



Agenda
Natural Features Protection Review Board
July 28, 2020
Regular Meeting

Held virtually, pursuant to Executive Order No. 2020-75

4:00 p.m.

- A. Call to Order
- B. Roll Call and Excuse Absent Members
- C. Adoption of Agenda (ACTION: Motion to approve the agenda as presented)
- D. Approval of Meeting Minutes from June 23, 2020 (ACTION: Motion to approve the meeting minutes from the June 23, 2020 meeting)
- E. New Business
 - 1. Public hearing for a variance request for relief from the NFP slope protection standard at 3401 Nazareth Road.
 - Staff and applicant presentation
 - Public comments
 - Discussion
 - 2. Consideration of a request for relief from the NFP slope protection standard for a portion of trail planned at 3401 Nazareth Road (ACTION: Motion to approve a recommendation to the Zoning Board of Appeals to grant relief from the NFP slope protection standard for a portion of trail planned at 3401 Nazareth Road).
- F. Old Business
- G. Board Comments
- H. Citizen Comments
- L. Adjourn Meeting



Agenda
Natural Features Protection Review Board
June 23, 2020
Meeting Minutes

Held virtually, pursuant to Executive Order No. 2020-75

4:00 p.m.

- A. Meeting called to order at 4:07 PM
- B. Roll Call and Excuse Absent Members

Members present:

Alan Sylvester
Paul MacNellis
Kyle Martin
Mitch Lettow
Erin Fuller

Staff present:

Jamie McCarthy
Nolan Bergstrom

- C. Adoption of Agenda

Director MacNellis made a motion to approve the agenda, supported by director Fuller. Motion approved by unanimous voice vote.

- D. Approval of Meeting Minutes from February 21, 2020 and May 26, 2020

Director MacNellis made a motion to approve the minutes from 2/21 and 5/26, supported by Director Sylvester. Motion approved by unanimous voice vote.

- E. New Business

1. The board discussed the prohibited planting list in the current Chapter 50 NFP zoning code. Ms. McCarthy explained that consultants and applicants have expressed confusion or redundancy in the requirement to plant all native species and then specifically prohibiting the planting of invasive species on the list. Ms. Fuller suggested an option of using another outside resource to maintain the list of invasive species. Mr. MacNellis suggested the MISIN website. Mr. Lettow commented that we could consider requiring all native plantings in the NFP overlay district and using the prohibited planting list for all parcels as part of the regular zoning code.

- F. Old Business



1. The board reviewed a draft amendment to the NFP overlay district map presented by Mr. Bergstrom. The map includes parcels that are adjacent to water, wetlands, public preserves, and slopes with grade greater than 20%. Mr. Bergstrom and Ms. McCarthy spent time performing a desktop review and ground truthing. Around 250 parcels were removed from the map due to an apparent lack of natural features present on the site.

Board members provided feedback on the map. Mr. Lettow was less concerned with map coverage on every small and developed area with slope. Board members expressed priority over sloped sites that could contribute stormwater or cause other erosion problems. Board members will spend time reviewing the map and ground truthing by desktop or visual observations. The board requests a geo-referenced map that can be used with mapping applications.

Ms. McCarthy provided an overview of the upcoming public engagement process. Board comments on the map should be submitted to or discussed with staff by July 3. The map will be revised based on board feedback and posted to the IK2025 NFP website. The public will be able to view and drop pins on the map to indicate areas with important natural features that are not included in the draft map. The board will plan to review a revised map at the August 25 board meeting.

- G. Board Comments (none)
- H. Citizen Comments (none)
- L. Meeting adjourned at 5:25 PM

Jamie McCarthy, Recording Secretary

Name, Title

Signature

INTER-OFFICEMEMO

To: NFP Review Board

From: Jamie McCarthy, Sustainable Development Coordinator

Date: July 22, 2020

Subject: Recommendation to provide the Zoning Board of Appeals with a recommendation to approve the variance request for 3401 Nazareth Road

RECOMMENDATION

It is recommended that the NFP Review Board approve a recommendation to the ZBA for a dimensional variance request by Southwest Michigan Land Conservancy for the property at 3401 Nazareth Road. The applicant requested a variance from the slope protection standards in Chapter 50-6.2(H).

BACKGROUND

Southwest Michigan Land Conservancy (SWMLC) is applying for a dimensional variance for relief from the slope protection standard of the NFP code as described in Chapter 50-6.2(L). The SWMLC is planning public improvements to the preserve located 3401 Nazareth Road, known as Bow in the Clouds preserve. The purpose of the improves is to increase trails to allow better public access for users of all mobility levels. The project will also provide better access for work crews to maintain sanitary sewer infrastructure located at the site.

A portion of the proposed trail will involve regrading of a slope that meets the slope protection criteria of 20% grade or greater. An alternative location to avoid the protected slope is not available. The purpose of regrading will allow for a less steep slope to allow persons with limited mobility to use the trail. The SWMLC manages and maintains the site to protect and restore natural resources and provide users with opportunities for recreation and interaction with the natural environment. To this end the SWMLC is taking steps before and during construction to protect habitat of species of concern, protect wetlands, and mitigate erosion.

Staff reviewed the case and the constraints at the site and evaluated the conditions for granting relief, as described in Chapter 50-6.2(L). Staff determined the request meets the conditions by seeking the minimum relief required for reasonable use, not causing substantial detriment to the public good or substantially ing the intent of NPF ordinance, and the relief is balanced by preservation and management objectives at the site.

ATTACHMENTS

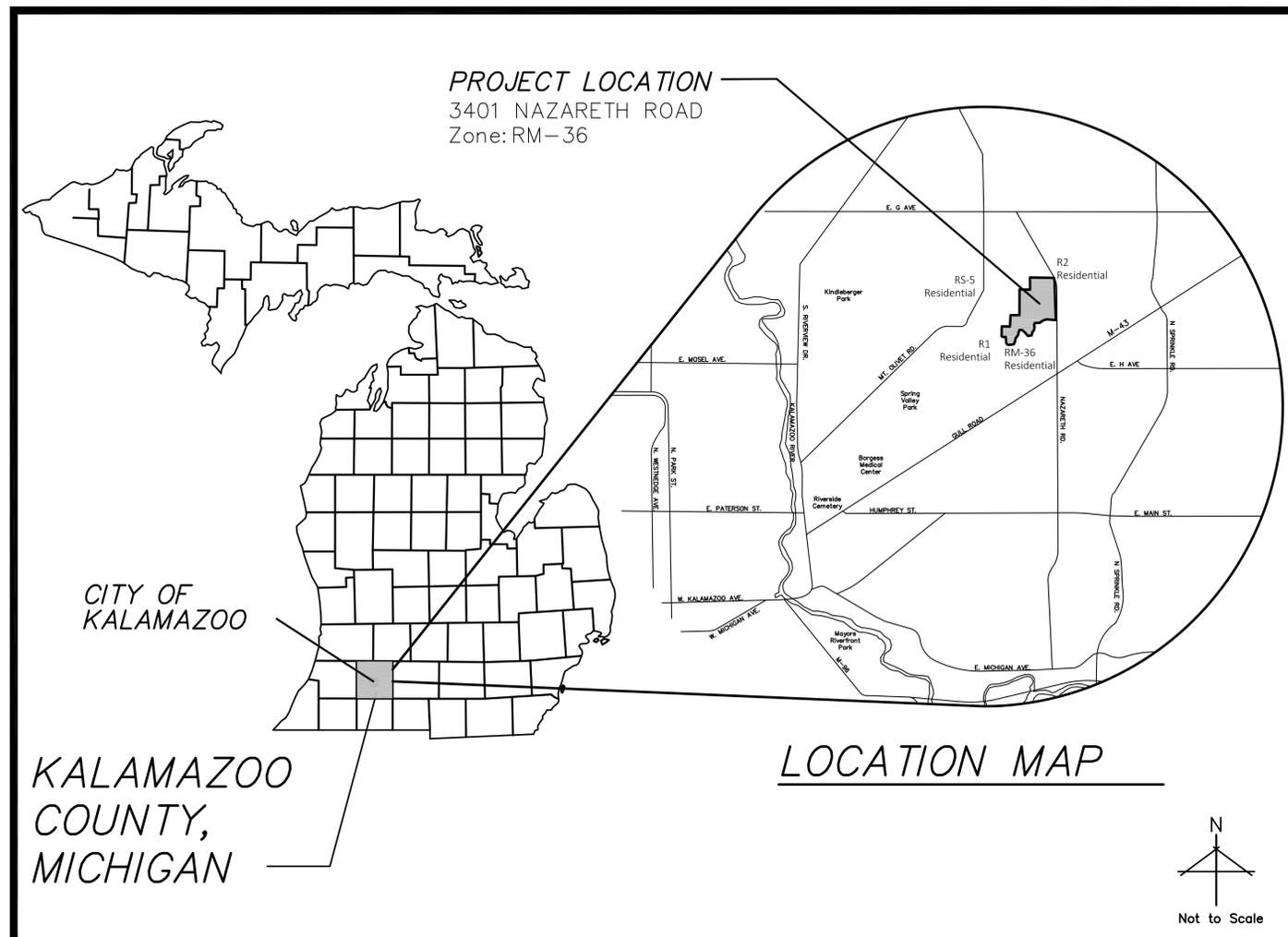
NFP site plan



BOW IN THE CLOUDS PRESERVE TRAIL & TRAILHEAD PROJECT

KALAMAZOO, MICHIGAN

LOCATION MAP



SHEET INDEX

NO.	TITLE	OWNER
C0.0	COVER SHEET	SOUTHWEST MICHIGAN LAND CONSERVANCY, INC. 8395 E. MAIN STREET GALESBURG, MI 49053 PHONE : 269-324-1600
C1.0	EXISTING CONDITIONS PLAN	
C1.1	DEMOLITION PLAN	
C2.0	LAYOUT AND MATERIALS PLAN	LANDSCAPE ARCHITECTS O'BOYLE, COWELL, BLALOCK, & ASSOCIATES 350 E. MICHIGAN AVE, SUITE 415 KALAMAZOO, MI 49007 PHONE : 269-381-3357
C2.1	LAYOUT AND MATERIALS ENLARGEMENTS	
C3.0	GRADING PLAN	
C4.0	SITE DETAILS	
C4.1	SITE DETAILS	
C4.2	SITE DETAILS	
C4.3	SITE DETAILS	
C4.4	SITE DETAILS	

SITE PLAN REVIEW NOTES

- Property Identification Numbers :06-01-407-001(City of Kalamazoo) 06-01-265-021 (Kalamazoo Township)
- Owner: Southwest Michigan Land Conservancy, Inc.,
8395 E. Main Street, Galesburg, MI 49053
Phone: 269-325-1600
- Project Zoning: RM-36
- Project is not located within any Historic District.
- Legal Description: See Application Attachments
- Front Yard Setback: 15'
Rear Yard Setback: 20' to RM Zone, 25' to RS Zone
Side Yard Setback: 15' to RS Zone
- Existing Parking Spaces: 15 spaces
- Parking Spaces Required: NA
- Additional parking spaces for this project: 0
- Overall Property Area: 2,134,423 sf (49 acres)
- Gross Area of Earth Change: x sf (x.x acres)
- Gross Overall Site Area: x sf (x acres)
- Proposed Impervious Total Area : x sf (x.x acres)
- Proposed Gravel Trail Area: x sf(x.x acres)
- Net Area of Open Space: 65,609.3 sf (1.5 acres)
- Gross Floor Area of Buildings: NA
- Area of Regulated Wetlands: x acres
- Net Area of Proposed Off-Street Parking Lots: 0
- xxxxxxx
- Number of Residential Units by Type: NA
- Proposed Site Lighting : None
- Proposed Bike Parking : 0
- Site is located in the 10 year Time of Travel Capture Zone.
- 2025 Master Plan: Neighborhood Edge.
- Estimated Vehicle Trips per day: 5-10 weekday & 10-15 weekends.



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Issued For:	Date
CITY PUBLIC SERVICE	10-23-2019
REVISION	11-05-2019
PRE SITE PLAN REVIEW	01-29-2020

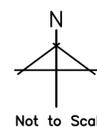
Project:
**BOW IN THE CLOUDS
SWMLC
PHASE 2
IMPROVEMENTS**

KALAMAZOO, MI

Sheet Title

Cover Sheet

NOTES:
1) Call Miss Dig, 1-800-482-7171 three working days, excluding Saturday, Sunday and holidays, before starting your project.





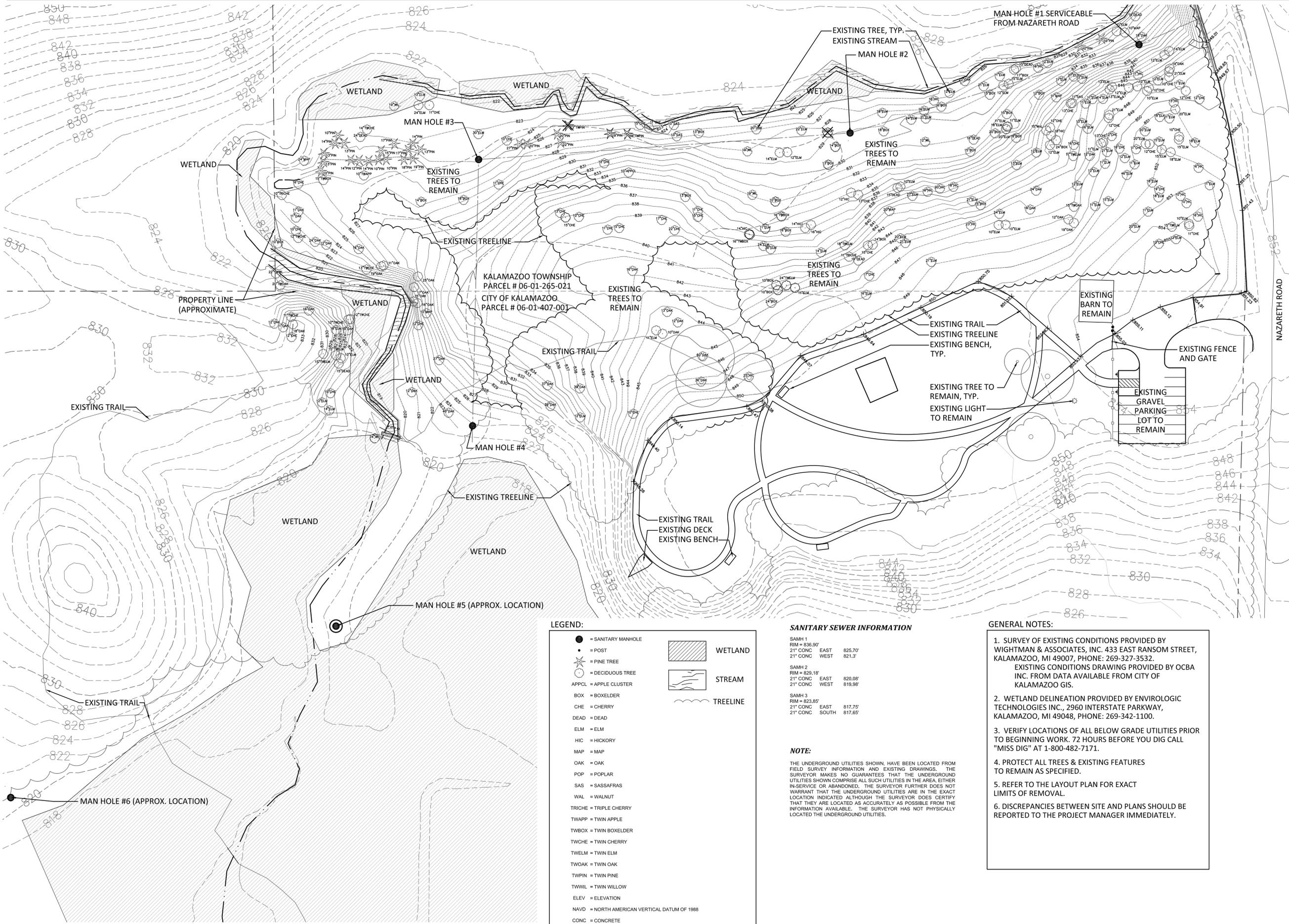
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SWMLC
PHASE 2
IMPROVEMENTS**
KALAMAZOO, MI

Sheet Title
**EXISTING
CONDITIONS PLAN**



LEGEND:

● = SANITARY MANHOLE	▨ = WETLAND
• = POST	▬ = STREAM
⊙ = PINE TREE	~ = TREELINE
⊙ = DECIDUOUS TREE	
APPCL = APPLE CLUSTER	
BOX = BOXELDER	
CHE = CHERRY	
DEAD = DEAD	
ELM = ELM	
HIC = HICKORY	
MAP = MAPLE	
OAK = OAK	
POP = POPLAR	
SAS = SASSAFRAS	
WAL = WALNUT	
TRICHE = TRIPLE CHERRY	
TWAPP = TWIN APPLE	
TWBOX = TWIN BOXELDER	
TWCHE = TWIN CHERRY	
TWELM = TWIN ELM	
TWOAK = TWIN OAK	
TWPIN = TWIN PINE	
TWWIL = TWIN WILLOW	
ELEV = ELEVATION	
NAVD = NORTH AMERICAN VERTICAL DATUM OF 1988	
CONC = CONCRETE	
⊙ = SPOT GRADE	
— = APPROXIMATE SANITARY SEWER LOCATION	

SANITARY SEWER INFORMATION

SAMH 1	RIM = 836.90'
21" CONC EAST	825.70'
21" CONC WEST	821.3'
SAMH 2	RIM = 829.18'
21" CONC EAST	820.08'
21" CONC WEST	818.99'
SAMH 3	RIM = 823.85'
21" CONC EAST	817.75'
21" CONC SOUTH	817.65'

NOTE:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

- GENERAL NOTES:**
1. SURVEY OF EXISTING CONDITIONS PROVIDED BY WIGHTMAN & ASSOCIATES, INC. 433 EAST RANSOM STREET, KALAMAZOO, MI 49007, PHONE: 269-327-3532. EXISTING CONDITIONS DRAWING PROVIDED BY OCBA INC. FROM DATA AVAILABLE FROM CITY OF KALAMAZOO GIS.
 2. WETLAND DELINEATION PROVIDED BY ENVIROLOGIC TECHNOLOGIES INC., 2960 INTERSTATE PARKWAY, KALAMAZOO, MI 49048, PHONE: 269-342-1100.
 3. VERIFY LOCATIONS OF ALL BELOW GRADE UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7171.
 4. PROTECT ALL TREES & EXISTING FEATURES TO REMAIN AS SPECIFIED.
 5. REFER TO THE LAYOUT PLAN FOR EXACT LIMITS OF REMOVAL.
 6. DISCREPANCIES BETWEEN SITE AND PLANS SHOULD BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY.

1 Existing Conditions Plan
SCALE: 1" = 40'-0"



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Project:
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SWMLC
PHASE 2
IMPROVEMENTS**

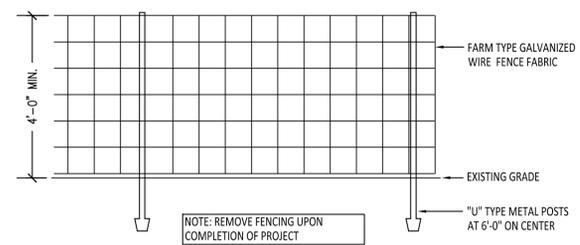
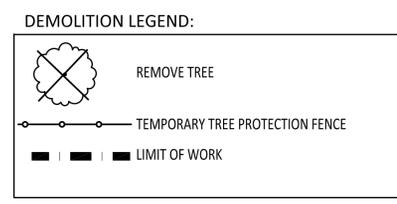
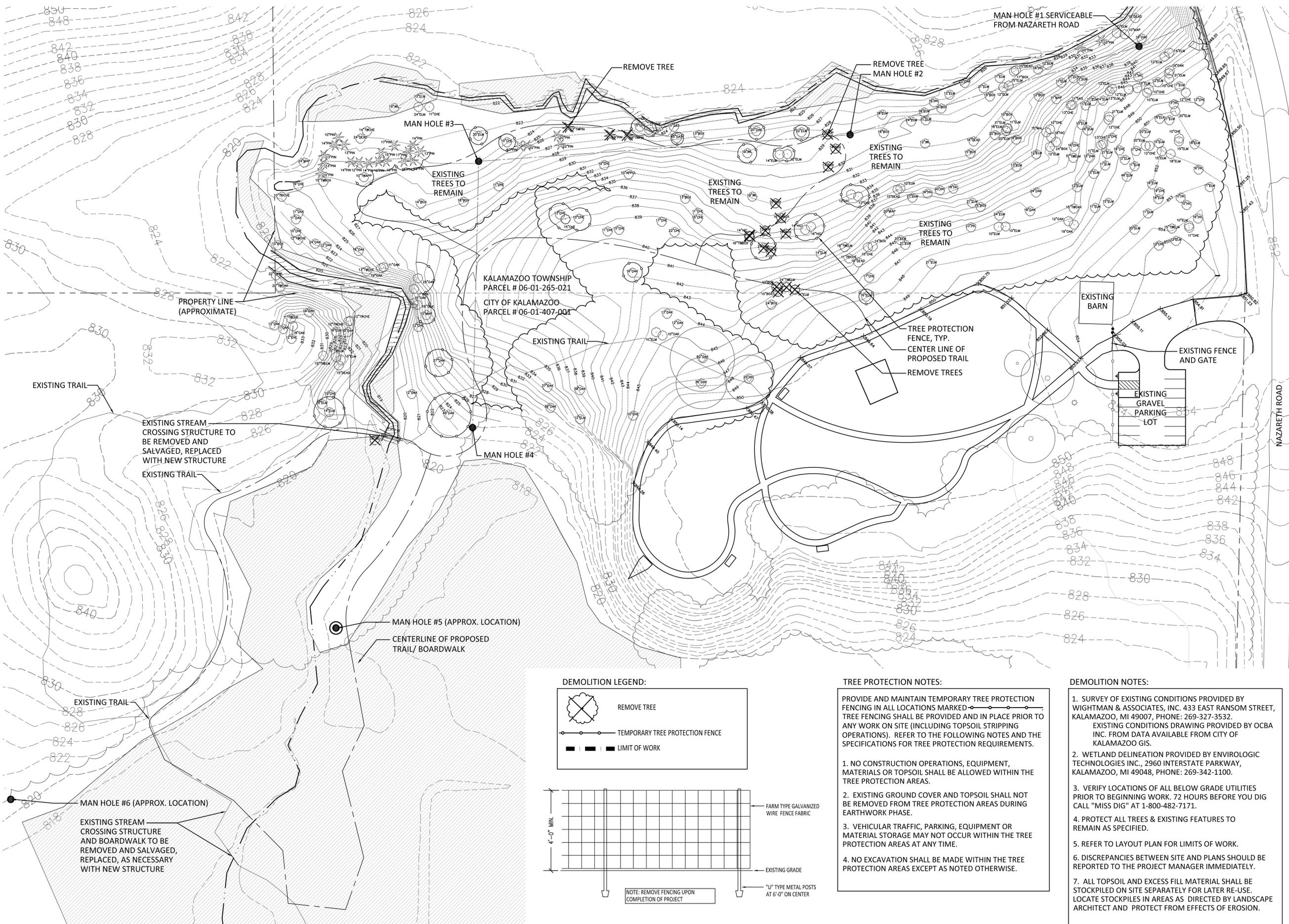
KALAMAZOO, MI

Sheet Title

DEMOLITION PLAN



Job No. _____ Sheet No. _____



TREE PROTECTION NOTES:

PROVIDE AND MAINTAIN TEMPORARY TREE PROTECTION FENCING IN ALL LOCATIONS MARKED. TREE FENCING SHALL BE PROVIDED AND IN PLACE PRIOR TO ANY WORK ON SITE (INCLUDING TOPSOIL STRIPPING OPERATIONS). REFER TO THE FOLLOWING NOTES AND THE SPECIFICATIONS FOR TREE PROTECTION REQUIREMENTS.

- NO CONSTRUCTION OPERATIONS, EQUIPMENT, MATERIALS OR TOPSOIL SHALL BE ALLOWED WITHIN THE TREE PROTECTION AREAS.
- EXISTING GROUND COVER AND TOPSOIL SHALL NOT BE REMOVED FROM TREE PROTECTION AREAS DURING EARTHWORK PHASE.
- VEHICULAR TRAFFIC, PARKING, EQUIPMENT OR MATERIAL STORAGE MAY NOT OCCUR WITHIN THE TREE PROTECTION AREAS AT ANY TIME.
- NO EXCAVATION SHALL BE MADE WITHIN THE TREE PROTECTION AREAS EXCEPT AS NOTED OTHERWISE.

DEMOLITION NOTES:

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- VERIFY LOCATIONS OF ALL BELOW GRADE UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7171.
- PROTECT ALL TREES & EXISTING FEATURES TO REMAIN AS SPECIFIED.
- REFER TO LAYOUT PLAN FOR LIMITS OF WORK.
- DISCREPANCIES BETWEEN SITE AND PLANS SHOULD BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY.
- ALL TOPSOIL AND EXCESS FILL MATERIAL SHALL BE STOCKPILED ON SITE SEPARATELY FOR LATER RE-USE. LOCATE STOCKPILES IN AREAS AS DIRECTED BY LANDSCAPE ARCHITECT AND PROTECT FROM EFFECTS OF EROSION.

1 Demolition Plan
SCALE: 1" = 40'-0"

1 Tree Protection Fencing
NOT TO SCALE



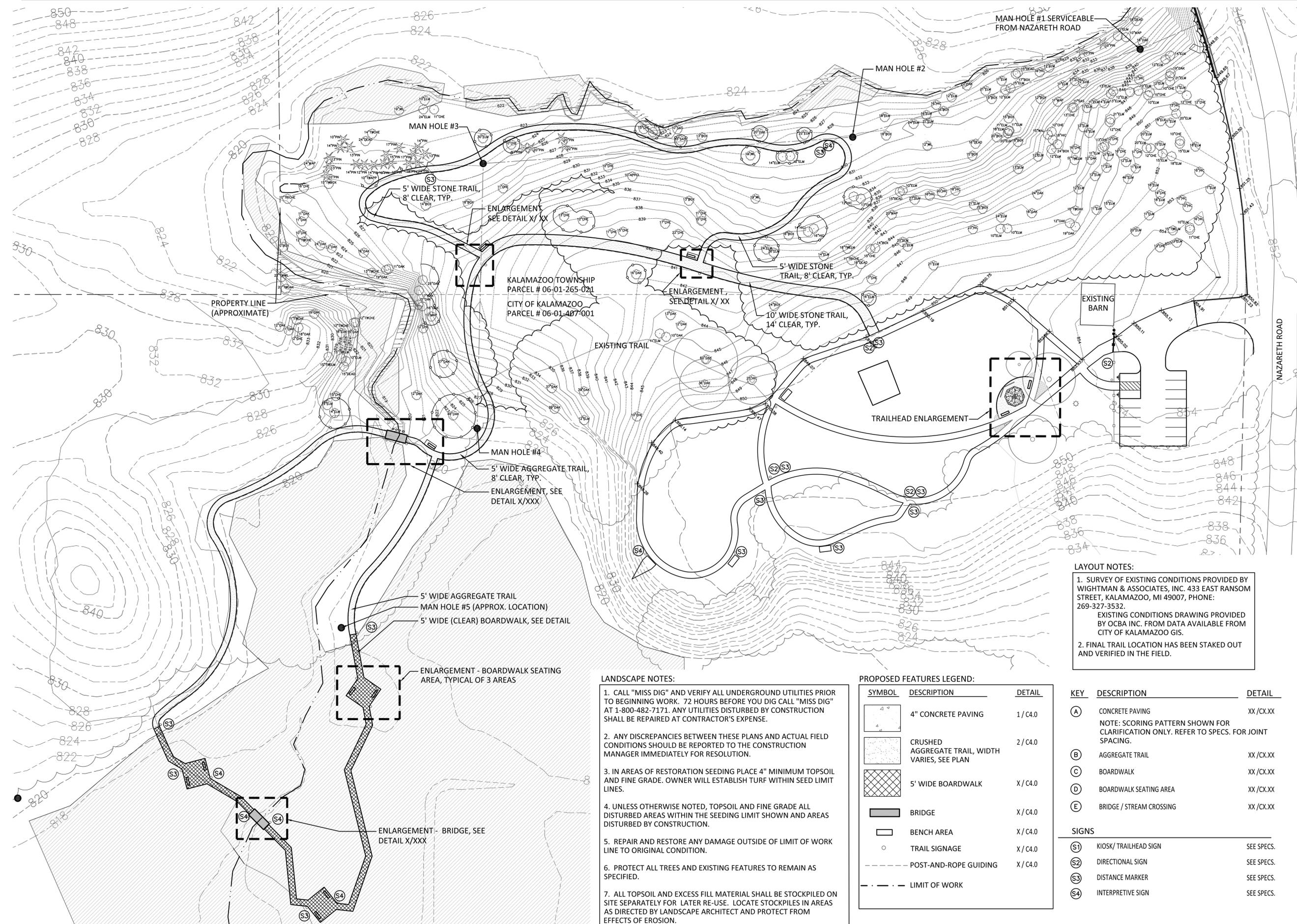
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SWMLC
PHASE 2
IMPROVEMENTS**
KALAMAZOO, MI

Sheet Title
LAYOUT & MATERIALS



LAYOUT NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY WIGHTMAN & ASSOCIATES, INC. 433 EAST RANSOM STREET, KALAMAZOO, MI 49007, PHONE: 269-327-3532. EXISTING CONDITIONS DRAWING PROVIDED BY OCBA INC. FROM DATA AVAILABLE FROM CITY OF KALAMAZOO GIS.
2. FINAL TRAIL LOCATION HAS BEEN STAKED OUT AND VERIFIED IN THE FIELD.

LANDSCAPE NOTES:

1. CALL "MISS DIG" AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7171. ANY UTILITIES DISTURBED BY CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
2. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHOULD BE REPORTED TO THE CONSTRUCTION MANAGER IMMEDIATELY FOR RESOLUTION.
3. IN AREAS OF RESTORATION SEEDING PLACE 4" MINIMUM TOPSOIL AND FINE GRADE. OWNER WILL ESTABLISH TURF WITHIN SEED LIMIT LINES.
4. UNLESS OTHERWISE NOTED, TOPSOIL AND FINE GRADE ALL DISTURBED AREAS WITHIN THE SEEDING LIMIT SHOWN AND AREAS DISTURBED BY CONSTRUCTION.
5. REPAIR AND RESTORE ANY DAMAGE OUTSIDE OF LIMIT OF WORK LINE TO ORIGINAL CONDITION.
6. PROTECT ALL TREES AND EXISTING FEATURES TO REMAIN AS SPECIFIED.
7. ALL TOPSOIL AND EXCESS FILL MATERIAL SHALL BE STOCKPILED ON SITE SEPARATELY FOR LATER RE-USE. LOCATE STOCKPILES IN AREAS AS DIRECTED BY LANDSCAPE ARCHITECT AND PROTECT FROM EFFECTS OF EROSION.
8. NO TREE CLEARING IS REQUIRED FOR THIS PROJECT. CONTACT ARCHITECT FOR QUESTIONS PRIOR TO ANY REMOVALS.

PROPOSED FEATURES LEGEND:

SYMBOL	DESCRIPTION	DETAIL
	4" CONCRETE PAVING	1 / C4.0
	CRUSHED AGGREGATE TRAIL, WIDTH VARIES, SEE PLAN	2 / C4.0
	5' WIDE BOARDWALK	X / C4.0
	BRIDGE	X / C4.0
	BENCH AREA	X / C4.0
	TRAIL SIGNAGE	X / C4.0
	POST-AND-ROPE GUIDING	X / C4.0
	LIMIT OF WORK	

KEY	DESCRIPTION	DETAIL
(A)	CONCRETE PAVING NOTE: SCORING PATTERN SHOWN FOR CLARIFICATION ONLY. REFER TO SPECS. FOR JOINT SPACING.	XX / CX.XX
(B)	AGGREGATE TRAIL	XX / CX.XX
(C)	BOARDWALK	XX / CX.XX
(D)	BOARDWALK SEATING AREA	XX / CX.XX
(E)	BRIDGE / STREAM CROSSING	XX / CX.XX

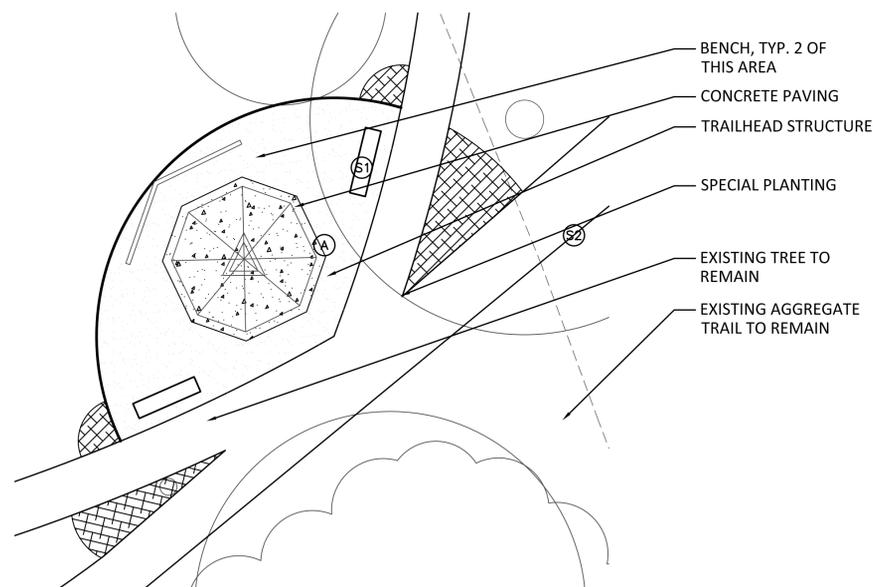
SIGNS

(S1)	KIOSK / TRAILHEAD SIGN	SEE SPECS.
(S2)	DIRECTIONAL SIGN	SEE SPECS.
(S3)	DISTANCE MARKER	SEE SPECS.
(S4)	INTERPRETIVE SIGN	SEE SPECS.

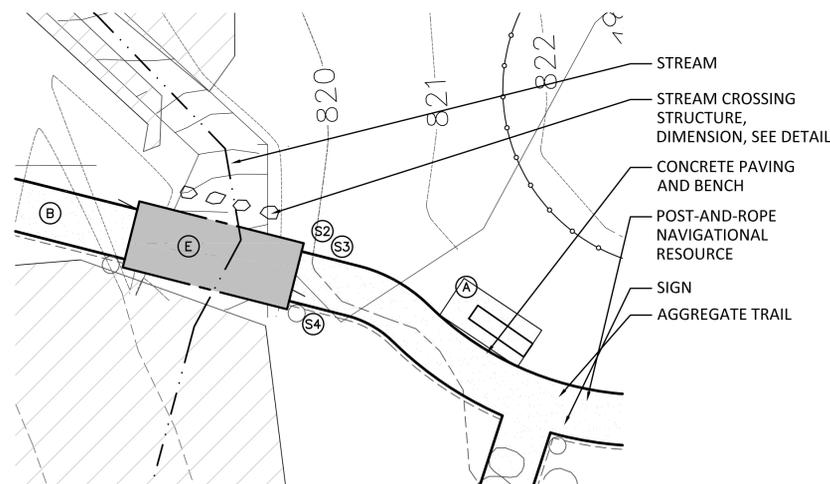
1 Layout and Materials Plan
SCALE: 1" = 40'-0"



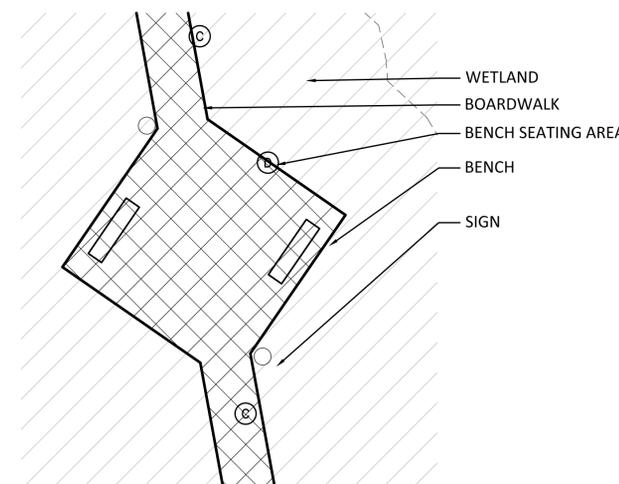
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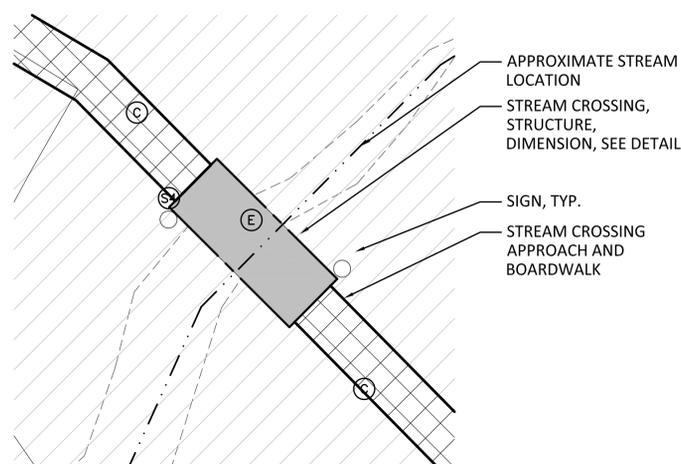
1 Trailhead Enlargement Plan
SCALE: 1" = 10'-0"



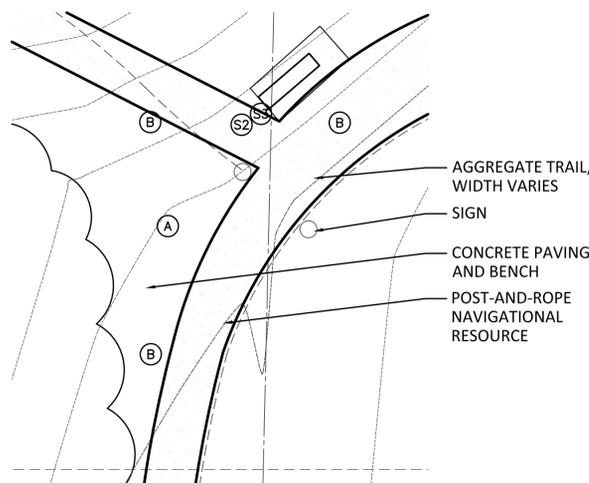
2 Trail / Stream Crossing Enlargement Plan
SCALE: 1" = 10'-0"



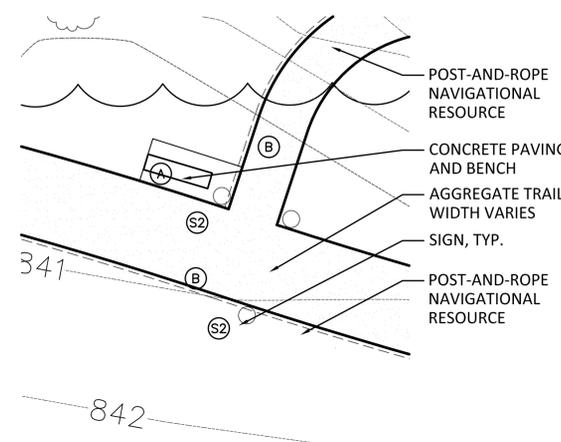
3 Boardwalk Enlargement Plan
SCALE: 1" = 10'-0"



4 Boardwalk / Stream Crossing Enlargement Plan
SCALE: 1" = 10'-0"



5 Trail Enlargement Plan
SCALE: 1" = 10'-0"



6 Trail Enlargement Plan
SCALE: 1" = 10'-0"

PROPOSED FEATURES LEGEND:

SYMBOL	DESCRIPTION	DETAIL
	4" CONCRETE PAVING	1 / C4.0
	CRUSHED AGGREGATE TRAIL, WIDTH VARIES, SEE PLAN	2 / C4.0
	5' WIDE BOARDWALK	X / C4.0
	BRIDGE	X / C4.0
	BENCH AREA	X / C4.0
	TRAIL SIGNAGE	X / C4.0
	POST-AND-ROPE GUIDING	X / C4.0
	LIMIT OF WORK	

KEY

DESCRIPTION	DETAIL
(A) CONCRETE PAVING NOTE: SCORING PATTERN SHOWN FOR CLARIFICATION ONLY. REFER TO SPECS. FOR JOINT SPACING.	XX / CX.XX
(B) AGGREGATE TRAIL	XX / CX.XX
(C) BOARDWALK	XX / CX.XX
(D) BOARDWALK SEATING AREA	XX / CX.XX
(E) BRIDGE / STREAM CROSSING	XX / CX.XX

SIGNS

(S1) KIOSK / TRAILHEAD SIGN	SEE SPECS.
(S2) DIRECTIONAL SIGN	SEE SPECS.
(S3) DISTANCE MARKER	SEE SPECS.
(S4) INTERPRETIVE SIGN	SEE SPECS.

LAYOUT NOTES:

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Project:
**BOW IN THE CLOUDS
SWMLC
PHASE 2
IMPROVEMENTS**

KALAMAZOO, MI

Sheet Title

**LAYOUT & MATERIALS
ENLARGEMENTS**



Job No.

Sheet No.

051810

C21



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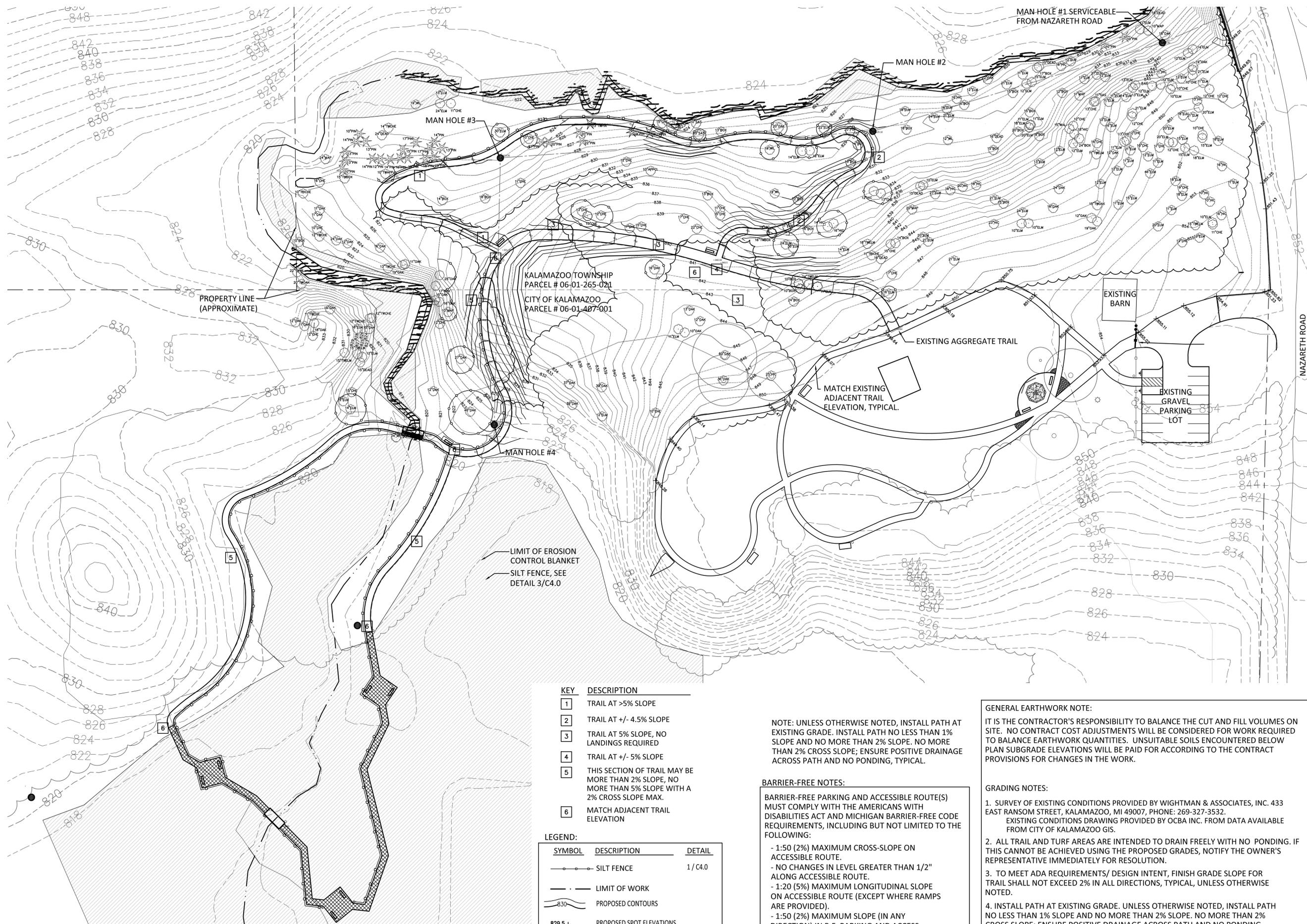
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**BOW IN THE CLOUDS
SWMLC
PHASE 2
IMPROVEMENTS**

KALAMAZOO, MI
Sheet Title
GRADING PLAN



Job No. _____ Sheet No. _____



KALAMAZOO TOWNSHIP
PARCEL # 06-01-265-021
CITY OF KALAMAZOO
PARCEL # 06-01-407-001

KEY	DESCRIPTION
1	TRAIL AT >5% SLOPE
2	TRAIL AT +/- 4.5% SLOPE
3	TRAIL AT 5% SLOPE, NO LANDINGS REQUIRED
4	TRAIL AT +/- 5% SLOPE
5	THIS SECTION OF TRAIL MAY BE MORE THAN 2% SLOPE, NO MORE THAN 5% SLOPE WITH A 2% CROSS SLOPE MAX.
6	MATCH ADJACENT TRAIL ELEVATION

LEGEND:		
SYMBOL	DESCRIPTION	DETAIL
	SILT FENCE	1 / C4.0
	LIMIT OF WORK	
	PROPOSED CONTOURS	
	PROPOSED SPOT ELEVATIONS	
	DIRECTION AND PERCENTAGE OF SLOPE	

NOTE: UNLESS OTHERWISE NOTED, INSTALL PATH AT EXISTING GRADE. INSTALL PATH NO LESS THAN 1% SLOPE AND NO MORE THAN 2% SLOPE. NO MORE THAN 2% CROSS SLOPE; ENSURE POSITIVE DRAINAGE ACROSS PATH AND NO PONDING, TYPICAL.

BARRIER-FREE NOTES:
BARRIER-FREE PARKING AND ACCESSIBLE ROUTE(S) MUST COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND MICHIGAN BARRIER-FREE CODE REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
- 1:50 (2%) MAXIMUM CROSS-SLOPE ON ACCESSIBLE ROUTE.
- NO CHANGES IN LEVEL GREATER THAN 1/2" ALONG ACCESSIBLE ROUTE.
- 1:20 (5%) MAXIMUM LONGITUDINAL SLOPE ON ACCESSIBLE ROUTE (EXCEPT WHERE RAMPS ARE PROVIDED).
- 1:50 (2%) MAXIMUM SLOPE (IN ANY DIRECTION) IN B.F. PARKING AND ACCESS AISLES.

GENERAL EARTHWORK NOTE:
IT IS THE CONTRACTOR'S RESPONSIBILITY TO BALANCE THE CUT AND FILL VOLUMES ON SITE. NO CONTRACT COST ADJUSTMENTS WILL BE CONSIDERED FOR WORK REQUIRED TO BALANCE EARTHWORK QUANTITIES. UNSUITABLE SOILS ENCOUNTERED BELOW PLAN SUBGRADE ELEVATIONS WILL BE PAID FOR ACCORDING TO THE CONTRACT PROVISIONS FOR CHANGES IN THE WORK.

GRADING NOTES:
1. SURVEY OF EXISTING CONDITIONS PROVIDED BY WIGHTMAN & ASSOCIATES, INC. 433 EAST RANSOM STREET, KALAMAZOO, MI 49007, PHONE: 269-327-3532. EXISTING CONDITIONS DRAWING PROVIDED BY OCBA INC. FROM DATA AVAILABLE FROM CITY OF KALAMAZOO GIS.
2. ALL TRAIL AND TURF AREAS ARE INTENDED TO DRAIN FREELY WITH NO PONDING. IF THIS CANNOT BE ACHIEVED USING THE PROPOSED GRADES, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY FOR RESOLUTION.
3. TO MEET ADA REQUIREMENTS/ DESIGN INTENT, FINISH GRADE SLOPE FOR TRAIL SHALL NOT EXCEED 2% IN ALL DIRECTIONS, TYPICAL, UNLESS OTHERWISE NOTED.
4. INSTALL PATH AT EXISTING GRADE. UNLESS OTHERWISE NOTED, INSTALL PATH NO LESS THAN 1% SLOPE AND NO MORE THAN 2% SLOPE. NO MORE THAN 2% CROSS SLOPE; ENSURE POSITIVE DRAINAGE ACROSS PATH AND NO PONDING, TYPICAL.



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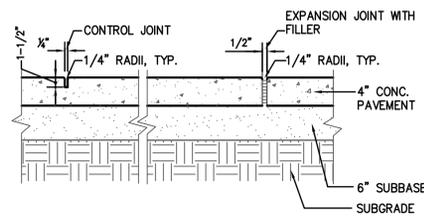
Issued For:	Date
CITY PUBLIC SERVICE	10-23-2019
REVISION	11-05-2019
PRE SITE PLAN REVIEW	01-29-2020

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SWMLC
PHASE 2
IMPROVEMENTS**

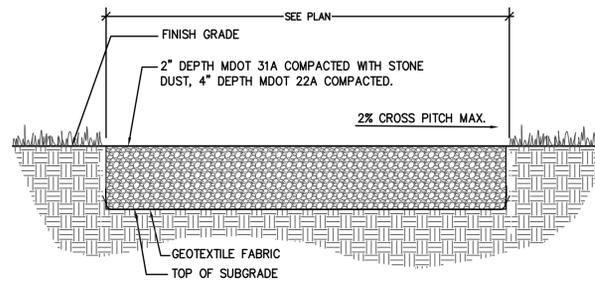
KALAMAZOO, MI

Sheet Title

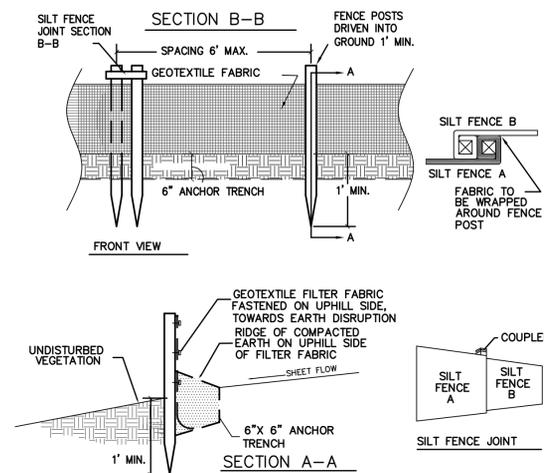
SITE DETAILS



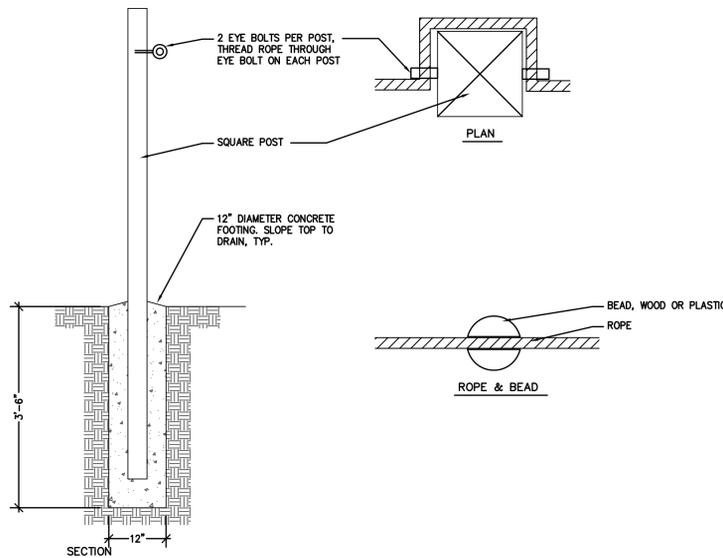
1 Section-4" Concrete Pavement
Not To Scale



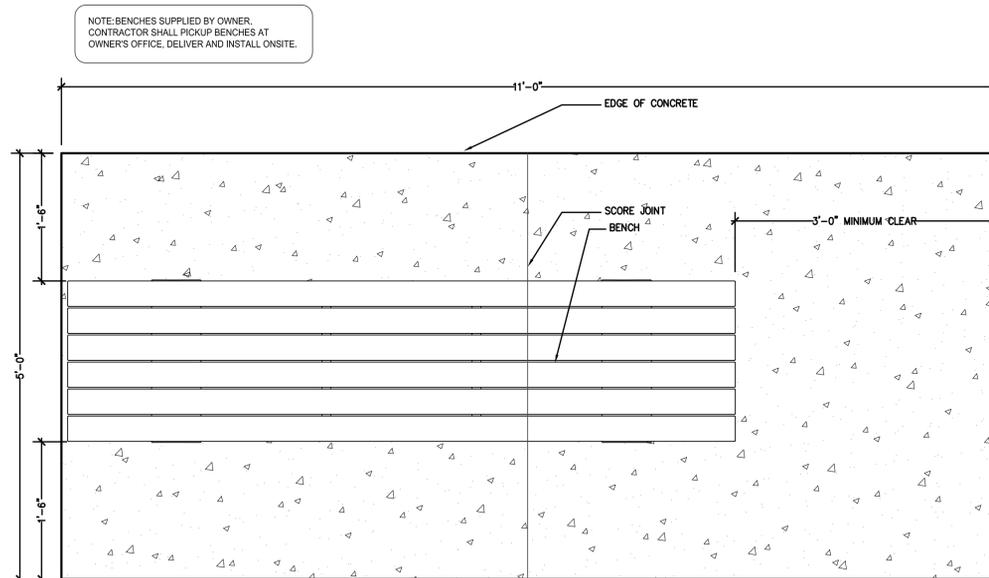
2 Aggregate Path Detail
Not To Scale



3 Silt Fence Detail
Not To Scale



4 Post-and-Rope Guiding and Disc Detail
Not To Scale



5 Bench Pad - Typical Plan
Not To Scale



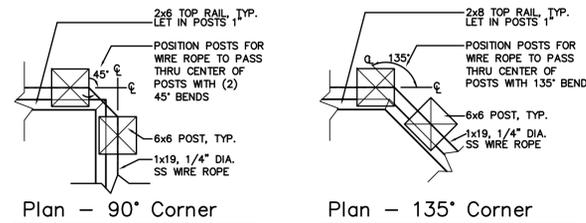
6 Bench on Boardwalk - Typical Plan
Not To Scale



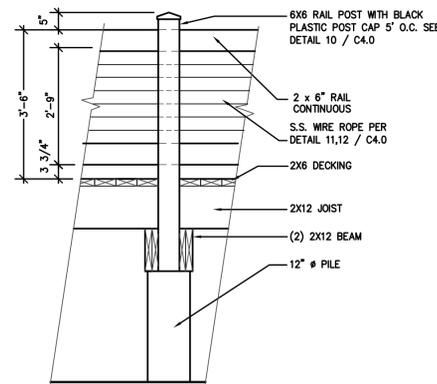
7 Bench at Trail - Typical Plan
Not To Scale



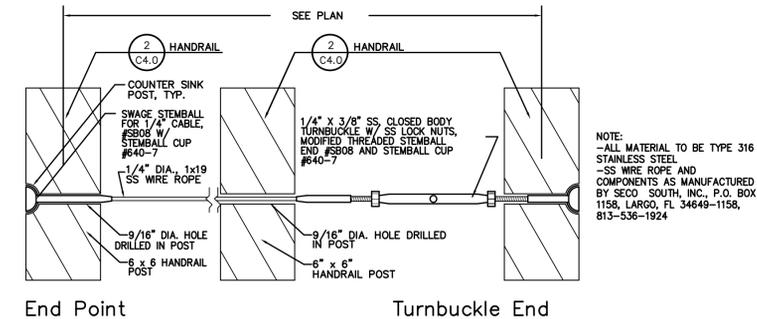
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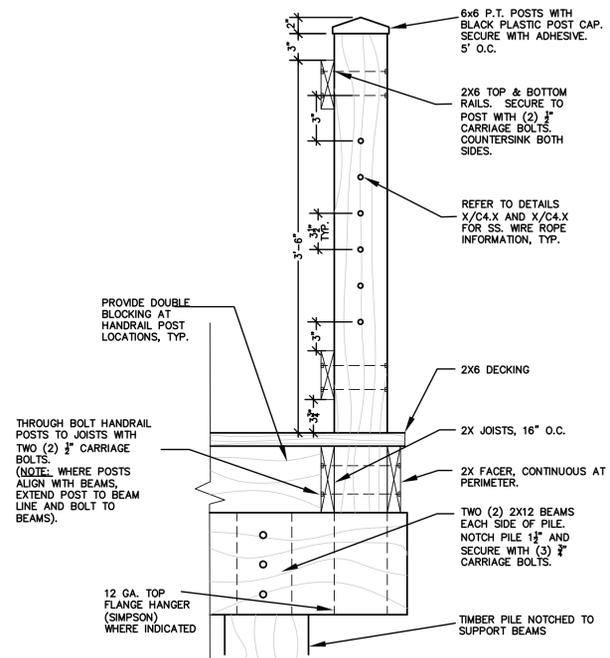
1 Handrail Corner Details
Not to Scale



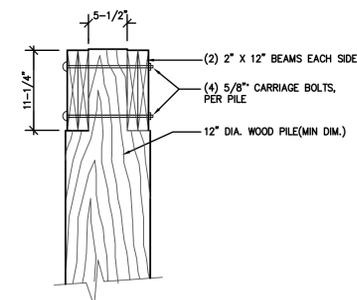
2 Stream Crossing - Rail Elevation
Not to Scale



3 S.S. Wire Rope Handrail Detail
Not to Scale

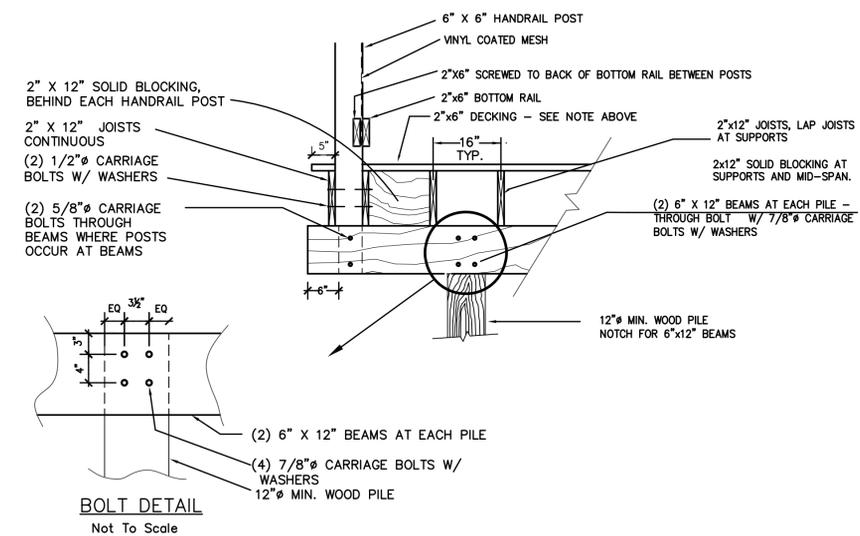


4 Deck Handrail Detail
Not to Scale

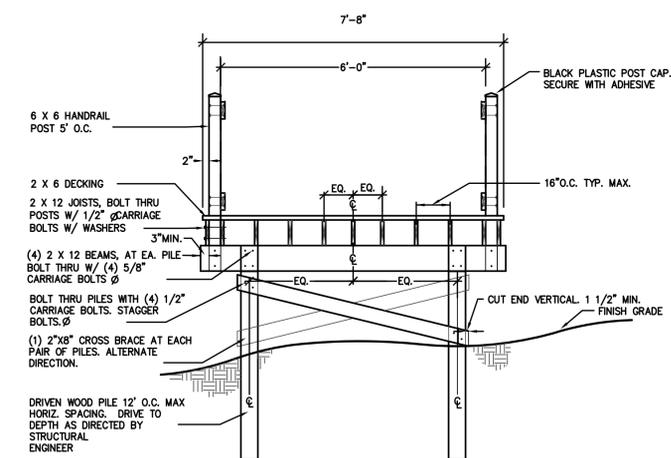


5 Beam/Pile Connection
Not to Scale

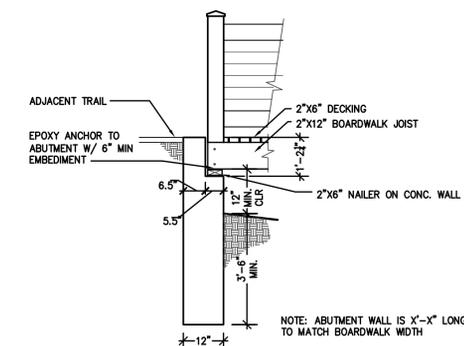
2"x6" TREATED SOUTHERN YELLOW PINE DECKING.
FASTEN WITH (3) 2 1/2" GALVANIZED DECK SCREWS
AT EACH JOIST, STAGGERED. INSTALL WITH 1/8"
SPACE BETWEEN DECK BOARDS



8 Framing Detail
Not to Scale



6 Stream Crossing - Cross Section With Two Handrails
Not to Scale



7 Stream Crossing - Start Detail
Not to Scale

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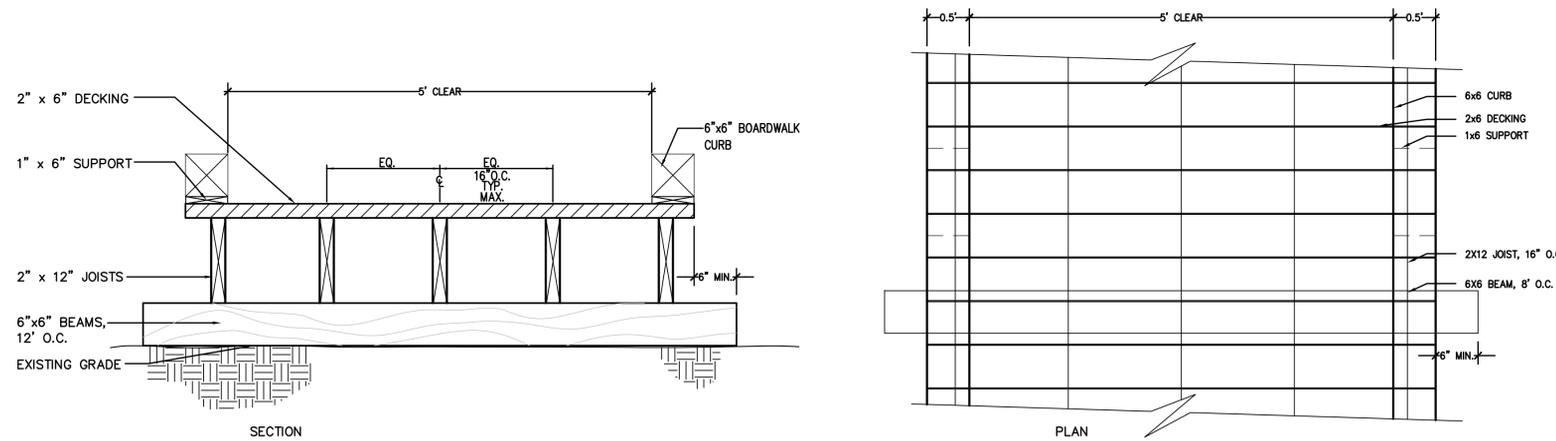
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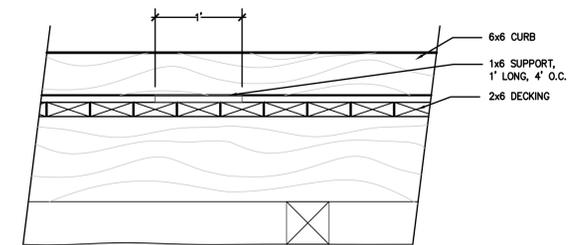


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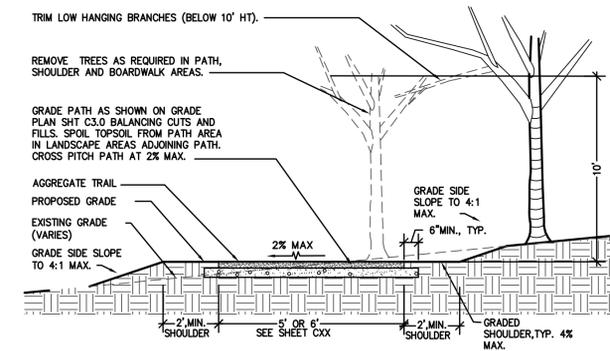
1 Stream Crossing, Approach and Boardwalk – Elevation Detail
Not To Scale



2 Boardwalk – Detail
Not To Scale



3 Boardwalk Curb Detail
Not To Scale



4 Typical Trail Section
Not To Scale

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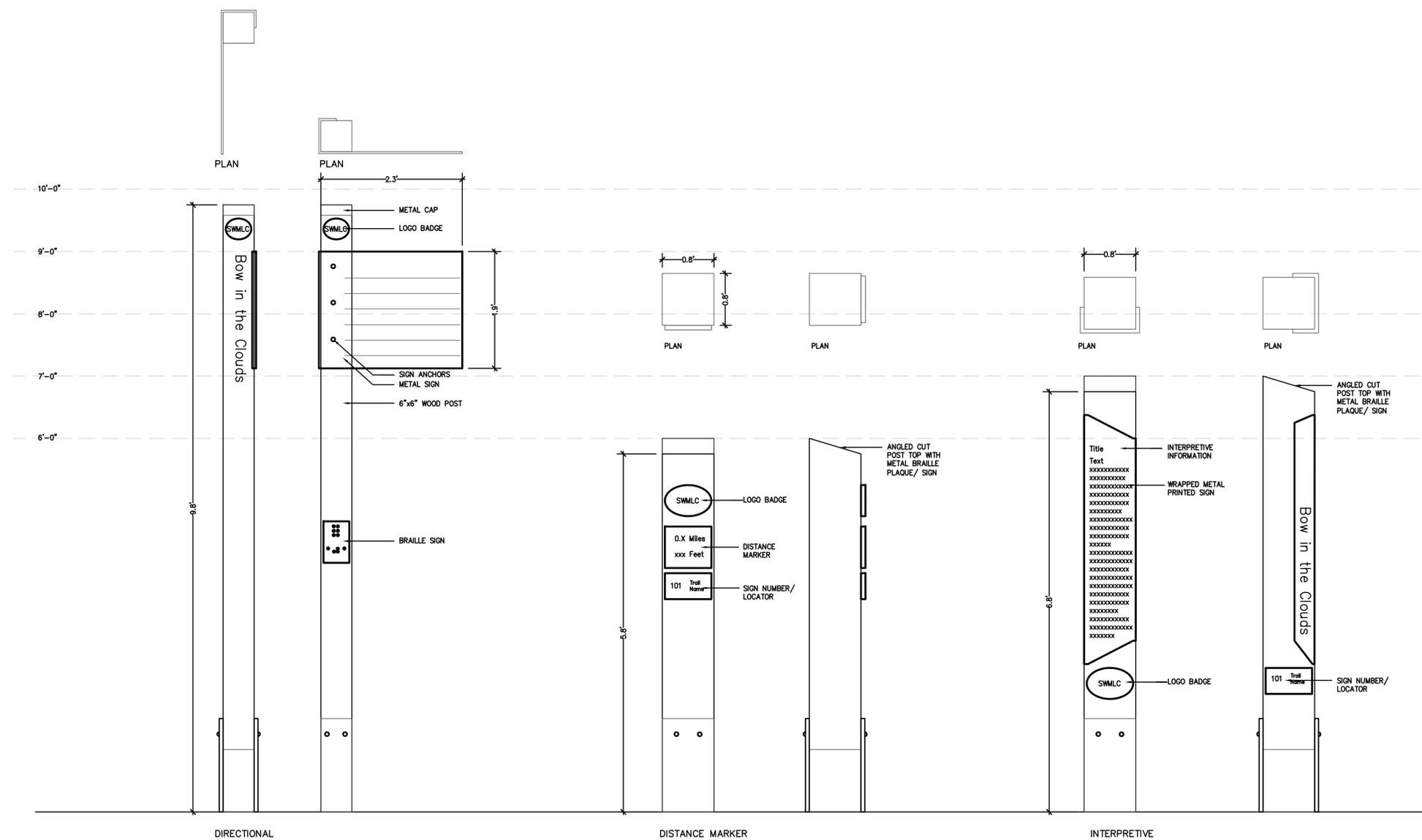
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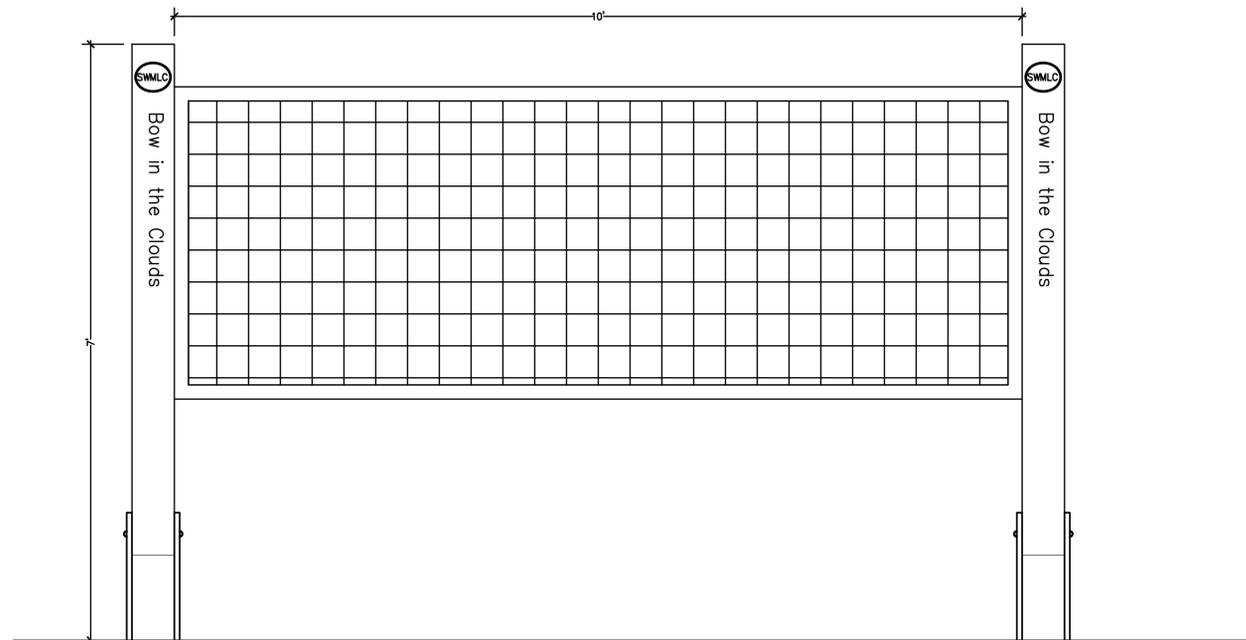
SITE DETAILS



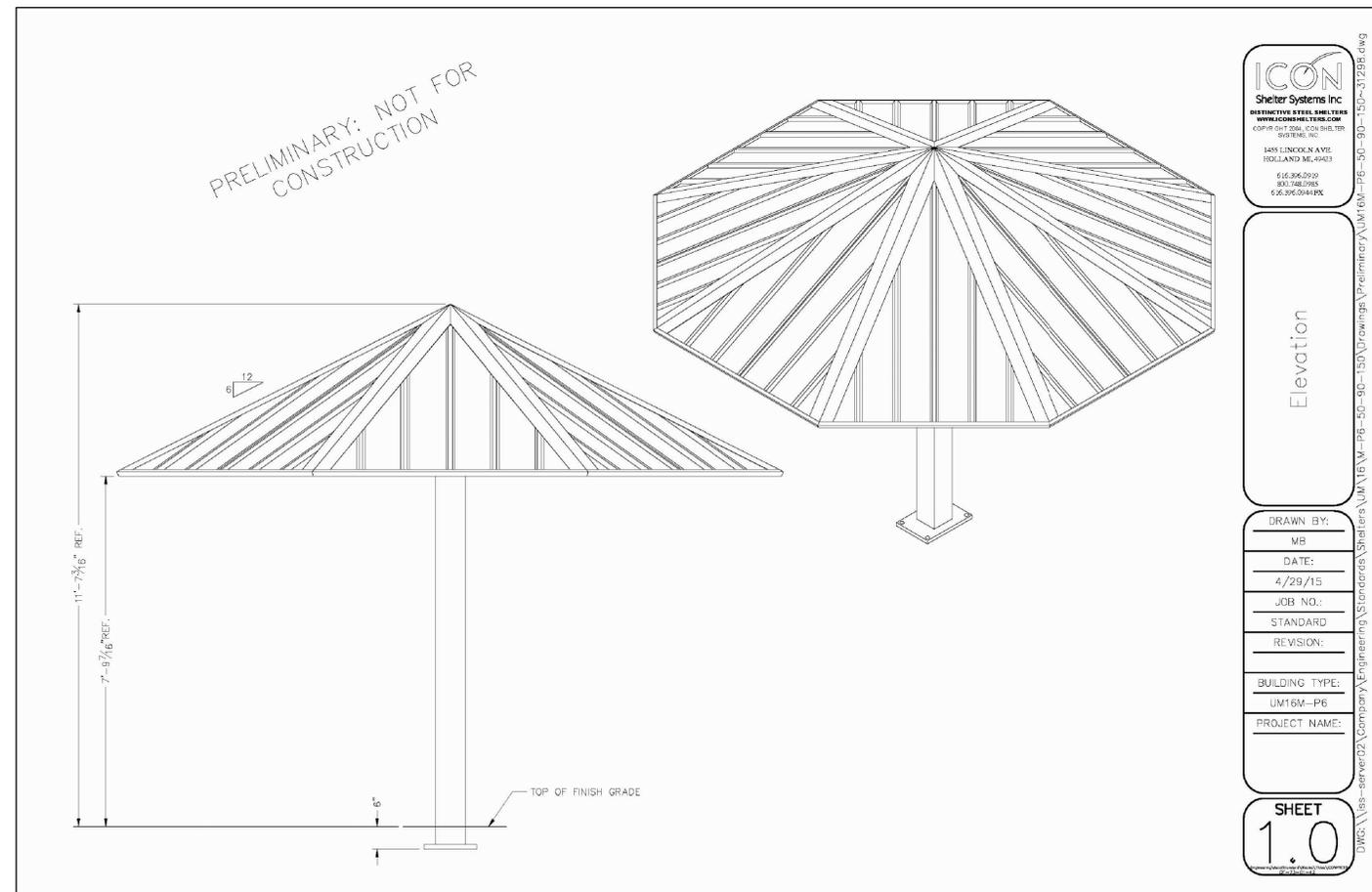
1 Directional
Not To Scale

2 Distance Marker
Not To Scale

3 Interpretive Sign
Not To Scale



1 Kiosk / Trailhead Sign
Not To Scale



2 Trailhead Structure
Not To Scale

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Shelter Systems Inc.
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHelters.COM
CORP 807 296 1000 800 333 3333
SYSTEMS, INC.
1405 LINCOLN AVE
BOLLANDT, MI 49307
616.396.0920
800.748.0785
616.396.0944 FAX

Elevation

DRAWN BY:
MB
DATE:
4/28/15
JOB NO.:
STANDARD
REVISION:
BUILDING TYPE:
UM16M-P6
PROJECT NAME:

SHEET
1.0

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