
		MTD	MOUNTED
BLK	BLOCK	NIC	NOT IN CONTRACT
BLDG	BUILDING	NTS	NOT TO SCALE
BO	BOTTOM OF		
B/S	BOTH SIDES	OD	OUTSIDE DIAMETER
CL	CENTER LINE	OC	ON CENTER
CLG	CEILING	OPG	OPENING
CLR	CLEAR		
CONC	CONCRETE	PTD	PAINTED
CONT	CONTINUOUS	PAR	PARALLEL
		PERF	PERFORATED
DEMO	DEMOLISH	PWD	PLYWOOD
DIA	DIAMETER	PL LAM.	PLASTIC LAMINATE
DIM	DIMENSION		
DR	DOOR	R	RADIUS
		REM	REMOVE
EF	EXHAUST FAN	REV	REVISION
EHD	ELECTRIC HAND DRYER	RM	ROOM
ELEV	ELEVATION	R.O.	ROUGH OPENING
EQ	EQUAL		
EXIST	EXISTING	SHT	SHEET
EXG	EXISTING	SHW	SHIMLAR
		SO	SQUARE
FT	FEET	SO FT	SQUARE FEET
FIN	FINISH	STD	STANDARD
FLR	FLOOR	STOR	STORAGE
FLUOR	FLUORESCENT	S/S	STAINLESS STEEL
FRMG	FRAMING		
FBO	FURNISHED BY OWNER	TELE	TELEPHONE
		THK	THICK
GC	GENERAL CONTRACTOR	TO	TOP OF
GWB	GYPSEUM WALL BOARD	TYP	TYPICAL
HGT	HEIGHT	UNF	UNFINISHED
HVAC	HEATING/VENTILATION REFRIGERATION	UOVN	UNLESS OTHERWISE NOTED
HOR	HORIZONTAL	UR	URINAL
		VNR	VENEER
INCL	INCLUDED	VIF	VERIFY IN FIELD
INT	INTERIOR	VERT	VERTICAL
JT	JOINT	WC	WATER CLOSET
		W/	WITH
KO	KNOCKOUT	WD	WOOD
		WDO	WINDOW

## LOCATION PLAN



01 LOCATION PLAN  
SCALE (IN) N

## SYMBOLS

01	ROOM NAME / NUMBER	WINDOW TYPE
000	ELEVATION	DOOR TYPE
03 A-301A	DETAIL MARKERS	ELEVATION MARKER
03 A-301A	SECTION	ELEVATION DATUM
03 A-301A	NEW DOOR	WALL TYPE
00	KEY NOTE	INTERIOR ELEVATION
000	DEMOLITION KEY NOTE	ROOF SLOPE MARKER
		EXISTING DOOR
		NORTH ARROW

## DRAWINGS

**METCALFE**  
ARCHITECTURE & DESIGN, LLC

211 N. 13th Street  
Suite 503  
Philadelphia, PA 19107  
T: 215 557 9200

**Consultants**

LANDSCAPE ARCH:  
Jonathan Alderson  
JALA, Inc  
610-341-9925

STRUCTURAL ENGINEER:  
Robert Schaeffer  
CVM  
610-989-3800

MPE ENGINEER:  
Macmillan Associates, Inc  
989-894-4300

LOCAL ARCHITECT:  
Keith Wirth  
Three Rivers Corporation  
989-631-9726

Client: DOW GARDENS / WHITING FOREST

Project: **PLANNING SUBMISSION**

**WHITING FOREST**

Address: 2303 N. EASTMAN RD.  
MIDLAND, MI 48640

**General Notes:**

- Contractors to be responsible for field verification of dimensions.
- Notify architect immediately of any inconsistencies before proceeding with work.

Issue: PLANNING APPROVAL

Date: 05-03-16

Revisions:

Sheet Title: **PLANNING SUBMISSION COVER SHEET & PROJECT NOTES**

Sheet No.: **G-000**

MA&D Proj. No.: 1476

# TOPOGRAPHICAL/DEMO PLAN

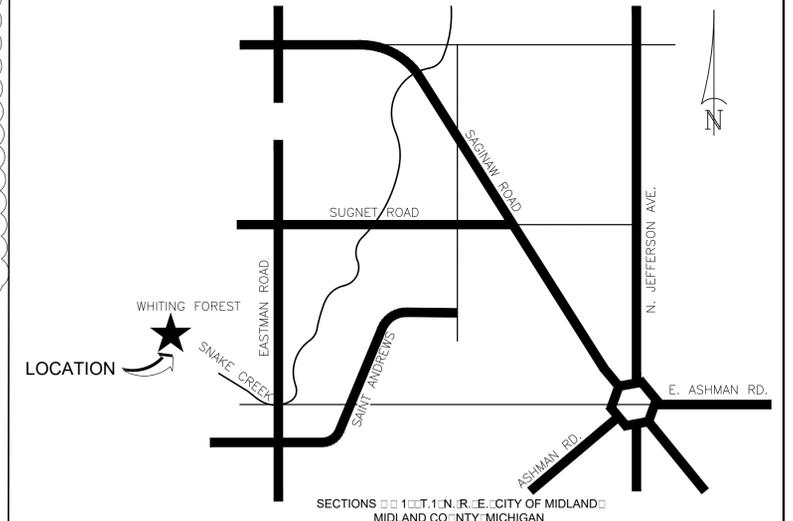
SITE:  
**WHITING FOREST  
 WHITING HOUSE-VISITOR CENTER**  
 MIDLAND, MICHIGAN

## EXISTING STRUCTURE SCHEDULE:

<b>STM#4</b>	<input type="checkbox"/> DIA CONC MANHOLE	<input type="checkbox"/>	<b>STM#8</b>	<input type="checkbox"/> RCP END SECTION	<input type="checkbox"/>
RIM	<input type="checkbox"/>		<b>STM#9</b>	<input type="checkbox"/> CLAY PIPE	<input type="checkbox"/>
INV 1" RCP E	<input type="checkbox"/>				
S:MP	<input type="checkbox"/>				
<b>STM#5</b>	<input type="checkbox"/> DIA CONC MANHOLE	<input type="checkbox"/>	<b>STM#10</b>	<input type="checkbox"/> DIA CONC.	<input type="checkbox"/>
RIM	<input type="checkbox"/>		RIM	<input type="checkbox"/>	
INV 1" RCP W	<input type="checkbox"/>		INV 1" PVC NE	<input type="checkbox"/>	
INV 1" RCP S	<input type="checkbox"/>		INV 1" PVC SE	<input type="checkbox"/>	
INV 10" RCP N	<input type="checkbox"/>		INV 1" CPP W	<input type="checkbox"/>	
INV 1" RCP E	<input type="checkbox"/>		S:MP	<input type="checkbox"/>	
S:MP	614.6z				
<b>STM#6</b>	<input type="checkbox"/> DIA CONC MANHOLE	<input type="checkbox"/>	<b>STM#11</b>	<input type="checkbox"/> DIA CONC.	<input type="checkbox"/>
RIM	<input type="checkbox"/>		RIM	<input type="checkbox"/>	
INV 1" RCP NE	<input type="checkbox"/>		INV 1" PVC NW	<input type="checkbox"/>	
INV 1" RCP N	<input type="checkbox"/>		INV 1" CPP SE	<input type="checkbox"/>	
INV 1" PVC S	<input type="checkbox"/>		S:MP	<input type="checkbox"/>	
S:MP	617.7z				
<b>STM#7</b>	<input type="checkbox"/> DIA CONC MANHOLE	<input type="checkbox"/>	<b>STM#12</b>	<input type="checkbox"/> DIA YARD BASIN	<input type="checkbox"/>
RIM	<input type="checkbox"/>		RIM	<input type="checkbox"/>	
INV 1" RCP SE	<input type="checkbox"/>		INV 1" PVC SE	<input type="checkbox"/>	
INV 1" RCP N	<input type="checkbox"/>		INV 1" PVC NE	<input type="checkbox"/>	
S:MP	<input type="checkbox"/>		S:MP	<input type="checkbox"/>	
			<b>STM#13</b>	<input type="checkbox"/> DIA YARD BASIN	<input type="checkbox"/>
			RIM	<input type="checkbox"/>	
			INV 1" PVC NW	<input type="checkbox"/>	
			S:MP	<input type="checkbox"/>	



**EASTMAN ROAD**



## UTILITY INFORMATION:

**ELECTRIC POWER**  
 Consumers Energy  
 1100 Washington  
 Midland, MI 48840  
 Phone: 517-873-0000  
 Phone: 517-873-0000 Miss Dig

**NATURAL GAS**  
 Consumers Energy  
 1100 Washington  
 Midland, MI 48840  
 Phone: 517-873-0000  
 Phone: 517-873-0000 Miss Dig

**TELEPHONE/COMMUNICATIONS**  
 AT&T  
 100 S. Washington Street, Room 1000  
 Saginaw, MI 48607  
 Phone: 517-799-0000  
 Phone: 517-799-0000 Miss Dig

**CABLE TELEVISION**  
 Charter Communications  
 100 E. Main Street  
 Midland, MI 48840  
 Phone: 517-873-0000

**WATER & WASTEWATER**  
 Water & Wastewater Office  
 P.O. Box 1000  
 100 W. Elsworth Street  
 Midland, Michigan 48840-1000  
 Phone: 517-873-0000

## GENERAL NOTES:

1. UNDERGROUND UTILITY LINES SHOWN REFLECT INFORMATION COLLECTED FROM UTILITY OWNERS AND VISIBLE MARKERS FOUND AT THE TIME OF SURVEY. SHOWN LOCATIONS ARE NOT INTENDED TO BE EXACT AND CONTRACTOR MUST VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION.

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HOUS  
**BEFORE YOU DIG  
 CALL MISS DIG**  
 TOLL FREE  
 1-800-485-4141

SECTIONS 1 & 11, N. E. CITY OF MIDLAND  
 MIDLAND COUNTY, MICHIGAN

**LOCATION MAP**  
 NO SCALE

DATE	REVISION

DOW FOUNDATION - WHITING FOREST  
 MIDLAND, MICHIGAN

**Midland Engineering, Ltd.**

**TOPOGRAPHICAL PLAN**

DESIGNED BY: J.D.K.	JOB NUMBER: A15123
DRAWN BY: J.D.K.	DATE OF PLAN: APRIL 2016
CHECKED BY: J.D.K.	DATE CONSTRUCTED:
APPROVED BY:	SCALE: 1"=30'

SHEET 1 OF 7 SHEETS

**C1**

# TOPOGRAPHICAL/DEMO PLAN

SITE:  
**WHITING FOREST**  
**WHITING HOUSE-LODGE**  
 MIDLAND, MICHIGAN

## UTILITY INFORMATION:

**ELECTRIC POWER**  
 Consumers Energy  
 1100 Washington  
 Midland, MI 48840  
 Phone: 517-873-0000  
 Phone: 800-451-1111 Miss Dig

**NATURAL GAS**  
 Consumers Energy  
 1100 Washington  
 Midland, MI 48840  
 Phone: 517-873-0000  
 Phone: 800-451-1111 Miss Dig

**TELEPHONE/COMMUNICATIONS**  
 AT&T  
 100 S. Washington Street, Room 1000  
 Saginaw, MI 48601  
 Phone: 517-793-0000  
 Phone: 800-451-1111 Miss Dig

**CABLE TELEVISION**  
 Charter Communications  
 100 E. Main Street  
 Midland, MI 48840  
 Phone: 517-873-0000

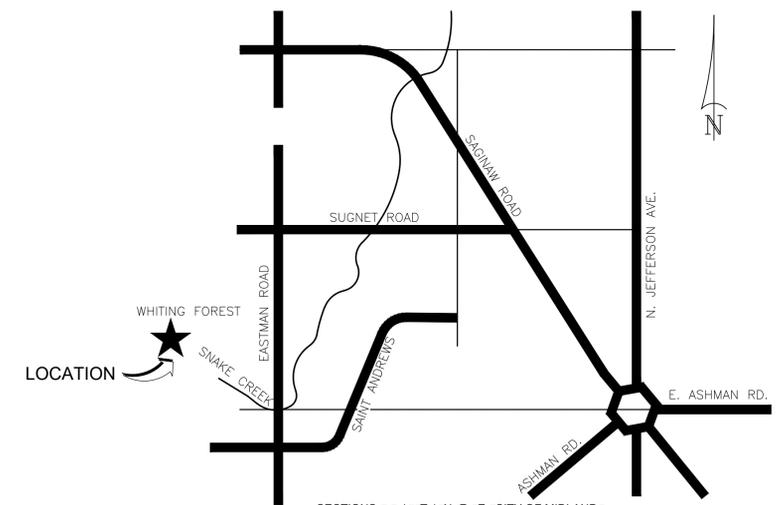
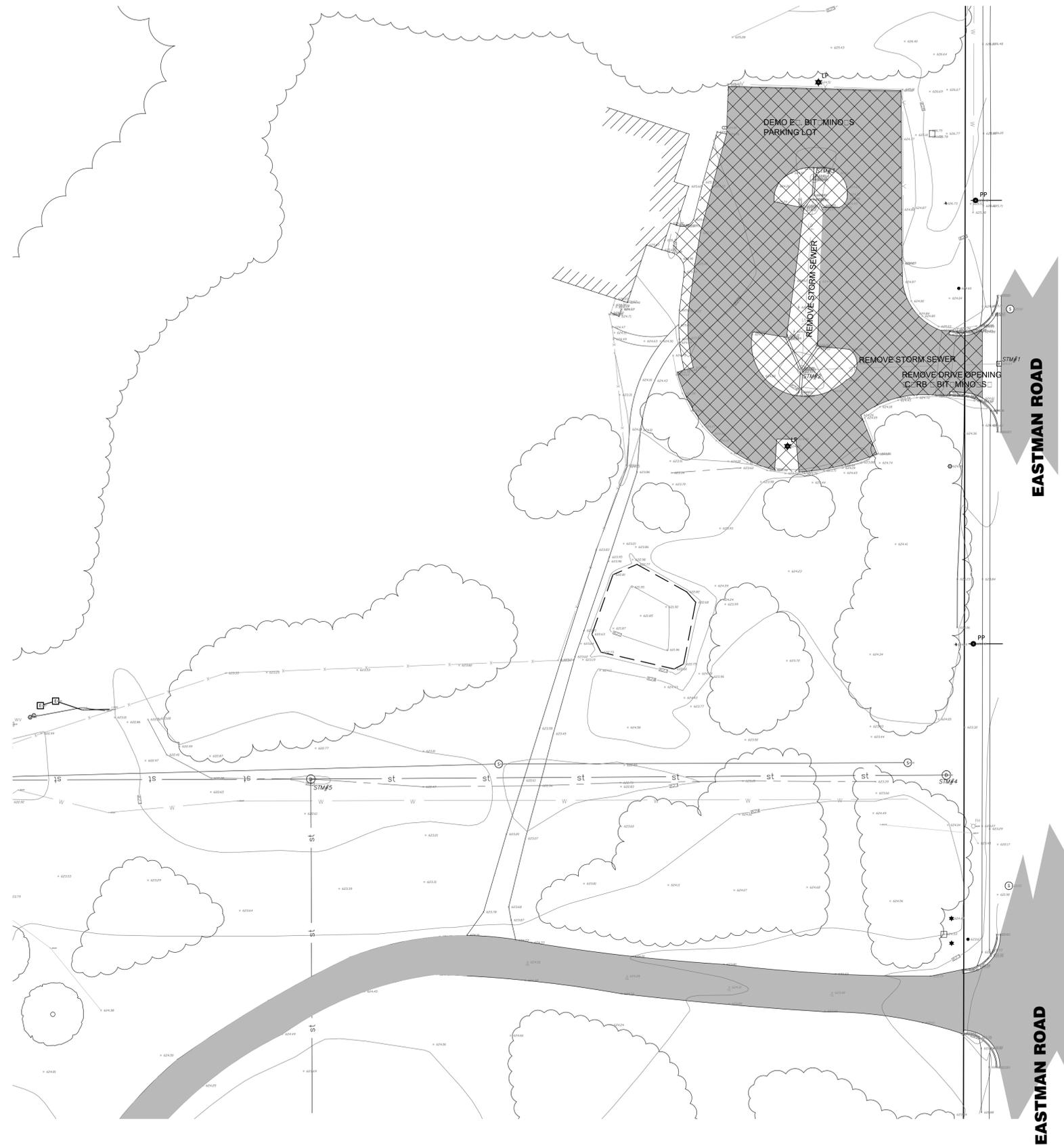
**WATER & WASTEWATER**  
 Water & Wastewater Office  
 P.O. Box 1000  
 100 W. Ellsworth Street  
 Midland, Michigan 48840  
 Phone: 517-873-0000

## EXISTING STRUCTURE SCHEDULE:

**STM#1**  
 DIA CONC MANHOLE  
 RIM:  0.00  
 INV 1" RCP N:  0.10  
 INV 1" PVC W:  0.10  
 INV 1" CPP W:  0.00  
 S: MP:  1.10

**STM#2**  
 DIA CONC MANHOLE  
 RIM:  0.00  
 INV 1" RCP N:  0.10  
 INV 1" CPP W:  0.00  
 INV 1" PVC E:  0.00  
 S: MP:  1.10

**STM#3**  
 DIA CONC MANHOLE  
 RIM:  0.00  
 INV 1" RCP S:  0.10  
 S: MP:  1.10



SECTIONS 1, 11, N. R. E. CITY OF MIDLAND  
 MIDLAND COUNTY, MICHIGAN

## LOCATION MAP

NO SCALE

DATE	REVISION

DOW FOUNDATION - WHITING FOREST  
 MIDLAND, MICHIGAN



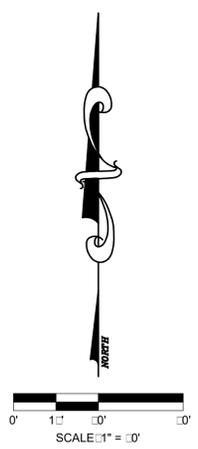
Midland Engineering, Ltd.

## TOPOGRAPHICAL PLAN

DESIGNED BY: J.D.K.    JOB NUMBER: A15123  
 DRAWN BY:            DATE OF PLAN: APRIL 2016  
 CHECKED BY: J.D.K.    DATE CONSTRUCTED:  
 APPROVED BY:        SCALE: 1"=30'  
                                  SHEET 2 OF 7 SHEETS

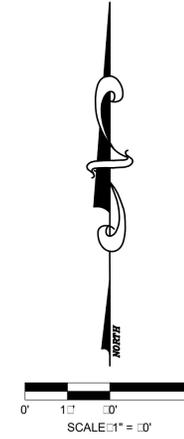
**C2**

HOURLS  
**BEFORE YOU DIG**  
**CALL MISS DIG**  
 TOLL FREE  
 800-451-1111



# SITE PLAN

**SITE:**  
**WHITING FOREST**  
**WHITING HOUSE-VISITOR CENTER**  
MIDLAND, MICHIGAN



### UTILITY INFORMATION:

#### ELECTRIC POWER

Consumers Energy  
1100 Washington  
Midland, MI 48840  
Phone: 517-633-1000  
Miss Dig: 1-800-487-3372

#### NATURAL GAS

Consumers Energy  
1100 Washington  
Midland, MI 48840  
Phone: 517-633-1000  
Miss Dig: 1-800-487-3372

#### TELEPHONE/COMMUNICATIONS

AT&T  
100 S. Washington Street, Room 100  
Saginaw, MI 48606  
Phone: 517-763-1000  
Miss Dig: 1-800-487-3372

#### CABLE TELEVISION

Charter Communications  
100 E. Main Street  
Midland, MI 48840  
Phone: 517-633-1000

#### WATER & WASTEWATER

Water: Wastewater Office  
P.O. Box 100  
100 W. Ellsworth Street  
Midland, Michigan 48840  
Phone: 517-633-1000

### GENERAL NOTES:

1. UNDERGROUND UTILITY LINES SHOWN REFLECT INFORMATION COLLECTED FROM UTILITY OWNERS AND VISIBLE MARKERS FOUND AT THE TIME OF SURVEY. SHOWN LOCATIONS ARE NOT INTENDED TO BE EXACT AND CONTRACTOR MUST VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION.

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4. ALL LIGHTING ON THE SITE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF MIDLAND.  
5. LIGHTING TRESPASS FROM A PROPERTY SHALL NOT EXCEED 1.0 FOOT CANDLES AT THE PROPERTY LINE.  
6. HEIGHT OF LIGHT FIXTURE SHALL NOT EXCEED 10 FEET.

DATE	REVISION
6-3-16	BID SET
6-13-16	ADDED FIRE HYDRANT PER CITY OF MIDLAND REVIEW

DOW FOUNDATION-WHITING FOREST  
MIDLAND, MICHIGAN

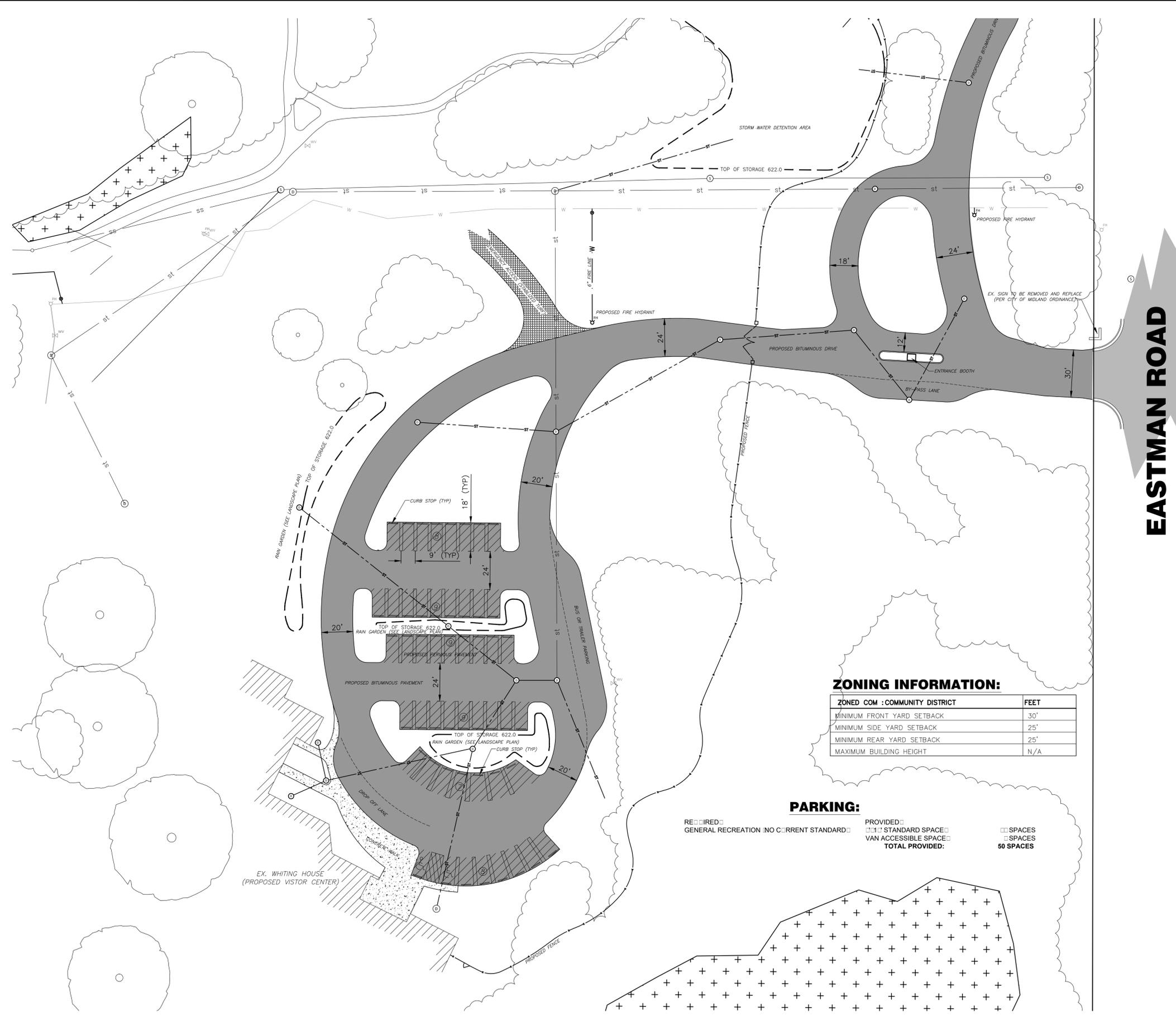


Midland Engineering, Ltd.

## SITE PLAN

DESIGNED BY: J.D.K.      JOB NUMBER: A15123  
DRAWN BY: J.D.K.      DATE OF PLAN: APRIL 2016  
CHECKED BY: J.D.K.      DATE CONSTRUCTED:  
APPROVED BY:      SCALE: 1"=30'  
SHEET 3 OF 7 SHEETS

**C3**



**EASTMAN ROAD**

### ZONING INFORMATION:

ZONED COM : COMMUNITY DISTRICT	FEET
MINIMUM FRONT YARD SETBACK	30'
MINIMUM SIDE YARD SETBACK	25'
MINIMUM REAR YARD SETBACK	25'
MAXIMUM BUILDING HEIGHT	N/A

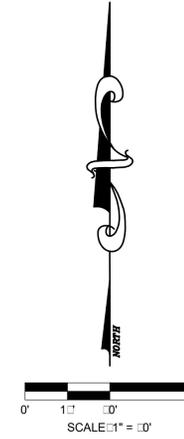
### PARKING:

REQUIRED: GENERAL RECREATION IN CURRENT STANDARD  
PROVIDED: STANDARD SPACE, VAN ACCESSIBLE SPACE  
TOTAL PROVIDED: 50 SPACES

HOURLY  
BEFORE YOU DIG  
CALL MISS DIG  
TOLL FREE  
1-800-487-3372

# SITE PLAN

SITE:  
**WHITING FOREST**  
**WHITING HOUSE-LODGE**  
 MIDLAND, MICHIGAN



### UTILITY INFORMATION:

**ELECTRIC POWER**  
 Consumers Energy  
 1100 Washington  
 Midland, MI 48601  
 Phone: 517-873-1111 Miss Dig

**NATURAL GAS**  
 Consumers Energy  
 1100 Washington  
 Midland, MI 48601  
 Phone: 517-873-1111 Miss Dig

**TELEPHONE/COMMUNICATIONS**  
 AT&T  
 100 S. Washington Street, Room 1000A  
 Saginaw, MI 48601  
 Phone: 517-791-1111 Miss Dig

**CABLE TELEVISION**  
 Charter Communications  
 100 E. Main Street  
 Midland, MI 48601  
 Phone: 517-873-1111

**WATER & WASTEWATER**  
 Water: Wastewater Office  
 P.O. Box 11111  
 1111 W. Ellsworth Street  
 Midland, Michigan 48601  
 Phone: 517-873-1111

### GENERAL NOTES:

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 6. HEIGHT OF LIGHT FIXTURE SHALL NOT EXCEED 10 FEET.

DATE	REVISION
6-3-16	BID SET
6-13-16	ADDED FIRE HYDRANT PER CITY OF MIDLAND REVIEW
6-14-16	REV. PARKING & ADDED YARD BASIN 9&10

DOW FOUNDATION - WHITING FOREST  
 MIDLAND, MICHIGAN

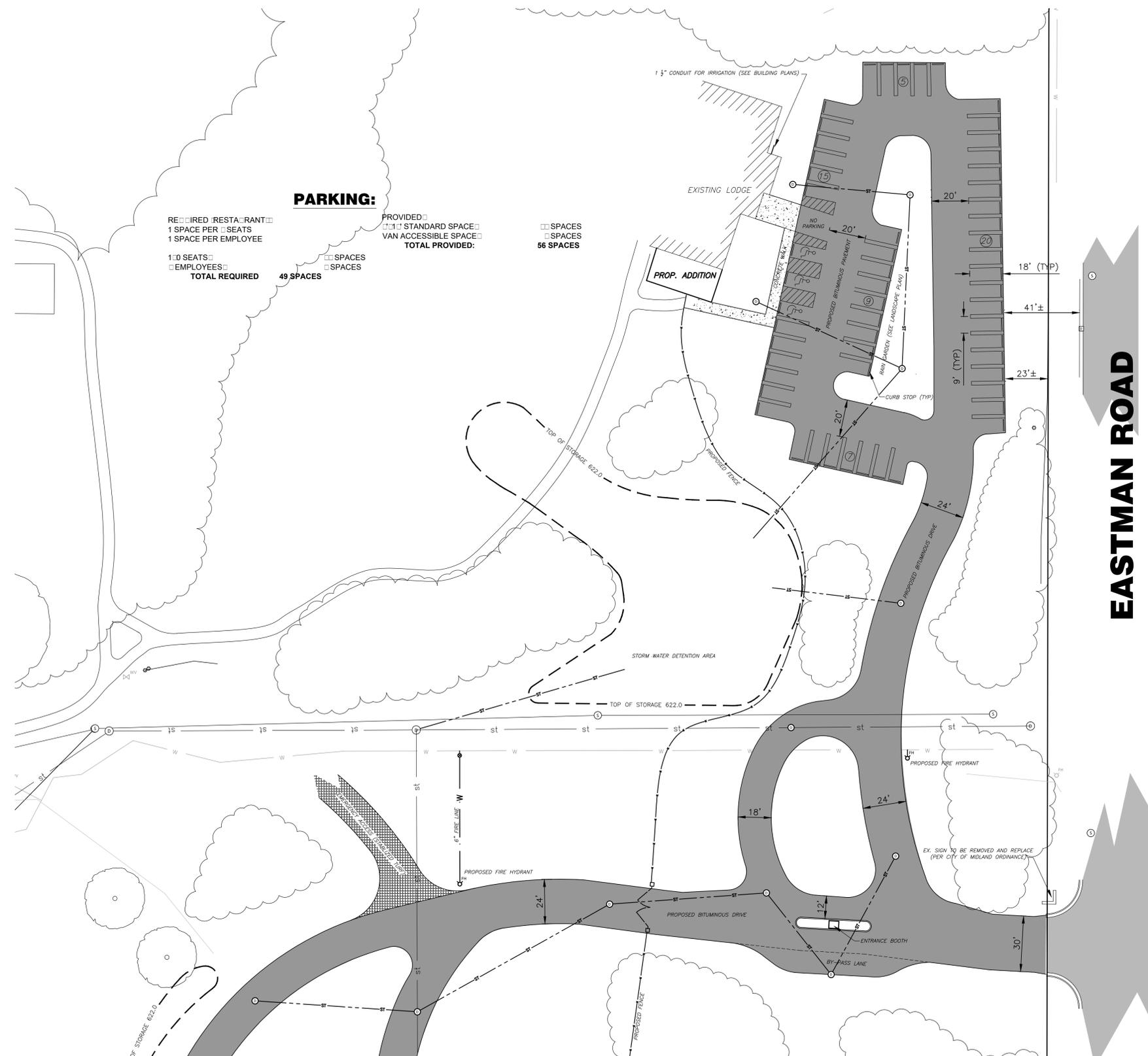


Midland Engineering, Ltd.

## SITE PLAN

DESIGNED BY: J.D.K.      JOB NUMBER: A15123  
 DRAWN BY: J.D.K.      DATE OF PLAN: APRIL 2016  
 CHECKED BY: J.D.K.      DATE CONSTRUCTED:  
 APPROVED BY:      SCALE: 1"=30'  
 SHEET 4 OF 7 SHEETS

**C4**



**PARKING:**

REQUIRED RESTAURANT  
 1 SPACE PER SEAT  
 1 SPACE PER EMPLOYEE

100 SEATS  
 EMPLOYEES  
**TOTAL REQUIRED 49 SPACES**

PROVIDED  
 STANDARD SPACE  
 VAN ACCESSIBLE SPACE  
**TOTAL PROVIDED: 56 SPACES**

SPACES  
 SPACES  
**56 SPACES**

### ZONING INFORMATION:

ZONED COM : COMMUNITY DISTRICT	FEET
MINIMUM FRONT YARD SETBACK	30'
MINIMUM SIDE YARD SETBACK	25'
MINIMUM REAR YARD SETBACK	25'
MAXIMUM BUILDING HEIGHT	N/A

HOURLS  
**BEFORE YOU DIG**  
**CALL MISS DIG**  
 TOLL FREE  
 1-800-487-4874

# GRADING PLAN

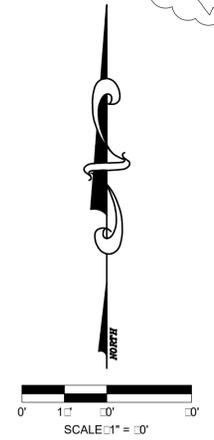
SITE:  
**WHITING FOREST**  
**WHITING HOUSE-VISITOR CENTER**  
 MIDLAND, MICHIGAN



**PROPOSED STRUCTURES:**

<b>CB#8</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 <input type="checkbox"/> CONSTRUCT OVER E. STORM RIM: <input type="checkbox"/> 10 INV 1' N: S: <input type="checkbox"/> 1	<b>CB#13</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' NE: <input type="checkbox"/> 10 INV 1' W: <input type="checkbox"/> 10 INV E: <input type="checkbox"/> N: S: <input type="checkbox"/> 1
<b>CB#9</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV SW: <input type="checkbox"/> 10	<b>CB#14</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV E: <input type="checkbox"/> 10
<b>CB#10</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' NW: <input type="checkbox"/> 10 INV NE: <input type="checkbox"/> 10	<b>CB#15</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' SE: <input type="checkbox"/> 10 INV 1' NW: <input type="checkbox"/> 10
<b>CB#11</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' W: <input type="checkbox"/> 10 INV 1' S: <input type="checkbox"/> 10	<b>CB#16</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' NE: <input type="checkbox"/> 10 INV 1' W: <input type="checkbox"/> 10 INV S: <input type="checkbox"/> 10
<b>CB#12</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' SW: <input type="checkbox"/> 10 INV 1' E: <input type="checkbox"/> 10	<b>CB#17</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV 1' E: <input type="checkbox"/> 10 INV 1' SW: <input type="checkbox"/> 10 INV 1' NW: <input type="checkbox"/> 10
<b>STM#11</b> <input type="checkbox"/> MANHOLE RIM: <input type="checkbox"/> 10 INV N: <input type="checkbox"/> 10	<b>CB#18 (RESTRICTED)</b> <input type="checkbox"/> DIA CONC MANHOLE: E:W 10:0 RIM: <input type="checkbox"/> 10 INV E: <input type="checkbox"/> N: S: <input type="checkbox"/> 1 INV S: <input type="checkbox"/> 1 INV 1' W: <input type="checkbox"/> 1

**EASTMAN ROAD**



HOURS  
**BEFORE YOU DIG**  
**CALL MISS DIG**  
 TOLL FREE  
 0000000000

DATE	REVISION

DOW FOUNDATION—WHITING FOREST  
MIDLAND, MICHIGAN

Midland Engineering, Ltd.

**GRADING PLAN**

DESIGNED BY: J.D.K.	JOB NUMBER: A15123
DRAWN BY: J.D.K.	DATE OF PLAN: APRIL 2016
CHECKED BY: J.D.K.	DATE CONSTRUCTED:
APPROVED BY:	SCALE: 1"=30'
	SHEET 5 OF 7 SHEETS

C5

# GRADING PLAN

SITE:  
**WHITING FOREST  
 WHITING HOUSE-LODGE**  
 MIDLAND, MICHIGAN



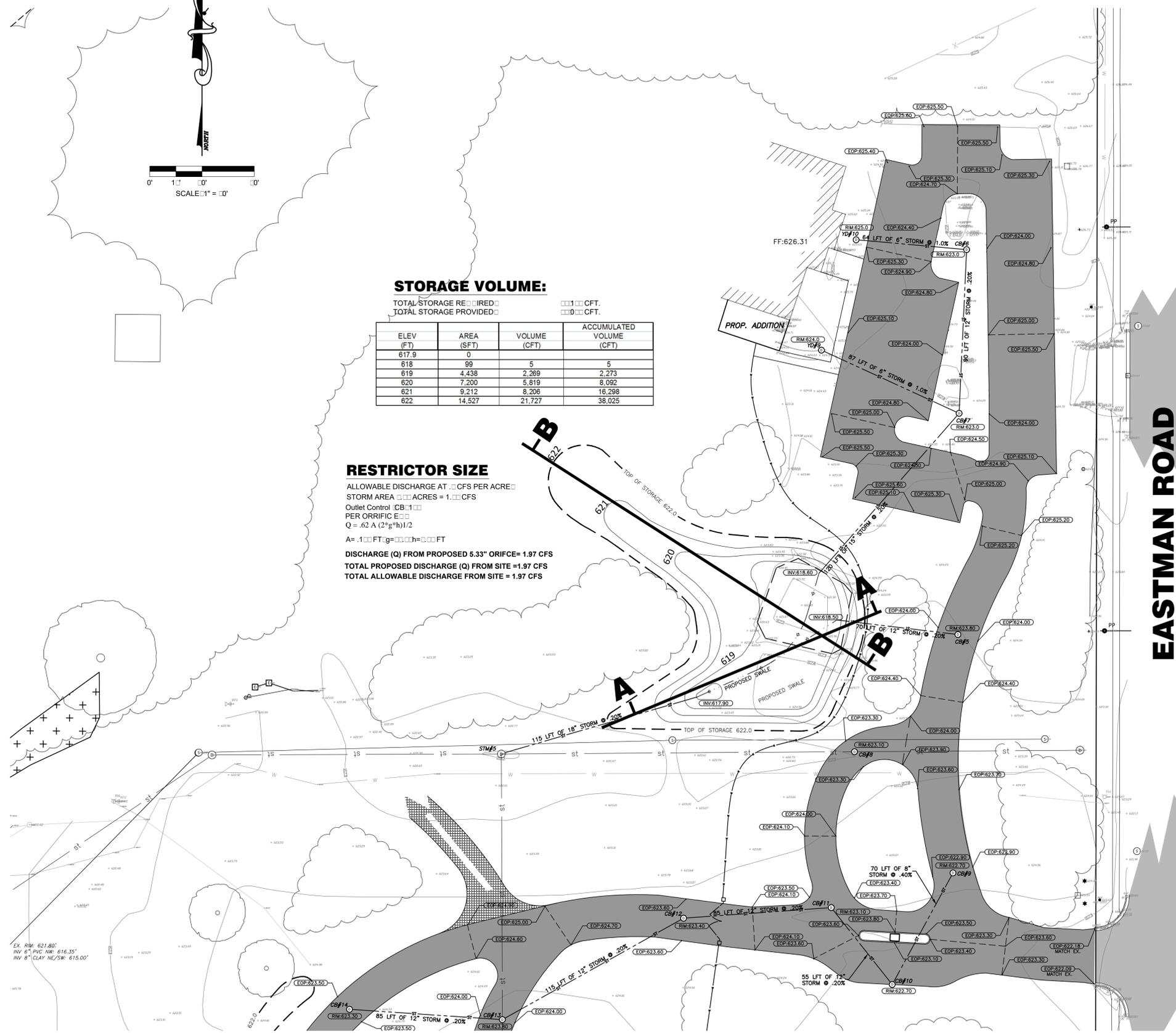
### STORAGE VOLUME:

TOTAL STORAGE REQUIRED  CFT.  
 TOTAL STORAGE PROVIDED  CFT.

ELEV (FT)	AREA (SFT)	VOLUME (CFT)	ACCUMULATED VOLUME (CFT)
617.9	0	5	5
618	99	2,269	2,273
619	4,438	5,819	8,092
620	7,200	8,206	16,298
621	9,212	21,727	38,025
622	14,527		

### RESTRICTOR SIZE

ALLOWABLE DISCHARGE AT  CFS PER ACRE  
 STORM AREA  ACRES = 1.00 CFS  
 Outlet Control CB#1  
 PER ORRIFIC E   
 $Q = .62 A (2g^2h)^{1/2}$   
 $A = .100 \text{ FT} \times .000 \text{ FT} = .000 \text{ FT}^2$   
 DISCHARGE (Q) FROM PROPOSED 5.33" ORIFCE = 1.97 CFS  
 TOTAL PROPOSED DISCHARGE (Q) FROM SITE = 1.97 CFS  
 TOTAL ALLOWABLE DISCHARGE FROM SITE = 1.97 CFS



### PROPOSED STRUCTURES:

- CB#5**  
 DIA CONC MANHOLE  W 10"   
 RIM      
 INV 1" W
- CB#6**  
 DIA CONC MANHOLE  W 10"   
 RIM      
 INV 1" S      
 INV  W
- CB#7**  
 DIA CONC MANHOLE  W 10"   
 RIM      
 INV 1" SE      
 INV 1" N      
 INV  NW
- CB#8**  
 DIA CONC MANHOLE  W 10"   
 CONSTRUCT OVER E. STORM   
 RIM      
 E. INV 1" N/S
- CB#9**  
 DIA CONC MANHOLE  W 10"   
 RIM      
 INV  SW
- CB#10**  
 DIA CONC MANHOLE  W 10"   
 RIM      
 INV 1" NW      
 INV  NE
- CB#11**  
 DIA CONC MANHOLE  W 10"   
 RIM      
 INV 1" W      
 INV 1" S
- YD#9**  
 DIA YARD BASIN   
 RIM      
 INV  SE
- YD#10**  
 DIA YARD BASIN   
 RIM      
 INV  E

DATE	REVISION
6-3-16	BID SET
6-14-16	ADDED YARD BASIN 9&10

DOW FOUNDATION—WHITING FOREST  
 MIDLAND, MICHIGAN



Midland Engineering, Ltd.

# GRADING PLAN

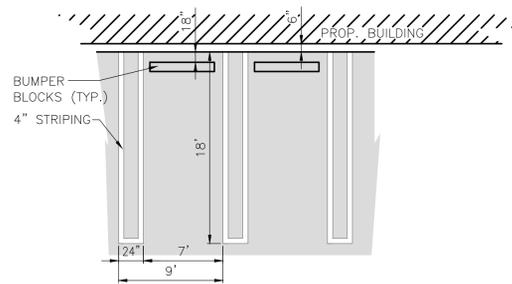
DESIGNED BY: J.D.K.    JOB NUMBER: A15123  
 DRAWN BY:            DATE OF PLAN: APRIL 2016  
 CHECKED BY: J.D.K.    DATE CONSTRUCTED:  
 APPROVED BY:        SCALE: 1" = 30'  
                                  SHEET 6 OF 7 SHEETS

**C6**

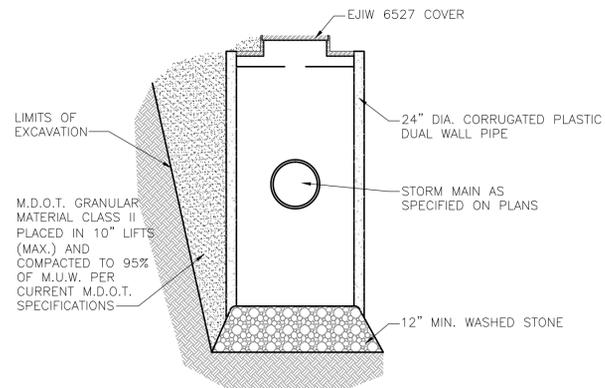
HOURS  
**BEFORE YOU DIG  
 CALL MISS DIG**  
 TOLL FREE

# DETAILS

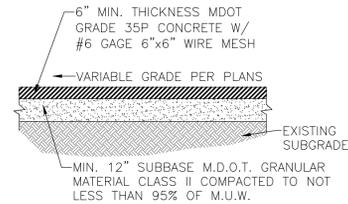
SITE:  
**WHITING FOREST  
WHITING HOUSE/LODGE**  
MIDLAND, MICHIGAN



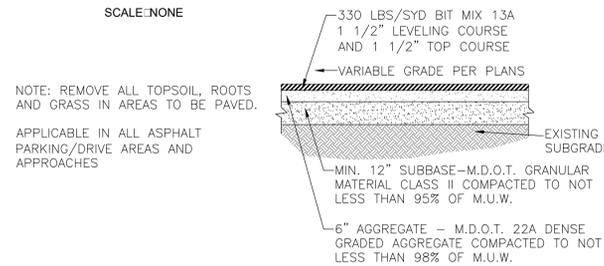
**TYPICAL PARKING DETAIL**  
SCALE: NONE



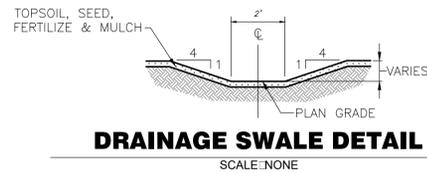
**2' DIA. YARD BASIN**  
SCALE: NONE



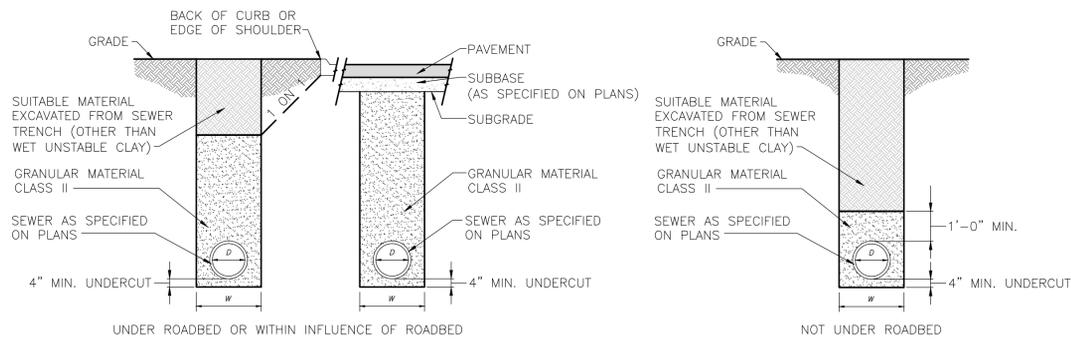
**CONCRETE PAVEMENT DETAIL**  
SCALE: NONE



**BITUMINOUS PAVEMENT DETAIL**  
SCALE: NONE



**DRAINAGE SWALE DETAIL**  
SCALE: NONE

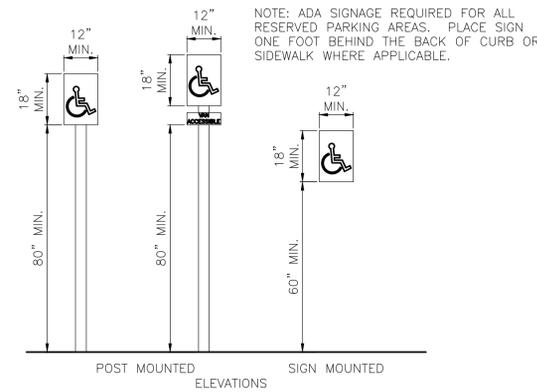


**SEWER TRENCHES**  
SCALE: NONE

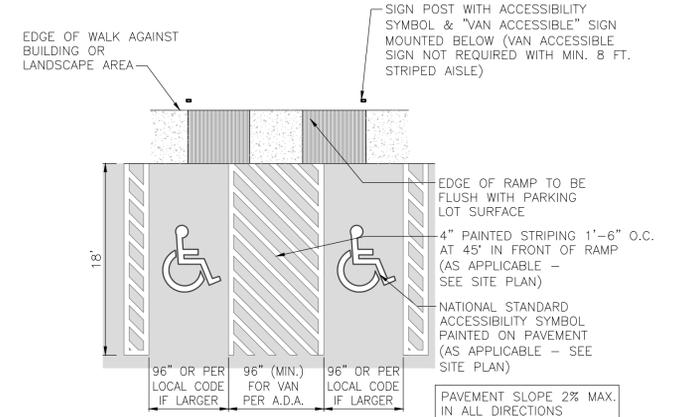
MINIMUM TRENCH WIDTHS

I.D. PIPE SIZE (INCHES)	LESS THAN 18	21	24	30	36	
"W" TRENCH WIDTH (INCHES)	3.0	3.5	4.0	5.0	6.0	
I.D. PIPE SIZE (INCHES)	42	48	54	60	66	72
"W" TRENCH WIDTH (INCHES)	7.0	8.0	9.5	10.0	10.5	11.0
I.D. PIPE SIZE (INCHES)	78	84	90	96	102	108
"W" TRENCH WIDTH (INCHES)	11.5	12.0	12.5	13.0	13.5	14.0

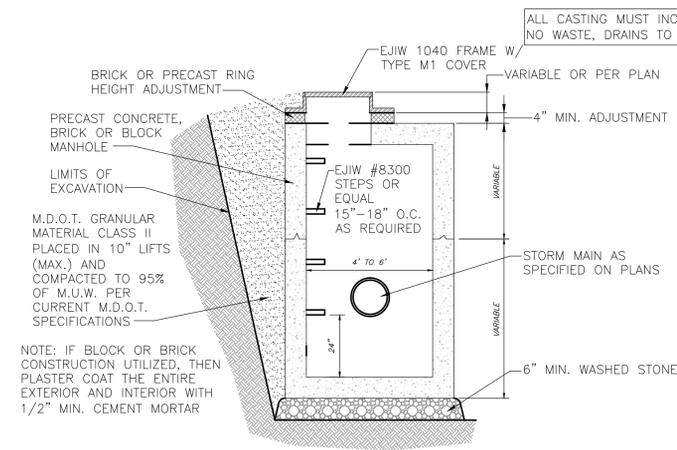
ESTIMATED PAVEMENT REMOVAL WIDTH IS TO BE TRENCH WIDTH "W" PLUS 1'-0" EACH SIDE OF THE TRENCH (6'-0" MINIMUM)



NOTE: ADA SIGNAGE REQUIRED FOR ALL RESERVED PARKING AREAS. PLACE SIGN ONE FOOT BEHIND THE BACK OF CURB OR SIDEWALK WHERE APPLICABLE.



**TYPICAL A.D.A. PARKING DETAIL**  
SCALE: NONE



**CATCH BASIN WITH SUMP**  
SCALE: NONE

DATE	REVISION

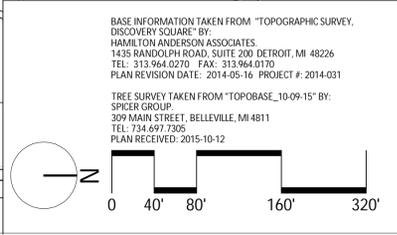
DOW FOUNDATION—WHITING FOREST  
MIDLAND, MICHIGAN



Midland Engineering, Ltd.

# DETAILS

DESIGNED BY: J.D.K.    JOB NUMBER: A15123  
 DRAWN BY: J.D.K.    DATE OF PLAN: APRIL 2016  
 CHECKED BY: J.D.K.    DATE CONSTRUCTED:  
 APPROVED BY:    SCALE:    SHEET 7 OF 7 SHEETS



BASE INFORMATION TAKEN FROM "TOPOGRAPHIC SURVEY, DISCOVERY SQUARE" BY:  
HAMILTON ANDERSON ASSOCIATES  
1435 RANDOLPH ROAD, SUITE 200, DETROIT, MI 48226  
TEL: 313.964.0270 FAX: 313.964.0170  
PLAN REVISION DATE: 2014-05-16 PROJECT #: 2014-031

TREE SURVEY TAKEN FROM "TOPOBASE\_10-09-15" BY:  
SPICER GROUP  
309 MAIN STREET, BELLEVILLE, MI 48111  
TEL: 734.697.7305  
PLAN RECEIVED: 2015-10-12

PROGRESS SET 2016-06-17

Sheet Title:  
**MASTER\_PLAN**  
**TITLE\_SHEET**

Sheet No.:  
**L-001**  
MA&D Proj. No.:

Issue:	Date:
SD Pricing set	03-09-16
80% Construction Documentation	05-20-16
95% Construction Documentation	06-03-16

Revisions:

**General Notes:**

- Contractors to be responsible for field verification of dimensions.
- Notify architects immediately if any conflicts before proceeding with work.

Client: **DOW GARDENS / WHITING FOREST**

Project: **SITE PLAN APPLICATION**

Address: **2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

**Consultants**

ARCHITECT:  
Metcalfe Architecture & Design, LLC  
215-557-9200

STR. ENG.  
CMA Prof. Services  
610-989-3800

MEP ENG.  
MacMillan Assoc., Inc.  
989-894-4300

LANDSCAPE: Jonathan Alderson Landscape Architects Inc  
610-341-9925

**JONATHAN ALDERSON**  
LANDSCAPE ARCHITECT

P.O. Box 661  
Whyte, PA 19087  
610-341-9925



- Key:
- ① St. Andrew's Pedestrian Bridge
  - ② Realigned Creek
  - ③ Proposed Wetland
  - ④ Amphitheater
  - ⑤ Maintenance Yard
  - ⑥ Maintenance Garage
  - ⑦ Forest Classroom
  - ⑧ Reflective Pond
  - ⑨ Council Ring
  - ⑩ Existing Tree House
  - ⑪ Canopy Walk
  - ⑫ Stumpery
  - ⑬ Play Area
  - ⑭ The Lodge
  - ⑮ Lodge Parking
  - ⑯ Entrance Sign
  - ⑰ Ticket Booth
  - ⑱ Orchard
  - ⑲ Emergency Access - Reinforced Turf, Irrigated and Mowed Weekly
  - ⑳ Lawn
  - ㉑ Visitor's Center Parking
  - ㉒ Whiting House Visitor Center
  - ㉓ Library Pedestrian Bridge
  - ★ Knox Box Locations
  - Planting Beds
  - ▨ No Mow Fescue - To Be Mowed Twice Yearly

BASE INFORMATION TAKEN FROM "TOPOGRAPHIC SURVEY, DISCOVERY SQUARE" BY:  
 HAMILTON ANDERSON ASSOCIATES  
 1435 RANDOLPH ROAD, SUITE 200, DETROIT, MI 48226  
 TEL: 313.964.0270, FAX: 313.964.0170  
 PLAN REVISION DATE: 2014-05-16, PROJECT #: 2014-031

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 SPICER GROUP  
 309 MAIN STREET, BELLEVILLE, MI 48111  
 TEL: 734-697-7305  
 PLAN RECEIVED: 2015-10-12

**JONATHAN ALDERSON LANDSCAPE ARCHITECTS**

P.O. Box 661  
 Whyte, PA 19087  
 610-341-9925

**Consultants**

ARCHITECT:  
 Metcalfe Architecture & Design, LLC  
 215-557-9200

STR. ENG.  
 CMA Prof. Services  
 610-989-3800

MEP ENG.  
 MacMillan Assoc., Inc.  
 989-894-4300

LANDSCAPE ARCHITECT  
 Jonathan Alderson, Landscape Architects, Inc.  
 610-341-9925

Client: **DOW GARDENS / WHITING FOREST**

Project: **SITE PLAN APPLICATION**

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 MIDLAND, MI 48640**

**General Notes:**

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Issue:	Date:
SD Pricing set	03-09-16
80% Construction Documentation	05-20-16
95% Construction Documentation	06-03-16

Revisions:

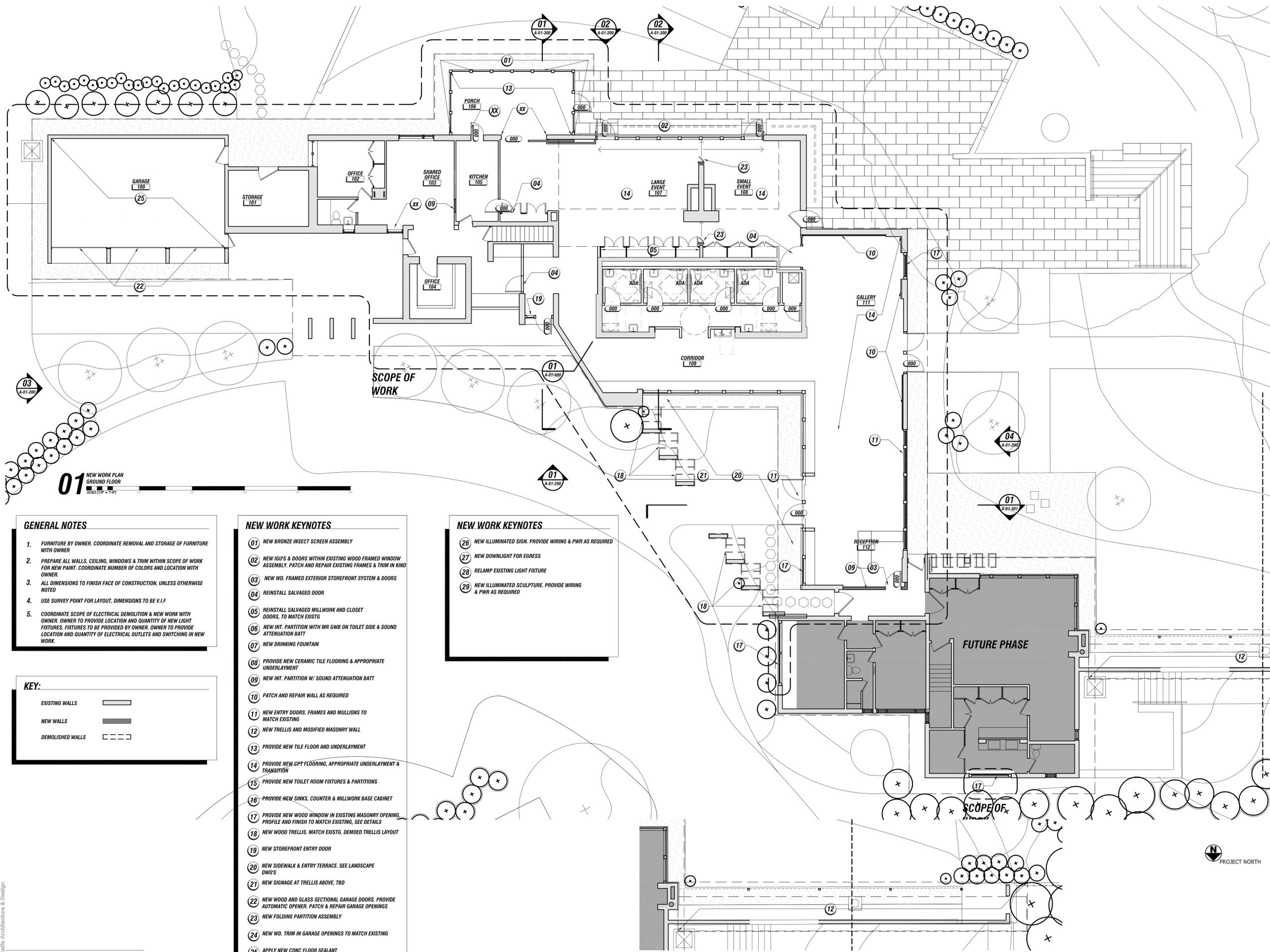
Sheet Title:  
**MASTER\_PLAN  
 KEY\_SHEET**

Sheet No.:  
**L-002**

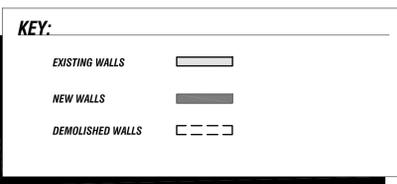
MA&D Proj. No.:

PROGRESS SET 2016-06-17





- GENERAL NOTES**
- FURNITURE BY OWNER. COORDINATE REMOVAL AND STORAGE OF FURNITURE WITH OWNER.
  - PREPARE ALL WALLS, CEILING, WINDOWS & TRIM WITHIN SCOPE OF WORK FOR NEW PAINT. COORDINATE NUMBER OF COLORS AND LOCATION WITH OWNER.
  - ALL DIMENSIONS TO FINISH FACE OF CONSTRUCTION, UNLESS OTHERWISE NOTED.
  - USE SURVEY POINT FOR LAYOUT, DIMENSIONS TO BE V.I.F.
  - COORDINATE SCOPE OF ELECTRICAL DEMOLITION & NEW WORK WITH OWNER. OWNER TO PROVIDE LOCATION AND QUANTITY OF NEW LIGHT FIXTURES. FIXTURES TO BE PROVIDED BY OWNER. OWNER TO PROVIDE LOCATION AND QUANTITY OF ELECTRICAL OUTLETS AND SWITCHING IN NEW WORK.



- NEW WORK KEYNOTES**
- NEW BRONZE INSECT SCREEN ASSEMBLY
  - NEW IGUS & DOORS WITHIN EXISTING WOOD FRAMED WINDOW ASSEMBLY. PATCH AND REPAIR EXISTING FRAMES & TRIM IN KIND
  - NEW WD. FRAMED EXTERIOR STOREFRONT SYSTEM & DOORS
  - REINSTALL SALVAGED DOOR
  - REINSTALL SALVAGED MILLWORK AND CLOSET DOORS. TO MATCH EXISTG
  - NEW INT. PARTITION WITH MR GWB ON TOILET SIDE & SOUND ATTENUATION BATT
  - NEW DRINKING FOUNTAIN
  - PROVIDE NEW CERAMIC TILE FLOORING & APPROPRIATE UNDERLAYMENT
  - NEW INT. PARTITION W/ SOUND ATTENUATION BATT
  - PATCH AND REPAIR WALL AS REQUIRED
  - NEW ENTRY DOORS. FRAMES AND MULLIONS TO MATCH EXISTING
  - NEW TRELLIS AND MODIFIED MASONRY WALL
  - PROVIDE NEW TILE FLOOR AND UNDERLAYMENT
  - PROVIDE NEW CPT FLOORING, APPROPRIATE UNDERLAYMENT & TRANSITION
  - PROVIDE NEW TOILET ROOM FIXTURES & PARTITIONS
  - PROVIDE NEW SINKS, COUNTER & MILLWORK BASE CABINET
  - PROVIDE NEW WOOD WINDOW IN EXISTING MASONRY OPENING. PROFILE AND FINISH TO MATCH EXISTING. SEE DETAILS
  - NEW WOOD TRELLIS. MATCH EXISTG. DEMOED TRELLIS LAYOUT
  - NEW STOREFRONT ENTRY DOOR
  - NEW SIDEWALK & ENTRY TERRACE. SEE LANDSCAPE DWG'S
  - NEW SIGNAGE AT TRELLIS ABOVE, TBD
  - NEW WOOD AND GLASS SECTIONAL GARAGE DOORS. PROVIDE AUTOMATIC OPENER. PATCH & REPAIR GARAGE OPENINGS
  - NEW FOLDING PARTITION ASSEMBLY
  - NEW WD. TRIM IN GARAGE OPENINGS TO MATCH EXISTING
  - APPLY NEW CONC FLOOR SEALANT

- NEW WORK KEYNOTES**
- NEW ILLUMINATED SIGN. PROVIDE WIRING & PWR AS REQUIRED
  - NEW DOWNLIGHT FOR EGRESS
  - RELAMP EXISTING LIGHT FIXTURE
  - NEW ILLUMINATED SCULPTURE. PROVIDE WIRING & PWR AS REQUIRED

**02** NEW WORK PLAN GROUND FLOOR SCALE (1/8" = 1'-0")

**01** NEW WORK PLAN GROUND FLOOR SCALE (1/8" = 1'-0")

**METCALFE**  
ARCHITECTURE & DESIGN, LLC

271 N. 13th Street  
Suite 303  
Philadelphia, PA 19107  
V 215 257 3200

**Consultants**

LANDSCAPE ARCH:  
Jonathan Allerson  
JALA, Inc  
610-341-9925

STRUCTURAL ENGINEER:  
Robert Schaeffer  
CIVIL  
670 989 3400

MEP ENG:  
McMillan Associates  
988-804-4300

Client: **DOW GARDENS / WHITING FOREST**

Project: **PROJECT 01**

**NEW VISITORS CENTER**

Address: **2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

**General Notes:**

- Contractors to be responsible for field verification of dimensions.
- Notify architect immediately if any conflicts or errors are discovered during construction.

**Issue:** SD Pricing Set 03-09-16  
Design Development 50% Set 04-16-16  
Design Development 100% Set 05-13-16

**Date:** 03-09-16 04-16-16 05-13-16

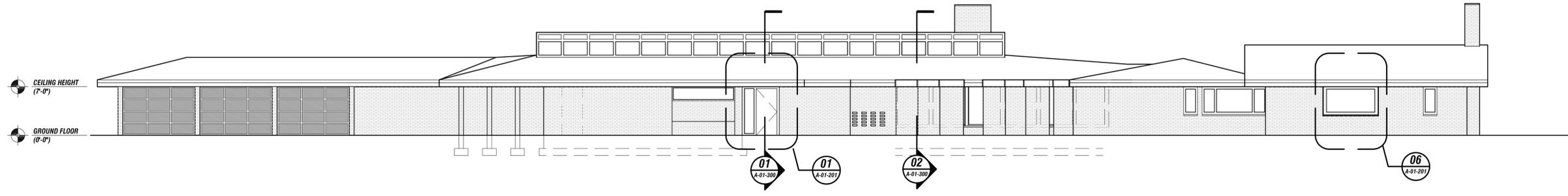
**Revisions:**

**Dwg. Title:** PROJECT 01 - VISITORS CENTER  
NEW WORK PLAN  
GROUND FLOOR

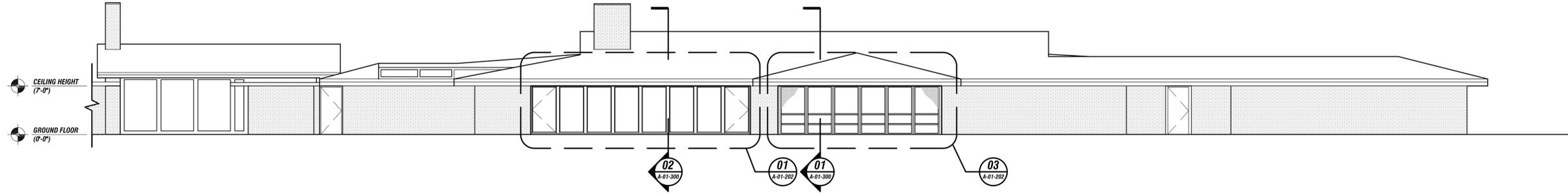
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MA&D Proj. No.: 1476

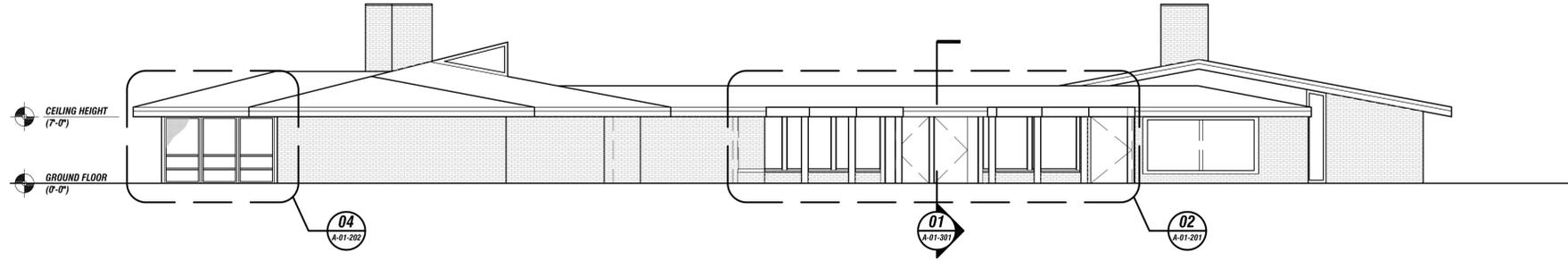
100% DESIGN DEVELOPMENT 05-13-16 / NOT FOR CONSTRUCTION



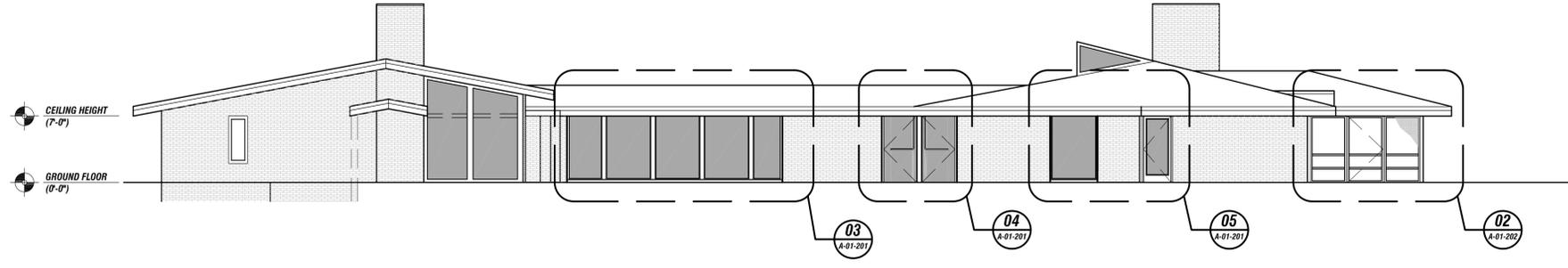
**01** NORTH ELEVATION - VISITOR'S CENTER  
SCALE (1/8" = 1'-0")



**02** SOUTH ELEVATION - VISITOR'S CENTER  
SCALE (1/8" = 1'-0")



**03** EAST ELEVATION - VISITOR'S CENTER  
SCALE (1/8" = 1'-0")



**04** WEST ELEVATION - VISITOR'S CENTER  
SCALE (1/8" = 1'-0")

- NEW WORK KEYNOTES**
- 01 NEW BRONZE INSECT SCREEN ASSEMBLY
  - 02 NEW IGUS & DOORS WITHIN EXISTING WOOD FRAMED WINDOW ASSEMBLY. PATCH AND REPAIR EXISTING FRAMES & TRIM IN KIND
  - 03 NEW WD. FRAMED EXTERIOR STOREFRONT SYSTEM & DOORS
  - 04 REINSTALL SALVAGED DOOR
  - 05 REINSTALL SALVAGED MILLWORK AND CLOSET DOORS, TO MATCH EXISTG
  - 06 NEW INT. PARTITION WITH MR GWB ON TOILET SIDE & SOUND ATTENUATION BATT
  - 07 NEW DRINKING FOUNTAIN
  - 08 PROVIDE NEW CERAMIC TILE FLOORING & APPROPRIATE UNDERLAYMENT
  - 09 NEW INT. PARTITION W/ SOUND ATTENUATION BATT
  - 10 PATCH AND REPAIR WALL AS REQUIRED
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  - 12 NEW TRELLIS AND MODIFIED MASONRY WALL
  - 13 PROVIDE NEW TILE FLOOR AND UNDERLAYMENT
  - 14 PROVIDE NEW CPT FLOORING, APPROPRIATE UNDERLAYMENT & TRANSITION
  - 15 PROVIDE NEW TOILET ROOM FIXTURES & PARTITIONS
  - 16 PROVIDE NEW SINKS, COUNTER & MILLWORK BASE CABINET
  - 17 PROVIDE NEW WOOD WINDOW IN EXISTING MASONRY OPENING. PROFILE AND FINISH TO MATCH EXISTING, SEE DETAILS
  - 18 NEW WOOD TRELLIS. MATCH EXISTG. DEMOED TRELLIS LAYOUT
  - 19 NEW STOREFRONT ENTRY DOOR
  - 20 NEW SIDEWALK & ENTRY TERRACE. SEE LANDSCAPE DWG'S
  - 21 NEW SIGNAGE AT TRELLIS ABOVE, TBD
  - 22 PATCH & REPAIR GARAGE OPENINGS
  - 23 NEW FOLDING PARTITION ASSEMBLY
  - 24 NEW WD. TRIM IN GARAGE OPENINGS TO MATCH EXISTING
  - 25 APPLY NEW CONC FLOOR SEALANT

**METCALFE**  
ARCHITECTURE & DESIGN, LLC

271 N. 13th Street  
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Philadelphia, PA 19107  
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**Consultants**

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610-341-9925

STRUCTURAL ENGINEER:  
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CIVIL  
610 989 3400

MEP ENG:  
McWilliam Associates  
988-804-4300

Client: **DOW GARDENS / WHITING FOREST**

Project: **PROJECT 01**

**NEW VISITORS CENTER**

Address: **2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

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**100% DESIGN DEVELOPMENT 05-13-16 / NOT FOR CONSTRUCTION**

Issue:	Date:
SD Pricing Set	03-09-16
Design Development 50% Set	04-16-16
Design Development 100% Set	05-13-16

Revisions:

Dwg. Title: **PROJECT 01 - VISITORS CENTER**

**NEW WORK**

EXTERIOR ELEVATIONS

Dwg. No.: **A-01-200**

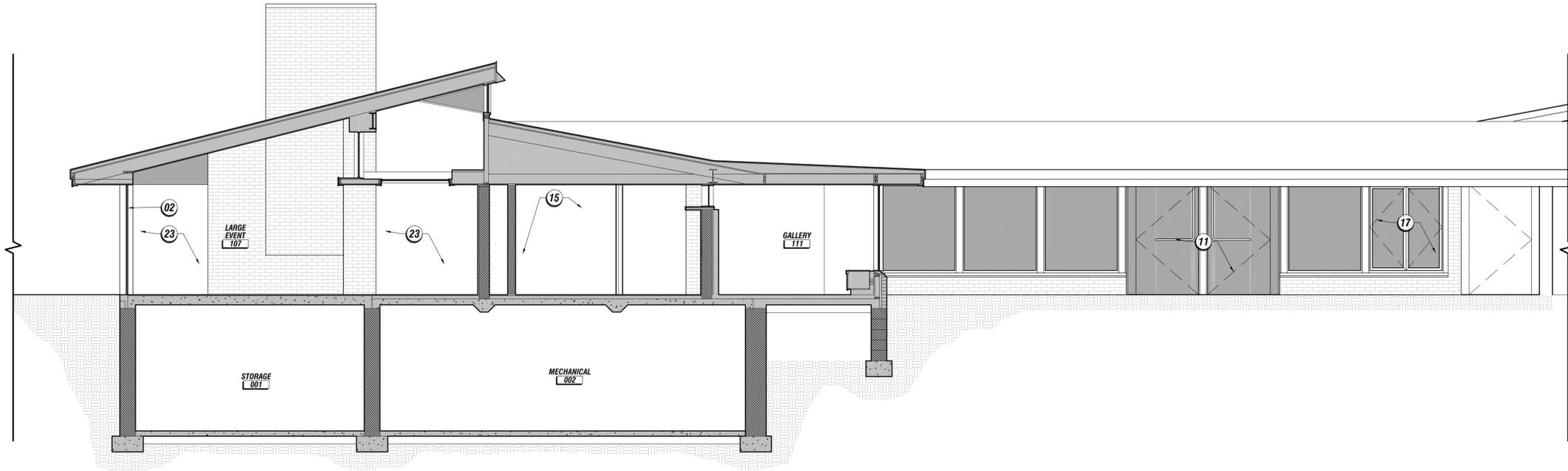
MA&D Proj. No.: **1476**

CHIMNEY  
(16'-8")

FIN CEILING  
(7'-0")

GROUND FLOOR  
(0'-0")

BASEMENT  
(-8'-8")



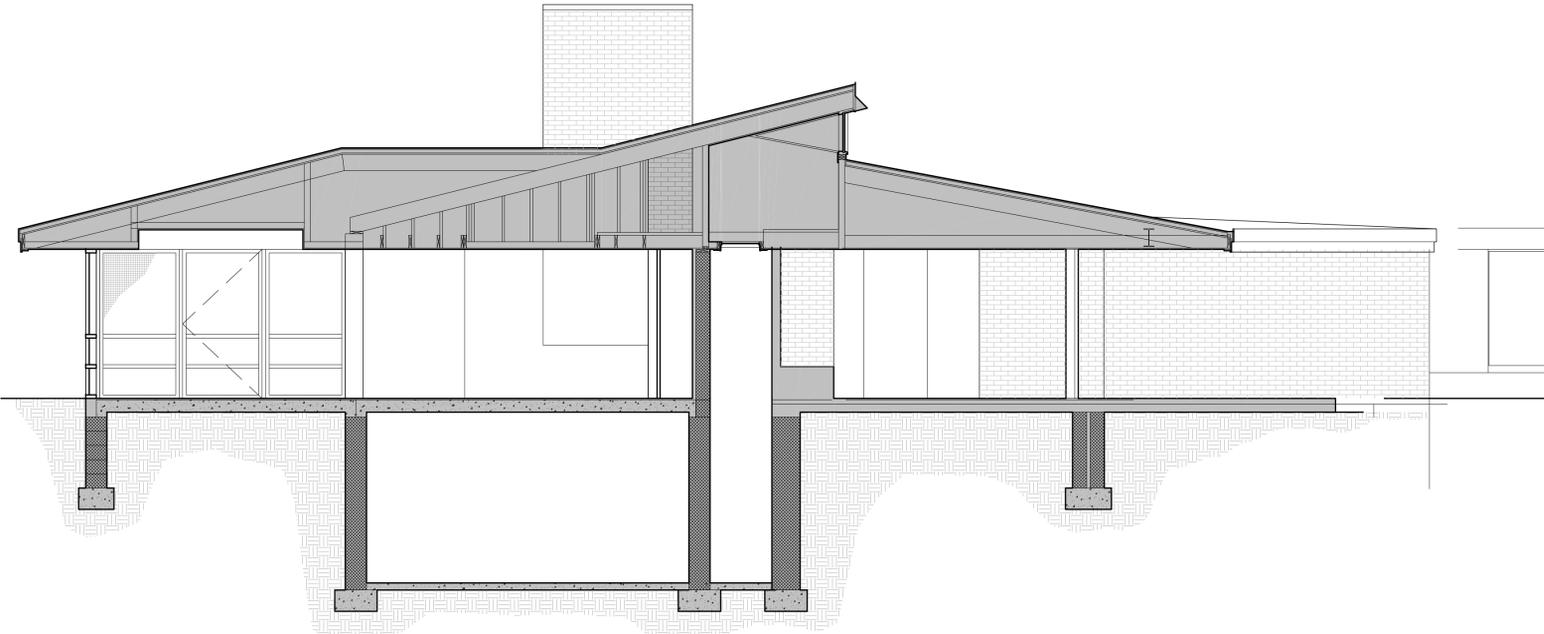
**02** NORTH - SOUTH  
BUILDING SECTION  
SCALE (1/4" = 1'-0")

GROUND FLOOR  
(0'-0")

FIN CEILING  
(0'-0")

GROUND FLOOR  
(0'-0")

BASEMENT  
(0'-0")



**01** NORTH - SOUTH  
BUILDING SECTION  
SCALE (1/4" = 1'-0")

**NEW WORK KEYNOTES**

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Client: **DOW GARDENS / WHITING FOREST**

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MIDLAND, MI 48640**

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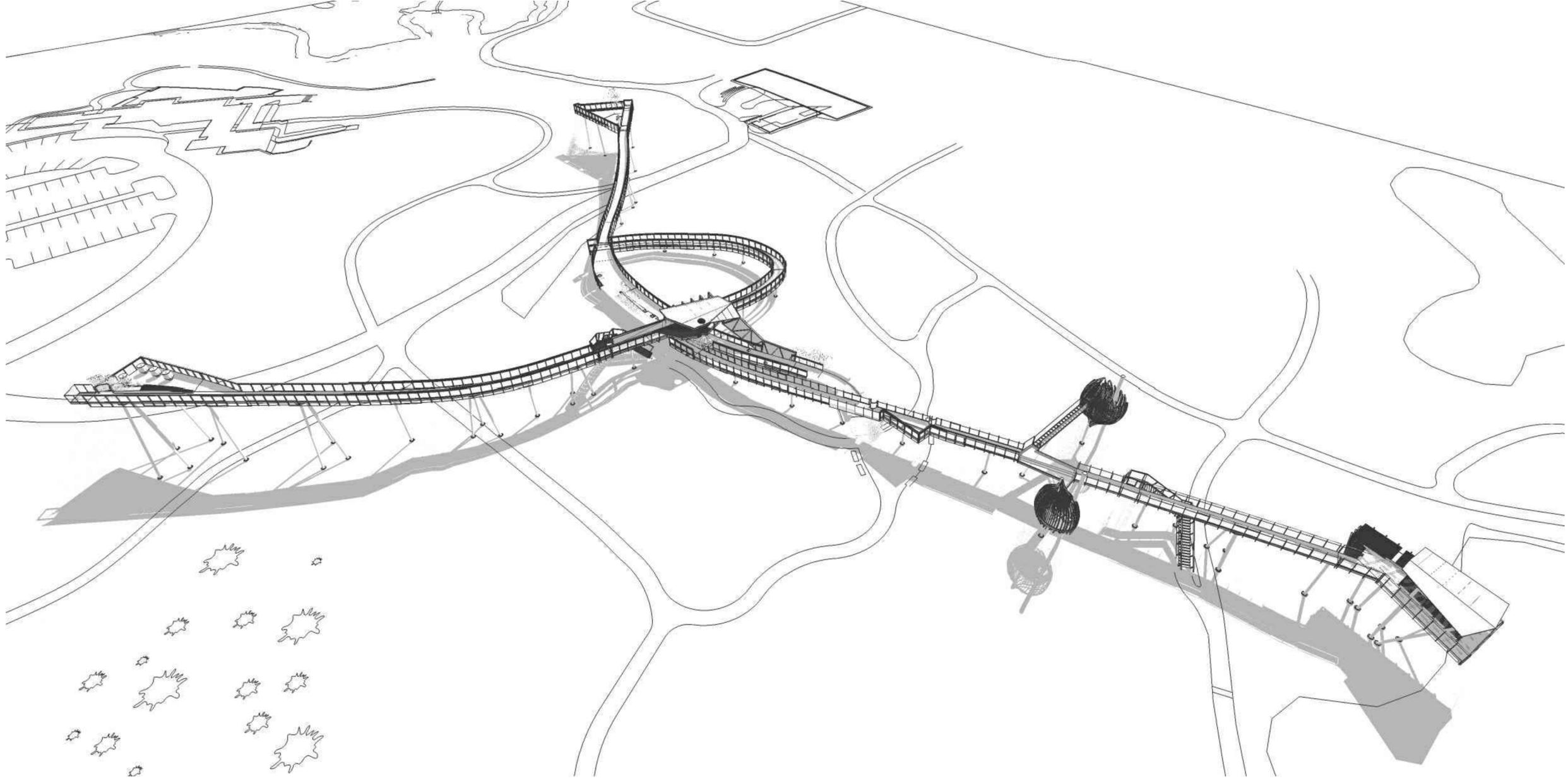
**100% DESIGN DEVELOPMENT 05-13-16 / NOT FOR CONSTRUCTION**

Issue:	Date:
SD Pricing Set	03-09-16
Design Development 50% Set	04-16-16
Design Development 100% Set	05-13-16

Revisions:

**Dwg. Title:**  
PROJECT 01 - VISITORS CENTER  
NEW WORK  
BUILDING SECTIONS

**Dwg. No.:**  
**A-01-300**  
MA&D Proj. No.: 1476



100% DESIGN DEVELOPMENT / NOT FOR CONSTRUCTION- ISSUED 05-13-2016

Sheet Title:  
**CANOPY WALK**  
**OVERALL**  
**3D MASSING VIEW**  
 Sheet No.:  
**A-04-000**  
 MA&D Proj. No.: 1476

Issue:	Date:
3D Pricing Set	02-26-16
50% DD Set	04-16-16
100% DD Set	05-13-16

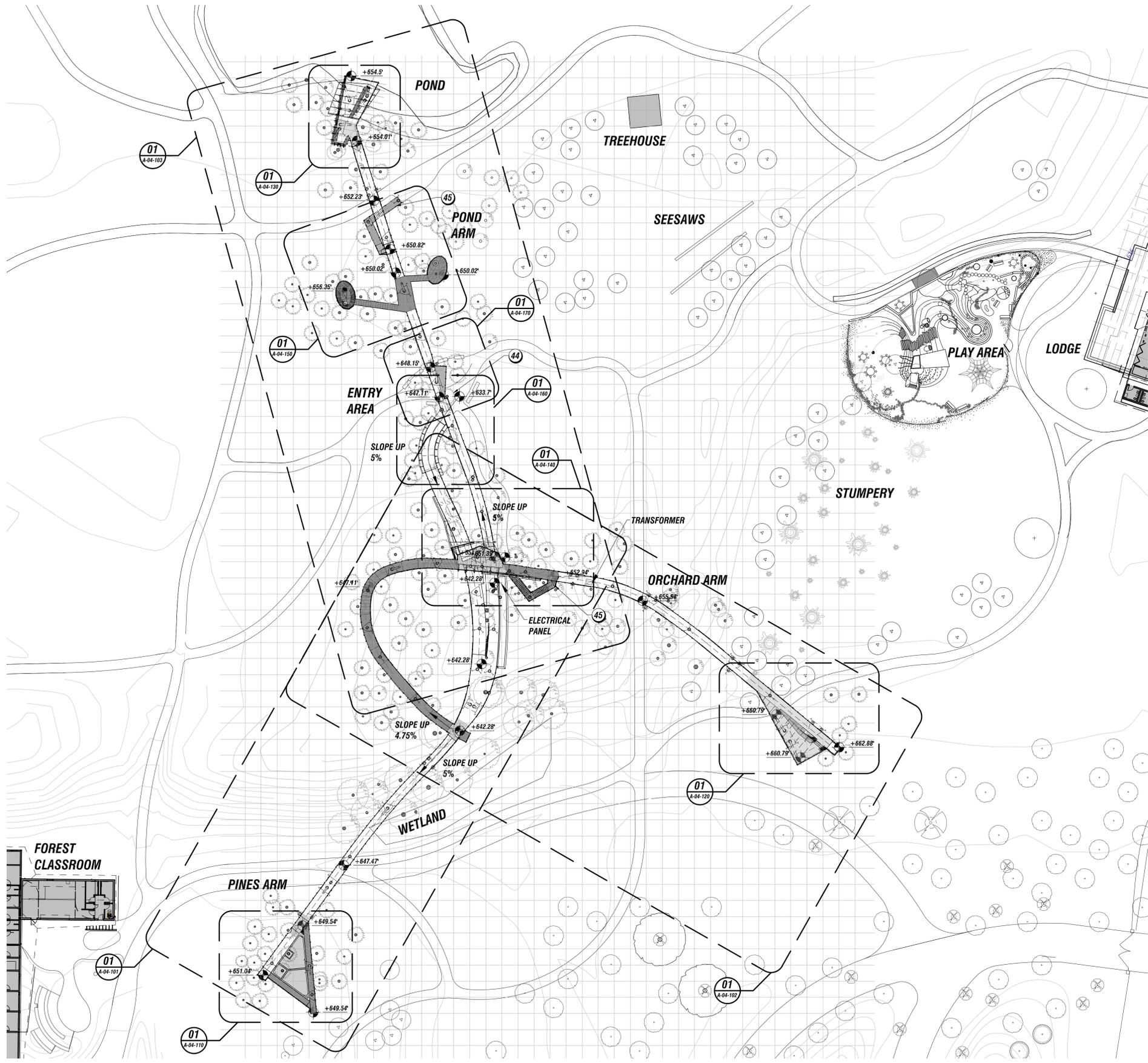
Revisions:

General Notes:  
 1. Contractors to be responsible for field verification of dimensions.  
 2. Notify architect immediately for any omissions before proceeding with work.

Client: **DOW GARDENS / WHITING FOREST**  
 Project: **PROJECT 04**  
**CANOPY WALK**  
 Address: **2303 N. EASTMAN RD.**  
**MIDLAND, MI 48640**

Consultants  
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 STRUCTURAL ENGINEER:  
 Robert Schaeffer  
 CVM  
 670 989 3400  
 MEP ENG:  
 MacMillan Associates  
 989-824-4300

  
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 V 215 527 3820



**01** CANOPY WALK DECK PLAN  
 3/24/16 (REV. 1-17)

**CANOPY WALK KEYNOTES**

- 01 ½" IPE DECKING OVER IPE WD. NAILER OVER PTD. STEEL STRUCTURAL FRAME. SEE STRUCT. FOR ADDITIONAL INFORMATION.
- 02 1"x4"x1" METAL GRATING, PTD. OVER STRUCTURAL FRAME. SEE STRUCTURAL DWG FOR ADDITIONAL INFORMATION.
- 03 STEEL GUARDRAIL ASSEMBLY, 1"x3" T.S. SUPPORTS, PTD. INFILL TBD.
- 04 ½" DIA. STEEL ROD RAIL ASSEMBLY, PTD. PROVIDE HORIZONTAL STEEL RAILS TO SECURE FOR GUARDRAIL.
- 05 STACKED STONE WALL ASSEMBLY. STEPPED TOP.
- 06 NEW POROUS PAVE SURFACE. SLOPE UP TO MEET DECK. SEE LANDSCAPE DWGS.
- 07 GRADE ENTRY TO MEET GRATING.
- 08 ½" DIA. STEEL ROD ASSEMBLY ON STEEL BASE PLATE, PTD.
- 09 STEEL TUBE POSTS ON CONC. PILE CAPS, BELOW, SEE STRUCTURAL DWGS FOR ADDITIONAL INFORMATION.
- 10 POND ARM ABOVE
- 11 STONE CLAD CONCRETE HEADWALL BELOW DECK, SEE STRUCTURAL FOR ADDITIONAL INFORMATION.
- 12 MULCH PATH TO ACCESS STAIR, SEE LANDSCAPE DWGS.
- 13 ADA PATH. SEE LANDSCAPE DWGS.
- 14 TREE TRUNK. ALLOW 8" GAP, MODIFY FRAMING AS REQUIRED.
- 15 INVISINET MESH AND T.S. RAIL, PTD.
- 16 IPE SEAT BENCH OVER STEEL FRAME WITH OPERABLE LID AT SEAT. METAL BASKET MOUNTED INSIDE FRAME. USE S.S. HARDWARE, TYP.
- 17 IPE SLAT WALL
- 18 IPE WD. FRAMING WITH EXPOSED STEEL FASTENERS FOR ROOF STRUCTURE. SLOPED STANDING SEAM METAL ROOF.
- 19 NOT USED
- 20 ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY. SECURE TO STRUCTURE AT EDGE OF NET AREA.
- 21 METAL FRAMED COLLAR, PTD. AT EXISTING TREES TO REMAIN, PROVIDE FLEXIBLE NETTING INFILL BETWEEN COLLAR AND TREE.
- 22 IPE WD. WITH RADIUS EDGE AT NET.
- 23 STRUCTURAL LAMINATED GLASS DECKING WITH SLIP RESISTANT FINISH.
- 24 1.25"x1.25" METAL HANDRAIL, PTD.
- 25 FRAMELESS GLASS GUARDRAIL ASSEMBLY
- 26 IPE STEPS ON METAL FRAMING.
- 27 IPE SEAT OVER T.S. FRAME WITH OPERABLE HATCH ON FRONT FACE. PROVIDE S.S. HARDWARE FOR HATCH, TYP.
- 28 SLOPE DECKING AND FRAMING TO MATCH ADJACENT ELEVATIONS.
- 29 RHEINZINK TILES OVER STEEL FRAMING ASSEMBLY
- 30 RHEINZINK TILE ROOF ASSEMBLY ABOVE
- 31 TREE TO BE REMOVED. VERIFY WITH OWNER, TYP.
- 32 TREE TRUNK. ALLOW 2" GAP, MODIFY FRAMING AS REQUIRED.
- 33 IPE SEAT STEPS OVER METAL FRAMING
- 34 MULCH PATH. SEE LANDSCAPE DWGS.
- 35 METAL GRATING STAIR TREADS AND LANDINGS OVER METAL FRAMING
- 36 LOCATION OF NEW ELECTRICAL PANEL. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
- 37 LOCATION OF NEW TRANSFORMER. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
- 38 NEW LATCHED GATE AT TOP OF STAIR.
- 39 RHEINZINK TILE ROOF ASSEMBLY ABOVE.
- 40 TREE TRUNK. ALLOW 12" GAP, MODIFY FRAMING AS REQUIRED.
- 41 FORMED WOOD VERTICAL SLAT WALL ASSEMBLY.
- 42 CLIMBING NET TO LOWER LEVEL OF POD, NET TO EXTEND TO 42" A.F.F. OF UPPER PLATFORM.
- 43 SECURE FLOATING DECK TO EXISTING TREE. 1'-0" A.F.F. OF UPPER DECK OF POD. ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY BETWEEN PODS UPPER DECK AND FLOATING DECK.
- 44 CANOPY WALK ENTRY
- 45 ACCESS STAIR ASSEMBLY
- 46 IPE BENCH WITH LIGHTING CONTROL PANEL LOCATED ON FACE
- 47 WATER ACCESS FOR MISTING SPRAY ONTO NETTING ASSEMBLY
- 48 POROUS PAVE OVER SLAB ON GRADE
- 49 FIBERGLASS LIGHT FIXTURES HANGING FROM TREE BRANCHES ABOVE
- 50 LOWER LEVEL OF POD, METAL BAR GRATE DECK OVER STEEL STRUCTURE.
- 51 IPE SEAT BENCH OVER STEEL FRAME.
- 52 ½" METALS RODS SET IN CONTINUOUS CLOTHESLINE FOOTING
- 53 POROUS PAVE OVER FRP GRATING
- 54 ½" METAL RODS WELDED TO STEEL BASE PLATE

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**Consultants**

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STRUCTURAL ENGINEER:  
 Robert Schaeffer  
 CEM  
 670 989 3400

MEP ENG:  
 MacMillan Associates  
 988-924-4300

**Client:** DOW GARDENS / WHITING FOREST

**Project:** PROJECT 04  
 CANOPY WALK

**Address:** 2303 N. EASTMAN RD.  
 MIDLAND, MI 48640

**General Notes:**

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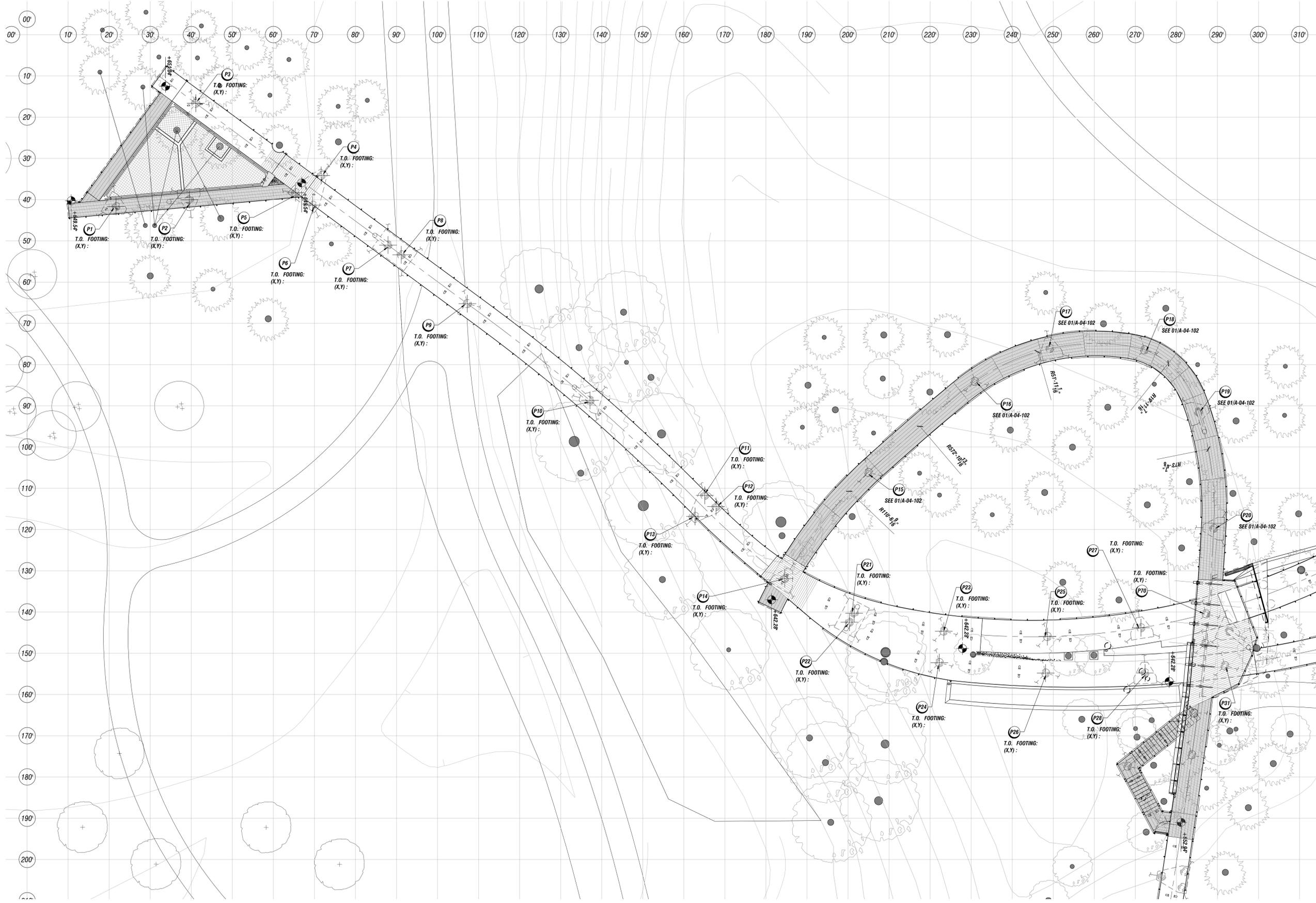
<b>Issue:</b>	<b>Date:</b>
S0 Pricing Set	02-26-16
50% DD Set	04-16-16
100% DD Set	05-13-16
<b>Revisions:</b>	

**Sheet Title:**  
 CANOPY WALK DECK PLAN

**Sheet No.:**  
 A-04-100

**MA&D Proj. No.:**  
 1476

100% DESIGN DEVELOPMENT / NOT FOR CONSTRUCTION- ISSUED 05-13-2016



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**01** CANOPY WALK PINE ARM LAYOUT PLAN  
 05/13/16 (P10 - P33)

Scale bar: 0' to 100' (1" = 10')

North arrow pointing up.

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**Client:** DOW GARDENS / WHITING FOREST

**Project:** PROJECT 04  
 CANOPY WALK

**Address:** 2303 N. EASTMAN RD.  
 MIDLAND, MI 48640

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Issue:	Date:
SD Pricing Set	02-26-16
50% DD Set	04-16-16
100% DD Set	05-13-16

**Revisions:**

**Sheet Title:**  
 CANOPY WALK  
 PINE ARM  
 LAYOUT PLAN

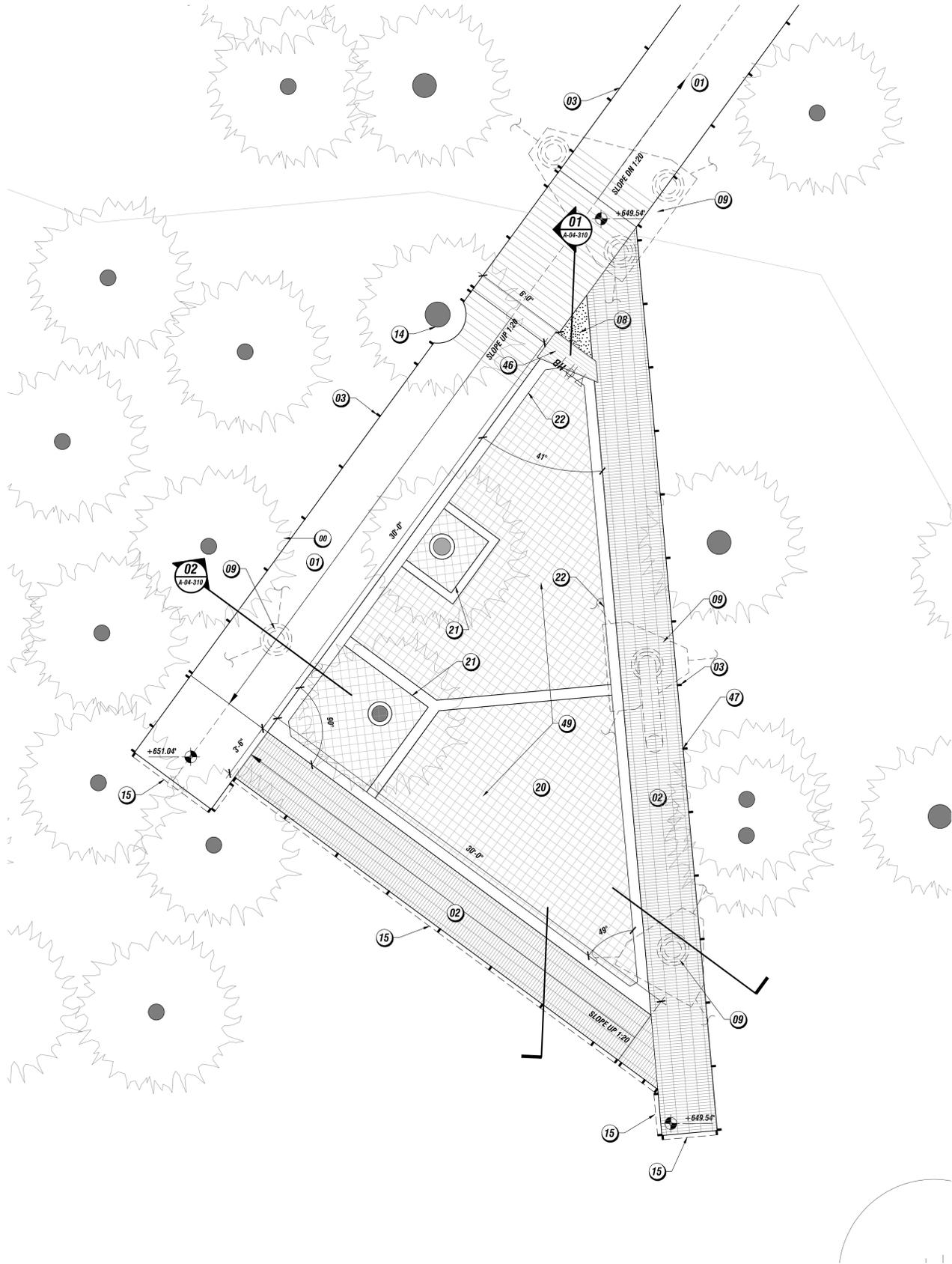
**Sheet No.:**  
**A-04-101**  
 MA&D Proj. No.: 1476

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**01** CANOPY WALK  
ENLARGED PINES PLAN  
SCALE: 1/4" = 1'-0"



**CANOPY WALK KEYNOTES**

- 01 3/4" IPE DECKING OVER IPE WD. NAILER OVER PTD. STEEL STRUCTURAL FRAME. SEE STRUCT. FOR ADDITIONAL INFORMATION.
- 02 1"x4"x1" METAL GRATING, PTD. OVER STRUCTURAL FRAME. SEE STRUCTURAL DWG FOR ADDITIONAL INFORMATION.
- 03 STEEL GUARDRAIL ASSEMBLY; 1"x3" T.S. SUPPORTS, PTD. INFILL TBD.
- 04 1/2" DIA. STEEL ROD RAIL ASSEMBLY, PTD. PROVIDE HORIZONTAL STEEL RAILS TO SECURE FOR GUARDRAIL.
- 05 STACKED STONE WALL ASSEMBLY. STEPPED TOP.
- 06 NEW POROUS PAVE SURFACE. SLOPE UP TO MEET DECK. SEE LANDSCAPE DWGS.
- 07 GRADE ENTRY TO MEET GRATING.
- 08 1/2" DIA. STEEL ROD ASSEMBLY ON STEEL BASE PLATE, PTD.
- 09 STEEL TUBE POSTS ON CONC. PILE CAPS, BELOW, SEE STRUCTURAL DWGS FOR ADDITIONAL INFORMATION.
- 10 POND ARM ABOVE
- 11 STONE CLAD CONCRETE HEADWALL BELOW DECK, SEE STRUCTURAL FOR ADDITIONAL INFORMATION.
- 12 MULCH PATH TO ACCESS STAIR, SEE LANDSCAPE DWGS.
- 13 ADA PATH, SEE LANDSCAPE DWGS.
- 14 TREE TRUNK. ALLOW 8" GAP, MODIFY FRAMING AS REQUIRED.
- 15 INVISINET MESH AND T.S. RAIL, PTD.
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- 17 IPE SLAT WALL
- 18 IPE WD. FRAMING WITH EXPOSED STEEL FASTENERS FOR ROOF STRUCTURE, SLOPED STANDING SEAM METAL ROOF.
- 19 NOT USED
- 20 ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY, SECURE TO STRUCTURE AT EDGE OF NET AREA.
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Sheet Title:  
**CANOPY WALK  
PINE ARM  
ENLARGED DECK PLAN**

Sheet No.:  
**A-04-110**

MA&D Proj. No.: 1476

Issue:	Date:	Revisions:
SD Pricing Set	02-26-16	
50% DD Set	04-16-16	
100% DD Set	05-13-16	

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Client: **DOW GARDENS / WHITING FOREST**

Project: **PROJECT 04  
CANOPY WALK**

Address: **2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

**Consultants**

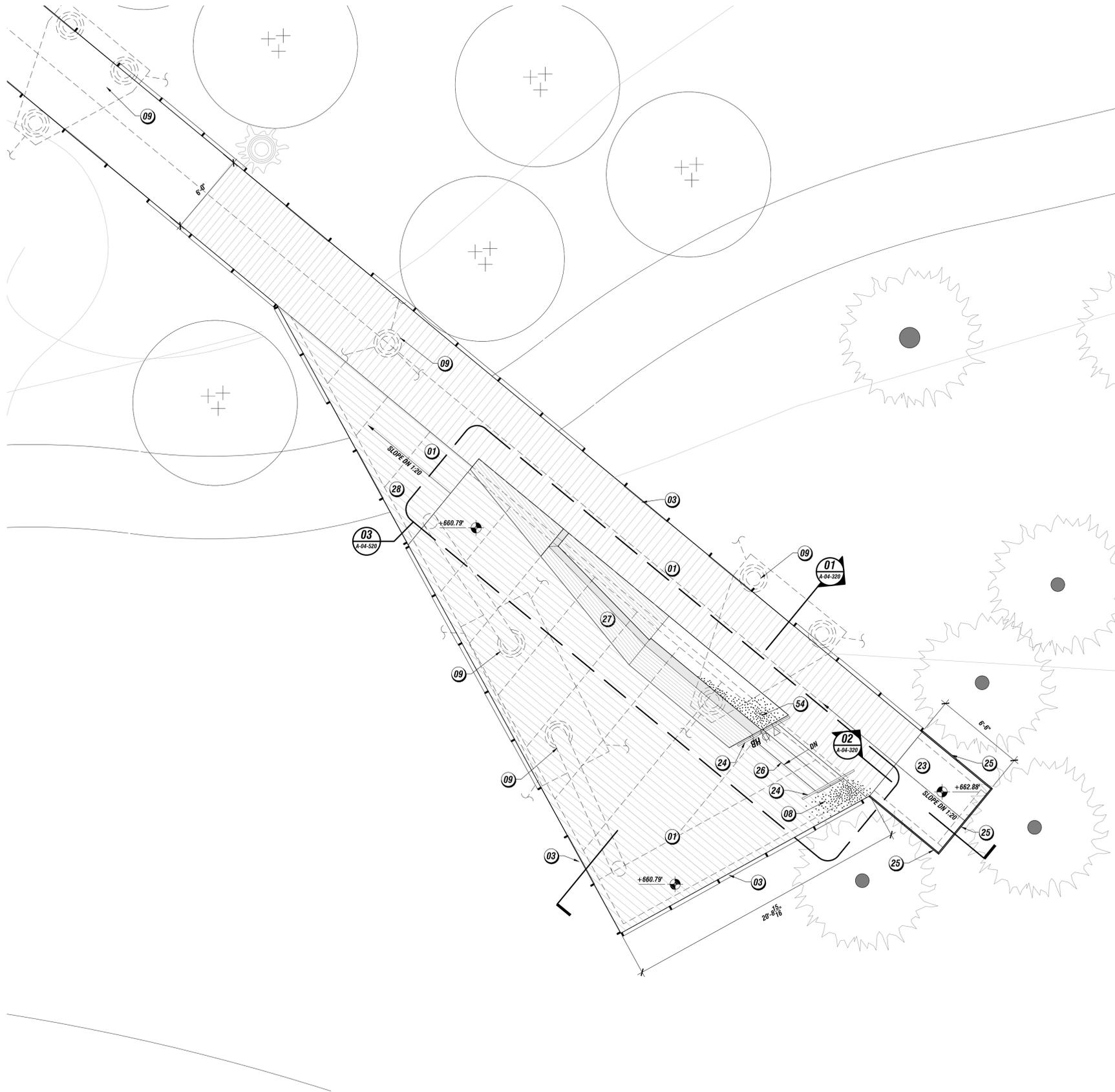
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**01** CANOPY WALK  
ENLARGED ORCHARD PLAN  
SCALE 1/4" = 1'-0"

**CANOPY WALK KEYNOTES**

- 01 1/2" IPE DECKING OVER IPE WD. NAILER OVER PTD. STEEL STRUCTURAL FRAME. SEE STRUCT. FOR ADDITIONAL INFORMATION.
- 02 1"x4"x1" METAL GRATING, PTD. OVER STRUCTURAL FRAME. SEE STRUCTURAL DWG FOR ADDITIONAL INFORMATION.
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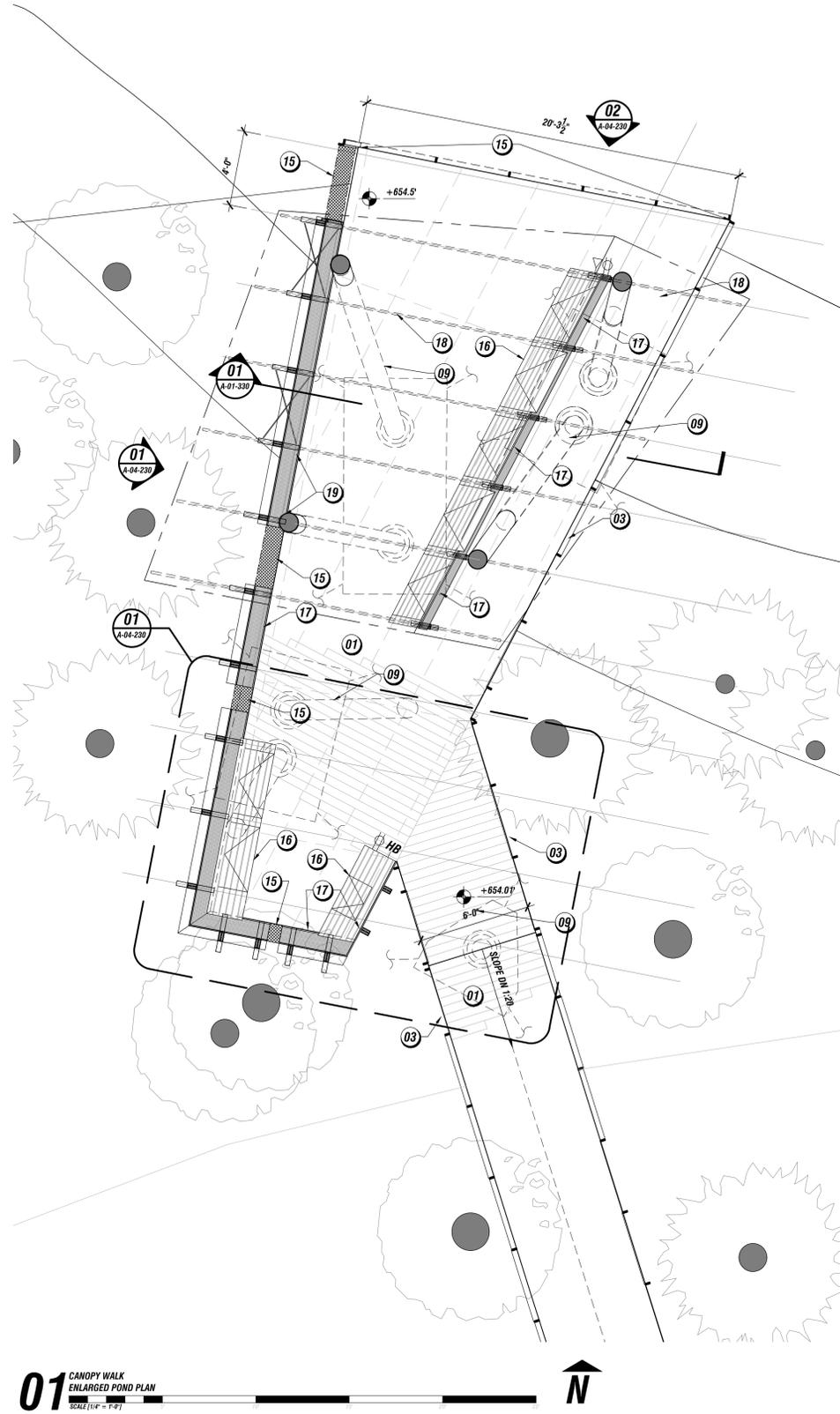
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**Revisions:**

**Sheet Title:**  
CANOPY WALK  
ORCHARD ARM  
ENLARGED DECK PLAN

**Sheet No.:**  
A-04-120  
MA&D Proj. No.: 1476



**01** CANOPY WALK  
ENLARGED POND PLAN  
SCALE 1/4" = 1'-0"

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Sheet Title:  
**CANOPY WALK  
ENLARGED POND ARM  
DECK PLAN**

Sheet No.:  
**A-04-130**  
MA&D Proj. No.: 1476

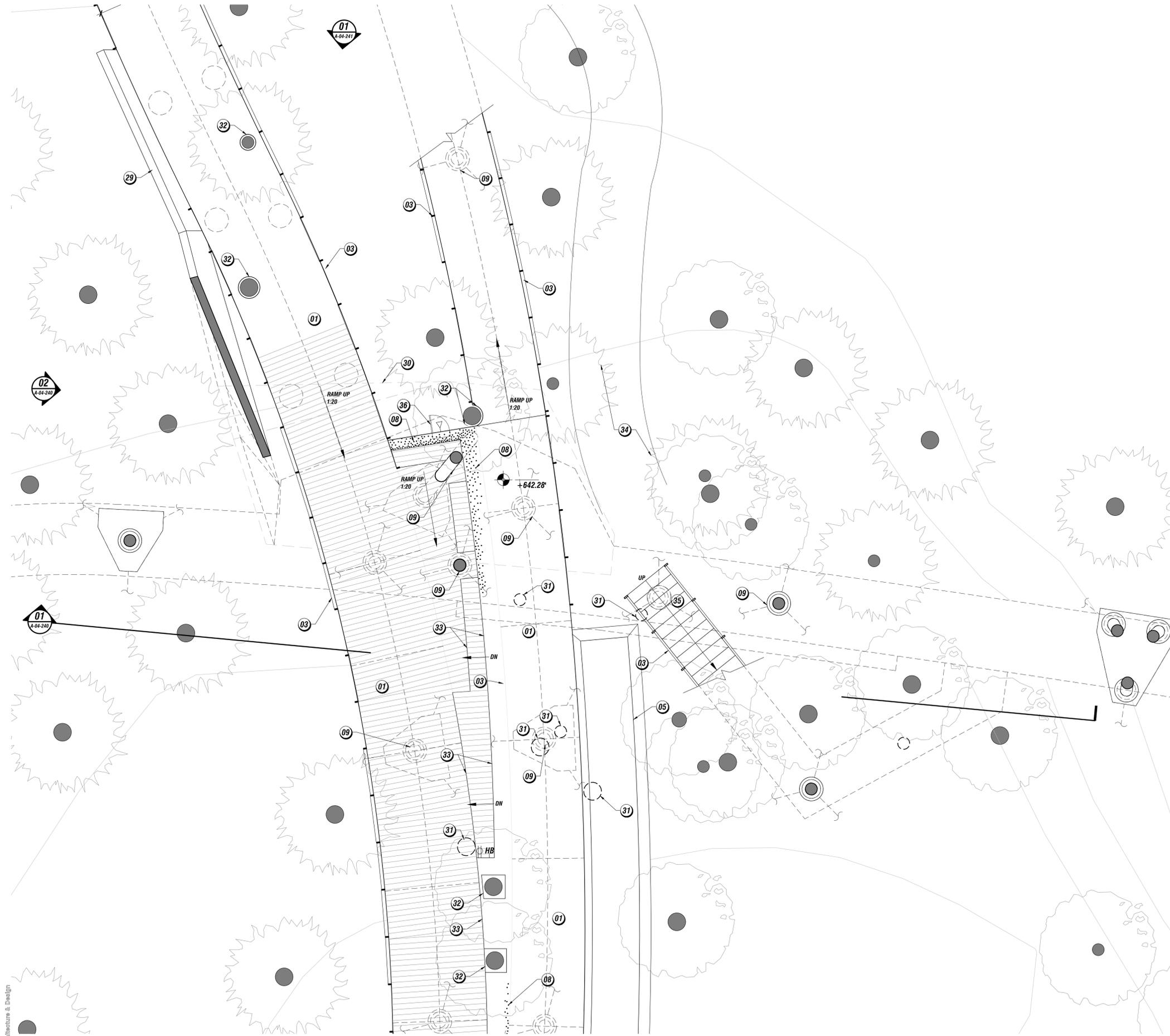
Issue:	Date:	Revisions:
SD Pricing Set	02-26-16	
50% AD Set	04-16-16	
100% DD Set	05-13-16	

General Notes:  
1. Contractors to be responsible for field verification of dimensions.  
2. Notify architect immediately if any conflicts arise before proceeding with work.

Client: **DOW GARDENS / WHITING FOREST**  
Project: **PROJECT 04  
CANOPY WALK**  
Address: **2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

Consultants  
LANDSCAPE ARCH:  
Jonathan Allerson  
JALA, Inc  
670-341-9925  
STRUCTURAL ENGINEER:  
Robert Schaeffer  
CIVIL  
670 889 3400  
MEP ENG:  
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988-824-4300

**METCALFE**  
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271 N. 13th Street  
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V 215 527 3620



**CANOPY WALK KEYNOTES**

- 01 1/2" IPE DECKING OVER IPE WD. NAILER OVER PTD. STEEL STRUCTURAL FRAME. SEE STRUCT. FOR ADDITIONAL INFORMATION.
- 02 1"x4"x1" METAL GRATING, PTD. OVER STRUCTURAL FRAME. SEE STRUCTURAL DWG FOR ADDITIONAL INFORMATION.
- 03 STEEL GUARDRAIL ASSEMBLY, 1"x3" T.S. SUPPORTS, PTD. INFILL TBD.
- 04 1/2" DIA. STEEL ROD RAIL ASSEMBLY, PTD. PROVIDE HORIZONTAL STEEL RAILS TO SECURE FOR GUARDRAIL.
- 05 STACKED STONE WALL ASSEMBLY. STEPPED TOP.
- 06 NEW POROUS PAVE SURFACE. SLOPE UP TO MEET DECK. SEE LANDSCAPE DWGS.
- 07 GRADE ENTRY TO MEET GRATING.
- 08 1/2" DIA. STEEL ROD ASSEMBLY ON STEEL BASE PLATE, PTD.
- 09 STEEL TUBE POSTS ON CONC. PILE CAPS, BELOW, SEE STRUCTURAL DWGS FOR ADDITIONAL INFORMATION.
- 10 POND ARM ABOVE
- 11 STONE CLAD CONCRETE HEADWALL BELOW DECK, SEE STRUCTURAL FOR ADDITIONAL INFORMATION.
- 12 MULCH PATH TO ACCESS STAIR, SEE LANDSCAPE DWGS.
- 13 ADA PATH, SEE LANDSCAPE DWGS.
- 14 TREE TRUNK. ALLOW 8" GAP, MODIFY FRAMING AS REQUIRED.
- 15 INVISINET MESH AND T.S. RAIL, PTD.
- 16 IPE SEAT BENCH OVER STEEL FRAME WITH OPERABLE LID AT SEAT. METAL BASKET MOUNTED INSIDE FRAME. USE S.S. HARDWARE, TYP.
- 17 IPE SLAT WALL
- 18 IPE WD. FRAMING WITH EXPOSED STEEL FASTENERS FOR ROOF STRUCTURE. SLOPED STANDING SEAM METAL ROOF.
- 19 NOT USED
- 20 ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY. SECURE TO STRUCTURE AT EDGE OF NET AREA.
- 21 METAL FRAMED COLLAR, PTD. AT EXISTING TREES TO REMAIN, PROVIDE FLEXIBLE NETTING INFILL BETWEEN COLLAR AND TREE.
- 22 IPE WD. WITH RADIUS EDGE AT NET.
- 23 STRUCTURAL LAMINATED GLASS DECKING WITH SLIP RESISTANT FINISH.
- 24 1.25"x1.25" METAL HANDRAIL, PTD.
- 25 FRAMELESS GLASS GUARDRAIL ASSEMBLY
- 26 IPE STEPS ON METAL FRAMING.
- 27 IPE SEAT OVER T.S. FRAME WITH OPERABLE HATCH ON FRONT FACE. PROVIDE S.S. HARDWARE FOR HATCH, TYP.
- 28 SLOPE DECKING AND FRAMING TO MATCH ADJACENT ELEVATIONS.
- 29 RHEINZINK TILES OVER STEEL FRAMING ASSEMBLY
- 30 RHEINZINK TILE ROOF ASSEMBLY ABOVE
- 31 TREE TO BE REMOVED. VERIFY WITH OWNER, TYP.
- 32 TREE TRUNK. ALLOW 12" GAP, MODIFY FRAMING AS REQUIRED.
- 33 IPE SEAT STEPS OVER METAL FRAMING
- 34 MULCH PATH, SEE LANDSCAPE DWGS.
- 35 METAL GRATING STAIR TREADS AND LANDINGS OVER METAL FRAMING
- 36 LOCATION OF NEW ELECTRICAL PANEL. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
- 37 LOCATION OF NEW TRANSFORMER. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
- 38 NEW LATCHED GATE AT TOP OF STAIR.
- 39 RHEINZINK TILE ROOF ASSEMBLY ABOVE.
- 40 TREE TRUNK. ALLOW 12" GAP, MODIFY FRAMING AS REQUIRED.
- 41 FORMED WOOD VERTICAL SLAT WALL ASSEMBLY.
- 42 CLIMBING NET TO LOWER LEVEL OF POD, NET TO EXTEND TO 42" A.F.F. OF UPPER PLATFORM.
- 43 SECURE FLOATING DECK TO EXISTING TREE, 1'-0" A.F.F. OF UPPER DECK OF POD. ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY BETWEEN PODS UPPER DECK AND FLOATING DECK.
- 44 CANOPY WALK ENTRY
- 45 ACCESS STAIR ASSEMBLY
- 46 IPE BENCH WITH LIGHTING CONTROL PANEL LOCATED ON FACE
- 47 WATER ACCESS FOR MISTING SPRAY ONTO NETTING ASSEMBLY
- 48 POROUS PAVE OVER SLAB ON GRADE
- 49 FIBERGLASS LIGHT FIXTURES HANGING FROM TREE BRANCHES ABOVE
- 50 LOWER LEVEL OF POD, METAL BAR GRATE DECK OVER STEEL STRUCTURE.
- 51 IPE SEAT BENCH OVER STEEL FRAME.
- 52 1/2" METALS RODS SET IN CONTINUOUS CLOTHESLINE FOOTING
- 53 POROUS PAVE OVER FRP GRATING
- 54 1/2" METAL RODS WELDED TO STEEL BASE PLATE

100% DESIGN DEVELOPMENT / NOT FOR CONSTRUCTION- ISSUED 05-13-2016

Sheet Title:  
**CANOPY WALK  
GATHERING AREA  
ENLARGED GROUND PLAN**

Sheet No.:  
**A-04-140**

MA&D Proj. No.:  
**1476**

Issue:	Date:	Revisions:
S0 Pricing Set	02-26-16	
50% DD Set	04-16-16	
100% DD Set	05-13-16	

Client: **DOW GARDENS / WHITING FOREST**

Project: **PROJECT 04  
CANOPY WALK**

Address: **2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

Consultants

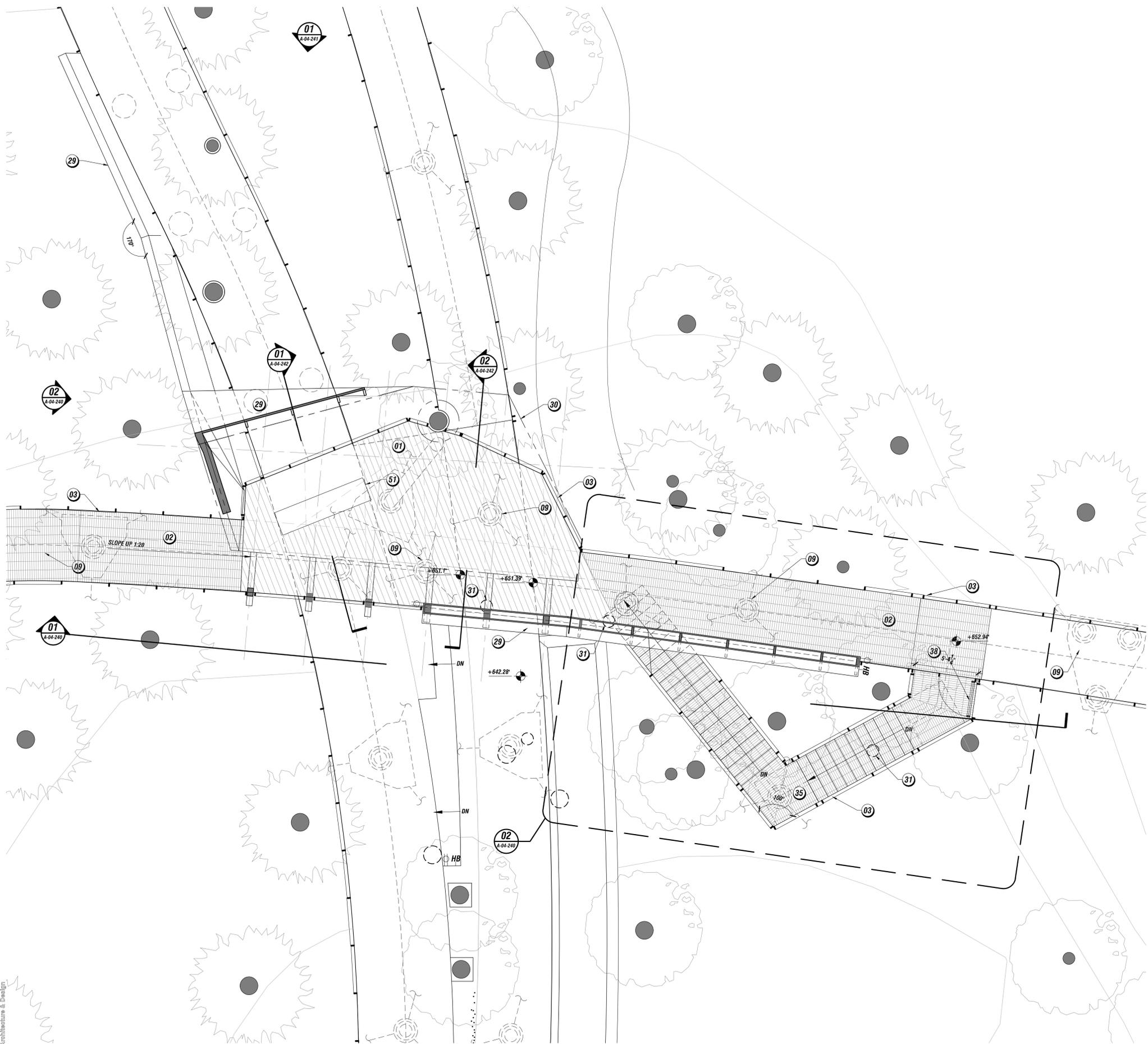
LANDSCAPE ARCH:  
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STRUCTURAL ENGINEER:  
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- CANOPY WALK KEYNOTES**
- 01 ½" IPE DECKING OVER IPE WD. NAILER OVER PTD. STEEL STRUCTURAL FRAME. SEE STRUCT. FOR ADDITIONAL INFORMATION.
  - 02 1"X4"X1" METAL GRATING, PTD. OVER STRUCTURAL FRAME. SEE STRUCTURAL DWG FOR ADDITIONAL INFORMATION.
  - 03 STEEL GUARDRAIL ASSEMBLY, 1"X3" T.S. SUPPORTS, PTD. INFILL TBD.
  - 04 ½" DIA. STEEL ROD RAIL ASSEMBLY, PTD. PROVIDE HORIZONTAL STEEL RAILS TO SECURE FOR GUARDRAIL.
  - 05 STACKED STONE WALL ASSEMBLY. STEPPED TOP.
  - 06 NEW POROUS PAVE SURFACE. SLOPE UP TO MEET DECK. SEE LANDSCAPE DWGS.
  - 07 GRADE ENTRY TO MEET GRATING.
  - 08 ½" DIA. STEEL ROD ASSEMBLY ON STEEL BASE PLATE, PTD.
  - 09 STEEL TUBE POSTS ON CONC. PILE CAPS, BELOW, SEE STRUCTURAL DWGS FOR ADDITIONAL INFORMATION.
  - 10 POND ARM ABOVE
  - 11 STONE CLAD CONCRETE HEADWALL BELOW DECK, SEE STRUCTURAL FOR ADDITIONAL INFORMATION.
  - 12 MULCH PATH TO ACCESS STAIR, SEE LANDSCAPE DWGS.
  - 13 ADA PATH, SEE LANDSCAPE DWGS.
  - 14 TREE TRUNK. ALLOW 8" GAP, MODIFY FRAMING AS REQUIRED.
  - 15 INVISINET MESH AND T.S. RAIL, PTD.
  - 16 IPE SEAT BENCH OVER STEEL FRAME WITH OPERABLE LID AT SEAT. METAL BASKET MOUNTED INSIDE FRAME. USE S.S. HARDWARE, TYP.
  - 17 IPE SLAT WALL
  - 18 IPE WD. FRAMING WITH EXPOSED STEEL FASTENERS FOR ROOF STRUCTURE. SLOPED STANDING SEAM METAL ROOF.
  - 19 NOT USED
  - 20 ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY. SECURE TO STRUCTURE AT EDGE OF NET AREA.
  - 21 METAL FRAMED COLLAR, PTD. AT EXISTING TREES TO REMAIN, PROVIDE FLEXIBLE NETTING INFILL BETWEEN COLLAR AND TREE.
  - 22 IPE WD. WITH RADIUSED EDGE AT NET.
  - 23 STRUCTURAL LAMINATED GLASS DECKING WITH SLIP RESISTANT FINISH.
  - 24 1.25"X1.25" METAL HANDRAIL, PTD.
  - 25 FRAMELESS GLASS GUARDRAIL ASSEMBLY
  - 26 IPE STEPS ON METAL FRAMING.
  - 27 IPE SEAT OVER T.S. FRAME WITH OPERABLE HATCH ON FRONT FACE. PROVIDE S.S. HARDWARE FOR HATCH, TYP.
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  - 30 RHEINZINK TILE ROOF ASSEMBLY ABOVE
  - 31 TREE TO BE REMOVED. VERIFY WITH OWNER, TYP.
  - 32 TREE TRUNK. ALLOW 2" GAP, MODIFY FRAMING AS REQUIRED.
  - 33 IPE SEAT STEPS OVER METAL FRAMING
  - 34 MULCH PATH, SEE LANDSCAPE DWGS.
  - 35 METAL GRATING STAIR TREADS AND LANDINGS OVER METAL FRAMING
  - 36 LOCATION OF NEW ELECTRICAL PANEL. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
  - 37 LOCATION OF NEW TRANSFORMER. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
  - 38 NEW LATCHED GATE AT TOP OF STAIR.
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  - 42 CLIMBING NET TO LOWER LEVEL OF POD, NET TO EXTEND TO 42" A.F.F. OF UPPER PLATFORM.
  - 43 SECURE FLOATING DECK TO EXISTING TREE, 1'-0" A.F.F. OF UPPER DECK OF POD. ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY BETWEEN PODS UPPER DECK AND FLOATING DECK.
  - 44 CANOPY WALK ENTRY
  - 45 ACCESS STAIR ASSEMBLY
  - 46 IPE BENCH WITH LIGHTING CONTROL PANEL LOCATED ON FACE
  - 47 WATER ACCESS FOR MISTING SPRAY ONTO NETTING ASSEMBLY
  - 48 POROUS PAVE OVER SLAB ON GRADE
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  - 50 LOWER LEVEL OF POD, METAL BAR GRATE DECK OVER STEEL STRUCTURE.
  - 51 IPE SEAT BENCH OVER STEEL FRAME.
  - 52 ½" METALS RODS SET IN CONTINUOUS CLOTHESLINE FOOTING
  - 53 POROUS PAVE OVER FRP GRATING
  - 54 ½" METAL RODS WELDED TO STEEL BASE PLATE

100% DESIGN DEVELOPMENT / NOT FOR CONSTRUCTION- ISSUED 05-13-2016

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STRUCTURAL ENGINEER:  
 Robert Schaeffer  
 CEM  
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MEP ENG:  
 MacMillan Associates  
 988-824-4300

Client: **DOW GARDENS / WHITING FOREST**

Project: **PROJECT 04  
 CANOPY WALK**

Address: **2303 N. EASTMAN RD.  
 MIDLAND, MI 48640**

**General Notes:**

1. Contractors to be responsible for field verification of dimensions.
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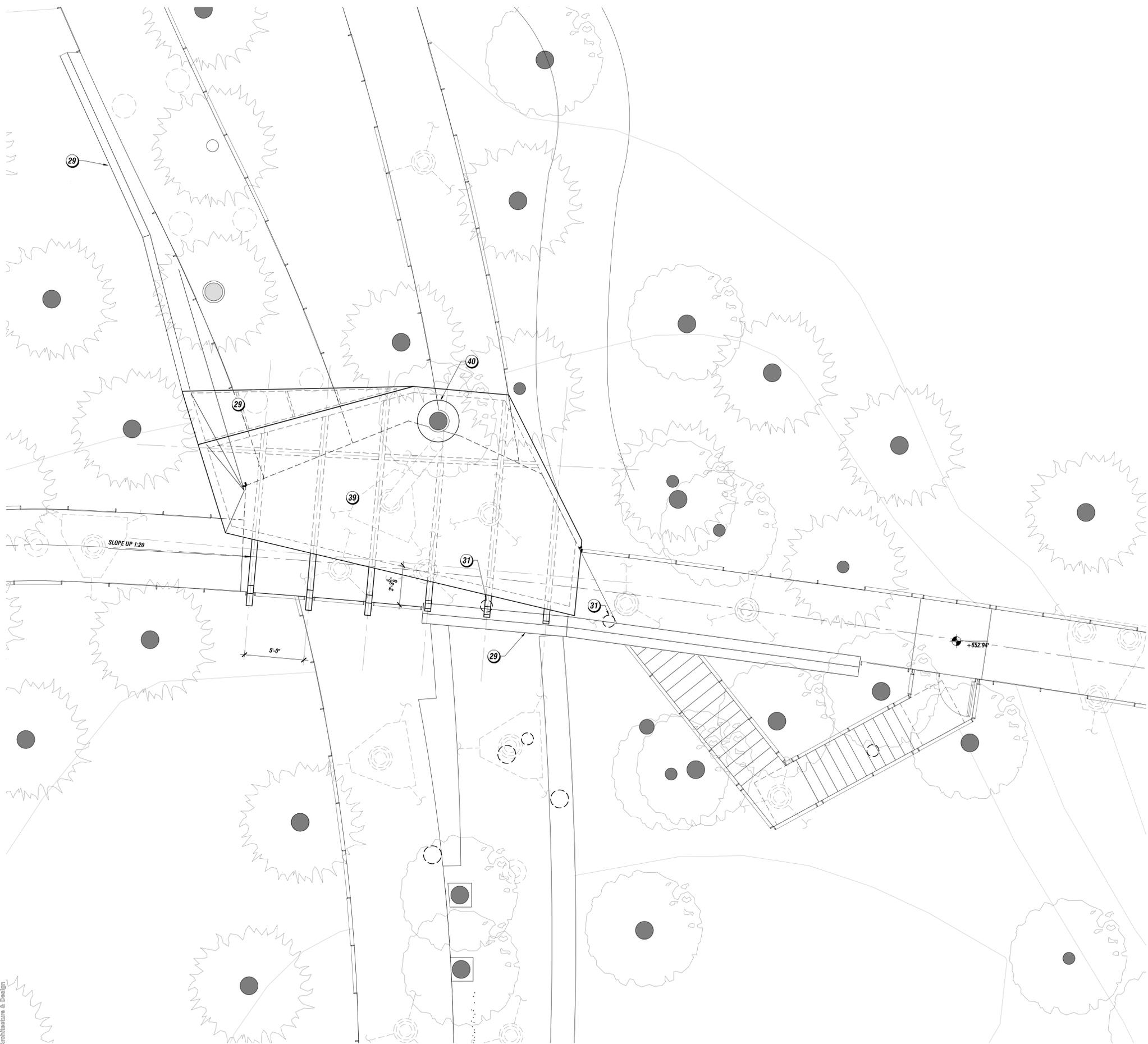
Issue:	Date:
SD Pricing Set	02-26-16
50% DD Set	04-16-16
100% DD Set	05-13-16

Revisions:

Sheet Title: **CANOPY WALK  
 GATHERING AREA  
 ENLARGED DECK PLAN**

Sheet No.: **A-04-141**

MA&D Proj. No.: **1476**



- CANOPY WALK KEYNOTES**
- (01) 1/2" IPE DECKING OVER IPE WD. NAILER OVER PTD. STEEL STRUCTURAL FRAME. SEE STRUCT. FOR ADDITIONAL INFORMATION.
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  - (07) GRADE ENTRY TO MEET GRATING.
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  - (09) STEEL TUBE POSTS ON CONC. PILE CAPS, BELOW, SEE STRUCTURAL DWGS FOR ADDITIONAL INFORMATION.
  - (10) POND ARM ABOVE
  - (11) STONE CLAD CONCRETE HEADWALL BELOW DECK, SEE STRUCTURAL FOR ADDITIONAL INFORMATION.
  - (12) MULCH PATH TO ACCESS STAIR, SEE LANDSCAPE DWGS.
  - (13) ADA PATH, SEE LANDSCAPE DWGS.
  - (14) TREE TRUNK. ALLOW 8" GAP, MODIFY FRAMING AS REQUIRED.
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  - (16) IPE SEAT BENCH OVER STEEL FRAME WITH OPERABLE LID AT SEAT. METAL BASKET MOUNTED INSIDE FRAME. USE S.S. HARDWARE, TYP.
  - (17) IPE SLAT WALL
  - (18) IPE WD. FRAMING WITH EXPOSED STEEL FASTENERS FOR ROOF STRUCTURE, SLOPED STANDING SEAM METAL ROOF.
  - (19) NOT USED
  - (20) ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY. SECURE TO STRUCTURE AT EDGE OF NET AREA.
  - (21) METAL FRAMED COLLAR, PTD. AT EXISTING TREES TO REMAIN, PROVIDE FLEXIBLE NETTING INFILL BETWEEN COLLAR AND TREE.
  - (22) IPE WD. WITH RADIUS EDGE AT NET.
  - (23) STRUCTURAL LAMINATED GLASS DECKING WITH SLIP RESISTANT FINISH.
  - (24) 1.25"x1.25" METAL HANDRAIL, PTD.
  - (25) FRAMELESS GLASS GUARDRAIL ASSEMBLY
  - (26) IPE STEPS ON METAL FRAMING.
  - (27) IPE SEAT OVER T.S. FRAME WITH OPERABLE HATCH ON FRONT FACE. PROVIDE S.S. HARDWARE FOR HATCH, TYP.
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  - (31) TREE TO BE REMOVED. VERIFY WITH OWNER, TYP.
  - (32) TREE TRUNK. ALLOW 2" GAP, MODIFY FRAMING AS REQUIRED.
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  - (34) MULCH PATH, SEE LANDSCAPE DWGS.
  - (35) METAL GRATING STAIR TREADS AND LANDINGS OVER METAL FRAMING
  - (36) LOCATION OF NEW ELECTRICAL PANEL. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
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  - (38) NEW LATCHED GATE AT TOP OF STAIR.
  - (39) RHEINZINK TILE ROOF ASSEMBLY ABOVE.
  - (40) TREE TRUNK. ALLOW 12" GAP, MODIFY FRAMING AS REQUIRED.
  - (41) FORMED WOOD VERTICAL SLAT WALL ASSEMBLY.
  - (42) CLIMBING NET TO LOWER LEVEL OF POD, NET TO EXTEND TO 42" A.F.F. OF UPPER PLATFORM.
  - (43) SECURE FLOATING DECK TO EXISTING TREE, 1'-0" A.F.F. OF UPPER DECK OF POD. ROPE NETTING ASSEMBLY OVER SECONDARY NETTING ASSEMBLY BETWEEN PODS UPPER DECK AND FLOATING DECK.
  - (44) CANOPY WALK ENTRY
  - (45) ACCESS STAIR ASSEMBLY
  - (46) IPE BENCH WITH LIGHTING CONTROL PANEL LOCATED ON FACE
  - (47) WATER ACCESS FOR MISTING SPRAY ONTO NETTING ASSEMBLY
  - (48) POROUS PAVE OVER SLAB ON GRADE
  - (49) FIBERGLASS LIGHT FIXTURES HANGING FROM TREE BRANCHES ABOVE
  - (50) LOWER LEVEL OF POD, METAL BAR GRATE DECK OVER STEEL STRUCTURE.
  - (51) IPE SEAT BENCH OVER STEEL FRAME.
  - (52) 1/2" METALS RODS SET IN CONTINUOUS CLOTHESLINE FOOTING
  - (53) POROUS PAVE OVER FRP GRATING
  - (54) 1/2" METAL RODS WELDED TO STEEL BASE PLATE

100% DESIGN DEVELOPMENT / NOT FOR CONSTRUCTION- ISSUED 05-13-2016

**Sheet Title:**  
 CANOPY WALK  
 GATHERING AREA  
 ENLARGED ROOF PLAN

**Sheet No.:**  
**A-04-142**  
 MA&D Proj. No.: 1476

Issue:	Date:
S0 Pricing Set	02-26-16
50% DD Set	04-16-16
100% DD Set	05-13-16

**Revisions:**

**General Notes:**  
 1. Contractors to be responsible for field verification of dimensions.  
 2. Notify architect immediately for any conflicts before proceeding with work.

**Client:** DOW GARDENS / WHITING FOREST

**Project:** PROJECT 04  
 CANOPY WALK

**Address:** 2303 N. EASTMAN RD.  
 MIDLAND, MI 48640

**Consultants**

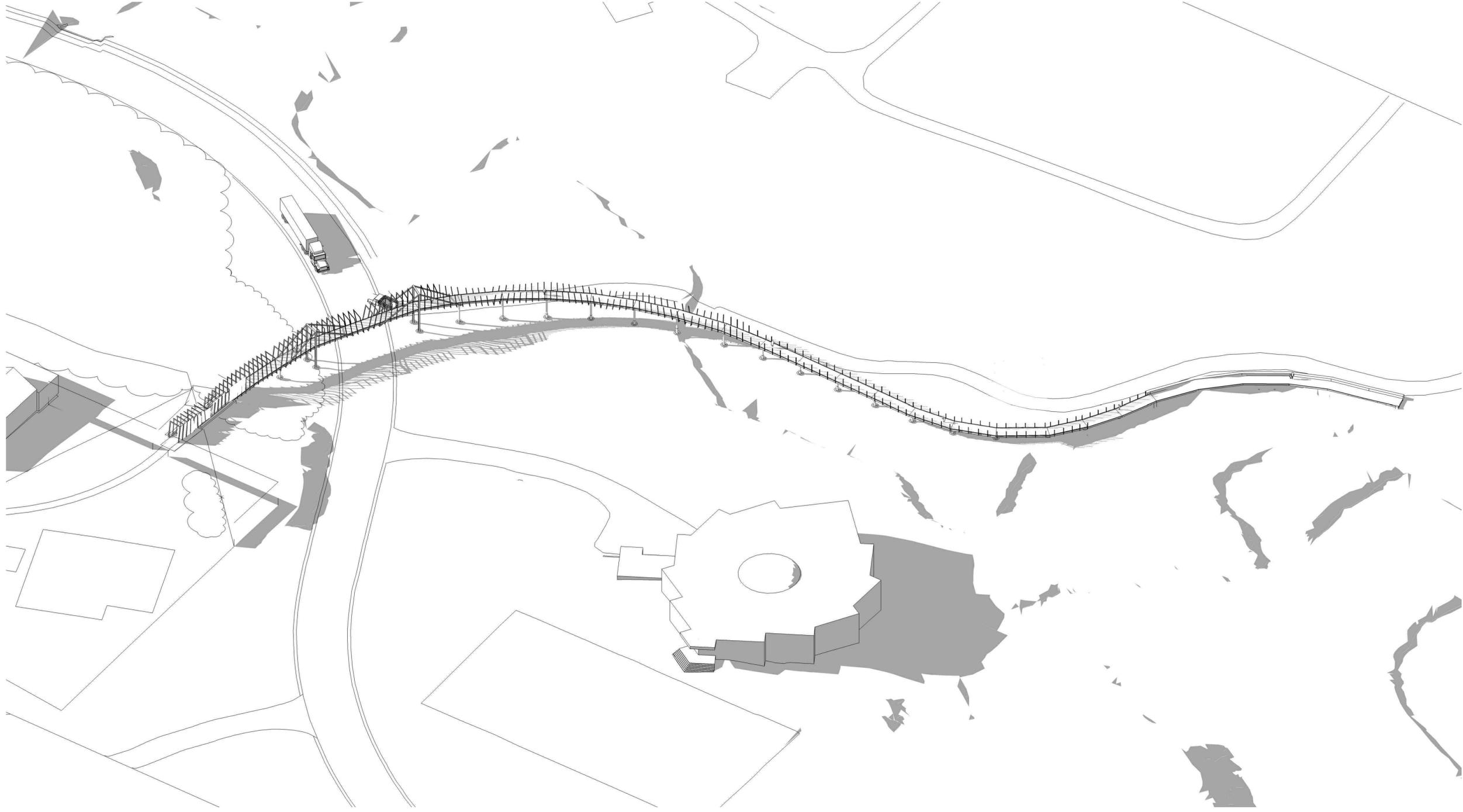
LANDSCAPE ARCH:  
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STRUCTURAL ENGINEER:  
 Robert Schaeffer  
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MEP ENG:  
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Sheet Title:  
**ST. ANDREWS BRIDGE**

**OVERALL**  
**3D MASSING VIEW**

Sheet No.:

**A-10-000**

MA&D Proj. No.:

**1476**

Issue:

SD Pricing Set

Date:

02/26/16

Revisions:

**General Notes:**

- Contractors to be responsible for field verification of dimensions.
- Notify architect immediately for any conflicts before proceeding with work.

**Client:**

**DOW GARDENS / WHITING FOREST**

**Project:**

**PROJECT 10**

**ST. ANDREWS BRIDGE**

**Address:**

**2303 N. EASTMAN RD.  
MIDLAND, MI 48640**

**Consultants**

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**STRUCTURAL ENGINEER:**  
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- NEW WORK KEYNOTES**
- 01 NEW BOARD FORMED CONCRETE PLANTERS ABOVE BRIDGE ABUTMENT.
  - 02 12'-0"X12'X6" HSS FRAMES, 4'-0" O.C. TYP. PAINTED. HEIGHT OF FRAME ABOVE DECK TO VARY BY 3'-0" IN SECTION.
  - 03 8'-0" WIDE BLACK LOCUST WOOD DECK ON P.T. NAILERS. DECK TO RUN PARALLEL TO PATH OF TRAVEL.
  - 04 HSS MAST FRAMES AT ROADWAY. SEE STRUCTURAL DWGS.
  - 05 2'X6" HSS U-SHAPED FRAMES, 4'-0" O.C. TYP. PAINTED. FRAMES IN AREA SHOWN TO DECREASE IN HEIGHT IN INCREMENTS OF 1'-0" TO 7'-0".
  - 06 7'-0"X2'X6" HSS U-SHAPED FRAMES, TYPICAL EVERY 4' O.C. PAINTED. HEIGHT OF FRAME ABOVE DECK TO VARY BY 3'-0" IN SECTION.
  - 07 5'-0"X2'X6" HSS GUARD RAIL POSTS, 6'-0" O.C. TYP.
  - 08 STEEL CABLE GUARDRAIL MOUNTED ON BOTH SIDES OF BRIDGE. FASTENED TO STEEL STANDOFFS ON INSIDE OF ALL HSS FRAMES EVERY 4' UP TO 42" ABOVE DECK.
  - 09 2'X6" HSS FRAMES, 4'-0" O.C. TYP. PAINTED. HEIGHT OF FRAME ABOVE GRADE TO VARY BY 3'-0" IN SECTION.
  - 10 STEEL CABLE MOUNTED ON BOTH SIDES OF BRIDGE. FASTENED TO STEEL STANDOFFS ON INSIDE OF ALL HSS FRAMES EVERY 8' UP TO TOP OF FRAME. STONE WALL, SEE LANDSCAPE DWGS.
  - 11 NEW METAL FENCE WITH GATE, SEE LANDSCAPE DWGS.
  - 12 NEW PATH, SEE LANDSCAPE DWGS.
  - 13 EXISTING TREE TO REMAIN, PROTECT AS REQUIRED.
  - 14 NEW T.S. MASTS AT BRIDGE, SEE STRUCTURAL DWGS.
  - 15 NEW PAVERS, SEE LANDSCAPE DWGS.
  - 16 WOOD FRAMED BOARDWALK STRUCTURE THIS AREA.
  - 17

**METCALFE**  
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**Consultants**

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STRUCTURAL ENGINEER:  
Robert Schaefer  
CVM  
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MEP ENGINEER:  
MacMillan Associates, Inc.  
800-554-4300

**Client:**

**DOW GARDENS/  
WHITING FOREST**

2303 N. EASTMAN RD.  
MIDLAND, MI 48640

**General Notes:**

1. Contractors to be responsible for field verification of dimensions.
2. Utility architects immediately notify contractors before proceeding with work.

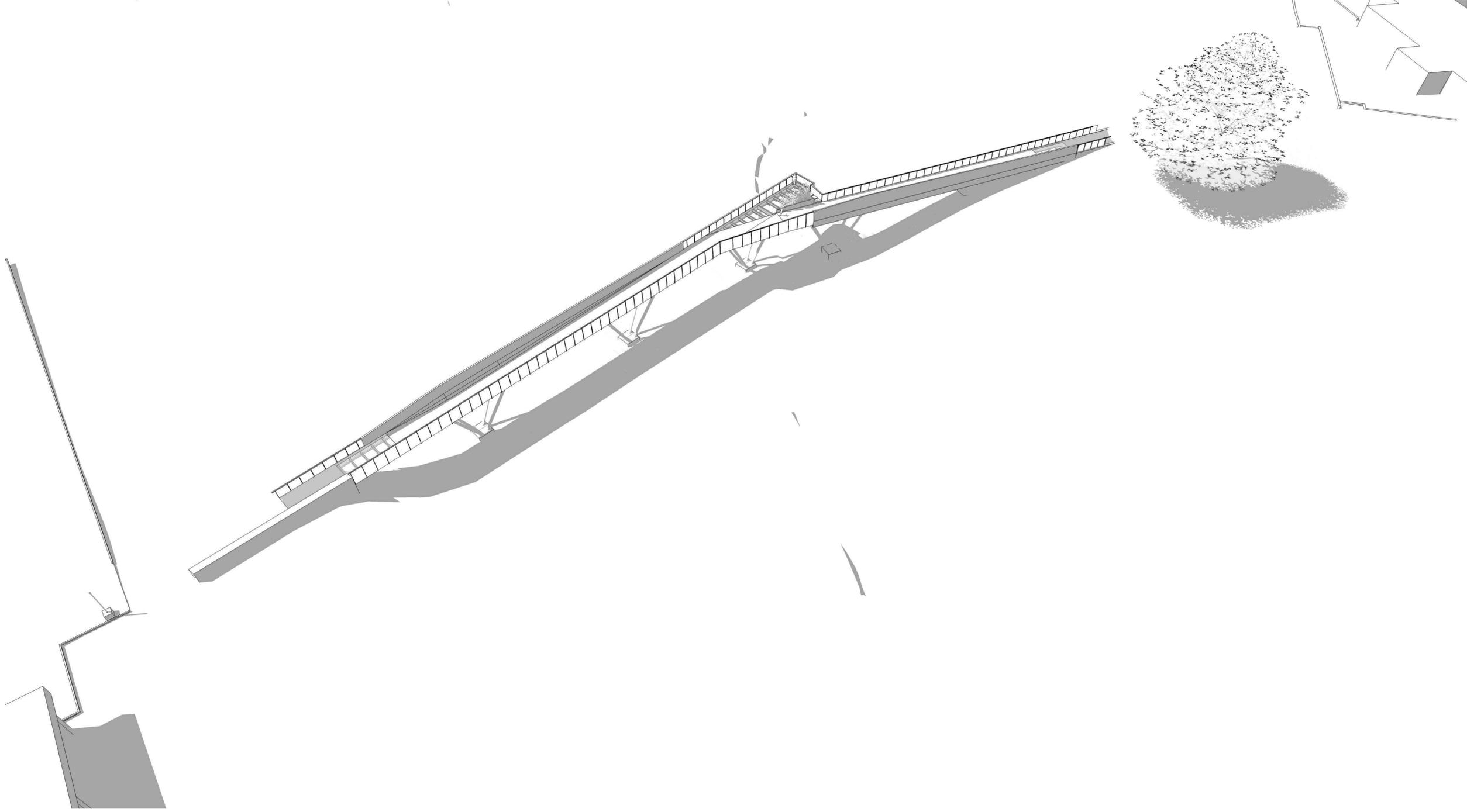
<b>Issue:</b> SCHEMATIC DESIGN	<b>Date:</b>
	<b>Revisions:</b>

**Dwg. Title:**  
ST ANDREWS BRIDGE  
DECK PLAN

**Dwg. No.:**  
**A-150**

**MA&D Proj. No.:** 1476.04

01 ST ANDREWS BRIDGE  
DECK PLAN  
SCALE: 1/32" = 1'-0"



Sheet Title:  
**VISITOR CENTER BRIDGE**  
 OVERALL  
 3D MASSING VIEW  
 Sheet No.:  
**A-11-000**  
 MA&D Proj. No.: 1476

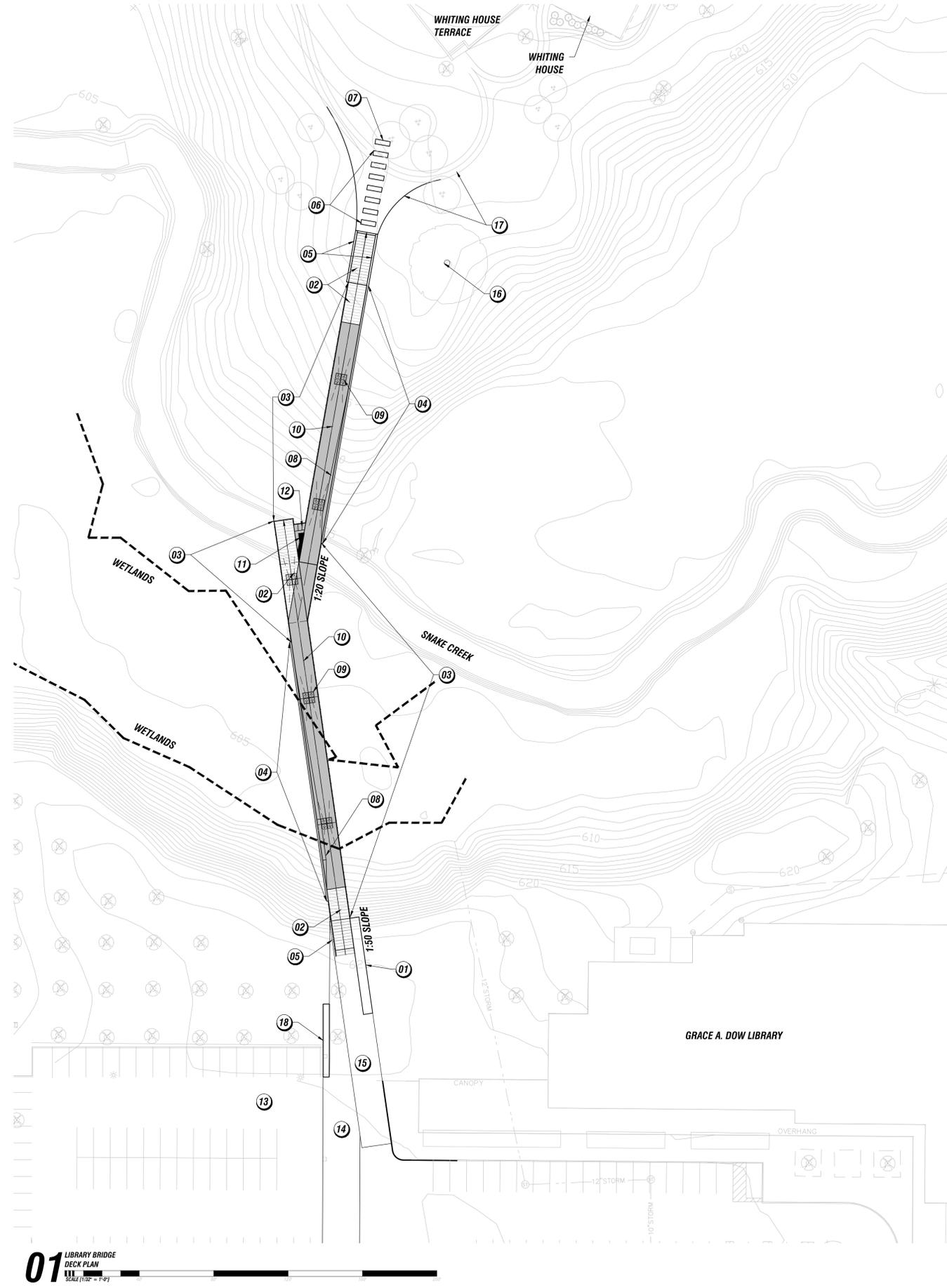
Issue: SD Pricing Set  
 Date: 02-26-16  
 Revisions:

General Notes:  
 1. Contractors to be responsible for field verification of dimensions.  
 2. Notify architect immediately for any conflicts before proceeding with work.

Client: **DOW GARDENS / WHITING FOREST**  
 Project: **PROJECT 11**  
**VISITOR CENTER BRIDGE**  
 Address: **2303 N. EASTMAN RD.**  
**MIDLAND, MI 48640**

Consultants  
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 JALA, Inc  
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 STRUCTURAL ENGINEER:  
 Robert Schaeffer  
 CVM  
 670-989-3400

  
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 ARCHITECTURE & DESIGN, LLC  
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 Suite 603  
 Philadelphia, PA 19107  
 V 215 521 3800



**01** LIBRARY BRIDGE  
DECK PLAN  
SCALE: 1/8" = 1'-0"

**NEW WORK KEYNOTES**

- (01) STONE WALL ABOVE CONCRETE ABUTMENT. TOP OF WALL TO BE 4'-0" ABOVE BRIDGE DECK.
- (02) METAL BAR GRATE DECKING.
- (03) STEEL GUARDRAIL POSTS, 4'-0" O.C. TYP. PAINTED, INVISINET INFILL. WOOD TOP RAIL, STAINED AND SEALED.
- (04) BLACK LOCUST SLATS FASTENED TO STEEL POSTS.
- (05) CONCRETE ABUTMENT. SEE STRUCTURAL DWGS.
- (06) NEW PAVERS.
- (07) NEW CONCRETE SLAB BENCH.
- (08) BUILT-IN BLACK LOCUST BENCH, SEALED.
- (09) 4-POST PIPE COLUMN ON CONCRETE PIER, PTD. SEE STRUCTURAL DWGS.
- (10) BLACK LOCUST DECKING, SEALED, ON P.T. NAILERS. DECK TO RUN PERPENDICULAR TO PATH OF TRAVEL.
- (11) BUILT-IN BLACK LOCUST BENCH, SEALED, WITH METAL ROD WIND GARDEN.
- (12) BLACK LOCUST STEPS, SEALED. PROVIDE METAL HANDRAIL.
- (13) NEW PARKING LOT LAYOUT BY OTHERS.
- (14) NEW PAVERS AT PROPOSED PATH, BY OTHERS.
- (15) NEW PAVERS, BY OTHERS.
- (16) EXISTING TREE TO REMAIN, PROTECT AS REQUIRED.
- (17) NEW PATH, SEE LANDSCAPE DRAWINGS.
- (18) STONE WALL, TOP OF WALL TO BE 1'-6" ABOVE GRADE.

**Consultants**

LANDSCAPE ARCH:  
Jonathan Anderson  
JALA, Inc  
610-371-9925

STRUCTURAL ENGINEER:  
Robert Scheffer  
CWM  
610-969-3400

MEP ENGINEER:  
MacMillan Associates, Inc.  
989-654-4300

**Client:**

**DOW GARDENS/  
WHITING FOREST**  
2303 N. EASTMAN RD.  
MIDLAND, MI 48640

**General Notes:**

- 1. Contractors to be responsible for field verification of dimensions.
- 2. Notify architects immediately for any changes before proceeding with work.

**Issue:**  
SCHEMATIC DESIGN

**Date:**

**Revisions:**

**Dwg. Title:**

LIBRARY BRIDGE  
DECK PLAN

**Dwg. No.:**

**A-160**

**MA&D Proj. No.: 1476.04**

**METCALFE**  
ARCHITECTURE & DESIGN, LLC

211 N. 10th Street  
Suite 503  
Philadelphia, PA 19107  
724.567.8200



Site Plan SP #350

Date: June 22, 2016

### **ADDENDUM STAFF REPORT TO THE PLANNING COMMISSION**

**SUBJECT:** Primrose Retirement Community

**APPLICANT:** Primrose Retirement Communities, LLC

**LOCATION:** 5900 Waldo Avenue

**ZONING:** (RB) Multiple-Family Residential with conditions:

- Multiple family dwellings are removed from the list of permitted land uses for the subject parcel.

**ADJACENT ZONE:** North: Township Zoning  
South: Township Zoning  
East: Township Zoning  
West: Township Zoning

**ADJACENT DEV:** North: Agriculture  
South: Agriculture  
East: Agriculture  
West: Agriculture and single-family homes.

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### **REPORT**

Site Plan No. 350, initiated by Primrose Retirement Communities, LLC, is a proposal for an 118,416 square foot retirement community. The proposal includes a catered living facility, a dining facility, a memory care facility, fourteen (14) two-unit villas for independent living, four (4) parking areas, stormwater detention facilities, and site landscaping elements.

This application was first presented at a public hearing held on June 14, 2016. Following completion of the public hearing and Planning Commission discussion, additional detail was requested from staff regarding the vehicle access proposed to the site. It was also requested of the applicant that the outstanding site plan review comments be addressed through revised plans.

### **STAFF COMMENTS**

Since completion of the public hearing, staff has received clarification from the City's traffic consultant regarding the proposed access. He has agreed to the driveway placement aligned

directly opposing Diamond Drive and is supportive of the three lane driveway that places the left turn movement lanes directly across from one another (head-to-head). The applicant has revised the site plan accordingly to meet these comments.

#### *Big Timber LTD Property Access Restriction*

Also since the public hearing, staff received a request from the surrounding property owner, Big Timber LTD (represented by Mr. Dave Rapanos), to draft a deed restriction agreement to limit the vehicle driveway access on the remainder of the property's frontage on Waldo Avenue to a single access point. The owner has voluntarily offered these two restrictions:

1. The establishment of a minimum distance from the Diamond Drive/Primrose intersection (likely 400 feet, per the advice of the City's traffic consultant) for the single access point; and
2. The requirement that any future divided lots take access from this single point via shared driveways, in the event land divisions along the east side of Waldo Avenue occur in the future.

The contents of this deed restriction are currently being drafted by the City Attorney's Office. It is anticipated that the agreement will be finalized, executed and recorded ahead of the Planning Commission meeting on June 28, 2016.

Staff is very supportive of this offer by Mr. Rapanos as it will establish a finite number of access points along the east side of Waldo Avenue for the remainder of the Big Timber's land holding frontage (approximately 670 feet). This alleviates the concern that an abundance of additional driveways could be developed along the east side of Waldo Avenue to the immediate north of the Primrose site.

#### *Outstanding Site Plan Review Items*

The applicant has submitted revised drawings that address a large portion of the concerns staff indicated in the June 8 staff report. The revised drawings have been enclosed in the packet for review. However, there are ten (10) items that are still outstanding as they were not addressed on the revised plans.

Staff received a letter of intent on Tuesday, June 21 from the applicant indicating that they will amend the site plan to resolve the ten (10) items ahead of the Planning Commission meeting. Staff anticipates receiving the revised plans on Monday, June 27. These plans will then be presented to the Planning Commission during the meeting.

The ten (10) outstanding items are as follows:

1. A photometric plan demonstrating compliance with the City's exterior lighting standards.
2. A landscaping plan updated with the new site driveway configuration to meet the City's landscaping ordinance.
3. Building heights noted on the site plan for all of the proposed structures.
4. A note indicating the height of the proposed vehicle overhang at the front entrance will have no less than 14' of clearance to accommodate emergency vehicles and Dial-A-Ride service.
5. The location of the Fire Department Connection (FDC) noted on the plan.
6. The location of the bar screen clean out on the sanitary sewer line prior to this utility line exiting the site.
7. Removal of the 20' sanitary sewer easement through the Primrose site as the line will be private within the development property.
8. Sanitary sewer stubs proposed just off the sanitary sewer connection from Waldo should be 10" rather than 8".

9. A 7' sidewalk is needed abutting the parking spaces where vehicle overhang is possible, rather than 5'.
10. The minor modification of the stormwater design to accommodate the stormwater flow within the ditch on the southwest corner of the site.

### **CONTINGENCY ITEMS**

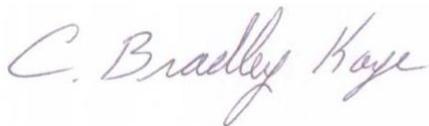
During the meeting, if the Commission feels that all necessary information has been provided to address the outstanding concerns, staff suggests that approval be given with the following contingencies:

1. A final stormwater management permit must be approved by the City Engineering Department.
2. A final soil and sedimentation control plan must be approved by the City Building Department.
3. Public water utility easement documents shall be submitted for review and approval by the City Engineering Department and the City Attorney, and executed and recorded at the Midland County Register of Deeds upon approval.
4. A private stormwater easement through the abutting parcel shall be submitted for review and approval by the City Engineering and City Planning Departments, and executed and recorded at the Midland County Register of Deeds upon approval.

### **PLANNING COMMISSION ACTION**

Staff currently anticipates that the Planning Commission will formulate a recommendation to City Council at the June 28, 2016 meeting, if the Commission feels that all necessary information has been provided. If recommended to City Council that evening, we anticipate that on July 18, 2016 the City Council will consider the site plan and Planning Commission recommendation. Please note that these dates are merely preliminary and may be adjusted due to Planning Commission action and City Council agenda scheduling.

Respectfully Submitted,



C. Bradley Kaye, AICP, CFM  
Assistant City Manager for Development Services

/grm



Survey ▪ Inspection ▪ Testing ▪ Engineering

401 Balsam, PO Box 159, Carrollton, MI 48724-0159

989-752-6500

June 21, 2016

C. Bradley Kaye, *AICP, CFM*  
City of Midland  
333 West Ellsworth Street  
Midland, Michigan 48640

**Re: Primrose Retirement Communities**

Dear Brad,

We understand that the ten remaining and outstanding items will need to be addressed prior to the Planning Commission meeting on Tuesday, June 28, 2016 at 7:00 pm. We intend to amend the site plan accordingly, and will get revised plans to your office no later than 12:00 pm EST on Monday, June 27, 2016.

If you have any questions or concerns, please give me a call.

Respectfully,

A handwritten signature in black ink, appearing to read "S. A. Lenhart", written in a cursive style.

**D&M SITE, Inc.**  
Scott A. Lenhart, EIT  
Engineer

# PRIMROSE RETIREMENT COMMUNITIES

N. WALDO ROAD  
SECTION 1, TOWN 14 NORTH, RANGE 2 EAST  
CITY OF MIDLAND, MIDLAND COUNTY, MICHIGAN

## OWNER

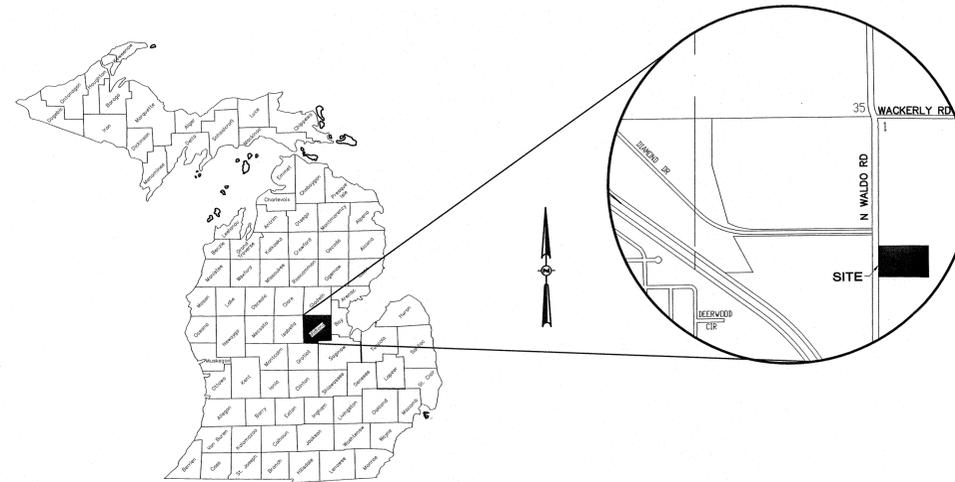
PRIMROSE RETIREMENT COMMUNITIES  
815 NORTH 2nd ST.  
ABERDEEN, S. DAKOTA 57401

CONTACT: BRAD ANDERA  
PHONE: (605) 226-3300  
EMAIL: bandera@primroseretirement.com

## CIVIL ENGINEER

D&M SITE, INC  
401 BALSAM STREET  
P.O. BOX 159  
CARROLLTON, MI 48724

JOHN D MOREY  
PHONE: (989) 752-6500  
EMAIL: jmorey@dandmsite.com



LOCATION MAP  
NOT TO SCALE

## DRAWING INDEX

- C1.0 COVER SHEET
- C2.0 TOPOGRAPHIC SURVEY
- C2.1 DEMOLITION PLAN
- C3.0 SITE PLAN
- C3.1 GRADING
- C3.2 UTILITY PLAN
- C3.3 GRADING / UTILITY PLAN
- C3.4 PROPOSED DRAINAGE TABLES
- C3.5 SOIL EROSION SEDIMENTATION CONTROL PLAN
- C3.6 VILA UTILITY PLAN
- C4.0 DETAIL SHEET
- C4.1 DETAIL SHEET
- C4.2 DETAIL SHEET
- L1.0 LANDSCAPING PLAN
- L1.1 LANDSCAPING PLAN

LEGEND	
	MONUMENT / SECTION CORNER
	FOUND PROPERTY IRON
	SET PROPERTY IRON
	EXISTING CATCHBASIN
	PROPOSED CATCHBASIN
	EXISTING MANHOLE/CATCHBASIN
	PROPOSED MANHOLE/CATCHBASIN
	EXISTING MANHOLE
	PROPOSED MANHOLE
	EXISTING HYDRANT
	PROPOSED HYDRANT
	EXISTING VALVE
	PROPOSED VALVE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	EXISTING WATERMAIN
	PROPOSED WATERMAIN
	EXISTING LIGHT POLES
	PROPOSED LIGHT POLES
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING CONCRETE SURFACE
	EXISTING BIT SURFACE
	EXISTING FENCE LINE
	UNDERGROUND ELECTRIC LINE
	UNDERGROUND GAS LINE
	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE T.V. LINE
	OVERHEAD ELECTRICAL WIRES
	EXISTING DECIDUOUS TREES
	EXISTING CONIFEROUS TREES
	EXISTING SIGN
	EXISTING UTILITY POWER POLE
	EXISTING TELEPHONE RISER
	PROPOSED FLOW ARROW
	PROPOSED CONTOURS
	PROPOSED MODIFIED CURB AND GUTTER
	PROPOSED TOP OF CURB ELEVATION
	PROPOSED FINISH SURFACE ELEVATION
	PROPOSED TOP OF WALK ELEVATION

BENCHMARKS	
B.M. #1 - 2-HEADED NAIL IN EAST FACE OF POWER POLE AT SOUTHWEST QUADRANT OF DIAMOND DR. AND WALDO ROAD. (CITY BENCHMARK # 2934) CITY OF MIDLAND ELEV. 670.11	
B.M. #2 - RR SPIKE IN EAST FACE OF POWER POLE ON EAST SIDE OF WALDO ROAD. CITY OF MIDLAND ELEV. 669.58	

FLOODPLAIN INFORMATION	
CITY OF MIDLAND MIDLAND COUNTY STATE MAP NUMBER: 26111C0200E PANEL NOT PRINTED	



**UTILITY NOTE**

THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

**ZONING INFORMATION**

ZONED- RB (RESIDENTIAL B)

<b>REQUIRED:</b>	<b>PROVIDED:</b>
LOT MINIMUM- AREA: - 10,000 SFT.	LOT MINIMUM- AREA: - 585,000 SFT
WIDTH: - 70'	WIDTH: - 650.00'
MAX HEIGHT- FEET: - 28'	MAX HEIGHT- FEET: 21'
SETBACKS- FRONT: - 25'	SETBACKS- FRONT: - 25'
REAR: - 25'	REAR: - 25'
SIDE: - 25' MIN TOTAL OF 50'	SIDE: - 25'

UTILITY CONTACTS	
<b>TELEPHONE</b> AT & T C/O ENGINEERING DEPARTMENT ROOM 525A 308 S. WASHINGTON AVE. SAGINAW, MICHIGAN 48607 ROB AUGUSTINE (989) 771-5404	<b>GAS AND ELECTRIC</b> CONSUMERS ENERGY 2400 WEISS STREET SAGINAW, MICHIGAN 48602 KEVIN COUTURIER - GAS DIV. (989) 791-5885 GREG SQUANDA ELEC. DIV. (989) 791-5353
<b>ZONING</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 837-3300	<b>WATER DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 ANDY PARROT (989) 837-3348
<b>WASTE WTR. DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 STEVE SMITH (989) 837-3504	<b>ENGINEERING DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JOSH FEDRICKSON (989) 837-3352
<b>SIGNS AND SIGNALS</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JEFF MURPHY (989) 837-3354	<b>CABLE TELEVISION</b> CHARTER COMMUNICATIONS MARK KELLY (989) 233-9404
<b>STORM SEWER</b> MIDLAND COUNTY ROAD COMM. ENGINEERING DEPT. 2334 NORTH MERIDIAN RD. MIDLAND, MICHIGAN 48657 (989) 687-9060	<b>DRAIN</b> MIDLAND COUNTY DRAIN COMM. ENGINEERING DEPT. 220 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 832-6770

PROJECT LOG	
START DRAINING	
PLANNING COMMISSION SUBMITTAL	
FILE: 2016-106-SHEETS	
PROJECT MGR: JDM	DESIGNED BY: SML
DRAWN BY: M.McD.	CHECKED BY:
SCALE:	SHEET: 1 OF 15

**PRIMROSE RETIREMENT COMMUNITIES**  
MR. BRAD ANDERA  
815 NORTH 2nd ST.  
ABERDEEN, S. DAKOTA 57401  
605-226-3300

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R2E  
MIDLAND COUNTY, MICHIGAN  
COVER SHEET

**D&M SITE, INC.**  
Surveying • Inspection • Testing • Engineering  
401 BALSAM STREET P.O. BOX 159, CARROLLTON, MICHIGAN 48724  
PHONE (989) 752-6500 • FAX (989) 752-6600

**C1.0**  
2016.106

120-002-100-170-00  
SECTION 1  
T14N-R2E  
8917 WALDO RD.  
HLAYACKER, DALE J ET UX  
MIDLAND, MI 48842

120-002-100-175-00  
5811 WALDO RD.  
KAMINSKI, TIMOTHY C  
5811 WALDO RD  
MIDLAND, MI 48842

120-002-100-281-00  
CHRISTIAN CUL SWAMP CENTER  
8300 SWENDE AVE  
MIDLAND, MI 48840  
ZONED RA-1

120-002-100-300-00  
BLIEBENER, ROLAND C  
5505 WALDO RD.  
MIDLAND, MI 48842

14-02-30-100  
BIG TIMBER LLC  
5401 WALDO AVE  
MIDLAND, MI 48842



Know what's below.  
Call before you dig.

N. WALDO ROAD

33' R/W

10' UTIL. ESMT.

W LINE OF SECTION 1

12" WTR

**FLOODPLAIN INFORMATION**  
CITY OF MIDLAND  
MIDLAND COUNTY, STATE  
MAP NUMBER: 261102002E  
PANEL NOT PRINTED

**UTILITY NOTE**  
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REAR: - 25'  
SIDE: - 25' MIN TOTAL OF 50'

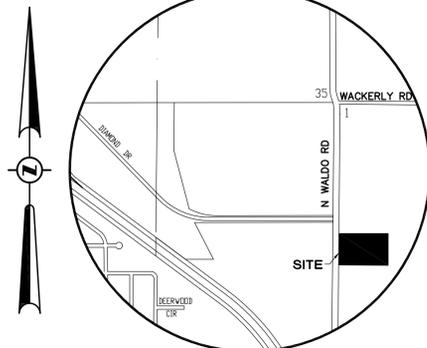
**BENCHMARKS**  
B.M. #1 - 2-HEADED NAIL IN EAST FACE OF POWER POLE AT SOUTHWEST QUADRANT OF DIAMOND DR. AND WALDO ROAD. (CITY BENCHMARK # 2934)  
CITY OF MIDLAND ELEV. 670.11  
B.M. #2 - RR SPIKE IN EAST FACE OF POWER POLE ON EAST SIDE OF WALDO ROAD.  
CITY OF MIDLAND ELEV. 669.58

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD  
AREA 13.43 ACRES  
PROPOSED ZONE RB

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

NO. 14-01-50-500  
3401 E. WHEELER RD  
RAPANOS, J A FAMILY TRUST #1  
ZONED RA-1



**LOCATION MAP**

NOT TO SCALE  
**GRAPHIC SCALE**  
0 25 50 100  
( IN FEET )  
1 inch = 50 ft.

**LEGEND**

	MONUMENT / SECTION CORNER
	FOUND PROPERTY IRON
	SET PROPERTY IRON
	EXISTING CATCHBASIN
	EXISTING MANHOLE/CATCHBASIN
	EXISTING MANHOLE
	EXISTING HYDRANT
	EXISTING VALVE
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING WATERMAIN
	EXISTING FENCE LINE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING UNDERGROUND GAS LINE
	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING CENTERLINE
	EXISTING OVERHEAD ELECTRICAL WIRES
	EXISTING MAILBOX / NEWSPAPER BOX
	EXISTING SIGN
	EXISTING DECIDUOUS TREES
	EXISTING CONIFEROUS TREES
	EXISTING UTILITY POWER POLE
	EXISTING TELEPHONE RISER

**LEGAL DESCRIPTION**

PARCEL A (PART OF PARCEL NO. 14-01-70-400) PART OF THE SOUTH 1/2 OF THE NORTHWEST QUADRANT OF SECTION 1, T14N-R2E, CITY OF MIDLAND, MIDLAND COUNTY, MICHIGAN BEING FURTHER DESCRIBED AS BEGINNING AT THE WEST 1/4 CORNER OF SAID SECTION 1; THENCE N00°00'46"W 650.00 FEET ALONG THE WEST LINE OF SAID SECTION; THENCE S89°59'33"E 900.00 FEET PARALLEL WITH THE EAST-WEST 1/4 LINE OF SAID SECTION 1; THENCE S00°00'46"E 650.00 FEET TO SAID EAST-WEST 1/4 LINE; THENCE N89°59'33"W 900.00 FEET ALONG SAID 1/4 LINE TO THE POINT OF BEGINNING, CONTAINING 13.43 ACRES, MORE OR LESS, AND SUBJECT TO ANY AND ALL EASEMENTS AND OR RIGHTS-OF-WAY WHETHER USED, IMPLIED OR OF RECORD.

**UTILITY CONTACTS**

<b>TELEPHONE</b> AT & T 2400 NESS STREET ROOM 525A 309 S. WASHINGTON AVE. SAGINAW, MICHIGAN 48607 ROB AUGUSTINE (989) 771-5404	<b>GAS AND ELECTRIC</b> CONSUMERS ENERGY 333 W. ELLSWORTH ST. SAGINAW, MICHIGAN 48602 KEVIN COUTURIER - GAS DIV. (989) 791-5885 GREG SQUANDA ELEC. DIV. (989) 791-5353
<b>ZONING</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 837-3300	<b>WATER DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 ANDY PARROT (989) 837-3348
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**CERTIFICATION**

I, BRIAN D FERGUSON A PROFESSIONAL SURVEYOR, BEING DULY LICENSED BY THE STATE OF MICHIGAN, DO HEREBY CERTIFY THAT I HAVE CAUSED THE PROPERTY HEREON SHOWN, TO BE SURVEYED AND MAPPED IN ACCORDANCE WITH ALL LOCAL AND STATE ACCEPTED PRACTICES FOR THE ACCURACY OF A SURVEY OF THIS TYPE. I ALSO CERTIFY THAT THE EXISTING CONDITIONS OF THE PROPERTY ARE AS SHOWN HEREON.

BRIAN D FERGUSON, PS #26454 DATE

PREPARED UNDER THE SUPERVISION OF:

FILE: 2016-106-SHEETS	START DRAWING: 5/20/16
PROJECT MGR: JDM	PLANNING COMMISSION SUBMITTAL
DESIGNED BY: SAL	
DRAWN BY: M.M.D.	
CHECKED BY:	
SCALE: 1"=50'	
SHEET: 2	OF 15

**PRIMROSE RETIREMENT COMMUNITIES**  
815 NORTH 2nd  
ABERDEEN, S. DAKOTA 57401  
MR. BRAD ANDERA

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R2E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN  
TOPOGRAPHIC SURVEY

**D & M SITE INC.**  
Surveying, Inspection, Testing, Engineering  
401 BALSAM STREET PO BOX 159, CARROLLTON, MICHIGAN 48724  
PHONE: (989) 752-6888 FAX: (989) 752-6860

**C2.0**  
2016.106

120-002-100-170-00  
5917 WALDO RD.  
HLAVACEK, DALE J ET UX  
MIDLAND, MI 48842

120-002-100-175-00  
5911 WALDO RD.  
KAMINSKI, TIMOTHY C  
5911 WALDO RD  
MIDLAND, MI 48842

120-002-100-251-00  
1317 N. WALDO RD.  
CHRISTIAN CELEBRATION CENTER  
6100 SWEDDED AVE.  
MIDLAND, MI 48840  
ZONED RA-1

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MIDLAND, MI 48842

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BIG TIMBER LLC  
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MIDLAND, MI 48842



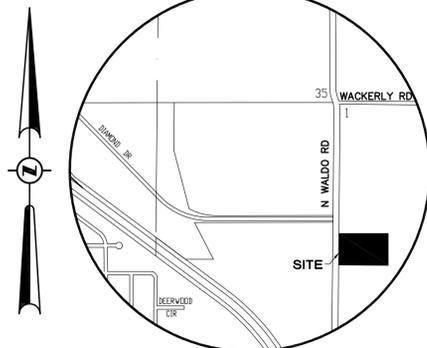
Know what's below.  
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**FLOODPLAIN INFORMATION**  
CITY OF MIDLAND  
MIDLAND COUNTY, STATE  
MAP NUMBER: 261110200E  
PANEL NOT PRINTED

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SIDE: - 25' MIN TOTAL OF 50'

**BENCHMARKS**  
B.M. #1 - 2-HEADED NAIL IN EAST FACE OF POWER POLE AT SOUTHWEST QUADRANT OF DIAMOND DR. AND WALDO ROAD. (CITY BENCHMARK # 2934)  
CITY OF MIDLAND ELEV. 670.11  
B.M. #2 - RR SPIKE IN EAST FACE OF POWER POLE ON EAST SIDE OF WALDO ROAD.  
CITY OF MIDLAND ELEV. 669.58



**LOCATION MAP**  
NOT TO SCALE  
**GRAPHIC SCALE**  
0 25 50 100  
( IN FEET )  
1 inch = 50 ft.

**LEGEND**

	MONUMENT / SECTION CORNER
	FOUND PROPERTY IRON
	SET PROPERTY IRON
	EXISTING CATCHBASIN
	EXISTING MANHOLE/CATCHBASIN
	EXISTING MANHOLE
	EXISTING HYDRANT
	EXISTING VALVE
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING WATERMAIN
	EXISTING FENCE LINE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING UNDERGROUND GAS LINE
	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING CENTERLINE
	EXISTING OVERHEAD ELECTRICAL WIRES
	EXISTING MAILBOX / NEWSPAPER BOX
	EXISTING SIGN
	EXISTING DECIDUOUS TREES
	EXISTING CONIFEROUS TREES
	EXISTING UTILITY POWER POLE
	EXISTING TELEPHONE RISER

**LEGAL DESCRIPTION**  
PARCEL A (PART OF PARCEL NO. 14-01-70-400)  
PART OF THE SOUTH 1/2 OF THE NORTHWEST FRACTIONAL 1/4 OF SECTION 1, T14N-R2E, CITY OF MIDLAND, MIDLAND COUNTY, MICHIGAN BEING FURTHER DESCRIBED AS BEGINNING AT THE WEST 1/4 CORNER OF SAID SECTION 1; THENCE N00°00'46"W 650.00 FEET ALONG THE WEST LINE OF SAID SECTION; THENCE S89°59'33"E 900.00 FEET PARALLEL WITH THE EAST-WEST 1/4 LINE OF SAID SECTION 1; THENCE S00°00'46"E 650.00 FEET TO SAID EAST-WEST 1/4 LINE; THENCE N89°59'33"W 900.00 FEET ALONG SAID 1/4 LINE TO THE POINT OF BEGINNING, CONTAINING 13.43 ACRES, MORE OR LESS, AND SUBJECT TO ANY AND ALL EASEMENTS AND OR RIGHTS-OF-WAY WHETHER USED, IMPLIED OR OF RECORD.

**UTILITY CONTACTS**

<b>TELEPHONE</b> AT & T 2400 NEISS STREET ROOM 525A 309 S. WASHINGTON AVE. SAGINAW, MICHIGAN 48607 ROB AUGUSTINE (989) 771-5404	<b>GAS AND ELECTRIC</b> CONSUMERS ENERGY SAGINAW, MICHIGAN 48602 KEVIN COUTURIER - GAS DIV. (989) 791-5885 GREG SQUANDA ELEC. DIV. (989) 791-5353
<b>ZONING</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 837-3300	<b>WATER DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 ANDY PARROT (989) 837-3348
<b>WASTE WTR. DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 STEVE SMITH (989) 837-3504	<b>ENGINEERING DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JOSH FEDRICKSON (989) 837-3352
<b>SIGNS AND SIGNALS</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JEFF MURPHY (989) 837-3354	<b>CABLE TELEVISION</b> CHARTER COMMUNICATIONS MARK KELLY (989) 233-9404
<b>STORM SEWER</b> MIDLAND COUNTY ROAD COMM. ENGINEERING DEPT. 2334 NORTH MERIDIAN RD. MIDLAND, MICHIGAN 48657 (989) 687-9060	<b>DRAIN</b> MIDLAND COUNTY DRAIN COMM. ENGINEERING DEPT. 220 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 832-6770

**CERTIFICATION**  
I, BRIAN D FERGUSON A PROFESSIONAL SURVEYOR, BEING DULY LICENSED BY THE STATE OF MICHIGAN, DO HEREBY CERTIFY THAT I HAVE CAUSED THE PROPERTY HEREON SHOWN, TO BE SURVEYED AND MAPPED IN ACCORDANCE WITH ALL LOCAL AND STATE ACCEPTED PRACTICES FOR THE ACCURACY OF A SURVEY OF THIS TYPE. I ALSO CERTIFY THAT THE EXISTING CONDITIONS OF THE PROPERTY ARE AS SHOWN HEREON.  
BRIAN D FERGUSON, PS #26454 DATE

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD  
AREA 13.43 ACRES  
PROPOSED ZONE RB

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

NO. 14-01-50-500  
3401 E. WHEELER RD  
RAPANOS, J A FAMILY TRUST #1  
ZONED RA-1

**PROJECT LOG**

FILE: 2016-106-SHEETS	DATE: 12-16
PROJECT MGR: JDM	5/20/16
DESIGNED BY: SAL	
DRAWN BY: M.M.D.	
CHECKED BY:	
SCALE: 1"=50'	
SHEET: 3	OF 15

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R2E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN  
815 NORTH 2nd  
ABERDEEN, S. DAKOTA 57401  
MR. BRAD ANDERA

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R2E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN  
DEMOLITION PLAN

**D&M SITE INC.**  
Surveying • Inspection • Testing • Engineering  
401 BALSAM STREET, PO BOX 159, CARROLLTON, MICHIGAN 48724  
PHONE: (989) 752-6868 • FAX: (989) 752-6860

**C2.1**  
2016.106

120-002-100-170-00  
6917 WALDO RD.  
HLAVACEK, DALE J ET UX  
MIDLAND, MI 48842

120-002-100-175-00  
6911 WALDO RD.  
KAMINSKI, TIMOTHY C  
6911 WALDO RD  
MIDLAND, MI 48842

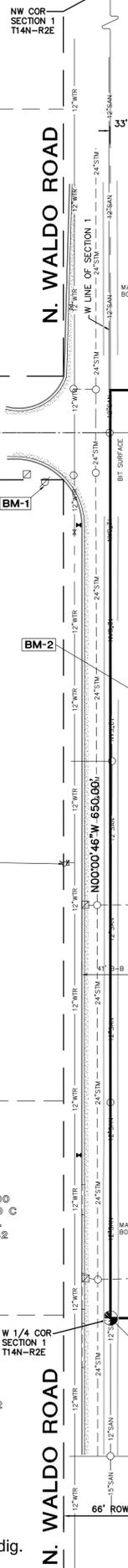
120-002-100-251-00  
1817 N. WALDO RD.  
CHRISTIAN CELEBRATION CENTER  
6100 SWEDEB AVL.  
MIDLAND, MI 48842  
ZONED RA-1

120-002-100-300-00  
BLESENER, ROLAND C  
8508 WALDO RD.  
MIDLAND, MI 48842

14-02-30-100  
BIG TIMBER LLC  
5401 WALDO AVE  
MIDLAND, MI 48842



Know what's below.  
Call before you dig.



N. WALDO ROAD

N. WALDO ROAD

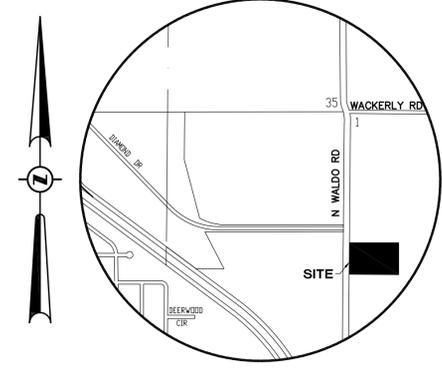
PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD  
AREA 13.43 ACRES  
PROPOSED ZONE RB

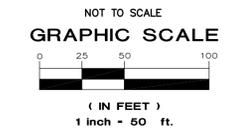
PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

BENCHMARKS	
B.M. #1 - 2-HEADED NAIL IN EAST FACE OF POWER POLE AT SOUTHWEST QUADRANT OF DIAMOND DR. AND WALDO ROAD. (CITY BENCHMARK # 2934)	CITY OF MIDLAND ELEV. 670.11
B.M. #2 - RR SPIKE IN EAST FACE OF POWER POLE ON EAST SIDE OF WALDO ROAD.	CITY OF MIDLAND ELEV. 669.58
B.M. #3 - ARROW ON HYDRANT WEST SIDE OF NORTH WALDO ROAD - MIDDLE OF PROPERTY.	CITY OF MIDLAND ELEV. 670.50
B.M. #4 - NAIL IN NORTH FACE OF 20" TRIPLE TREE 447± EAST OF CENTERLINE OF NORTH WALDO ROAD AND NEAR SOUTH PROPERTY LINE.	CITY OF MIDLAND ELEV. 668.31

PARKING	
REQUIRED NUMBER OF PARKING SPACES:	
LAND USE	REQUIREMENT
HOUSING FOR THE ELDERLY, DEPENDANT CARE	ONE (1) SPACE PER 5 BEDS + ONE SPACE PER EMPLOYEE PRESENT ON GREATEST SHIFT. GUEST PARKING SHALL BE PROVIDED AT A RATE OF 1 ADDITIONAL SPACE PER 3 DWELLING UNITS.
HOUSING FOR THE ELDERLY, DEPENDANT CARE REQUIRED	NUMBER OF PARKING SPACES: 74 BEDS / 5 BEDS = 15 + EMPLOYEES PRESENT ON LARGEST SHIFT = 30 + GUEST 74 / 3 = 25
REQUIRED NUMBER OF PARKING SPACES:	84 PARKING SPACES, (INCLUDING 4 HANDICAP ACCESSIBLE SPACES)
PROVIDED NUMBER OF PARKING SPACES:	84 PARKING SPACES, (INCLUDING 8 HANDICAP ACCESSIBLE SPACES)



LOCATION MAP



LEGEND	
	MONUMENT / SECTION CORNER
	FOUND PROPERTY IRON
	SET PROPERTY IRON
	EXISTING CATCHBASIN
	PROPOSED CATCHBASIN
	EXISTING MANHOLE/CATCHBASIN
	PROPOSED MANHOLE/CATCHBASIN
	EXISTING MANHOLE
	PROPOSED MANHOLE
	EXISTING HYDRANT
	PROPOSED HYDRANT
	EXISTING VALVE
	PROPOSED VALVE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	EXISTING WATERMAIN
	PROPOSED WATERMAIN
	EXISTING LIGHT POLES
	PROPOSED LIGHT POLES
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING CONCRETE SURFACE
	EXISTING BIT SURFACE
	EXISTING FENCE LINE
	UNDERGROUND ELECTRIC LINE
	UNDERGROUND GAS LINE
	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE T.V. LINE
	OVERHEAD ELECTRICAL WIRES
	EXISTING DECIDUOUS TREES
	EXISTING CONIFEROUS TREES
	EXISTING SIGN
	EXISTING UTILITY POWER POLE
	EXISTING TELEPHONE RISER
	PROPOSED FLOW ARROW
	PROPOSED CONTOURS
	PROPOSED MODIFIED CURB AND GUTTER
	PROPOSED TOP OF CURB ELEVATION
	PROPOSED FINISH SURFACE ELEVATION
	PROPOSED TOP OF WALK ELEVATION

**LEGAL DESCRIPTION**

PARCEL A (PART OF PARCEL NO. 14-01-70-400) PART OF THE SOUTH 1/2 OF THE NORTHWEST FRACTIONAL 1/4 OF SECTION 1, T14N-R2E, CITY OF MIDLAND, MIDLAND COUNTY, MICHIGAN BEING FURTHER DESCRIBED AS BEGINNING AT THE WEST 1/4 CORNER OF SAID SECTION 1; THENCE N00°00'46"W 650.00 FEET ALONG THE WEST LINE OF SAID SECTION; THENCE S89°59'33"E 900.00 FEET PARALLEL WITH THE EAST-WEST 1/4 LINE OF SAID SECTION 1; THENCE S00°00'46"E 650.00 FEET TO SAID EAST-WEST 1/4 LINE; THENCE N89°59'33"W 900.00 FEET ALONG SAID 1/4 LINE TO THE POINT OF BEGINNING, CONTAINING 13.43 ACRES, MORE OR LESS, AND SUBJECT TO ANY AND ALL EASEMENTS AND OR RIGHTS-OF-WAY WHETHER USED, IMPLIED OR OF RECORD.

ZONING INFORMATION	
ZONED- RB (RESIDENTIAL B)	
REQUIRED:	PROVIDED:
LOT MINIMUM:	LOT MINIMUM:
AREA: - 10,000 SFT.	AREA: - 585,000 SFT
WIDTH: - 70'	WIDTH: - 650.00'
MAX HEIGHT:	MAX HEIGHT:
FEET: - 28'	FEET: 21'
SETBACKS:	SETBACKS:
FRONT: - 25'	FRONT: - 25'
REAR: - 25'	REAR: - 25'
SIDE: - 25' MIN TOTAL OF 50'	SIDE: - 25'

PREPARED UNDER THE SUPERVISION OF:

PROJECT LOG

FILE: 2016-106-SHEETS	START DRAWING: 04-12-16	PLANNING COMMISSION SUBMITAL: 5/22/16
PROJECT MGR: JDM	DESIGNED BY: SAL	DRAWN BY: M.Mgd.
CHECKED BY:		
SCALE: 1"=50'		
SHEET: 4	OF 15	

**PRIMROSE RETIREMENT COMMUNITIES**  
815 NORTH 2nd ABERDEEN, MIDLAND, MI 48740  
MR. BRAD ANDEREA

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R2E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN

**SITE PLAN**

**D&M SITE INC.**  
Surveying, Inspection - Testing - Engineering  
401 BALSAM STREET PO BOX 159, CARROLLTON, MICHIGAN 48724  
PHONE (889) 752-4500 FAX (889) 752-6600

**C3.0**  
2016.106

120-002-100-170-00  
6917 WALDO RD.  
HLAVACEK, DALE J ET UX  
MIDLAND, MI 48642

120-002-100-175-00  
6911 WALDO RD.  
KAMINSKI, TIMOTHY C  
6911 WALDO RD  
MIDLAND, MI 48642

CENTERLINE OF  
DIAMOND DRIVE

PROP. BORE & JACK 52 LF OF  
GRADE B WELDED STEEL PIPE  
SLEEVE 20" I.D. W/ 1/4" MINIMUM  
WALL THICKNESS.

120-002-100-281-00  
1817 N WALDO RD  
CHRISTIAN CELEBRATION CENTER  
6100 SWEDEA AVE.  
MIDLAND, MI 48640  
ZONED RA-1

120-002-100-281-00  
1817 N WALDO RD  
CHRISTIAN CELEBRATION CENTER  
6100 SWEDEA AVE.  
MIDLAND, MI 48640  
ZONED RA-1

PROP. BORE & JACK 52 LF OF  
GRADE B WELDED STEEL PIPE  
SLEEVE 20" I.D. W/ 1/4" MINIMUM  
WALL THICKNESS.

120-002-100-300-00  
BLESNER, ROLAND C  
5505 WALDO RD.  
MIDLAND, MI 48642

14-02-30-100  
BIG TIMBER LLC  
5401 WALDO AVE  
MIDLAND, MI 48642



Know what's below.  
Call before you dig.

N. WALDO ROAD  
66' ROW

14-01-70-400  
BIG TIMBER LTD  
AREA 13.43 ACRES  
PROPOSED ZONE RB

NO. 14-01-30-300  
3401 E. WHEELER RD  
RAPANOS, J A FAMILY TRUST #1  
ZONED RA-1

**BORE AND JACK NOTE**  
THE WATERMAIN CASING SHALL CONSIST OF FURNISHING AND PLACING A 20" EPOXY COATED STEEL CASING PIPE WITH A MINIMUM WALL THICKNESS OF 1/4 (0.25) INCH 5" BEHIND THE CURB ON EACH SIDE OF THE ROADWAY. ALL JOINTS ON THE CASING PIPE SHALL BE WELDED. THE BORE PIT SHALL BE PROTECTED WITH STEEL SHEET PILING TO MINIMIZE DAMAGE TO THE SURROUNDING AREAS. THE BORING SHALL BE COMPLETED IN ACCORDANCE WITH M.D.O.T. "PROVISIONS FOR BORE AND JACK CONSTRUCTION IN CONNECTION WITH PERMIT OPERATIONS". THE ANNULAR SPACE BETWEEN THE WATERMAIN PIPE AND CASING SHALL BE FILLED WITH PEA STONE. BOTH ENDS OF THE CASING SHALL BE BULKHEADED WITH 12" OF COMMERCIAL GRADE CONCRETE. THE WATERMAIN PIPE SHALL BE INSTALLED IN THE CENTER OF THE CASING PIPE WITH CASING SPACERS (WOOD SPACERS WILL NOT BE ALLOWED). THE METHOD OF PLACEMENT OF THE WATERMAIN WITHIN THE CASING PIPE SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

**WATERMAIN NOTE**  
WATERMAIN PLAN AND PROFILES WILL BE PROVIDED AT THE APPROPRIATE TIME/BEFORE BUILDING PERMIT APPLICATION.

**DETENTION CALCULATIONS**  
TOTAL SITE AREA: 563,549.96 SFT / 12.94 ACRES  
TOTAL IMPERVIOUS AREA: 242,481.70 SFT / 5.57 ACRES  
TOTAL PERVIOUS AREA: 321,068.26 SFT / 7.37 ACRES  
NOTE: DETAILED STORM CALCULATIONS WILL BE PROVIDED AT THE APPROPRIATE TIME/BEFORE BUILDING PERMIT APPLICATION.

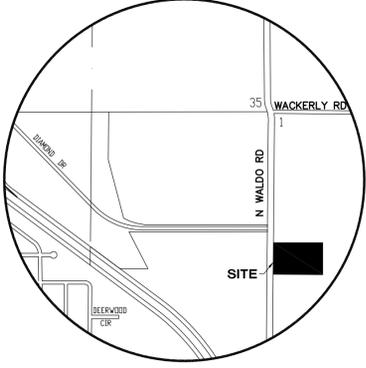
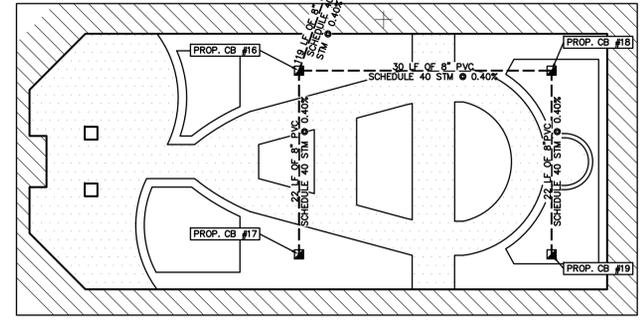
**SANITARY SEWER NOTE**  
SANITARY SEWER PLAN AND PROFILES WILL BE PROVIDED AT THE APPROPRIATE TIME/BEFORE BUILDING PERMIT APPLICATION.

**BORE AND JACK NOTE**  
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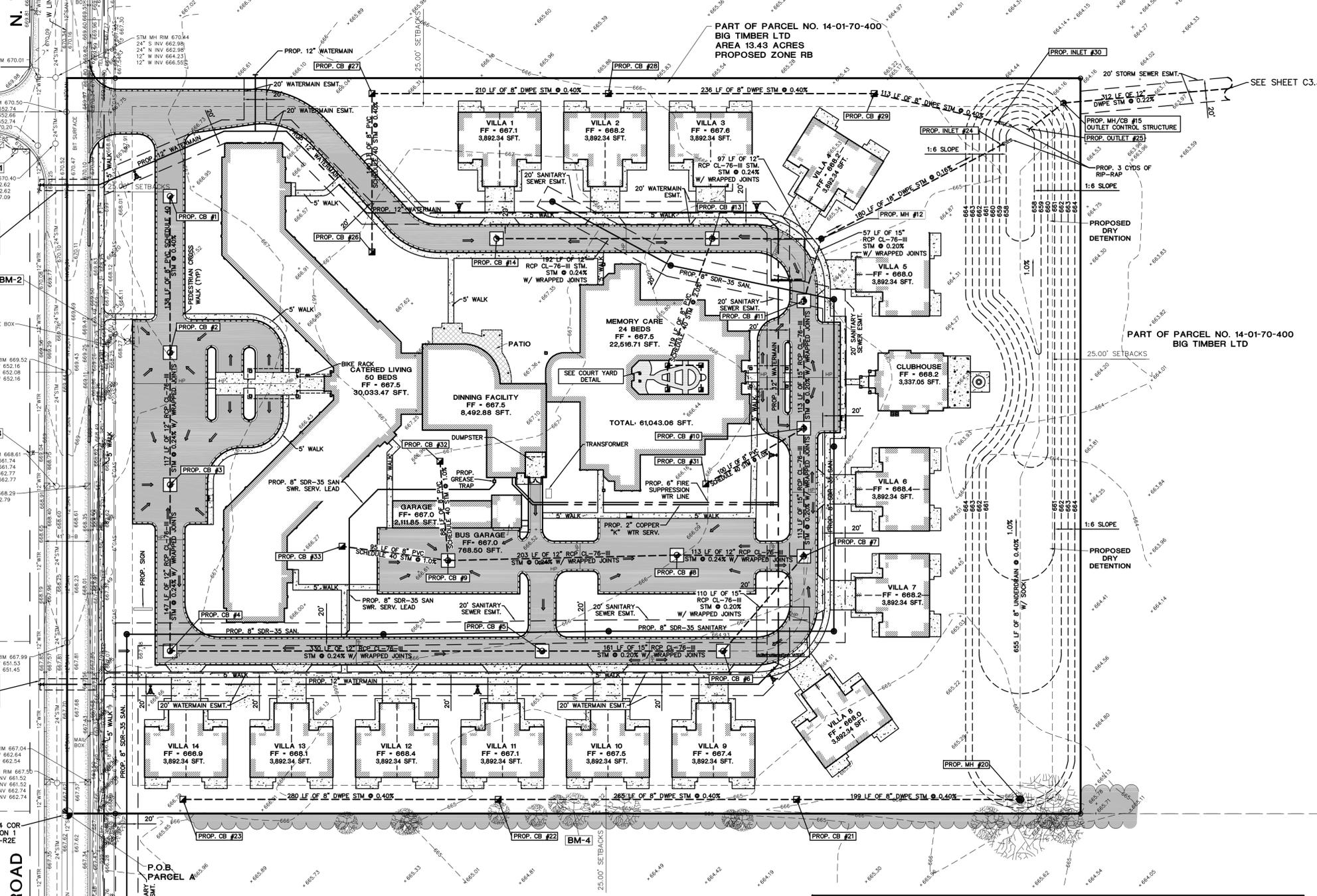
**WATERMAIN NOTE**  
WATERMAIN PLAN AND PROFILES WILL BE PROVIDED AT THE APPROPRIATE TIME/BEFORE BUILDING PERMIT APPLICATION.

**DETENTION CALCULATIONS**  
TOTAL SITE AREA: 563,549.96 SFT / 12.94 ACRES  
TOTAL IMPERVIOUS AREA: 242,481.70 SFT / 5.57 ACRES  
TOTAL PERVIOUS AREA: 321,068.26 SFT / 7.37 ACRES  
NOTE: DETAILED STORM CALCULATIONS WILL BE PROVIDED AT THE APPROPRIATE TIME/BEFORE BUILDING PERMIT APPLICATION.

**SANITARY SEWER NOTE**  
SANITARY SEWER PLAN AND PROFILES WILL BE PROVIDED AT THE APPROPRIATE TIME/BEFORE BUILDING PERMIT APPLICATION.



**LOCATION MAP**  
NOT TO SCALE  
**GRAPHIC SCALE**  
(IN FEET)  
1 inch = 50 ft.



**LEGEND**

Symbol	Description
Circle with dot	MONUMENT / SECTION CORNER
Circle with cross	FOUND PROPERTY IRON
Circle with X	SET PROPERTY IRON
Circle with dot and X	EXISTING CATCHBASIN
Circle with dot and X	PROPOSED CATCHBASIN
Circle with dot and X	EXISTING MANHOLE/CATCHBASIN
Circle with dot and X	PROPOSED MANHOLE/CATCHBASIN
Circle with dot and X	EXISTING MANHOLE
Circle with dot and X	PROPOSED MANHOLE
Circle with dot and X	PROPOSED HYDRANT
Circle with dot and X	EXISTING HYDRANT
Circle with dot and X	PROPOSED VALVE
Circle with dot and X	EXISTING VALVE
Circle with dot and X	EXISTING SANITARY SEWER
Circle with dot and X	PROPOSED SANITARY SEWER
Circle with dot and X	EXISTING STORM SEWER
Circle with dot and X	PROPOSED STORM SEWER
Circle with dot and X	EXISTING WATERMAIN
Circle with dot and X	PROPOSED WATERMAIN
Circle with dot and X	EXISTING LIGHT POLES
Circle with dot and X	PROPOSED LIGHT POLES
Circle with dot and X	PROPOSED ASPHALT
Circle with dot and X	PROPOSED CONCRETE
Circle with dot and X	EXISTING CONCRETE SURFACE
Circle with dot and X	EXISTING BIT SURFACE
Circle with dot and X	EXISTING FENCE LINE
Circle with dot and X	UNDERGROUND ELECTRIC LINE
Circle with dot and X	UNDERGROUND GAS LINE
Circle with dot and X	UNDERGROUND TELEPHONE LINE
Circle with dot and X	UNDERGROUND CABLE T.V. LINE
Circle with dot and X	OVERHEAD ELECTRICAL WIRES
Circle with dot and X	EXISTING DECIDUOUS TREES
Circle with dot and X	EXISTING CONIFEROUS TREES
Circle with dot and X	EXISTING SIGN
Circle with dot and X	EXISTING UTILITY POWER POLE
Circle with dot and X	EXISTING TELEPHONE RISER
Circle with dot and X	PROPOSED FLOW ARROW
Circle with dot and X	PROPOSED COUNTERS
Circle with dot and X	PROPOSED MODIFIED CURB AND GUTTER
Circle with dot and X	PROPOSED TOP OF CURB ELEVATION
Circle with dot and X	FS 647.0
Circle with dot and X	FS 646.9
Circle with dot and X	PROPOSED FINISH SURFACE ELEVATION
Circle with dot and X	TW 646.9
Circle with dot and X	PROPOSED TOP OF WALK ELEVATION

**UTILITY CONTACTS**

<b>TELEPHONE</b> A7 & T C/O ENGINEERING DEPARTMENT ROOM 525A 309 S. WASHINGTON AVE. SAGINAW, MICHIGAN 48607 ROB AUGUSTINE (989) 771-5404	<b>GAS AND ELECTRIC</b> CONSUMERS ENERGY 2400 NEISS STREET SAGINAW, MICHIGAN 48602 KEVIN COUTURIER - GAS DIV. (989) 791-5885 GREG SQUANDA, ELEC. DIV. (989) 791-5353	<b>ZONING</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 837-3300	<b>WATER DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 ANDY PARROT (989) 837-3348	<b>WASTE WTR. DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 STEVE SMITH (989) 837-3504	<b>ENGINEERING DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JOSH FEDRICKSON (989) 837-3352	<b>SIGNS AND SIGNALS</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JEFF MURPHY (989) 837-3354	<b>CABLE TELEVISION</b> CHARTER COMMUNICATIONS MARK KELLY MIDLAND, MICHIGAN 48640 (989) 233-9404	<b>STORM SEWER</b> MIDLAND COUNTY ROAD COMM. ENGINEERING DEPT. 2334 NORTH MERIDIAN RD. MIDLAND, MICHIGAN 48657 (989) 687-9660	<b>DRAIN</b> MIDLAND COUNTY DRAIN COMM. ENGINEERING DEPT. 220 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 832-6770
---	---	---	---	--	---	---	--	--	--

**BENCHMARKS**

B.M. #1 - 2-HEADED NAIL IN EAST FACE OF POWER POLE AT SOUTHWEST QUADRANT OF DIAMOND DR. AND WALDO ROAD. (CITY BENCHMARK # 2934) CITY OF MIDLAND ELEV. 670.11	B.M. #3 - ARROW ON HYDRANT WEST SIDE OF NORTH WALDO ROAD - MIDDLE OF PROPERTY. CITY OF MIDLAND ELEV. 670.50
B.M. #2 - RR SPIKE IN EAST FACE OF POWER POLE ON EAST SIDE OF WALDO ROAD. CITY OF MIDLAND ELEV. 669.58	B.M. #4 - NAIL IN NORTH FACE OF 20" TRIPLE TREE 447# EAST OF CENTERLINE OF NORTH WALDO ROAD AND NEAR SOUTH PROPERTY LINE. CITY OF MIDLAND ELEV. 668.31

PREPARED UNDER THE SUPERVISION OF:

PROJECT LOG

FILE: 2016-106-SHEETS	START DRAWING: 04-12-16	PLANNING COMMISSION SUBMITTAL: 5/29/16
PROJECT MGR: JDM	DESIGNED BY: SAL	DRAWN BY: M.McD.
	CHECKED BY:	SCALE: 1"=50'
		SHEET: 6 OF 15

**PRIMROSE RETIREMENT COMMUNITIES**  
815 NORTH 2nd  
ABERDEEN, MI 48404  
MR. BRAD ANDREA

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R2E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN

**UTILITY PLAN**

**D&M SITE INC.**  
Surveying, Inspection, Testing, Engineering  
401 BALSAM STREET PO BOX 159, CARROLLTON, MICHIGAN 48724  
PHONE (889) 752-4500 FAX (889) 752-6600

**C3.2**  
2016.106

NO. 120-001-200-085-00  
E. WACKERLY RD.  
MAZANEC, JOSEPH

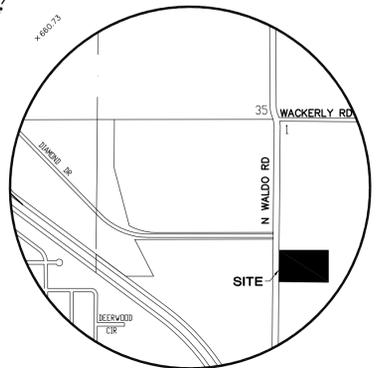
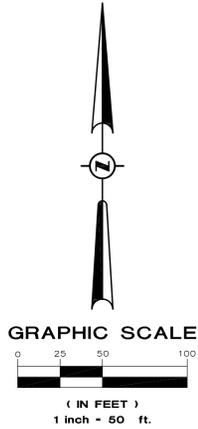
NO. 120-001-200-080-00  
E. WACKERLY RD.  
ROKOSZ, CECILIA

RD. 120-001-200-001-00  
4780 E. WACKERLY RD.  
JENKINS, MELVIN

PROP. 1 CYD OF  
RIP-RAP

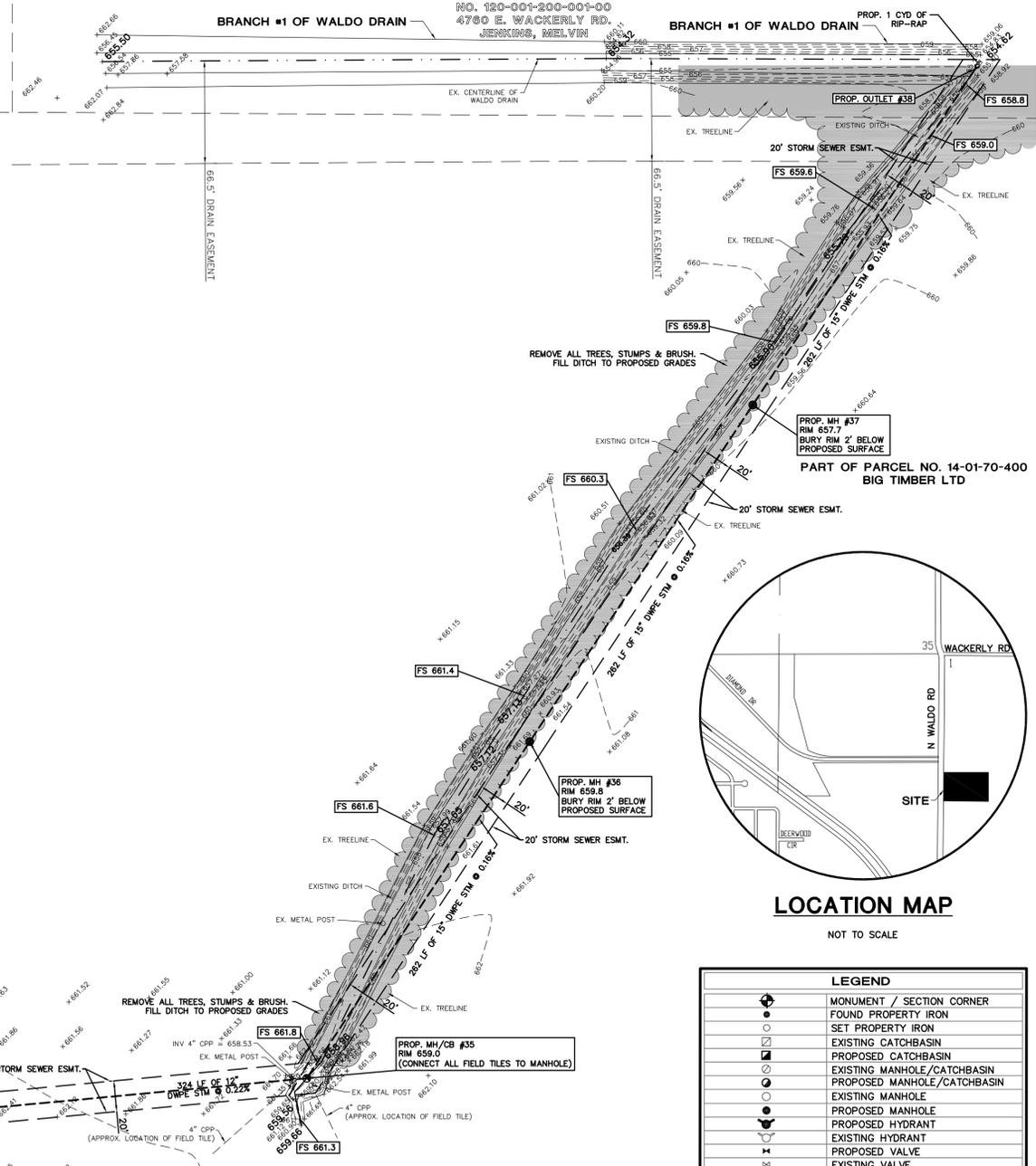
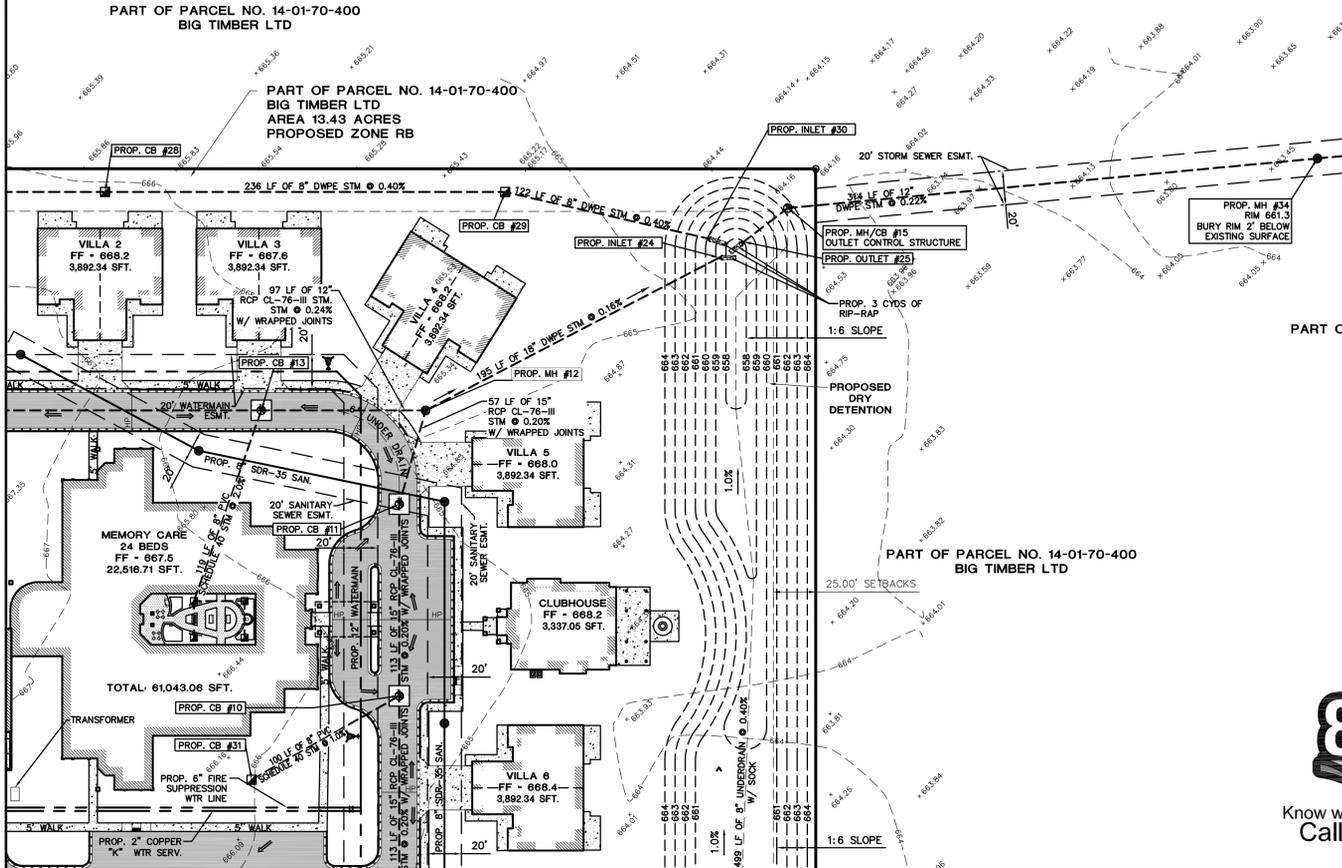
PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD

PART OF PARCEL NO. 14-01-70-400  
BIG TIMBER LTD



**LOCATION MAP**

NOT TO SCALE



**LEGEND**

	MONUMENT / SECTION CORNER
	FOUND PROPERTY IRON
	SET PROPERTY IRON
	EXISTING CATCHBASIN
	PROPOSED CATCHBASIN
	EXISTING MANHOLE/CATCHBASIN
	PROPOSED MANHOLE/CATCHBASIN
	EXISTING MANHOLE
	PROPOSED MANHOLE
	EXISTING HYDRANT
	PROPOSED HYDRANT
	EXISTING VALVE
	PROPOSED VALVE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	EXISTING WATERMAIN
	PROPOSED WATERMAIN
	EXISTING LIGHT POLES
	PROPOSED LIGHT POLES
	PROPOSED ASPHALT
	PROPOSED CONCRETE
	EXISTING CONCRETE SURFACE
	EXISTING BIT SURFACE
	EXISTING FENCE LINE
	UNDERGROUND ELECTRIC LINE
	UNDERGROUND GAS LINE
	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE T.V. LINE
	OVERHEAD ELECTRICAL WIRES
	EXISTING DECIDUOUS TREES
	EXISTING CONIFEROUS TREES
	EXISTING SIGN
	EXISTING UTILITY POWER POLE
	EXISTING TELEPHONE RISER
	PROPOSED FLOW ARROW
	PROPOSED CONTOURS
	PROPOSED MODIFIED CURB AND GUTTER
	PROPOSED TOP OF CURB ELEVATION
	PROPOSED FINISH SURFACE ELEVATION
	PROPOSED TOP OF WALK ELEVATION

**UTILITY CONTACTS**

<b>TELEPHONE</b> AT & T C/O ENGINEERING DEPARTMENT ROOM 525A 309 S. WASHINGTON AVE. SAGINAW, MICHIGAN 48607 ROB AUGUSTINE (989) 771-5404	<b>GAS AND ELECTRIC</b> CONSUMERS ENERGY 2400 WEISS STREET SAGINAW, MICHIGAN 48602 KEVIN COUTURIER - GAS DIV. (989) 791-3685 GREG SQUANDA ELEC. DIV. (989) 791-5353
<b>ZONING</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 837-3300	<b>WATER DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 ANDY PARROT (989) 837-3348
<b>WASTE WTR. DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 STEVE SMITH (989) 837-3504	<b>ENGINEERING DEPT.</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JOSH FEDRICKSON (989) 837-3352
<b>SIGNS AND SIGNALS</b> CITY OF MIDLAND 333 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 JEFF MURPHY (989) 837-3354	<b>CABLE TELEVISION</b> CHARTER COMMUNICATIONS MARK KELLY (989) 233-9404
<b>STORM SEWER</b> MIDLAND COUNTY ROAD COMM. ENGINEERING DEPT. 2334 NORTH MERIDIAN RD. MIDLAND, MICHIGAN 48657 (989) 687-9060	<b>DRAIN</b> MIDLAND COUNTY DRAIN COMM. ENGINEERING DEPT. 220 W. ELLSWORTH ST. MIDLAND, MICHIGAN 48640 (989) 832-6770

**BENCHMARKS**

<b>B.M. #1</b> - 2-HEADED NAIL IN EAST FACE OF POWER POLE AT SOUTHWEST QUADRANT OF DIAMOND DR. AND WALDO ROAD. (CITY BENCHMARK # 2934) CITY OF MIDLAND ELEV. 670.11
<b>B.M. #2</b> - RR SPIKE IN EAST FACE OF POWER POLE ON EAST SIDE OF WALDO ROAD. CITY OF MIDLAND ELEV. 669.58



Know what's below.  
Call before you dig.

**PROJECT LOG**

FILE: 2016-106-SHEETS
PROJECT MGR: JDM
DESIGNED BY: SAL
DRAWN BY: M.McD.
CHECKED BY:
SCALE: 1"=50'
SHEET: 7 OF 15

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R3E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN

815 NORTH 2nd  
ABERDEEN, S. DAKOTA 57401  
MR. BRAD ANDERA

**PRIMROSE RETIREMENT COMMUNITIES**  
SECTION 1, T14N-R3E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN

**GRADING / UTILITY PLAN**

**D&M SITE INC.**  
Surveying • Inspection • Testing • Engineering

401 BALSAM STREET, PO BOX 159, CARROLLTON, MICHIGAN 48724  
PHONE: (989) 752-6868 / FAX: (989) 752-6866



Know what's below. Call before you dig.

PROPOSED DRAINAGE TABLE						
UPPER END DRAINAGE STRUCTURE	DRAINAGE STRUCTURE TYPE	FRAME AND GRATE	PIPE MATERIAL	T/C-RIM ELEVATION	SIZE, INVERT AND DIRECTION	CONNECTION TYPE
CB #1	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	666.6	8" S 663.05	SEE CB DETAIL
CB #2	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	PVC SCHEDULE 40 RCP CL-76-III	665.8	8" N 662.50 12" S 662.50	SEE CB DETAIL
CB #3	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.5	12" N 662.21 12" S 661.22	SEE CB DETAIL
CB #4	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	664.2	12" N 660.87 12" E 660.87	SEE CB DETAIL
CB #5	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	664.2	12" W 660.08 15" E 660.08	SEE CB DETAIL
CB #6	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.6	15" NE 659.76 15" W 659.76	SEE CB DETAIL
CB #7	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.6	15" SW 659.54 12" W 660.52 15" N 659.54	SEE CB DETAIL
CB #8	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	664.9	12" W 660.79 12" E 660.79	SEE CB DETAIL
CB #9	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.2	12" E 661.28 8" N 661.28 8" W 661.28	SEE CB DETAIL
CB #10	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.6	15" S 659.30 8" SW 660.29 15" N 659.30	SEE CB DETAIL
CB #11	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.4	15" S 659.08 15" N 659.08	SEE CB DETAIL
MH #12	4' PRECAST MH	EJW #1040 FRAME W/TYPE A SOLID COVER (OR EQUIVALENT)	RCP CL-76-III	666.8	15" SW 658.97 18" NE 658.97 12" W 659.94	SEE MH DETAIL
CB #13	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	665.1	12" E 660.17 8" SW 660.17 12" W 660.17	SEE CB DETAIL
CB #14	4' PRECAST CB	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	RCP CL-76-III	664.6	12" E 660.63	SEE CB DETAIL
#15 (LEVEL CONTROL STRUCTURE)	4' PRECAST MH/CB	2" X 2" FLAT BAR GRATE (OR EQUIVALENT)	DWPE	663.5	1" SW 667.00 12" E 667.00	SEE LEVEL CONTROL STRUCTURE DETAIL
CB #16	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	667.3	8" NE 662.57 8" E 662.57 8" S 662.57	SEE CB DETAIL
CB #17	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	667.3	8" N 662.66	SEE CB DETAIL
CB #18	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	667.3	8" W 662.69 8" S 662.69	SEE CB DETAIL
CB #19	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	667.3	8" N 662.77	SEE CB DETAIL
CB #20	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	DWPE	664.5	8" N 660.23 8" W 660.23	SEE CB DETAIL
CB #21	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	DWPE	664.5	8" E 661.05 8" W 661.05	SEE CB DETAIL
CB #22	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	DWPE	664.5	8" E 662.11 8" W 662.11	SEE CB DETAIL
CB #23	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	DWPE	665.0	8" E 663.23	SEE CB DETAIL
INLET #24	N/A	N/A	DWPE	N/A	18" SW 658.66	N/A

NOTE: ALL PERMANENT CASTINGS SHALL READ "DUMP NO WASTE"

PROPOSED DRAINAGE TABLE						
UPPER END DRAINAGE STRUCTURE	DRAINAGE STRUCTURE TYPE	FRAME AND GRATE	PIPE MATERIAL	T/C-RIM ELEVATION	SIZE, INVERT AND DIRECTION	CONNECTION TYPE
OUTLET #25	N/A	N/A	?	N/A	1" NE 658.00	N/A
CB #26	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	666.0	8" N 662.88	SEE CB DETAIL
CB #27	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40 DWPE	665.0	8" S 662.32 8" E 662.32	SEE CB DETAIL
CB #28	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	DWPE	665.0	8" W 661.48 8" E 661.48	SEE CB DETAIL
CB #29	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	DWPE	664.0	8" W 660.54 8" SE 660.54	SEE CB DETAIL
INLET #30	N/A	N/A	DWPE	N/A	8" NW 660.00	N/A
CB #31	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	666.0	8" NE 661.29	SEE CB DETAIL
CB #32	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	666.0	8" S 662.16	SEE CB DETAIL
CB #33	2' HP CATCHBASIN	EJW #1040 FRAME W/TYPE N OVAL GRATE (OR EQUIVALENT)	PVC SCHEDULE 40	666.0	8" SE 662.23	SEE CB DETAIL
MH #34	4' PRECAST CB	EJW #1040 FRAME W/TYPE A SOLID COVER (OR EQUIVALENT)	DWPE	661.3	12" W 656.30 12" E 656.30	SEE CB DETAIL
MH #35	4' PRECAST MH	EJW #1040 FRAME W/TYPE M1 FLAT GRATE (OR EQUIVALENT)	DWPE	659.0	12" W 655.60 15" NE 655.60	SEE MH DETAIL
MH #36	4' PRECAST CB	EJW #1040 FRAME W/TYPE A SOLID COVER (OR EQUIVALENT)	DWPE	659.8	15" SW 655.18 15" NE 655.18	SEE CB DETAIL
MH #37	4' PRECAST CB	EJW #1040 FRAME W/TYPE A SOLID COVER (OR EQUIVALENT)	DWPE	657.7	15" SW 654.76 15" NE 654.76	SEE CB DETAIL
OUTLET #38	N/A	N/A	DWPE	N/A	15" SW 654.34	N/A

NOTE: ALL PERMANENT CASTINGS SHALL READ "DUMP NO WASTE"

PREPARED UNDER THE SUPERVISION OF:

PROJECT LOG

FILE: 2016-106-SHEETS

PROJECT MGR: JDM

DESIGNED BY: SAL

DRAWN BY: M.M.D.

CHECKED BY:

SCALE: 1"=50'

SHEET: 8 OF 15

PRIMROSE RETIREMENT COMMUNITIES

SECTION 1, T14N-R9E CITY OF MIDLAND MIDLAND COUNTY, MICHIGAN

815 NORTH 2nd ABERDEEN, S. DAKOTA 57401 MR. BRAD ANDERA

PROPOSED DRAINAGE TABLES

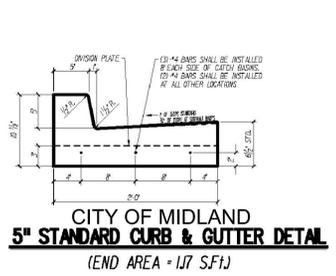
D&M SITE INC. Surveying • Inspection • Testing • Engineering

401 BALSAM STREET PO BOX 159, CARROLLTON, MICHIGAN 48724

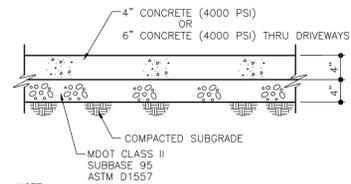
PHONE (989) 752-6860 FAX (989) 752-6860

C3.4

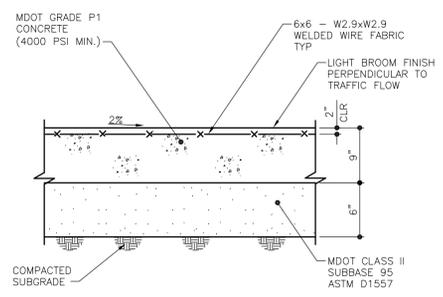
2016.106



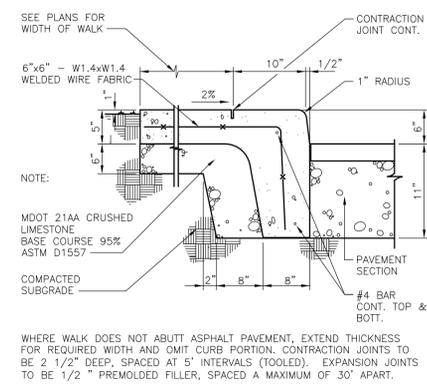
CITY OF MIDLAND 5" STANDARD CURB & GUTTER DETAIL (END AREA = 117 SF)



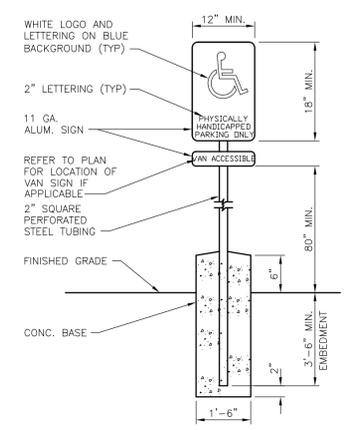
CONCRETE WALK NO SCALE



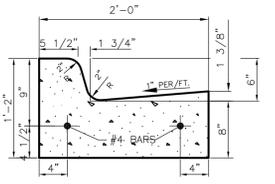
CONCRETE DUMPSTER PAD NO SCALE



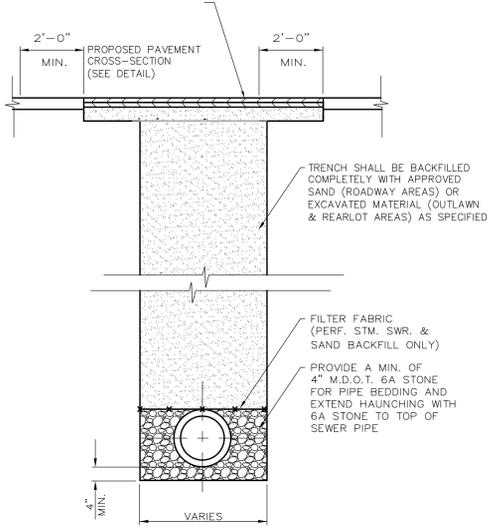
CONCRETE CURB WALK NO SCALE



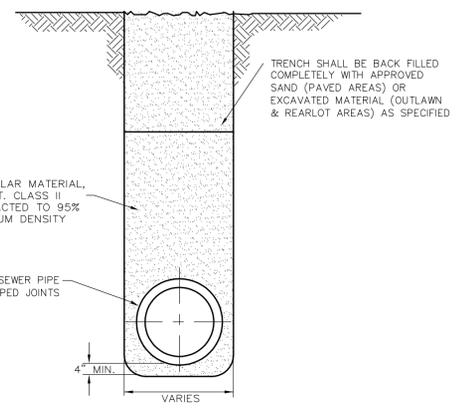
TYPICAL HANDICAP SIGN NO SCALE



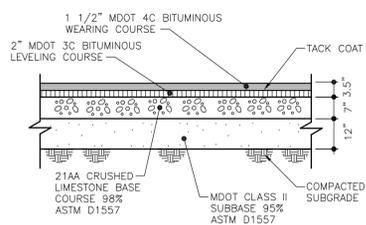
CONCRETE CURB & GUTTER DETAIL M.D.O.T. F-4 NO SCALE



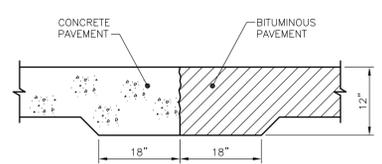
D.W.P.E., P.E., PVC AND A/D 2000 SEWER TRENCH DETAIL SCALE: 1/2"=1'-0"



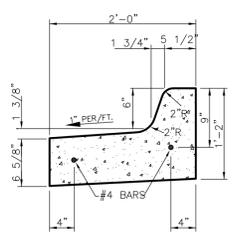
RCP TRENCH DETAIL NO SCALE



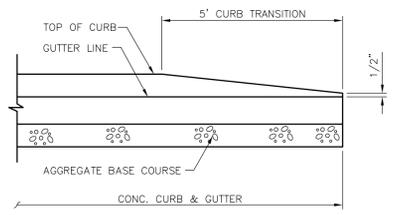
HMA PARKING LOT SECTION NO SCALE



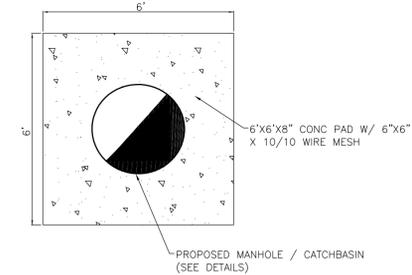
TURNDOWN PAVEMENT SECTION NO SCALE



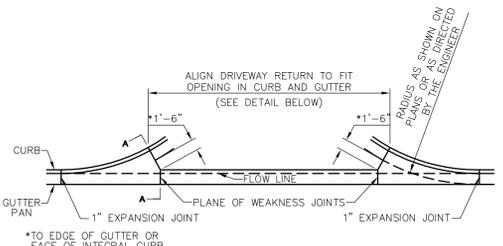
CONCRETE CURB & GUTTER DETAIL M.D.O.T. F-4 MODIFIED NO SCALE



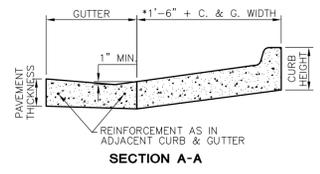
TYPICAL CURB END TRANSITION NO SCALE



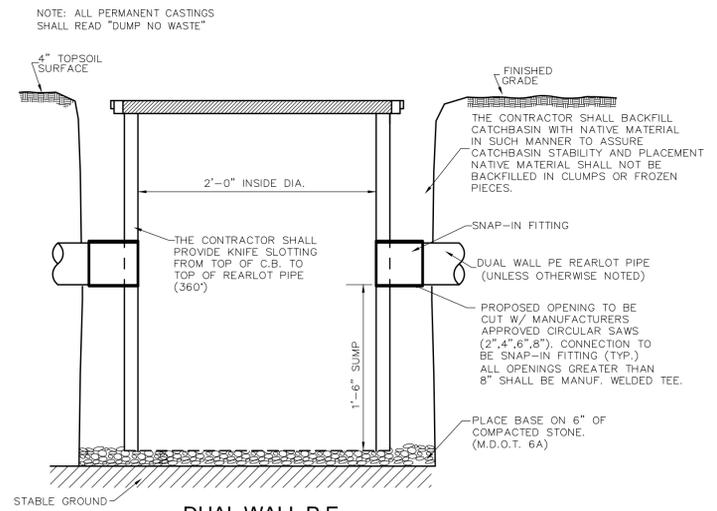
MANHOLE / CATCHBASIN CONCRETE SLAB NOT TO SCALE



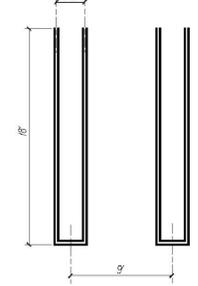
MDOT CONCRETE DRIVEWAY OPENING-DETAIL M NO SCALE



SECTION A-A



DUAL WALL P.E. 2\"/>



PAVEMENT MARKING DETAIL

PREPARED UNDER THE SUPERVISION OF:

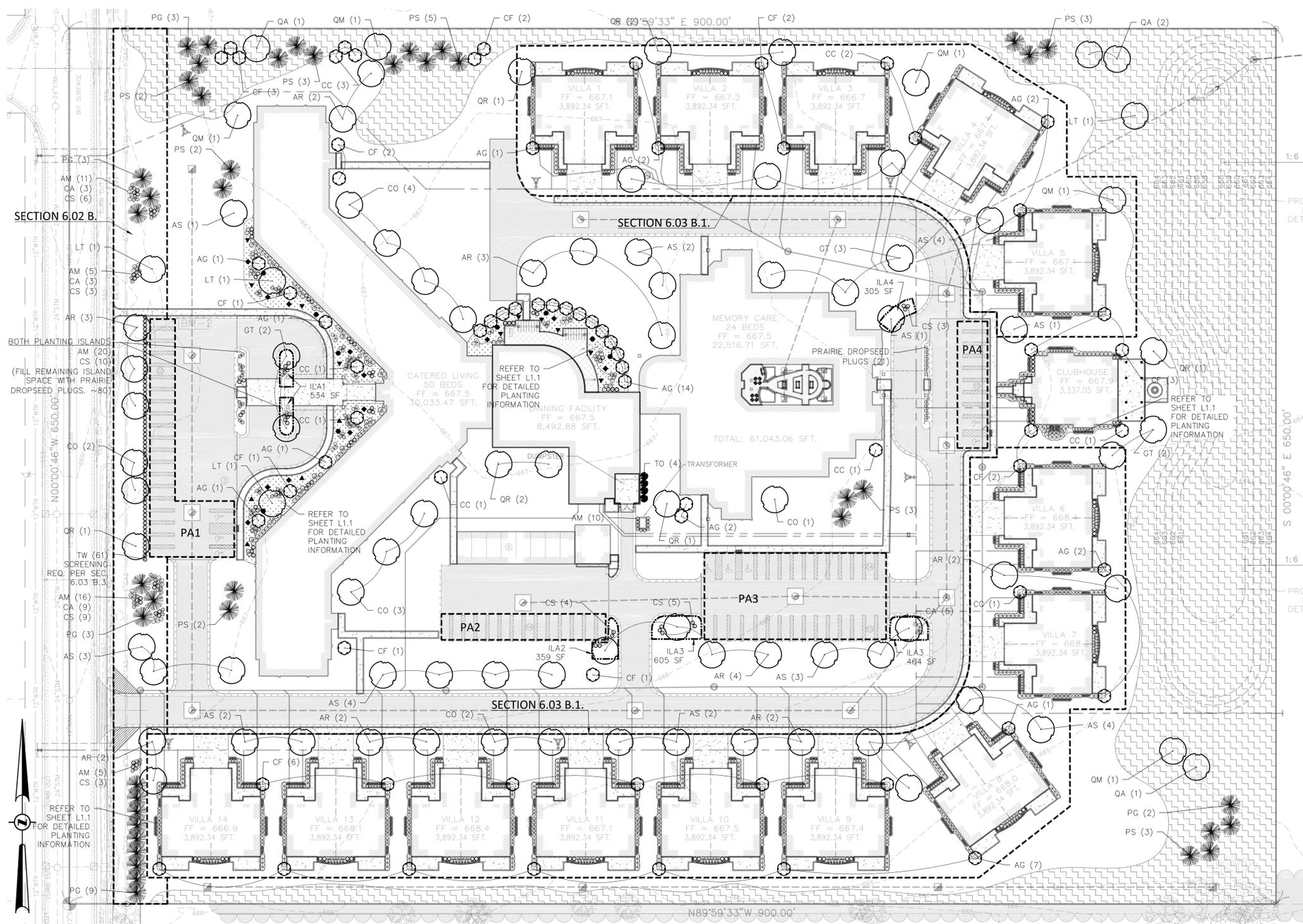
FILE: 2016-106-SHEETS	PROJECT MGR: JDM	DESIGNED BY: SAL	DRAWN BY: M.M.D.	CHECKED BY:	SCALE:	SHEET: 11 OF 15
START DRAWING: 5/20/16	PLANNING COMMISSION SUBMITTAL					

**PRIMROSE RETIREMENT COMMUNITIES**  
 SECTION 1, T14N-R2E  
 CITY OF MIDLAND  
 MIDLAND COUNTY, MICHIGAN  
 815 NORTH 2nd  
 ABERDEEN, S. DAKOTA 57401  
 MR. BRAD ANDERA

**PRIMROSE RETIREMENT COMMUNITIES**  
 SECTION 1, T14N-R2E  
 CITY OF MIDLAND  
 MIDLAND COUNTY, MICHIGAN  
 DETAIL SHEET

**D&M SITE INC.**  
 Surveying, Inspection, Testing, Engineering  
 401 BALSAM STREET, PO BOX 159, CARROLLTON, MICHIGAN 48724  
 PHONE: (989) 752-0860 FAX: (989) 752-0866





LEGEND

- LOW-PROFILE NATIVE PRAIRIE BUFFER - 2.30 AC. EDGES OF LOW-PROFILE PRAIRIE TO BE CONTOURED TO FORM GENTLE MOUNDS WITHIN THE PRAIRIE AREA THAT WILL HELP DEFINE AND DELINEATE ITS BORDERS. THE MOUNDING WILL BE NO GREATER THAN 30" HIGH, WITH A SIDE SLOPE NO STEEPER THAN 3(H):1(V). THE GRADING IN THESE AREAS WILL NOT INTERFERE IN ANY WAY WITH THE DESIGNED SITE DRAINAGE, AND WILL NOT INHIBIT WATER FROM REACHING ITS DESIGNED OUTLET POINTS.
- LARGE DECIDUOUS TREE
- LARGE CONIFEROUS TREE
- ORNAMENTAL TREE
- SHRUBS

GENERAL LANDSCAPE NOTES

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH, AND COMPLY FULLY WITH THE LANDSCAPING AND SCREENING REQUIREMENTS SET FORTH IN ARTICLE 6.00 OF THE CITY'S ZONING ORDINANCE.
- PRIOR TO DIGGING CALL MISS DIG TO LOCATE UNDERGROUND UTILITIES.
- ALL FINISHED GRADES TO BE FLUSH WITH THE TOP OF CURBS, RETAINING WALLS, AND PAVEMENT.
- ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK AS PREPARED BY THE AMERICAN ASSOCIATION OF NURSEYMEN, INC.
- ANY PLANT OR MATERIAL SUBSTITUTIONS TO BE APPROVED BY THE OWNER PRIOR TO INSTALLATION. PLANTS ARE TO BE LOCATED ACCORDING TO THE PLAN. IF PLANT SYMBOL COUNT VARIES FROM PLANT TABLES, THE SYMBOL COUNT WILL BE USED.
- ALL TREES AND SHRUBS TO BE TOPDRESSED WITH THREE INCHES OF SHREDDED HARDWOOD MULCH. AMEND PLANTING BEDS WITH A MINIMUM OF 2" OF FULLY DECOMPOSED COMPOST AND TILL TO A MINIMUM DEPTH OF 6" PRIOR TO PLANTING.
- TOPSOIL BACKFILL SHALL BE TOPSOIL THAT IS FERTILE, FRIABLE, NATURAL LOAM SURFACE SOIL, REASONABLY FREE FROM SUBSOIL, CLAY LUMPS, BRUSH, WEEDS, AND OTHER DEBRIS WHICH MAY BE HARMFUL TO PLANT GROWTH.
- ALL PROPOSED OPEN SPACE ON THE PLAN THAT DOES NOT HAVE A SPECIFIC DESIGNATION SHALL BE PLANTED AS LAWN.
- ALL PROPOSED LAWN SHALL HAVE A 3' BUFFER OF RIVER ROCK OVER GEOTEXTILE FABRIC AT ALL BUILDING INTERFACES, ASIDE FROM THE VILLA DEVELOPMENTS.
- FOLLOW THE PRAIRIE MAINTENANCE PROCEDURES TO ENSURE SUCCESSFUL DEVELOPMENT OF THE NATIVE PRAIRIE. A SEPARATE PACKED HAS BEEN ATTACHED WITH THESE INSTRUCTIONS.

PERENNIAL PLANTINGS			
WILDFLOWERS			
QTY	KEY	BOTANICAL NAME / COMMON NAME	SIZE / SPACING / GROUPING
252	ALC	Allium cernuum / Nodding Wild Onion	3" Pot / 5'-1' O.C. / 5-9 Plants
108	ASL	Aster laevis / Smooth Aster	1-Qt. Container / 1' O.C. / 5-9 Plants
135	ASA	Aster azureus / Sky Blue Aster	1-Qt. Container / 1' O.C. / 5-9 Plants
195	AST	Asclepias tuberosa / Butterfly Weed	3" Pot / 18" O.C. / 7-11 Plants
252	COL	Coreopsis lanceolata / Lanceleaf Coreopsis	3" Pot / 1' O.C. / 7-11 Plants
252	DAP	Dalea purpurea / Purple Prairie Clover	3" Pot / 1' O.C. / 7-11 Plants
234	ECP	Echinacea purpurea / Purple Coneflower	3" Pot / 1' O.C. / 12-15 Plants
252	LIA	Liatris aspera / Rough Blazingstar	3" Pots / 1' O.C. / 7-11 Plants
195	RUH	Rudbeckia hirta / Black Eyed Susan	3" Pots / 1' O.C. / 5-9 Plants
144	SOS	Solidago speciosa / Showy Goldenrod	3" Pots / 1' O.C. / 5-9 Plants
GRASSES			
QTY	KEY	BOTANICAL NAME / COMMON NAME	SIZE / SPACING
480	BOC	Bouteloua curtipendula / Sideoats Grama	3" Pots / 1' O.C. / 5-9 Plants
480	KOM	Koeleria macrantha / Junegrass	3" Pots / 1' O.C. / 12-15 Plants
480	SCS	Schizachyrium scoparium / Little Bluestem	3" Pots / 1' O.C. / 12-15 Plants
1200	SPH	Sporobolus heterolepis / Prairie Dropseed	3" Pots / 2' O.C. / 12-21 Plants

LANDSCAPING AND SCREENING			
GENERAL SITE LANDSCAPING 6.02 A		CALCULATION	REQUIRED / PROVIDED
ONE (1) TREE PER THREE THOUSAND (3,000) SQUARE FEET OF ANY UNPAVED OPEN AREA FOR WHICH THERE ARE NO OTHER SPECIFIC LANDSCAPING REQUIREMENTS.	TOTAL UNPAVED OPEN AREA, LESS OTHER AREAS WITH SPECIFIC LANDSCAPE REQUIREMENT IS 215,800 SF; /3000 = 71.9	80 TREES	117 TREES

LANDSCAPING ADJACENT TO ROADS 6.02 B			
ONE (1) TREE PER FORTY (40) LINEAL FEET OF ROAD FRONTAGE	ROAD FRONTAGE = 650 FEET, MINUS 24-FOOT DRIVEWAY OPENING = 626; 626/40 = 15.65	16 TREES	24 TREES
EIGHT (8) SHRUBS PER FORTY (40) LINEAL FEET OF ROAD FRONTAGE	626/40=15.65; 15.65*8= 125.2	126 SHRUBS	134 SHRUBS

REQUIREMENTS FOR MULTIPLE FAMILY DEVELOPMENTS 6.03 B1			
GENERAL SITE LANDSCAPING		CALCULATION	REQUIRED / PROVIDED
TWO (2) TREES PER DWELLING UNIT	28 UNITS (VILLAS) * 2 = 56	56 TREES	57 TREES
FOUR (4) SHRUBS PER DWELLING UNIT	28 UNITS (VILLAS) * 4 = 112	112 SHRUBS	588 SHRUBS

PARKING LOT LANDSCAPING 6.02 F			
OFF-STREET PARKING AREAS CONTAINING GREATER THAN TEN (10) PARKING SPACES SHALL BE PROVIDED WITH AT LEAST TWENTY (20) SQUARE FEET OF INTERIOR LANDSCAPING PER PARKING SPACE.			
A MINIMUM OF ONE (1) SHRUB SHALL BE PLANTED PER SEVENTY-FIVE (75) SQUARE FEET OF INTERIOR PARKING LOT LANDSCAPING, AND ONE (1) TREE SHALL BE PLANTED PER THREE HUNDRED (300) SQUARE FEET OF INTERIOR LANDSCAPED AREA.			

PARKING AREA #1 (PA1) - 23 SPACES			
INTERIOR LANDSCAPED AREA #1 (ILA1)		CALCULATION	REQUIRED / PROVIDED
TREES REQUIRED	460/300 = 1.53	2 TREES	2 TREES
SHRUBS REQUIRED	460/75 = 6.13	7 SHRUBS	12 SHRUBS

PARKING AREA #2 (PA2) - 14 SPACES			
INTERIOR LANDSCAPED AREA #2 (ILA2)		CALCULATION	REQUIRED / PROVIDED
TREES REQUIRED	280/300 = 0.93	1 TREE	1 TREE
SHRUBS REQUIRED	280/75 = 3.73	4 SHRUBS	4 SHRUBS

PARKING AREA #3 (PA3) - 29 SPACES			
INTERIOR LANDSCAPED AREA #3 (ILA3)		CALCULATION	REQUIRED / PROVIDED
TREES REQUIRED	580/300 = 1.93	2 TREES	2 TREES
SHRUBS REQUIRED	580/75 = 7.73	8 SHRUBS	10 SHRUBS

PARKING AREA #4 (PA4) - 10 SPACES			
INTERIOR LANDSCAPED AREA #4 (ILA4)		CALCULATION	REQUIRED / PROVIDED
TREES REQUIRED	200/300 = 0.66	1 TREE	1 TREE
SHRUBS REQUIRED	200/75 = 2.66	3 SHRUBS	3 SHRUBS

TREES			
QTY	KEY	BOTANICAL NAME / COMMON NAME	SIZE/ROOT (MINIMUM)
35	AG	Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Serviceberry	8' Ht. B&B, Multiple Stem
20	AR	Acer rubrum 'October Glory' / October Glory Red Maple	2" Cal. B&B
27	AS	Acer saccharum 'Green Mountain' / Green Mountain Sugar Maple	2" Cal. B&B
12	CO	Celtis occidentalis / Common Hackberry	2" Cal. B&B
11	CC	Cercis canadensis / Eastern Redbud	1.5" Cal. B&B, Single Stem
23	CF	Cornus florida / Flowering Dogwood	1.5" Cal. B&B, Single Stem
7	GT	Gleditsia tricanthos var. inermis 'Suncole' / Sunburst Honeylocust	2" Cal. B&B
4	LT	Liriodendron tulipifera / Tuliptree	2" Cal. B&B
20	PG	Picea glauca / White Spruce	8' Ht. B&B
23	PS	Pinus strobus / Eastern White Pine	8' Ht. B&B
4	QA	Quercus alba / White Oak	2" Cal. B&B
5	QM	Quercus macrocarpa / Burr Oak	2" Cal. B&B
8	QR	Quercus rubra / Red Oak	2" Cal. B&B
4	TO	Thuja occidentalis / Northern White Cedar	6' Ht. B&B
203	Total		

SHRUBS			
QTY	KEY	BOTANICAL NAME / COMMON NAME	SIZE / SPACING
283	AM	Aronia melanocarpa 'Autumn Magic' / Autumn Magic Black Chokeberry	24" Ht. 5-Gal. Container / 3' O.C.
564	CA	Ceanothus americanus / New Jersey Tea	24" Ht. 5-Gal. Container / 3' O.C.
154	CS	Cornus sericea 'Kelsey' / Kelsey Dwarf Dogwood	24" Ht. 5-Gal. Container / 3' O.C.
26	PF	Potentilla fruticosa 'Abbotswood' / Abbotswood Potentilla	24" Ht. 5-Gal. Container / 3' O.C.
61	TW	Thuja occidentalis 'Woodwardii' / Woodward Arborvitae	24" Ht. 5-Gal. Container / 3' O.C.
1088	Total		

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PROJECT LOG

FILE: 2016-106-SHEETS

PROJECT MGR.: JDM

DESIGNED BY: SAL

DRAWN BY: M.Mgd.

CHECKED BY: [Signature]

SCALE: 1"=40'

SHEET: 14 OF 15

PRIMROSE RETIREMENT COMMUNITIES

SECTION 1, T14N-R2E CITY OF MIDLAND, MIDLAND COUNTY, MICHIGAN

815 NORTH 2nd ABERDEEN, ST. DAVENPORT, IA 57401 MR. BRAD ANDERBA

PRIMROSE RETIREMENT COMMUNITIES

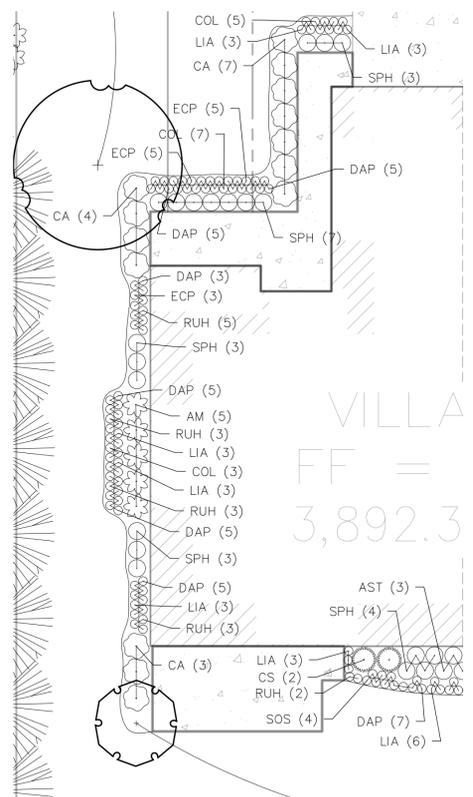
SECTION 1, T14N-R2E CITY OF MIDLAND, MIDLAND COUNTY, MICHIGAN

401 BALSAM STREET, PO BOX 159, CARROLLTON, MICHIGAN 48724 PHONE (989) 752-4500 FAX (989) 752-4600

D&M SITE INC. Surveying, Inspection, Testing, Engineering

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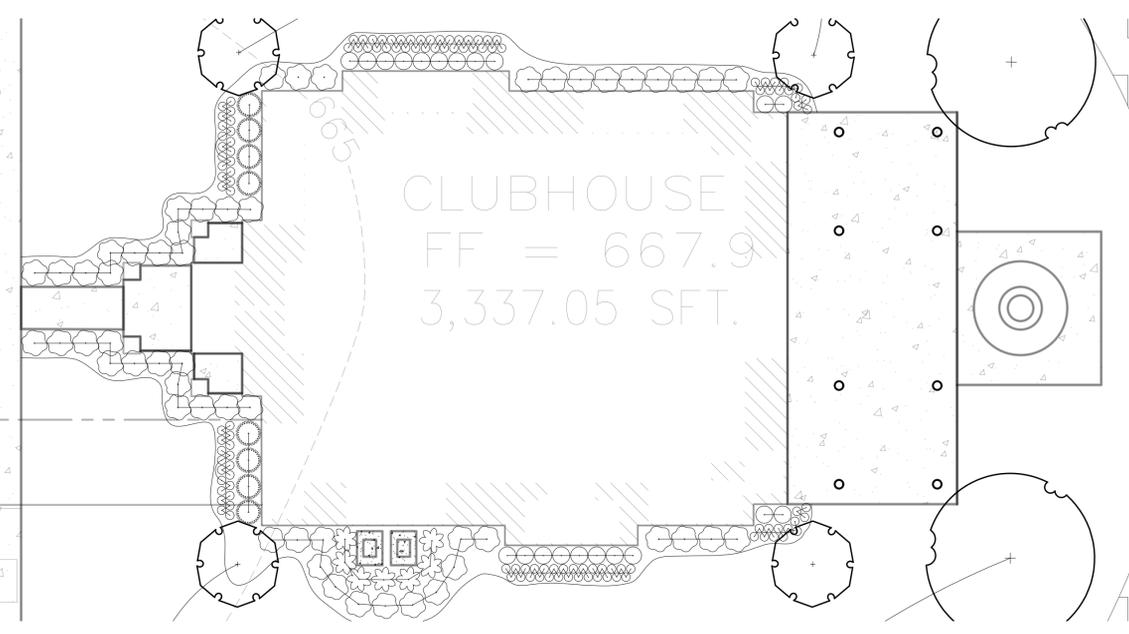


**TYPICAL VILLA LANDSCAPING LAYOUT**  
1"=10'

ALL VILLA DEVELOPMENTS ON SITE HAVE THE ABOVE LANDSCAPING LAYOUT, WHICH IS SYMMETRICAL TO BOTH SIDES OF THE UNIT.

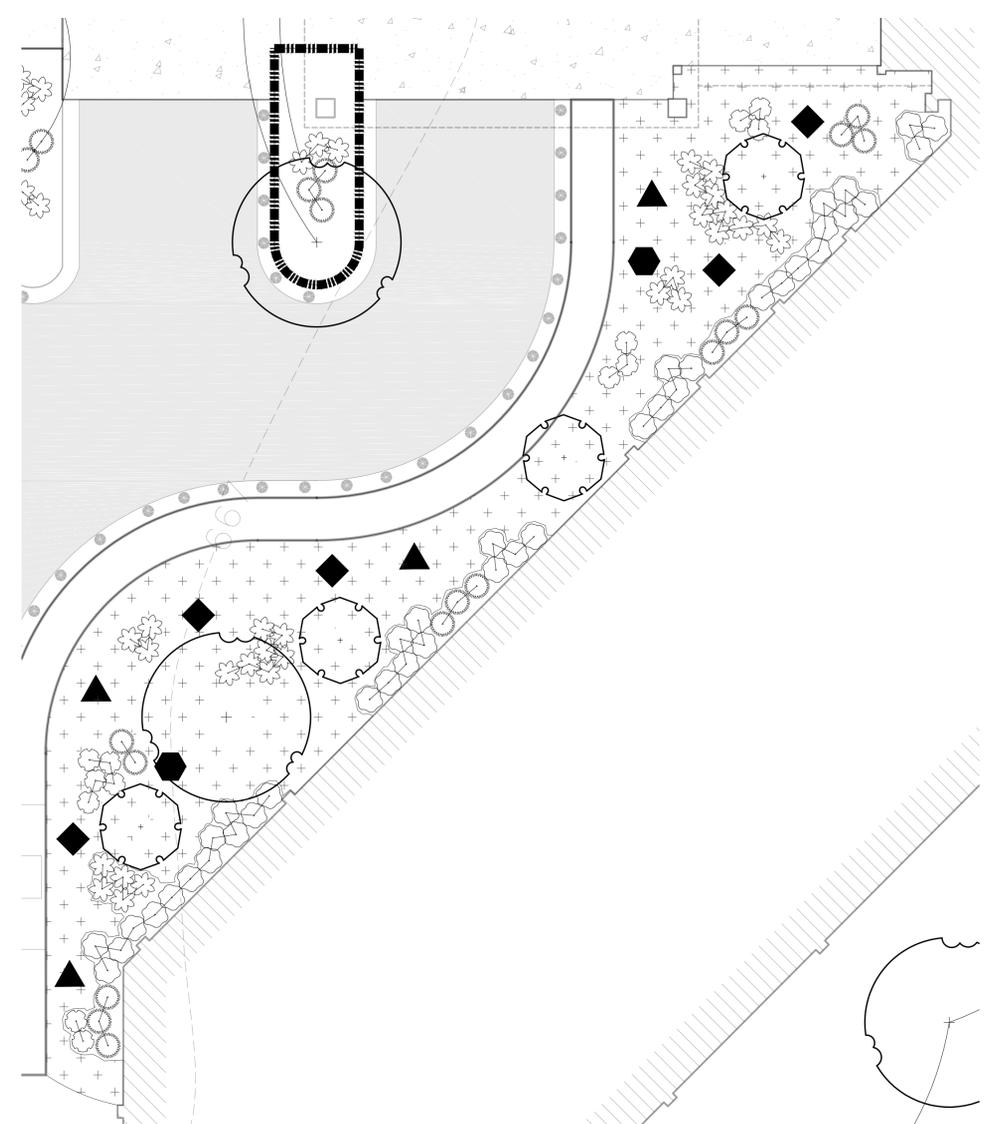
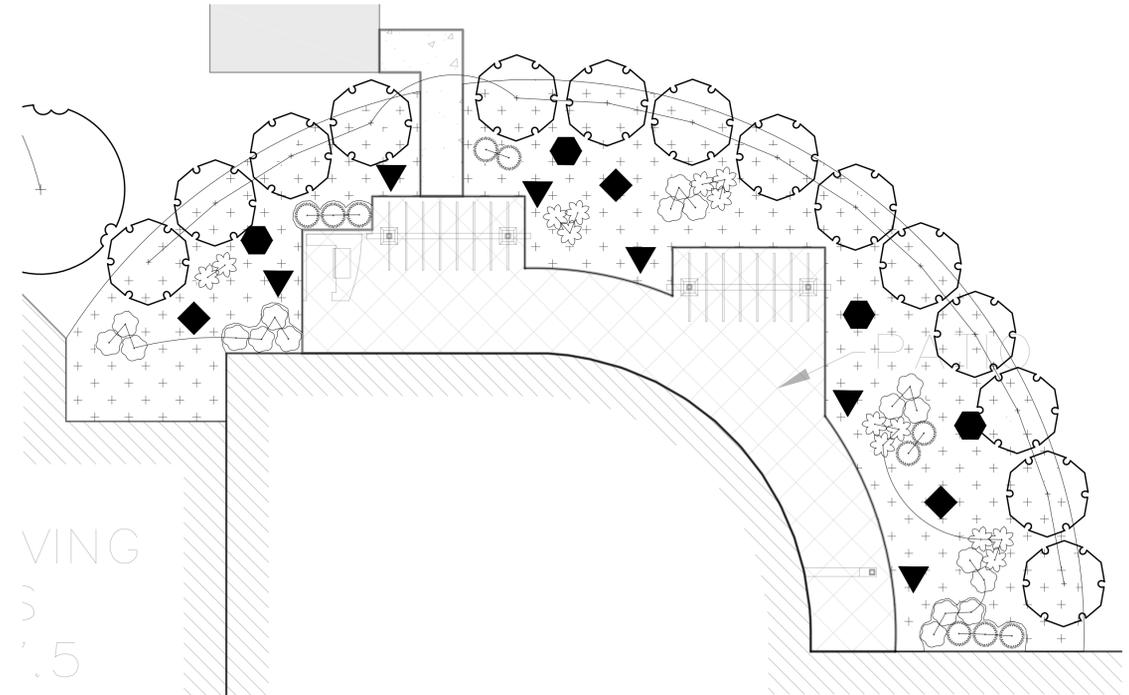
**LEGEND**

- ▲ FOCUSED WILDFLOWER PLANTING: PURPLE PRAIRIE CLOVER: 12-15 PLANTS  
NODDING WILD ONION: 9-12 PLANTS  
ROUGH BLAZING STAR: 9-12 PLANTS  
LANCILEAF COREOPSIS: 12-15 PLANTS
- ◆ FOCUSED WILDFLOWER PLANTING: BUTTERFLY WEED: 9-12 PLANTS  
PURPLE CONEFLOWER: 13-17 PLANTS  
BLACK EYED SUSAN: 9-12 PLANTS
- FOCUSED WILDFLOWER PLANTING: SKY BLUE ASTER: 9-12 PLANTS  
SMOOTH ASTER: 9-12 PLANTS  
SHOWY GOLDENROD: 9-17 PLANTS
- ⊕ NATIVE PERENNIAL GRASS PLANTING AREA: GRASS SPECIES PLANTED IN THE FOLLOWING ARRANGEMENTS THROUGHOUT THE PLANTING AREA - PRAIRIE DROPSEED: 12-21 PLANTS; SIDCOATS GRAMA: 9-12 PLANTS; LITTLE BLUESTEM: 12-15 PLANTS; JUNEGRASS: 12-15 PLANTS.
- ✿ AUTUMN MAGIC BLACK CHOKEBERRY
- KELSEY DWARF DOGWOOD
- NEW JERSEY TEA
- ABBOTTWOOD POTENTILLA
- PRAIRIE DROPSEED
- ASSORTED PERENNIAL PLANTINGS (IN-KIND WITH VILLA LAYOUT SPECIES AND ORIENTATION)



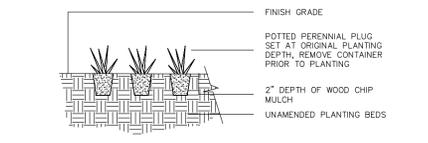
**DETAIL CLUBHOUSE LANDSCAPING VIEW**  
1"=10'

REFER TO THE LEGEND FOR THE DIFFERENT PLANT KEYS. PERENNIAL PLANTINGS WILL BE OF THE SAME SPECIES AND BASIC LAYOUT AS IS DEPICTED IN THE TYPICAL VILLA LANDSCAPING LAYOUT.



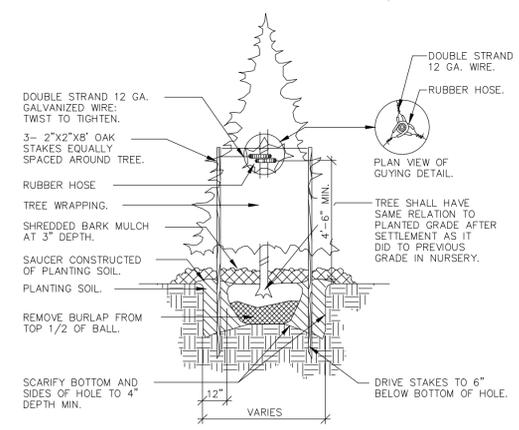
**DETAIL CATERED LIVING FACILITY ENTRY LANDSCAPING VIEW**  
1"=10'

REFER TO THE LEGEND FOR THE DIFFERENT PLANT KEYS. THE ENTRY PLANTINGS ARE SYMMETRICAL ON AN AXIS PERPENDICULAR TO THE MAIN ENTRANCE. FOCUSED PLANTINGS REPRESENTED BY SYMBOLS ARE TO BE PLACES IN AN ORGANIC MANNER, AT THE SPACING PROVIDED IN THE PLANTING LISTS. THE 'CROSS' HATCHED AREA REPRESENTS THE NATIVE GRASS PLUG SPECIES TO BE INSTALLED. ANY OPEN AREAS ARE TO BE FILLED IN USING THESE SPECIES AT THE SPACING AND QUANTITY SPECIFIED.

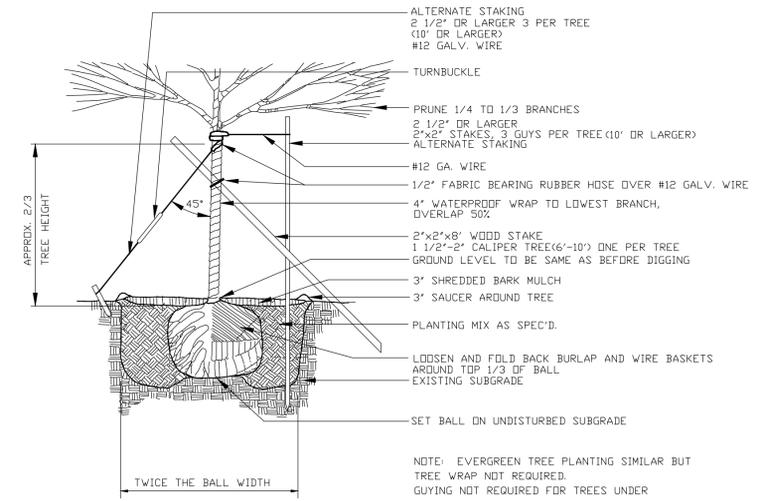


**PERENNIAL PLUG INSTALLATION**  
NOT TO SCALE

NOTE: STAKE ALL EVERGREEN TREES 3' TO 8' TALL; EVERGREEN TREES LESS THAN 3' HT. SHALL NOT BE STAKED. HEIGHT OF STAKE SHALL BE EQUAL TO 2/3 THE HEIGHT OF THE TREE.



**EVERGREEN TREE DETAIL**  
NOT TO SCALE



**TREE PLANTING DETAIL**  
NOT TO SCALE

NOTE: EVERGREEN TREE PLANTING SIMILAR BUT TREE WRAP NOT REQUIRED. GUYING NOT REQUIRED FOR TREES UNDER 1 1/2" CALIPER (6' HEIGHT) REMOVE GUYING, TREE WRAP, ETC. AFTER ONE GROWING SEASON



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PREPARED UNDER THE SUPERVISION OF: [Signature]

PROJECT LOG

FILE: 2016-106-SHEETS	START DRAWING: 04-12-16
PROJECT MGR: JDM	DESIGNED BY: SAL
DRAWN BY: M.Mgd.	CHECKED BY: [Signature]
SCALE: 1"=10'	SHEET: 15 OF 15

PRIMROSE RETIREMENT COMMUNITIES  
SECTION 1, T14N-R2E  
CITY OF MIDLAND  
MIDLAND COUNTY, MICHIGAN  
815 NORTH 2nd  
ABERDEEN, ST. DAVENPORT, IA 57401  
MR. BRAD ANDERGA

PRIMROSE RETIREMENT COMMUNITIES  
SITE PLAN

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PHONE (989) 752-4500 FAX (989) 752-6000

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