PLANNING COMMISSION MEETING PACKET CONTENTS

Monday, May 11, 2026 – 6:00pm

Lester Hoogland Banquet Room – Howard Miller Community Center

14 S Church Street

1. Agenda
2. Special Meeting & Public Hearing Notice – Site plan review and special land use application for Mead Johnson & Company, LLC – 725 E Main Ave
3. Staff Memo – Site plan review and special land use application for Mead Johnson & Company, LLC – 725 E Main Ave
4. Cover Letter & Application - Mead Johnson & Company, LLC – 725 E Main Ave
5. Site Plan Package - Mead Johnson & Company, LLC – 725 E Main Ave
6. Variance Plan Package - Mead Johnson & Company, LLC – 725 E Main Ave
7. Traffic Study Summary - Mead Johnson & Company, LLC – 725 E Main Ave

   Note: Full traffic study can be viewed at the LINK
8. Storm Water Management Narrative – Mead Johnson & Company, LLC

   Note: Full stormwater package can be viewed at the LINK
9. Response to Staff Comments on Application – Mead Johnson & Company, LLC – 725 E Main Ave

   Note: Staff comments are included in this document
10. Resident Correspondence – Ryan Baas – 28 S Sanford St – Received May 7, 2026

CITY OF ZEELAND
PLANNING COMMISSION
SPECIAL MEETING AGENDA
MAY 11, 2026
LESTER HOOGLAND BANQUET ROOM – HOWARD MILLER COMMUNITY CENTER
14 S CHURCH STREET

6:00PM

- Meeting called to order
- Roll Call
- Excuse absent members
- Additional agenda items

VISITORS/PUBLIC COMMENT:

-

COMMUNICATIONS/REPORTS:

- Ryan Baas – 28 S Sanford St – Communication received May 7, 2026

PUBLIC HEARINGS:

- 6:00pm - Mead Johnson & Company, LLC – Allan Barron – 725 E Main Ave – Site plan review and special land use application for industrial facility campus modernization project

ACTION:

-

UNFINISHED BUSINESS:

-

NEW BUSINESS:

-

PUBLIC COMMENT:

-

OTHER:

- Consider any other business which may lawfully come before the Planning Commission

CITY OF ZEELAND
PLANNING COMMISSION
NOTICE OF SPECIAL MEETING AND PUBLIC HEARING

Please take notice that the Zeeland City Planning Commission whose chambers are in the Zeeland City Hall at 21 South Elm Street, Zeeland, Michigan, and whose telephone number is (616) 772-0872, will meet at the Howard Miller Community Center – 14 S Church St – Zeeland, MI 49464 at 6:00pm on Monday, May 11, 2026 for a special meeting. The following application will be reviewed at:

6:00pm	
Applicant:	**Allan Barron**
Property Owner:	**Mead Johnson & Company, LLC**
Project Locations:	**640 E Washington Ave, 138 N Fairview St, 126 N Fairview St, 641 E Main Ave, 658 E Main Ave, 649 E Main Ave, 701 E Main Ave, 734 E Washington Ave, 724 E Washington Ave, 725 E Main Ave, 637 E Main Ave, 633 E Main Ave, 109 N Carlton St, 549 E Main Ave, 553 E Main Ave, 107 N Carlton St, 515 E Main Ave, 25 N Division St, 605 E Main Ave, 55 N Division St**
PINS:	**70-17-18-400-011, 70-17-18-400-016, 70-17-18-400-017, 70-17-18-400-020, 70-17-18-400-022, 70-17-18-400-023, 70-17-18-400-027, 70-17-18-400-032, 70-17-18-400-034, 70-17-18-400-040, 70-17-18-400-041, 70-17-18-400-044, 70-17-18-400-045, 70-17-18-470-002, 70-17-18-470-010, 70-17-18-470-011, 70-17-18-470-016, 70-17-18-470-021, 70-17-18-471-005, 70-17-18-471-008, 70-17-18-471-009**
Zoning:	**I-2 – General Industrial District**
Description of Request:	**Site Plan Review and Special Land Use Application for an industrial facility campus modernization project. The project spans multiple parcels generally located along E Main Avenue, E Washington Avenue, and N Carlton Street. Proposed improvements include the construction of multiple industrial buildings of varying heights totaling approximately 619,000 square feet, along with associated parking areas, internal vehicle circulation, stormwater management systems, landscaping and screening, and signage.**

The public, anyone receiving this notice, or any interested person may be heard or may present their written comments during the said hearing, or may file written comments during normal business hours with the Zoning Administrator's Office prior to the date and time of the public hearing. Information regarding this meeting and the public hearing may be reviewed in the Zoning Administrator's Office from 8:30 A.M. to 12:00 P.M. and from 1:00 P.M. to 4:30 P.M. on any day not a holiday from Monday through Friday.

The City of Zeeland will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting, to individuals with disabilities at the meeting/hearing with a need for an accommodation, upon being provided with a notice to the City of Zeeland three days prior to the public hearing. Individuals with disabilities requiring auxiliary aids or services should contact the City of Zeeland by writing or calling the City Clerk's Office 772-6400.

Dated: April 20, 2026
Timothy Maday – Zoning Administrator

21 South Elm Street • Zeeland, Michigan 49464 • (616) 772-0872 • (616) 772-0880

MEMORANDUM

DATE: Friday, May 8, 2026

TO: Planning Commission

FROM: Tim Maday, Community Development Director

RE: May 11th Special Planning Commission meeting agenda – Site plan review and special land use application for Mead Johnson & Company, LLC – 725 E Main Ave – Campus modernization project

Background

On April 6, 2026, the City received a site plan review and special land use application from Mead Johnson & Company, LLC for a proposed campus modernization project. The application includes multiple parcels generally located along E Main Avenue, E Washington Avenue, and N Carlton Street.

Staff completed an initial review of the application and provided written comments to the applicant. The applicant submitted a response memo dated May 4, 2026 (enclosed in the meeting packet), along with revised plan materials addressing those comments.

This application is part of a broader redevelopment effort that has been discussed with the Planning Commission over the past year, including prior rezoning actions, temporary parking lot approvals, and the currently pending request to vacate a portion of N Division Street, which is associated with the overall site configuration for this project.

Description of Application

The applicant is requesting site plan review and special land use approval for an industrial facility campus modernization project within the I-2 General Industrial District.

The proposed project includes the construction of multiple industrial buildings of varying heights totaling approximately 619,000 square feet, along with associated site improvements including parking areas, internal vehicle circulation, truck access and loading areas, stormwater management systems, site lighting, landscaping and screening, utility infrastructure improvements, and related site infrastructure to support the proposed operations.

Summary of Staff Review / Ordinance Considerations

Staff has completed an initial review of the application and continues to work with the applicant and their consultants on outstanding items. Based on the revised plans and response materials, the project generally aligns with the requirements of the City's zoning ordinance, subject to the considerations outlined below.

Landscaping and Screening

The City's landscaping ordinance requires the installation of greenbelts along street frontages consisting of one canopy tree per 40 feet of frontage and a minimum 20-foot depth of landscaped area, in addition to interior parking lot landscaping requirements.

On Main Avenue, the greenbelt requirements are met. In addition, canopy trees that would otherwise be required within interior parking areas have been relocated to the Main Avenue frontage, resulting in additional screening and an enhanced streetscape.

On Carlton Street, the ordinance requires 18 canopy trees. The plan shows 16 canopy trees and 3 evergreen trees. The Planning Commission will need to determine whether this arrangement is acceptable or whether additional canopy trees should be required; if accepted, a waiver will be required to allow the substitution of evergreen trees.

On Washington Avenue, no formal greenbelt is currently in place or proposed. Staff does not believe that the limited scope of work along Washington Avenue, which is primarily related to parking use, warrants full reconstruction to install a greenbelt at this time. Staff would prefer to coordinate any future improvements along Washington Avenue with the applicant to ensure consistency with the City's Washington Avenue beautification plans.

With respect to parking lot landscaping, the ordinance requires canopy trees and landscaped areas based on the size of the parking lot. The applicant is proposing to relocate all required parking lot trees to the Main Avenue frontage due to operational constraints, including food safety considerations associated with the facility, and is not proposing vegetated interior landscape islands. Instead, paved landscape islands are proposed. The Planning Commission will need to consider a waiver from these requirements.

The site is generally screened from public view through a combination of the proposed Main Avenue greenbelt, relocated canopy trees, hedgerow plantings, and fencing located behind the landscaping.

Parking

The project includes a combination of existing parking areas, proposed parking improvements, and deferred parking areas.

Contractor parking is identified as temporary in nature and is proposed to be located on Washington Avenue, while primary employee parking is provided within the landscaped parking areas located to the south.

Deferred parking areas are shown for potential future use. These areas are not proposed to be constructed at this time. City ordinance allows deferred parking where the required number of parking spaces, based on building square footage and use, exceeds actual operational needs. Any activation of these deferred parking areas in the future would require compliance with applicable ordinance requirements, including landscaping and greenbelt standards.

Utilities and Consultant Review

The application was distributed to all relevant City departments and consultants for review.

Water and sanitary sewer review is ongoing, including coordination regarding system capacity, discharge locations, and monitoring requirements.

Stormwater plans were submitted to the Ottawa County Water Resources Commissioner's Office on May 4, 2026. Staff recommends that any site plan approval include a condition requiring approval from the County prior to issuance of building permits.

The City's consulting traffic engineer has reviewed the submitted traffic study and is continuing to coordinate with the applicant's engineer. Final traffic-related improvements and design should be subject to staff and consultant approval prior to issuance of building permits.

Staff will continue to work with the applicant and consultants to resolve outstanding technical items.

Key Issues / Outstanding Items

The following items remain under review or require action by the Planning Commission or other bodies:

Variances Required (Zoning Board of Appeals)
Building height: The I-2 district permits a maximum building height of 40 feet. Several proposed buildings exceed this height and will require variances.

Front yard fencing: Fencing within front yards is limited to three feet in height. The applicant is proposing an eight-foot fence around the site for security and safety purposes, which requires variance approval.

Front yard loading: Loading is not permitted within front yards. Multiple front yards exist, and loading is proposed within the west front yard, which is set back several hundred feet from the right-of-way. Variance approval will be required.

Waivers Requested (Planning Commission)
Parking lot landscaping: Waiver requested to allow paved landscape islands and relocation of required parking lot trees to the Main Avenue greenbelt.

Greenbelt tree substitution (Carlton Street): Waiver required to allow substitution of evergreen trees in place of required canopy trees.

Staff believes these waiver requests can be supported.

Ongoing Coordination
- Final traffic study review
- Stormwater approval from Ottawa County
- Utility design and system capacity determinations

Related Approvals
The proposed vacation of a portion of North Division Street has been recommended by the Planning Commission and is currently moving through the City Council process for consideration and final action.

Development Agreement
Due to the scale and complexity of the project, and the number of items involving coordination between public and private improvements, a development agreement will be required.

The development agreement is anticipated to address items including utility coordination, infrastructure improvements, and the design and implementation of the proposed greenspace/pocket park area. While the general layout of the greenspace has been identified, final design elements such as pavement treatments and amenities have not yet been finalized and are anticipated to be addressed through the development agreement.

Additional items may include coordination of easements, maintenance responsibilities, and other project-related improvements not directly governed by the site plan review process, including impacts to adjacent spaces such as the relocation of the Bethel playground.

Recommendation / Next Steps

This will be the Planning Commission's first opportunity to review and discuss the proposed site plan as a group, hear a presentation from the applicant, and receive public comment.

Staff has been working with the applicant over an extended period through multiple rounds of review, coordination, and plan revisions. Based on that work, staff believes the proposed site plan is generally consistent with the requirements of the City's zoning ordinance, subject to the outstanding items identified above.

Given the scale of the project and the level of public interest, staff is not requesting action from the Planning Commission at the May 11, 2026 meeting. This meeting is intended to allow the Commission to review the application, hear public input, and provide initial feedback and direction.

Should the Planning Commission feel comfortable taking action at the May 11 meeting, the following conditions should be included as part of any motion for approval:

- Approval of required variances by the Zoning Board of Appeals
- Approval of requested waivers by the Planning Commission
- Final traffic study review and approval by the City's consulting traffic engineer
- Approval of stormwater management plans by the Ottawa County Water Resources Commissioner's Office prior to issuance of building permits
- Final review and approval of utility design and system capacity by City staff and consultants
- Execution of a development agreement addressing project-related improvements and coordination items

If no action is taken at the May 11 meeting, staff will continue to work with the applicant to address outstanding items and incorporate feedback from the Planning Commission and public. A formal recommendation will then be presented for consideration, likely at the June 4, 2026 Planning Commission meeting.

I hope this memo is helpful in explaining the application that will come before the Commission on May 11th, and the related city ordinance considerations. Please do not hesitate to reach out with any questions you may have regarding this memo, the related application or anything else.

Received: 04/06/26
City of Zeeland, MI

Mead Johnson Nutrition – Zeeland Modernization Masterplan

Project description

Mead Johnson & Company, LLC is one of the world's largest producers of infant formula. The Zeeland, Michigan plant has been in continuous operation since 1924 and has undertaken numerous expansions and modernizations over the years. This project is a major modernization of both the manufacturing and packaging operations, as well as employee amenities areas. The project includes:

(1) a new building to be constructed North of, and attached to, the existing plant that will house a new packaging line, and

(2) a new stand-alone facility to be built directly West of the existing buildings, and connected by walkways, on property recently acquired and rezoned to I-2 for this purpose. This new building will include manufacturing, packaging, warehousing, supporting utilities, and a new building housing office, laboratory, and employee amenities.

The project will also include associated sitework, utility installation, parking, and landscaping.

Requested Variances/Adjustments

Height Variance

Several Areas of the new facility exceed the code specified maximum height of 40' AGL. Much of the process equipment required to support our manufacturing requires this height with towers required for the spray dryer and blender. A Zoning Variance Request, similar to those approved for prior projects on site, has been prepared to be heard by the Zeeland Zoning Board of Appeals and is being submitted concurrently with this Site Plan Approval application.

Landscape Adjustments

FDA regulations under 21 CFR 117.20 require that the grounds surrounding a food processing plant be maintained in a manner that minimizes the potential for contamination from pests, dust, and debris. To support compliance with this requirement, large trees, shrubs, and similar vegetation cannot be placed immediately adjacent to buildings. Such plantings can create harborage areas for pests, support bird nesting, and interfere with proper drainage - each of which presents a potential risk to food safety.

In alignment with these regulatory expectations, Mead Johnson Nutrition takes additional precaution to eliminate or significantly reduce these risks. For the project referenced, we require that no trees, shrubs, grasses, or other greenscaped areas be positioned in close proximity to the facility. Consistent with our approach on other recent expansions, no trees or grasses will be placed within parking islands or buffer zones directly adjacent to the plant.

To balance these restrictions while still enhancing site aesthetics and environmental quality, we are increasing the quantity of trees and landscape plantings along the perimeter of the site. This approach supports regulatory compliance while providing meaningful visual and environmental benefits. These adjustments are detailed in the attached landscape plans.

Received: 04/06/26
City of Zeeland, MI

Parking Requirements

This modernization project includes purpose-built facilities that do not necessarily align with standard occupancy-per-square-foot benchmarks. As a result, the parking and site amenities have been designed specifically to support the operational requirements of the company, which may differ from standard code-based parking stall calculations. As part of the project planning process, a comprehensive analysis of staffing levels and shift schedules was completed to determine the actual on-site parking needs. This analysis is attached for reference.

The proposed employee main parking lot includes 377 regular (non ADA accessible) parking stalls, providing approximately 15% more capacity than the highest demand identified in the analysis. Because this lot will be controlled-access and reserved exclusively for employees, we are confident that this capacity will sufficiently support current operations as well as known future growth.

All contractors will be parking at the newly acquired building at 640 E. Washington Ave, entering the site from Washington Ave. There will be 91 contractors located at this site, with a lot capacity of 272 Spaces.

Additionally, should future operational changes create a need for more parking, adequate land is available within the property boundaries to allow for the development of additional parking areas. A deferred parking layout is also attached to illustrate this expansion capability.

Noise Abatement

As part of our efforts to optimize the site for Mead Johnson Nutrition operations while also supporting the quality of life for Zeeland residents and visitors, we have made several significant site adjustments that will substantially improve noise-reduction performance.

The most impactful change is the increased setback for all buildings. All manufacturing facilities are now positioned a minimum of 225 feet from the property line—far exceeding the required 50-foot setback. According to the 6-dB rule, this increased distance is estimated to reduce general facility noise by approximately 13 dB. In addition, the shipping docks and truck apron have been shifted farther away from N. Carlton Street, providing additional reduction in noise exposure.

Nearly as significant is the relocation of the Central Utility Building (CUB) and the cooling towers. These structures have been moved from the originally planned areas near N. Carlton Street to a more central location on the site, where they are naturally screened by other buildings. The CUB has shifted from roughly 200 feet to approximately 850 feet from N. Carlton Street, and the cooling tower from around 50 feet to approximately 850 feet. This relocation results in an estimated 24-dB noise reduction at the N. Carlton lot line.

As part of the overall landscaping plan, a close-rail aluminum fence and densely planted trees will further reduce noise levels along Main Avenue and the residential portion of N. Carlton Street by an additional 3–5 dB.

Mead Johnson Nutrition

North Parking Location includes contractors that will be parking at the Hypoint building North of Brower Drain
Main Parking Location includes employees that will eb parking in the new parking South of the new building

Primary Shift Change (6A and 6P) has vehicles for both offgoing and oncoming associates

Departments	Parking Count	Parking Location	Day		Night		Midnight	1	2	3	4	5	6	7	8	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	
Automation	6	Main	8a - 5p	6											6	6	6	6	6	6	6	6	6	6							
EHS	6	Main	8a - 5p	6											6	6	6	6	6	6	6	6	6	6							
HR	3	Main	8a - 5p	3											3	3	3	3	3	3	3	3	3	3							
Learning & Development	6	Main	8a - 5p	6											6	6	6	6	6	6	6	6	6	6							
Maintenance & Engineering	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Maintenance Core Team	45	Main	6a - 6p	14	6p - 6a	8	8	8	8	8	8	8	22	14	14	14	14	14	14	14	14	14	14	14	22	8	8	8	8	8	8
Maintenance Support	11	Main	6a - 6p	3	6p - 6a	3	3	3	3	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	6	3	3	3	3	3	3
Operational Excellence	2	Main	8a - 5p	2											2	2	2	2	2	2	2	2	2	2							
Operations Support	9	Main	6a - 6p	3	6p - 6a	2	2	2	2	2	2	2	5	3	3	3	3	3	3	3	3	3	3	3	5	2	2	2	2	2	2
Plant Engineering	3	Main	8a - 5p	3											3	3	3	3	3	3	3	3	3	3							
Quality	68	Main	6a - 6p	17	6p - 6a	17	17	17	17	17	17	17	34	17	17	17	17	17	17	17	17	17	17	17	34	17	17	17	17	17	17
Sample Prep	3	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Site Director	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Technical Services	11	Main	8a - 5p	11											11	11	11	11	11	11	11	11	11	11							
Validation	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Wastewater Treatment	7	Main	6a - 6p	2	6p - 6a	3	3	3	3	3	3	3	5	2	2	2	2	2	2	2	2	2	2	2	5	3	3	3	3	3	3
ZIPP Core Team	62	Main	6a - 6p	16	6p - 6a	16	16	16	16	16	16	16	32	16	16	16	16	16	16	16	16	16	16	16	32	16	16	16	16	16	16
ZIPP Blend & Pack	54	Main	6a - 6p	14	6p - 6a	14	14	14	14	14	14	14	28	14	14	14	14	14	14	14	14	14	14	14	28	14	14	14	14	14	14
ZIPP Support	11	Main	6a - 6p	3	6p - 6a	3	3	3	3	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	6	3	3	3	3	3	3
ZSP Core Team	46	Main	6a - 6p	12	6p - 6a	12	12	12	12	12	12	12	24	12	12	12	12	12	12	12	12	12	12	12	24	12	12	12	12	12	12
ZSP Blend & Pack	55	Main	6a - 6p	14	6p - 6a	14	14	14	14	14	14	14	28	14	14	14	14	14	14	14	14	14	14	14	28	14	14	14	14	14	14
ZSP Support	12	Main	6a - 6p	3	6p - 6a	3	3	3	3	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	6	3	3	3	3	3	3
Digest	14	Main	6a - 6p	4	6p - 6a	4	4	4	4	4	4	4	8	4	4	4	4	4	4	4	4	4	4	4	8	4	4	4	4	4	4
Administration	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Category Supply	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Company Store	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Finance	3	Main	8a - 5p	3											3	3	3	3	3	3	3	3	3	3							
IT	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Package Engineering	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Planning	8	Main	8a - 5p	8											8	8	8	8	8	8	8	8	8	8							
PMO	1	Main	8a - 5p	1											1	1	1	1	1	1	1	1	1	1							
Procurement	3	Main	8a - 5p	3											3	3	3	3	3	3	3	3	3	3							
Quality-Regional	3	Main	8a - 5p	3											3	3	3	3	3	3	3	3	3	3							
EnviroClean	176	Main	6a - 6p	44	6p - 6a	44	44	44	44	44	44	44	88	44	44	44	44	44	44	44	44	44	44	44	88	44	44	44	44	44	44
Manpower- ZIPP	27	Main	6a - 6p	7	6p - 6a	7	7	7	7	7	7	7	14	7	7	7	7	7	7	7	7	7	7	7	14	7	7	7	7	7	7
Manpower- ZSP	21	Main	6a - 6p	6	6p - 6a	6	6	6	6	6	6	6	12	6	6	6	6	6	6	6	6	6	6	6	12	6	6	6	6	6	6
Manpower- Quality	6	Main	6a - 6p	2	6p - 6a	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2	4	2	2	2	2	2	2
Kenco- ZIPP	19	Main	6a - 6p	5	6p - 6a	5	5	5	5	5	5	5	10	5	5	5	5	5	5	5	5	5	5	5	10	5	5	5	5	5	5
Kenco-ZSP	8	Main	6a - 6p	2	6p - 6a	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2	4	2	2	2	2	2	2
Pest Control	3	Main	8a - 5p	3											3	3	3	3	3	3	3	3	3	3							
Totals							**165**	**165**	**165**	**165**	**165**	**165**	**336**	**171**	**238**	**238**	**238**	**238**	**238**	**238**	**238**	**238**	**238**	**238**	**336**	**165**	**165**	**165**	**165**	**165**	**165**

North Parking Location includes contractors that will be parking at the Hypoint building North of Brower Drain
Main Parking Location includes employees that will be parking in the new parking South of the new building

Departments	Parking Count	Parking Location	Day		Night		Midnight	1	2	3	4	5	6	7	8	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	
Grand River	50	North	7a - 4p	50										50	50	50	50	50	50	50	50	50	50								
Certified Sheetmetal	8	North	7a - 4p	8										8	8	8	8	8	8	8	8	8	8								
ICC Electric	3	North	7a - 4p	3										3	3	3	3	3	3	3	3	3	3								
Troy Brooke	3	North	7a - 4p	3										3	3	3	3	3	3	3	3	3	3								
Hurst	2	North	7a - 4p	2										2	2	2	2	2	2	2	2	2	2								
Trane	2	North	7a - 4p	2										2	2	2	2	2	2	2	2	2	2								
Disher	15	North	7a - 4p	15										15	15	15	15	15	15	15	15	15	15								
BPNR	8	North	7a - 4p	8										8	8	8	8	8	8	8	8	8	8								
Totals							**0**	**0**	**0**	**0**	**0**	**0**	**0**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**91**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Application for
SITE PLAN REVIEW &
SPECIAL LAND USE

Planning Commission
City of Zeeland

Community Development Department
21 S ELM ST - ZEELAND, MI 49464
Phone 616-772-0872 - Fax 616-772-0880
buildinginspector@cityofzeeland.com
www.cityofzeeland.com

Received: 04/06/26
City of Zeeland, MI

Received by _____ Date _____ $350 Fee _____ Check No _____

The City of Zeeland will not discriminate against any individual or group because of race, sex, religion, age, nation origin, color, marital status, handicap or political belief.

Please submit this application with checklist at least 30 days prior to the requested Planning Commission meeting (usually 1st Thursday of the month) along with 10 copies of the proposed site plan and related documents and an electronic file which may be submitted by email to buildinginspector@cityofzeeland.com**.** The applicant or a representative is required to present the application at the Planning Commission meeting.

I. PROPERTY INFORMATION

Property address **725 E Main Avenue**	Parcel number 70- **Multiple parcels, see civil sheet C101.**
Name of development **MEAD JOHNSON NUTRITION - ZEELAND MODERNIZATION MASTERPLAN**	Acreage **45.38 acres**

II. CONTACT INFORMATION

Property owner **Mead Johnson & Company LLC**	Contact **Kirk Sakel**
Phone **(618) 383-0359**	Email **kirk.sakel@reckitt.com**

Applicant **Allan Barron**	Company **Mead Johnson & Company LLC**		
Address **725 E Main Avenue**	City **Zeeland**	State **MI**	Zip **49464**
Phone **(847) 409-3536**	Email **allan.barron@reckitt.com**		
If applicant is other than owner, what is the relationship? **Sr. Manager, Engineering**			

Plan preparer **Dan Lewis**	Company **VK Civil**		
Address **7885 Byron Center Ave SW**	City **Byron Center**	State **MI**	Zip **49315**
Phone **(616) 277-2185**	Email **Dan@vkcivl.com**		

III. PROPOSED USE OF PROPERTY PROJECTED COST OF PROJECT $_____

Description of use of property/buildings to be constructed
See attached cover letter.

NOTE:
If an application is submitted in accordance with information required in Chapters 16 and 17 of the Zoning Ordinance on a Site Plan and Special Land Use application, thirty (30) days should be sufficient for required reviews and minor revisions necessary for action by the Planning Commission. Major revisions and/or additional reviews could delay placement on the agenda or action by the Planning Commission.

FEE Information:
The application filing fee for Site Plan Review and Special Land Use of $350 entitles the applicant to two (2) plan submissions, original and one (1) revision. Each additional submission over two (2) will require an additional filing fee equal to 50% of the original filing fee. Note: The applicant is liable for any attorney, engineering, or consultant fees incurred by the municipality and will be invoiced for any such charges. Fee for a Special Meeting of the Planning Commission is $700.

OTHER Approvals:
If it is determined that other agency approvals are required, it is the applicant's responsibility to obtain and submit written approvals from these reviewing agencies to the Zoning Administrator before the project may be approved.

PLAN Revisions:
After Planning Commission review of the plans, any such plans that are revised or changed must be resubmitted with a revision date and change list attached. Please indicate sheet number where revisions have been made.

ADDITIONAL Information:
The Planning Commission may request from the applicant any additional graphics or written materials, prepared by a qualified person to assist in determining the appropriateness of the site plan. Such material may include, but need not be limited to: aerial photography; photographs; estimated impact on public schools and utilities; traffic impacts; impact on significant natural features and drainage; soil tests; and estimated construction costs.

Received: 04/06/26
City of Zeeland, MI

Planning Commission
SITE PLAN REVIEW & SPECIAL LAND USE
SITE PLAN CHECKLIST

The above application and plan(s) will be reviewed in accordance with the City Zoning Ordinance and other applicable City ordinances and regulations. The review will be conducted on a preliminary basis by the Zoning Administrator to determine if minimum information was provided on the site plan. The checklist below indicates the MINIMUM information that normally should be provided in the site plan in order for the application to be scheduled for hearing by the Planning Commission.

APPLICANT: PLEASE CHECK THE APPROPRIATE BOXES BELOW:

A. General Information

Provided	N/A (Not Applicable)	
☑	☐	1. Applicants – owners/occupant names, addresses, telephone numbers.
☑	☐	2. Date (Mo/Day/Yr) including revisions.
☑	☐	3. Block Title.
☑	☐	4. Scale.
☑	☐	5. Northpoint.
☑	☐	6. Location map drawn at a scale of 1"= 2000' with north point indicated.
☑	☐	7. Architect, Engineer, Surveyor, Landscape Architect, or Planner's name address and telephone number.
☑	☐	8. Existing lot line, building lines, structures, parking areas, etc. on the parcel and within 100 ft. of the site.
☑	☐	9. Proposed lot lines, property lines and all structures, parking areas, etc., within the site, and within 100 ft. the site.
☑	☐	10. Centerline and existing and proposed right-of-way lines of any street.
☑	☐	11. Zoning classification of petitioner's parcel and all abutting parcels.

B. Physical Features

Provided	N/A (not applicable)		
☐	☑	1.	Entrance and abutting street tapers, acceleration, deceleration and passing lanes and approaches. See traffic study.
☑	☐	2.	Proposed locations of access drives, street, intersections, driveway locations, sidewalks, bike-paths, curbing and areas for public use.
☐	☑	3.	Locations of existing and proposed service facilities above and below ground, including:
☐	☑		- Well sites.
☐	☑		- Septic systems. Location of the treatment systems, of the septic tank and the drain field (soil absorption system) should be clearly distinguished.
☑	☐		- Chemical and fuel storage tanks and containers.
☑	☐		- Storage, loading and disposal areas for chemicals, hazardous substance salt and fuels.
☑	☐		- Water mains, hydrants, pump houses, standpipes, and building services and sizes.
☑	☐		- Sanitary sewer and pumping stations.
☑	☐		- Storm water control facilities and structures including storm sewers, swales, retention and detention basins, drainage-ways and other facilities including calculations for sizes.
☑	☐		- Locations of all easements.
☑	☐		- Telephone/Communications/Cable.
☑	☐		- Gas Meter/Lines, etc.
☑	☐		- Electric/Transformers/Lines, etc.
☑	☐	4.	All structures with dimensioned floor plans, set-back & yard dimensions & typical elevation views, including building heights, etc.
☑	☐	5.	Dimensional parking spaces and calculations, drives and type of surfacing.
☑	☐	6.	Exterior lighting locations and illumination patterns.

B. Physical Features (continued)

Provided	N/A (not applicable)		
☑	☐	7.	Trash receptacle pad location and method of screening.
☑	☐	8.	Transformer pad location and method of screening.
☑	☐	9.	Dedicated road or service drive locations.
☑	☐	10.	Entrance details including sign location and size.
☑	☐	11.	Designation of fire lanes.
☑	☐	12.	Location of snow storage areas.

C. Landscaping, Greenbelts, Buffers and Screening

Provided	N/A (not applicable)		
☑	☐	1.	Separate Landscaping plan. - Location, spacing, size and descriptions for each plant type within required landscape areas. - Minimum scale: 1"=50' for property less than three acres, or 1"=100' for property three acres or more. - Typical straight cross section including slope, height and width of berms and type of groundcover, or height and type of construction of wall including footings. - Planting and staking details. - Identification of existing trees and vegetative cover to be preserved. - Identification of groundcover and method of planting. - Identification of landscape maintenance program. - Lawn sprinkling design.
☑	☐		
☑	☐		
☑	☐		
☑	☐		
☑	☐		
☑	☐		
☑	☐	2.	Screening between land uses. - Visual screening between conflicting land uses providing a total visual screen.

C. Landscaping, Greenbelts, Buffers and Screening (continued)

Provided	N/A (not applicable	
☐	☑	3. Parking lot landscaping.
☑	☐	- Landscaped areas within the parking lot(s).
☑	☐	- Landscaping between parking lot and adjacent private property.
		- Landscaping between parking lot and adjacent public property.
☑	☐	4. Greenbelt Buffers.
		- A strip of land with a minimum width determined by the front yard setback of the property's zoning classification, shall be located between abutting right-of-way of a public street, freeway, or major thoroughfare and the buildings.
☑	☐	- Trees within buffer area to be not less than twelve (12) feet in height or have a minimum caliper of 2-1/2 inches, whichever is greater, at the time of the planting.
☑	☐	- The remainder of the open area to be landscaped in natural landscape material.
☑	☐	- Date of landscape completion.

D. Natural Features

Provided	N/A (not applicable	
☑	☐	1. Soil characteristics of the parcel to be at least the detail provided by the U.S. Soil Conservation Service "Soil Survey of Ottawa County, Michigan, 1972".
☑	☐	2a. On parcels of more than one acre, existing topography with a maximum contour interval of two feet.
☑	☐	2b. Topography on the site and beyond the site for a distance of 100 feet in all directions should be indicated.

D. Natural Features (continued)

Provided	N/A (not applicable	
☑	☐	2c. Grading plan, showing finished contours at a maximum interval of two feet, correlated with existing contours so as to clearly indicate required cutting, filling and grading.
☑	☐	3. Location of existing drainage courses. and associated bodies of water, on and off site, and their elevations.
☑	☐	4. Location of existing wetlands to at least the detail indicated on the City of Zeeland zoning map.
☑	☐	5. Location of natural resource features including woodlands and areas with slopes greater than 10 percent (one foot of horizontal distance).

E. Additional Requirements for Multiple Family, Cluster and PUD Developments

Provided	N/A (not applicable)	
☐	☑	1. Density calculations by type of unit, by bedroom count.
☐	☑	2. Designation of units by type and number of units in each building.
☐	☑	3. Carport locations and details where proposed.
☐	☑	4. Specific amount and location of recreation spaces.
☐	☑	5. Type of recreation facilities to be provided in recreation space.
☐	☑	6. Details of community building and fencing of swimming pool if proposed.

F. Additional Requirements for Non-residential Developments

Provided	N/A (not applicable	
☑	☐	1. Loading/unloading areas.
☑	☐	2. Total and useable floor area.
☑	☐	3. Number of **occupants** during peak usage, i.e. shift change.
☑	☐	4. DNR Air Quality Permit attached. Air Permit submitted to EGLE by ERM
☑	☐	5. Noise abatement procedure/technique. See owner cover letter.

Planning Commission
SITE PLAN REVIEW & SPECIAL LAND USE
STANDARDS CHECKLIST

In reviewing, approving, disapproving or modifying the application and site plan, the Planning Commission and/or the Planning Commission Site Plan Review Committee shall be governed by the following standards, which the applicant is also asked to respond to:

		Yes	No	
a.	Is there a proper relationship between the existing streets and highways within the vicinity and proposed deceleration lanes, service drives, entrance and exit driveways and parking areas to insure the safety and convenience of pedestrian and vehicular traffic?	☑	☐	
b.	Are the buildings and structures proposed to be on the premises situated to minimize adverse effects upon owners and occupants of adjacent properties?	☑	☐	
c.	Will the natural features of the landscape be retained when they furnish a barrier or buffer between the project and adjoining properties and where they assist in preserving the general appearance of the neighborhood?	☑	☐	
d.	In the case of elderly housing, will there be sufficient open space on the site to provide additional off-street parking should the development revert to conventional housing in the future? This amount of reserved space shall be adequate in size to meet the parking requirements for multiple family housing set forth in Chapter 17 while maintaining conformance of the development to all other provisions of the Zoning Ordinance. A variance may be granted by the Zoning Board of Appeals for reserving off-street parking if the applicant can demonstrate that the project shall be permanently restricted to elderly housing.	☐	☐	N/A

	Yes	No	
e. Will any off-street parking be integrated with the use of existing off-street parking facilities in the vicinity of the development? The Planning Commission or the Planning Commission Site Plan Review Committee shall approve the Site Plan only when the developer has incorporated the use of alternate off-street parking facilities, such as municipal lots or lots which are used at non-conflicting times or days of the week.	☑	☐	
f. Have impacts, if any, of the proposed development which negatively affect adjoining residents or owners been minimized by appropriate screening, fencing, land-scaping, setback and location of buildings, structures and entryways.	☑	☐	
g. Have the buildings been situated to minimize any harmful or adverse effect which the development might otherwise have upon the surrounding neighborhood?	☑	☐	
h. Have all provisions of the City Zoning Ordinance been met? This would not preclude the applicant from applying for an appropriate variance with the Zoning Board of Appeals. The Planning Commission or the Planning Commission Site Plan Review Committee may conditionally approve a site plan subject to the granting of any appropriate variance.	☑	☐	See site plan variance drawings included in this package.

Planning Commission
SITE PLAN REVIEW & SPECIAL LAND USE

This application shall also include a drawn to scale site plan(s) that include the information listed below. The Zoning Administrator may authorize omissions as noted in the left margin.

OFFICE USE

_____ a) Applicant identification.
_____ b) Street address.
_____ c) North arrow.
_____ d) Size of property in square feet or acre.
_____ e) Property lines and dimensions.
_____ f) Location of significant natural features including wetlands, steep slopes, flood prone areas, unique vegetation, any other unusual features.
_____ g) Location of all structures on the land with location dimensions and building dimensions.
_____ h) Lot lines and all structures within one hundred feet (100') of the site's property lines including driveways and other access points along both sides of the street where access to the site is proposed.
_____ i) Identification of all rights-of-way and easements pertaining to the subject land and adjoining parcels.
_____ j) Copy of latest surveyor's engineering drawing.

The undersigned hereby certifies that the information given in this application and supplementary materials is true and correct to the best of their knowledge. It is also understood that any information requested, and not included with the application, may cause delays in a decision being made by the Planning Commission.

I hereby grant permission for members of the City of Zeeland Planning Commission to enter the above described property (or as described in the attached) for the purposes of gathering information related to this application/request/proposal. (**NOTE TO APPLICANT: This is optional and will not affect any decision on your application.)**

☐ **YES** ☑ **NO**

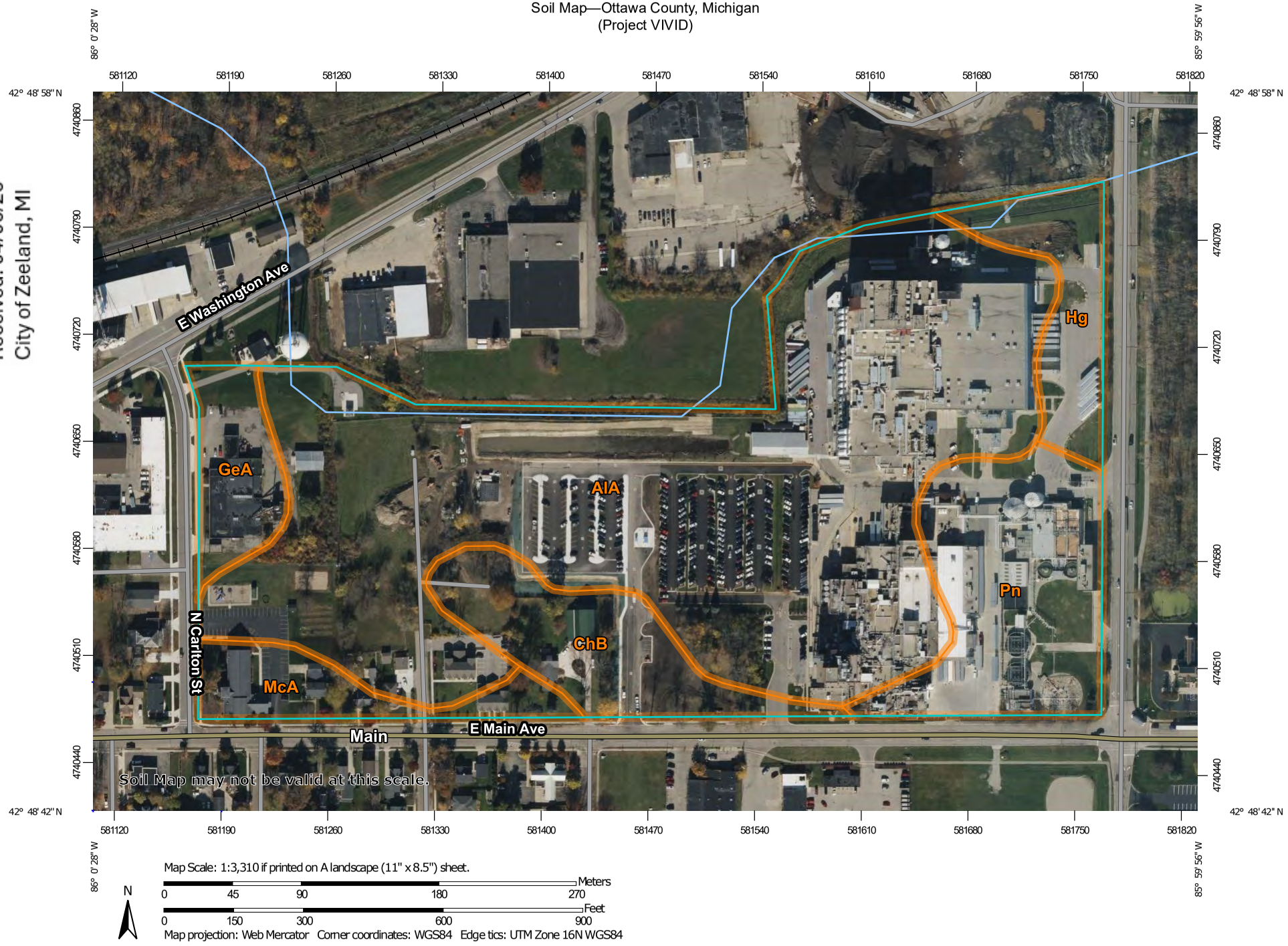
_____ _____
Signature of Applicant Date

This application, ten (10) copies & electronic file required, and filing fee of _____received by:

_____ _____
Administrative Official Date

Soil Map—Ottawa County, Michigan
(Project VIVID)

Received: 04/06/26
City of Zeeland, MI



Map Scale: 1:3,310 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ottawa County, Michigan
Survey Area Data: Version 20, Sep 4, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 4, 2022—Nov 7, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AlA	Allendale sandy loam, 0 to 4 percent slopes	23.8	63.6%
ChB	Coloma loamy sand, 0 to 6 percent slopes	3.2	8.5%
GeA	Gladwin sandy loam, 0 to 2 percent slopes	1.6	4.4%
Hg	Hettinger loam	2.1	5.6%
McA	Mancelona loamy sand, 0 to 2 percent slopes	1.8	4.7%
Pn	Pinconning loamy sand	4.9	13.2%
Totals for Area of Interest		**37.4**	**100.0%**

MEAD JOHNSON NUTRITION
ZEELAND MODERNIZATION MASTERPLAN

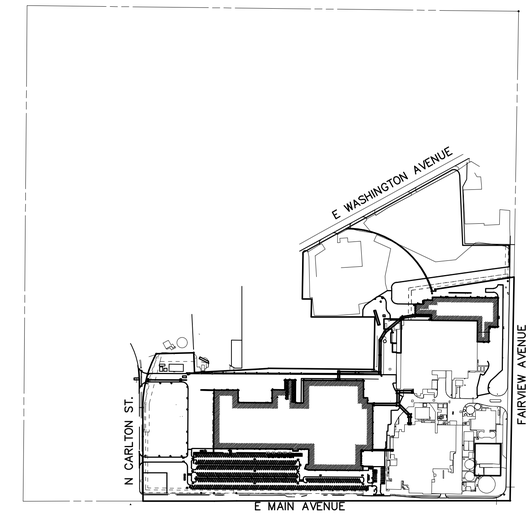
ZEELAND, MICHIGAN

INDEX OF DRAWINGS

SHEET #:	DESCRIPTION:	SHEET #:	SUPERCEDES OR REFERENCES:
ZSCSIT-1473-C000	COVER SHEET AND DRAWING INDEX	C000	
ARCHITECTURAL			
ZSCSIT-1473-ASK001	RENDERINGS	ASK001	
ZSCSIT-1473-ASK002	OVERALL SITE DIAGRAM	ASK002	
ZSCSIT-1473-ASK003	SPECIALTY B67-70 - FIRST FLOOR PLAN	ASK003	
ZSCSIT-1473-ASK004	ZIPP B73 - FIRST FLOOR PLAN	ASK004	
ZSCSIT-1473-ASK005	SITE DIAGRAM - HAZARDOUS LOCATIONS	ASK005	
ZSCSIT-1473-ASK006	SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS	ASK006	
ZSCSIT-1473-ASK007	SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS	ASK007	
ZSCSIT-1473-ASK008	ZIPP B73 - EXTERIOR BUILDING ELEVATIONS	ASK008	
ZSCSIT-1473-ASK009	ZIPP B73 - EXTERIOR BUILDING ELEVATIONS	ASK009	
CIVIL			
ZSCSIT-1473-C100	DRAWING INDEX MAP	C100	
ZSCSIT-1473-C101	EXISTING CONDITIONS	C101	
ZSCSIT-1473-C102	EXISTING CONDITIONS	C102	
ZSCSIT-1473-C103	EXISTING CONDITIONS	C103	
ZSCSIT-1473-C104	EXISTING CONDITIONS	C104	
ZSCSIT-1473-C105	EXISTING CONDITIONS	C105	
ZSCSIT-1473-C200	DEMOLITION	C200	
ZSC073-1473-C201	DEMOLITION	C201	
ZSCSIT-1473-C211	DEMOLITION	C211	
ZSCSIT-1473-C300	SITE LAYOUT	C300	
ZSC073-1473-C301	SITE LAYOUT	C301	
ZSCSIT-1473-C311	SITE LAYOUT	C311	
ZSCSIT-1473-C315	DEFERRED PARKING	C315	
ZSCSIT-1473-C316	TRUCK TURNS	C316	
ZSCSIT-1473-C400	UTILITY PLAN	C400	
ZSC073-1473-C401	UTILITY PLAN	C401	
ZSCSIT-1473-C411	UTILITY PLAN	C411	
ZSCSIT-1473-C415	STORM MANAGEMENT PLAN	C415	
ZSCSIT-1473-C500	GRADING PLAN	C500	
ZSC073-1473-C501	GRADING PLAN	C501	
ZSCSIT-1473-C511	GRADING PLAN	C511	
ZSCSIT-1473-C515	ENLARGEMENTS	C515	
ZSCSIT-1473-C516	ENLARGEMENTS	C516	
ZSCSIT-1473-C600	DETAILS	C600	
ZSCSIT-1473-C601	DETAILS	C601	
ZSCSIT-1473-C602	DETAILS	C602	
ZSCSIT-1473-C610	DETAILS	C610	
ZSCSIT-1473-C611	DETAILS	C611	
ZSCSIT-1473-C612	DETAILS	C612	
ZSCSIT-1473-C613	DETAILS	C613	
ZSCSIT-1473-C614	DETAILS	C614	
ZSCSIT-1473-C615	DETAILS	C615	
ZSCSIT-1473-C616	DETAILS	C616	
ZSCSIT-1473-C617	DETAILS	C617	
ZSCSIT-1473-C618	DETAILS	C618	
ZSCSIT-1473-C619	DETAILS	C619	
ZSCSIT-1473-C620	DETAILS	C620	
ZSCSIT-1473-C621	DETAILS	C621	
ZSCSIT-1473-L100	LANDSCAPE PLAN	L100	
ZSCSIT-1473-L101	LANDSCAPE PLAN	L101	
ZSCSIT-1473-L102	LANDSCAPE PLAN	L102	
ELECTRICAL			
ZSCSIT-1473-E100	ELECTRIC SITE PHOTOMETRICS - OVERALL	E100	
ZSCSIT-1473-E101	ELECTRIC SITE PHOTOMETRICS - AREA A	E101	
ZSCSIT-1473-E102	ELECTRIC SITE PHOTOMETRICS - AREA B	E102	
ZSCSIT-1473-E103	ELECTRIC SITE PHOTOMETRICS - AREA C	E103	
ZSCSIT-1473-E104	ELECTRIC SITE PHOTOMETRICS - AREA D	E104	
ZSCSIT-1473-E105	ELECTRIC SITE PHOTOMETRICS - AREA E	E105	
ZSCSIT-1473-E106	ELECTRIC SITE PHOTOMETRICS - AREA F	E106	
ZSCSIT-1473-E107	ELECTRIC SITE PHOTOMETRICS - AREA G	E107	
ZSCSIT-1473-E108	ELECTRIC SITE PHOTOMETRICS - AREA H	E108	
ZSCSIT-1473-E109	ELECTRIC SITE PHOTOMETRICS - AREA I	E109	
ZSCSIT-1473-E110	ELECTRIC SITE PHOTOMETRICS - AREA J	E110	
ZSCSIT-1473-E111	ELECTRIC SITE PHOTOMETRICS - AREA K	E111	
ZSCSIT-1473-E112	ELECTRIC SITE PHOTOMETRICS - AREA L	E112	

Received: 05/04/26
City of Zeeland, MI

Mead Johnson™ NUTRITION



APPLICANT
MEAD JOHNSON & COMPANY LLC
725 E MAIN AVENUE, ZEELAND,
MICHIGAN 49464
ALLAN BARRON
847-409-3536
ALLAN.BARRON@RECKITT.COM

DESIGN ENGINEER
VK CIVIL
4664 CAMPUS DR., STE 111
KALAMAZOO, MI 49008
DAN LEWIS, P.E.
269-697-7120
DAN@VKCIVIL.COM

SITE PLAN
SCALE: NTS

NORTH

CAR#

P.O.#

INTEGRATED PROJECT SERVICES

STATE OF MICHIGAN
DANIEL LEWIS
ENGINEER
NO. 6201052573
LICENSED PROFESSIONAL ENGINEER

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

DATE: 02APR2026
VENDOR NAME: VK CIVIL
SHEET: 1 of 39
SHEET #: C000
CAD FILE NAME: ZSCSIT-1473-C000

Received: 05/04/26
City of Zeeland, MI

ips
Integrated Project Services
Engineering
Design/Build
Compliance
Consulting

10601 MISSION ROAD
SUITE 240
LEAWOOD, KS 66206
913.345.9084 PHONE

www.ipsdb.com

IPS Professional Engineers and Architects, PC

Approved By		
Drafter / Designer		mm/dd/yy
Project Manager		mm/dd/yy
Quality Representative		mm/dd/yy
Operation Manager		mm/dd/yy
Maintenance Representative		mm/dd/yy
Customer Representative / Document Manager		mm/dd/yy

REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Mead Johnson NUTRITION

Title: RENDERINGS

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O. NUMBER:
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADB
DESIGNER:			RS
DRAFTER:			SG
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDZ5120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ASK-001
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-001.dwg	DRAWING NUMBER	ASK-001
HARD COPY:			
DEPARTMENT:		SHEET:	

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
414.278.6060
www.pierceengineers.com

VK CIVIL Vriesman & Korhorn
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

PRELIMINARY
NOT FOR CONSTRUCTION
02-APR-2026

SEAL

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SEALED DOCUMENT

DATE:

ENGINEER	ARCHITECT	REV BY	REV
-	SRF	JG	A

3/31/2026 2:45:19 PM

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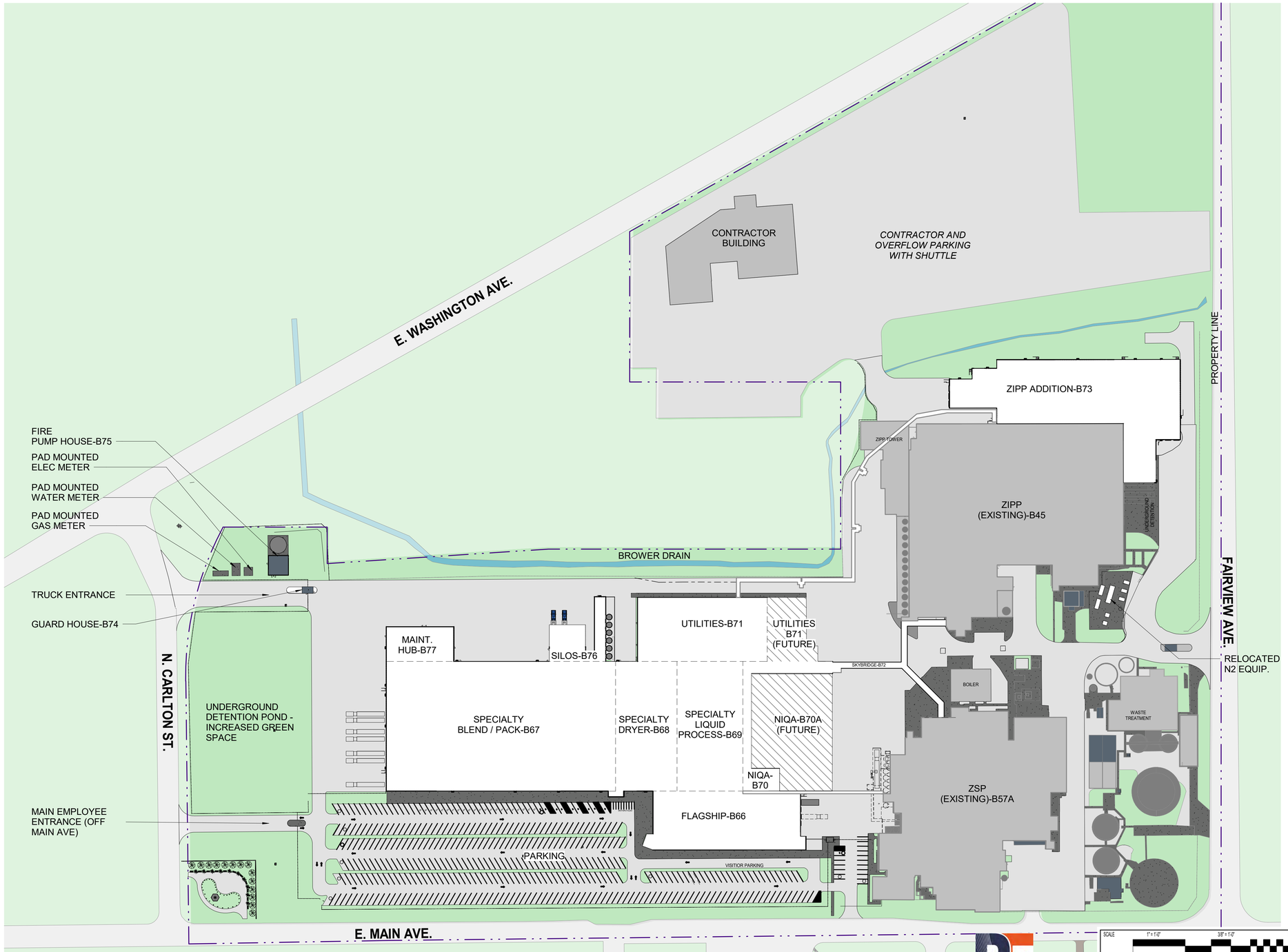
Received: 05/04/26
City of Zeeland, MI



A **OVERALL SITE DIAGRAM PLAN**
ASK-002 SCALE: 1" = 100'-0"

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
414.278.6060
www.pierceengineers.com

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4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

SCALE
1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0"
1/2" = 1'-0" 1/8" = 1'-0"
3/16" = 1'-0" 1/16" = 1'-0"
3/32" = 1'-0" 3" = 1'-0"
1 1/2" = 1'-0" 1/4" = 1'-0"
3/4" = 1'-0" 3" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION
02-APR-2026

SEAL
THIS IS NOT A SEALED DOCUMENT
DATE:

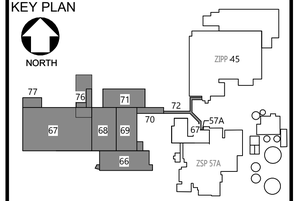
ENGINEER	ARCHITECT	REV BY	REV
.	SRF	JG	A

Integrated Project Services
Engineering
Design/Build
Compliance
Consulting

10601 MISSION ROAD
SUITE 240
LEAWOOD, KS 66206
913.345.9084 PHONE
www.ipsdb.com

IPS Professional Engineers and Architects, PC

Approved By	
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN
NORTH


REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: OVERALL SITE DIAGRAM

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

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SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			RS/SGT
DRAFTER:			RS/SGT
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDS7120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ASK-002
LEGACY DATE:			
LEGACY VENDOR:		DRAWING NUMBER	ASK-002
CAD FILE NAME:	ASK-002.dwg		
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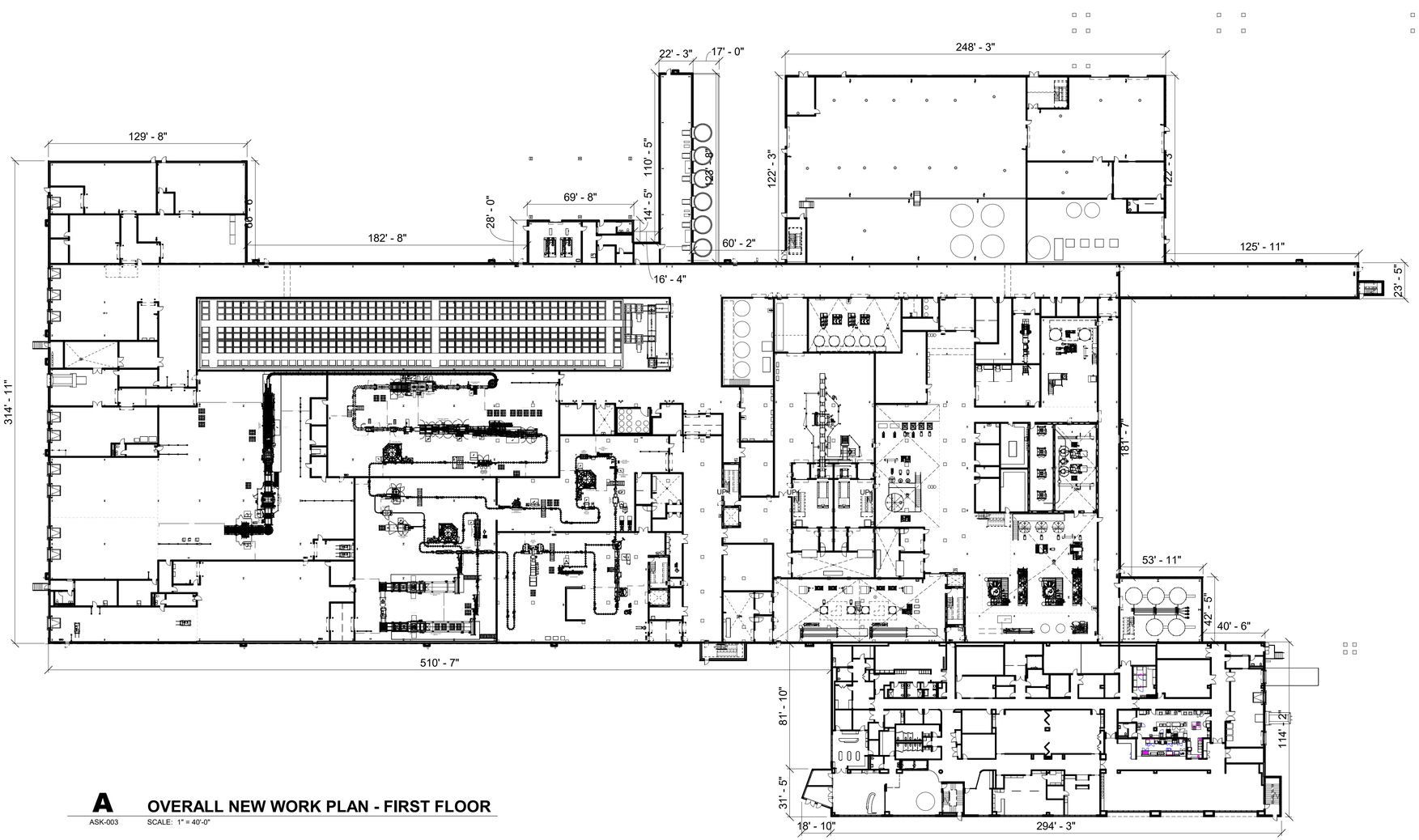
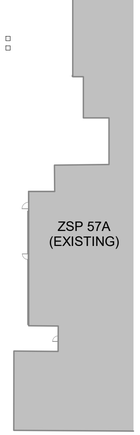


A **OVERALL NEW WORK PLAN - FIRST FLOOR**

ASK-003 SCALE: 1" = 40'-0"



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SCALE
1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0"
1/2" = 1'-0" 1/8" = 1'-0"
3/16" = 1'-0" 1/16" = 1'-0"
3/32" = 1'-0" 3" = 1'-0"
1 1/2" = 1'-0" 1/4" = 1'-0"
3/4" = 1'-0" 3" = 1'-0"

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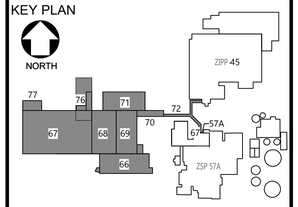
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: SPECIALTY B67-70 - FIRST FLOOR PLAN

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O. NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			RS
DRAFTER:			SC
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDZ5100
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ASK-003
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CAD FILE NAME:	ASK-003.dwg	DRAWING NUMBER	ASK-003
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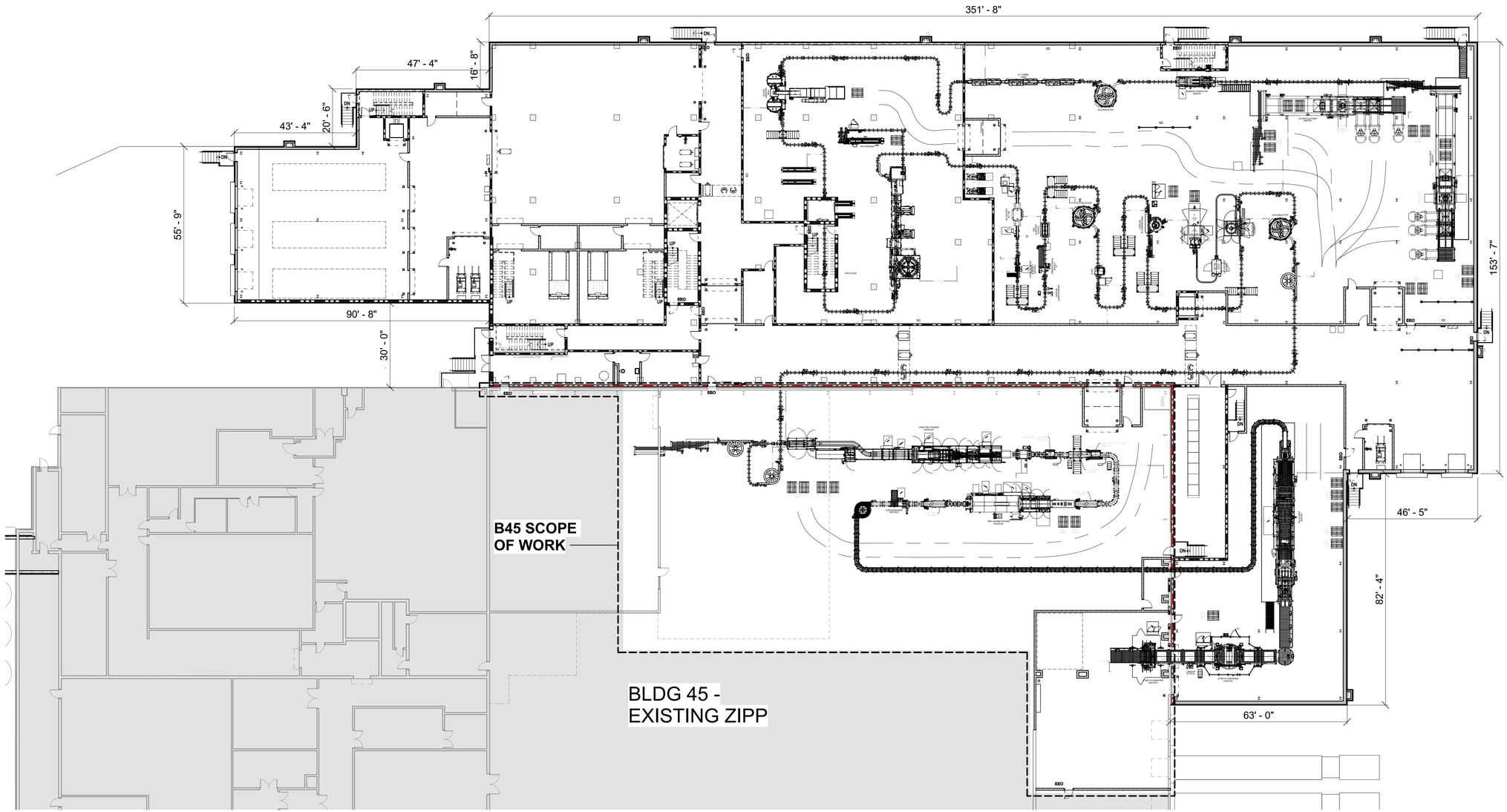

A **ZIPP B73 - FIRST FLOOR PLAN**
ASK-004 SCALE: 1" = 20'-0"

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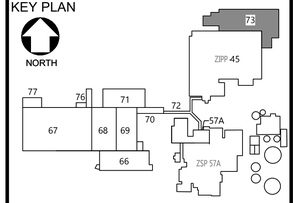
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



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A	02-APR-2026	SITE PLAN APPROVAL	SRF

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SCALE
1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0"
0 1/2" = 1'-0" 1/8" = 1'-0"
3/16" = 1'-0" 1/16" = 1'-0"
0 3/32" = 1'-0" 3" = 1'-0"
1 1/2" = 1'-0" 1/4" = 1'-0"
0 3/4" = 1'-0" 3" = 1'-0"

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Title: ZIPP B73 - FIRST FLOOR PLAN

Project: ZSC VIVID
BUILDING 73 ZIPP ADDITION

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O. NUMBER
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SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS
DRAFTER:			SC
VENDOR NAME:			
VENDOR PROJECT NUMBER:			
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ASK-004
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-004.dwg	DRAWING NUMBER	ASK-004
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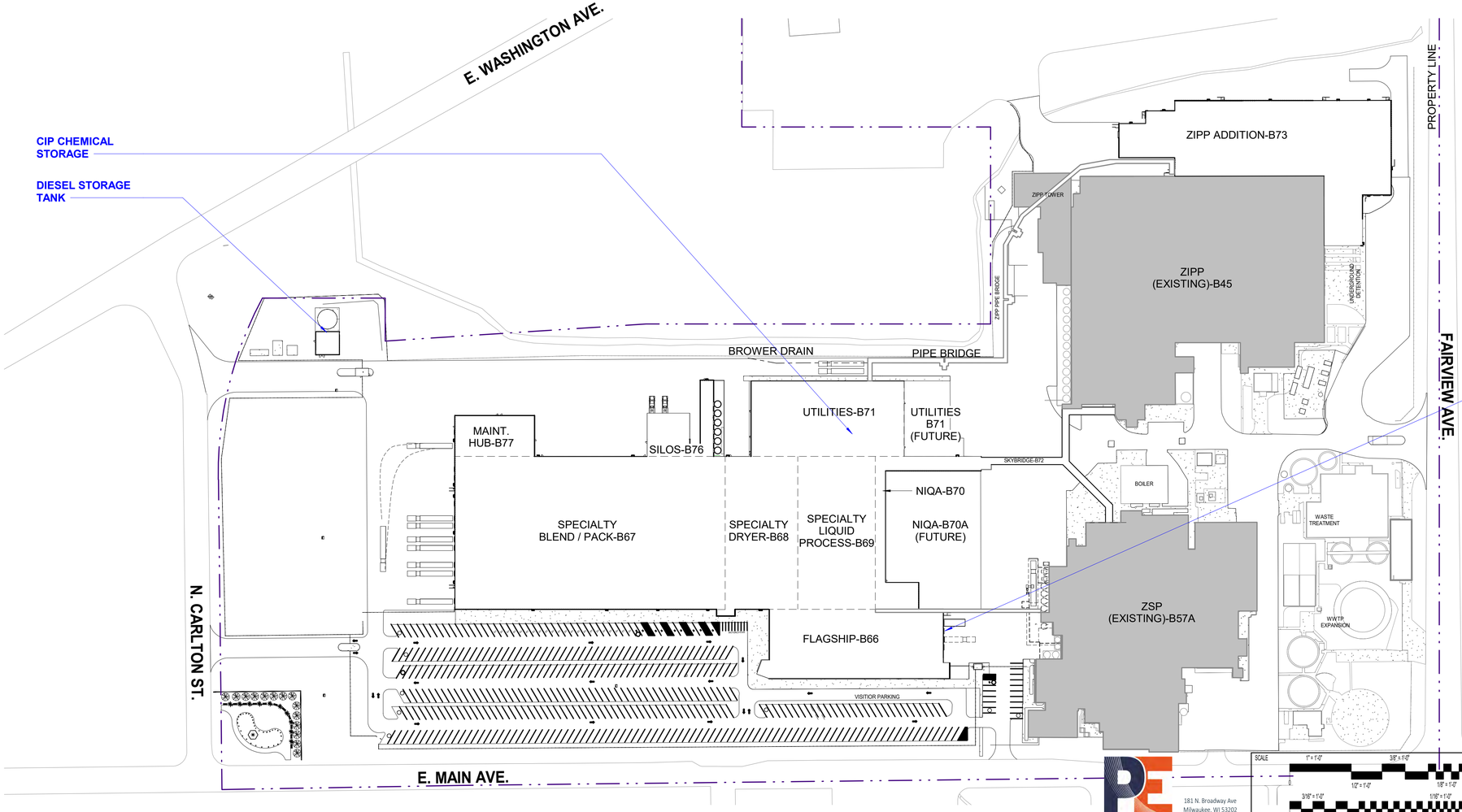

A **OVERALL SITE DIAGRAM PLAN**
ASK-005 SCALE: 1" = 100'-0"

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SCALE 1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0" 0 1/2" = 1'-0" 1/8" = 1'-0" 3/16" = 1'-0" 1 1/2" = 1'-0" 3/32" = 1'-0" 3" = 1'-0" 0 1 1/2" = 1'-0" 1/4" = 1'-0" 3" = 1'-0" 0 3/4" = 1'-0"

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Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
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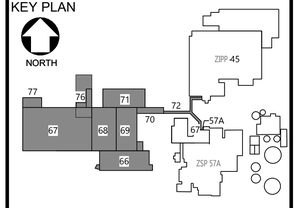
KEY PLAN
NORTH


REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: SITE DIAGRAM - HAZARDOUS LOCATIONS

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O. NUMBER
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SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			RS/SGT
DRAFTER:			RS/SGT
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDS120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ASK-005
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LEGACY VENDOR:			
CAD FILE NAME:	ASK-005.dwg	DRAWING NUMBER:	ASK-005
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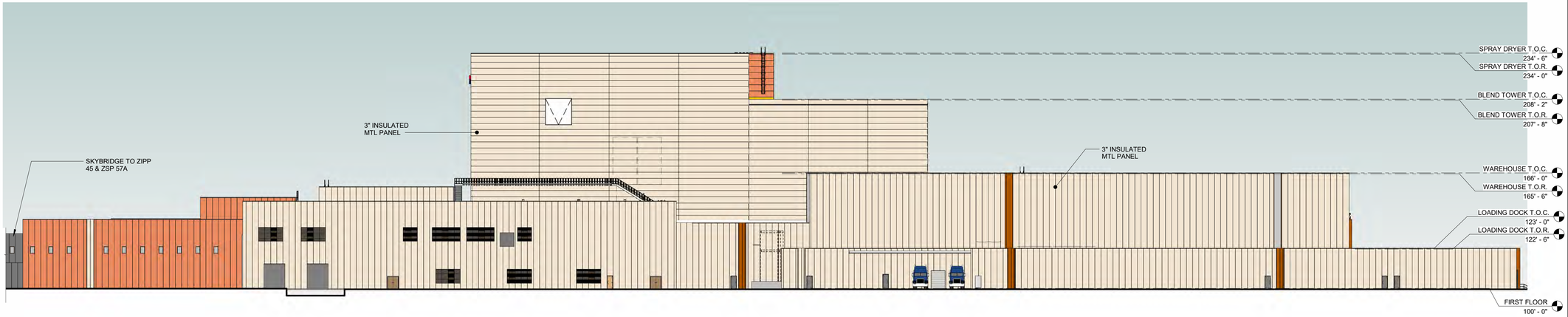
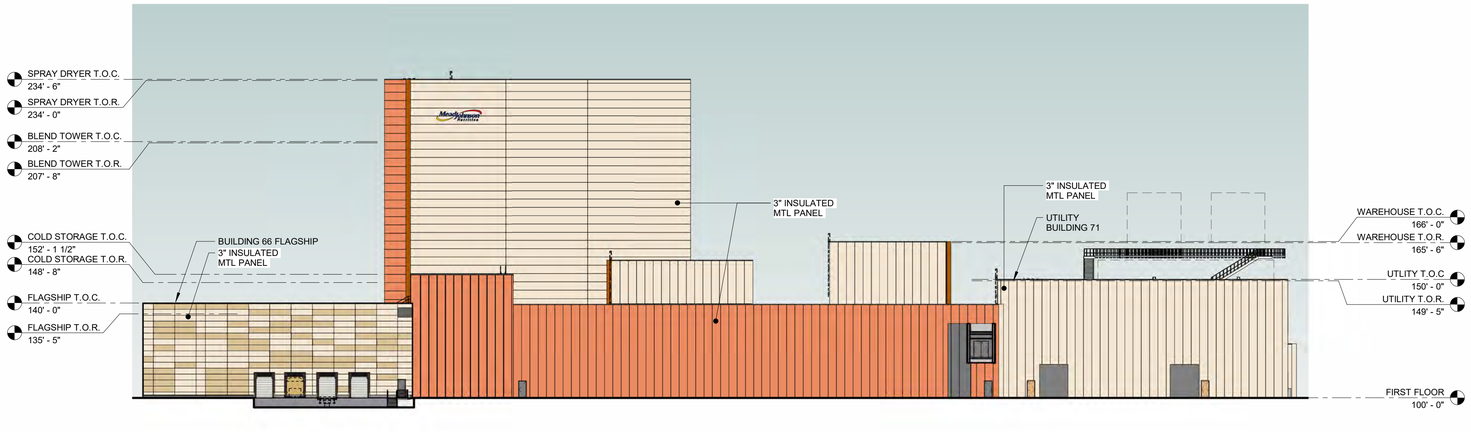


1 OVERALL ELEVATION - NORTH

ASK-006 SCALE: 1/32" = 1'-0"



2 OVERALL ELEVATION - EAST

ASK-006 SCALE: 1/32" = 1'-0"

ELEVATIONS NOTES

T.O.C.	TOP OF COPING PARAPET
T.O.R.	TOP OF ROOF

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Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

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SCALE 1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0" 1/2" = 1'-0" 1/8" = 1'-0" 3/16" = 1'-0" 1/16" = 1'-0" 3/32" = 1'-0" 1 1/2" = 1'-0" 1/4" = 1'-0" 3/4" = 1'-0"

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.	SRF	JG	A

Title: SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER:
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			RS/SGT
DRAFTER:			RS/SGT
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ASK-006
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-006.dwg	DRAWING NUMBER	ASK-006
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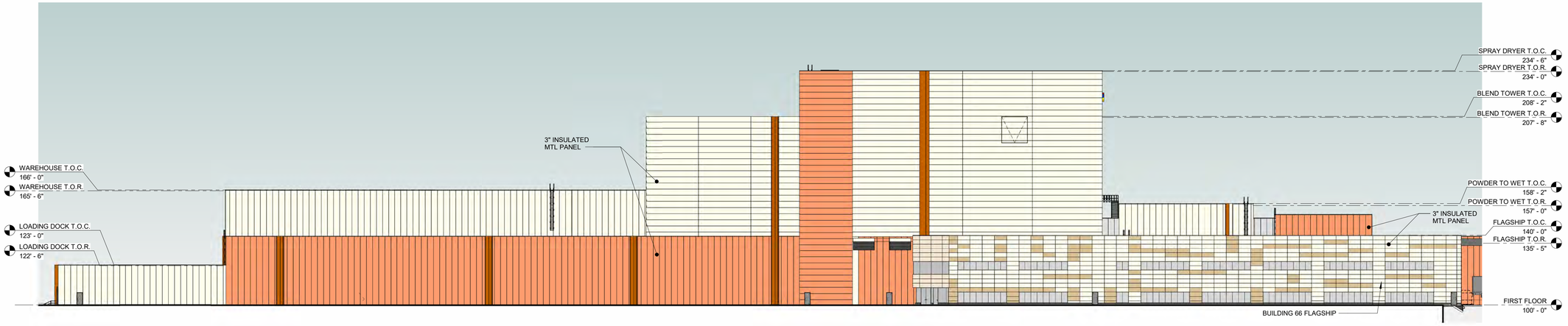
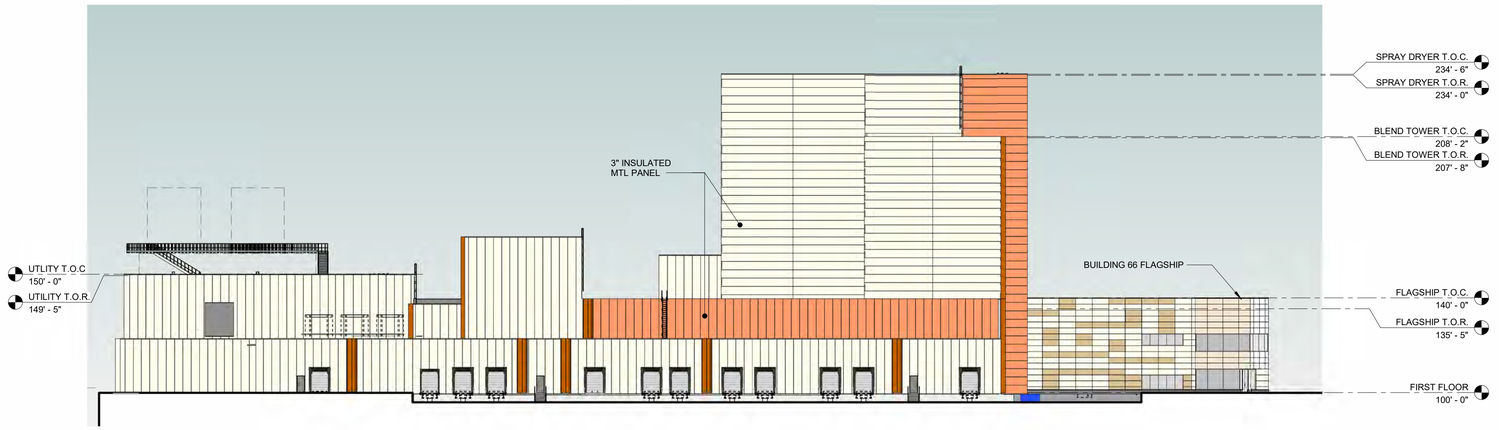


1 OVERALL ELEVATION - SOUTH

ASK-007 SCALE: 1/32" = 1'-0"



2 OVERALL ELEVATION - WEST

ASK-007 SCALE: 1/32" = 1'-0"

ELEVATIONS NOTES

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SCALE 1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0"
1/2" = 1'-0" 1/8" = 1'-0"
3/16" = 1'-0" 1/16" = 1'-0"
3/32" = 1'-0" 3" = 1'-0"
1 1/2" = 1'-0" 1/4" = 1'-0"
3/4" = 1'-0" 3" = 1'-0"

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Maintenance Representative	mm/dd/yy
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REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER:
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS/SCT
DRAFTER:			RS/SCT
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
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ELEVATIONS NOTES

T.O.C.	TOP OF COPING PARAPET
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IPM-1	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.
IPM-2	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.

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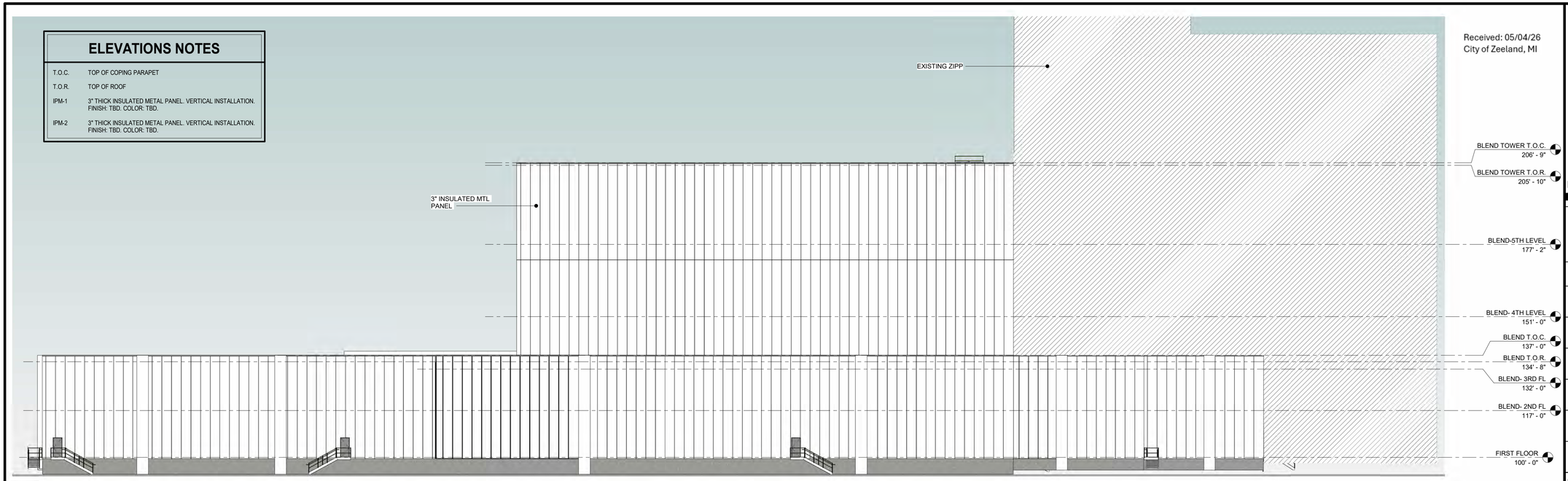
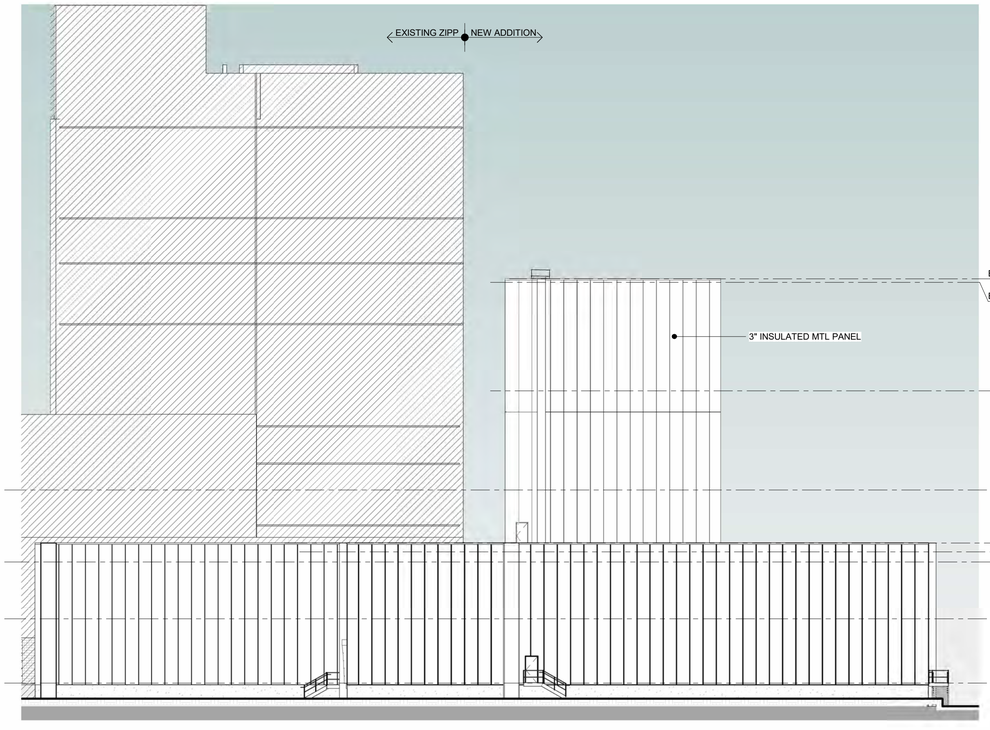


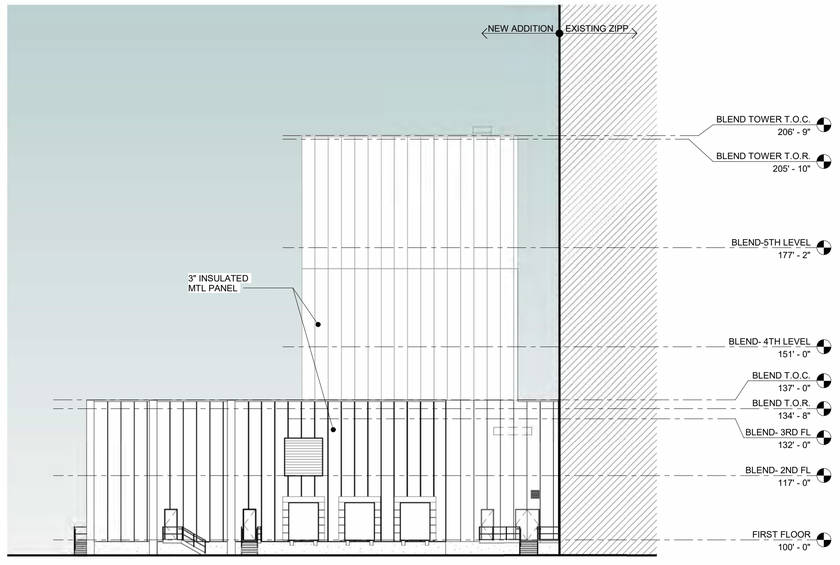
1 EXTERIOR ELEVATION - NORTH

ASK-008 SCALE: 1" = 20'-0"



3 EXTERIOR ELEVATION - EAST

ASK-008 SCALE: 1" = 20'-0"



2 EXTERIOR ELEVATION - WEST

ASK-008 SCALE: 1" = 20'-0"

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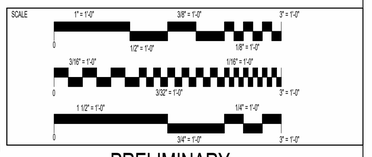

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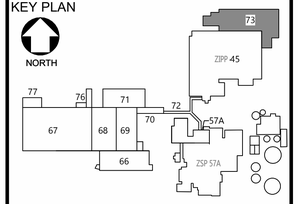
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: ZIPP B73 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 73 ZIPP ADDITION

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER
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SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS
DRAFTER:			SC
VENDOR NAME:			
VENDOR PROJECT NUMBER:			
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ASK-008
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-008.dwg	DRAWING NUMBER	ASK-008
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ELEVATIONS NOTES

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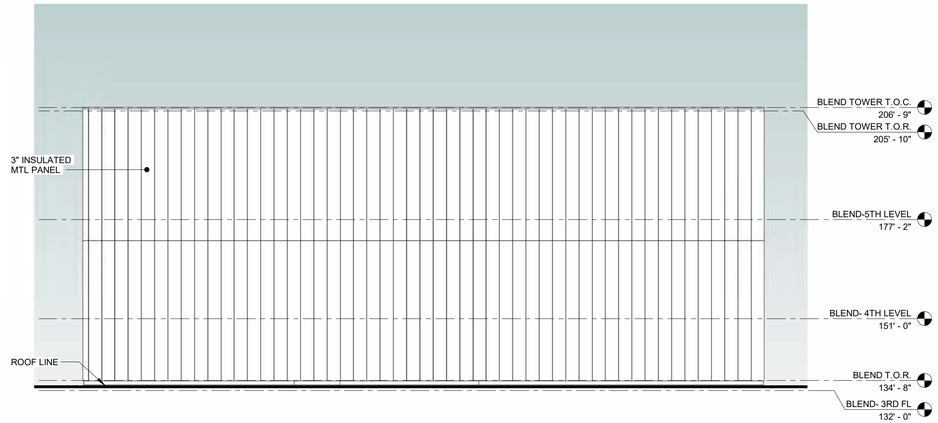
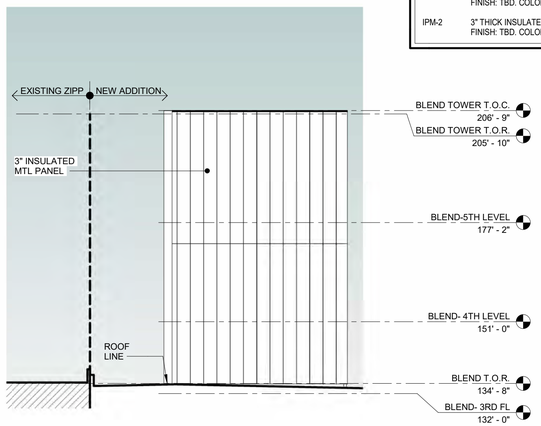
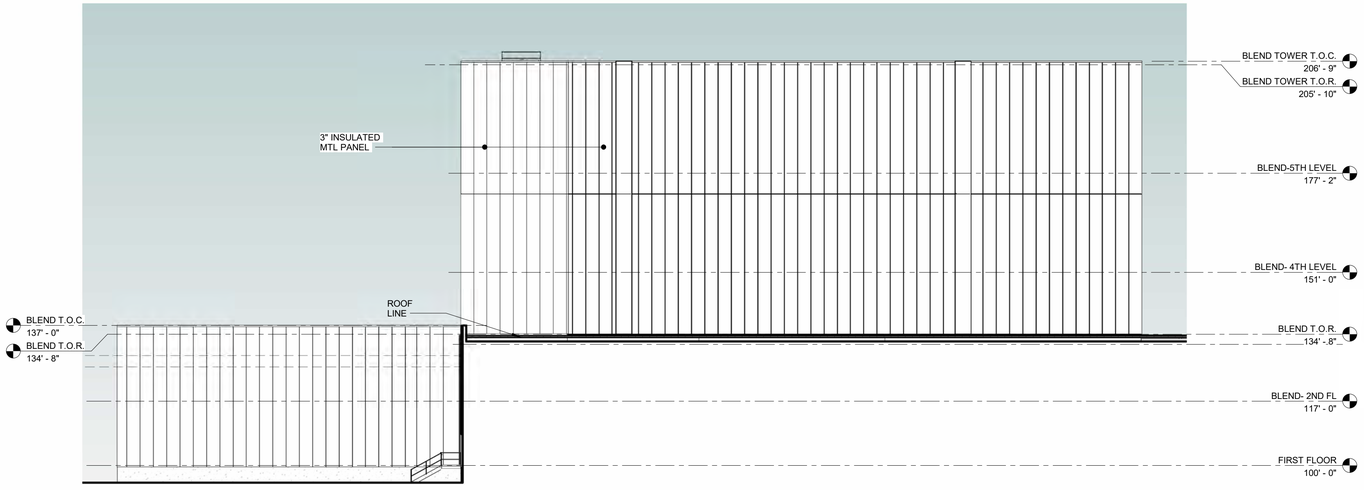
IPM-2	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.



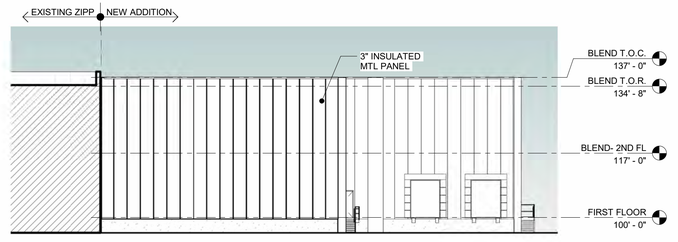
1 EXTERIOR ELEVATION - TOWER NORTH
ASK-009 SCALE: 1" = 20'-0"



2 EXTERIOR ELEVATION - TOWER EAST
ASK-009 SCALE: 1" = 20'-0"



3 EXTERIOR ELEVATION - TOWER SOUTH
ASK-009 SCALE: 1" = 20'-0"



4 EXTERIOR ELEVATION - SOUTH
ASK-009 SCALE: 1" = 20'-0"

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181 N. Broadway Ave
Milwaukee, WI 53202
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VK CIVIL Vriesman & Korhorn
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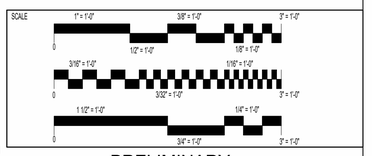
Kalamazoo, MI 49008
(269) 697-7120



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02-APR-2026

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
	SRF	SGT	A

Integrated Project Services
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Design/Build
Compliance
Consulting

10601 MISSION ROAD
SUITE 240
LEAWOOD, KS 66206
913.345.9084 PHONE
www.ipsdb.com
IPS Professional Engineers and Architects, PC

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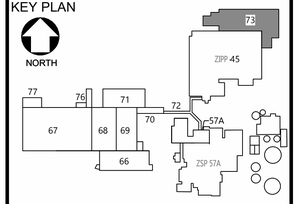
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: ZIPP B73 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 73 ZIPP ADDITION

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS
DRAFTER:			SC
VENDOR NAME:			
VENDOR PROJECT NUMBER:			
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ASK-009
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-009.dwg	DRAWING NUMBER	ASK-009
HARD COPY:			
DEPARTMENT:		SHEET:	

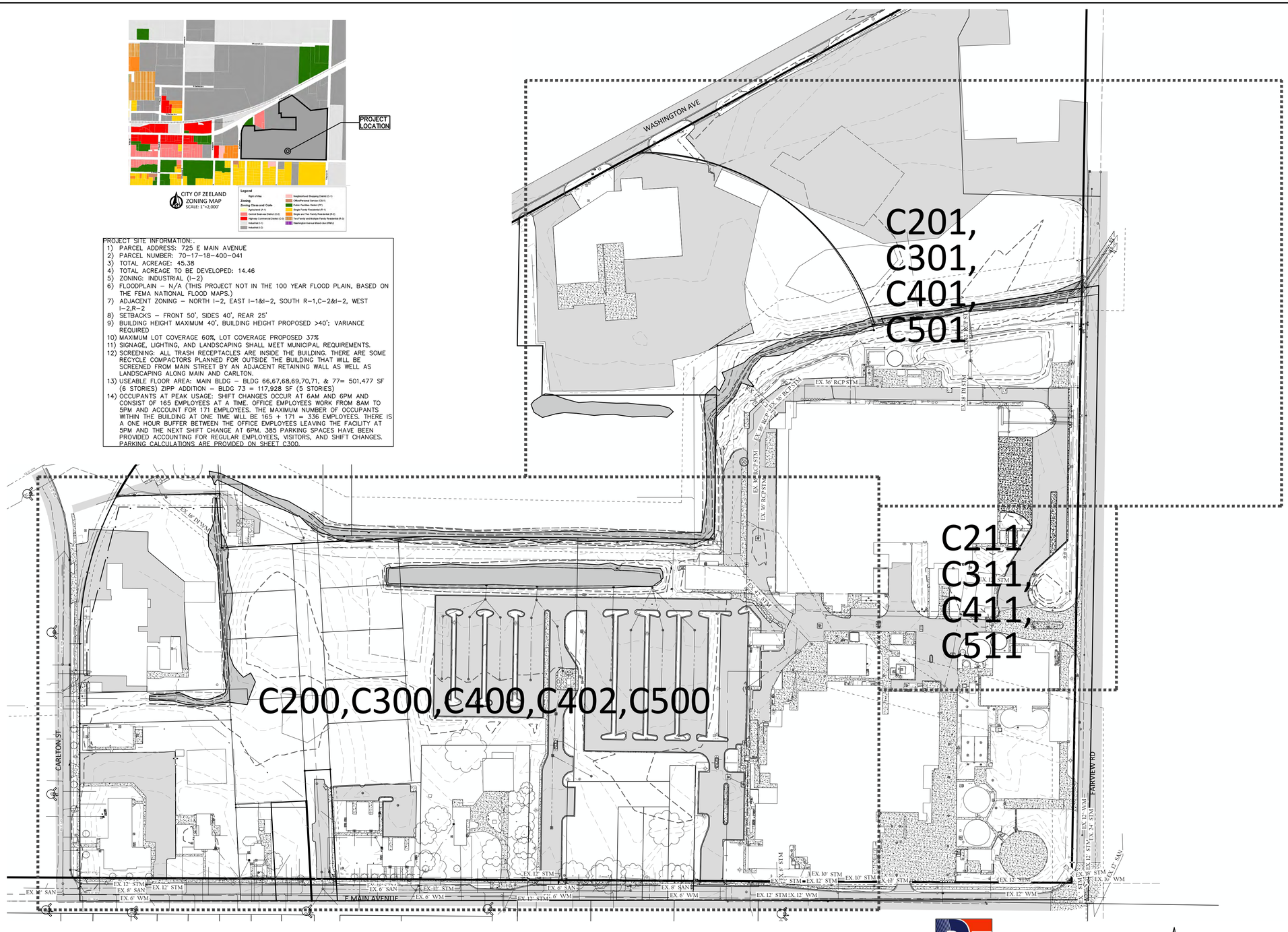
3/31/2026 2:09:31 PM

Autodesk Docs://25120_MJN_ZSC/25120_ZSC_73ZIPP_ARCH.rvt

Received: 05/04/26
City of Zeeland, MI

PROJECT SITE INFORMATION:

1) PARCEL ADDRESS: 725 E MAIN AVENUE
2) PARCEL NUMBER: 70-17-18-400-041
3) TOTAL ACREAGE: 45.38
4) TOTAL ACREAGE TO BE DEVELOPED: 14.46
5) ZONING: INDUSTRIAL (I-2)
6) FLOODPLAIN - N/A (THIS PROJECT NOT IN THE 100 YEAR FLOOD PLAIN, BASED ON THE FEMA NATIONAL FLOOD MAPS.)
7) ADJACENT ZONING - NORTH I-2, EAST I-1&I-2, SOUTH R-1,C-2&I-2, WEST I-2,R-2
8) SETBACKS - FRONT 50', SIDES 40', REAR 25'
9) BUILDING HEIGHT MAXIMUM 40', BUILDING HEIGHT PROPOSED >40'; VARIANCE REQUIRED
10) MAXIMUM LOT COVERAGE 60%, LOT COVERAGE PROPOSED 37%
11) SIGNAGE, LIGHTING, AND LANDSCAPING SHALL MEET MUNICIPAL REQUIREMENTS.
12) SCREENING: ALL TRASH RECEPTACLES ARE INSIDE THE BUILDING. THERE ARE SOME RECYCLE COMPACTORS PLANNED FOR OUTSIDE THE BUILDING THAT WILL BE SCREENED FROM MAIN STREET BY AN ADJACENT RETAINING WALL AS WELL AS LANDSCAPING ALONG MAIN AND CARLTON.
13) USEABLE FLOOR AREA: MAIN BLDG - BLDG 66,67,68,69,70,71, & 77= 501,477 SF (6 STORIES) ZIPP ADDITION - BLDG 73 = 117,928 SF (5 STORIES)
14) OCCUPANTS AT PEAK USAGE: SHIFT CHANGES OCCUR AT 6AM AND 6PM AND CONSIST OF 165 EMPLOYEES AT A TIME. OFFICE EMPLOYEES WORK FROM 8AM TO 5PM AND ACCOUNT FOR 171 EMPLOYEES. THE MAXIMUM NUMBER OF OCCUPANTS WITHIN THE BUILDING AT ONE TIME WILL BE 165 + 171 = 336 EMPLOYEES. THERE IS A ONE HOUR BUFFER BETWEEN THE OFFICE EMPLOYEES LEAVING THE FACILITY AT 5PM AND THE NEXT SHIFT CHANGE AT 6PM. 385 PARKING SPACES HAVE BEEN PROVIDED ACCOUNTING FOR REGULAR EMPLOYEES, VISITORS, AND SHIFT CHANGES. PARKING CALCULATIONS ARE PROVIDED ON SHEET C300.



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(269) 697-7120

SCALE: 1" = 100'
0' 50' 100' 150' 200'

PRELIMINARY
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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

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10601 MISSION ROAD
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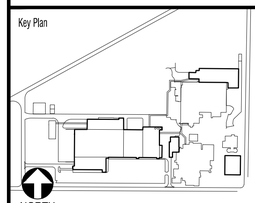
IPS PROFESSIONAL ENGINEERS AND ARCHITECTS, PC.

Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

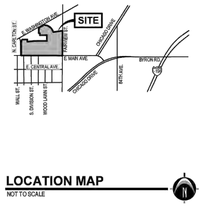
Mead Johnson NUTRITION

title: DRAWING INDEX MAP

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005129
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	250ST-1473-C100-DRAWING INDEX MAP
HARD COPY:	DRAWING NUMBER C100
DEPARTMENT:	SHEET: 2 OF 40



LOCATION MAP
NOT TO SCALE

SURVEYOR'S NOTES

1) Flood Zone Classification: **An examination of the National Flood Insurance Program's Flood Insurance Rate Map for Community Number 260983, Panel Number 309, with an Effective Date of 12-16-2011, Map number 26139C0309E, shows this parcel to be located in Zone "X" Area of minimal flood hazard (subject to map scale uncertainty).**
2) Utility data shown hereon is a combination of as located utility flags and linework from a client provided CAD file. Nederveld Inc. makes no warranty to the accuracy or completeness of the provided utility information. Lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similiar utility locate requests from surveyors may be ignored or result in an incomplete response. Where additional or more detailed information is required, the client is advised that excavation may be necessary.
3) NOTE TO CONTRACTORS: 3 (THREE) WORKING DAYS BEFORE YOU DIG, CALL MISS DIG AT TOLL FREE 1-800-482-7171 FOR UTILITY LOCATIONS ON THE GROUND.
4) Wetland information was provided per client CAD file. At time of survey there were no delineated wetlands on site.
5) A portion of this survey was performed during a period of snow and ice covering. While every effort was made to locate all features, snow and/or ice may have prevented all features from being visible.

BENCHMARKS

BENCHMARK #501 ELEV. = 652.11 (NAVD 88)
SOUTHWEST FLANGE BOLT UNDER "CITY" ON HYDRANT 3' WEST OF TOP OF CURB OF FAIRVIEW ST. AND 80' ± SOUTH OF CENTERLINE OF "RECKITT" DRIVE ENTRANCE

BENCHMARK #1039 ELEV. = 654.05 (NAVD 88)
FLANGE BOLT ON HYDRANT UNDER "I" OF "1993", 4.5' WEST OF EDGE OF ASPHALT, 946'± NORTH OF SOUTHEAST CORNER OF SECTION 18, TOWN 5NORTH, RANGE 14 WEST

BENCHMARK #1402 ELEV. = 652.07 (NAVD 88)
FLANGE BOLT ON HYDRANT UNDER "TRAVERSE", 568' ± NORTH AND 316' ± WEST OF SOUTHEAST CORNER OF SECTION 18, TOWN 5 NORTH, RANGE 14 WEST

BENCHMARK #2039 ELEV. = 652.93 (NAVD 88)
FLANGE BOLT ON HYDRANT UNDER "MADE", 399' ± NORTH AND 617' ± WEST OF SOUTHEAST CORNER OF SECTION 18, TOWN 5 NORTH, RANGE 14 WEST

BENCHMARK #3171 ELEV. = 653.79 (NAVD 88)
FLANGE BOLT ON HYDRANT ABOVE "MUELLER", 341' ± NORTH AND 174' ± WEST OF SOUTHEAST CORNER OF SECTION 18, TOWN 5 NORTH, RANGE 14 WEST

BENCHMARK #3199 ELEV. = 653.05 (NAVD 88)
FLANGE BOLT ON HYDRANT UNDER "TRAVERSE", 297' ± NORTH AND 254' ± WEST OF SOUTHEAST CORNER OF SECTION 18, TOWN 5 NORTH, RANGE 14 WEST

BENCHMARK #6201 ELEV. = 650.65 (NAVD 88)
FLANGE BOLT UNDER "A" OF "USA" ON HYDRANT, SOUTHWEST OF INTERSECTION OF E. MAIN AVE. AND N. CARLTON ST.

BENCHMARK #16051 ELEV. = 654.34 (NAVD 88)
FLANGE BOLT UNDER "A" OF "USA" ON HYDRANT, 32' ± SOUTH OF CENTERLINE E. MAIN AVE. & 33' ± WEST OF CENTERLINE DIVISION ST.

DESCRIPTION

Proposed New Overall Description:
Part of the Plat of Nagelkirk Addition to the City of Zeeland as recorded in Liber 14 of Plats, Page 11, Ottawa County Records and part of the Southeast 1/4 of Section 18, Town 5 North, Range 14 West, City of Zeeland, Ottawa County, Michigan, described as: Beginning at the Southeast corner of said Section; thence S89°55'55"W 1975.45 feet along the South line of said Section; thence N00°02'20"W 503.58 feet along the East line of N. Carlton Street; thence continuing along said East line Northeasterly 301.21 feet along a 603.21 foot radius curve to the right, said curve having a central angle of 28°36'37", and a chord bearing N14°03'37"E 298.09 feet; thence N88°30'57"E 201.60 feet; thence S02°15'12"E 106.14 feet to the Northwest corner of said Plat; thence N86°54'08"E 349.75 feet along the North line of said Plat to the Northeast corner thereof; thence N86°57'22"E 47.14 feet; thence N00°44'40"E 0.62 feet; thence S89°27'00"E 568.62 feet; thence N00°58'45"E 282.41 feet; thence S89°55'55"W 342.25 feet; thence N00°58'45"E 90.83 feet; thence S89°55'55"W 50.00 feet; thence N00°58'45"E 250.00 feet; thence N61°13'11"E 262.75 feet along the Southeasterly line of E. Washington Street; thence Southeasterly along the Southwesterly line of the former Chesapeake and Ohio Railroad spur track per HEI survey no. 79-02-050 dated 3-2-79, 613.25 feet along a 467.47 foot radius curve to the right, said curve having a central angle of 75°10'06", and a chord bearing S53°58'09"E 570.25 feet; thence N82°16'44"E 21.68 feet; thence Northwesterly along the Northeasterly line of the former Chesapeake and Ohio Railroad spur track per Quit Claim Deed 2009-0039837 recorded 10-02-09, 9.14 feet along a 497.52 foot radius curve to the left, said curve having a central angle of 01°03'09", and a chord bearing N17°34'37"W 9.14 feet; thence N81°16'06"E 429.74 feet; thence S00°59'06"W 1202.90 feet along the East line of said Section to the Point of Beginning. Contains 45.38 acres. Subject to easements, restrictions and rights-of-way of record. Also subject to highway right-of-way for Fairview Street over the most Easterly 33.00 feet thereof. Also subject to highway right-of-way for E. Main Avenue for that portion lying South of a line 33.00 feet North of and parallel to the centerline of said road, said centerline bearing N89°42'20"W from the Southeast corner of said Section.

N

0' 75' 150' 300'
~~SCALE: 1" = 150'~~
SCALE: 1" = 200'

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

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR UTILITY COMPANY RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

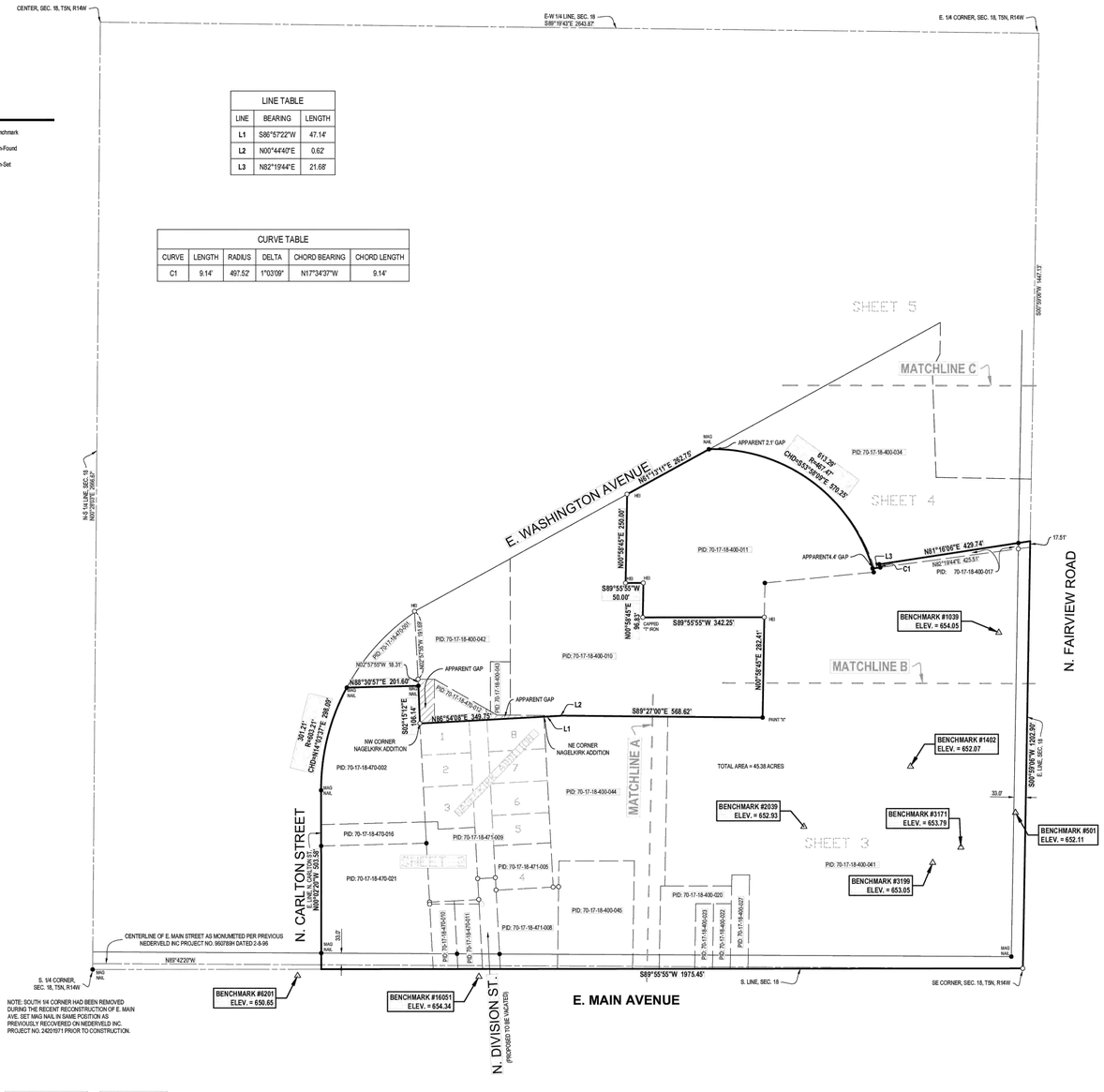
NOTE:
EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "PLANS" WERE OBTAINED FROM AVAILABLE CITY AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

LEGEND

- △ Benchmark
- ○ Iron-Found
- ● Iron-Set

LINE TABLE		
LINE	BEARING	LENGTH
L1	S86°57'22"W	47.14'
L2	N00°44'40"E	0.62'
L3	N82°16'44"E	21.68'

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	9.14'	497.52'	1°03'09"	N17°34'37"W	9.14'



NOTE: SOUTH 1/4 CORNER HAD BEEN REMOVED DURING THE RECENT RECONSTRUCTION OF E. MAIN AVE. SET MAG NAIL IN SAME POSITION AS PREVIOUSLY RECOVERED ON NIEDERVELD INC. PROJECT NO. 240201971 PRIOR TO CONSTRUCTION.

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Grand Rapids, MI 49503
Phone: 616.575.5190
ANN ARBOR
3027 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.0663

Received: 05/04/26
City of Zeeland, MI

PREPARED FOR:
Reckitt Zeeland
Aaron Holder

725 E Main Ave
Zeeland, MI 49464

CREATED:
Drawn: BS Date: 5-30-25

REVISIONS:
Rev: UTILITIES, WETLANDS
Drawn: BS Date: 7-22-25
Rev: STORM, BOUNDARY
Drawn: BS Date: 11-11-25
Rev: BOUNDARY & DESCRIPTION
Drawn: BS Date: 11-18-25
Rev: ADDITIONAL TOPO, EASEMENTS
Drawn: BS Date: 12-9-25

Mead Johnson-Zeeland

Topographic Survey

E. MAIN AVE.
PART OF THE SOUTHEAST 1/4 OF SECTION 18, T5N, R14W,
CITY OF ZEELAND, OTTAWA COUNTY, MICHIGAN

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

STAMP:
Scott A Hendges License No. 4001047963 PROFESSIONAL ENGINEER

PROJECT NO:
25200662

SHEET NO:
T0.4
SHEET: 1 OF 5

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IPS PROFESSIONAL ENGINEERS AND ARCHITECTS, PC.

Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
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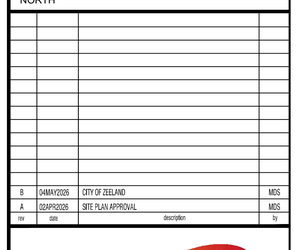
Key Plan



Mead Johnson NUTRITION

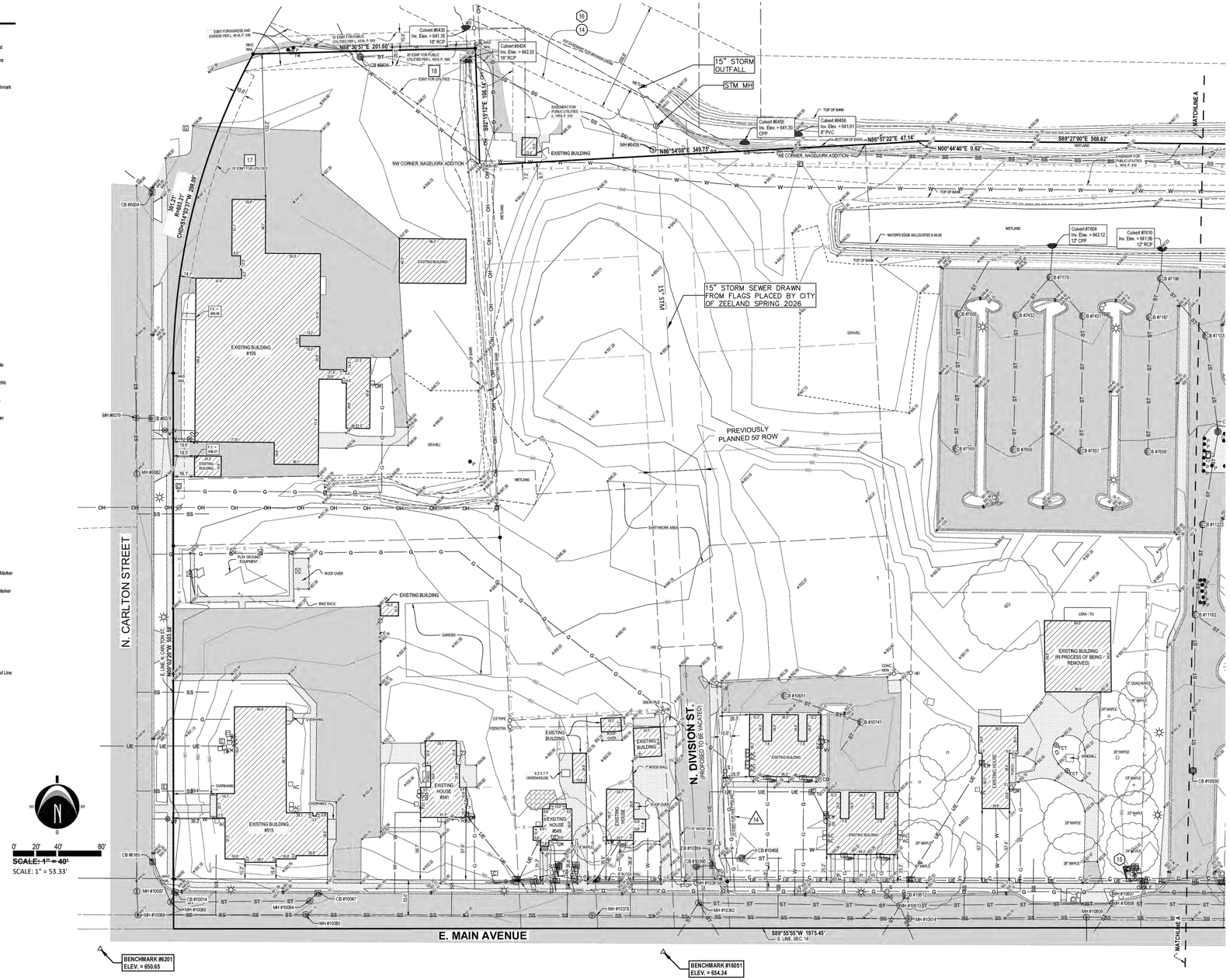
title: EXISTING CONDITIONS
project: VIVID
location: ZEELAND, MI

C.A.R. OR P.O NUMBER:			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: 25SST-1473-C101-EXISTING CONDITIONS
DRAWING NUMBER: C101
SHEET: 3 OF 40

LEGEND

- AC — Air Conditioning
- Catch Basin - Round
- Catch Basin - Square
- CO — Cleanout
- Control Point/ Benchmark
- Cable Riser
- Culvert
- Deciduous Tree
- EM — Electric Meter
- Electric Manhole
- Electric Riser
- FCT — Faucet
- Fire Department Connection
- Flag
- GM — Gas Meter
- Gas Riser
- GV — Gas Valve
- Guy Anchor
- Handhole
- Hydrant
- Iron-Found
- Iron-Set
- Light Pole
- MB — Mailbox
- Miss Dig Flag - Cable
- Miss Dig Flag - Electric
- Miss Dig Flag - Gas
- Miss Dig Flag - Water
- Manhole
- P — Post
- Utility Pole
- S — Sign
- STOP — Stop Sign
- S — Sanitary Manhole
- D — Storm Manhole
- TR — Transformer
- M — Manhole
- Utility Pole
- CABLE — Underground Fiber Marker
- GAS — Underground Gas Marker
- W — Water Manhole
- VV — Water Valve
- YD — Yard Drain
- Yard Light
- C — Cable TV Line
- UE — Electric Underground Line
- Fence
- G — Gas Line
- Guard Rail Line
- SS — Sanitary Line
- ST — Storm Line
- OH — Overhead Utility
- W — Watermain
- Asphalt
- Brick
- Existing Building
- Concrete
- Misc. Structure
- Bench



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3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6953

PREPARED FOR:
Reckitt Zeeland
Aaron Holder

725 E Main Ave
Zeeland, MI 49464

CREATED:
Drawn: BS Date: 5-30-25

REVISIONS:

Rev: UTILITIES, WETLANDS		
Drawn: BS	Date: 7-22-25	
Rev: STORM, BOUNDARY		
Drawn: BS	Date: 11-11-25	
Rev: BOUNDARY & DESCRIPTION		
Drawn: BS	Date: 11-18-25	
Rev: ADDITIONAL TOPO, EASEMENTS		
Drawn: BS	Date: 12-9-25	

Mead Johnson-Zeeland

Topographic Survey

E. MAIN AVE.

PART OF THE SOUTHEAST 1/4 OF SECTION 18, T5N, R14W, CITY OF ZEELAND, OTTAWA COUNTY, MICHIGAN

STAMP:

PROJECT NO: 25200662

SHEET NO: TO.4

SHEET: 2 OF 5

Received: 05/04/26
City of Zeeland, MI

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Integrated Project Services
Engineering
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Compliance
Consulting

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LEAWOOD, KS 66206
913.345.9084 PHONE
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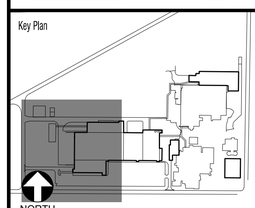
IPS PROFESSIONAL ENGINEERS AND ARCHITECTS, PC.

Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

MeadJohnson NUTRITION

title: EXISTING CONDITIONS

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O. NUMBER:			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

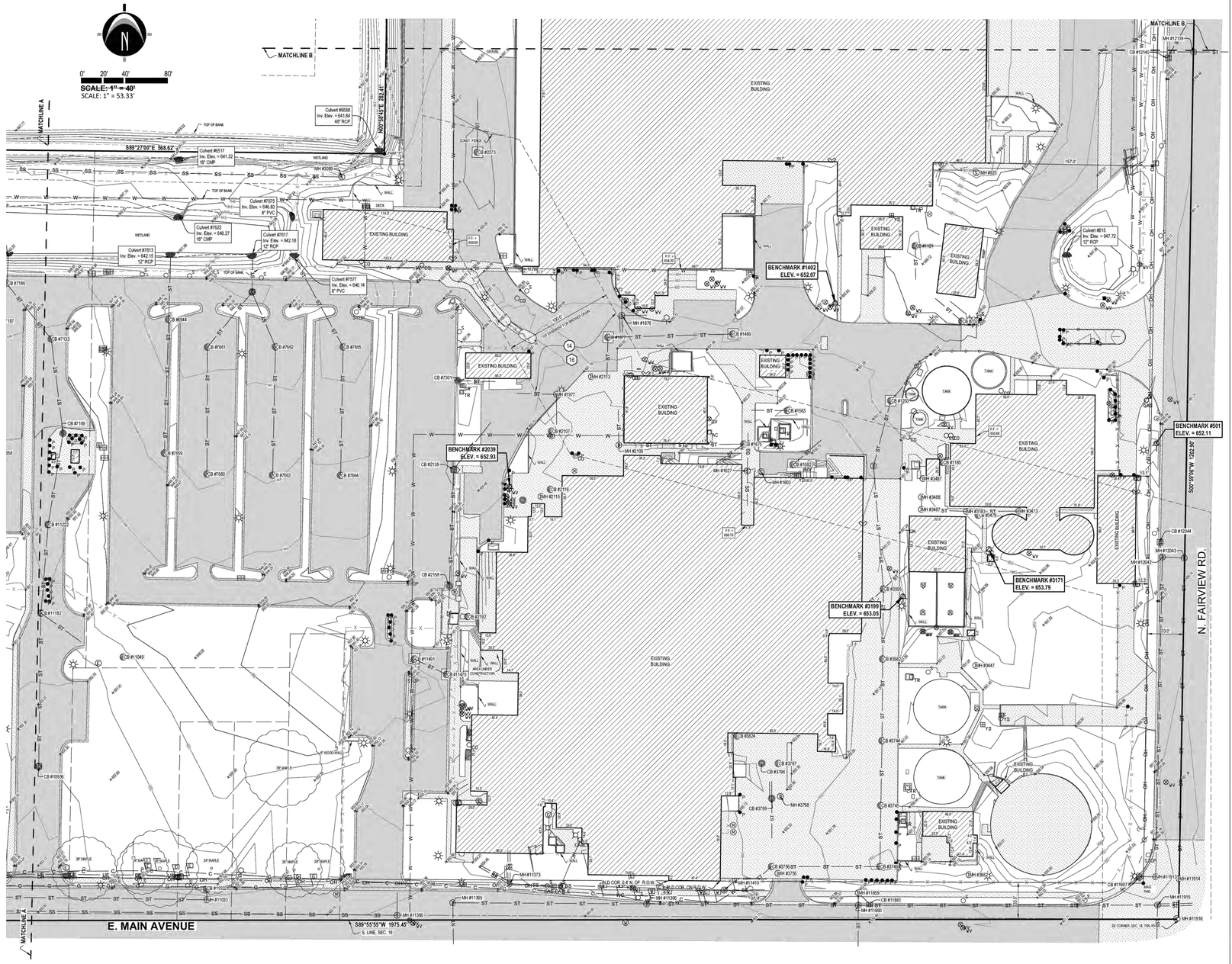
SHEET #: ZSSSIT-1473-C102-EXISTING CONDITIONS

DRAWING NUMBER: C102

SHEET: 4 OF 40

LEGEND

- Air Conditioning
- Catch Basin - Round
- Catch Basin - Square
- Cleanout
- Control Point/ Benchmark
- Cable Riser
- Culvert
- Deciduous Tree
- Electric Meter
- Electric Manhole
- Electric Riser
- Faucet
- Fire Department Connection
- Flag
- Gas Meter
- Gas Riser
- Gas Valve
- Guy Anchor
- Handhole
- Hydrant
- Iron-Found
- Iron-Set
- Light Pole
- Mailbox
- Miss Dig Flag - Cable
- Miss Dig Flag - Electric
- Miss Dig Flag - Gas
- Miss Dig Flag - Water
- Manhole
- Post
- Utility Pole
- Sign
- Stop Sign
- Sanitary Manhole
- Storm Manhole
- Transformer
- Manhole
- Utility Pole
- Underground Fiber Marker
- Underground Gas Marker
- Water Manhole
- Water Valve
- Yard Drain
- Yard Light
- Cable TV Line
- Electric Underground Line
- Fence
- Gas Line
- Guard Rail Line
- Sanitary Line
- Storm Line
- Overhead Utility
- Watermain
- Asphalt
- Brick
- Existing Building
- Concrete
- Misc. Structure
- Bench



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800.222.1868

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730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449

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217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190

ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.9313

PREPARED FOR:
Reckitt Zeeland
Aaron Holder

725 E Main Ave
Zeeland, MI 49464

CREATED:
Drawn: BS Date: 5-30-25

REVISIONS:
Rev: UTILITIES, WETLANDS
Drawn: BS Date: 7-22-25
Rev: STORM, BOUNDARY
Drawn: BS Date: 11-11-25

Mead Johnson-Zeeland

Topographic Survey

E. MAIN AVE.
PART OF THE SOUTHEAST 1/4 OF SECTION 18, T5N, R14W,
CITY OF ZEELAND, OTTAWA COUNTY, MICHIGAN

STAMP:

PRELIMINARY

PROJECT NO:
25200662

SHEET NO:
TO.2

SHEET: 3 OF 5

Received: 05/04/26
City of Zeeland, MI

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Integrated Project Services
Engineering
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Compliance
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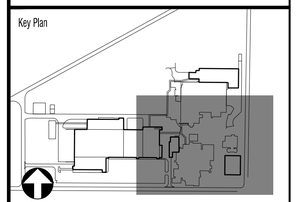
10601 MISSION ROAD
SUITE 240
LEAWOOD, KS 66206
913.345.9084 PHONE
www.ipsdb.com

IPS PROFESSIONAL ENGINEERS AND ARCHITECTS, PC.

Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

MeadJohnson NUTRITION

title: EXISTING CONDITIONS

project: VIVID

location: ZEELAND, MI

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
414.278.6060
www.pierceengineers.com

Vriesman & Korhorn CIVIL
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

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ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

C.A.R. OR P.O NUMBER

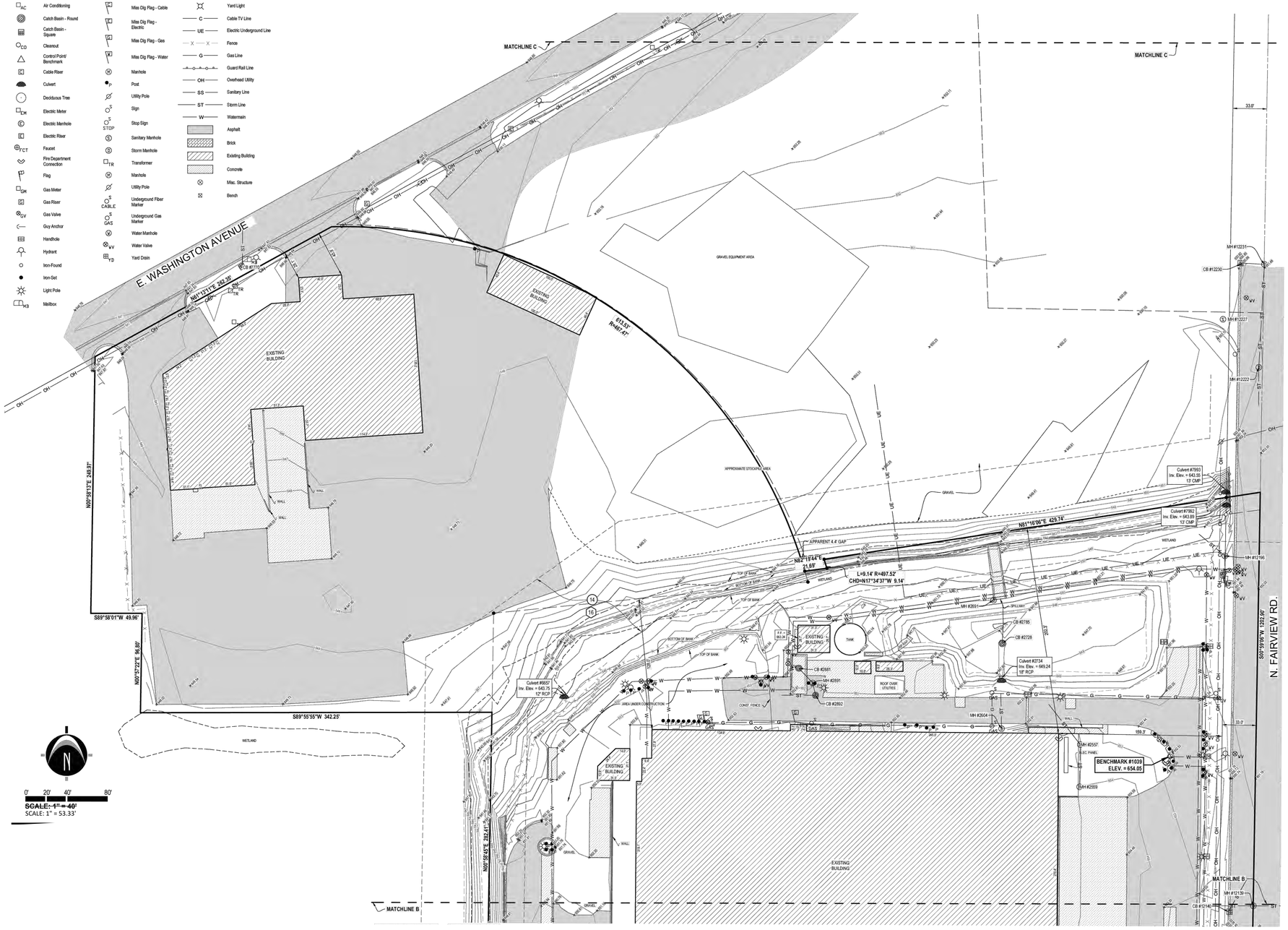
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	25SST-1472-C103-EXISTING CONDITIONS
HARD COPY:	
DEPARTMENT:	

DRAWING NUMBER
C103

SHEET: 5 OF 40

LEGEND

AC Air Conditioning	Miss Dig Flag - Cable	Yard Light	
Catch Basin - Round	Miss Dig Flag - Electric	C Cable TV Line	
Catch Basin - Square	Miss Dig Flag - Gas	UE Electric Underground Line	
CO Cleanout	Miss Dig Flag - Water	Fence	
Control Point/ Benchmark	M Manhole	G Gas Line	
Cable Riser	P Post	Guard Rail Line	
Culvert	Utility Pole	OH Overhead Utility	
Deciduous Tree	Sign	SS Sanitary Line	
EM Electric Meter	STOP Stop Sign	ST Storm Line	
Electric Manhole	S Sanitary Manhole	W Watermain	
Electric Riser	D Storm Manhole	Asphalt	
FCT Faucet	TR Transformer	Brick	
Fire Department Connection	M Manhole	Existing Building	
Flag	Utility Pole	Concrete	
GM Gas Meter	CABLE Underground Fiber Marker	Misc. Structure	
Gas Riser	GAS Underground Gas Marker	Bench	
GV Gas Valve	W Water Manhole		
Guy Anchor	WV Water Valve		
Handhole	YD Yard Drain		
Hydrant			
Iron-Found			
Iron-Set			
Light Pole			
MB Mailbox			



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Drawn: BS Date: 5-30-25

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Drawn: BS Date: 11-11-25

Mead Johnson-Zeeland

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Project Manager	mm/dd/yy
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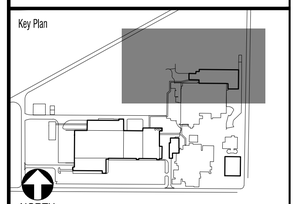
Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: EXISTING CONDITIONS

project: VIVID

location: ZEELAND, MI

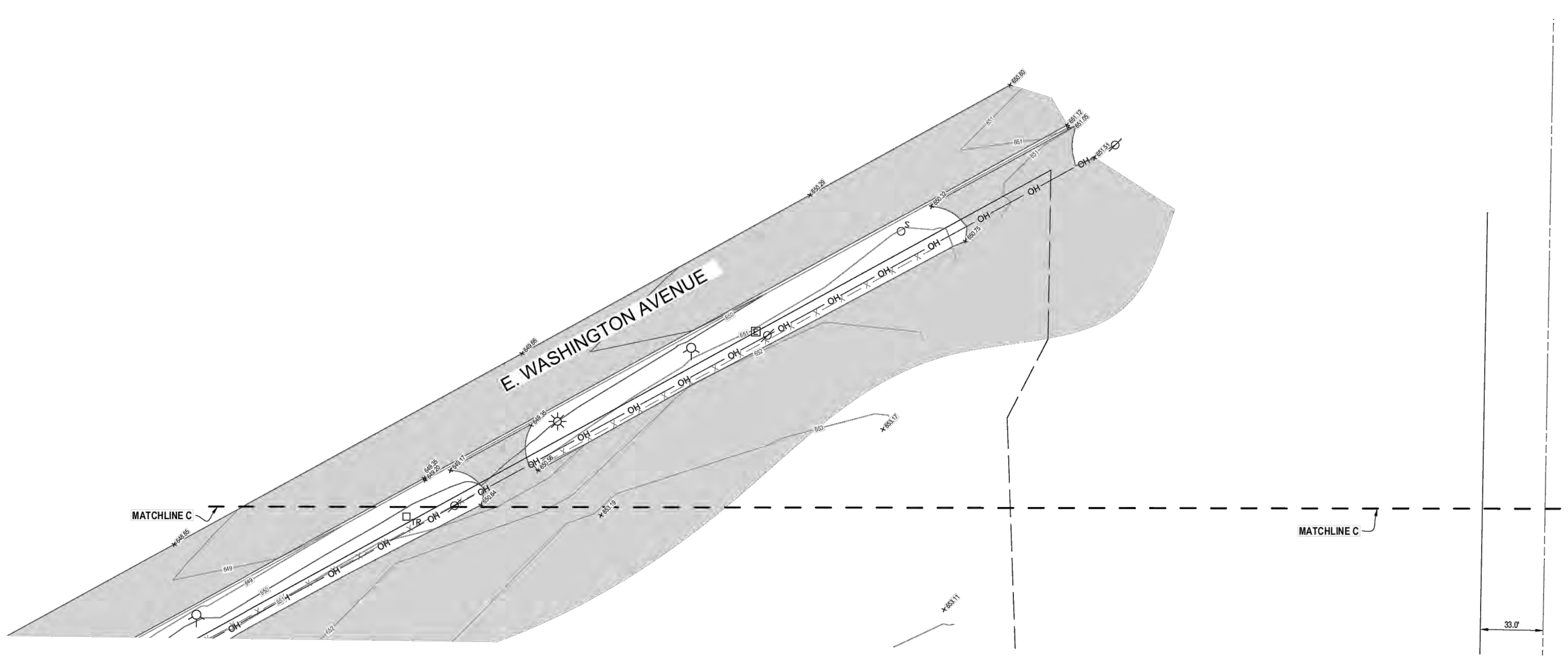
C.A.R. OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005129
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	25057T-1472-C104-EXISTING CONDITIONS
HARD COPY:	DRAWING NUMBER C104
DEPARTMENT:	SHEET: 6 OF 40

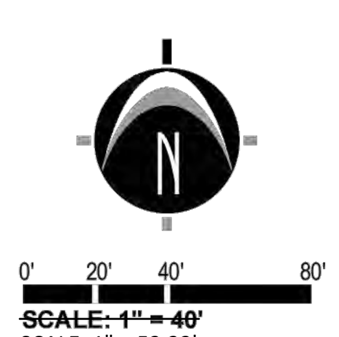
STORM INVERTS

#	Structure Type	Rim Elevation	Size/Type/Direction	Invert Elevation	Notes
702	Catch Basin	649.61	8" PVC (NW)	648.66	-
1101	Catch Basin	648.64	12" CMP (E)	647.08	-
			12" RCP (S)	647.08	-
1185	Catch Basin	650.35	12" PVC (NE)	645.96	-
1203	Catch Basin	650.43	12" RCP (NE)	645.67	-
			12" RCP (S)	645.67	-
1258	Storm Water Manhole	651.55	16" RCP (S)	646.37	-
			16" RCP (N)	646.37	-
1488	Catch Basin	650.79	8" PVC (W)	649.79	-
1563	Catch Basin	651.88	8" RCP (W)	649.67	-
1582	Catch Basin	652.41	8" RCP (NE)	650.32	-
1675	Catch Basin	652.44	8" PVC (SW)	649.84	-
			8" PVC (W)	649.84	-
1877	Catch Basin	650.28	12" RCP (E)	648.42	-
			12" RCP (S)	647.88	-
1977	Storm Water Manhole	651.46	12" RCP (W)	644.52	-
			12" RCP (S)	645.97	-
2100	Storm Water Manhole	652.51	10" PVC (E)	645.11	-
			10" PVC (N)	644.96	-
2107	Catch Basin	651.19	6" PVC (S)	648.59	TOP OF PIPE (CAPPED)
2108	Storm Water Manhole	651.18		650.44	WATER LEVEL
2113	Storm Water Manhole	651.38		643.23	WATER LEVEL, CAN'T SEE PIPES
2115	Storm Water Manhole	651.35	8" PVC (NE)	647.61	-
			12" RCP (W)	647.00	-
			12" RCP (N)	647.00	-
2116	Catch Basin	651.20	8" PVC (SW)	647.61	-
			6" PVC (N)	647.72	-
2138	Catch Basin	649.61	12" RCP (NE)	645.81	-
			12" RCP (S)	645.81	-
2158	Catch Basin	650.34	12" RCP (S)	646.89	-
			12" RCP (N)	647.21	-
2192	Catch Basin	649.75	" ()	649.04	WATER LEVEL
2373	Catch Basin	649.54	36" RCP (N)	644.86	-
2557	Storm Water Manhole	654.04	12" RCP (NW)	646.51	-
			12" RCP (S)	646.62	-
2559	Storm Water Manhole	654.01	12" RCP (N)	646.71	-
2604	Storm Water Manhole	652.83	12" RCP (N)	649.97	-
2726	Catch Basin	647.35	12" RCP (S)	644.77	-
			12" RCP (N)	644.63	-
2881	Catch Basin	651.68	" ()	649.06	WATER LEVEL
2891	Storm Water Manhole	652.90	" ()	649.63	WATER LEVEL
2892	Catch Basin	651.94	24" RCP (W)	644.76	-
3089	Miscellaneous Manhole	646.50	-		BOLTED SHUT
3183	Storm Water Manhole	650.72	16" PVC (W)	644.18	-
			16" PVC (E)	644.51	-
			16" RCP (S)	644.18	CHANNEL
			16" RCP (N)	644.18	CHANNEL
3447	Storm Water Manhole	651.50	12" RCP (SW)	645.05	-
			12" RCP (N)	646.41	-
			16" RCP (S)	644.75	CHANNEL
			16" RCP (N)	644.75	CHANNEL
3473	Storm Water Manhole	650.66	12" PVC (W)	645.44	-
			12" CMP (N)	645.62	-
3479	Catch Basin	650.17	" ()	647.90	WATER LEVEL
3487	Storm Water Manhole	651.83	16" PVC (N)	-	COULD NOT MEASURE
3488	Storm Water Manhole	651.18	" ()	-	NOT ACCESSIBLE
3497	Storm Water Manhole	651.26	" ()	-	NOT ACCESSIBLE
3562	Catch Basin	651.11	12" RCP (S)	648.41	-
			12" RCP (N)	648.41	-
3595	Catch Basin	650.66	12" RCP (NE)	647.73	-
			12" RCP (SW)	647.89	-
			12" RCP (S)	647.08	-
			16" RCP (N)	647.08	-
3662	Storm Water Manhole	651.11	" ()	648.65	WATER LEVEL
3744	Catch Basin	652.30	12" RCP (S)	650.03	-
			12" RCP (N)	650.03	-
3745	Catch Basin	651.09	12" RCP (S)	648.90	-
			12" RCP (N)	648.90	-
3746	Catch Basin	650.79	12" RCP (W)	649.16	-
			12" RCP (N)	649.16	-
3755	Storm Water Manhole	652.23	" ()	-	RUBBER PIPING COMING FROM NORTH GOING EAST
3756	Catch Basin	652.03	12" RCP (SW)	649.60	-
			12" RCP (E)	649.75	-
3796	Catch Basin	652.24	" ()	-	12" VERTICAL PIPE
3797	Catch Basin	652.24	" ()	-	12" VERTICAL PIPE
3798	Storm Water Manhole	652.46	" ()	-	WATER PUMP
3799	Catch Basin	651.03	12" PVC (N)	648.20	-
			12" RCP (S)	648.02	-
			8" PVC (N)	648.13	-
3824	Catch Basin	652.41	" ()	-	METAL GRATE AT BOTTOM OF LID
6004	Catch Basin	646.43	12" RCP (NW)	642.65	-
6078	Catch Basin	648.32	12" RCP (W)	644.89	-
6079	Storm Water Manhole	646.70	12" RCP (W)	643.96	-
			12" RCP (E)	644.15	-
			12" RCP (N)	643.96	-
6185	Catch Basin	649.22	12" RCP (SSE)	645.65	-
6404	Catch Basin	646.94	6" CPP (E)	646.19	-
6944	Catch Basin	646.24	12" CPP (S)	642.40	-
			12" CPP (N)	642.40	-
7109	Catch Basin	649.99	10" CPP (S)	644.72	-
			12" CPP (N)	644.72	-
7133	Catch Basin	648.13	12" CPP (NW)	643.55	-
			12" CPP (S)	643.64	-
7165	Catch Basin	649.93	12" CPP (N)	646.09	-
7179	Catch Basin	648.01	12" CPP (SE)	643.83	-
			12" CPP (SW)	643.83	-
			12" CPP (S)	643.83	-
			12" CPP (N)	643.81	-
7186	Catch Basin	648.13	12" CPP (SE)	642.98	-
			12" CPP (SW)	643.84	-
			18" CPP (N)	642.93	-
7187	Storm Water Manhole	648.81	12" CPP (NE)	644.75	-
			12" CPP (S)	644.81	-
7301	Catch Basin	649.79	12" RCP (E)	647.65	-
7431	Catch Basin	648.71	12" CPP (S)	644.70	-
			12" CPP (NW)	644.70	-
7432	Catch Basin	648.69	12" CPP (NE)	643.72	-
			12" CPP (S)	643.81	-
7655	Catch Basin	645.77	12" CPP (NE)	641.65	-
			12" CPP (S)	641.74	-
7656	Catch Basin	649.91	12" CPP (N)	645.91	-
7657	Catch Basin	649.98	12" CPP (N)	645.88	-
7658	Catch Basin	650.11	12" CPP (N)	646.00	-
7659	Catch Basin	647.71	12" CPP (N)	642.53	-
7660	Catch Basin	647.73	12" CPP (N)	644.52	-
7661	Catch Basin	646.37	12" CPP (NE)	642.98	-
			12" CPP (S)	643.03	-
7662	Catch Basin	646.14	12" CPP (NW)	643.02	-
			12" CPP (S)	643.12	-
7663	Catch Basin	647.85	12" CPP (N)	644.55	-
7664	Catch Basin	648.14	12" CPP (N)	644.84	-
7665	Catch Basin	646.46	12" CPP (NW)	643.36	-
			12" CPP (S)	643.36	-
7770	Catch Basin	648.38	12" RCP (N)	644.58	-
10014	Catch Basin	649.26	12" RCP (SSW)	645.49	-
10047	Catch Basin	650.74	12" RCP (SW)	646.82	-
10084	Storm Water Manhole	650.97	12" RCP (SE)	646.43	-
			12" RCP (NE)	646.43	-
			12" RCP (W)	646.32	-
10086	Storm Water Manhole	649.73	12" RCP (NNE)	645.18	-
			12" RCP (NNW)	645.18	-
			12" RCP (W)	645.03	-
			12" RCP (E)	645.08	-
10359	Catch Basin	652.06	12" CPP (W)	646.12	-
			12" CPP (E)	646.17	-
10360	Catch Basin	651.96	12" CPP (E)	646.03	-
			18" RCP (S)	646.03	-
			18" RCP (N)	645.96	-
10361	Storm Water Manhole	652.33	18" RCP (S)	646.06	-
			18" RCP (N)	646.02	-
10362	Storm Water Manhole	652.33	12" RCP (SE)	648.56	-
			12" RCP (SW)	646.56	-
			18" RCP (E)	646.77	-
			18" RCP (N)	646.48	-
10468	Catch Basin	651.70	12" CPP (W)	646.87	-
			12" CPP (E)	646.86	-
10612	Catch Basin	651.64	12" RCP (SW)	647.64	-
10613	Storm Water Manhole	652.02	12" RCP (SSE)	647.57	-
			12" RCP (NE)	647.52	-
			18" RCP (W)	647.47	-
			18" RCP (E)	647.57	-
10651	Catch Basin	651.52	12" CPP (SE)	648.04	-
10741	Catch Basin	651.24	12" CPP (SW)	648.04	-
			12" CPP (NW)	648.12	-
10807	Storm Water Manhole	652.81	12" PVC (S)	648.21	-
10808	Storm Water Manhole	652.62	12" RCP (SW)	648.26	-
			18" RCP (W)	648.19	-
			12" RCP (E)	648.26	-
			12" PVC (N)	648.19	-
10936	Catch Basin	652.67	12" CPP (N)	648.13	-
11032	Catch Basin	651.64	18" PVC (S)	648.97	-
11033	Storm Water Manhole	652.11	12" RCP (W)	648.98	-
			12" RCP (S)	648.98	-
			8" PVC (N)	648.98	-
11049	Catch Basin	651.33	" ()	-	COULD NOT OPEN
11182	Catch Basin	651.30	12" CPP (SE)	646.42	-
			12" CPP (S)	646.50	-
			12" CPP (N)	646.42	-
11222	Catch Basin	650.58	12" CPP (S)	645.59	-
			16" CPP (N)	645.48	-
11365	Storm Water Manhole	653.38	12" RCP (E)	649.00	-
			12" RCP (S)	649.00	-
11398	Storm Water Manhole	653.49	18" RCP (W)	648.79	-
			18" RCP (E)	647.49	-
11475	Catch Basin	651.41	8" PVC (NW)	647.35	-
			12" PVC (N)	647.35	-
11491	Catch Basin	650.75	8" PVC (SE)	648.35	-
11859	Storm Water Manhole	652.70	12" RCP (SE)	647.81	-
			12" RCP (SSW)	647.58	-
11860	Storm Water Manhole	652.49	18" RCP (W)	647.03	-
			24" RCP (E)	646.99	-
			12" RCP (S)	647.82	-
			12" RCP (N)	646.99	-
11861	Catch Basin	652.31	12" RCP (NW)	648.70	-
11907	Catch Basin	650.64	12" RCP (E)	646.73	-
11913	Storm Water Manhole	650.87	12" RCP (W)	646.32	-
			12" RCP (E)	646.32	-
			12" RCP (N)	646.26	-
11914	Storm Water Manhole	651.05	16" RCP (W)	647.26	-
			24" RCP (N)	647.26	-
11915	Storm Water Manhole	651.05	12" RCP (E)	646.25	-
			16" RCP (W)	646.25	-
			12" RCP (E)	646.25	-
			16" RCP (S)	646.14	-
12042	Storm Water Manhole	650.20	12" RCP (NNW)	645.08	-
			36" RCP (W)	644.35	-
			24" RCP (E)	644.95	-
			12" RCP (S)	644.41	-
12043	Storm Water Manhole	650.61	24" RCP (W)	645.11	-
			12" RCP (E)	645.49	-
			24" RCP (S)	645.11	-
			24" RCP (N)	645.11	-
12044	Catch Basin	649.99	12" RCP (SSE)	647.05	-
12139	Storm Water Manhole	650.57	12" PVC (W)	646.89	-
			12" PVC (E)	646.89	-
12140	Catch Basin	649.95	12" PVC (NNE)	646.98	-
12186	Storm Water Manhole	652.06	36" RCP (NW)	643.16	-
			36" RCP (S)	643.26	-
12222	Storm Water Manhole	652.25	12" RCP (S)	646.33	-
			12" RCP (N)	646.65	-
12230	Catch Basin	650.80	12" RCP (E)	647.54	-
12231	Storm Water Manhole	651.46	12" RCP (W)	647.47	-
			12" RCP (S)	647.30	-
			12" RCP (N)	647.37	-
7281	Catch Basin	645.81	12" CPP (N)	642.40	-
			12" CPP (SE)	642.46	-
			12" CPP (SW)	642.40	-
16004	Storm Water Manhole	651.56	12" IRON (S)	647.09	-
			12" IRON (E)	647.01	-

SANITARY INVERTS

#	Structure Type	Rim Elevation	Size/Type/Direction	Invert Elevation
923	Sanitary Sewer Manhole	656.63	12" RCP (S)	646.88
			8" PVC (N)	646.98
1627	Sanitary Sewer Manhole	653.15	8" PVC (N)	649.64
			8" PVC (S)	649.90
			8" PVC (N)	649.95
1876	Sanitary Sewer Manhole	650.88	8" PVC (S)	647.12
			8" PVC (SE)	647.56
			8" PVC (E)	646.36
			8" PVC (S)	647.19
10085	Sanitary Sewer Manhole	651.05	8" PVC (N)	646.48
			8" PVC (W)	641.73
			8" PVC (E)	641.85
			8" PVC (E)	641.16
10087	Sanitary Sewer Manhole	649.50	8" PVC (S)	641.19
			8" PVC (N)	641.21
10088	Sanitary Sewer Manhole	649.72	8" PVC (E)	641.22
			8" PVC (N)	641.13
10378	Sanitary Sewer Manhole	652.43	8" PVC (W)	643.02
			8" PVC (E)	643.11
10614	Sanitary Sewer Manhole	652.23	8" PVC (W)	644.22
			8" PVC (E)	644.35
10809	Sanitary Sewer Manhole	652.77	8" PVC (N)	645.23
			8" PVC (W)	644.95
			8" PVC (E)	645.13
			8" PVC (S)	645.92
11366	Sanitary Sewer Manhole	653.14	8" PVC (W)	647.20
			8" PVC (N)	647.20
12227	Sanitary Sewer Manhole	650.84	8" PVC (NE)	643.43
			8" PVC (W)	643.43
11373	Sanitary Sewer Manhole	653.94	12" Cast Iron (E)	648.82
			8" Cast Iron (N)	650.64
			8" Cast Iron (N)	648.91
11410	Sanitary Sewer Manhole	653.39	12" Cast Iron (NW)	648.95
			12" Cast Iron (NW)	650.94
			12" Cast Iron (E)	650.83
			12" Cast Iron (N)	646.71
			12" Cast Iron (E)	646.00
			12" Cast Iron (W)	646.48





LEGEND

- Air Conditioning
- Catch Basin - Round
- Catch Basin - Square
- Cleanout
- Control Point/ Benchmark
- Cable Riser
- Culvert
- Deciduous Tree
- Electric Meter
- Electric Manhole
- Electric Riser
- Faucet
- Fire Department Connection
- Flag
- Gas Meter
- Gas Riser
- Gas Valve
- Guy Anchor
- Handhole
- Hydrant
- Iron-Found
- Iron-Set
- Light Pole
- Mailbox
- Miss Dig Flag - Cable
- Miss Dig Flag - Electric
- Miss Dig Flag - Gas
- Miss Dig Flag - Water
- Manhole
- Post
- Utility Pole
- Sign
- Stop Sign
- Sanitary Manhole
- Storm Manhole
- Transformer
- Manhole
- Utility Pole
- Underground Fiber Marker
- Underground Gas Marker
- Water Manhole
- Water Valve
- Yard Drain
- Yard Light
- Cable TV Line
- Electric Underground Line
- Fence
- Gas Line
- Guard Rail Line
- Overhead Utility
- Sanitary Line
- Storm Line
- Watermain
- Asphalt
- Brick
- Existing Building
- Concrete
- Misc. Structure
- Bench

RECORD DESCRIPTIONS

PID:	Source
70-17-18-470-016	Sun Title Commitment No. 303898 Rev. 5 dated 12-10-24
70-17-18-470-002	Sun Title Commitment No. 303898 Rev. 5 dated 12-10-24
70-17-18-470-010	Sun Title Commitment No. 306918 dated 3-7-25
70-17-18-400-045	Sun Title Commitment No. 303889 dated 11-4-24
70-17-18-471-008	Sun Title Commitment No. 306919 dated 3-6-25
70-17-18-470-021	Sun Title Commitment No. 308852 dated 5-22-25
70-17-18-470-012	Warranty Deed, Liber 1416, page 465, Ottawa County Records
70-17-18-400-034	Quit Claim Deed #2009-0039834 recorded 10-2-09, Ottawa County Records
70-17-18-471-005	Warranty Deed, Liber 2659, page 787, Ottawa County Records
70-17-18-470-001	Quit Claim Deed, Liber 4518, page 548, Ottawa County Records
70-17-18-470-011	Warranty Deed, Liber 5452, page 800, Ottawa County Records
70-17-18-400-010	Warranty Deed #2016-0048857 recorded 12-21-16, Ottawa County Records
70-17-18-400-022	Warranty Deed #2018-0037235 recorded 10-16-18, Ottawa County Records
70-17-18-400-027	Warranty Deed #2018-0037235 recorded 10-16-18, Ottawa County Records
70-17-18-400-023	Warranty Deed #2019-0009372 recorded 3-29-19, Ottawa County Records
70-17-18-400-020	Warranty Deed #2021-0030119 recorded 6-8-21, Ottawa County Records
70-17-18-470-010	Warranty Deed #2025-0010216 recorded 4-25-25, Ottawa County Records
70-17-18-400-042	Lighthouse Title Commitment No. CCU20-10278780, dated 9-24-20
70-17-18-400-011	HEI survey project No. 79-02-050 dated 3-2-79 as recorded in Liber 4 Certified Survey Maps, Page 359, Ottawa County Records.
Curve data for N. Carlton St.	Moore and Bruggink Project No. 35-3-6, Page 6, dated 4-11-95

NOTE: Deed and/or titlework was not available for some parcels both within the overall subject property and for some adjoining parcels. Tax Descriptions per Ottawa County GIS site were used in conjunction with the above referenced record descriptions when analyzing and configuring all of the parcels together.

SCHEDULE B - SECTION II NOTES

Sun Title Commitment No. 308852, dated 5-22-25

(10) Easement in favor of Consumers Power Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 1290, page 248.
The location of said easement cannot be determined from the record document.

(12) The terms, provisions and easement(s) contained in the document entitled Warranty Deed recorded as Liber 2293, page 166.
The location of said easement cannot be determined from the record document.

(13) Affidavit of Right of Way in favor of the County of Ottawa and the Covenants, Conditions and Restrictions contained in instrument recorded in Instrument No. 2013-0006185.
Said easement is not on, does not touch, and/or - based on the description contained in the record document - does not affect the surveyed property.

(14) Affidavit of Right of Way in favor of the County of Ottawa and the Covenants, Conditions and Restrictions contained in instrument recorded in Instrument No. 2013-0006189.
The easement described in this document is shown on this survey.

Sun Title Commitment No. 303898 Rev. No. 5, dated 12-10-24

[16] Right(s) of Way and/or Easement(s) and rights incidental thereto as granted in a document: Granted to Consumers Power Company (now known as Consumers Energy), Recording No. Liber 216, Page 565 (As to Parcel 1)
The location of said easement cannot be determined from the record document.

[17] Right(s) of Way and/or Easement(s) and rights incidental thereto, as granted in a document: Granted to: the City of Zeeland, a Michigan municipal corporation, Recording no. Liber 1412, Page 444 (AS to Parcel 1)
The easement described in this document is shown on this survey.

[18] Right(s) of Way and/or Easement(s) and rights incidental thereto, as granted in a document: Granted to: the Zeeland board of Public Works, a Department of the City of Zeeland, a Michigan municipal corporation, Recording No. 1815, Page 983 (As to Parcel 2)
The easement described in this document is shown on this survey.

[19] Water Main Easement, as recorded in Liber 1172, on Page 953. (As to Parcel 2)
The easement described in this document is shown on this survey, and is not on, does not touch, and/or - based on the description contained in the record document - does not affect the surveyed property.

[20] Right of way in favor of Consumers Power Company (now known as Consumers Energy), as recorded in Liber 1290, on Page 248. (As to Parcel 2)
The location of said easement cannot be determined from the record document.

[21] Right of way in favor of Consumers Power Company (now known as Consumers Energy), as recorded in Liber 1290, on Page 248. (As to Parcel 2)
The location of said easement cannot be determined from the record document.

Sun Title Commitment No. 306918 dated 3-7-25
No survey matters to depict

Sun Title Commitment No. 306919 dated 3-6-25

△10 Right of Way in favor of Consumers Power Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 254, page 309. Notice of Claim recorded in Liber 595, page 783.
The location of said easement cannot be determined from the record document.

△11 The terms, provisions and easement(s) contained in the document entitled Quitclaim Deed recorded September 12, 1988 as Liber 1290, page 248. Partial Release of Easement recorded in Liber 2545, page 478.
The location of said easement cannot be determined from the record document (L1290, P 248), and Surveyor has information indicating that said easement may have been released or otherwise terminated.(L2545, P478)

△14 Right-of-Way Grant in favor of Semco Energy and the Covenants, Conditions and Restrictions contained in instrument recorded in Instrument No. 2017-0002351.
The easement described in this document is shown on this survey.

Sun Title Commitment No. 303889 dated 11-4-24

⬡15 Right(s) of Way and/or Easement(s) and rights incidental thereto, as granted in a document: Granted to: the Board of Public Works, a Department of the City of Zeeland, a Michigan municipal corporation, Recording No: Liber 4763, Page 438.
The easement described in this document is shown on this survey.

⬡16 Easements and the terms, conditions and provisions thereof which are recited in the Affidavit of Right of Way recorded in Instrument No. 2013-0006189.
The easement described in this document is shown on this survey.

NEDERVELD
www.nederveld.com
800.222.1868
HOLLAND
730 Chicago Dr.
Holland, MI 49423
Phone: 616.393.0449
GRAND RAPIDS
217 Grandville Ave., Suite 302
Grand Rapids, MI 49503
Phone: 616.575.5190
ANN ARBOR
3037 Miller Rd.
Ann Arbor, MI 48103
Phone: 734.929.6963

PREPARED FOR:
Reckitt Zeeland
Aaron Holder

725 E Main Ave
Zeeland, MI 49464

CREATED:
Drawn: BS Date: 5-30-25

REVISIONS:

Revision	Drawn	Date
Rev: UTILITIES, WETLANDS	BS	7-22-25
Rev: STORM, BOUNDARY	BS	11-11-25
Rev: BOUNDARY & DESCRIPTION	BS	11-18-25
Rev: ADDITIONAL TOPO, EASEMENTS	BS	12-9-25

Mead Johnson-Zeeland

Topographic Survey

E. MAIN AVE.
PART OF THE SOUTHEAST 1/4 OF SECTION 18, T5N, R14W,
CITY OF ZEELAND, OTTAWA COUNTY, MICHIGAN

STAMP:
Scott A. Hendges
License No. 4001047953
PROFESSIONAL SURVEYOR

PROJECT NO: 25200662

SHEET NO: TO.4

SHEET: 5 OF 5

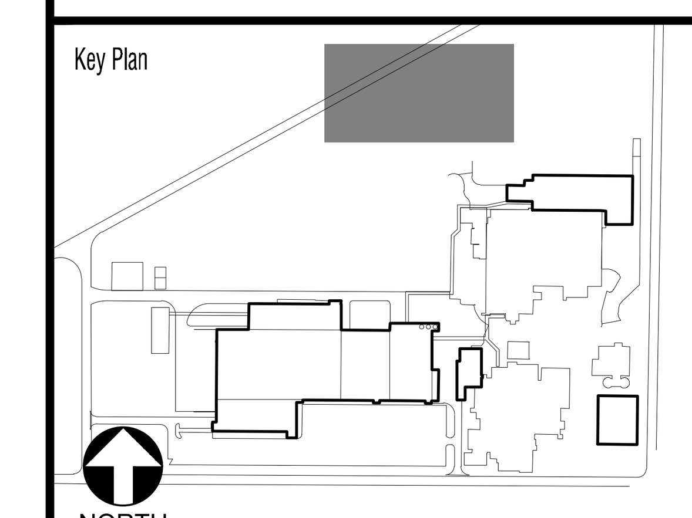
Received: 05/04/26
City of Zeeland, MI

ips
Integrated Project Services
Engineering
Design/Build
Compliance
Consulting
10601 MISSION ROAD
SUITE 240
LEAWOOD, KS 66206
913.345.9084 PHONE
www.ipsdb.com
IPS PROFESSIONAL ENGINEERS AND ARCHITECTS, PC.

Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Represenative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: EXISTING CONDITIONS

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER:			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:	ADS		
DESIGNER:	DGL		
DRAFTER:	MDS		
VENDOR NAME:	INTEGRATED PROJECT SERVICES		
VENDOR PROJECT NUMBER:	GL025120		
DISCIPLINE:	CIVIL		
SYSTEM NAME:	-		
SYSTEM NUMBER:	-		
EQUIPMENT TYPE:	-		
LEGACY NUMBER:		SHEET #:	ZSCST-1473-C105-EXISTING CONDITIONS
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:		DRAWING NUMBER:	C105
HARD COPY:			
DEPARTMENT:		SHEET:	7 OF 40

SEAL

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

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181 N. Broadway Ave
Milwaukee, WI 53202
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www.pierceengineers.com

VK CIVIL Vriesman & Korhorn
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

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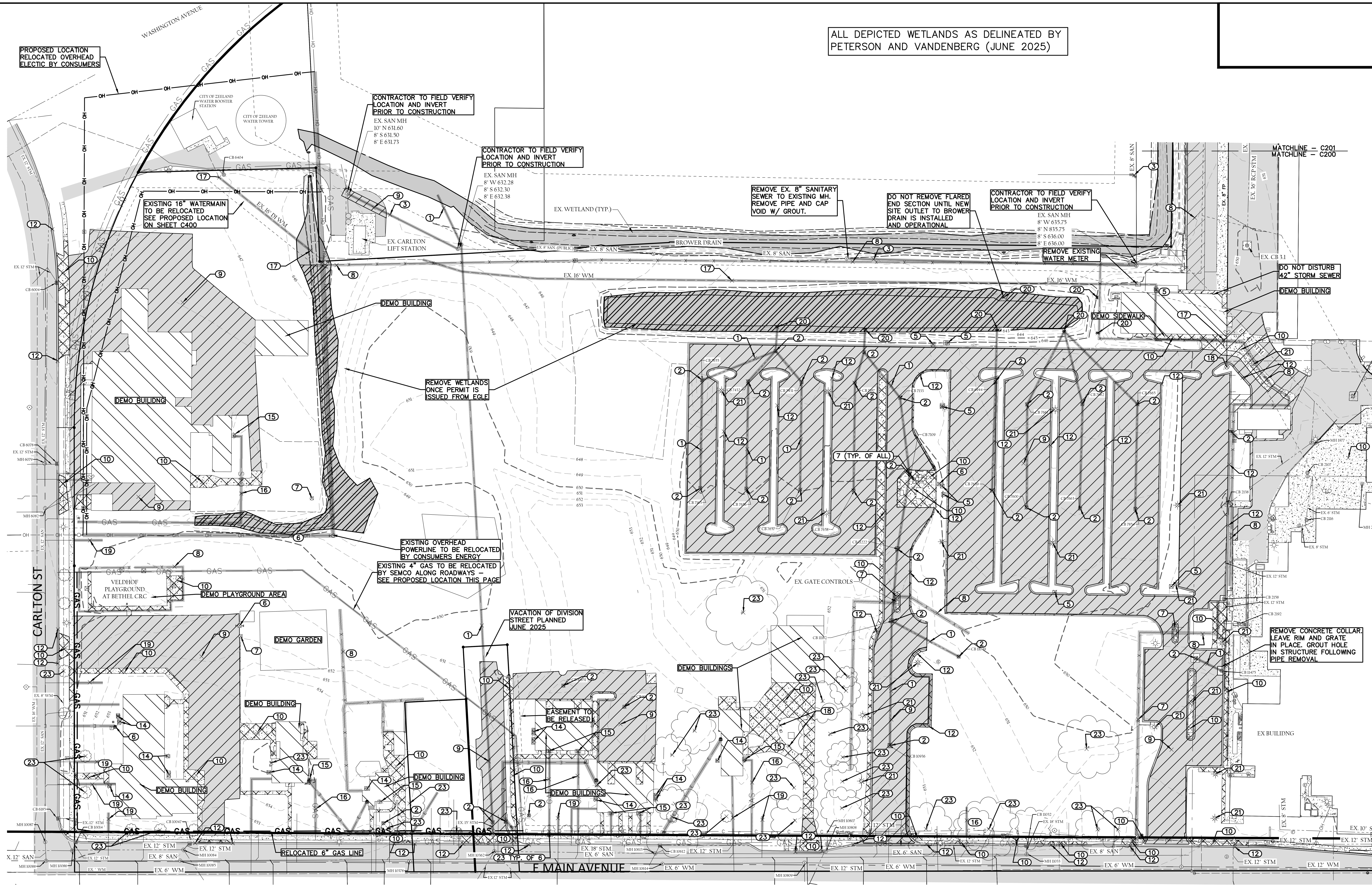

Received: 05/04/26
City of Zeeland, MI

DEMOLITION KEY NOTES

1. REMOVE STORM SEWER
2. REMOVE CB
3. REMOVE SANITARY SEWER
4. REMOVE MANHOLE
5. REMOVE ELECTRIC HANDHOLE
6. REMOVE ELECTRIC.
7. REMOVE GATE ARM, CONTROLS, AND BOLLARDS.
8. REMOVE FENCE
9. REMOVE HMA PAVEMENT FULL DEPTH.
10. REMOVE CONCRETE PAVEMENT FULL DEPTH.
11. REMOVE GRAVEL FULL DEPTH.
12. REMOVE CONC. CURB AND GUTTER.
13. REMOVE SIGN.
14. REMOVE AC UNIT.
15. REMOVE GAS METER.
16. REMOVE GAS SERVICE.
17. REMOVE WATERMAIN.
18. REMOVE HYDRANT AND VALVES.
19. CAP ALL HOUSE UTILITY SERVICE LEADS AT ROW LINE.
20. REMOVE RIP RAP AND FLARED END SECTION.
21. REMOVE LIGHT POLE AND CONDUIT.
22. REMOVE CLEANOUT
23. REMOVE TREES

DEMOLITION LEGEND

- HOT MIX ASPHALT REMOVAL
- CONCRETE & CURB REMOVAL
- BUILDING REMOVAL
- GRAVEL REMOVAL
- WETLAND REMOVAL
- UTILITY REMOVAL
- FENCE & WALL REMOVAL
- (00) REMOVE OBJECT

SYMBOL LEGEND

- EXISTING TREE
- TREE STUMP
- SIGN
- MAILBOX
- BOLLARD
- LIGHT POLE
- POWER POLE
- GUYWIRE
- COM/ELEC STRUCTURE
- GAS METER
- VALVE
- HYDRANT
- WELL
- CLEANOUT
- SANITARY SEWER MANHOLE
- STORM CATCH BASIN
- STORM MANHOLE
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- RIP RAP
- FLOW DIRECTION ARROW
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- PROPERTY CORNER – FOUND
- BENCHMARK/CONTROL POINT
- SOIL BORING

LINE LEGEND

- OH EXISTING OVERHEAD ELECTRIC
- E EXISTING ELECTRIC
- GAS EXISTING GAS
- C EXISTING COMMUNICATIONS
- X EXISTING FENCE
- RIGHT OF WAY
- EASEMENT
- EXISTING GRAVEL
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- FM EXISTING FORCEMAIN
- EXISTING WATERMAIN

HATCH LEGEND

- EXISTING HOT MIXED ASPHALT
- EXISTING GRAVEL
- EXISTING CONCRETE
- WETLANDS

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
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www.pierceengineers.com

VK CIVIL Vriesman & Korhorn
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

SCALE: 1" = 60'
0' 30' 60' 90' 120'

PRELIMINARY
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Compliance
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10601 MISSION ROAD
SUITE 240
LEAWOOD, KS 66206
913.345.9084 PHONE
www.ipsdb.com
IPS PROFESSIONAL ENGINEERS AND ARCHITECTS, PC.

Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DEMOLITION

project: VIVID

location: ZEELAND, MI

SEAL

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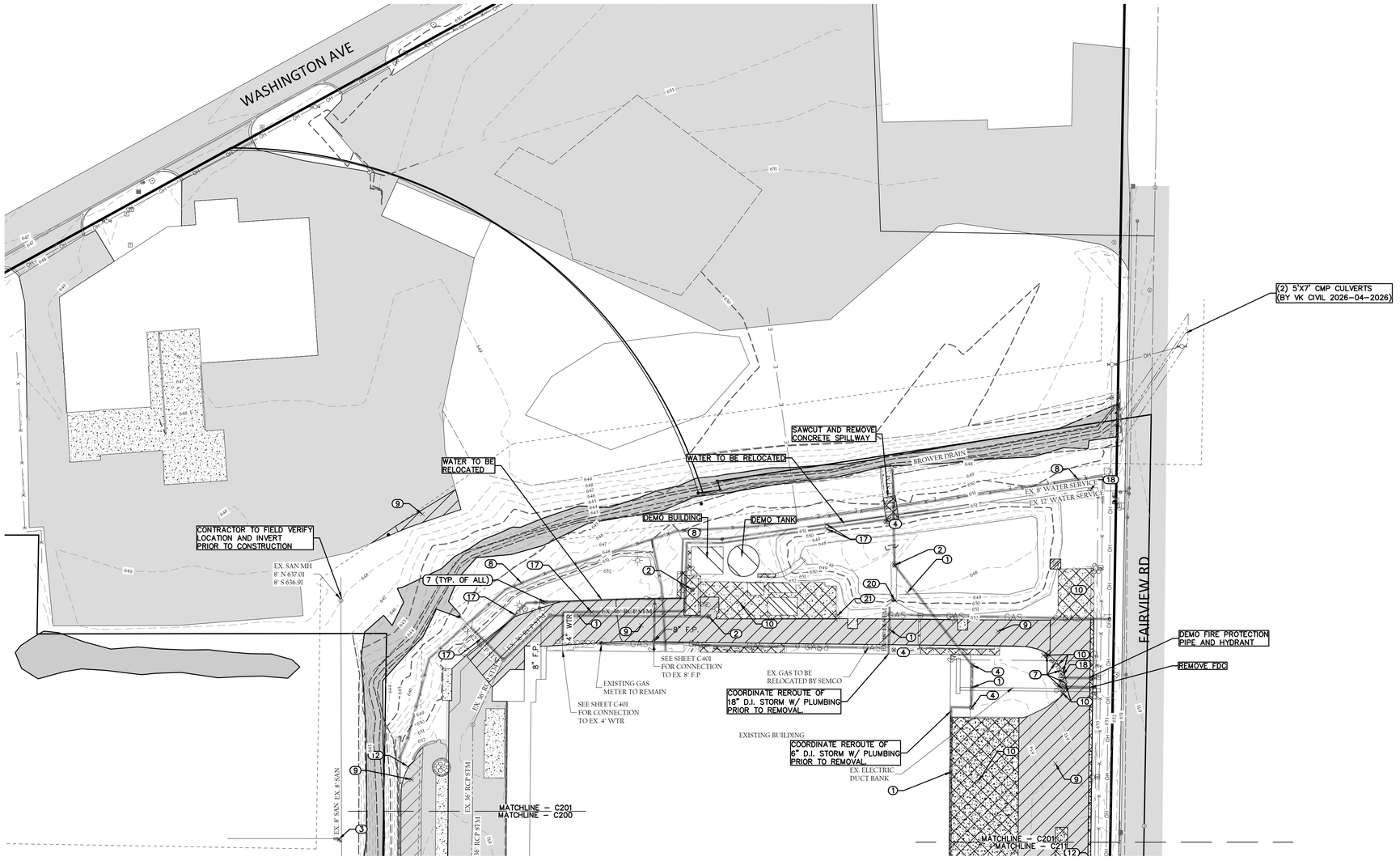
DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

C.A.R OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GLD25120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	SHEET #: ZSCSIT-1473-C200-DEMOLITION
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	DRAWING NUMBER C200
HARD COPY:	
DEPARTMENT:	SHEET: 8 OF 40

ALL DEPICTED WETLANDS AS DELINEATED BY PETERSON AND VANDENBERG (JUNE 2025)

Received: 05/04/26
City of Zeeland, MI



DEMOLITION KEY NOTES

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DEMOLITION LEGEND

- HOT MIX ASPHALT REMOVAL
- CONCRETE & CURB REMOVAL
- BUILDING REMOVAL
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SYMBOL LEGEND

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- COM/ELEC STRUCTURE
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- HYDRANT
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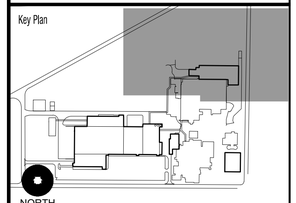
Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DEMOLITION

project: VIVID

location: ZEELAND, MI

SEAL

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

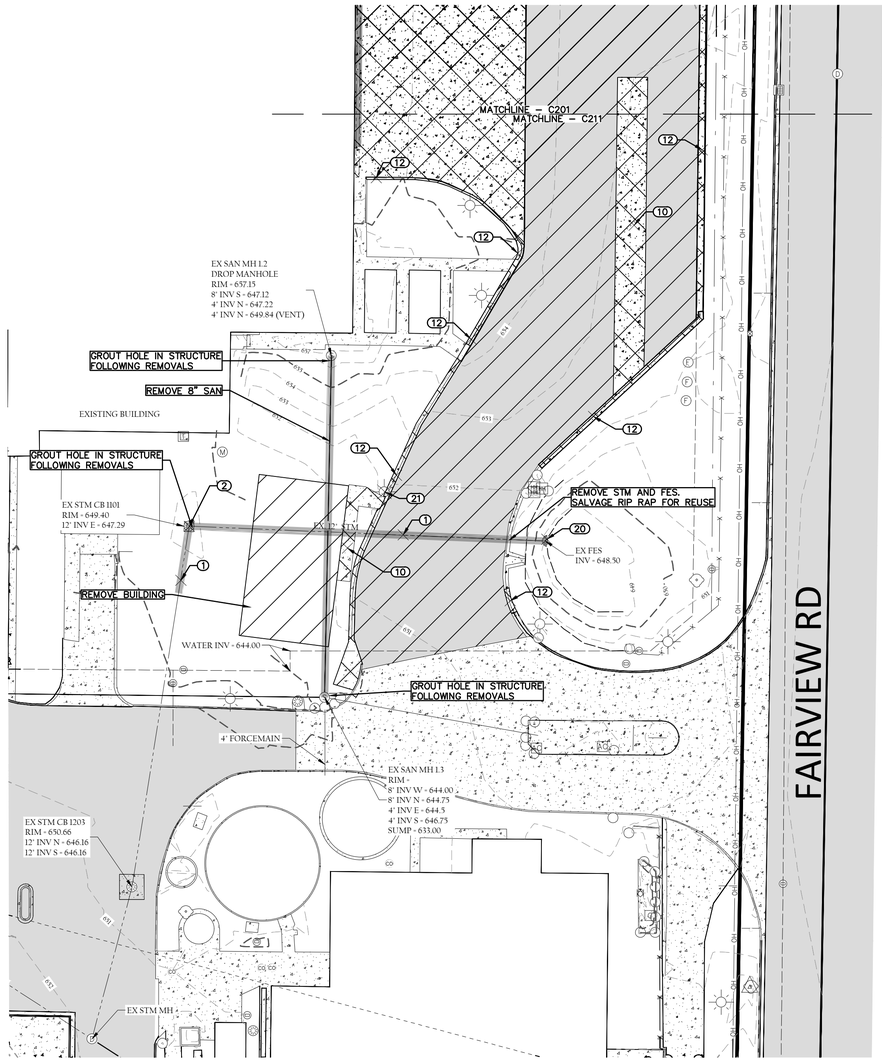
C.A.R. OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSC073-1473-C201-DEMOLITION

DRAWING NUMBER: C201

SHEET: 9 OF 40

ALL DEPICTED WETLANDS AS DELINEATED BY PETERSON AND VANDENBERG (JUNE 2025)



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SCALE: 1" = 30'
0' 15' 30' 45' 60'

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ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

Received: 05/04/26
City of Zeeland, MI

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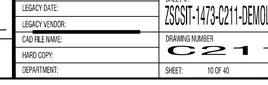
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

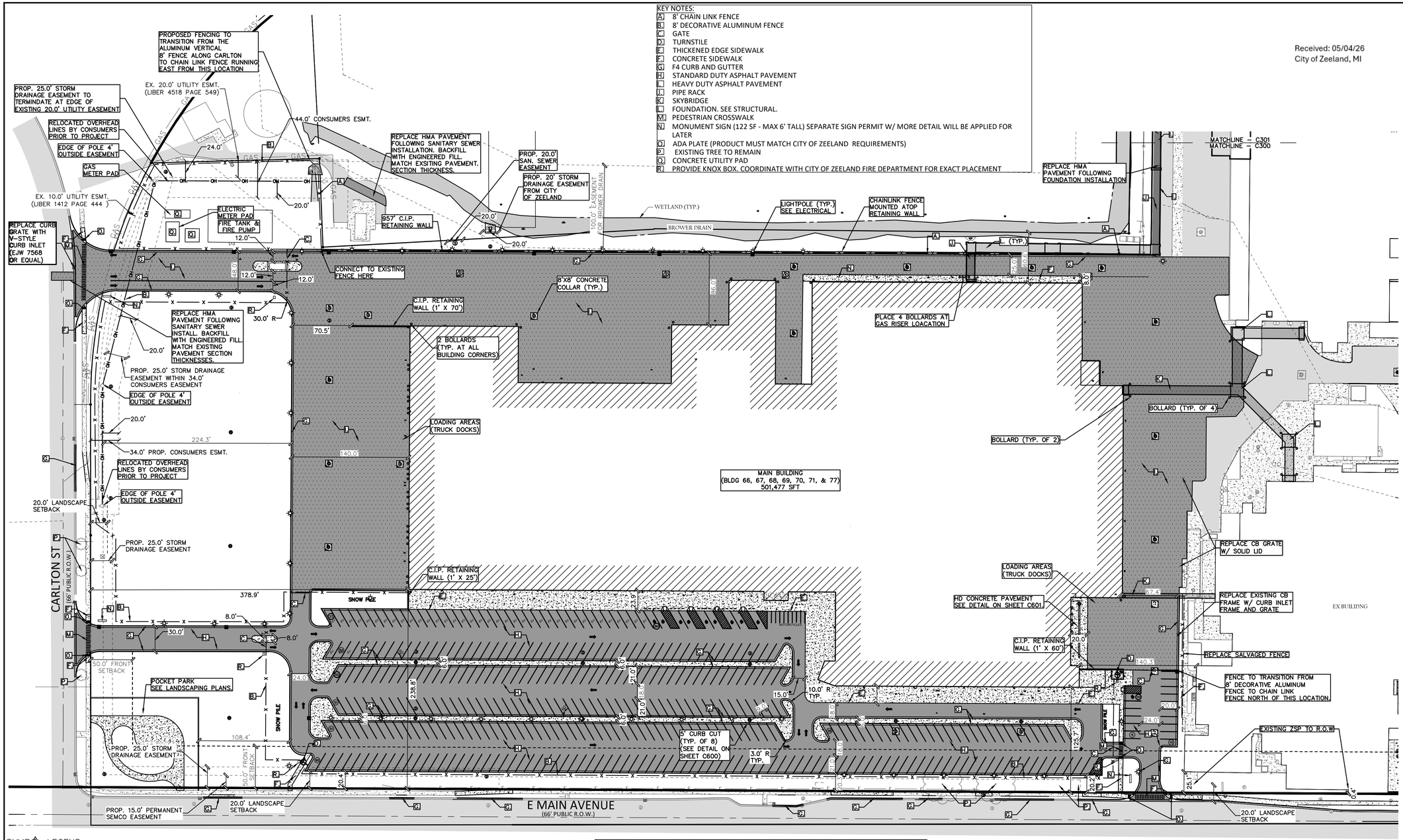
title: DEMOLITION

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL205120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C211-DEMOLITION
DRAWING NUMBER: C211
SHEET: 10 OF 40



SYMBOL LEGEND

- EXISTING TREE
- TREE STUMP
- SIGN
- MAILBOX
- BOLLARD
- LIGHT POLE
- POWER POLE
- GUYWIRE
- COM/ELEC STRUCTURE
- GAS METER
- VALVE
- HYDRANT
- WELL
- CLEANOUT
- SANITARY SEWER MANHOLE
- STORM CATCH BASIN
- STORM MANHOLE
- STORM FLARED END SECTION
- RIP RAP
- FLOW DIRECTION ARROW
- SECTION CORNER
- PROPERTY CORNER – SET
- PROPERTY CORNER – FOUND
- BENCHMARK/CONTROL POINT
- SOIL BORING
- ELECTRIC VEHICLE READY SPACES (NOT STRIPED)
- BOLLARD

LINE LEGEND

- EXISTING OVERHEAD ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING GAS
- PROPOSED GAS
- EXISTING COMMUNICATIONS
- PROPOSED COMMUNICATIONS
- EXISTING FENCE
- PROPOSED FENCE
- RIGHT OF WAY
- EASEMENT
- SETBACK
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING FORCEMAIN
- PROPOSED FORCEMAIN
- EXISTING WATERMAIN
- PROPOSED WATERMAIN
- ROAD CENTERLINE

HATCH LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED STANDARD DUTY ASPHALT PAVEMENT
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING CONCRETE
- PROPOSED CONCRETE
- WETLAND

PARKING COUNTS REQUIRED BY CITY ZEELAND:

OFFICE (1 PER 300 SQ. FT. OF USABLE FLOOR AREA)
MANUFACTURING, PROCESSING, AND RESEARCH (1 SPACE PER 1,000 SQ. FT. OF GROSS FLOOR AREA)
WAREHOUSE (1 SPACE PER 2,000 SQ. FT. OF GROSS AREA)

EXISTING ZIPP & ZSP:
OFFICE: (19175 SQ. FT.)(1/300)=64 SPACES
MANUFACTURING: (123,915 SQ. FT)(1/1000)=124 SPACES
WAREHOUSING: (27,550+24,175 SQ. FT.)=124 SPACES

(BLDG 66, 67, 68, 69, 70, 71, & 77)
OFFICE: (60,536 SQ. FT.)(1/300)=202 SPACES
MANUFACTURING: 426,105 SQ. FT. (1/1000)=427 SPACES
WAREHOUSE: (14,836 SQ. FT.)(1/2000)=8

ZIPP ADDITION (BLDG 73)
MANUFACTURING: (117,927 SQ. FT.)(1/1000)=118 SPACES

PARKING CALCULATION:
REQUIRED PARKING = 755 SPACES (BLDG 66, 67, 68, 69, 70, 71, & 77)
PROVIDED PARKING:
REGULAR SPACES =337
ADA SPACES = 8
EV SPACES = 40 (10% OF TOTAL)
TOTAL SPACES = 385

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
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SCALE: 1" = 60'
0' 30' 60' 90' 120'

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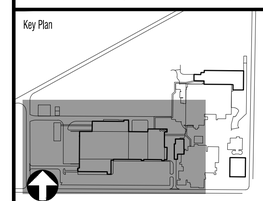
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: SITE LAYOUT

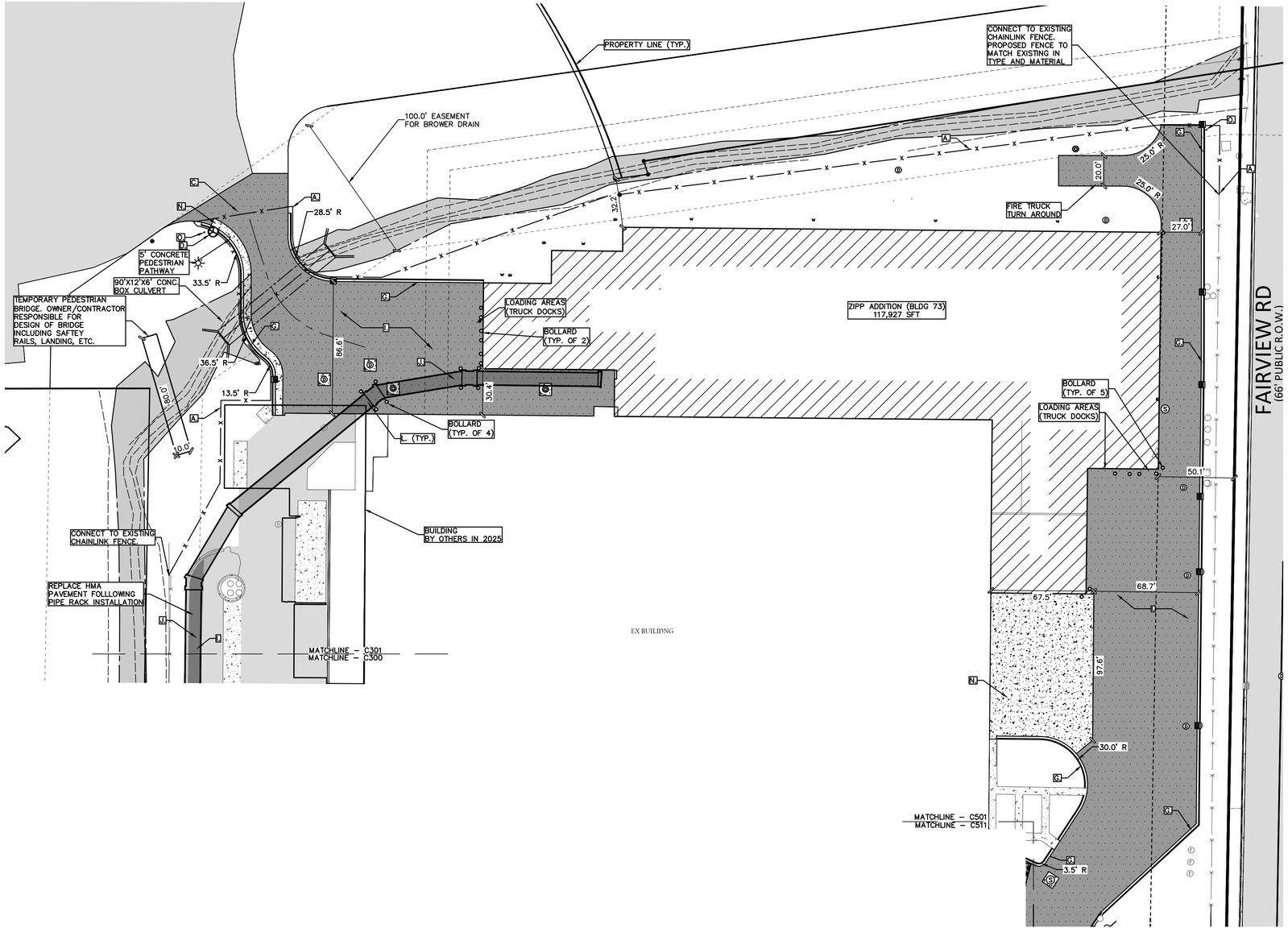
project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O. NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C300-SITE LAYOUT
DRAWING NUMBER: C300
SHEET: 11 OF 40

Received: 05/04/26
City of Zeeland, MI



SYMBOL LEGEND

- EXISTING TREE
- TREE STUMP
- SIGN
- MAILBOX
- BOLLARD
- LIGHT POLE
- POWER POLE
- GUYWIRE
- COM/ELEC STRUCTURE
- GAS METER
- VALVE
- HYDRANT
- WELL
- CLEANOUT
- SANITARY SEWER MANHOLE
- STORM CATCH BASIN
- STORM MANHOLE
- STORM FLARED END SECTION
- RIP RAP
- FLOW DIRECTION ARROW
- SECTION CORNER
- PROPERTY CORNER – SET
- PROPERTY CORNER – FOUND
- BENCHMARK/CONTROL POINT
- SOIL BORING
- BOLLARD

LINE LEGEND

- EXISTING OVERHEAD ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING GAS
- PROPOSED GAS
- EXISTING COMMUNICATIONS
- PROPOSED COMMUNICATIONS
- EXISTING FENCE
- PROPOSED FENCE
- RIGHT OF WAY
- EASEMENT
- SETBACK
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING FORCEMAIN
- PROPOSED FORCEMAIN
- EXISTING WATERMAIN
- PROPOSED WATERMAIN
- ROAD CENTERLINE

HATCH LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED STANDARD DUTY ASPHALT PAVEMENT
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING CONCRETE
- PROPOSED CONCRETE
- WETLAND

KEY NOTES:
- A 8' CHAIN LINK FENCE
- B 8' DECORATIVE ALUMINUM FENCE
- C GATE
- D TURNSTILE
- E THICKENED EDGE SIDEWALK
- F CONCRETE SIDEWALK
- G F4 CURB AND GUTTER
- H STANDARD DUTY ASPHALT PAVEMENT
- I HEAVY DUTY ASPHALT PAVEMENT
- J PIPE RACK
- K SKYBRIDGE
- L FOUNDATION. SEE STRUCTURAL.
- M PEDESTRIAN CROSSWALK
- N HEAVY DUTY CONCRETE PAVEMENT
- O PROVIDE KNOX BOX. COORDINATE WITH CITY OF ZEELAND FIRE DEPARTMENT FOR EXACT PLACEMENT

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SCALE: 1" = 40'
0' 20' 40' 60' 80'

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
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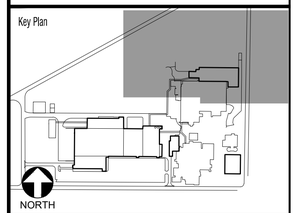
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: SITE LAYOUT

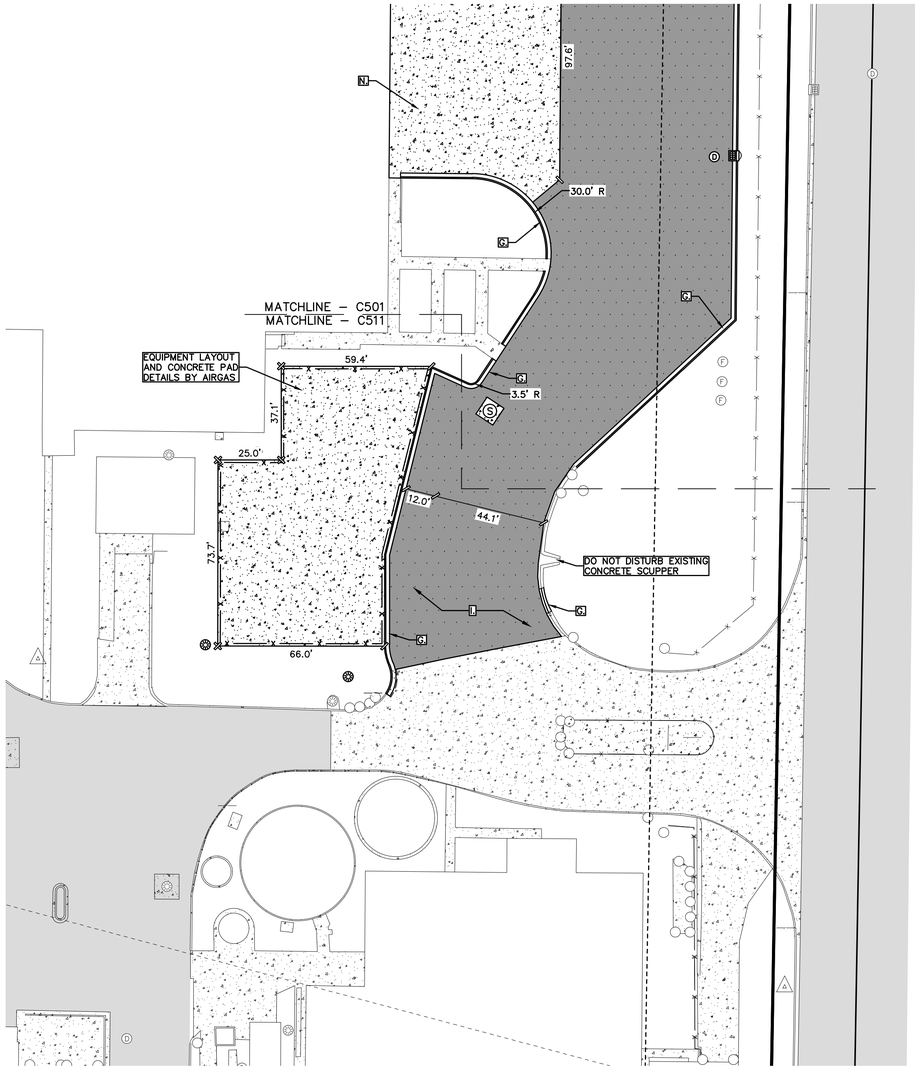
project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER:			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL205109
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSC073-1473-C301-SITE LAYOUT
DRAWING NUMBER: C301
SHEET: 12 OF 40

Received: 05/04/26
City of Zeeland, MI



KEY NOTES:
A. EXISTING TREE TO REMAIN
B. PERIMETER FENCE
C. GATE
D. TURNSTILE
E. THICKENED EDGE SIDEWALK
F. CONCRETE SIDEWALK
G. F4 CURB AND GUTTER
H. STANDARD DUTY ASPHALT PAVEMENT
I. HEAVY DUTY ASPHALT PAVEMENT
J. PIPE RACK
K. SKYBRIDGE
L. FOUNDATION. SEE STRUCTURAL.
M. PEDESTRIAN CROSSWALK
N. HEAVY DUTY CONCRETE PAVEMENT

SYMBOL LEGEND

- EXISTING TREE
- TREE STUMP
- SIGN
- MAILBOX
- BOLLARD
- LIGHT POLE
- POWER POLE
- GUYWIRE
- T E COM/ELEC STRUCTURE
- GAS METER
- VALVE
- HYDRANT
- WELL
- CLEANOUT
- SANITARY SEWER MANHOLE
- STORM CATCH BASIN
- STORM MANHOLE
- STORM FLARED END SECTION
- RIP RAP
- FLOW DIRECTION ARROW
- SECTION CORNER
- PROPERTY CORNER – SET
- PROPERTY CORNER – FOUND
- BENCHMARK/CONTROL POINT
- SOIL BORING
- BOLLARD

LINE LEGEND

- EXISTING OVERHEAD ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING GAS
- PROPOSED GAS
- EXISTING COMMUNICATIONS
- PROPOSED COMMUNICATIONS
- EXISTING FENCE
- PROPOSED FENCE
- RIGHT OF WAY
- EASEMENT
- SETBACK
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING FORCEMAIN
- PROPOSED FORCEMAIN
- EXISTING WATERMAIN
- PROPOSED WATERMAIN

HATCH LEGEND

- EXISTING HOT MIXED ASPHALT
- PROPOSED HOT MIXED ASPHALT
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING CONCRETE
- PROPOSED CONCRETE

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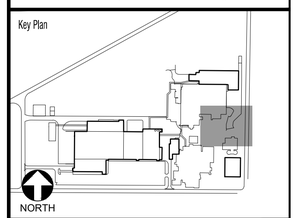
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: SITE LAYOUT

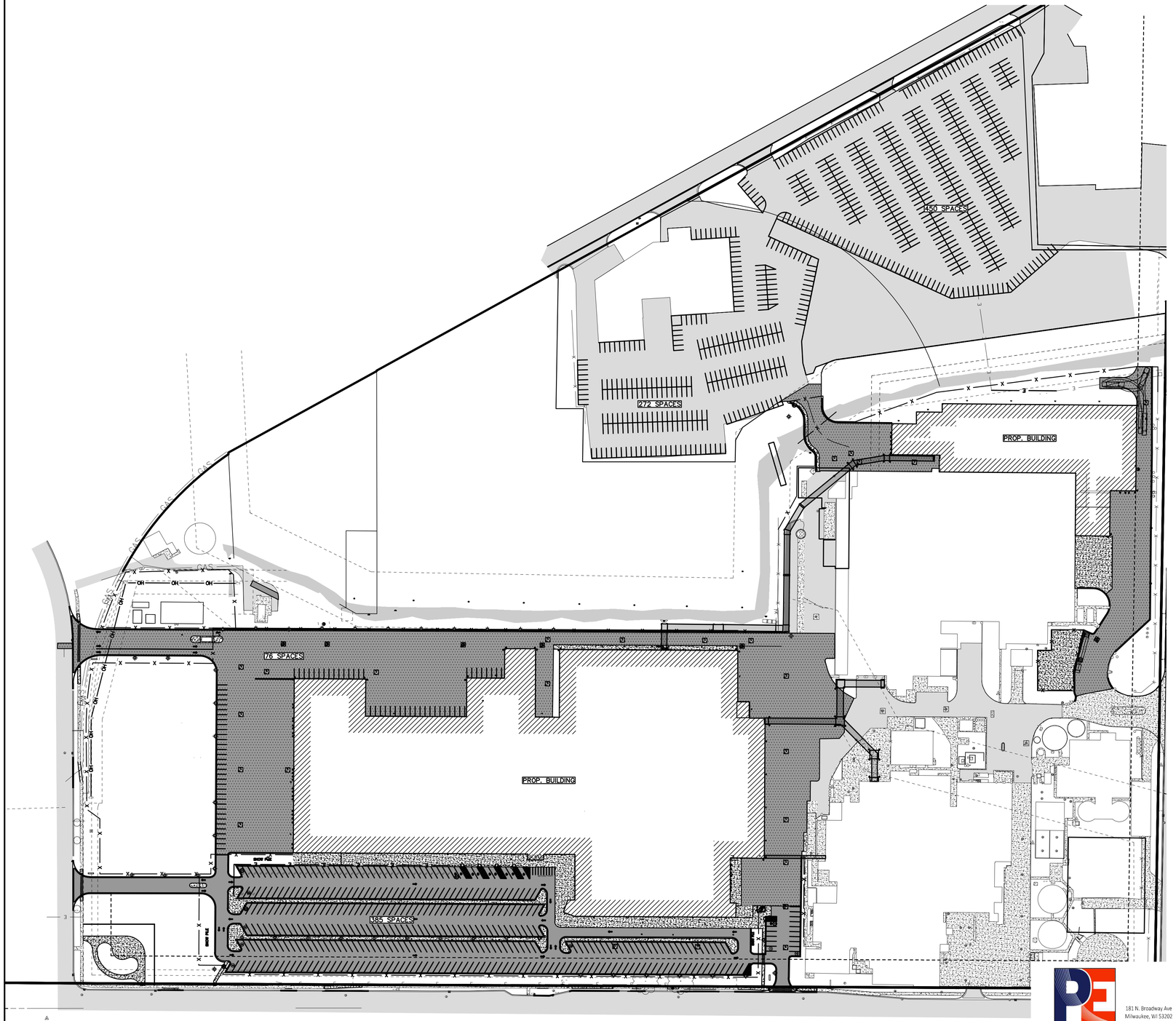
project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER

SCALE:	AS NOTED
DATE:	02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL026120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C311-SITE LAYOUT
DRAWING NUMBER: C311
SHEET: 13 OF 40



Received: 05/04/26
City of Zeeland, MI

PARKING COUNTS REQUIRED BY CITY ZEELAND:

OFFICE (1 PER 300 SQ. FT. OF USABLE FLOOR AREA)
MANUFACTURING, PROCESSING, AND RESEARCH (1 SPACE PER 1,000 SQ. FT. OF GROSS FLOOR AREA)
WAREHOUSE (1 SPACE PER 2,000 SQ. FT. OF GROSS AREA)

EXISTING ZIPP & ZSP:
OFFICE: (19175 SQ. FT.)(1/300)=64 SPACES
MANUFACTURING: (123,915 SQ. FT)(1/1000)=124 SPACES
WAREHOUSING: (27,550+24,175 SQ. FT.)=124 SPACES

SPECIALTY, UTILITIES, & FLAGSHIP:
OFFICE: (60,536 SQ. FT.)(1/300)=202 SPACES
MANUFACTURING: 426,105 SQ. FT. (1/1000)=427 SPACES
WAREHOUSE: (14,836 SQ. FT.)(1/2000)=8

ZIPP ADDITION
MANUFACTURING: (117,927 SQ. FT.)(1/1000)=118 SPACES

PARKING CALCULATION:
REQUIRED PARKING: 755 SPACES (SPECIALTY, UTILITIES, FLAGSHIP, & ZIPP ADDITION)
\+ 312 SPACES (EXISTING ZSP & ZIPP)
1067 SPACES REQUIRED

PROVIDED PARKING:
MAIN SITE (PROPOSED AS PART OF VIVID PROJECT)
REGULAR SPACES =337
ADA SPACES = 8
EV SPACES = 40

HIPOINT SITE (EXISTING PAVED AREA FOR PARKING)
REGULAR SPACES = 272

REITH RILEY PARCEL (FUTURE)
\+ REGULAR SPACES = 450

TOTAL SPACES PROVIDED = 1,107

PIERCE ENGINEERS
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Approved by

Drafter / Designer mm/dd/yy
Project Manager mm/dd/yy
Quality Represenative mm/dd/yy
Operation Manager mm/dd/yy
Maintenance Representative mm/dd/yy
Customer Representative / Document Manager mm/dd/yy

Key Plan

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

MeadJohnson NUTRITION

title: DEFERRED PARKING
project: VIVID
location: ZEELAND, MI

C.A.R OR P.O NUMBER			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:	ADS		
DESIGNER:	DGL		
DRAFTER:	MDS		
VENDOR NAME:	INTEGRATED PROJECT SERVICES		
VENDOR PROJECT NUMBER:	GLD25120		
DISCIPLINE:	CIVIL		
SYSTEM NAME:	-		
SYSTEM NUMBER:	-		
EQUIPMENT TYPE:	-		
LEGACY NUMBER:		SHEET #:	ZSCSIT-1473-C315-DEFERRED PARKING
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:		DRAWING NUMBER	C315
HARD COPY:			
DEPARTMENT:		SHEET:	14 OF 40

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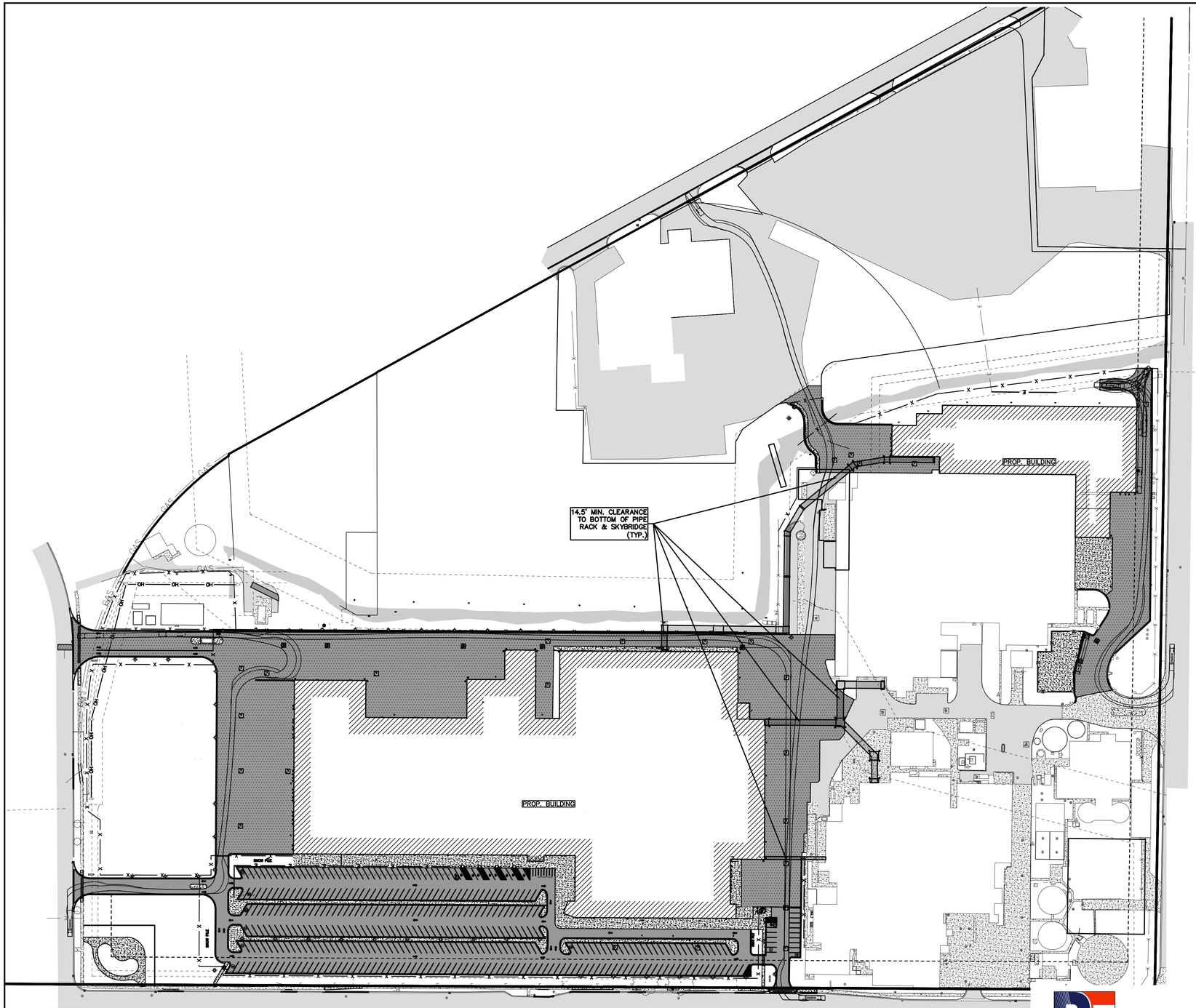
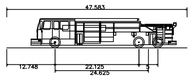
City of Zeeland, MI





City of Zeeland Fire Truck

Overall Length	47.583ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.0os
Max Wheel Angle	45.00°

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SCALE: 1" = 100'
0' 50' 100' 150' 200'

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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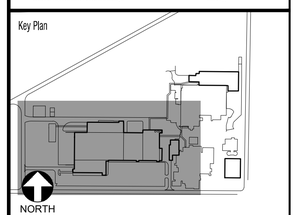
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: TRUCK TURNS

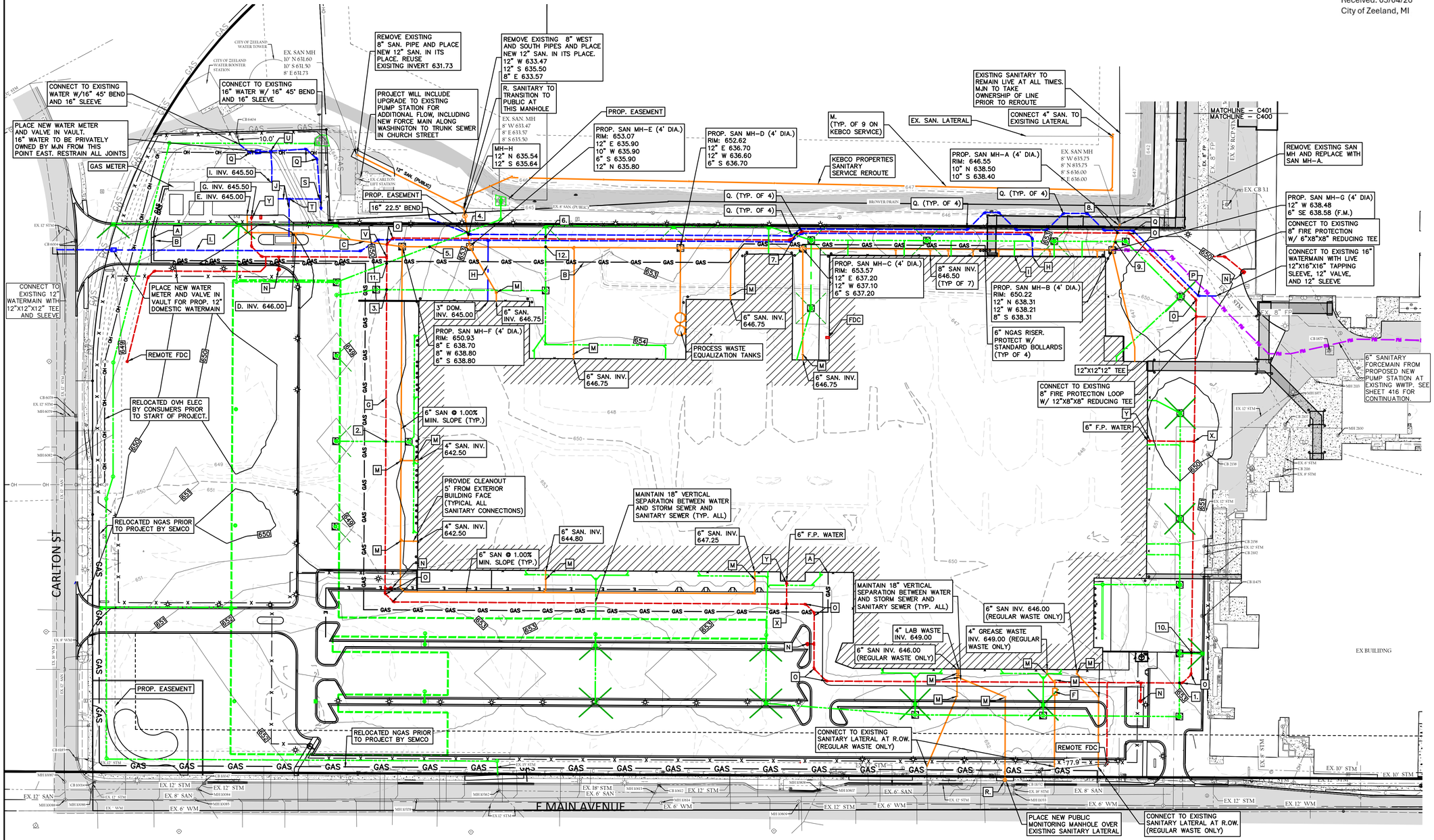
project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER:			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-C316-TRUCK TURNS
DRAWING NUMBER: C316
SHEET: 15 OF 40

Received: 05/04/26
City of Zeeland, MI



UTILITY CROSSING CHART
(APPROXIMATE PIPE INVERT AT UTILITY CROSSING)

#	WATERMAIN	STORM SEWER	SANITARY SEWER
1.	642.80	645.38	N/A
2.	641.00	643.57	N/A
3.	639.47	642.40	N/A
4.	646.16	641.16	632.43
5.	N/A	641.31	637.65
6.	645.92	642.79	N/A
7.	647.17	643.17	N/A
8.	643.57	N/A	635.70
9.	N/A	644.50	635.65
10.	645.65	647.75	N/A
11.	639.05	641.55	N/A
12	N/A	642.75	632.93

KEY NOTES:
A. 3" NATURAL GAS
B. 6" NATURAL GAS
C. 6" SANITARY
D. 4" SANITARY
E. 8" SANITARY.
F. 1000 GAL.GREASE INTERCEPTOR. SEE DETAIL ON SHEET 601
G. 12" FIRE WATER
H. 3" DOMESTIC WATER
I. 2" DOMESTIC WATER
J. 1.5" DOMESTIC WATER
K. NEW GAS METER
L. INSPECTION PORT (SEE PLUMBING PLANS)
M. CLEANOUT
N. PLACE FIRE HYDRANT ASSEMBLY W/ 6" LEAD
O. 12" 45° BEND (F.P)
P. 12" 45° BEND (DOMESTIC)
Q. 16" 45° BEND
R. INSPECTION MANHOLE W/FLOW METER SEE DETAIL ON SHEET C601
S. 16" X 1.5" X 1.5" TEE
T. 1.5" X 1.5" X 1.5" TEE
U. 16" X 12" X 12" TEE
V. 12" X 12" X 12" TEE
W. 8" X 12" X 12" TEE
Y. POST INDICATOR VALVE (P.I.V.)

LINE LEGEND
OH — PROPOSED OVERHEAD ELECTRIC
E — PROPOSED ELECTRIC
GAS — PROPOSED GAS
C — PROPOSED COMMUNICATIONS
PROPOSED STORM SEWER
PROPOSED 6" UNDERDRAIN W/ SOCK
PROPOSED SANITARY SEWER
FM — PROPOSED FORCEMAIN
PROPOSED WATERMAIN
PROPOSED FIRE PROTECTION

GENERAL NOTES:
1. REFER TO SHEET C601 FOR COMPREHENSIVE UTILITY PLAN NOTES
2. ALL SANITARY SEWER TO BE SDR-26.
3. ALL WATERMAIN TO BE C900.
4. ALL PROPOSED UTILITIES ON MJN PROPERTY THAT ARE NOT SPECIFICALLY CALLED OUT ARE INTENDED TO BE PRIVATE

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SCALE: 1" = 60'
0' 30' 60' 90' 120'

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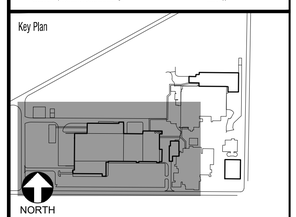
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: UTILITY PLAN

project: VIVID

location: ZEELAND, MI

SEAL

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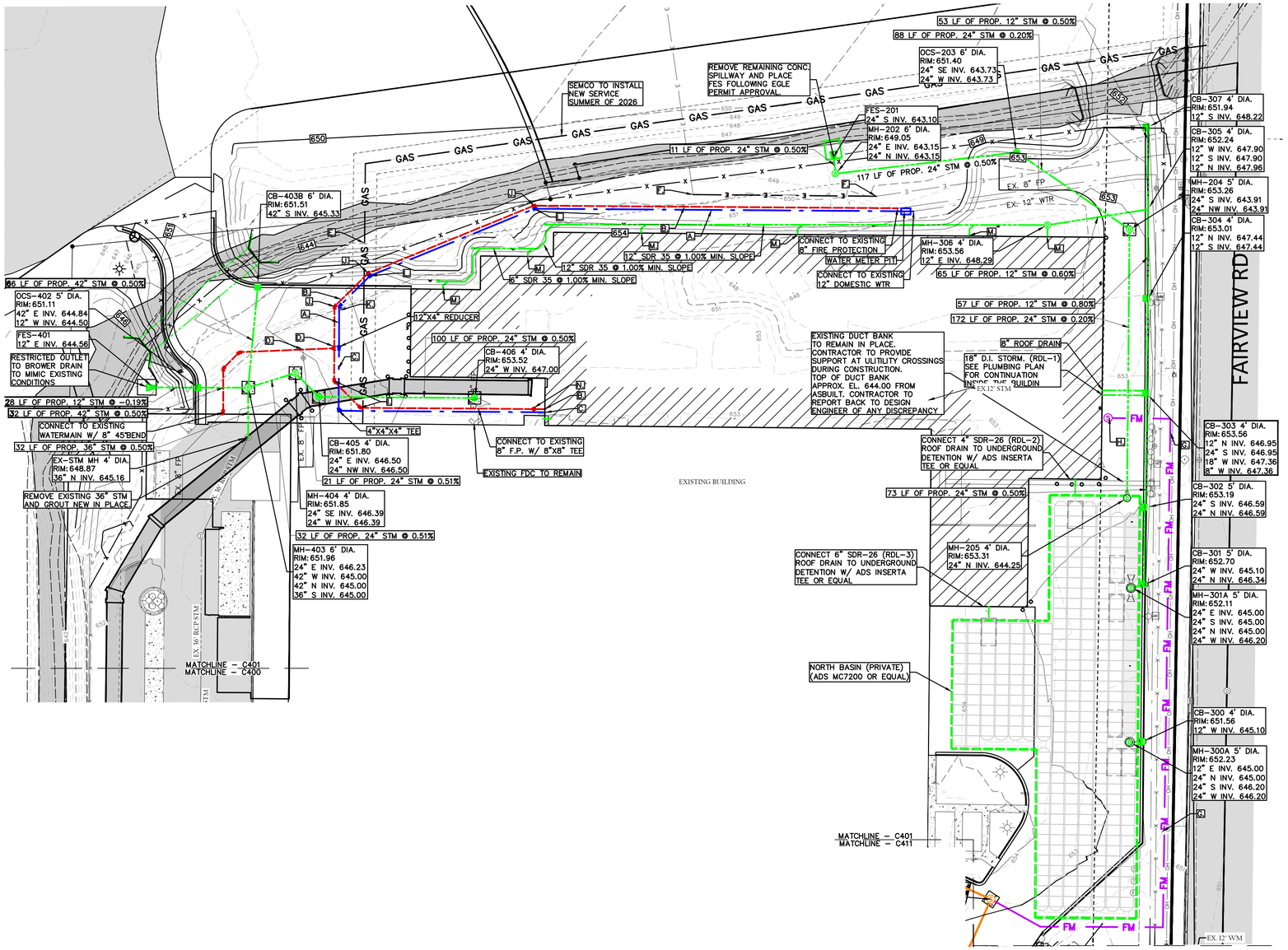
DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

C.A.R. OR P.O. NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY*:	
DEPARTMENT:	

SHEET #: ZSSSIT-1473-C400-UTILITY PLAN
DRAWING NUMBER: C400
SHEET: 16 OF 40

Received: 05/04/26
City of Zeeland, MI



LINE LEGEND

- OH — PROPOSED OVERHEAD ELECTRIC
- E — PROPOSED ELECTRIC
- GAS — GAS — PROPOSED GAS
- C — PROPOSED COMMUNICATIONS
- PROPOSED STORM SEWER
- PROPOSED 6" UNDERDRAIN W/ SOCK
- PROPOSED SANITARY SEWER
- FM — PROPOSED FORCEMAIN
- PROPOSED WATERMAIN
- PROPOSED FIRE PROTECTION

KEY NOTES:

A.	12" DOMESTIC WATER
B.	8" FIRE PROTECTION
C.	4" DOMESTIC WATER
D.	8" X 8" X 8" TEE.
E.	4" NATURAL GAS
F.	UNDERGROUND ELEC. REROUTE
G.	2" SANITARY FORCEMAIN
H.	LIFT STATION. SEE PLUMBING FOR DETAILS.
I.	8" 45° BEND
J.	8" 22.5° BEND
K.	12" 45° BEND
L.	12" 22.5°BEND
M.	6" ROOF DRAIN
N.	POST INDICATOR VALVE (P.I.V.)

GENERAL NOTES:
1. REFER TO SHEET C601 FOR COMPREHENSIVE UTILITY PLAN NOTES
2. ALL SANITARY SEWER TO BE SDR-26.
3. ALL WATERMAIN TO BE C900.
4. ALL STORM SEWER ON THIS PAGE SHALL HAVE WATER TIGHT JOINTS.
5. ALL STORM SEWER GREATER THAN 36" SHALL BE RCP.
6. ALL PROPOSED UTILITIES ON MJN PROPERTY THAT ARE NOT SPECIFICALLY CALLED OUT ARE INTENDED TO BE PRIVATE.

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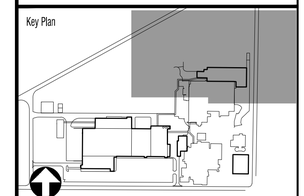
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: UTILITY PLAN

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL205120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSC073-1473-C401-UTILITY PLAN

DRAWING NUMBER: C401

SHEET: 17 OF 40

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SCALE: 1" = 40'
0' 20' 40' 60' 80'

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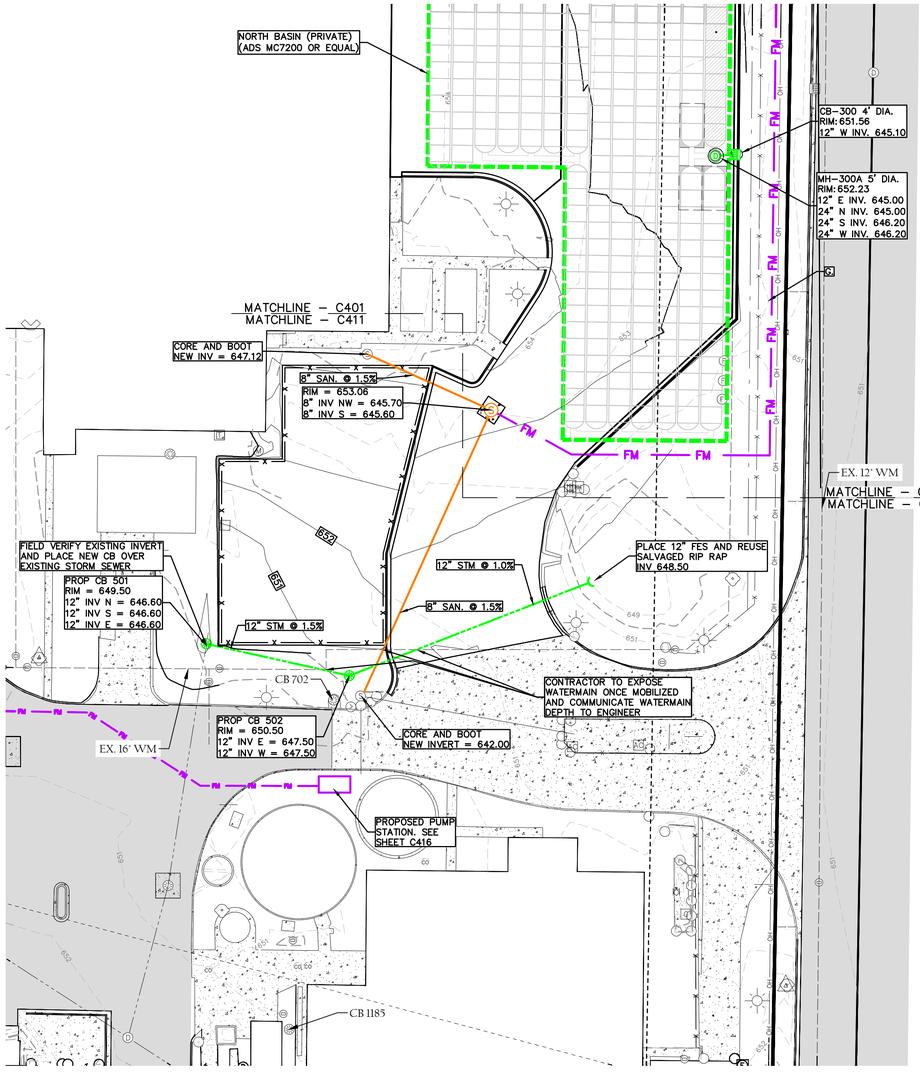
DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

Received: 05/04/26
City of Zeeland, MI



LINE LEGEND

- OH — PROPOSED OVERHEAD ELECTRIC
- E — PROPOSED ELECTRIC
- GAS — GAS — PROPOSED GAS
- C — PROPOSED COMMUNICATIONS
- PROPOSED STORM SEWER
- PROPOSED 6" UNDERDRAIN W/ SOCK
- PROPOSED SANITARY SEWER
- FM — PROPOSED FORCEMAIN
- PROPOSED WATERMAIN
- PROPOSED FIRE PROTECTION

KEY NOTES:

A.	12" DOMESTIC WATER
B.	8" FIRE PROTECTION
C.	4" DOMESTIC WATER
D.	CONNECT TO EXISTING W/ 8" X 8" X 8" TEE.
E.	4" NATURAL GAS
F.	UNDERGROUND ELEC. REROUTE
G.	2" SANITARY FORCEMAIN
H.	LIFT STATION. SEE PLUMBING FOR DETAILS.
I.	8" 45° BEND
J.	8" 22.5° BEND
K.	12" 45° BEND
L.	12" 22.5°BEND
M.	6" ROOF DRAIN

GENERAL NOTES:
A. REFER TO SHEET C601 FOR COMPREHENSIVE UTILITY PLAN NOTES
B. ALL SANITARY SEWER TO BE SDR–26.
C. ALL WATERMAIN TO BE C900.
D. ALL SANITARY FORCEMAIN TO BE HDPE.

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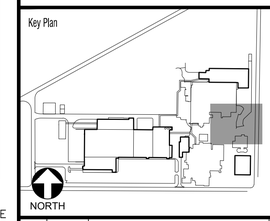
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: UTILITY PLAN

project: VIVID

location: ZEELAND, MI

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ENGINEER	ARCHITECT	REV BY	REV
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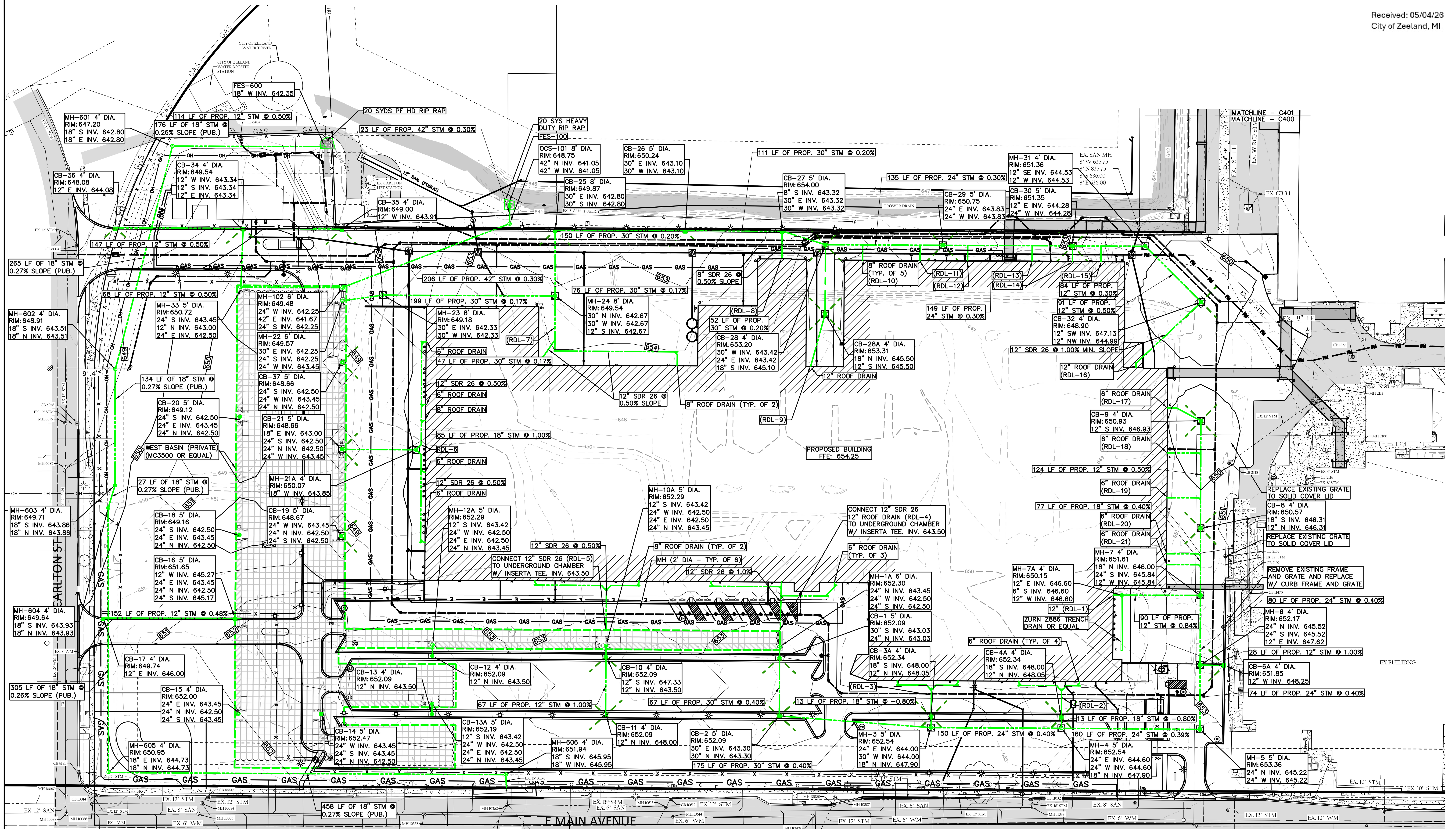
C.A.F. OR P.O. NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C411-UTILITY PLAN
DRAWING NUMBER: C411
SHEET: 18 OF 40

Received: 05/04/26
City of Zeeland, MI



ADD GENERAL NOTES.

A. ALL STORM ROOF DRAINS TO BE AT 1.0% MINIMUM SLOPE UNLESS OTHERWISE NOTED.
B. ALL ROOF DRAIN PIPING TO BE SDR 26 UNLESS OTHERWISE NOTED.
C. ALL PROPOSED STORM SEWER TO BE OWNED BY MJN W/ DISCHARGE TO BROWER DRAIN OWNED BY OCWRC.

LINE LEGEND

- OH — PROPOSED OVERHEAD ELECTRIC
- E — PROPOSED ELECTRIC
- GAS — PROPOSED GAS
- C — PROPOSED COMMUNICATIONS
- PROPOSED STORM SEWER
- PROPOSED 6" UNDERDRAIN W/ SOCK
- PROPOSED SANITARY SEWER
- FM — PROPOSED FORCEMAIN
- PROPOSED WATERMAIN
- PROPOSED FIRE PROTECTION

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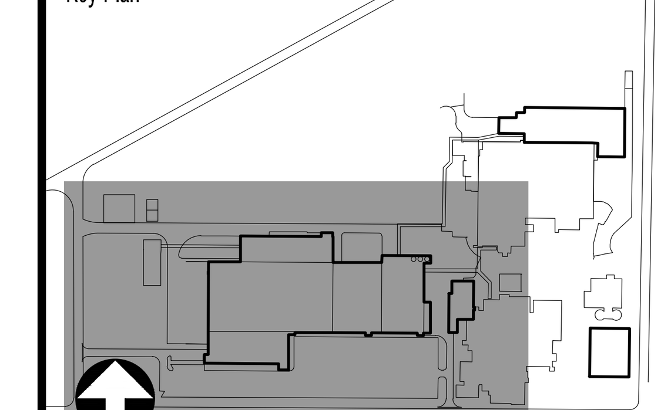
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: STORMWATER MANAGEMENT PLAN

project: VIVID

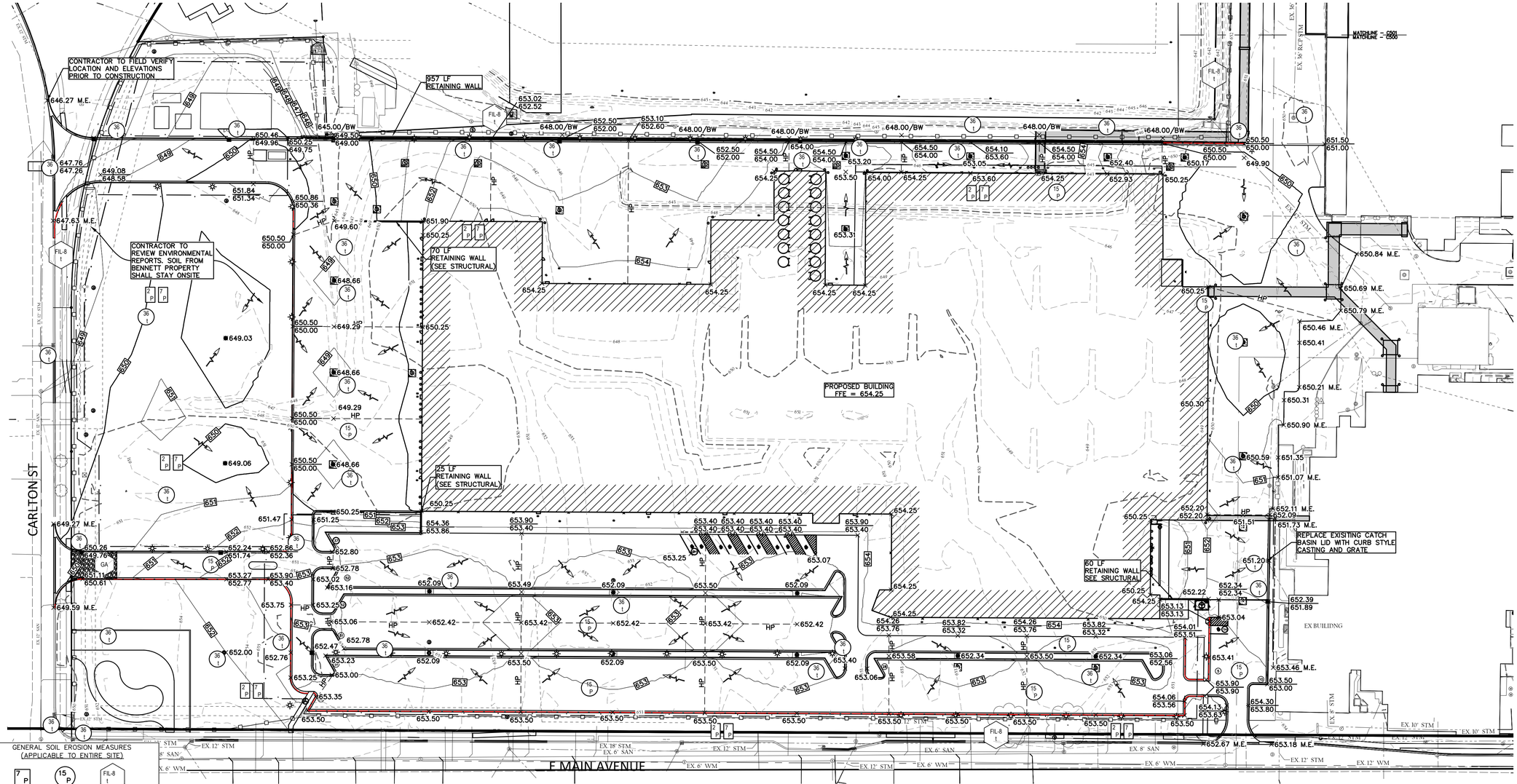
location: ZEELAND, MI

C.A.R. OR P.O NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	SHEET #: 25C3P-14TR-C415-STORMWATER MANAGEMENT PLAN
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	DRAWING NUMBER: C415
HARD COPY:	
DEPARTMENT:	SHEET: 19 OF 40

GRADING LEGEND

BW	BOTTOM OF WALL
TP	TOP OF PAVEMENT
GP	GUTTER PAN
HP	HIGH POINT
	SPILL OUT CURB
	FLOW DIRECTION

Received: 05/04/26
City of Zeeland, MI



GENERAL SOIL EROSION MEASURES (APPLICABLE TO ENTIRE SITE)

7 P — 15 P — FIL-8 t
14 t — 36 t — TP

LEGEND

- 34 t — MICHIGAN UNIFIED KEYING SYSTEM (MUKS)
- BEST MANAGEMENT PRACTICE (BMP)
- t — TEMPORARY CONTROL MEASURE (DURING CONSTRUCTION AND UNTIL PERMANENT MEASURES ARE ESTABLISHED
- P — PERMANENT CONTROL MEASURE

NOTE:

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES INDICATED ARE KNOWN OR ANTICIPATED CONTROL MEASURES NEEDED DURING TYPICAL CONSTRUCTION ACTIVITIES. ADDITIONAL CONTROL MEASURES MAY BE REQUIRED DUE TO CONSTRUCTION ACTIVITY, LOCATION, SOIL TYPE, WEATHER EVENT, ETC. ALL ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT.

CONTROL MEASURE KEY

- 2 P — SELECTIVE GRADING & SHAPING, PERMANENT
- 7 P — HYDROSEEDING, PERMANENT. TYPICAL IN ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES
- 14 t — AGGREGATE COVER, TEMPORARY. TYPICAL ON ALL STREETS DISTURBED BY CONSTRUCTION ACTIVITIES
- 15 P — PAVING, PERMANENT, TYPICAL ON ALL STREETS DISTURBED BY CONSTRUCTION ACTIVITIES.
- FIL-2 t — SEDIMENT BASIN BMP EXHIBIT 2, SEDIMENT BASIN, TEMPORARY REQUIRED FOR DE-WATERING ACTIVITIES, SEVERE SLOPES, AND LARGE DISTURBED AREAS.
- 36 t — SILTSACK, TEMPORARY, TYPICAL AT ALL CATCH BASINS WITHIN OR DISTURBED BY CONSTRUCTION ACTIVITIES
- 43 t — CULVERT SEDIMENT TRAP, TEMPORARY. TYPICAL AT ALL STORM OUTLETS AND STREAMS DISTURBED BY CONSTRUCTION ACTIVITIES
- FIL-8 t — FILTER BMP EXHIBIT 8A, SILT FENCE, TEMPORARY. TYPICAL IN ALL AREAS, ESPECIALLY ADJACENT TO STREAMS, PONDS, ETC. AND ALONG PROJECT UNITS.
- TP — TREE PROTECTION, INCLUDES TUNNELING UNDER TREES, TYPICAL FOR ALL TREES ENCOUNTERED UNLESS TREE REMOVAL IS DIRECTED BY THE ENGINEER.
- GA — DENOTES GRAVEL ACCESS APPROACH. APPROACH SHALL BE INSTALLED TO PROVIDE STABLE ACCESS TO ROADWAYS AND MINIMIZE DUST AND TRACKING OF MATERIALS ONTO PUBLIC STREETS AND HIGHWAYS. THE APPROACH SHALL BE A MIN. OF 12' WIDE, 6" DEEP, AND CONSIST OF 2"-4" AGGREGATE.

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Drafter / Designer	mm/dd/yy
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Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
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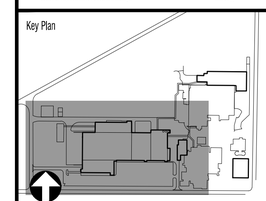
Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: GRADING PLAN

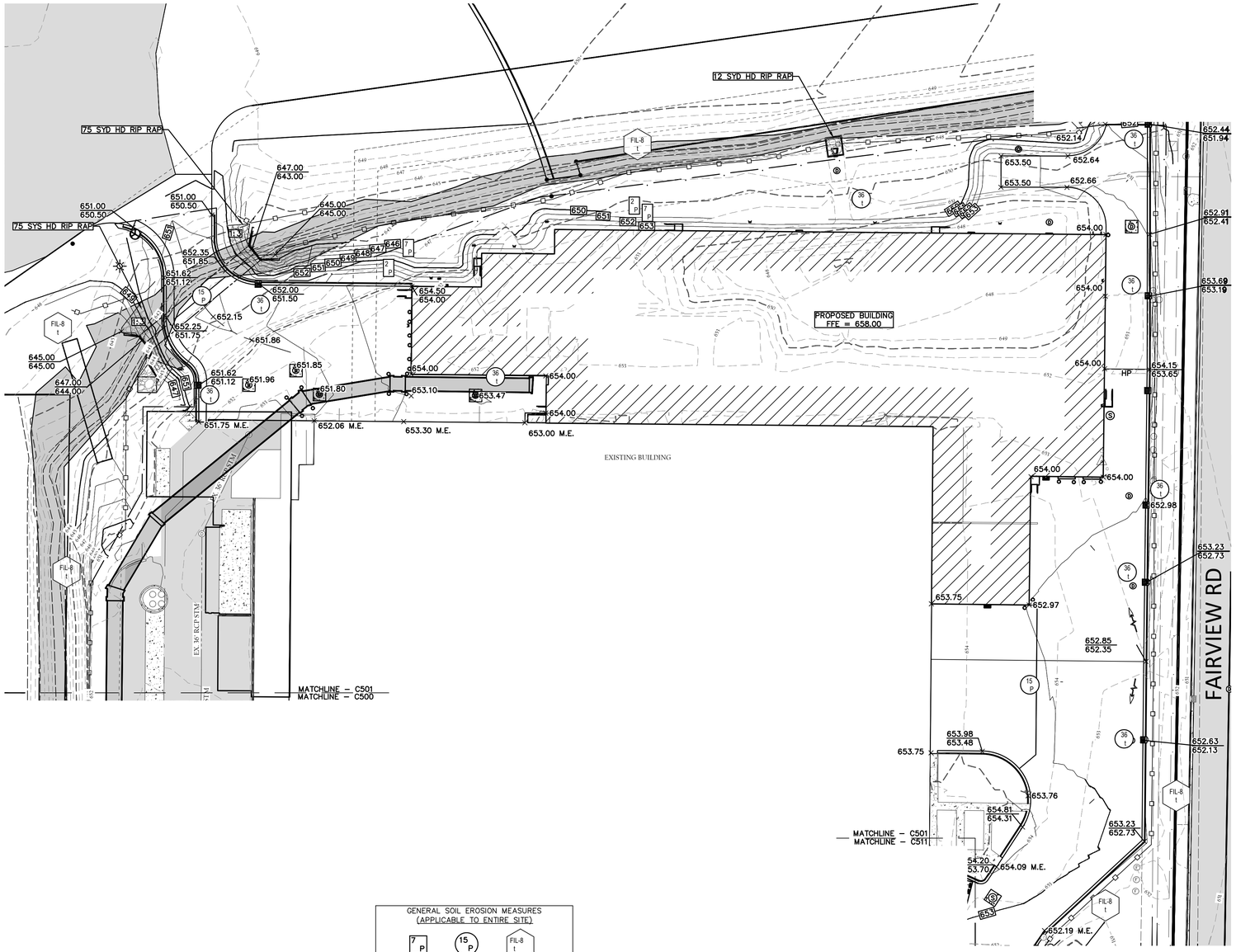
project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O. NUMBER:			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL205120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-0500-GRADING PLAN
DRAWING NUMBER: C500
SHEET: 21 OF 40

Received: 05/04/26
City of Zeeland, MI



GRADING LEGEND

BW	BOTTOM OF WALL
TP	TOP OF PAVEMENT
GP	GUTTER PAN
HP	HIGH POINT
	SPILL OUT CURB
	FLOW DIRECTION

CONTROL MEASURE KEY

- 2 P — SELECTIVE GRADING & SHAPING, PERMANENT
- 7 P — HYDROSEEDING, PERMANENT. TYPICAL IN ALL NON–PAVED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES
- 14 t — AGGREGATE COVER, TEMPORARY. TYPICAL ON ALL STREETS DISTURBED BY CONSTRUCTION ACTIVITIES
- 15 P — PAVING, PERMANENT, TYPICAL ON ALL STREETS DISTURBED BY CONSTRUCTION ACTIVITIES.
- FIL-2 t — SEDIMENT BASIN BMP EXHIBIT 2, SEDIMENT BASIN, TEMPORARY REQUIRED FOR DE–WATERING ACTIVITIES, SEVERE SLOPES, AND LARGE DISTURBED AREAS.
- 36 t — SILTSACK, TEMPORARY, TYPICAL AT ALL CATCH BASINS WITHIN OR DISTURBED BY CONSTRUCTION ACTIVITIES
- 43 t — CULVERT SEDIMENT TRAP, TEMPORARY. TYPICAL AT ALL STORM OUTLETS AND STREAMS DISTURBED BY CONSTRUCTION ACTIVITIES
- FIL-8 t — FILTER BMP EXHIBIT 8A, SILT FENCE, TEMPORARY. TYPICAL IN ALL AREAS, ESPECIALLY ADJACENT TO STREAMS, PONDS, ETC. AND ALONG PROJECT UNITS.
- TP — TREE PROTECTION, INCLUDES TUNNELING UNDER TREES, TYPICAL FOR ALL TREES ENCOUNTERED UNLESS TREE REMOVAL IS DIRECTED BY THE ENGINEER.
- GA — DENOTES GRAVEL ACCESS APPROACH. APPROACH SHALL BE INSTALLED TO PROVIDE STABLE ACCESS TO ROADWAYS AND MINIMIZE DUST AND TRACKING OF MATERIALS ONTO PUBLIC STREETS AND HIGHWAYS. THE APPROACH SHALL BE A MIN. OF 12' WIDE, 6" DEEP, AND CONSIST OF 2"–4" AGGREGATE.

GENERAL SOIL EROSION MEASURES
(APPLICABLE TO ENTIRE SITE)

7 P | 15 P | FIL-8 t | 14 t | 36 t | TP

LEGEND

- 34 t — MICHIGAN UNIFIED KEYING SYSTEM (MUKS)
- BEST MANAGEMENT PRACTICE (BMP)
- t — TEMPORARY CONTROL MEASURE (DURING CONSTRUCTION AND UNTIL PERMANENT MEASURES ARE ESTABLISHED
- P — PERMANENT CONTROL MEASURE

NOTE:

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES INDICATED ARE KNOWN OR ANTICIPATED CONTROL MEASURES NEEDED DURING TYPICAL CONSTRUCTION ACTIVITIES. ADDITIONAL CONTROL MEASURES MAY BE REQUIRED DUE TO CONSTRUCTION ACTIVITY, LOCATION, SOIL TYPE, WEATHER EVENT, ETC. ALL ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT.

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VK CIVIL Vriesman & Korhorn
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

SCALE: 1" = 40'
0' 20' 40' 60' 80'

PRELIMINARY
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SEAL

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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LEAWOOD, KS 66206
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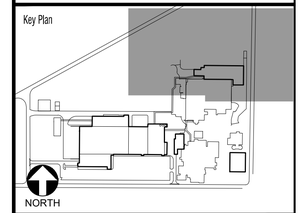
Approved by

Drafter / Designer — mm/dd/yy
Project Manager — mm/dd/yy
Quality Representative — mm/dd/yy
Operation Manager — mm/dd/yy
Maintenance Representative — mm/dd/yy
Customer Representative / Document Manager — mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: GRADING PLAN

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL026120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSC079-1473-C501-GRADING PLAN
DRAWING NUMBER: C501
SHEET: 22 OF 40

Received: 05/04/26
City of Zeeland, MI

CONTROL MEASURE KEY

- 2 P — SELECTIVE GRADING & SHAPING, PERMANENT
- 7 P — HYDROSEEDING, PERMANENT. TYPICAL IN ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES
- 14 t — AGGREGATE COVER, TEMPORARY. TYPICAL ON ALL STREETS DISTURBED BY CONSTRUCTION ACTIVITIES
- 15 P — PAVING, PERMANENT, TYPICAL ON ALL STREETS DISTURBED BY CONSTRUCTION ACTIVITIES.
- FIL-2 t — SEDIMENT BASIN BMP EXHIBIT 2, SEDIMENT BASIN, TEMPORARY REQUIRED FOR DE-WATERING ACTIVITIES, SEVERE SLOPES, AND LARGE DISTURBED AREAS.
- 36 t — SILTSACK, TEMPORARY, TYPICAL AT ALL CATCH BASINS WITHIN OR DISTURBED BY CONSTRUCTION ACTIVITIES
- 43 t — CULVERT SEDIMENT TRAP, TEMPORARY. TYPICAL AT ALL STORM OUTLETS AND STREAMS DISTURBED BY CONSTRUCTION ACTIVITIES
- FIL-8 t — FILTER BMP EXHIBIT 8A, SILT FENCE, TEMPORARY. TYPICAL IN ALL AREAS, ESPECIALLY ADJACENT TO STREAMS, PONDS, ETC. AND ALONG PROJECT UNITS.
- TP — TREE PROTECTION, INCLUDES TUNNELING UNDER TREES, TYPICAL FOR ALL TREES ENCOUNTERED UNLESS TREE REMOVAL IS DIRECTED BY THE ENGINEER.
- GA — DENOTES GRAVEL ACCESS APPROACH. APPROACH SHALL BE INSTALLED TO PROVIDE STABLE ACCESS TO ROADWAYS AND MINIMIZE DUST AND TRACKING OF MATERIALS ONTO PUBLIC STREETS AND HIGHWAYS. THE APPROACH SHALL BE A MIN. OF 12' WIDE, 6" DEEP, AND CONSIST OF 2"-4" AGGREGATE.

GENERAL SOIL EROSION MEASURES
(APPLICABLE TO ENTIRE SITE)

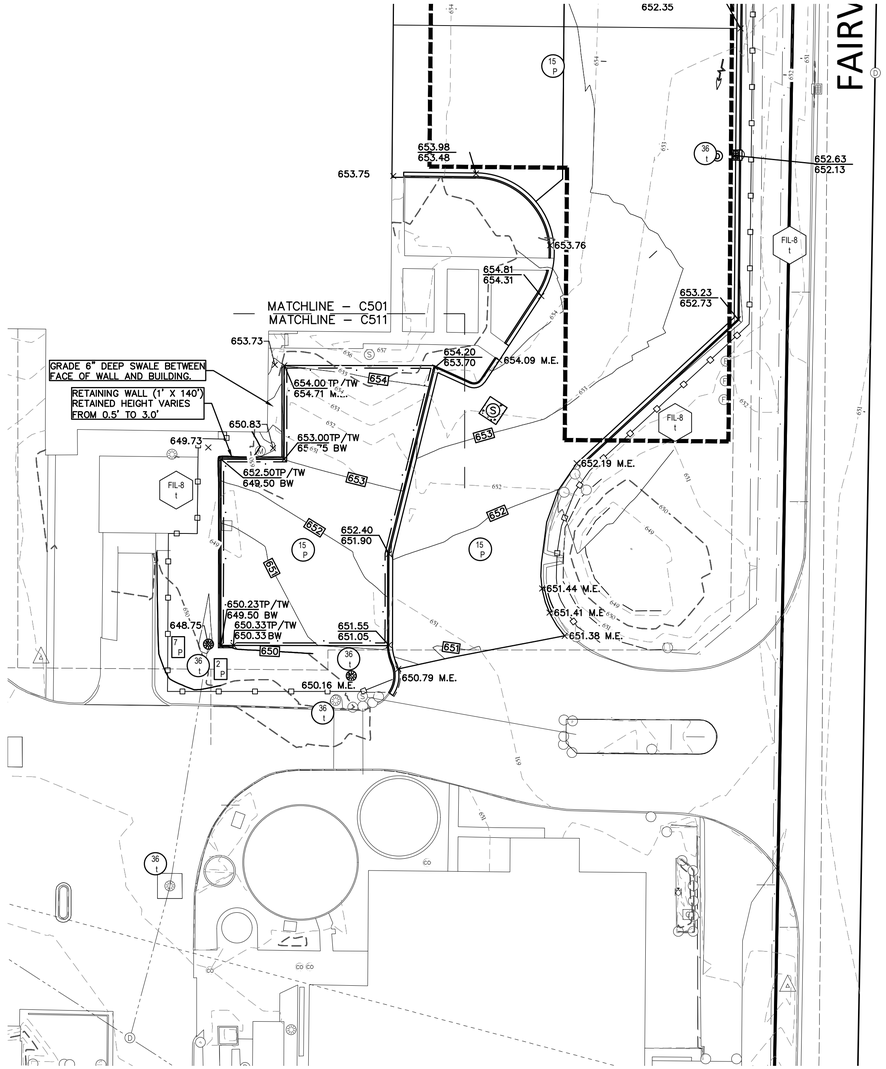
7 P · 15 P · FIL-8 t · 14 t · 36 t · TP

LEGEND

- 34 t — MICHIGAN UNIFIED KEYING SYSTEM (MUKS)
- BEST MANAGEMENT PRACTICE (BMP)
- t — TEMPORARY CONTROL MEASURE (DURING CONSTRUCTION AND UNTIL PERMANENT MEASURES ARE ESTABLISHED
- P — PERMANENT CONTROL MEASURE

NOTE:

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES INDICATED ARE KNOWN OR ANTICIPATED CONTROL MEASURES NEEDED DURING TYPICAL CONSTRUCTION ACTIVITIES. ADDITIONAL CONTROL MEASURES MAY BE REQUIRED DUE TO CONSTRUCTION ACTIVITY, LOCATION, SOIL TYPE, WEATHER EVENT, ETC. ALL ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT.



GRADING LEGEND

- BW — BOTTOM OF WALL
- TP — TOP OF PAVEMENT
- GP — GUTTER PAN
- HP — HIGH POINT
- SPILL OUT CURB
- FLOW DIRECTION

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(269) 697-7120

SCALE: 1" = 30'
0' 15' 30' 45' 60'

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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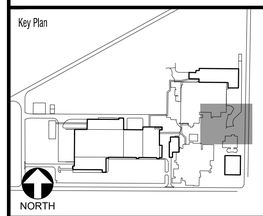
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

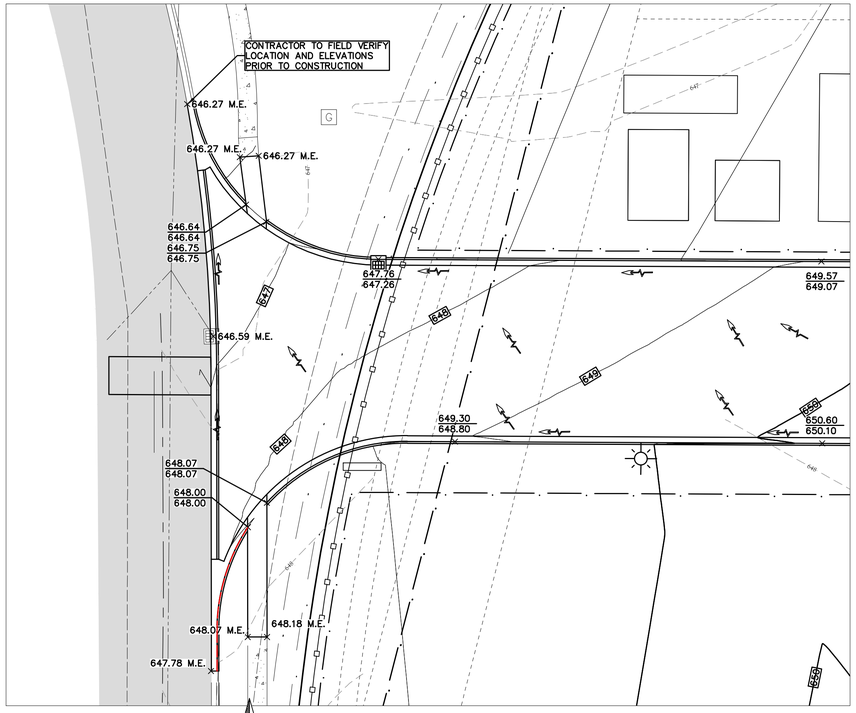
title: GRADING PLAN

project: VIVID

location: ZEELAND, MI

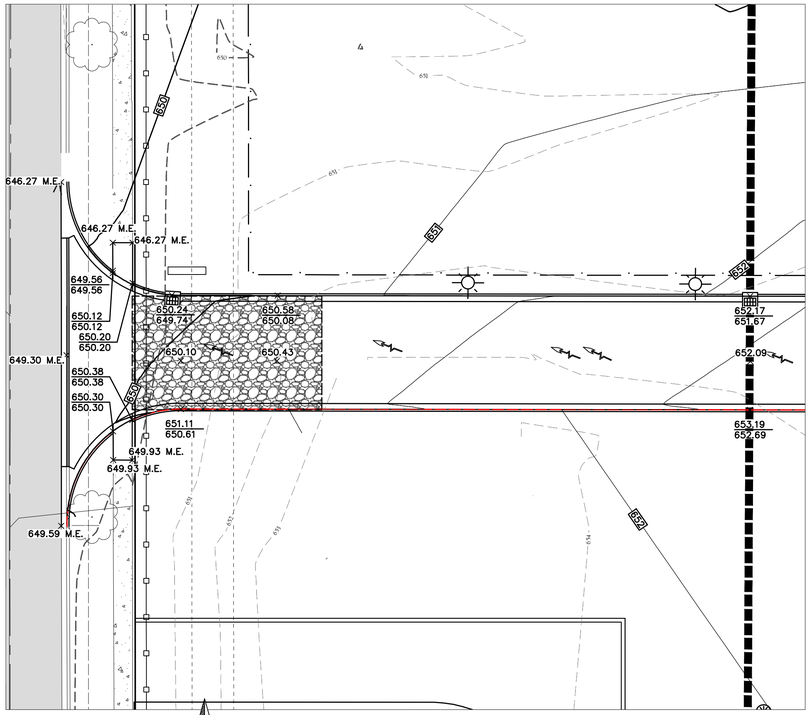
C.A.R. OR P.O NUMBER	
SCALE:	AS NOTED
DATE:	02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL026120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSSIT-1473-0511-GRADING PLAN
DRAWING NUMBER: C511
SHEET: 23 OF 40



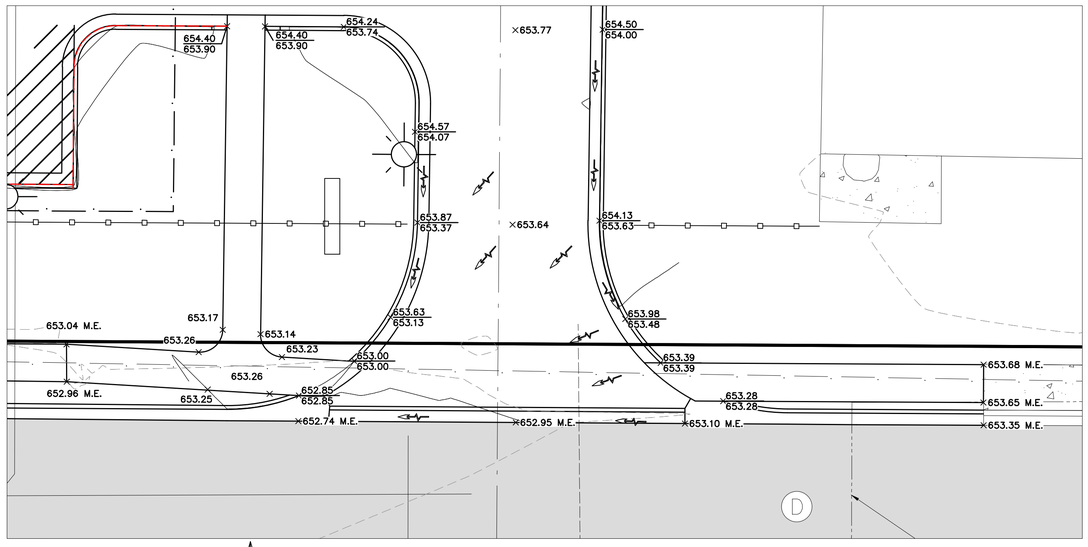
NW SITE ENTRANCE AT CARLTON STREET

SCALE: 1"=20'



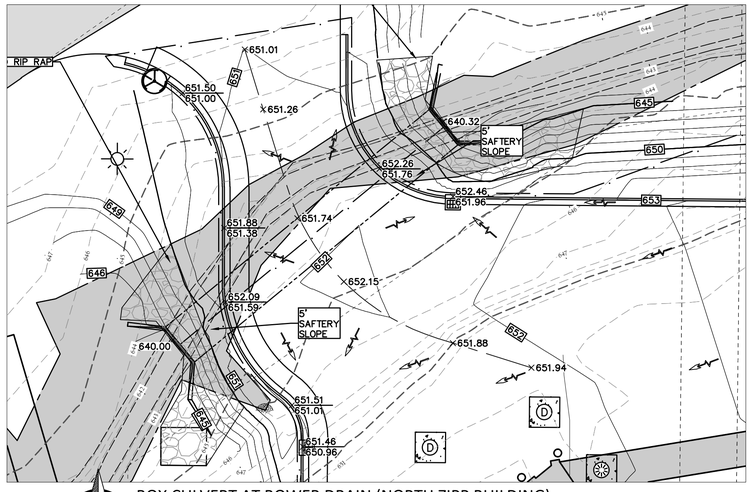
SW SITE ENTRANCE AT CARLTON STREET

SCALE: 1"=20'



VISITOR PARKING ENTRANCE AT S MAIN AVENUE

SCALE: 1"=10'



BOX CULVERT AT BOWER DRAIN (NORTH ZIPP BUILDING)

SCALE: 1"=10'

Received: 05/04/26
City of Zeeland, MI

GRADING LEGEND

BW	BOTTOM OF WALL
TP	TOP OF PAVEMENT
GP	GUTTER PAN
HP	HIGH POINT
	SPILL OUT CURB
	FLOW DIRECTION

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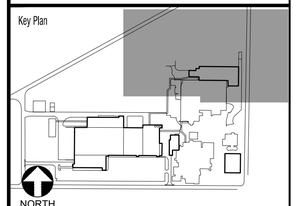
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: ENLARGEMENTS

project: VIVID

location: ZEELAND, MI

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SCALE: 1" = 60'

0' 30' 60' 90' 120'

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DATE:

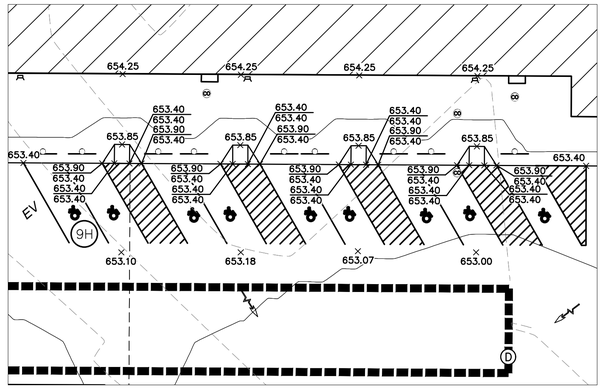
ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

C.A.R. OR P.O NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: 25C073-1473-0515-ENLARGEMENTS

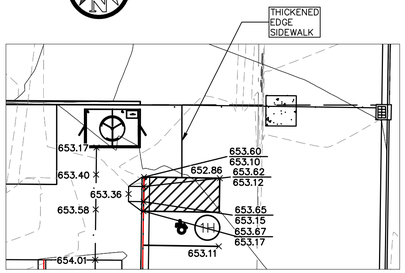
DRAWING NUMBER: C515

SHEET: 24 OF 40



MAIN PARKING ADA RAMPS

SCALE: 1"=20'



VISTOR PARKING ADA RAMP

SCALE: 1"=20'

Received: 05/04/26
City of Zeeland, MI

GRADING LEGEND

BW	BOTTOM OF WALL
TP	TOP OF PAVEMENT
GP	GUTTER PAN
HP	HIGH POINT
	SPILL OUT CURB
	FLOW DIRECTION

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SCALE: 1" = 60'

0' 30' 60' 90' 120'

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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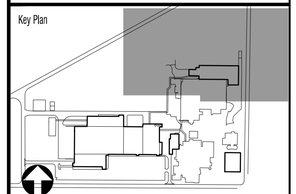
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

MeadJohnson NUTRITION

title: ENLARGEMENTS

project: VIVID

location: ZEELAND, MI

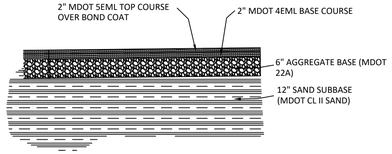
C.A.R. OR P.O.NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSC073-1473-0516-ENLARGEMENTS

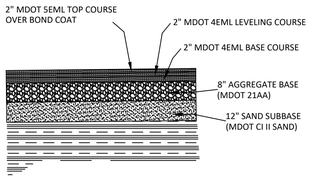
DRAWING NUMBER: C516

SHEET: 25 OF 40



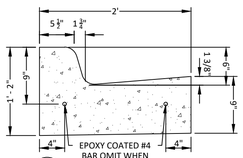
STANDARD DUTY PAVING DETAIL

NOT TO SCALE



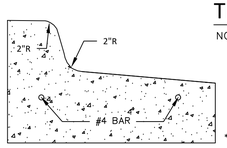
HEAVY DUTY PAVEMENT DETAIL

NOT TO SCALE



F4 CURB DETAIL

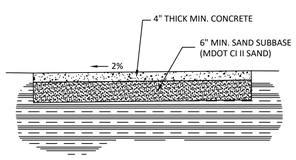
NOT TO SCALE



0.061 CYD/LFT

MDOT DETAIL F4 SPILL OUT CONCRETE CURB & GUTTER

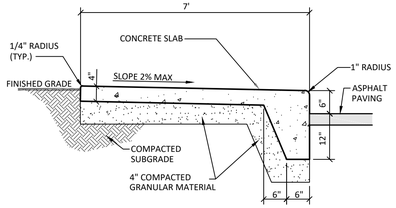
NOT TO SCALE



NOTES:
1. 1/4" WIDE TOOLED CONTRACTION JOINTS TO 1" DEPTH AT 5 FOOT INTERVALS.
2. WHERE SIDEWALK IS PLACED ADJACENT TO CURB AND GUTTER, CONTRACTION JOINTS SHALL LINE UP WITH CURB AND GUTTER JOINTS.
3. ISOLATION JOINTS WHERE PAVEMENT ABUTS PROPOSED STRUCTURES OR OTHER PAVEMENTS.
4. EXPANSION JOINTS SHALL BE PLACED NO FURTHER THAN 40' APART.
5. RUNNING SLOPE OF SIDEWALK TO BE LESS THAN 5% (EXCLUDING RAMPS AND LANDINGS)
6. CURB RAMPS ARE TO BE 6" THICK CONCRETE

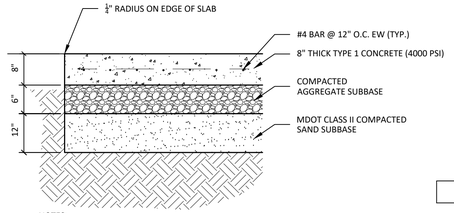
CONCRETE SIDEWALK DETAIL

NOT TO SCALE



THICKENED EDGE SIDEWALK

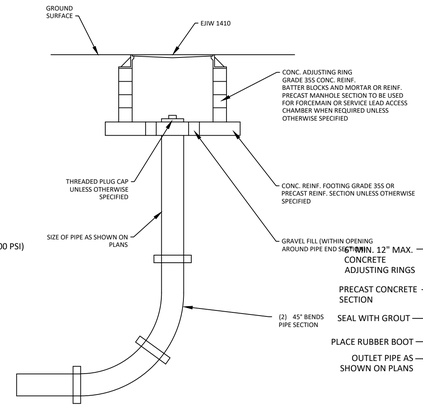
NOT TO SCALE



NOTES:
1. 1/4" WIDE SAWCUT CONTROL JOINTS TO 2.5" DEPTH AT 10' O.C. EACH DIRECTION WITHIN 12 HOURS OF FINISHING CONCRETE.
2. ISOLATION JOINTS WHERE PAVEMENT ABUTS PROPOSED STRUCTURES OR OTHER PAVEMENTS.
3. CONCRETE TO BE 8" THICK 4,000 PSI PORTLAND CEMENT
4. REINFORCEMENT TO BE #4 BAR @ 12" O.C. EW
5. 3" MINIMUM COVER FOR #4 REINFORCING BARS
6. 3" MINIMUM CLEAR SPACE FOR #4 REINFORCING BAR

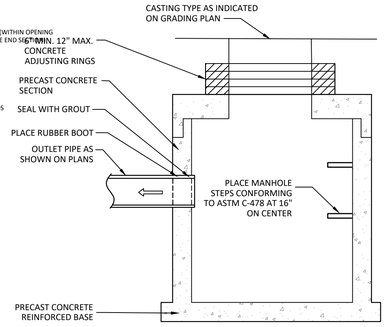
UTILITY CONCRETE PAD PAVEMENT DETAIL

NOT TO SCALE



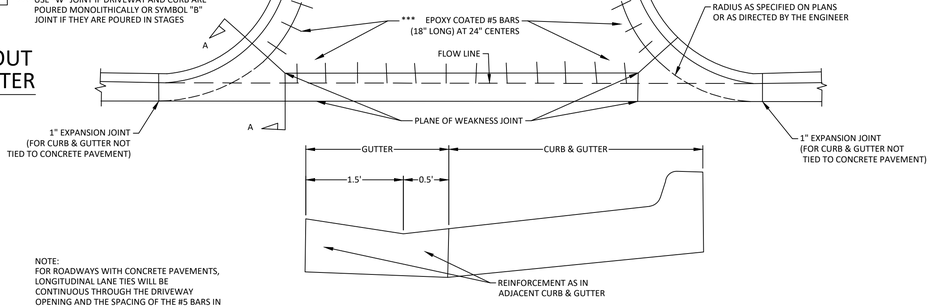
CLEANOUT DETAIL

NOT TO SCALE



CATCH BASIN DETAIL

NOT TO SCALE

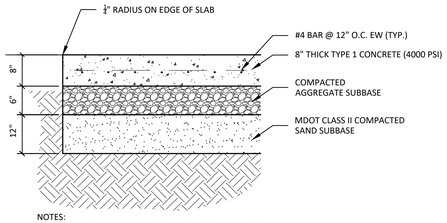


SECTION A-A

CONCRETE DRIVEWAY OPENING, DETAIL M

NOT TO SCALE

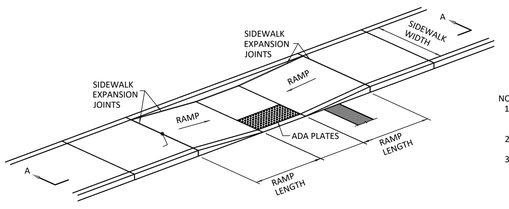
NOTE:
FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH LONGITUDINAL LANE TIES.



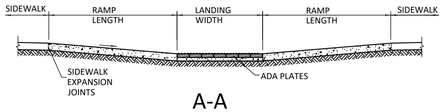
NOTES:
1. 1/4" WIDE SAWCUT CONTROL JOINTS TO 2.5" DEPTH AT 10' O.C. EACH DIRECTION WITHIN 12 HOURS OF FINISHING CONCRETE.
2. ISOLATION JOINTS WHERE PAVEMENT ABUTS PROPOSED STRUCTURES OR OTHER PAVEMENTS.
3. CONCRETE TO BE 8" THICK 4,000 PSI PORTLAND CEMENT
4. REINFORCEMENT TO BE #4 BAR @ 12" O.C. EW
5. 3" MINIMUM COVER FOR #4 REINFORCING BARS
6. 3" MINIMUM CLEAR SPACE FOR #4 REINFORCING BAR

HD CONCRETE PAVEMENT DETAIL

NOT TO SCALE



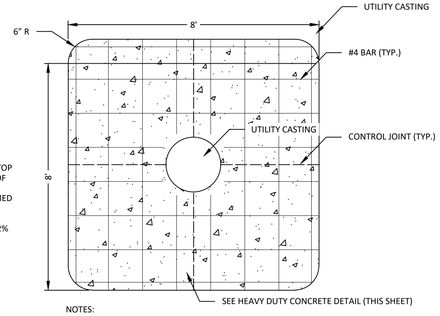
NOTES:
1. THE BOTTOM EDGE OF THE LANDING AND THE TOP EGE OF CURB SHALL BE FLUSH WITH THE EDGE OF ADJACENT PAVEMENT AND GUTTER LINE..
2. CURB RAMP SURFACE SHALL BE COARSE BROOMED TRANSVERSE TO THE RUNNING SLOPE..
3. LANDING SHALL HAVE A MINIMUM CLEAR DIMENSION OF 4'X4' AND A RUNNING SLOP OF 2% MAX.



A-A

PARALLEL CURB RAMP DETAIL

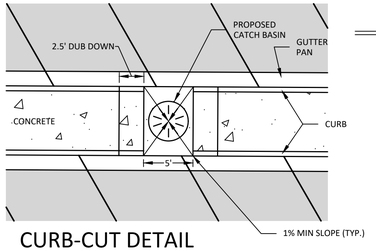
NOT TO SCALE



NOTES:
1. 1/4" WIDE SAWCUT CONTROL JOINTS TO 2.5" DEPTH AT 10' O.C. EACH DIRECTION WITHIN 12 HOURS OF FINISHING CONCRETE.
2. ISOLATION JOINTS WHERE PAVEMENT ABUTS PROPOSED STRUCTURES OR OTHER PAVEMENTS.
3. CONCRETE TO BE 8" THICK 4,000 PSI PORTLAND CEMENT
4. REINFORCEMENT TO BE #4 BAR @ 12" O.C. EW
5. 3" MINIMUM COVER FOR #4 REINFORCING BARS
6. 3" MINIMUM CLEAR SPACE FOR #4 REINFORCING BAR

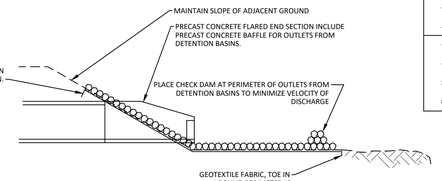
CONCRETE PAD AROUND UTILITY CASTINGS

NOT TO SCALE



CURB-CUT DETAIL

NOT TO SCALE



SECTION VIEW

TYPICAL END SECTION DETAIL

NOT TO SCALE

PLAN VIEW

RIPRAP TABLE

PIPE DIA.	LENGTH (FT)	WIDTH (FT)	RIPRAP Ø (IN)
12" 15" 18"	5'	8'	8"–16" (PLAN)
24" 30" 36"	10'	14'	8"–16" (PLAN)
42" 48" 54" 60"	15'	20'	GREATER THAN 16" (HEAVY)

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Kalamazoo, MI 49008
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Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
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Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

MeadJohnson NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

SEAL

THIS IS NOT A SEALED DOCUMENT

DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

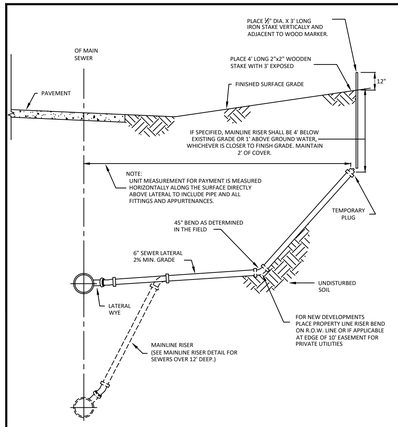
C.A.R. OR P.O NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C600-DETAILS

DRAWING NUMBER: C600

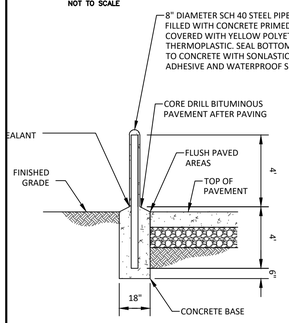
SHEET: 26 OF 40

Received: 05/04/26
City of Zeeland, MI



LATERAL AND PROPERTY LINE RISER DETAIL

NOT TO SCALE



BOLLARD DETAIL

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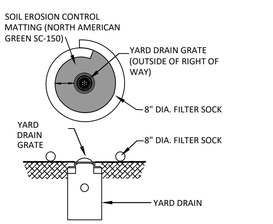

INLET PROTECTION DETAIL

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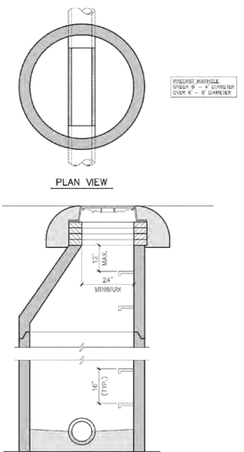
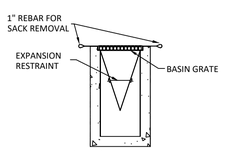


MONITORING MANHOLE

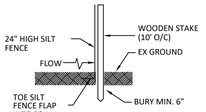
SCALE : NONE

RR-11



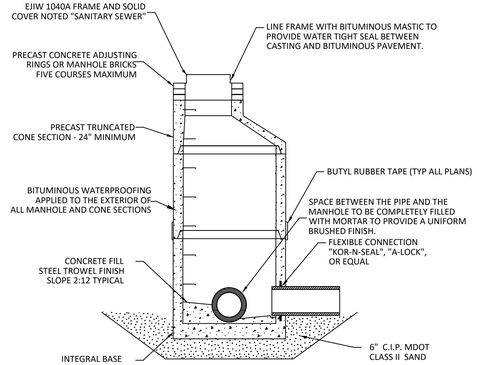
SILT SACK DETAIL

NOT TO SCALE



SILT FENCE DETAIL

NOT TO SCALE



STANDARD SANITARY MANHOLE

NOT TO SCALE

SITE LAYOUT NOTES:

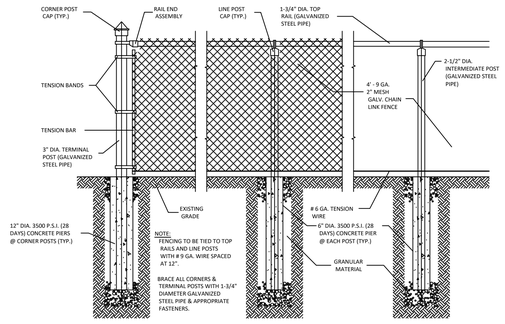
1) ALL WORK SHALL BE DONE TO ALL FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS.
2) ALL WORK WITHIN ROW SHALL BE DONE IN ACCORDANCE WITH LOCAL ROADWAY JURISDICTION REQUIREMENTS.
3) CONTRACTOR SHALL RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE, AND OTHER INFRASTRUCTURE DISTURBED OR DAMAGED DUE TO CONSTRUCTION ACTIVITIES TO MATCH EXISTING CONDITIONS.
4) ALL DEBRIS SHALL BE REMOVED FROM THE SITE, AND NO STOCKPILING ON SITE SHALL BE ALLOWED UNLESS APPROVED BY OWNER.
5) THE CONTRACTOR SHALL LIMIT SAWCUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE REQUIRED OR AS SHOWN. ALL PAVEMENTS TO BE REMOVED SHALL BE SAWCUT AND REMOVED TO FULL DEPTH AT ALL PAVEMENT LIMITS OR EXISTING JOINTS. IF ANY DAMAGE IS OCCURRED TO ANY OF THE SURROUNDING PAVEMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR AT NO ADDITIONAL COST.
6) CONTRACTOR SHALL CONTACT MISS DIG THREE WORKING DAYS BEFORE YOU DIG. CALL MISS DIG AT 1-800-482-7171 OR 811.
7) ALL WORK SHALL BE DONE TO THE MICHIGAN HANDICAPPED ACCESSIBILITY CODE AND THE AMERICANS WITH DISABILITIES ACT.
8) ADA PARKING SPACES SHALL BE MARKED WITH APPROVED PAVEMENT SYMBOL. MARK ADA SPACES WITH 4" BLUE PAINT AND SIGNS PER MMUTCD.
9) CONTRACTOR SHALL ENSURE ALL ADA RAMPS AND ACCESS MEET CURRENT ADA STANDARDS. IF IT IS DISCOVERED THAT ANY ITEMS WILL NOT MEET ADA STANDARDS IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
10) ALL SIGNAGE SHALL BE PER MDOT AND MMUTCD STANDARDS.
11) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PERMIT COSTS, DEMOLITION PERMITS, TAP FEES, ASSESSMENTS, UTILITY PERMITS, ROW PERMITS, BONDS, INSURANCE, OR OTHER FEES ASSOCIATED WITH CONSTRUCTION.
12) SITE CONCRETE TO HAVE A COMPRESSIVE STRENGTH OF A MINIMUM 4000 PSI AND SHALL HAVE LIMESTONE AGGREGATE AND SHALL HAVE A 5.5%-8% AIR ENTRAINMENT WITH A BROOM FINISH.
13) INSTALL EXPANSION JOINTS AT ALL LOCATIONS WHERE CONCRETE ABUTS HMA PAVEMENT.
14) CONTRACTOR SHALL REVIEW THE GEOTECHNICAL AND ENVIRONMENTAL REPORTS FOR THE SITE AND INCORPORATE INTO THEIR CONSTRUCTION MEANS AND METHODS.
15) THESE PLANS HAVE BEEN DEVELOPED FOR ELECTRONIC FIELD SURVEY LAYOUT. DIMENSIONS SHOWN ARE FOR GRAPHIC PRESENTATION ONLY AND SHOULD NOT BE USED FOR LAYOUT. CONTACT THE ENGINEER IF ANY DISCREPANCIES BETWEEN THE PLAN AND ELECTRONIC DATA ARE DISCOVERED.
16) THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LIGHTS, BARRICADES, FLAGMEN, ETC. AS REQUIRED FOR THE WORK. INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.
17) THE CONTRACTOR SHALL PROTECT LOCATION OF ALL PROPERTY MARKERS AND BENCHMARKS.
18) THE CONTRACTOR IS RESPONSIBLE FOR ALL SIGNS, BARRICADES, AND SAFETY FENCES TO DETER PEOPLE FROM ENTERING THE WORK AREA AND FOR MAINTAINING AND PROTECTING THE FLOW OF VEHICULAR AND PEDESTRIAN TRAFFIC AROUND THE JOB SITE. TRAFFIC CONTROL SHALL BE COORDINATED WITH THE LOCAL POLICE DEPARTMENT AND MUNICIPALITY.
19) PRIOR TO CONSTRUCTION OR GRADING A PROTECTIVE BARRIER, FENCE, POST, AND SIGNS CLEARLY INDICATING LIMITS OF DISTURBANCE SHALL BE INSTALLED INDICATING NO TREE REMOVAL OR DISTURBANCES OUTSIDE LIMITS.
20) NO PARKING OF CONTRACTOR OR SUBCONTRACTORS SHALL BE ALLOWED ON PUBLIC STREETS WITHOUT PRIOR APPROVAL.
21) NO BUILDING MATERIAL, EQUIPMENT, VEHICLES, OR CHEMICALS SHALL BE STORED OR PLACED OUTSIDE OF THE LIMITS OF DISTURBANCE.
22) CONSTRUCTION NOISE SHALL BE KEPT TO A MINIMUM DURING NIGHTTIME HOURS AND MUST COMPLY WITH LOCAL MUNICIPAL ORDINANCES.
23) ALL VERTICAL FACE OF CURBS SHALL BE PAINTED YELLOW WHEN BETWEEN 0 AND 6 INCHES TALL.

GRADING PLAN NOTES:

1) SOILS EXPOSED IN THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHOULD BE PROTECTED AGAINST ANY DETRIMENTAL CHANGES IN CONDITION SUCH AS FROM DISTURBANCE, RAIN AND FREEZING. SURFACE RUN-OFF WATER SHOULD BE DRAINED AWAY FROM THE EXCAVATION AND NOT ALLOWED TO POND. IF POSSIBLE, ALL FOOTING CONCRETE SHOULD BE POURED THE SAME DAY THE EXCAVATION IS MADE. IF THIS IS NOT PRACTICAL, THE FOOTING EXCAVATIONS SHOULD BE ADEQUATELY PROTECTED.
2) REMOVE ALL SUBGRADE MATERIAL THAT MAY BE SOFTENED BY RAINS, FREEZING, OR CONSTRUCTION TRAFFIC, ETC, AND REPLACE WITH COMPACTED GRANULAR FILL.
3) ALL CONSTRUCTION METHODS SHALL BE DONE IN COMPLIANCE WITH MDOT-EGLE. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM EGLE IF APPLICABLE, PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUESTED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND SHALL NOT RELIEVE THE CONTRACTORS RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
4) AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER, THESE COVER AREAS ACT AS SEDIMENT FILTERS.
5) ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
6) GEOTEXTILE SILT FENCE SHALL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSE WHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING SHALL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
7) CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID TRACKING SOIL ONTO ADJACENT ROADWAYS. CONTRACTOR SHALL SWEEP IMMEDIATELY IF THIS OCCURS.
8) ANY DISTURBED AREA WHICH WILL BE LEFT UNWORKED 20 DAYS OR LONGER MUST BE SEEDED TO ESTABLISH VEGETATION FOR TEMPORARY STABILIZATION. BASINS TO BE SEEDED AND MULCH BLANKETS APPLIED IMMEDIATELY TO PROVIDE A STABLE BASE AND AVOID EXCESSIVE EROSION.
9) ALL SOIL EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO THE START OF ANY GRADING.
10) ALL NON PAVED AREAS TO BE TOPSOILED (6" MIN.) & SEEDED.
11) VARIATION IN EXISTING SOIL CONDITIONS MAY IMPACT THE EARTHWORK QUANTITIES IF UNUSABLE SOILS ARE ENCOUNTERED DURING CONSTRUCTION.
12) DUST CONTROL: THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY SUCH AS CALCIUM CHLORIDE, WATER OR A MOTORIZED DUST-FREE STREET SWEEPING DEVICE TO MAINTAIN ALL ROADWAYS BEING USED FOR ACCESS TO THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL ORDINANCES OF THE TOWNSHIP, COUNTY, EGLE OR ANY OTHER GOVERNMENT AGENCY.
13) IF MUD, SOIL OR OTHER DEBRIS IS DEPOSITED ON ADJACENT STREETS, ROADS OR OTHER PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF SUCH AT THE END OF EACH WORK DAY OR AS REQUIRED DURING THE WORK DAY.
14) STORMWATER POLLUTION PREVENTION ITEMS SHALL BE IN PLACE PRIOR TO COMMENCING CLEARING OPERATIONS, EARTHWORK GRADING, OR ANY OTHER TYPE OF CONSTRUCTION ACTIVITY.
15) CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE SOIL EROSIONS AND SEDIMENT CONTROL PERMIT.
16) PLACE TEMPORARY EROSION CONTROL MEASURES PRIOR TO EARTH MOVING ACTIVITIES.
17) MULCH BLANKETS SHALL BE PLACED, STAPLED, AND OVERLAPPED ON ALL SLOPES THAT ARE 1 ON 3 OR GREATER AFTER.
18) CONTRACTOR TO INSTALL SILT SACK IN ALL CATCH BASINS ONCE THEY ARE CONSTRUCTED.
19) ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR AND MAINTAINED BY CONTRACTOR EVERY 7 DAYS AND AFTER EVERY SIGNIFICANT RAIN EVENT IN ACCORDANCE WITH NPDES PERMIT BY RULE REQUIREMENTS IF APPLICABLE.
20) EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED.
21) BEST MANAGEMENT PRACTICES WILL BE UTILIZED DURING AND AFTER CONSTRUCTION OF THE PROJECT. MEASURES WILL INCLUDE THE USE OF SILT FENCING, SEEDING AND MULCHING, SEDIMENT INLET FILTERS, COMPACTION AND PAVING. THE OWNER OF THE SUBJECT PARCEL SHALL HAVE THE RESPONSIBILITY TO MAINTAIN THE PERMANENT SOIL EROSION PROTECTION MEASURES.
22) ANY POND AREA LABELED AS 'INFILTRATION' OR 'RETENTION' SHALL BE CONSTRUCTED IN A MANNER AS TO MINIMIZE COMPACTION OF EXISTING SUBGRADE. CONTRACTOR SHALL PROTECT AREA FROM COMPACTION PRIOR TO INSTALLATION AND THROUGHOUT CONSTRUCTION. IF NECESSARY, EXCAVATE BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE OF ROCKS AND DEBRIS AND ENSURE A SANDY BOTTOM. DO NOT COMPACT SUBGRADE. SEED AND STABILIZE THE BASIN WITH AN MDOT TDS SEED MIXTURE OR MEADOW MIX AS APPROVED BY THE ENGINEER.

UTILITY PLAN NOTES:

1) CONTRACTOR SHALL CONTACT PRIVATE AND PUBLIC UTILITY COMPANIES IF ANY COORDINATION IS NEEDED BETWEEN PROPOSED WORK AND EXISTING UTILITIES.
2) UTILITIES SHOWN (IF ANY) ARE APPROXIMATE LOCATIONS DERIVED FROM MEASUREMENTS OR AVAILABLE RECORDS. THIS MAP IS NOT TO BE INTERPRETED AS SHOWING EXACT LOCATIONS OR SHOWING ALL UTILITIES IN THE AREA. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING UTILITY INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY FOR ACCURACY, LOCATION, AND CONDITION.
3) ALL WATERMAIN TO BE CONSTRUCTED IN ACCORDANCE WITH LOCAL WATER UTILITY STANDARDS AND EGLE STANDARDS.
4) ALL SANITARY SEWER TO BE CONSTRUCTED IN ACCORDANCE WITH LOCAL SANITARY SEWER UTILITY STANDARDS AND EGLE STANDARDS.
5) ALL 6" UNDERDRAIN TO BE CORRUGATED PLASTIC PIPE WITH SOCK, ADS N-12 OR APPROVED EQUAL.
6) ALL STORM SEWER SHALL BE SMOOTH LINED CORRUGATED PLASTIC PIPE, ADS N-12 OR EQUAL, UNLESS OTHERWISE LABELED ON THE PLANS.
7) ALL EXISTING CASTINGS FOR STRUCTURES TO BE ADJUSTED OR RECONSTRUCTED TO GRADE SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION AND MARKED SUITABLE FOR SALVAGE AND REUSE OR REPLACED.
8) ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
9) CATCH BASINS WITHIN CONCRETE HEAD CURB SHALL HAVE EJ 7045 CASTINGS.
10) CATCH BASINS WITHIN BIT VALLEY CURB SHALL HAVE EJ 7065 CASTINGS WITH M1 GRATE.
11) CATCH BASINS WITHIN PAVED AREAS SHALL HAVE EJ 1020M1 RADIAL FLATE GRATE CASTINGS.
12) STORM SEWER MANHOLES SHALL HAVE EJ 1020 CASTINGS WITH SOLID COVERS.
13) STORM SEWER YARD DRAINS SHALL HAVE EJ 6508 CASTINGS.
14) ROOF DRAINS SHALL BE PVC SCH-40.
15) CONTRACTOR IS TO UNCOVER AND VERIFY ALL TAP LOCATIONS AND INVERTS. LOCATION AND INVERT DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION FOR RESOLUTION PRIOR TO CONTINUING WORK.
16) SANITARY AND STORM STRUCTURES SHALL BE PRECAST AND HAVE A MAXIMUM OF 2 ADJUSTING RINGS FOR FINISH GRADE ADJUSTMENT.
17) THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICE TO ALL ADJOINING PROPERTIES.



CHAIN LINK FENCE DETAIL

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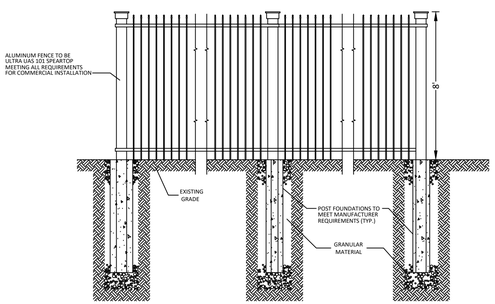

DECORATIVE ALUMINUM FENCE DETAIL (BLACK)

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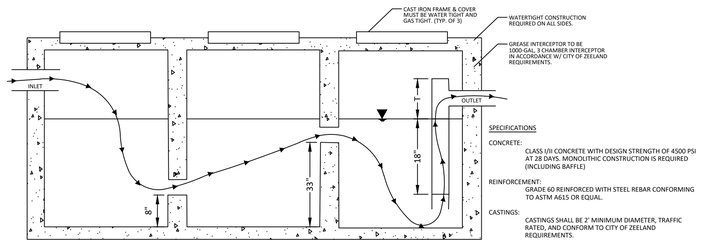

1000-GAL GREASE INTERCEPTOR DETAIL

NOT TO SCALE

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181 N. Broadway Ave
Milwaukee, WI 53202
414.278.6060
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Project Manager	mm/dd/yy
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Key Plan

NORTH

B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS
rev	date	description	by

Mead Johnson NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O.NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
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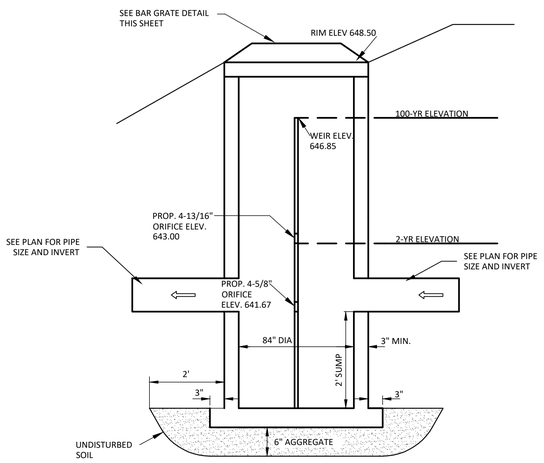
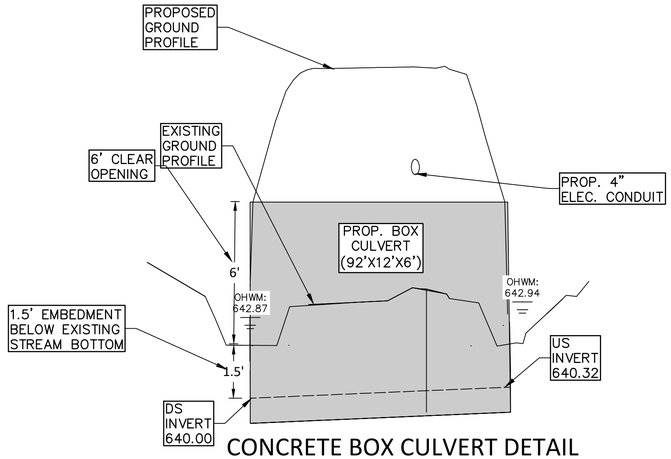
DRAWING NUMBER: C601

SHEET: 27 OF 40



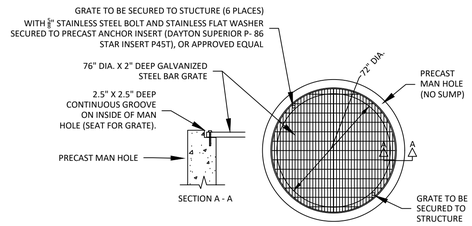
OCS - 101 DETAIL

NOT TO SCALE



CONCRETE BOX CULVERT DETAIL

Received: 05/04/26
City of Zeeland, MI



BAR GRATE DETAIL 84" DIA.

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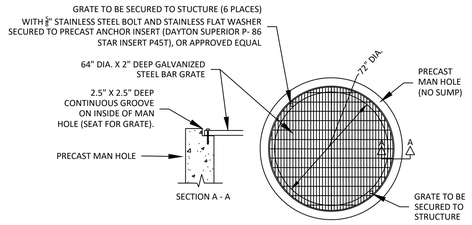
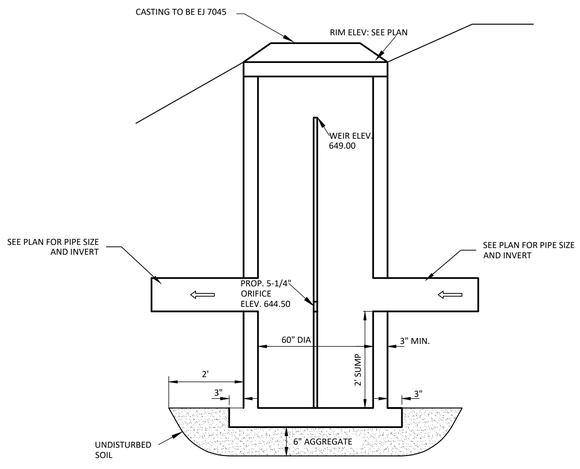


BAR GRATE DETAIL 72" DIA.

NOT TO SCALE



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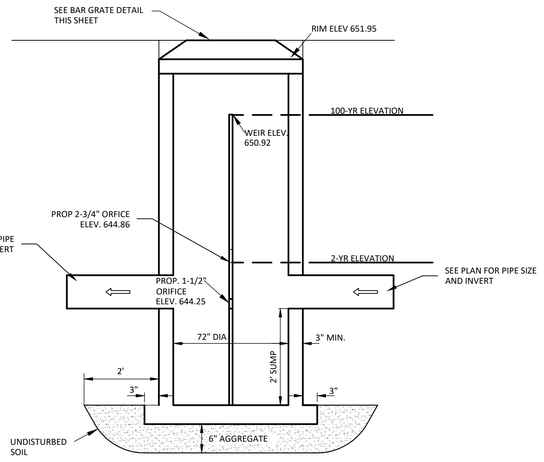

OCS - 203 DETAIL

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Approved by

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Mead Johnson NUTRITION

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VENDOR PROJECT NUMBER:	GL005129
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C602-DETAILS
DRAWING NUMBER: C602
SHEET: 28 OF 40

Received: 05/04/26
City of Zeeland, MI

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	MIGUEL VARGAS 419-215-8020 MIGUEL.VARGAS@ADSPIPE.COM
ADS SALES REP:	JESHUA ROBERT SHORT 616-980-7431 JESHUA.SHORT@ADSPIPE.COM
PROJECT NO:	S516508

Advanced Drainage Systems, Inc.

ADS SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR WEBSITE

ZEELAND UNDERGROUND

ZEELAND, MI

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NC INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-7200 CHAMBER".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-7200 CHAMBER".
2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-7200 CHAMBER".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE MC-7200 CHAMBER".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

C.A.R. OR P.O NUMBER:

SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL205120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-0610-DETAILS
DRAWING NUMBER: C610
SHEET: 29 OF 40

Received: 05/04/26
City of Zeeland, MI

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MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS
project: VIVID
location: ZEELAND, MI

SEAL

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

C.A.R. OR P.O NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL205120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-0611-DETAILS
DRAWING NUMBER: C611
SHEET: 30 OF 40

Received: 05/04/26
City of Zeeland, MI

PROPOSED LAYOUT: NORTH BASIN

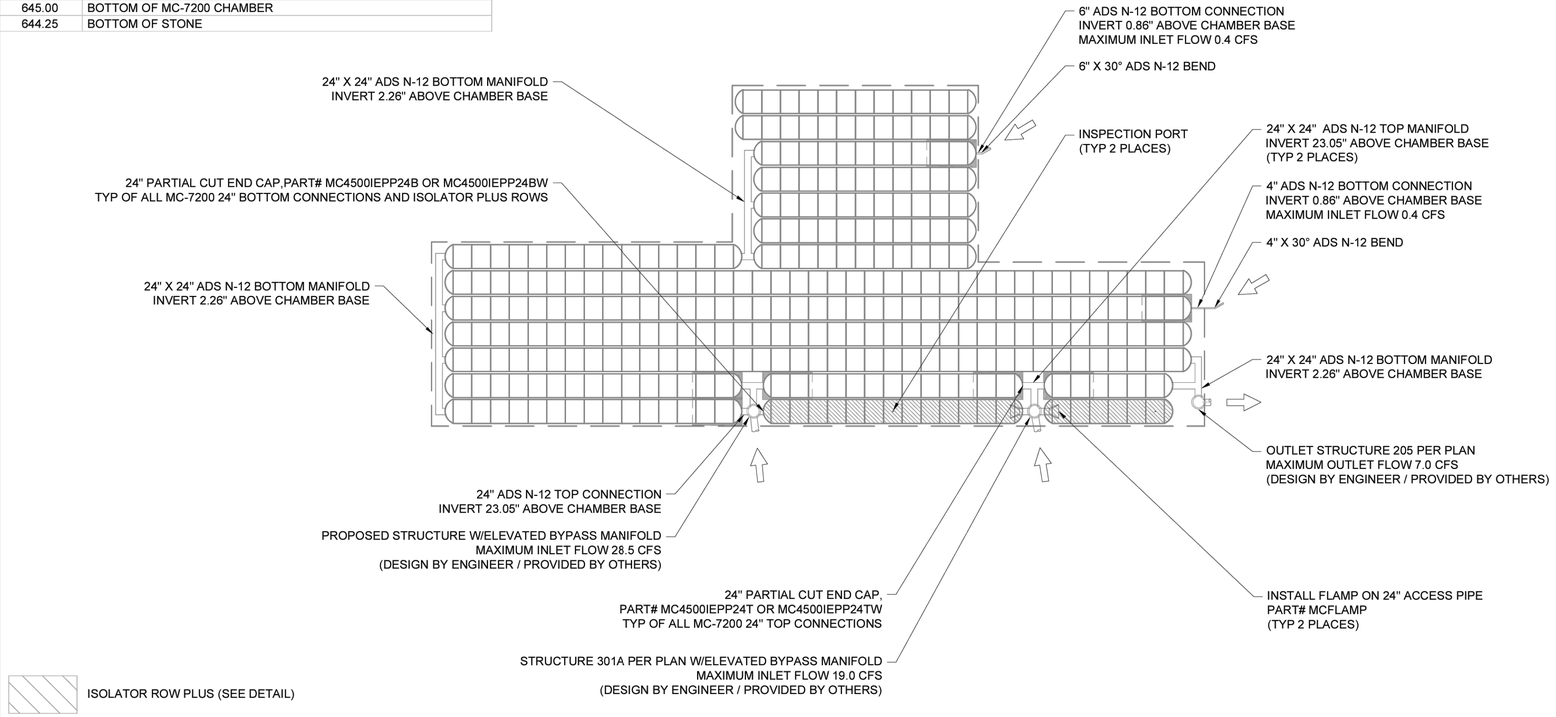
318	STORMTECH MC-7200 CHAMBERS
36	STORMTECH MC-7200 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
93,376	**INSTALLED SYSTEM VOLUME (CF)(PERIMETER STONE INCLUDED)**
21837	SYSTEM AREA (ft²)
784	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: NORTH BASIN

657.00	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
652.50	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
652.00	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
652.00	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
652.00	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
651.00	TOP OF STONE
650.00	TOP OF MC-7200 CHAMBER
646.92	24" TOP MANIFOLD/CONNECTION INVERT
645.19	24" ISOLATOR ROW PLUS CONNECTION INVERT
645.19	24" BOTTOM MANIFOLD/CONNECTION INVERT
645.00	BOTTOM OF MC-7200 CHAMBER
644.25	BOTTOM OF STONE

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 17.5' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26
PROJECT #: S516508
DRAWN: AVM
CHECKED: JPR

DATE	DWN	CHK
4/21/2026	MPV	-

StormTech® Chamber System

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2 SHEET OF 11

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Project Manager — mm/dd/yy
Quality Representative — mm/dd/yy
Operation Manager — mm/dd/yy
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Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS
project: VIVID
location: ZEELAND, MI

C.A.F. OR P.O NUMBER:

SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL205120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
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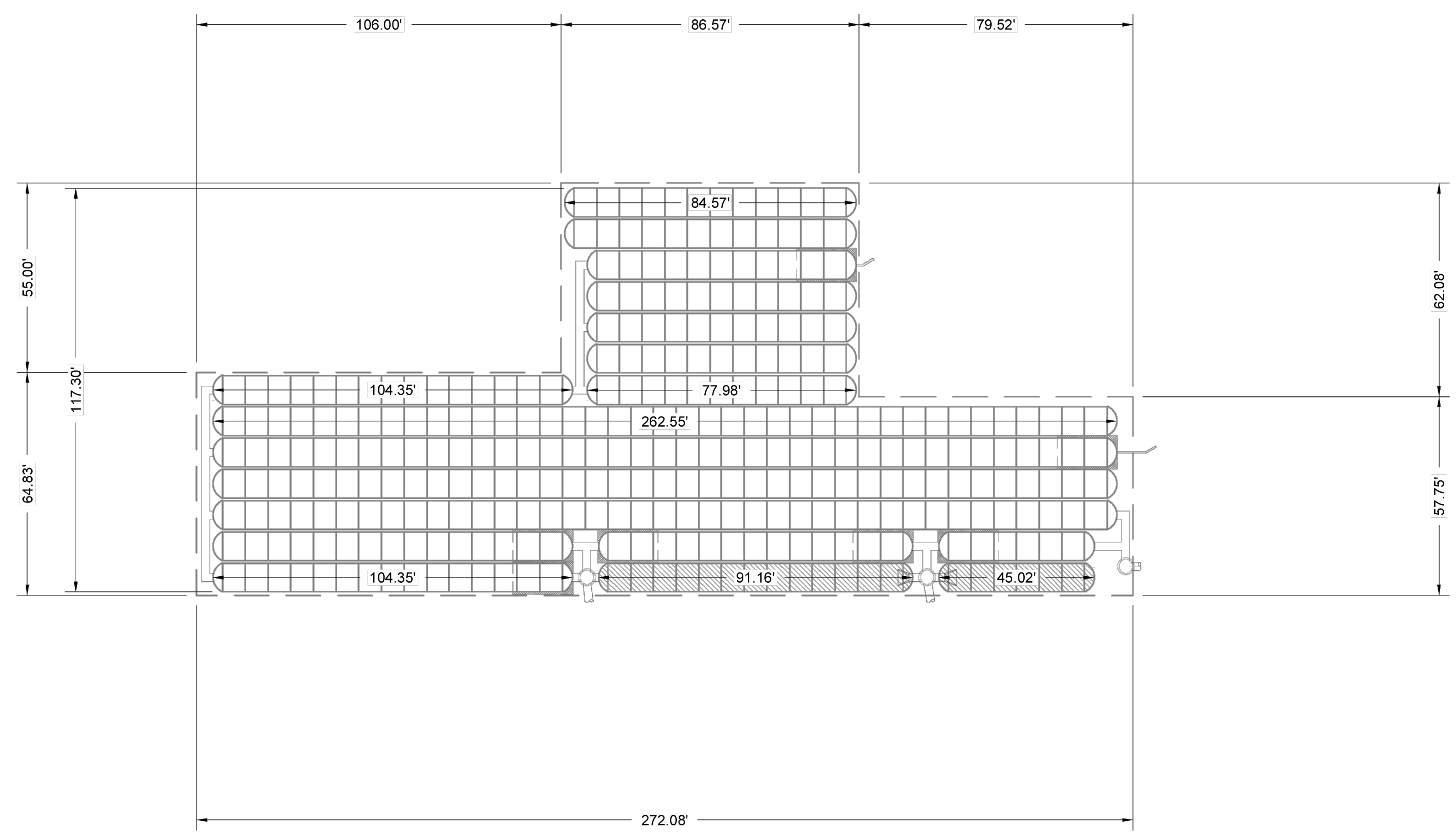
SHEET #: ZSCSIT-1473-0612-DETAILS
DRAWING NUMBER: C612
SHEET: 31 OF 40

Received: 05/04/26
City of Zeeland, MI



ZEELAND UNDERGROUND
ZEELAND, MI

DATE: 03/19/26
DRAWN: AVM
PROJECT #: S516508
CHECKED: JPR

DATE	DWN	CHK
4/21/2026	MPV	-

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Chamber System

ADS
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SHEET 3 OF 11

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rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

MeadJohnson™ NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	ADS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C613-DETAILS
DRAWING NUMBER: C613
SHEET: 32 OF 40

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ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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Milwaukee, WI 53202
414.278.6060
www.pierceengineers.com

VK CIVIL Vriesman & Korhorn
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

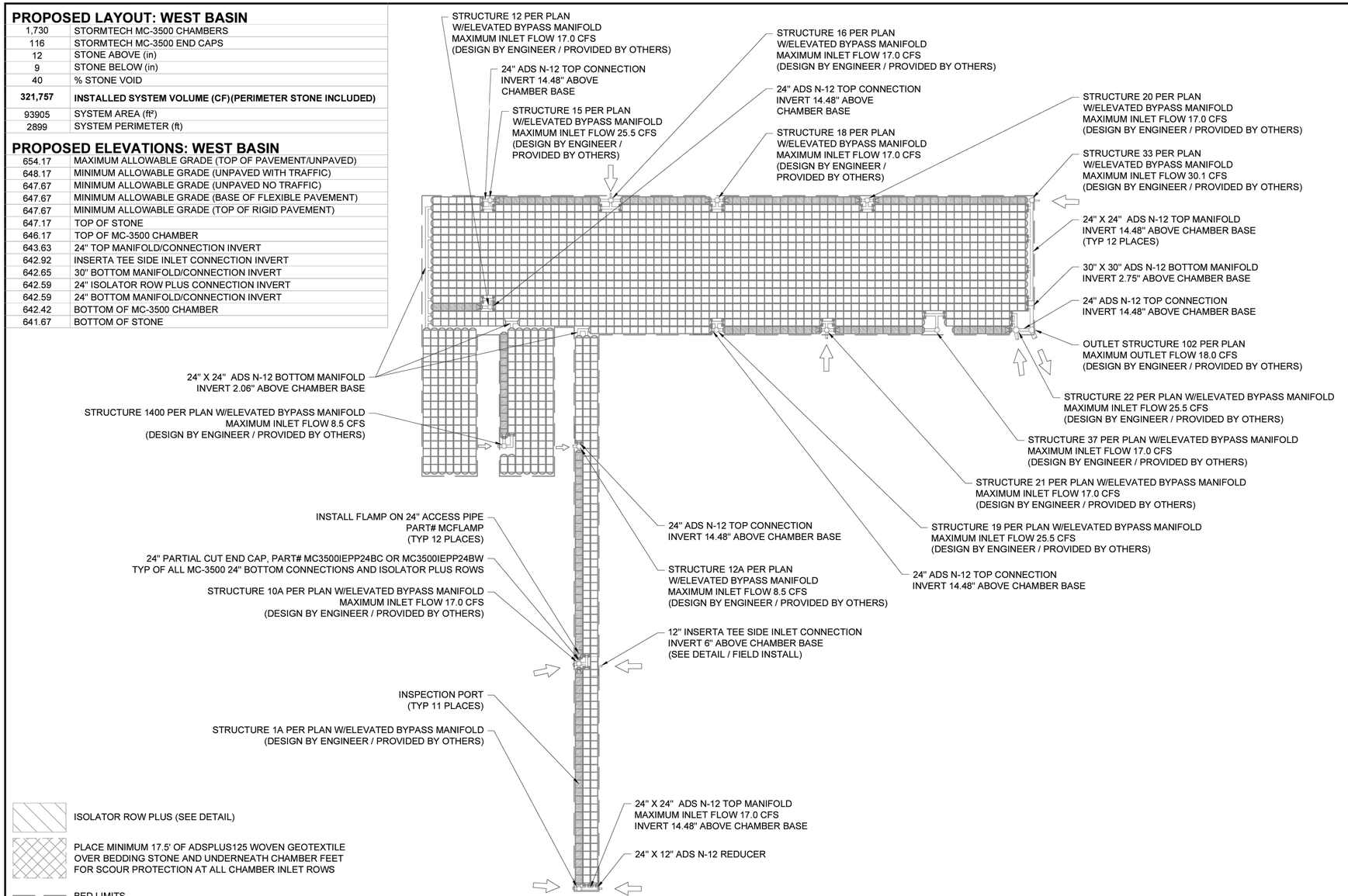
Received: 05/04/26
City of Zeeland, MI

PROPOSED LAYOUT: WEST BASIN

1,730	STORMTECH MC-3500 CHAMBERS
116	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
321,757	**INSTALLED SYSTEM VOLUME (CF)(PERIMETER STONE INCLUDED)**
93905	SYSTEM AREA (ft²)
2899	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: WEST BASIN

654.17	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
648.17	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
647.67	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
647.67	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
647.67	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
647.17	TOP OF STONE
646.17	TOP OF MC-3500 CHAMBER
643.63	24" TOP MANIFOLD/CONNECTION INVERT
642.92	INSERTA TEE SIDE INLET CONNECTION INVERT
642.65	30" BOTTOM MANIFOLD/CONNECTION INVERT
642.59	24" ISOLATOR ROW PLUS CONNECTION INVERT
642.59	24" BOTTOM MANIFOLD/CONNECTION INVERT
642.42	BOTTOM OF MC-3500 CHAMBER
641.67	BOTTOM OF STONE



ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM | CHECKED: JPR
PROJECT #: S5165508

DATE	DWN	CHK
4/21/2026	MPV	-

StormTech® Chamber System

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0' 80' 160'

SHEET 4 OF 11

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DATE:

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DGL	SRF	MCC	A

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Approved by

Drafter / Designer mm/dd/yy
Project Manager mm/dd/yy
Quality Representative mm/dd/yy
Operation Manager mm/dd/yy
Maintenance Representative mm/dd/yy
Customer Representative / Document Manager mm/dd/yy

Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

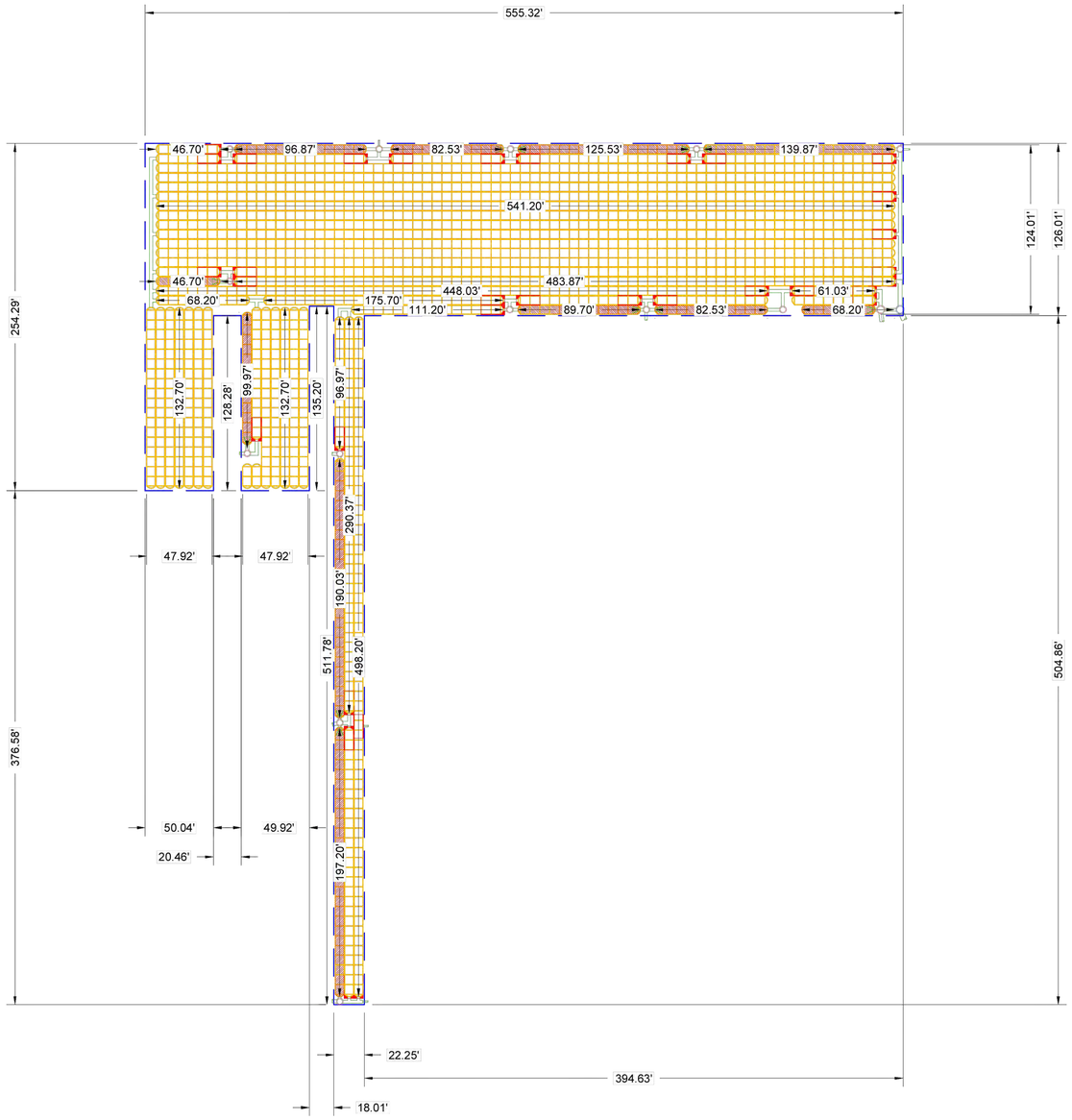
title: DETAILS
project: VIVID
location: ZEELAND, MI

C.A.R. OR P.O NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AOS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025109
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-0614-DETAILS
DRAWING NUMBER: C614
SHEET: 33 OF 40

Received: 05/04/26
City of Zeeland, MI



ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM
PROJECT #: S516508 | CHECKED: JPR

DATE	DWN	CHK
4/21/2026	MPV	-

StormTech® Chamber System

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0 80' 160'

5 SHEET OF 11

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Drafter / Designer — mm/dd/yy
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Operation Manager — mm/dd/yy
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Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

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DGL	SRF	MCC	A

C.A.R. OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005129
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
HARD COPY:	
DEPARTMENT:	

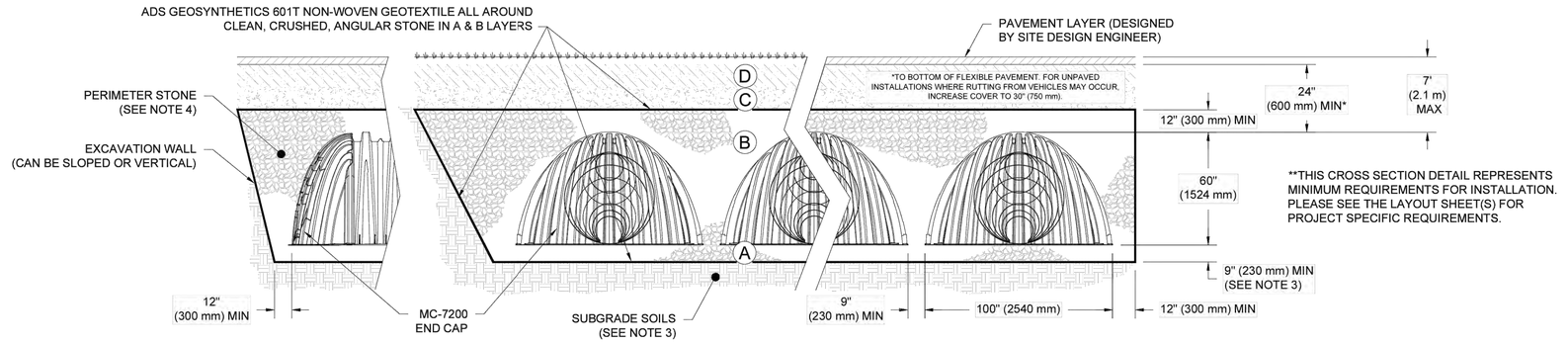
SHEET #: ZSCSIT-1473-C615-DETAILS
DRAWING NUMBER: C615
SHEET: 34 OF 40

Received: 05/04/26
City of Zeeland, MI

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS.

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3" (75 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM | CHECKED: JPR | PROJECT #: SS16508

DATE	DWN	CHK
4/21/2026	MPV	-

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Drafter / Designer — mm/dd/yy
Project Manager — mm/dd/yy
Quality Representative — mm/dd/yy
Operation Manager — mm/dd/yy
Maintenance Representative — mm/dd/yy
Customer Representative / Document Manager — mm/dd/yy

Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS
project: VIVID
location: ZEELAND, MI

C.A.R. OR P.O NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-C616-DETAILS
DRAWING NUMBER: C616
SHEET: 35 OF 40

Received: 05/04/26
City of Zeeland, MI

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 18" (450 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

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2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
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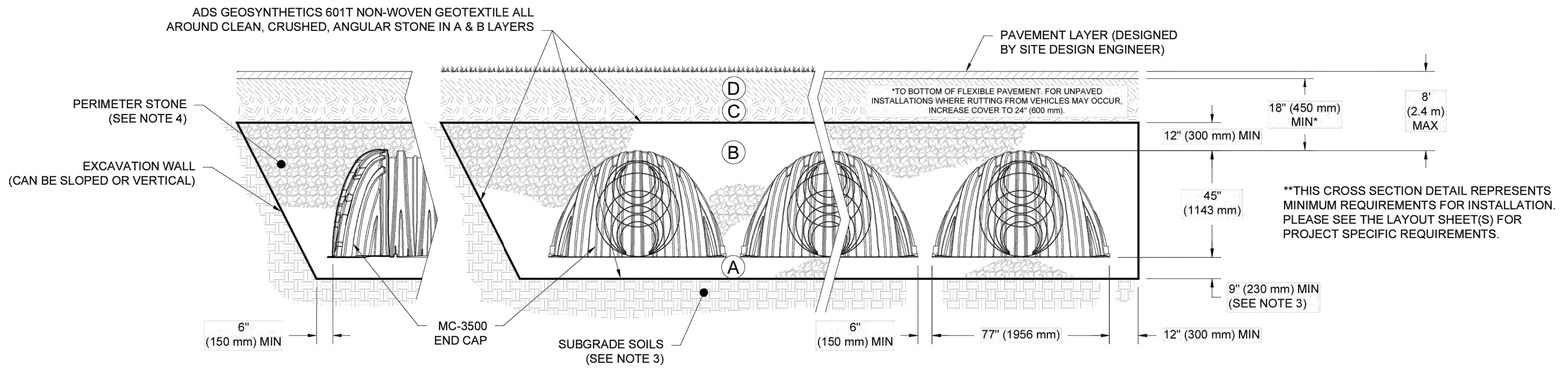

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
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ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM | CHECKED: JPR | PROJECT #: S516508

DATE	DWN	CHK
4/21/2026	MPV	-

StormTech® Chamber System

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SHEET 7 OF 11

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

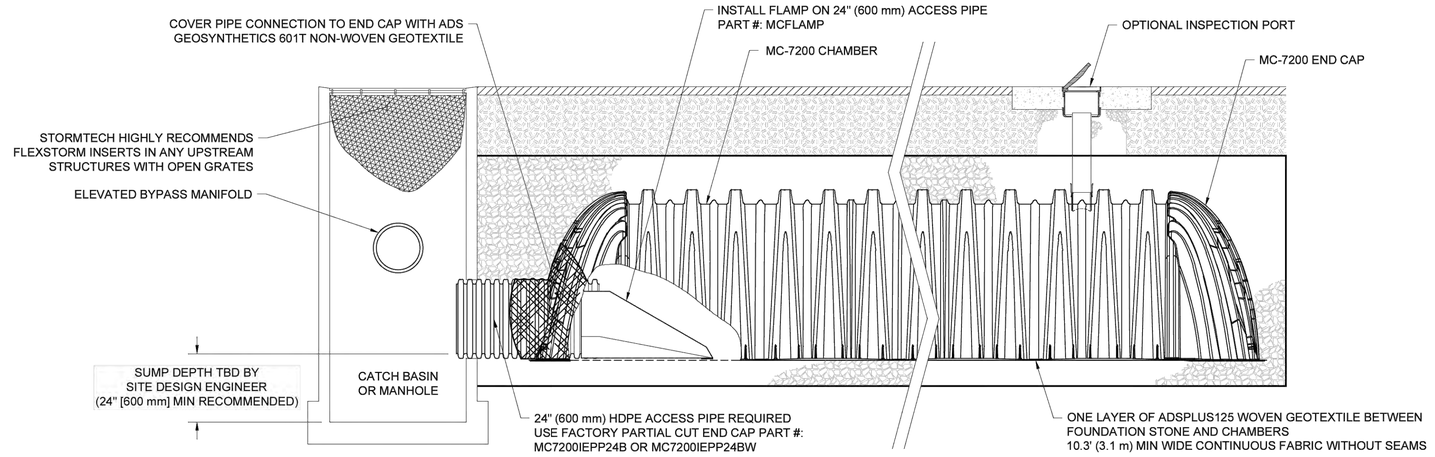
title: DETAILS
project: VIVID
location: ZEELAND, MI

C.A.F. OR P.O NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-0617-DETAILS
DRAWING NUMBER: C617
SHEET: 36 OF 40

Received: 05/04/26
City of Zeeland, MI



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

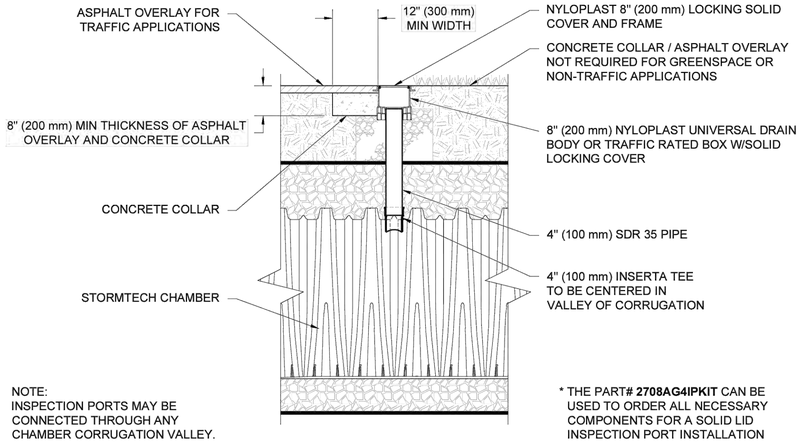
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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

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

NOTES

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



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM | CHECKED: JPR
PROJECT #: S516508

DATE	DWN	CHK
4/21/2026	MPV	-

StormTech® Chamber System

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Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

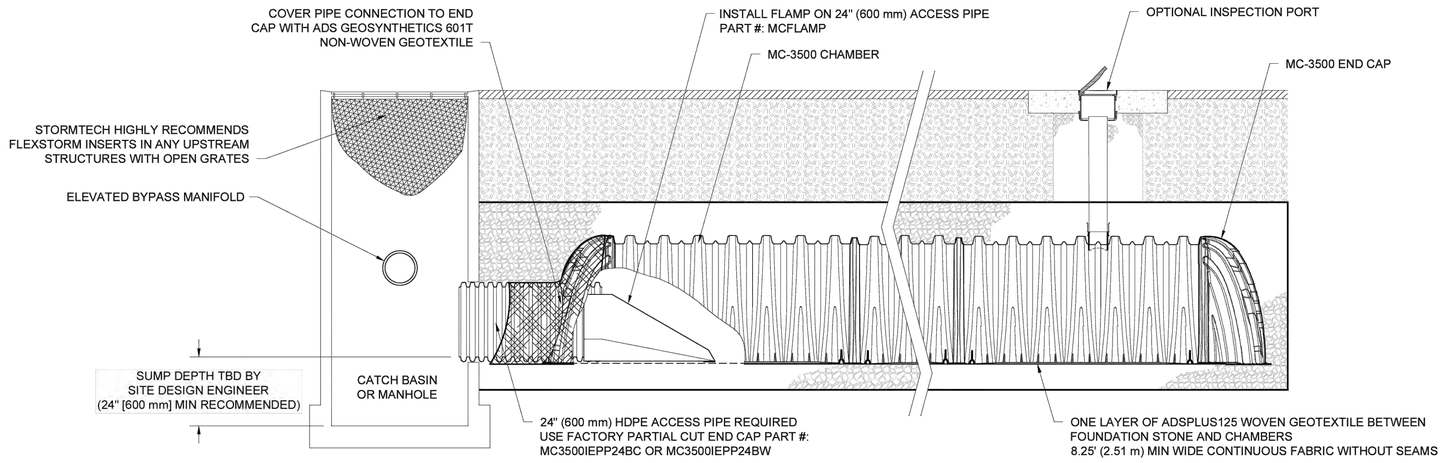
title: DETAILS
project: VIVID
location: ZEELAND, MI

C.A.R. OR P.O NUMBER:

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			AJS
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:			
HARD COPY:			
DEPARTMENT:			

SHEET #: ZSCSIT-1473-C618-DETAILS
DRAWING NUMBER: C618
SHEET: 37 OF 40

Received: 05/04/26
City of Zeeland, MI



MC-3500 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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

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NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

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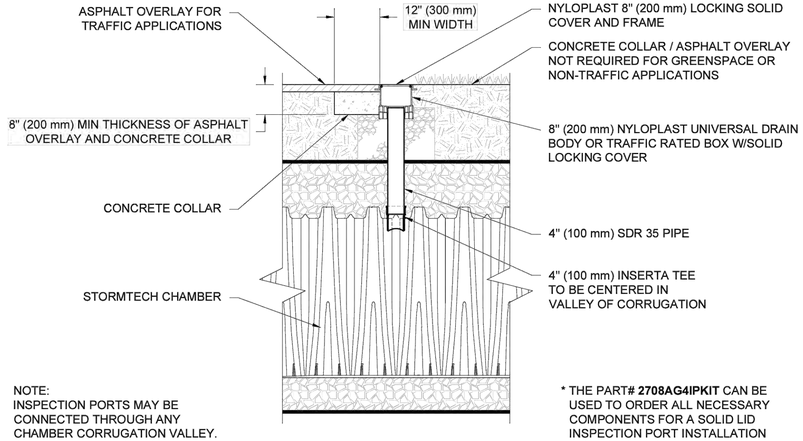

NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM | CHECKED: JPR | PROJECT #: S516508

DATE	DWN	CHK
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Key Plan

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A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER

SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
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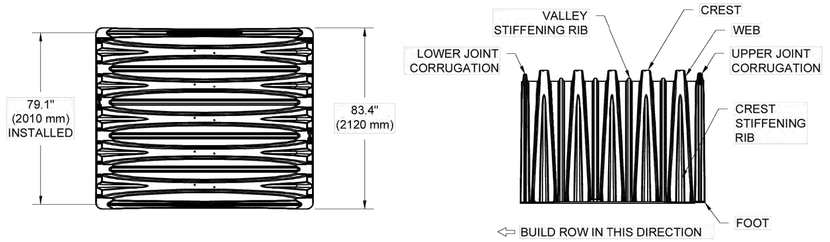
DEPARTMENT:	

SHEET #: ZSCSIT-1473-C619-DETAILS
DRAWING NUMBER: C619
SHEET: 38 OF 40

Received: 05/04/26
City of Zeeland, MI

MC-7200 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

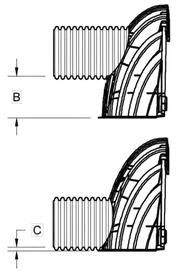
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC4500IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC4500IEPP06B		---	0.86" (22 mm)
MC4500IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC4500IEPP08B		---	1.01" (26 mm)
MC4500IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC4500IEPP10B		---	1.33" (34 mm)
MC4500IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC4500IEPP12B		---	1.55" (39 mm)
MC4500IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC4500IEPP15B		---	1.70" (43 mm)
MC4500IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC4500IEPP18TW			
MC4500IEPP18B		---	1.97" (50 mm)
MC4500IEPP18BW			
MC4500IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC4500IEPP24TW			
MC4500IEPP24B		---	2.26" (57 mm)
MC4500IEPP24BW			
MC4500IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC4500IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC4500IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

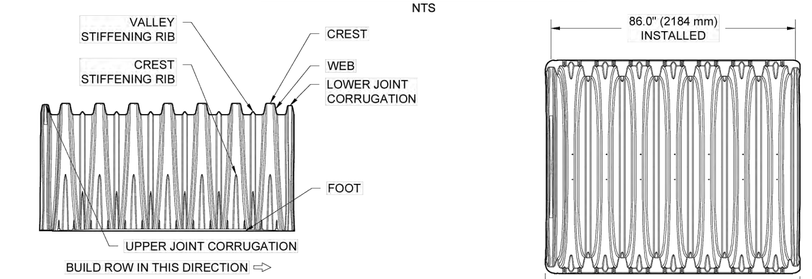
NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-3500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

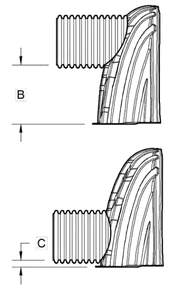
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" (152 mm) STONE BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 DRAWN: AVM
PROJECT #: S516508 CHECKED: JPR

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Key Plan

NORTH

rev	date	description	by
B	04MAY2026	CITY OF ZEELAND	MDS
A	02APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: DETAILS

project: VIVID

location: ZEELAND, MI

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DATE:	02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005129
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	ZSCSIT-1473-C620-DETAILS
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SHEET #:	ZSCSIT-1473-C620-DETAILS
DRAWING NUMBER	C620
SHEET:	39 OF 40

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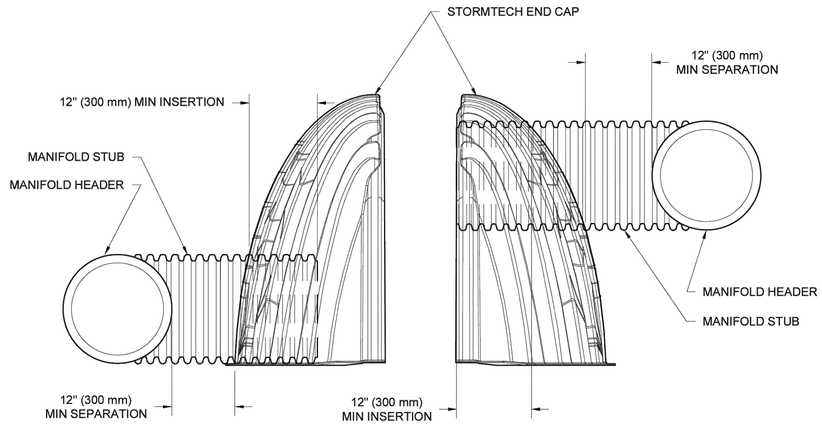
MC-SERIES END CAP INSERTION DETAIL

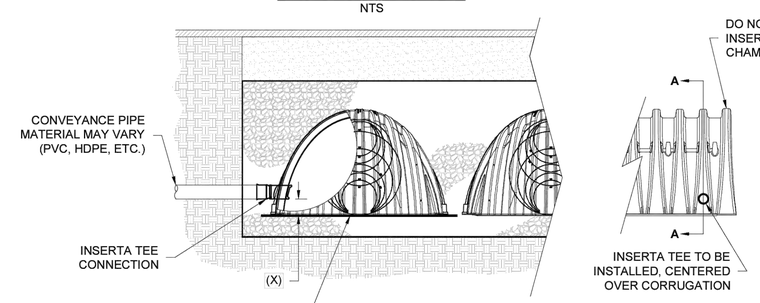
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

INSERTA TEE DETAIL

NTS



SECTION A-A

SIDE VIEW

PLACE ADSPLUS WOVEN GEOTEXTILE (CENTERED ON INSERTA-TEE INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 150 mm (6") PAST CHAMBER FOOT

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	150 mm (6")	100 mm (4")
SC-800	250 mm (10")	100 mm (4")
DC-780	250 mm (10")	100 mm (4")
MC-3500	300 mm (12")	150 mm (6")
MC-4500	300 mm (12")	200 mm (8")
MC-7200	300 mm (12")	200 mm (8")
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTES:

- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

ZEELAND
UNDERGROUND
ZEELAND, MI

DATE: 03/19/26 | DRAWN: AVM | CHECKED: JPR | PROJECT #: S516508

DATE	DWN	CHK
4/21/2026	MPV	-

Inserta Tee®
Lateral Connection

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Key Plan

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Mead Johnson NUTRITION

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DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL025120
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
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SHEET #: ZSCSIT-1473-0621-DETAILS

DRAWING NUMBER: C621

SHEET: 40 OF 40

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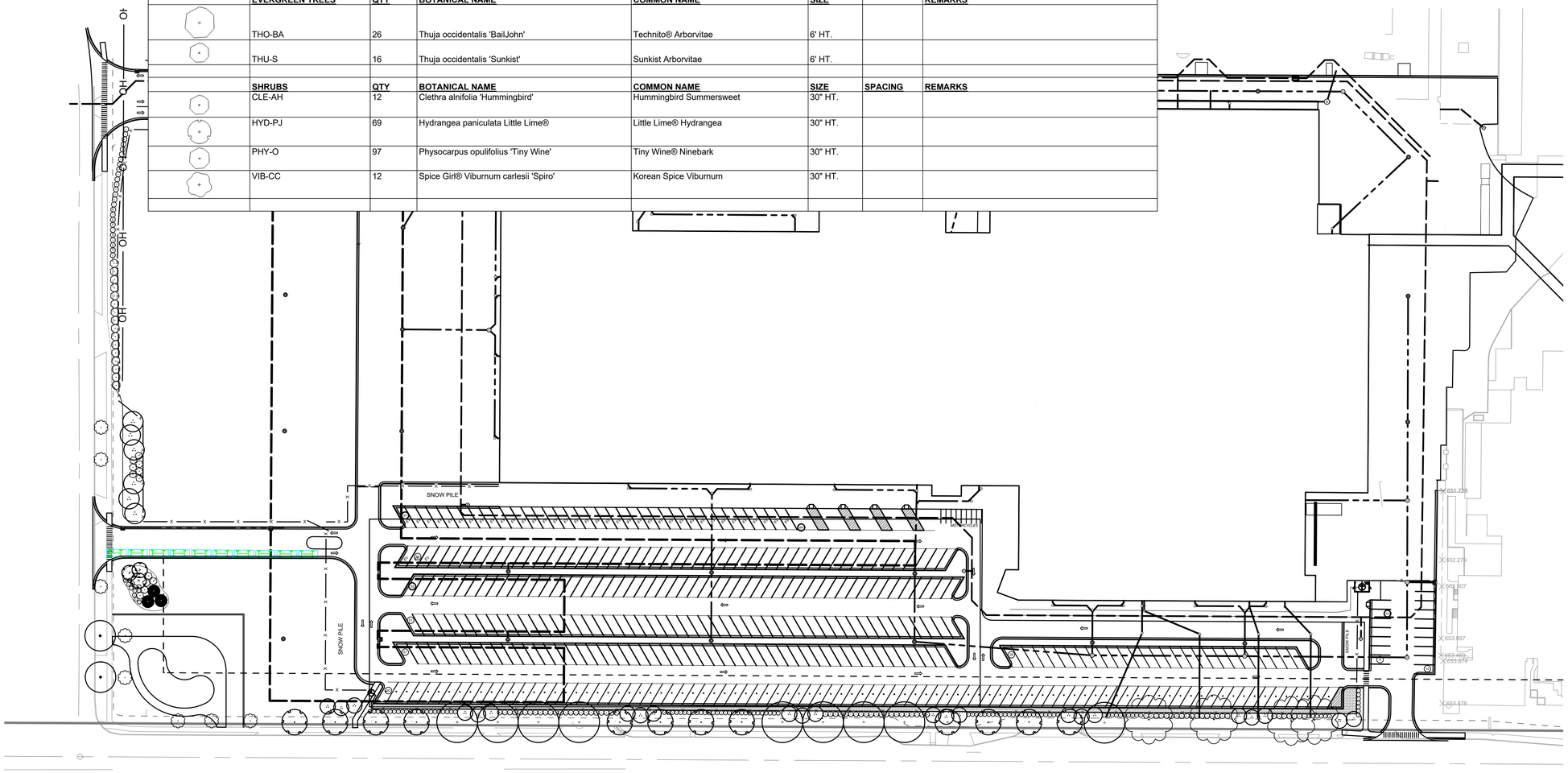
PLANT SCHEDULE

PLANT LEGEND	TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE		REMARKS
	ACE-F	9	Acer x freemanii 'Marmo'	Marmo Freeman Maple	2.5" CAL.		
	AME-G	6	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	10' HT.		MATCHING SPECIMEN
	CER-CA	5	Cercis canadensis 'Ace of Hearts'	Eastern Redbud 'Ace of Hearts'	10' HT.		MATCHING SPECIMEN
	CRA-P	3	Crataegus phaenopyrum	Washington Hawthorn	2" CAL.		
	GIN-BA	12	Ginkgo biloba 'Autumn Gold'	Autumn Gold Maidenhair Tree	2.5" CAL.		
	TIL-A	2	Tilia americana 'Legend'	American Linden, Legend Linden	2.5" CAL.		
	EVERGREEN TREES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**		**REMARKS**
	THO-BA	26	Thuja occidentalis 'BailJohn'	Technito® Arborvitae	6' HT.		
	THU-S	16	Thuja occidentalis 'Sunkist'	Sunkist Arborvitae	6' HT.		
	SHRUBS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
	CLE-AH	12	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	30" HT.		
	HYD-PJ	69	Hydrangea paniculata Little Lime®	Little Lime® Hydrangea	30" HT.		
	PHY-O	97	Physocarpus opulifolius 'Tiny Wine'	Tiny Wine® Ninebark	30" HT.		
	VIB-CC	12	Spice Girl® Viburnum carlesii 'Spiro'	Korean Spice Viburnum	30" HT.		



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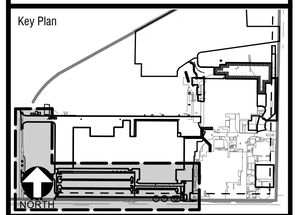
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
A	02APR2026	SITE PLAN APPROVAL	CME

MeadJohnson NUTRITION

title: LANDSCAPE PLAN - OVERALL

project: VIVID

location: ZEELAND, MI

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SCALE: 1" = 60'
0' 30' 60' 90' 120'

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DGL	SRF	TJ	A

C.A.R OR P.O NUMBER	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	CME
DESIGNER:	CME
DRAFTER:	CME
VENDOR NAME:	ARKOS DESIGN
VENDOR PROJECT NUMBER:	GLD25120
DISCIPLINE:	LANDSCAPE
SYSTEM NAME:	
SYSTEM NUMBER:	
EQUIPMENT TYPE:	
LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	
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DEPARTMENT:	

SHEET #: ZSCST-1473-L100-LANDSCAPE PLAN

DRAWING NUMBER L100

SHEET: 1of 3

Received: 05/04/26
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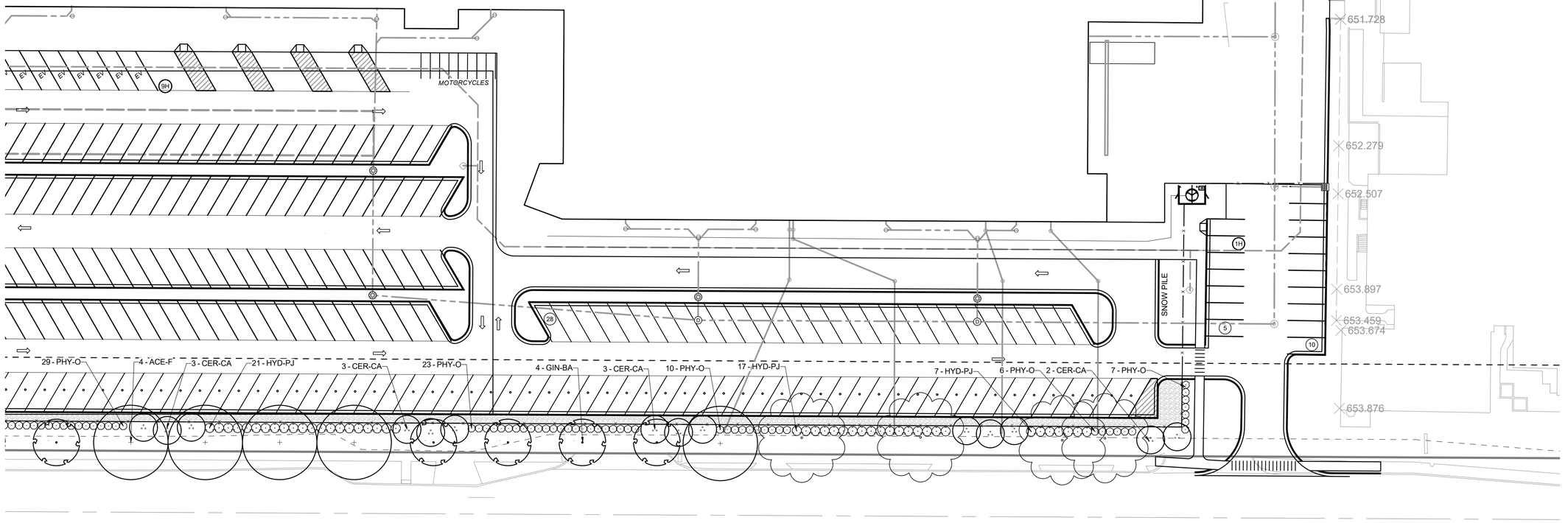

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Maintenance Representative	mm/dd/yy
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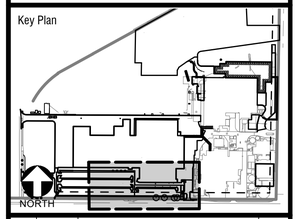
Key Plan



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Mead Johnson NUTRITION

title: LANDSCAPE PLAN - MAIN ST.

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER

SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	CME
DESIGNER:	CME
DRAFTER:	CME
VENDOR NAME:	ARKOS DESIGN
VENDOR PROJECT NUMBER:	GLD25120
DISCIPLINE:	LANDSCAPE
SYSTEM NAME:	
SYSTEM NUMBER:	
EQUIPMENT TYPE:	
LEGACY NUMBER:	SHEET #:
LEGACY DATE:	25CSIT1473-L101-LANDSCAPE PLAN
LEGACY VENDOR:	
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Maintenance Representative	mm/dd/yy
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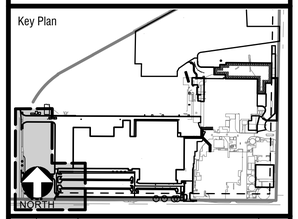
Key Plan



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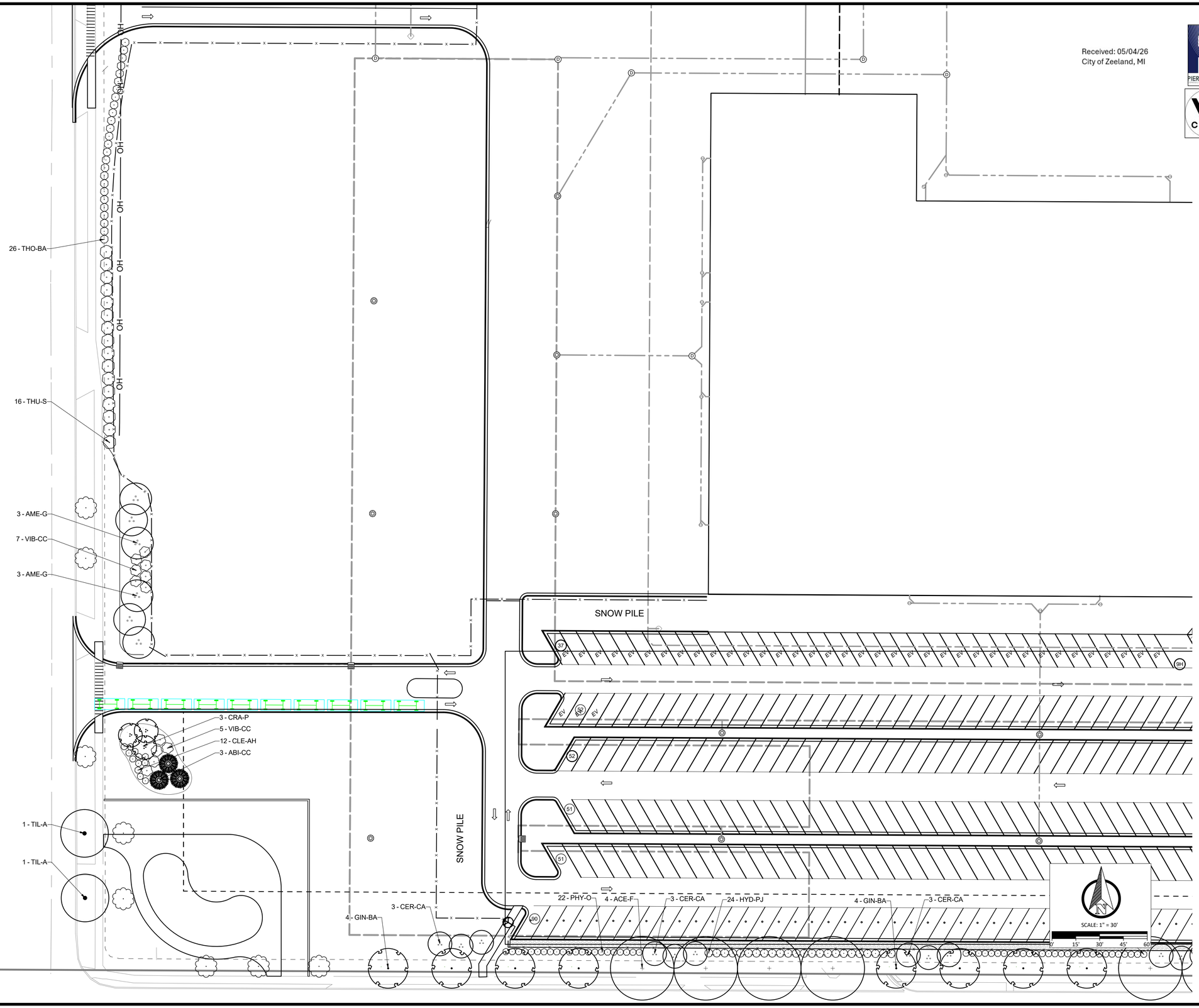

Mead Johnson NUTRITION

title: LANDSCAPE PLAN - CARLTON & MAIN

project: VIVID

location: ZEELAND, MI

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DATE:

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C.A.R OR P.O NUMBER	
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PROJECT MANAGER:	CME
DESIGNER:	CME
DRAFTER:	CME
VENDOR NAME:	ARKOS DESIGN
VENDOR PROJECT NUMBER:	GLD25120
DISCIPLINE:	LANDSCAPE
SYSTEM NAME:	
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DRAWING NUMBER L102

SHEET: 3 of 3

Received: 05/04/26
City of Zeeland, MI

-SITE LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	FIXTURE DESCRIPTION	MANUFACTURER AND CATALOG NO.	MOUNTING TYPE	CEILING TYPE	VOLTS	WATTS	LAMP DESCRIPTION	INITIAL DELIVERED LUMENS	LENGTH	WIDTH	DEPTH	APP. ALT. MANUFACTURER	FIXTURE NOTES
R1-25	EXTERIOR AREA LIGHT, SINGLE ARM, POLE MOUNTED, DIE-CAST SQUARE HOUSING, ACRYLIC LENS, BLACK POWDER COAT FINISH, 25' ROUND STEEL POLE, TYPE IV DISTRIBUTION, INTEGRAL PHOTOCELL	LITHONIA DSX1 LED P5 27K 80CRI T4M HS DF 480 R	POLE	-	480 V	142	WHITE LED, 2700K, 80 CRI	17169	2' - 9"	1' - 3"	0' - 8"	HUBBELL EMCO	1
R1-30	EXTERIOR AREA LIGHT, SINGLE ARM, POLE MOUNTED, DIE-CAST SQUARE HOUSING, ACRYLIC LENS, BLACK POWDER COAT FINISH, 30' SQUARE STEEL POLE, TYPE IV DISTRIBUTION, INTEGRAL PHOTOCELL	LITHONIA DSX1 LED P5 27K 80CRI T4M HS DF 480 R	POLE	-	480 V	142	WHITE LED, 2700K, 80 CRI	17169	2' - 9"	1' - 3"	0' - 8"	HUBBELL EMCO	1
V1	LED CANOPY LIGHT, DIE-CAST ALUMINUM, TYPE V DISTRIBUTION PATTERN, CLEAR ACRYLIC LENS, IP66 RATED	LITHONIA DSXSC LED 20C 700 30K T5W MVOLT\	SURFACE	-	277 V	46	WHITE LED, 3000K, 80 CRI	5068	1' - 6"	0' - 9"	0' - 4"	HUBBELL EMCO	1
W1	BUILDING MOUNTED WALL PACK WITH DIE-CAST ALUMINUM TRAPEZOID STYLE HOUSING FINISHED BLACK, CUT-OFF DISTRIBUTION, ACRYLIC LENS	LITHONIA WDGE3 LED P3 30K 80CRI R4 MVOLT SRM	WALL	-	277 V	18	WHITE LED, 4000K, 80 CRI	10000	0' - 9"	1' - 6"	0' - 8"	GARDCO HUBBELL	1, 2

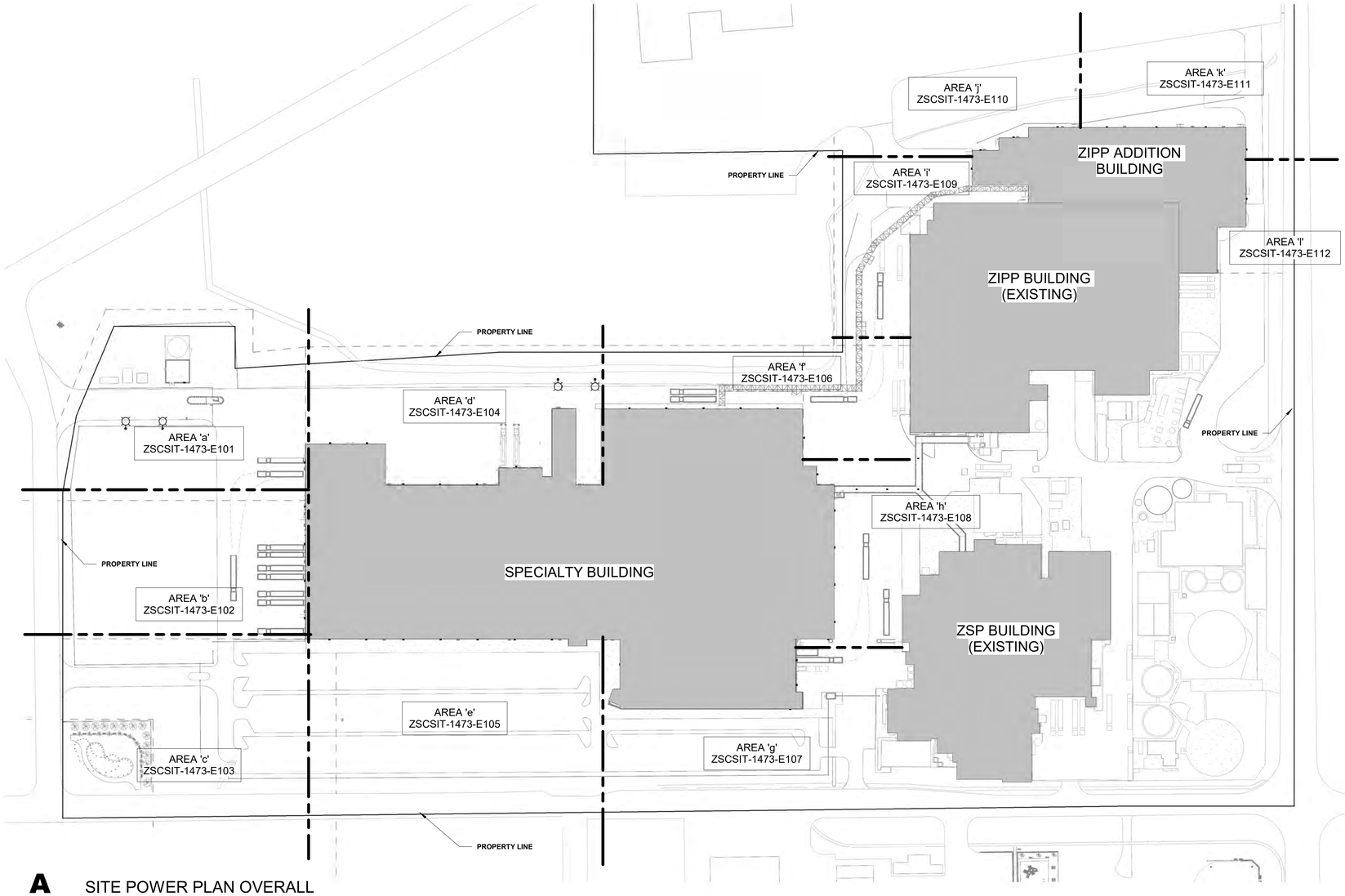
SITE LIGHTING

LIGHTING NOMENCLATURE:
A=UPPERCASE LETTER INDICATES FIXTURE TYPE

A — BUILDING MOUNTED WALL PACK

A — POLE WITH STANCHION MTD LUMINAIRES - LAMP POSITIONS AS INDICATED

A — UNDER CANOPY LIGHT



A SITE POWER PLAN OVERALL

ZSCSIT-1473-E100 SCALE: 1" = 100'-0"

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SCALE
1" = 100'-0"
0' 25' 50' 100' 200' 300'

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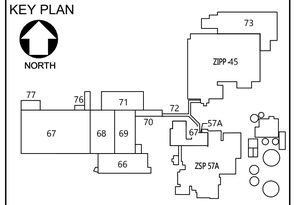
KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - OVERALL

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
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DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
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LEGACY NUMBER:		SHEET #:	ZSCSIT-1473-E100
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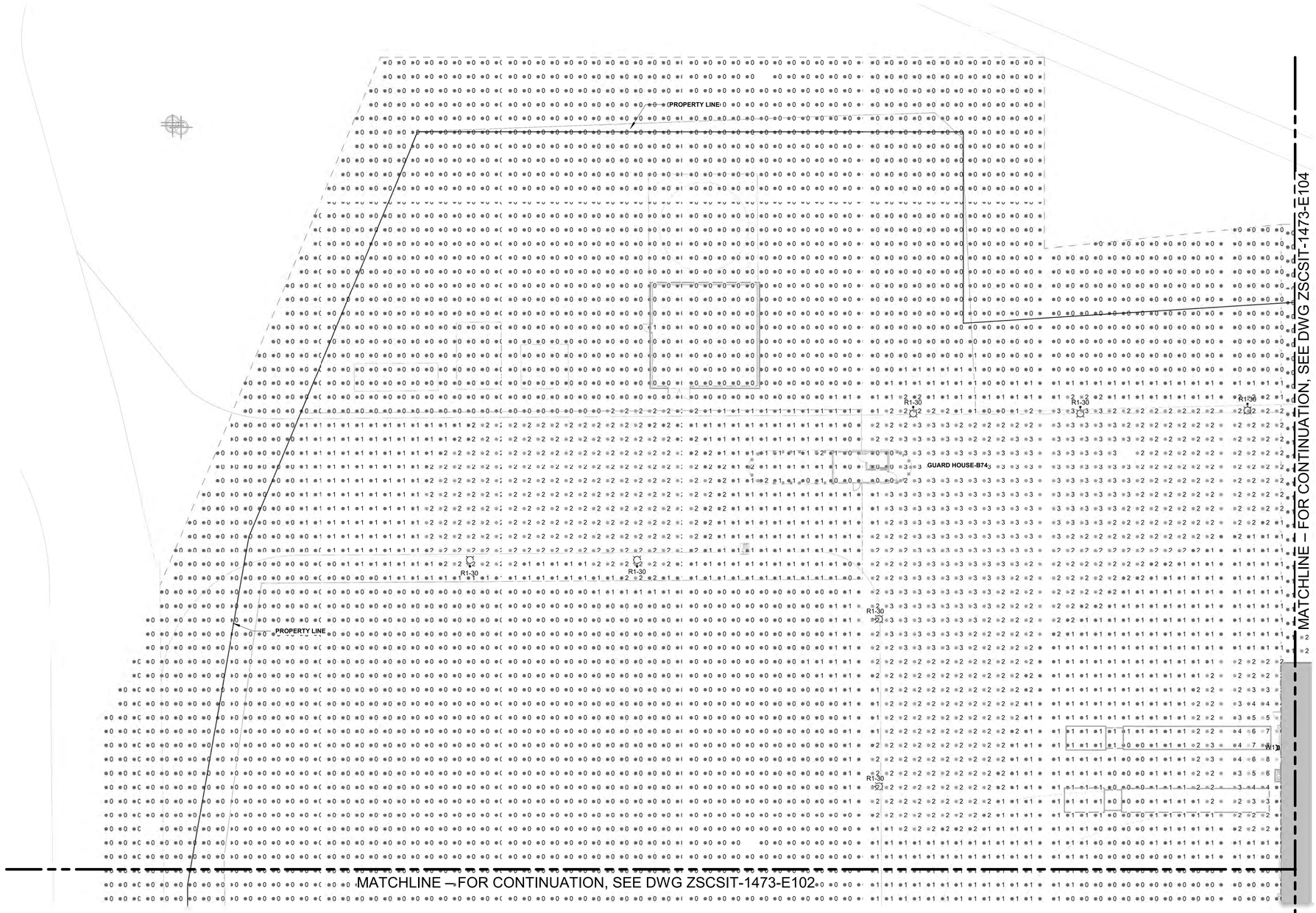

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA A

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Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
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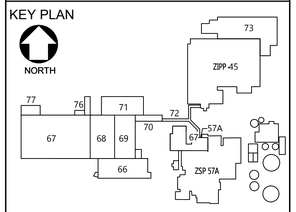
KEY PLAN



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MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA A

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER
CAR_NUMBER

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DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDS120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
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LEGACY NUMBER:			
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SCALE

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PROPERTY LINE

R1-30

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A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA B

ZSCSIT-1473-E102 SCALE: 1" = 20'-0"

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SCALE
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Maintenance Representative	mm/dd/yy
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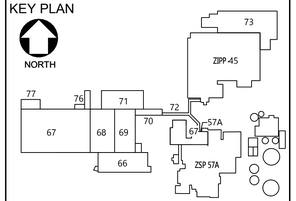

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A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA B

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER
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DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
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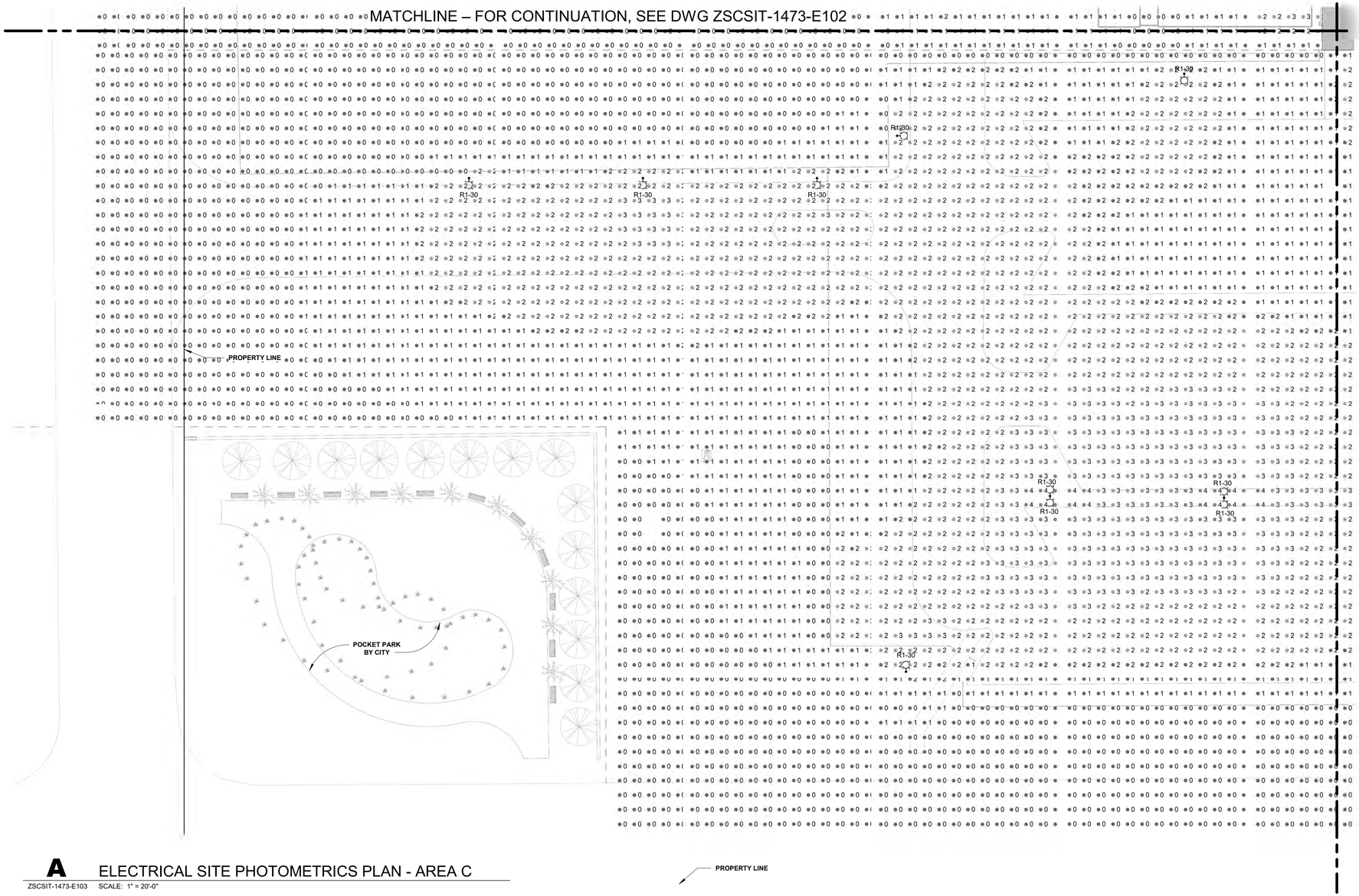

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA C

ZSCSIT-1473-E103 SCALE: 1" = 20'-0"

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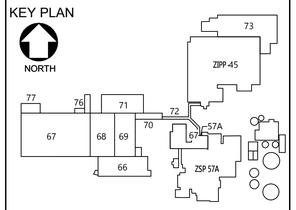
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



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A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA C

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER
CAR_NUMBER

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DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDS120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
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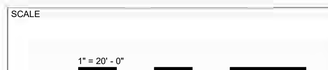

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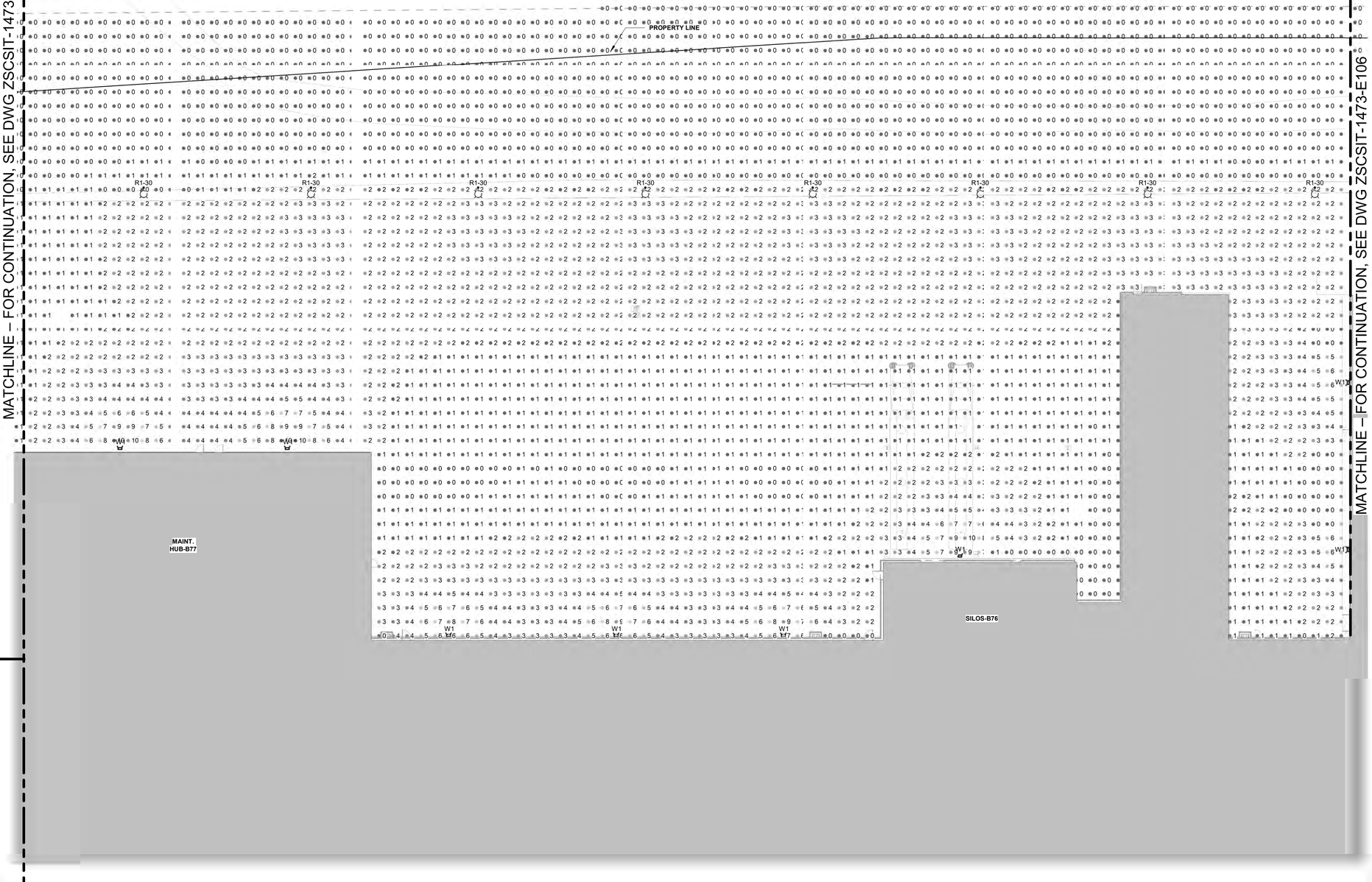
MATCHLINE – FOR CONTINUATION, SEE DWG ZSCSIT-1473-E106



A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA D

ZSCSIT-1473-E104 SCALE: 1" = 20'-0"

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4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

SCALE
1" = 20' - 0"
0' 10' 20' 30' 40' 60'

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SEAL

DATE:

ENGINEER	ARCHITECT	REV BY	REV
	SRF	CED	A

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Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
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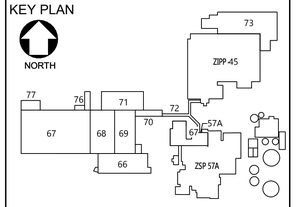
KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

Mead Johnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA D

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER: CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ZSCSIT-1473-E104
LEGACY DATE:			
LEGACY VENDOR:			
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DEPARTMENT:		SHEET:	

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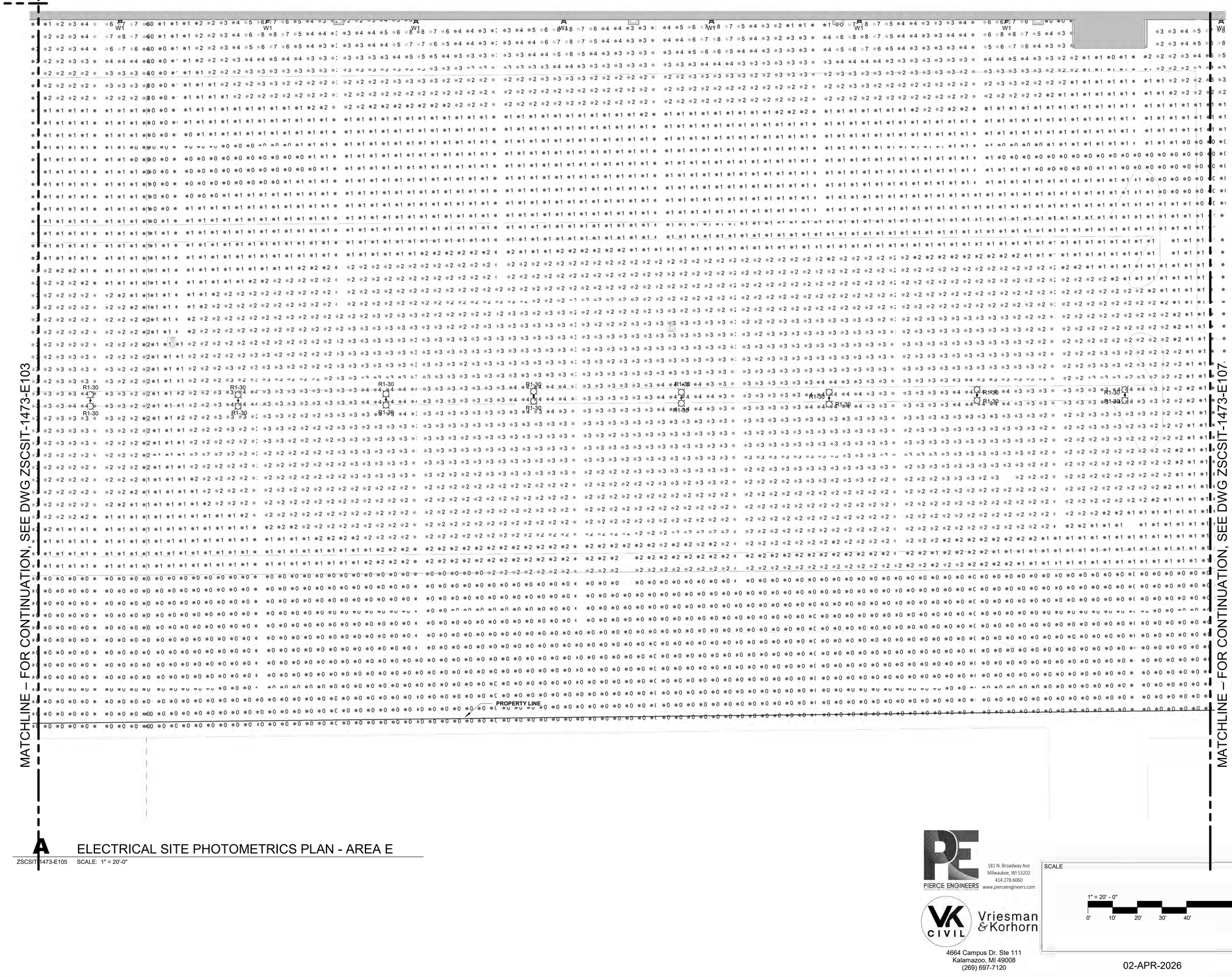

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA E

ZSCSIT-1473-E105 SCALE: 1" = 20'-0"

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Kalamazoo, MI 49008
(269) 697-7120

SCALE
1" = 20' - 0"
0' 10' 20' 30' 40' 60'

02-APR-2026

SEAL

DATE:

ENGINEER	ARCHITECT	REV BY	REV
	SRF	CED	A

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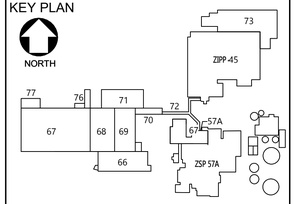
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A.	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA E

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER: CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:			SHEET #:
LEGACY DATE:			ZSCSIT-1473-E105
LEGACY VENDOR:			
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HARD COPY:			ZSCSIT-1473-E105
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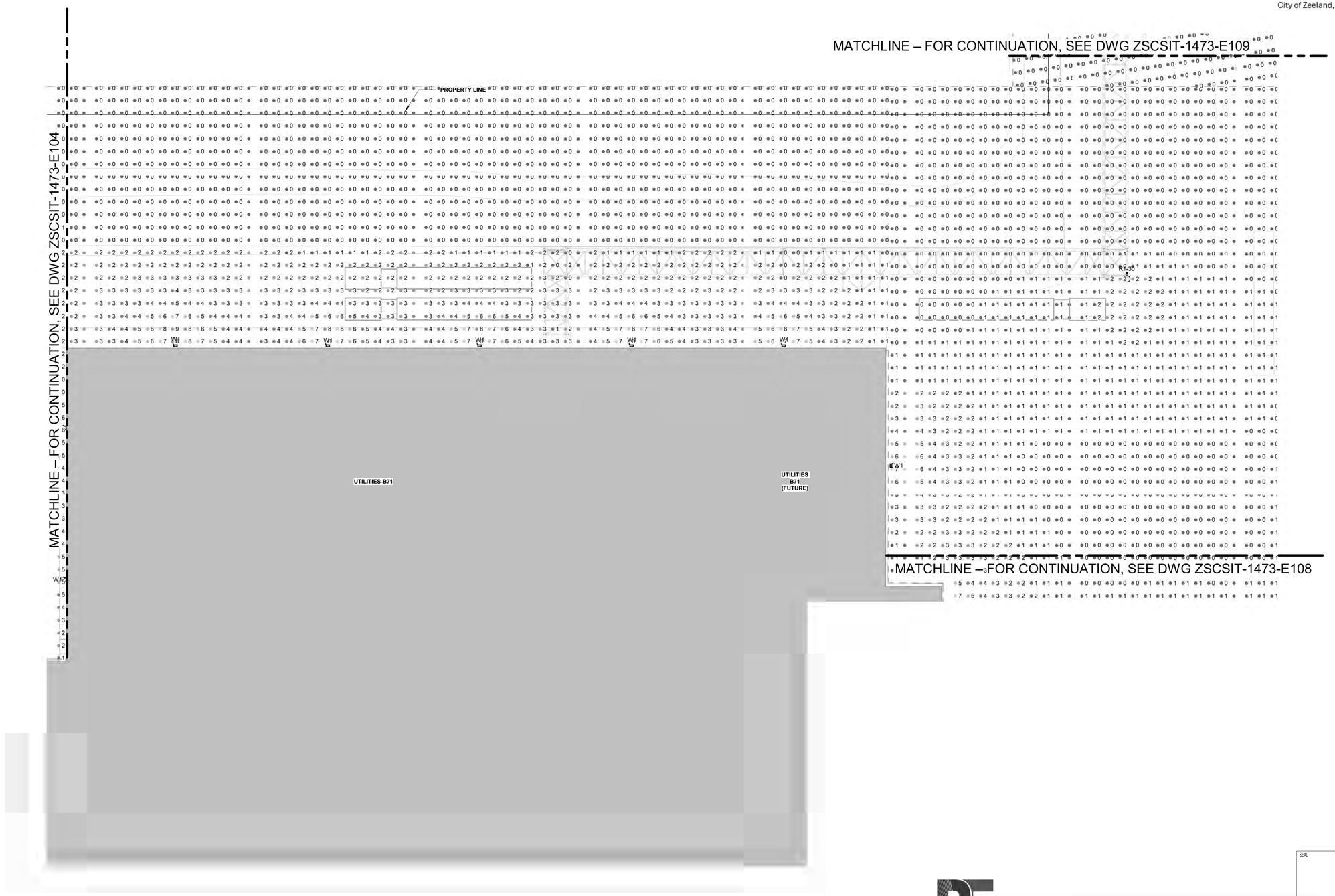

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA F

ZSCSIT-1473-E106 SCALE: 1" = 20'-0"

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SCALE
1" = 20' - 0"
0' 10' 20' 30' 40' 60'

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DATE:

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	SRF	CED	A

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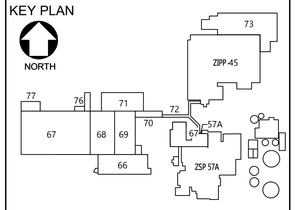
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA F

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDS2120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ZSCSIT-1473-E106
LEGACY DATE:			
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CAD FILE NAME:	ZSCSIT-1473-E106.dwg	DRAWING NUMBER	ZSCSIT-1473-E106
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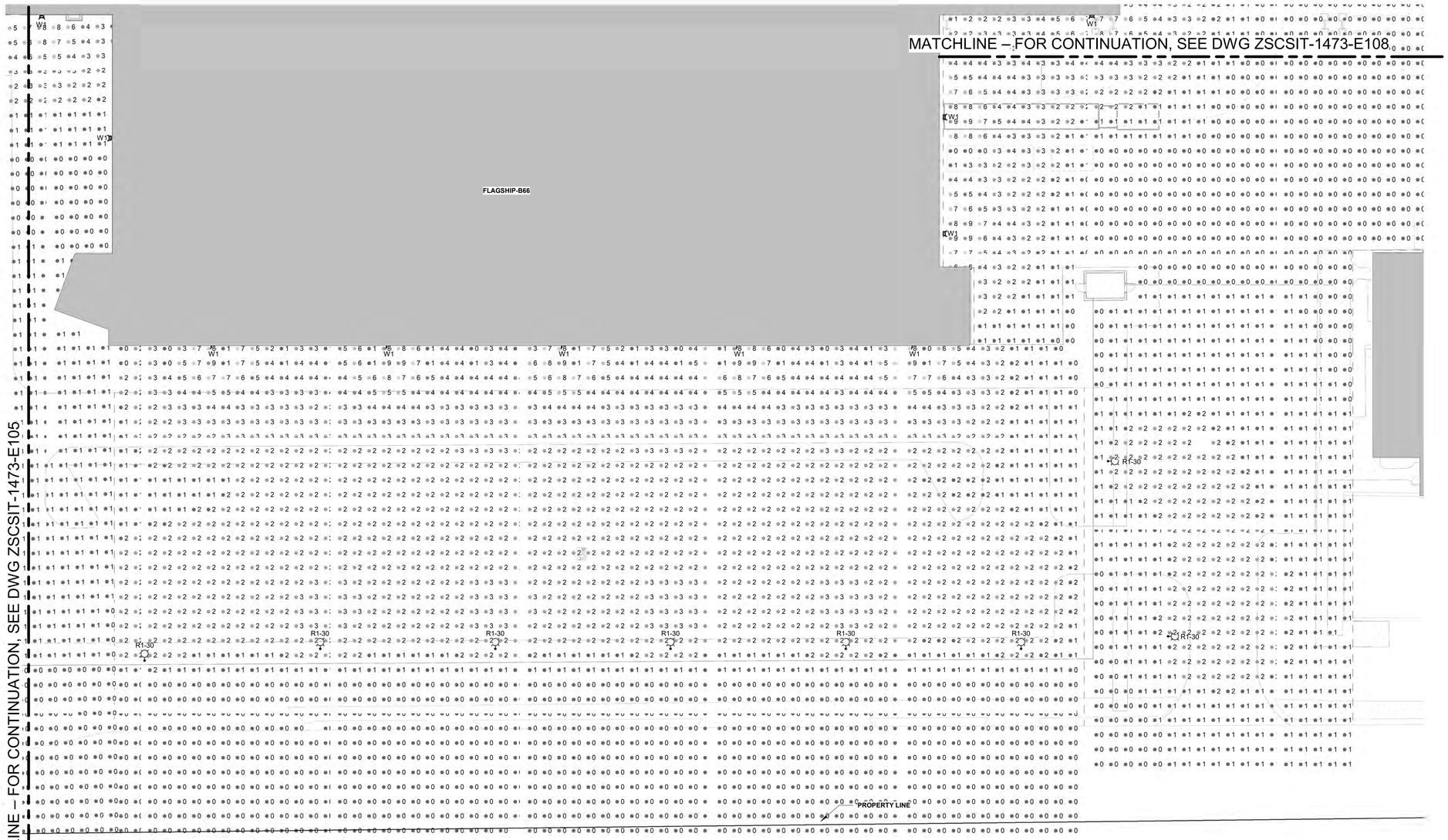

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA G

ZSCSIT-1473-E107 SCALE: 1" = 20'-0"

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SCALE
1" = 20' - 0"
0' 10' 20' 30' 40' 60'

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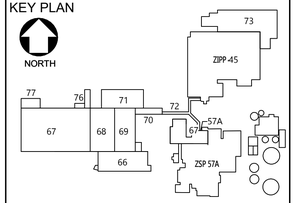
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA G

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDS2120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ZSCSIT-1473-E107
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ZSCSIT-1473-E107.dwg	DRAWING NUMBER	ZSCSIT-1473-E107
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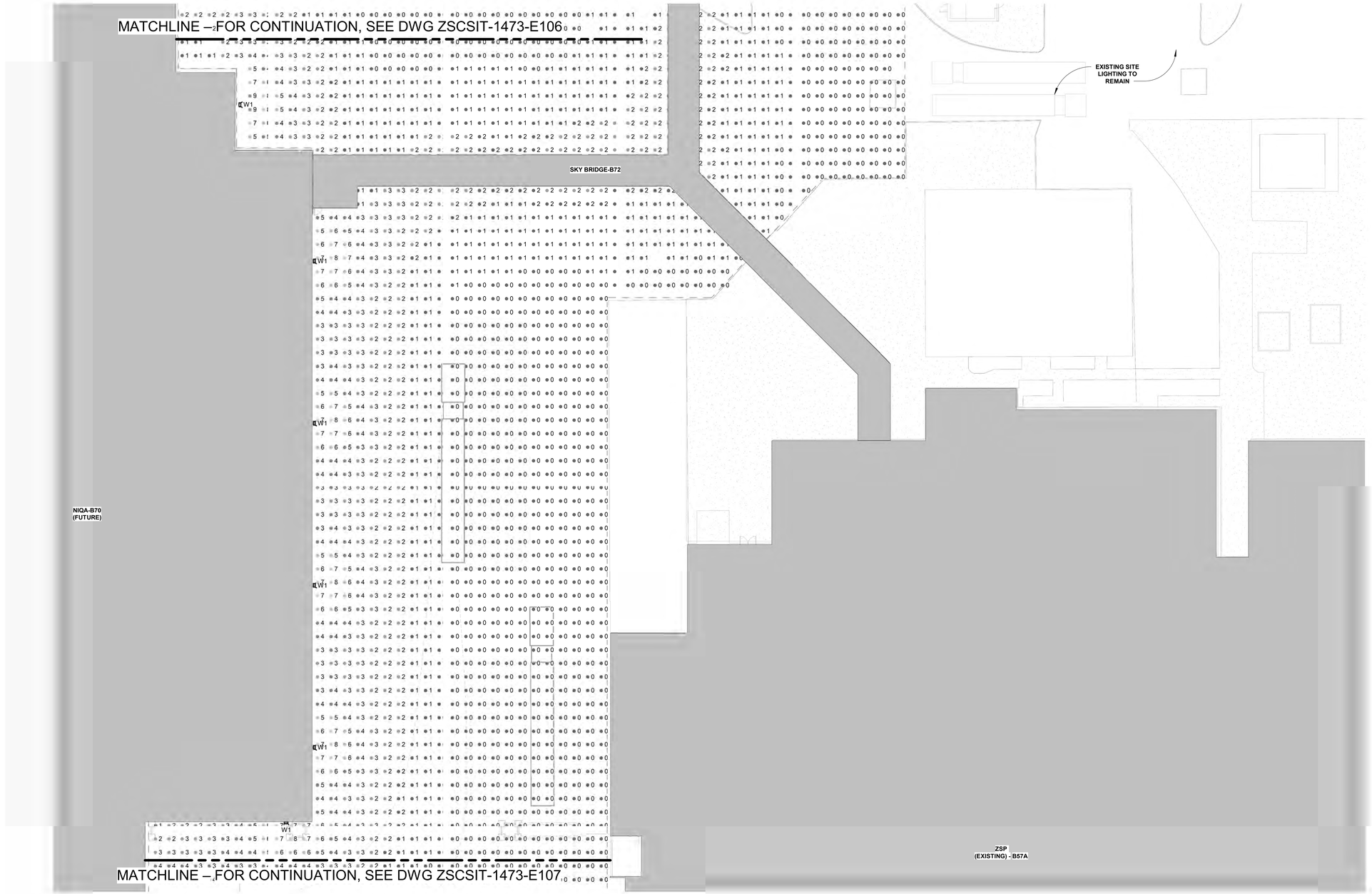

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA H

ZSCSIT-1473-E108 SCALE: 1" = 20'-0"

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(269) 697-7120

SCALE
1" = 20' - 0"
0' 10' 20' 30' 40' 60'

02-APR-2026

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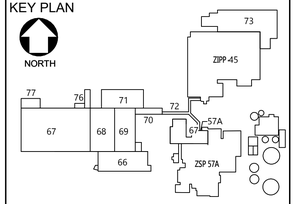
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA H

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O. NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:			
LEGACY DATE:			
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CAD FILE NAME:	ZSCSIT-1473-E108.dwg		
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DRAWING NUMBER: ZSCSIT-1473-E108
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PROPERTY LINE

MATCHLINE – FOR CONTINUATION, SEE DWG ZSCSIT-1473-E110

ZIPP ADDITION-B73

W1

PROPERTY LINE

EXISTING SITE LIGHTING TO REMAIN

ZIPP (EXISTING)-B45

MATCHLINE – FOR CONTINUATION, SEE DWG ZSCSIT-1473-E106

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA I

ZSCSIT-1473-E109 SCALE: 1" = 20'-0"

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Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

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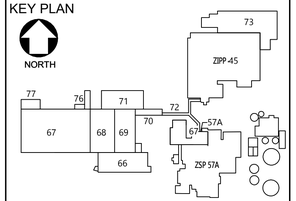

REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA I

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ZSCSIT-1473-E109
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ZSCSIT-1473-E109.dwg	DRAWING NUMBER	ZSCSIT-1473-E109
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SCALE

1" = 20' - 0"
0' 10' 20' 30' 40' 60'

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EXISTING SITE LIGHTING TO REMAIN

MATCHLINE – FOR CONTINUATION, SEE DWG ZSCSIT-1473-E111

PROPERTY LINE

R1-25

MATCHLINE – FOR CONTINUATION, SEE DWG ZSCSIT-1473-E109

ZIPP ADDITION-B73

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA J

ZSCSIT-1473-E110 SCALE: 1" = 20'-0"

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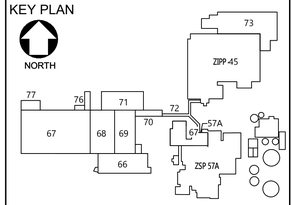
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA J

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER
CAR_NUMBER

SCALE:	AS NOTED
DATE:	02-APR-2026
PROJECT MANAGER:	
DESIGNER:	DLH
DRAFTER:	DLH
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GLDS2120
DISCIPLINE:	
SYSTEM NAME:	
SYSTEM NUMBER:	
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LEGACY NUMBER:	
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	ZSCSIT-1473-E110.dwg
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DRAWING NUMBER ZSCSIT-1473-E110

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SCALE

1" = 20' - 0"
0' 10' 20' 30' 40' 60'

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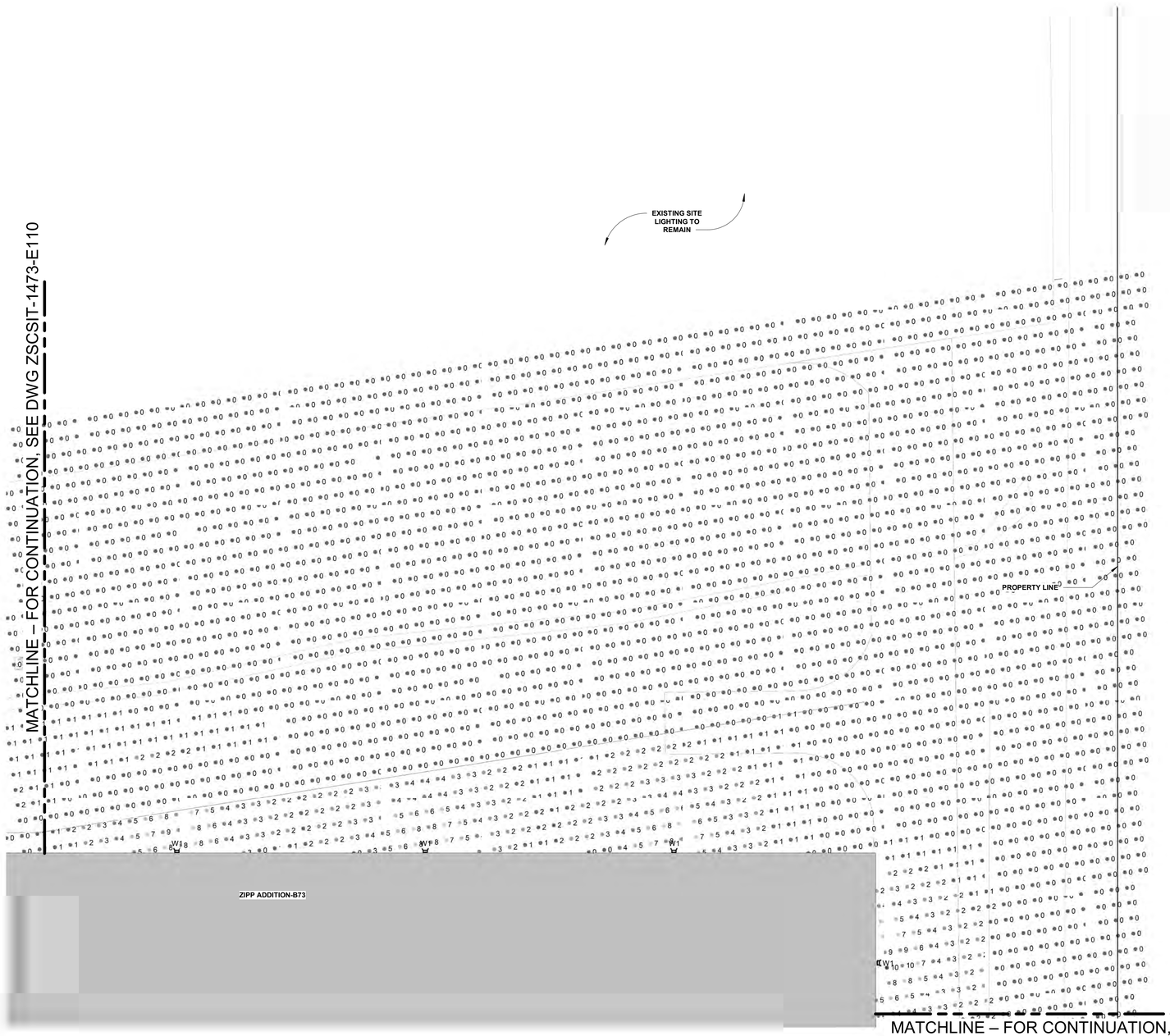

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA K

ZSCSIT-1473-E111 SCALE: 1" = 20'-0"

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Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

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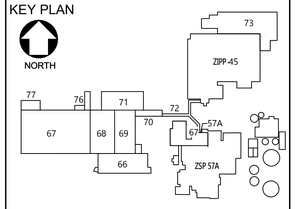

REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA K

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O. NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DRAWNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
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CAD FILE NAME:	ZSCSIT-1473-E111.dwg	DRAWING NUMBER:	ZSCSIT-1473-E111
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1" = 20' - 0"
0' 10' 20' 30' 40' 60'

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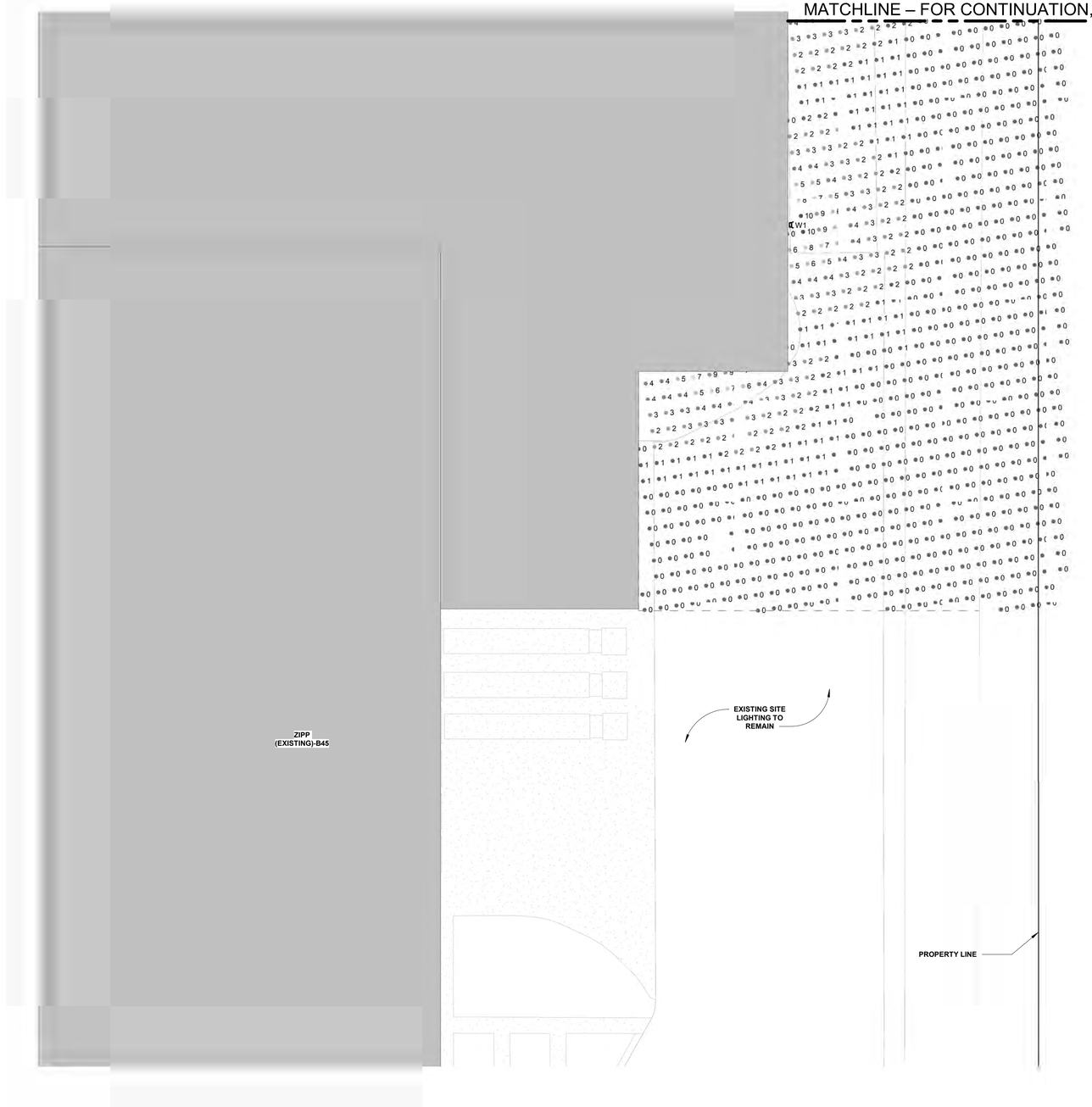

A ELECTRICAL SITE PHOTOMETRICS PLAN - AREA L

ZSCSIT-1473-E112 SCALE: 1" = 20'-0"

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SCALE
1" = 20' - 0"
0' 10' 20' 30' 40' 60'

02-APR-2026

SEAL:

DATE:

ENGINEER	ARCHITECT	REV BY	REV
	SRF	CED	A

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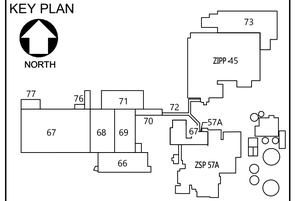
Approved By	
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	CED

MeadJohnson NUTRITION™

Title: ELECTRICAL SITE PHOTOMETRICS PLAN - AREA L

Project: ZSC VIVID

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			DLH
DRAFTER:			DLH
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:			
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ZSCSIT-1473-E112.dwg		
HARD COPY:			
DEPARTMENT:			

SHEET #
ZSCSIT-1473-E112
DRAWING NUMBER
ZSCSIT-1473-E112
SHEET:

3/27/2026 2:03:30 PM

Autodesk Docs://25120_MJN_ZSC/25120_ZSC_67-70SPEC_Elec.rvt

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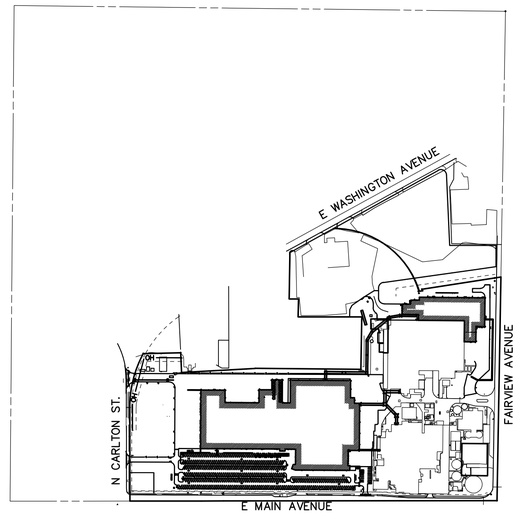
MEAD JOHNSON NUTRITION
ZEELAND MODERNIZATION MASTERPLAN

ZEELAND, MICHIGAN

INDEX OF DRAWINGS

SHEET #::	DESCRIPTION:	SHEET #:	SUPERCEDES OR REFERENCES:
ZSC073-1473-C000	COVER SHEET AND DRAWING INDEX	C000	
CIVIL			
ZSCSIT-1473-C300	SITE PLAN VARIANCE	C300	
ZSCSIT-1473-C301	SITE PLAN VARIANCE	C301	
ARCHITECTURAL			
ZSCSIT-1473-ASK006	SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS	ASK006	
ZSCSIT-1473-ASK007	SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS	ASK007	
ZSCSIT-1473-ASK008	ZIPP B73 - EXTERIOR BUILDING ELEVATIONS	ASK008	
ZSCSIT-1473-ASK009	ZIPP B73 - EXTERIOR BUILDING ELEVATIONS	ASK009	



APPLICANT
MEAD JOHNSON & COMPANY LLC
725 E MAIN AVENUE, ZEELAND,
MICHIGAN 49464
ALLAN BARRON
847-409-3536
ALLAN.BARRON@RECKITT.COM

DESIGN ENGINEER
VK CIVIL
4664 CAMPUS DR., STE 111
KALAMAZOO, MI 49008
DAN LEWIS, P.E.
269-697-7120
DAN@VKCIVIL.COM

SITE PLAN
SCALE: NTS

NORTH

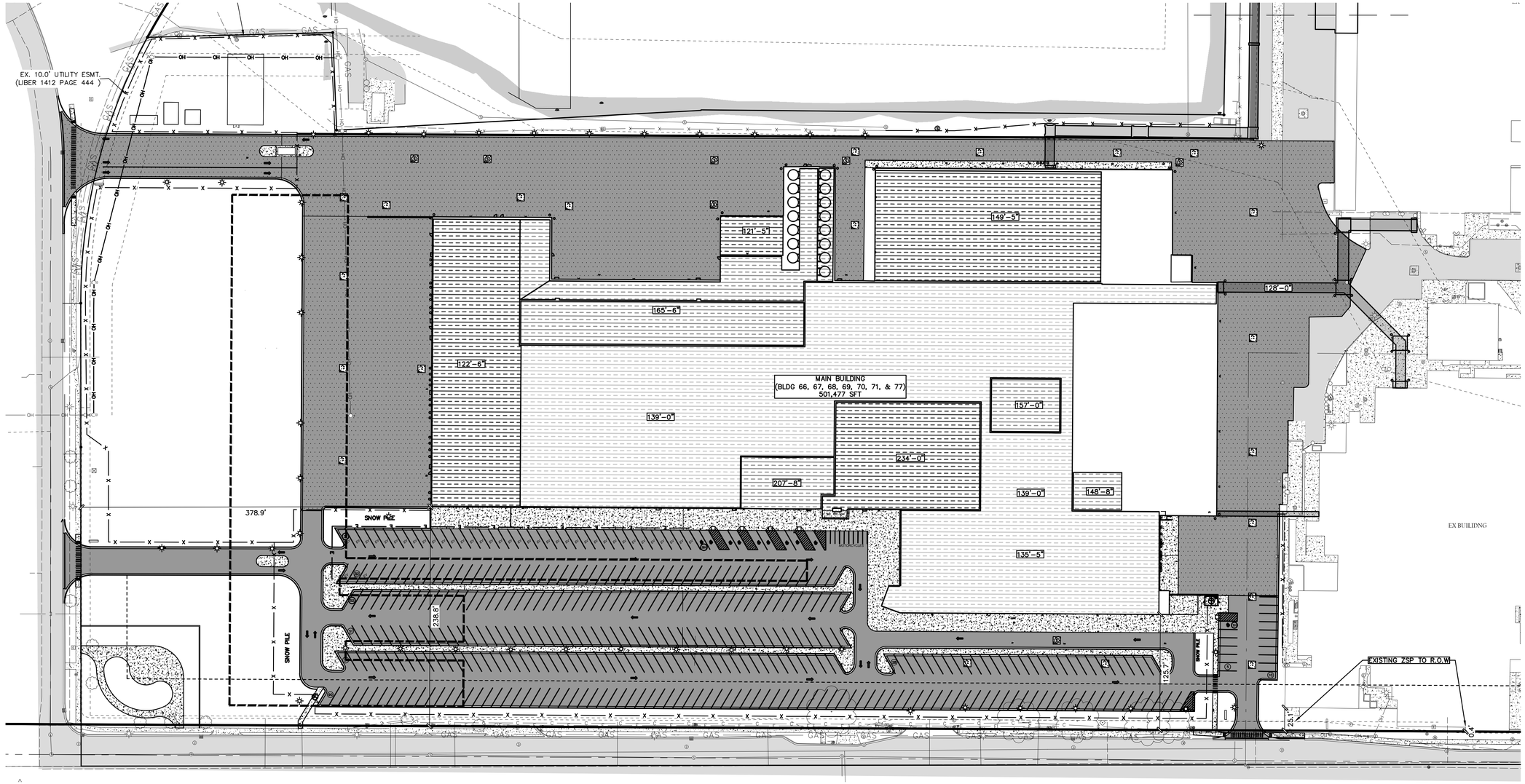
CAR#
P.O.#
INTEGRATED PROJECT SERVICES

STATE OF MICHIGAN
DANIEL LEWIS
ENGINEER
NO. 6201052573
LICENSED PROFESSIONAL ENGINEER

rev	date	description	by
A	02APR2026	SITE PLAN APPROVAL	MDS

DATE: 27MAR2026
VENDOR NAME: VK CIVIL
SHEET: 1 of 3
SHEET #: C000
CAD FILE NAME: ZSC073-1473-C000

Received: 04/06/26
City of Zeeland, MI



SYMBOL LEGEND

- EXISTING TREE
- TREE STUMP
- SIGN
- MAILBOX
- BOLLARD
- LIGHT POLE
- POWER POLE
- GUYWIRE
- COM/ELEC STRUCTURE
- GAS METER
- VALVE
- HYDRANT
- WELL
- CLEANOUT
- SANITARY SEWER MANHOLE
- STORM CATCH BASIN
- STORM MANHOLE
- STORM FLARED END SECTION
- RIP RAP
- FLOW DIRECTION ARROW
- SECTION CORNER
- PROPERTY CORNER – SET
- PROPERTY CORNER – FOUND
- BENCHMARK/CONTROL POINT
- SOIL BORING

LINE LEGEND

- EXISTING OVERHEAD ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING GAS
- PROPOSED GAS
- EXISTING COMMUNICATIONS
- PROPOSED COMMUNICATIONS
- EXISTING FENCE
- PROPOSED FENCE
- RIGHT OF WAY
- EASEMENT
- SETBACK
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING FORCEMAIN
- PROPOSED FORCEMAIN
- EXISTING WATERMAIN
- PROPOSED WATERMAIN

HATCH LEGEND

- EXISTING HOT MIXED ASPHALT
- PROPOSED HOT MIXED ASPHALT
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING CONCRETE
- PROPOSED CONCRETE
- ROOF ELEVATION AREA. SEE ARCHITECTURAL ELEVATIONS. BASE ELEVATION = 100'-0"

PROJECT SITE INFORMATION:
1) PARCEL ADDRESS: 725 E MAIN AVENUE
2) PARCEL NUMBER: 70-17-18-400-041
3) TOTAL ACREAGE: 39.38
4) ZONING: INDUSTRIAL (I-2)
5) FLOODPLAIN – N/A (THIS PROJECT NOT IN THE 100 YEAR FLOOD PLAIN, BASED ON THE FEMA NATIONAL FLOOD MAPS.)
6) ADJACENT ZONING – NORTH I-2, EAST I-1&I-2, SOUTH R-1,C-2&I-2, WEST I-2,R-2
7) SETBACKS – FRONT 50', SIDES 40', REAR 25'
8) BUILDING HEIGHT MAXIMUM 40', BUILDING HEIGHT PROPOSED >40'; VARIANCE REQUIRED
9) MAXIMUM LOT COVERAGE 60%, LOT COVERAGE PROPOSED 34%
10) SIGNAGE, LIGHTING, AND LANDSCAPING SHALL MEET MUNICIPAL REQUIREMENTS.
11) PARKING CALCULATION SEE PARKING TABLE ON THIS PAGE

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
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4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

SCALE: 1" = 60'
0' 30' 60' 90' 120'

SEAL

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	TJ	D

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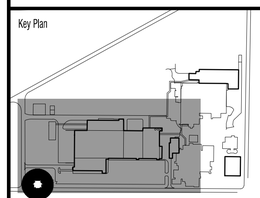
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



NORTH

rev	date	description	by
A	04APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: SITE PLAN - VARIANCE SUBMITTAL

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O NUMBER:			
SCALE:	AS NOTED	DATE:	10-MAR-2026
PROJECT MANAGER:			DGL
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL205120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:		SHEET #:	
LEGACY DATE:			
LEGACY VENDOR:			
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HARD COPY:			
DEPARTMENT:		SHEET:	

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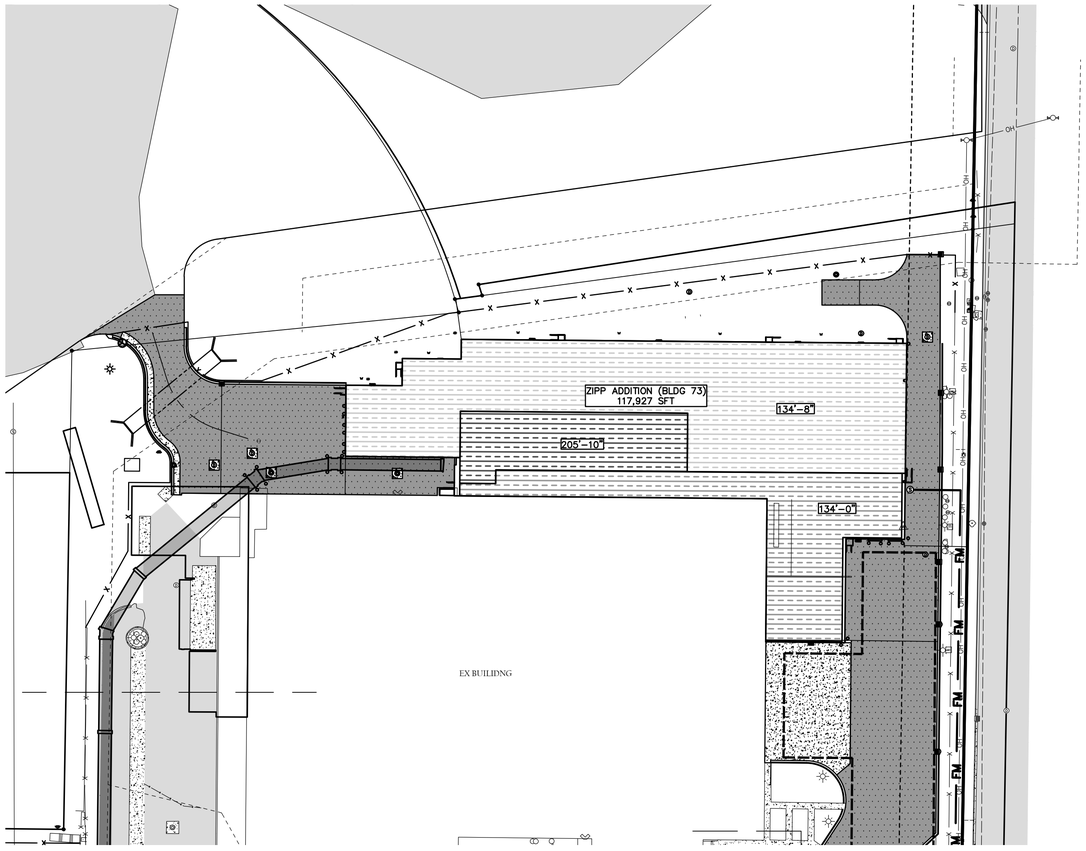

SYMBOL LEGEND

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SCALE: 1" = 60'
0' 30' 60' 90' 120'

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DGL	SRF	TJ	D

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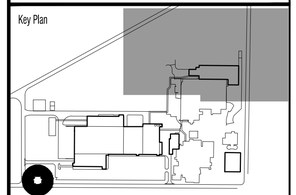
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by
A	01APR2026	SITE PLAN APPROVAL	MDS

Mead Johnson NUTRITION

title: SITE PLAN - VARIANCE SUBMITTAL

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O.NUMBER:

SCALE:	AS NOTED	DATE:	10-MAR-2026
PROJECT MANAGER:			DGL
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GL025120
DISCIPLINE:			CIVIL
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:		SHEET #:	
LEGACY DATE:			
LEGACY VENDOR:			
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HARD COPY:			
DEPARTMENT:		SHEET:	

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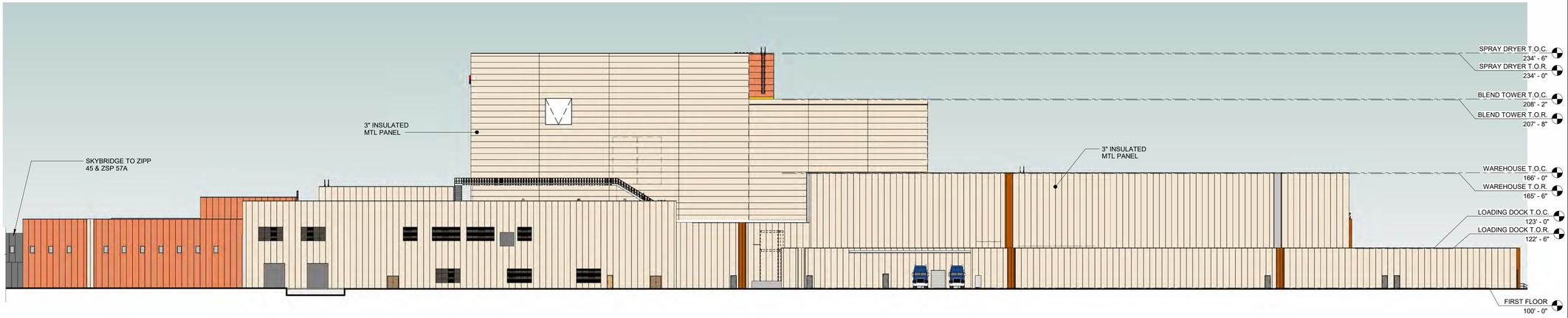
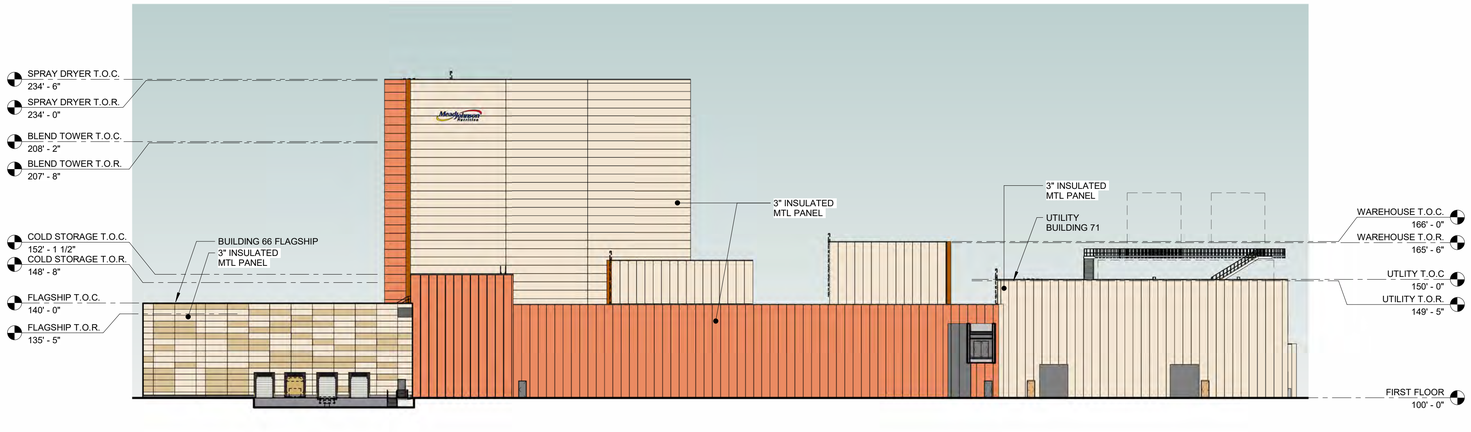


1 OVERALL ELEVATION - NORTH

ASK-006 SCALE: 1/32" = 1'-0"



2 OVERALL ELEVATION - EAST

ASK-006 SCALE: 1/32" = 1'-0"

ELEVATIONS NOTES

T.O.C.	TOP OF COPING PARAPET
T.O.R.	TOP OF ROOF

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SCALE 1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0" 0 1/2" = 1'-0" 1/8" = 1'-0" 3/16" = 1'-0" 1/16" = 1'-0" 0 3/32" = 1'-0" 3" = 1'-0" 1 1/2" = 1'-0" 1/4" = 1'-0" 0 3/4" = 1'-0" 3" = 1'-0"

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.	SRF	JG	A

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Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER: CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			ADS
DESIGNER:			RS/SGT
DRAFTER:			RS/SGT
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLDZ5120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #:	ASK-006
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-006.dwg	DRAWING NUMBER	ASK-006
HARD COPY:			
DEPARTMENT:		SHEET:	

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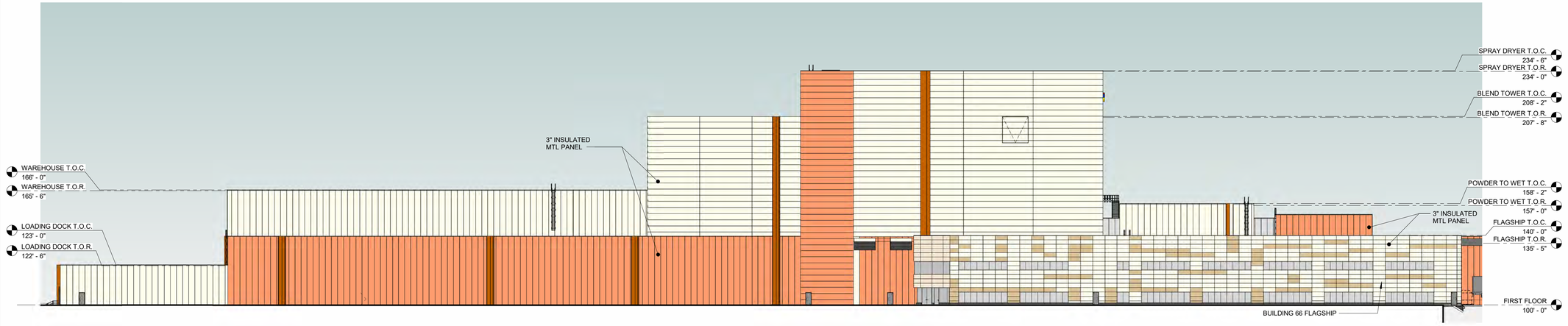
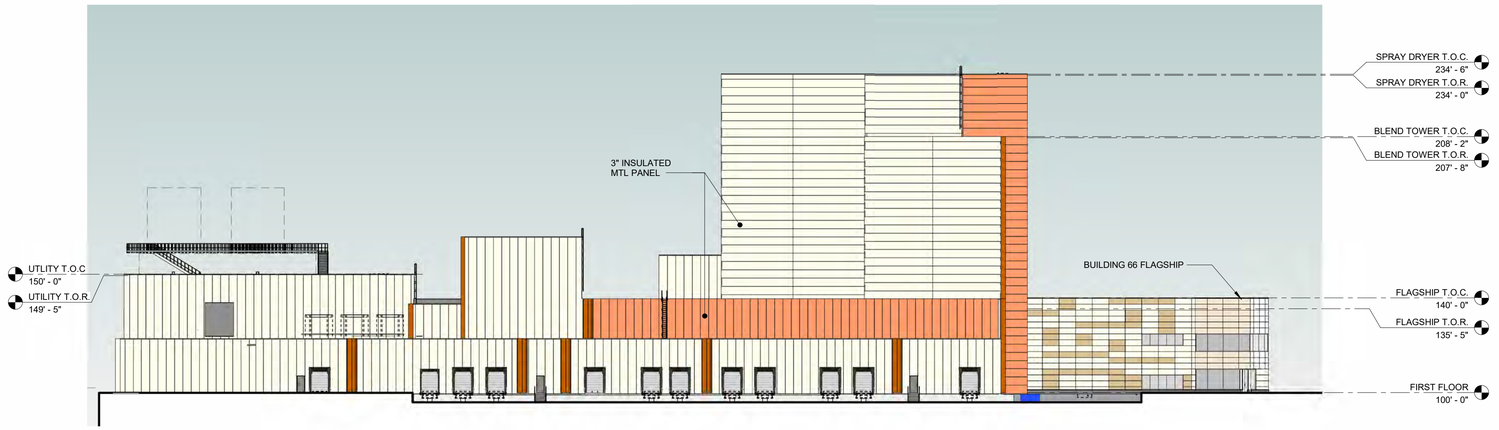
City of Zeeland, MI



1 OVERALL ELEVATION - SOUTH

ASK-007 SCALE: 1/32" = 1'-0"



2 OVERALL ELEVATION - WEST

ASK-007 SCALE: 1/32" = 1'-0"

ELEVATIONS NOTES

T.O.C.	TOP OF COPING PARAPET
T.O.R.	TOP OF ROOF

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(269) 697-7120

SCALE 1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0"
1/2" = 1'-0" 1/8" = 1'-0"
3/16" = 1'-0" 1/16" = 1'-0"
3/32" = 1'-0" 3" = 1'-0"
1 1/2" = 1'-0" 1/4" = 1'-0"
3/4" = 1'-0" 3" = 1'-0"

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Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: SPECIALTY B67-70 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 00 SITE

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER:
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS/SCT
DRAFTER:			RS/SCT
VENDOR NAME:			INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:			GLD25120
DISCIPLINE:			ARCHITECTURAL
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ASK-007
LEGACY DATE:			
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DEPARTMENT:		SHEET:	

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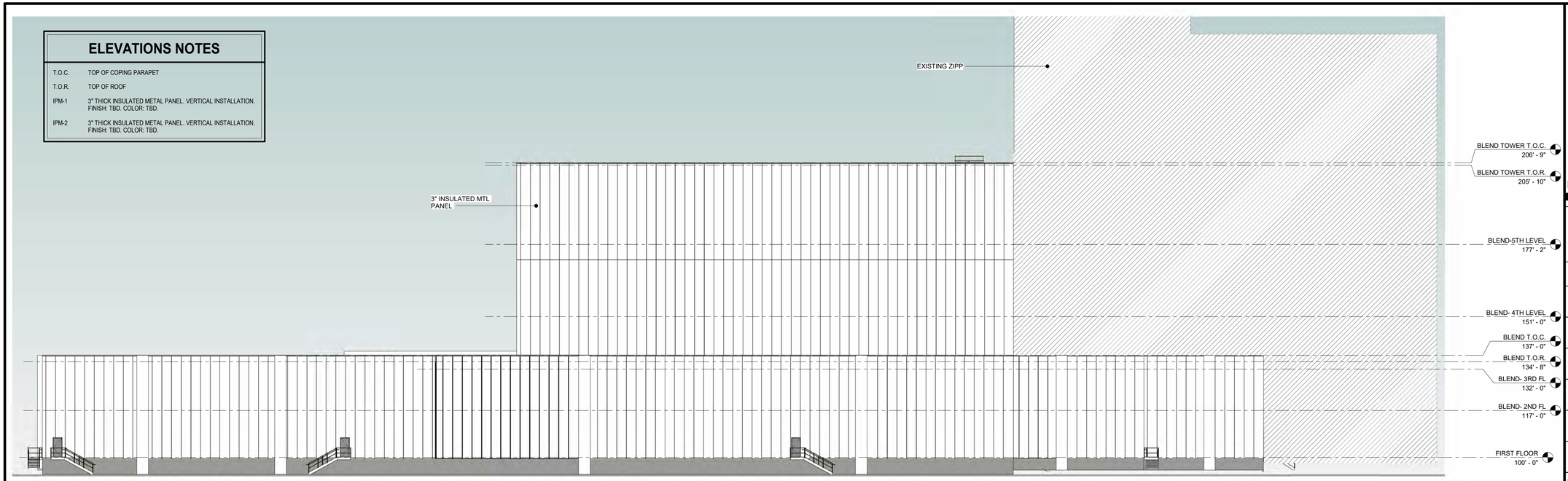
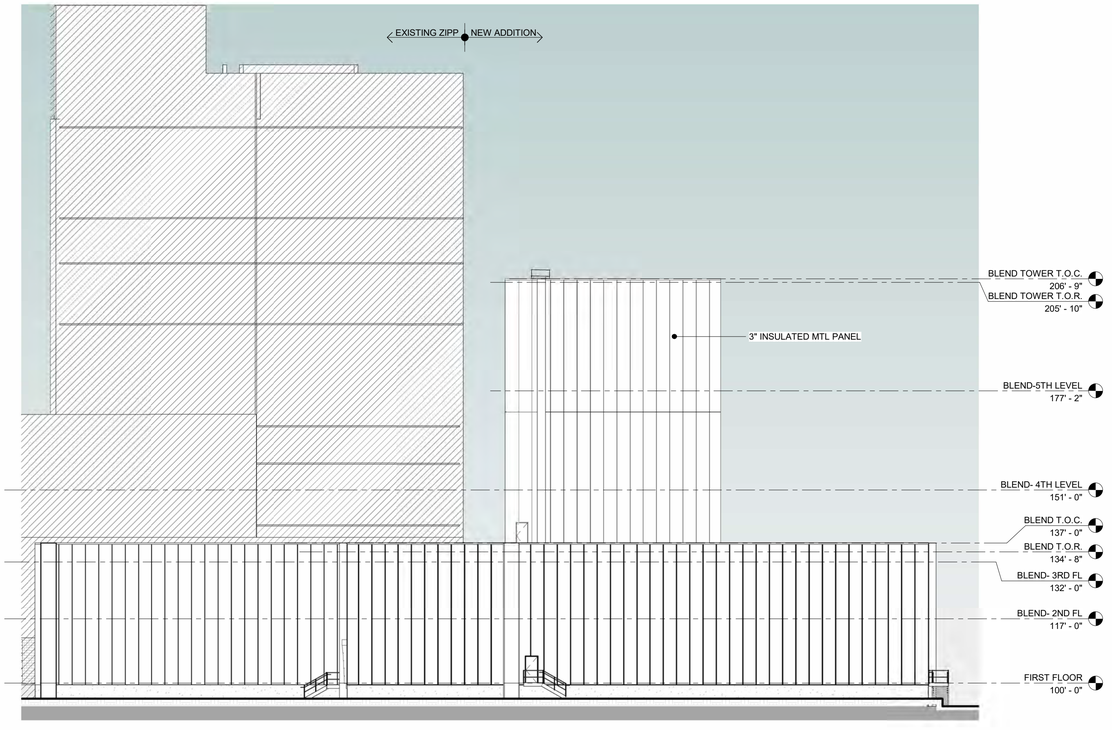
ELEVATIONS NOTES

T.O.C.	TOP OF COPING PARAPET
T.O.R.	TOP OF ROOF
IPM-1	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.
IPM-2	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.



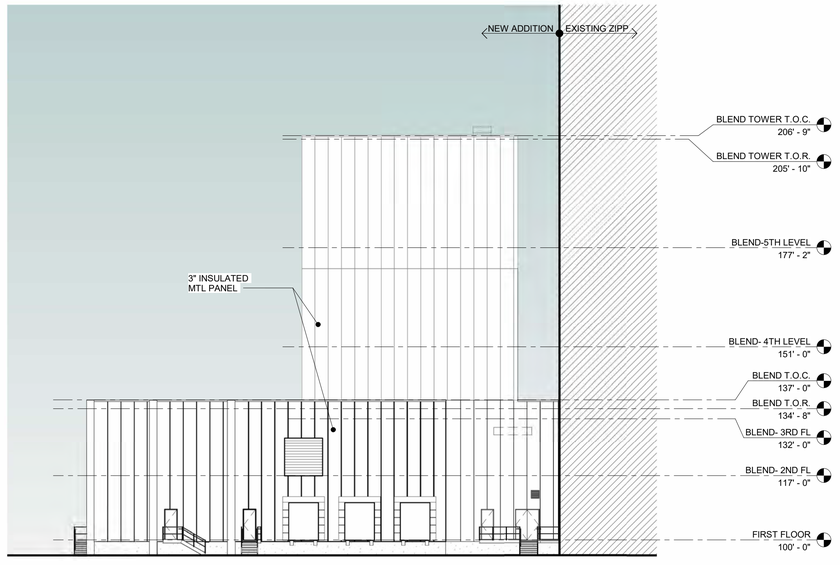
1 EXTERIOR ELEVATION - NORTH

ASK-008 SCALE: 1" = 20'-0"



3 EXTERIOR ELEVATION - EAST

ASK-008 SCALE: 1" = 20'-0"



2 EXTERIOR ELEVATION - WEST

ASK-008 SCALE: 1" = 20'-0"

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(269) 697-7120

SCALE 1" = 1'-0" 3/8" = 1'-0" 3" = 1'-0" 1/2" = 1'-0" 1/8" = 1'-0" 3/16" = 1'-0" 1/16" = 1'-0" 3/32" = 1'-0" 1 1/2" = 1'-0" 1/4" = 1'-0" 3/4" = 1'-0"

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	SRF	SGT	A

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Approved By

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
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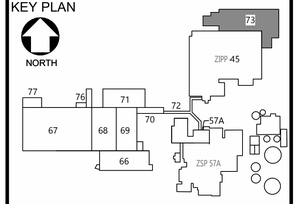
KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

MeadJohnson NUTRITION

Title: ZIPP B73 - EXTERIOR BUILDING ELEVATIONS

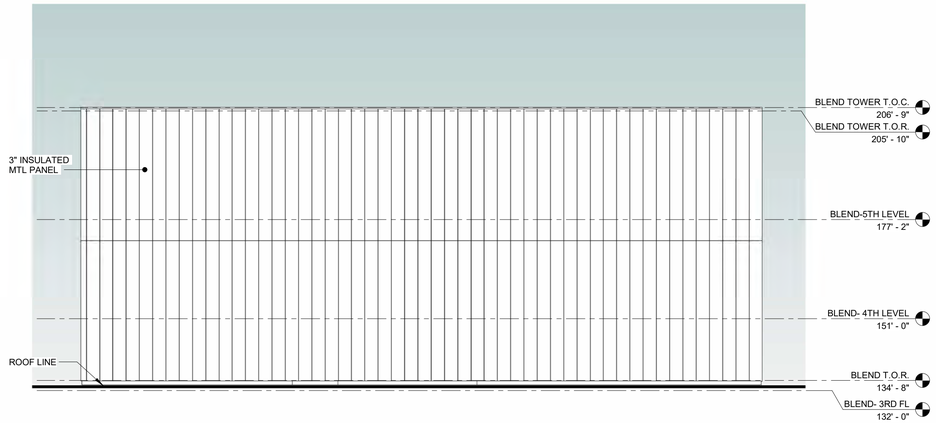
Project: ZSC VIVID
BUILDING 73 ZIPP ADDITION

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O.NUMBER: CAR_NUMBER

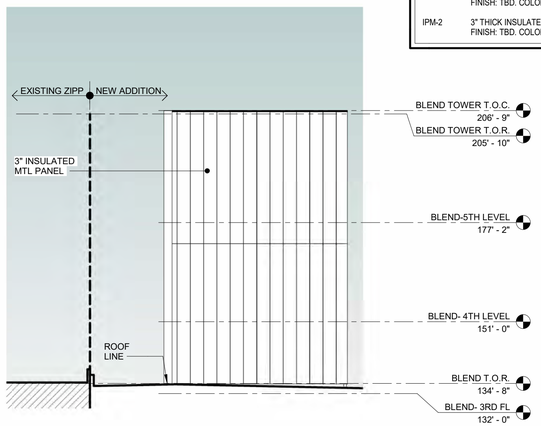
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS
DRAFTER:			SC
VENDOR NAME:			
VENDOR PROJECT NUMBER:			
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ASK-008
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-008.dwg	DRAWING NUMBER	ASK-008
HARD COPY:			
DEPARTMENT:		SHEET:	

Received: 04/06/26
City of Zeeland, MI



1 EXTERIOR ELEVATION - TOWER NORTH

ASK-009 SCALE: 1" = 20'-0"

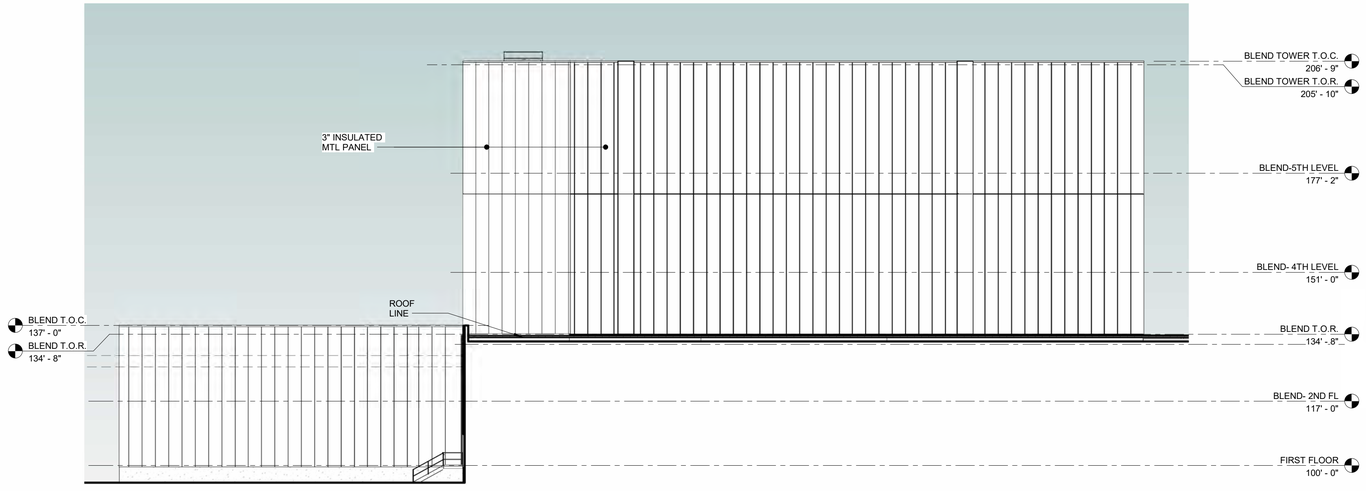


2 EXTERIOR ELEVATION - TOWER EAST

ASK-009 SCALE: 1" = 20'-0"

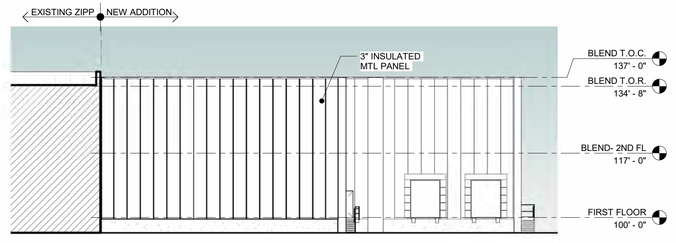
ELEVATIONS NOTES

T.O.C.	TOP OF COPING PARAPET
T.O.R.	TOP OF ROOF
IPM-1	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.
IPM-2	3" THICK INSULATED METAL PANEL. VERTICAL INSTALLATION. FINISH: TBD. COLOR: TBD.



3 EXTERIOR ELEVATION - TOWER SOUTH

ASK-009 SCALE: 1" = 20'-0"

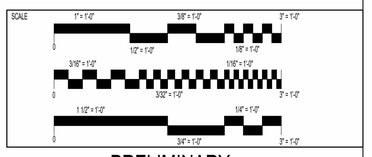


4 EXTERIOR ELEVATION - SOUTH

ASK-009 SCALE: 1" = 20'-0"

PIERCE ENGINEERS
181 N. Broadway Ave
Milwaukee, WI 53202
414.278.6060
www.pierceengineers.com

VK CIVIL Vriesman & Korhorn
4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120



PRELIMINARY
NOT FOR CONSTRUCTION
02-APR-2026

SEAL

THIS IS NOT A SEALED DOCUMENT

DATE:

ENGINEER	ARCHITECT	REV BY	REV
	SRF	SGT	A

ips
Integrated Project Services
Engineering
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Compliance
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10601 MISSION ROAD
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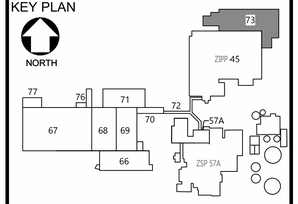
LEAWOOD, KS 66206
913.345.9084 PHONE
www.ipsdb.com
IPS Professional Engineers and Architects, PC

Approved By	
Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

KEY PLAN



REV	DATE	DESCRIPTION	BY
A	02-APR-2026	SITE PLAN APPROVAL	SRF

Title: ZIPP B73 - EXTERIOR BUILDING ELEVATIONS

Project: ZSC VIVID
BUILDING 73 ZIPP ADDITION

Location: 725 EAST MAIN STREET ZEELAND, MI 49464
MICHIGAN, UNITED STATES

C.A.R. OR P.O NUMBER
CAR_NUMBER

SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:			
DESIGNER:			RS
DRAFTER:			SC
VENDOR NAME:			
VENDOR PROJECT NUMBER:			
DISCIPLINE:			
SYSTEM NAME:			
SYSTEM NUMBER:			
EQUIPMENT TYPE:			
LEGACY NUMBER:		SHEET #	ASK-009
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:	ASK-009.dwg	DRAWING NUMBER	ASK-009
HARD COPY:			
DEPARTMENT:		SHEET:	

Vriesman & Korhorn

March 23, 2026
1471

Via Email: tmaday@cityofzeeland.com

Tim Maday
City of Zeeland
21 South Elm Street
Zeeland, MI 49464

RE: Mead Johnson – Traffic Study Summary

Dear Tim,

We thought it would be useful to provide a letter summary of the traffic study VK Civil has provided. The counts used in the traffic study were taken in the fall of 2025. Below is a summary of proposed traffic movements of the full build out of the Mead Johnson site and some information on your existing traffic system.

1. Truck traffic flow. The existing site has all truck traffic in and out off of Fairfiew Avenue. The existing system also does not have room for more than one truck and therefore while one truck is gaining entry to the site any other trucks must wait in Fairview Avenue. The proposed layout of the site improves this greatly. First, we plan to have all inbound truck traffic to enter from Carlton and exit onto Fairview. Additionally, we plan to provide a deep double entry lane for trucks off of Carlton that would allow 6 trucks in the queue without affecting traffic flow on Carlton Avenue.

2. Employee traffic. The existing traffic entrance for all employees is off of Main Avenue. The proposed project changes this employee entrance to Carlton Avenue which will improve traffic flow on Main Avenue. Additionally, as you will see in the traffic study, Mead Johnson's employee shifts are outside of the peak traffic flow hour that was revealed in the traffic count study in the fall of 2025.

3. Carlton Street capacity. As we were moving employee traffic flow to Carlton and truck entry flow to Carlton we reviewed if any improvements that may be needed on Carlton. The study concluded that Carlton Street has capacity for these entrances and no improvements (just as additional lanes, turn lanes, or decel lanes) are needed.

4. Fairview & Main Avenue intersection. The study of existing counts in the fall of 2025 concluded that this intersection is an existing failing grade for traffic flow.

5. Temporary contractor traffic flow during construction. The construction of this large of a project will take a few years to construct and vary in number of contractors needed to

build the project. We provided a construction contractor traffic route map to the site in the traffic study that avoids the existing failing intersection of Fairview and Main Avenue. We provided analysis of an average contractor count and an analysis of the peak contractor count and our analysis showed that none of the intersections changed to a failing grade due to the temporary contractor construction traffic.

Sincerely,

VK Civil

Dan Lewis, PE

Cc: Allan Barron, Mead Johnson

Received 04-06-26
City of Zeeland, MI

Mead Johnson Nutrition
Zeeland Modernization Masterplan
Zeeland, MI
Storm Water Narrative
Revised 04/02/2026

Introduction

This memo summarizes the storm water management plan for the Mead Johnson Nutrition Zeeland Modernization Masterplan. The proposed project involves the construction of two main buildings at the existing Mead Johnson Nutrition facility in Zeeland Michigan, the Specialty building (Buildings 66, 67, 68, 69, 70, 71, & 77) and the ZIPP building addition (Building 73). A significant amount of impervious areas are proposed for the construction of the Specialty building including associated truck docks, employee parking lot, visitor parking lot, loading areas, sidewalks, and pocket park. The ZIPP addition construction will include additional truck docks, loading areas, and access road. A bridge will also be constructed across the Brower Drain to facilitate site logistics to the ZIPP addition building. As a result of this expansion, additional stormwater management infrastructure will be constructed and portions of existing aging storm sewer infrastructure will be replaced including new stormwater piping, outlet control structures, discharge locations to the Brower Drain, and water quality devices. Additionally, two new underground detention systems will replace the two existing stormwater management basins on site. The overall stormwater management design necessary to facilitate this expansion has been designed in accordance with the Ottawa County Water Resources Commission Site Development Rules.

Existing Conditions

The existing site is 45.38 acres of developed industrial and residential land that includes the existing Mead Johnson facility and multiple adjacent properties which have been acquired by Mead Johnson. All of the 45.38 acres currently owned by Mead Johnson has been rezoned and is now part of the I-2 industrial district. The current drainage pattern of the site is split into four existing tributaries, North, West, East, and Central. The Lower Grand River Organization of Watersheds (LGROW) design spreadsheetwas utilized to size the required detention volumes and release rates for the site. The LGROW spreadsheets assumes existing tributary areas are equal to proposed tributary areas for calculations. Therefore, the boundaries of the existing four tributary areas were maintained in the proposed condition with the only difference being the change in impervious ratio. See Attachment 2 for Existing Tributary Drainage Map.

North Tributary

The North tributary collects approximately 5.18 acres of mostly impervious area and discharges to an existing detention basin directly north of the existing ZIPP building. See Attachment 2 for Existing Tributary Drainage Map.

West Tributary

The West Tributary is approximately 18.44acres of existing developed impervious and pervious areas. The West Tributary currently drains the west half of the existing Mead Johnson facility to an existing detention basin directly north of the main employee parking lot. The additional land west of the existing facility now owned by Mead Johnson currently drains to existing onsite wetlands which ultimately discharge to the Brower Drain. This area is included in the existing West Tributary as both areas outlet to the Brower Drain in roughly the same location. In the proposed condition, all of the runoff from this tributary will be detained and released via the West Basin. See Attachment 2 for Existing Tributary Drainage Map.

East Tributary

The East Tributary is approximately 0.95 acres of impervious area along the Northeast corner of the existing ZIPP building. Stormwater from this area currently drains to a series of large 36" diameter storm sewer structures and is restricted by a 6" orifice prior to release to the Brower Drain. See Attachment 2 for Existing Tributary Drainage Map.

Central Tributary

The Central tributary currently drains the central and southeast portions of the existing Mead Johnson facility including the ZSP building and wastewater treatment plant. Stormwater runoff from the Central Tributary ultimately discharges to the Brower Drain via a 42" mainline storm sewer. See Attachment 2 for Existing Tributary Drainage Map.

Proposed Conditions

The proposed condition of the overall site will mimic the existing conditions to the greatest extent possible with the addition of two underground stormwater detentions systems to detain the increase in stormwater runoff. The proposed stormwater runoff from the site will be directed via roof, overland, and gutter flow prior to discharging to a series of catch basins, manholes, and pipes that will convey the stormwater to the proposed underground detention area within the given tributary. A summary of the stormwater conveyance design is included in section title "Stormwater Conveyance". The stormwater detention areas have been sized to detain the 100-yr rainfall event with a maximum allowable release rate of 0.13 cfs per acre using the runoff curve method via LGROW spreadsheet. The detention volumes have also been checked using the rational method and are included in Attachment 10 and 11. Extended detention will be utilized to meet the required channel protection volumes generated for the individual tributaries. Required water quality volumes will be met through the use of catch basin sumps, extended detention, and the ADS Storm Tech Isolator Row volume.

North Tributary:

The North Tributary (5.18 acres) will increase from an existing curve number of 90 to 95 as a result of the increase in impervious area. A 15-minute minimum developed time of concentration has been used for the North Tributary based on the calculated time of concentration being less than 15-minutes. This results in a required flood control volume of 92,585 cft. The required extended detention volume is 5,271 cft at an allowable release rate

of 0.041 cfs. The standard allowable discharge (0.13 cfs/ac) has been used in calculating the overall allowable release rate of 0.67 cfs. An ADS Storm Tech MC7200 chamber system is proposed as the "North Basin" which will detain the required volume at elevation 651.00 The Storm tech system details are provided in the civil drawings for reference. The North Basin will outlet to the Brower Drain via outlet control structure (OCS) 401. A low flow orifice designed to detain the required extended detention volume and release at a rate less than 0.041 cfs has been provided. Additionally, a flood control orifice has been designed so that the total combined release rate from both the low flow orifice and the flood control orifice is less than 0.67 cfs. See Attachment 6 for LGROW Design Spreadsheet – North Tributary.

West Tributary:

The West Tributary (18.44 acres) will increase from an existing curve number of 74 to 93 as a result of the increase in impervious area. This results in a required flood control volume of 308,780 cft. The required extended detention volume is 71,474 cft at an allowable release rate of 0.55 cfs. The standard allowable discharge (0.13 cfs/ac) has been used in calculating the overall allowable release rate of 2.40 cfs. An ADS Storm tech MC3500 chamber system is proposed as the "West Basin" which will detain the required volume at elevation 647.00. The ADS Storm Tech system details are provided in the civil drawings for reference. The West Basin will outlet to the Brower Drain via outlet control structure (OCS) 101. One orifice has been designed to act as both flood control and channel protection. The low flow through the orifice at the extended detention volume elevation is less than the allowable release rate for channel protection. Additionally, at the flood control elevation the same orifice will discharge at less than the allowable release rate. See Attachment 5 for LGROW Design Spreadsheet – West Tributary.

East Tributary: (Redevelopment Area)

The East Tributary (0.95 acres) is currently comprised completely of existing impervious areas including pavement, roof, and industrial equipment. The proposed condition will include portions of the ZIPP addition truck docks, access road, and bridge. To limit the disturbance in the East Tributary to the furthest extent possible, all roof runoff from the ZIPP addition building will be diverted as to remain in the North Tributary. Therefore, the East Tributary area and curve number will remain the same as the existing condition, 0.95 AC & 98 respectively, and the proposed work will be treated as redevelopment by LGROW definition. The East Tributary currently drains to 480 LF of existing 36" diameter storm sewer pipes restricted by a 6" pipe set in the existing 12" outfall to Brower Drain. This 6" pipe is acting as controlled release orifice and is set at elevation 644.50. The proposed condition will remove portions of this 36" diameter pipe and replace with shorter sections of 42" and 24" diameter pipe. The existing detention volume provided by the current 480 LF of 36" storm sewer is 3392 cft. The proposed condition will include 294 LF of 36", 98 LF of 42", and 153 LF of 24" diameter storm sewer resulting in 3502 cft of provided detention volume.

A weir wall with 6" orifice has been designed in OCS-402 to replace the existing 6" grouted pipe orifice. The invert of the proposed orifice will match the existing orifice invert of 644.50. The existing condition does not provide an overflow spillway in the event that the orifice becomes clogged. In this case, the current "overflow" is catch basin grate of CB-3.1 at elevation 650.05. The proposed overflow weir has been designed at elevation 649.00 to prevent this in the future. The maximum top of pipe elevation in the existing system will remain below the overflow elevation so that the full detention volume of the pipes is achieved prior to the overflow.

Central:
No work is planned in the Central Tributary beyond an enabling project that will relocate the existing onsite Nitrogen generation plant. To facilitate the relocation, an existing building and associated concrete sidewalks will be removed and replaced with a new concrete pad where the new nitrogen tank will be placed. The difference in impervious area in this location is negligible and therefore no additional detention has been provided. Two 12" storm sewers will be relocated in the process to maintain the existing overland drainage and conveyance flow pattern.

Weirs and Overflow Spillways
Three weir walls have been designed within outlet control structures OCS-101, OCS-203, and OCS-402. Due to the nature of underground detention system, traditional overflow spillways are not feasible. The primary overflow for OCS-101, OCS-203, and OCS-402 is a concrete weir wall which have been modeled as sharp crested weirs. A developed time of concentration of 15 minutes has been used to determine the peak discharge for all three weirs. The peak discharge for OCS-101 and OCS-203 has been determined based on the 10-yr storm in accordance with the Ottawa County Water Resources Commissioner Site Development Rules. OCS-101 and OCS-203 have been outfitted with a 5' diameter bar grate and placed adjacent to the Brower Drain to serve as the secondary spillway. Rip Rap has been provided around these structures in the overland flow route path. Both paths will drain directly to the Brower Drain in an emergency overflow scenario. See Attachment 7,8, & 9 for weir calculations.

The weir wall within OCS-402 has been designed based on the provided detention volume at the maximum elevation of the proposed system (649.00). The existing release rate was calculated using the existing provided detention volume at the maximum storage elevation of the existing system and the known size of the weir (6"). The proposed orifice will release at a rate just under the existing release rate with the intent being to match existing conditions in the East Tributary to the furthest extent possible. See Attachment 9 and Attachment 12.

Stormwater Conveyance
The majority of the proposed site will be impervious surfaces comprised primarily of roof and pavement areas. Stormwater runoff from pavement areas will be directed to curblines and conveyed via gutter flow to catch basins. Runoff from roof areas will be directed to inlets on the roof that will connect to the interior plumbing design prior to discharging from the building below grade. The site stormwater pipes will connect to the designated roof drains via downspout connectors and pipe the stormwater to the underground detention areas. A few areas onsite offer large green spaces which will be drained via overland flow to multiple yard basins that connect to the underground detention system.

The proposed stormwater conveyance system has been designed to convey the 10-yr, 24-hr storm event based on NOAA Atlas 14 rainfall data for Zeeland, MI. The rational method was used to size the storm sewer piping based on regional tributary areas. A tributary area map has been included in the attachments. See Attachment 4 for Proposed Tributary Drainage Map – North Basin and Attachment 3 for Proposed Tributary Drainage Map – West Basin. The stormwater conveyance calculations have also been provided and are included as Attachment 1.

Michigan Department of Environment, Great Lakes, & Energy (EGLE) & Culvert Design

The proposed project will include two storm sewer outfalls to the Brower Drain that will require permitting through the Michigan Department of Environment, Great Lakes, & Energy (EGLE). Additionally, a bridge is proposed to cross the Brower Drain near the ZIPP addition building. A 90 LF by 12 LF concrete box culvert (6'deep) has been proposed to span the Brower Drain. The greater tributary drainage area feeding the Brower Drain was analyzed and determined to be less than 2 square miles. Additionally, an existing culvert exists immediately upstream and provides less capacity than the proposed concrete box culvert, therefore, a complete culvert design was not completed at this time.
A complete permit set has been furnished and will be submitted to EGLE spring of 2026.

Conclusion

This storm water management plan outlines the stormwater design for the Mead Johnson Nutrition Zeeland Modernization Masterplan which has been designed in accordance with the Ottawa County Water Resources Commission Site Development Rules. The stormwater design includes pipe conveyance, channel protection, flood control, extended detention, EGLE permitting, weir design, and culvert design. Stormwater management for the proposed site will mimic existing conditions by maintaining the overall existing tributary boundaries. Detention for the two impacted tributaries, North and West, will be upgraded through the use of two ADS Storm Tech chamber systems which will replace existing surface detention basins. The two existing outfall locations to the Brower Drain will be replaced and upgraded with outlet control structures including orifices and overflow weirs. A full list of attachments is included on the following pages including maps and calculations used in the complete design of the storm sewer system.

Received 04-06-26
City of Zeeland, MI

Attachments

1. Proposed Storm Sewer Conveyance Calculations
2. Existing Tributary Drainage Map
3. Proposed Tributary Drainage Map – West Basin
4. Proposed Tributary Drainage Map – North Basin
5. LGROW Design Spreadsheet – West Tributary
6. LGROW Design Spreadsheet – North Tributary
7. OCS-101 Weir Calculations
8. OCS-203 Weir Calculations
9. OCS-402 Weir Calculations
10. Detention Volume Check Using Rational Method – West Basin
11. Detention Volume Check Using Rational Method – North Basin
12. East Tributary 25-year Peak Discharge

ATTACHMENT 1

Received 04-06-26
City of Zeeland, MI

PROPOSED STORM SEWER SYSTEM
STORM SEWER DESIGN TABLE - RATIONAL METHOD

Job Information

Description: Reckitt Zeeland - West Tributary
Reviewing Entity: Ottawa County
Job #: 1471
Date: 04/02/26

Design Parameters	
Design Storm:	10-yr

STR.	TO STR.	LENGTH	PIPE MATERIAL	FLOW			cA	INLET	CASTING	TO INLET	I	REQUIRED PIPE CAPACITY	PIPE DIAMETER	PIPE SLOPE	MANNING'S N	PROVIDED PIPE CAPACITY	CAPACITY UTILIZATION
				c	AREA	AREA	INLET	CUM. cA	Tc	Tcum	INLET						
		(ft)			(sft)	(acres)			(min)	(min)	(in/hr)	(CFS)	(inches)	(%)		(cfs)	(%)
CB-9	CB-8	124	HDPE	0.90	12,871	0.30	0.27	0.27	15	15.00	3.98	1.06	12	0.50	0.012	2.73	39%
CB-8	MH-7	77	HDPE	0.90	10,050	0.23	0.21	0.47	15	15.59	3.93	1.86	18	0.40	0.012	7.20	26%
MH-7	MH-6	80	HDPE	0.00	0	0.00	0.00	1.26	15	15.91	3.90	4.91	24	0.40	0.012	15.50	32%
MH-6	MH-5	74	HDPE	0.00	0	0.00	0.00	1.44	15	16.18	3.87	5.59	24	0.40	0.012	15.50	36%
MH-5	MH-4	160	HDPE	0.00	0	0.00	0.00	1.44	15	16.43	3.85	5.56	24	0.40	0.012	15.50	36%
MH-4	MH-3	150	HDPE	0.00	0	0.00	0.00	1.44	15	16.97	3.80	5.48	24	0.40	0.012	15.50	35%
MH-3	CB-2	175	HDPE	0.00	0	0.00	0.00	1.44	15	17.48	3.75	5.42	30	0.40	0.012	28.10	19%
CB-2	CB-1	67	HDPE	0.90	19,635	0.45	0.41	1.85	15	17.99	3.71	6.85	30	0.40	0.012	28.10	24%
CB-1	OUT	5	HDPE	0.90	23,659	0.54	0.49	2.34	15	18.18	3.69	8.62	24	0.40	0.012	15.50	56%
CB-6A	MH-6	28	HDPE	0.90	8,858	0.20	0.18	0.18	15	15.00	3.98	0.73	12	1.00	0.012	3.86	19%
CB-4A	CB-4	13	HDPE	0.90	19,803	0.45	0.41	0.73	15	15.12	3.97	2.89	18	0.80	0.012	10.18	28%
CB-3A	CB-3	13	HDPE	0.90	15,445	0.35	0.32	0.64	15	15.12	3.97	2.56	18	0.80	0.012	10.18	25%
MH-7A	MH-7	100	HDPE	0.90	5,285	0.12	0.11	0.79	15	15.12	3.97	3.12	12	0.80	0.012	3.45	91%
CB-11	CB-10	67	HDPE	0.90	19,294	0.44	0.40	0.40	15	15.00	3.98	1.59	12	1.00	0.012	3.86	41%
CB-10	MH-10A	5	HDPE	0.90	24,018	0.55	0.50	0.89	15	15.23	3.96	3.54	12	1.00	0.012	3.86	92%
CB-13	MH-13A	67	HDPE	0.90	20,265	0.47	0.42	0.42	15	15.00	3.98	1.67	12	1.00	0.012	3.86	43%
CB-12	MH-12A	5	HDPE	0.90	24,108	0.55	0.50	0.50	15	15.00	3.98	1.98	12	1.00	0.012	3.86	51%
CB-14	OUT	5	HDPE	0.90	3,964	0.09	0.08	0.08	15	15.00	3.98	0.33	12	1.00	0.012	3.86	8%
CB-15	OUT	5	HDPE	0.20	25,673	0.59	0.12	0.12	15	15.00	3.98	0.47	12	1.00	0.012	3.86	12%
CB-17	CB-16	152	HDPE	0.90	4,502	0.10	0.09	0.09	15	15.00	3.98	0.37	12	0.50	0.012	2.73	14%
CB-16	OUT	5	HDPE	0.90	4,304	0.10	0.09	0.18	15	15.73	3.91	0.71	24	1.00	0.012	24.51	3%
CB-18	OUT	5	HDPE	0.20	32,670	0.75	0.15	0.15	15	15.00	3.98	0.60	24	1.00	0.012	24.51	2%
CB-19	OUT	5	HDPE	0.90	15,267	0.35	0.32	0.32	15	15.00	3.98	1.26	24	1.00	0.012	24.51	5%
CB-20	OUT	5	HDPE	0.20	60,984	1.40	0.28	0.28	15	15.00	3.98	1.11	24	1.00	0.012	24.51	5%
MH-21A	CB-21	85	HDPE	0.00	0	0.00	0.00	0.58	15	15.12	3.97	2.29	18	0.50	0.012	8.05	28%
CB-21	OUT	5	HDPE	0.90	15,191	0.35	0.31	1.47	15	15.43	3.94	5.77	24	1.00	0.012	24.51	24%
CB-32	MH-31	67	HDPE	0.90	26,779	0.61	0.55	1.29	15	15.09	3.97	5.13	18	0.50	0.012	8.05	64%
MH-31	CB-30	148	HDPE	0.00	0	0.00	0.00	1.29	15	15.34	3.95	5.10	24	0.30	0.012	13.42	38%
CB-30	CB-29	149	HDPE	0.90	5,022	0.12	0.10	1.48	15	15.92	3.90	5.75	24	0.30	0.012	13.42	43%
CB-29	CB-28	135	HDPE	0.90	4,977	0.11	0.10	2.00	15	16.50	3.84	7.67	24	0.30	0.012	13.42	57%
CB-28	CB-27	51	HDPE	0.90	4,363	0.10	0.09	3.06	15	17.03	3.79	11.61	30	0.20	0.012	19.87	58%
CB-27	CB-26	112	HDPE	0.00	0	0.00	0.00	3.20	15	17.24	3.77	12.09	30	0.20	0.012	19.87	61%
CB-26	CB-25	150	HDPE	0.90	21,138	0.49	0.44	3.64	15	17.70	3.73	13.58	30	0.20	0.012	19.87	68%
CB-25	MH-24	76	HDPE	0.90	19,021	0.44	0.39	4.03	15	18.31	3.68	14.82	30	0.17	0.012	18.32	81%
MH-24	MH-23	200	HDPE	0.00	0	0.00	0.00	4.89	15	18.65	3.64	17.82	30	0.17	0.012	18.32	97%
MH-23	CB-22	46	HDPE	0.00	0	0.00	0.00	4.89	15	19.55	3.56	17.42	30	0.17	0.012	18.32	95%
CB-22	OUT	5	HDPE	0.90	0	0.00	0.00	4.89	15	19.75	3.54	17.33	24	1.00	0.012	24.51	71%
CB-36	CB-34	147	HDPE	0.90	6,822	0.16	0.14	0.14	15	15.00	3.98	0.56	12	0.50	0.012	2.73	21%
CB-34	MH-33	67	HDPE	0.90	1,200	0.03	0.02	0.61	15	16.00	3.89	2.37	12	0.50	0.012	2.73	87%
MH-33	OUT	5	HDPE	0.00	0	0.00	0.00	0.61	15	16.32	3.86	2.35	24	1.00	0.012	24.51	10%
CB-35	CB-34	209	HDPE	0.90	21,434	0.49	0.44	0.44	15	15.00	3.98	1.76	12	0.50	0.012	2.73	65%
CB-28A	CB-28	83	HDPE	0.90	5,400	0.12	0.11	0.65	15	15.12	3.97	2.59	18	0.50	0.012	8.05	32%
RDL-1	MH-7A	25	HDPE	0.90	32,817	0.75	0.68	0.68	15	15.00	3.98	2.70	12	0.50	0.012	2.73	99%
RDL-2	CB-4A	25	HDPE	0.90	15,498	0.36	0.32	0.32	15	15.00	3.98	1.27	12	0.50	0.012	2.73	47%
RDL-3	CB-3A	25	HDPE	0.90	15,743	0.36	0.33	0.33	15	15.00	3.98	1.29	12	0.50	0.012	2.73	47%
RDL-4	OUT	25	HDPE	0.90	33,982	0.78	0.70	0.70	15	15.00	3.98	2.79	12	0.50	0.012	2.73	102%
RDL-5	OUT	25	HDPE	0.90	29,396	0.67	0.61	0.61	15	15.00	3.98	2.42	12	0.50	0.012	2.73	89%
RDL-6	MH-21A	25	HDPE	0.90	27,866	0.64	0.58	0.58	15	15.00	3.98	2.29	12	0.50	0.012	2.73	84%
RDL-7	MH-24	25	HDPE	0.90	41,589	0.95	0.86	0.86	15	15.00	3.98	3.42	24	0.50	0.012	17.33	20%
RDL-8	CB-27	25	HDPE	0.90	6,884	0.16	0.14	0.14	15	15.00	3.98	0.57	8	1.00	0.012	1.31	43%
RDL-9	CB-28A	25	HDPE	0.90	26,162	0.60	0.54	0.54	15	15.00	3.98	2.15	12	0.50	0.012	2.73	79%
RDL-10	CB-28	25	HDPE	0.90	7,444	0.17	0.15	0.15	15	15.00	3.98	0.61	8	1.00	0.012	1.31	47%
RDL-11	CB-28	25	HDPE	0.90	8,105	0.19	0.17	0.17	15	15.00	3.98	0.67	8	1.00	0.012	1.31	51%
RDL-12	CB-29	25	HDPE	0.90	5,624	0.13	0.12	0.12	15	15.00	3.98	0.46	8	1.00	0.012	1.31	35%
RDL-13	CB-29	25	HDPE	0.90	14,529	0.33	0.30	0.30	15	15.00	3.98	1.19	8	1.00	0.012	1.31	91%
RDL-14	CB-30	25	HDPE	0.90	3,939	0.09	0.08	0.08	15	15.00	3.98	0.32	8	1.00	0.012	1.31	25%
RDL-15	CB-32	25	HDPE	0.90	35,756	0.82	0.74	0.74	15	15.00	3.98	2.94	12	0.80	0.012	3.45	85%
MH-21A	CB-21	85	HDPE	0.00	0	0.00	0.00	0.58	15	15.12	3.97	2.29	18	1.00	0.012	11.38	20%
CB-37	OUT	5	HDPE	0.90	16,045	0.37	0.33	0.33	15	15.00	3.98	1.32	12	1.00	0.012	3.86	34%

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PROPOSED STORM SEWER SYSTEM
STORM SEWER DESIGN TABLE - RATIONAL METHOD

Job Information

Description: Reckitt Zeeland
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

Design Parameters	
Design Storm:	10-yr

STR.	TO STR.	LENGTH	PIPE MATERIAL	FLOW			cA	INLET	CASTING	TO INLET	I	REQUIRED PIPE CAPACITY	PIPE DIAMETER	PIPE SLOPE	MANNING'S N	PROVIDED PIPE CAPACITY
				c	AREA	AREA	INLET	CUM. cA	Tc	Tcum	INLET	CAPACITY				
		(ft)			(sft)	(acres)			(min)	(min)	(in/hr)	(CFS)	(inches)	(%)		(cfs)
MH-306	CB-305	66	HDPE	0.90	35,250	0.81	0.73	0.73	15	25.00	3.06	2.23	12	0.50	0.012	2.73
CB-305	CB-304	57	HDPE	0.90	1,950	0.04	0.04	0.84	15	25.32	3.03	2.53	12	0.50	0.012	2.73
CB-304	CB-303	61	HDPE	0.90	1,100	0.03	0.02	0.86	15	25.59	3.01	2.58	12	0.50	0.012	2.73
CB-303	CB-302	72	HDPE	0.90	0	0.00	0.00	0.86	15	25.88	2.98	2.56	12	0.50	0.012	2.73
CB-302	OUT	5	HDPE	0.90	2,250	0.05	0.05	0.90	15	16.17	3.87	3.50	18	0.50	0.012	8.05
CB-301	OUT	5	HDPE	0.90	3,400	0.08	0.07	0.07	15	15.00	3.98	0.28	12	0.50	0.012	2.73
CB-300	OUT	5	HDPE	0.90	18,250	0.42	0.38	0.38	15	15.00	3.98	1.50	12	0.50	0.012	2.73
CB-307	CB-305	53	HDPE	0.90	3,250	0.07	0.07	0.07	15	15.00	3.98	0.27	12	0.50	0.012	2.73
RDL-1	OUT	25	HDPE	0.90	143,900	3.30	2.97	2.97	15	15.00	3.98	11.83	24	0.50	0.012	17.33
RDL-2	OUT	25	HDPE	0.90	3,213	0.07	0.07	0.07	15	15.00	3.98	0.26	12	1.00	0.012	3.86
CB-406	CB-405	100	HDPE	0.90	2,620	0.06	0.05	0.05	15	15.00	3.98	0.22	24	0.50	0.012	17.33
CB-405	MH-404	22	HDPE	0.90	1,950	0.04	0.04	0.09	15	15.30	3.95	0.37	24	0.50	0.012	17.33
MH-404	MH-403	32	HDPE	0.00	0	0.00	0.00	0.09	15	15.37	3.95	0.37	24	0.50	0.012	17.33
MH-403	OCS-402	32	HDPE	0.00	0	0.00	0.00	0.24	15	15.47	3.94	0.93	36	0.50	0.012	51.09
OCS-402	OUT	28	HDPE	0.90	4,220	0.10	0.09	0.32	15	15.54	3.93	1.28	12	1.00	0.012	3.86
RDL-3	OUT	43	HDPE	0.90	5,000	0.11	0.10	0.10	15	15.00	3.98	0.41	12	0.50	0.012	2.73
CB-403B	MH-403	66	HDPE	0.90	6,918	0.16	0.14	0.14	15	15.00	3.98	0.57	36	0.50	0.012	51.09

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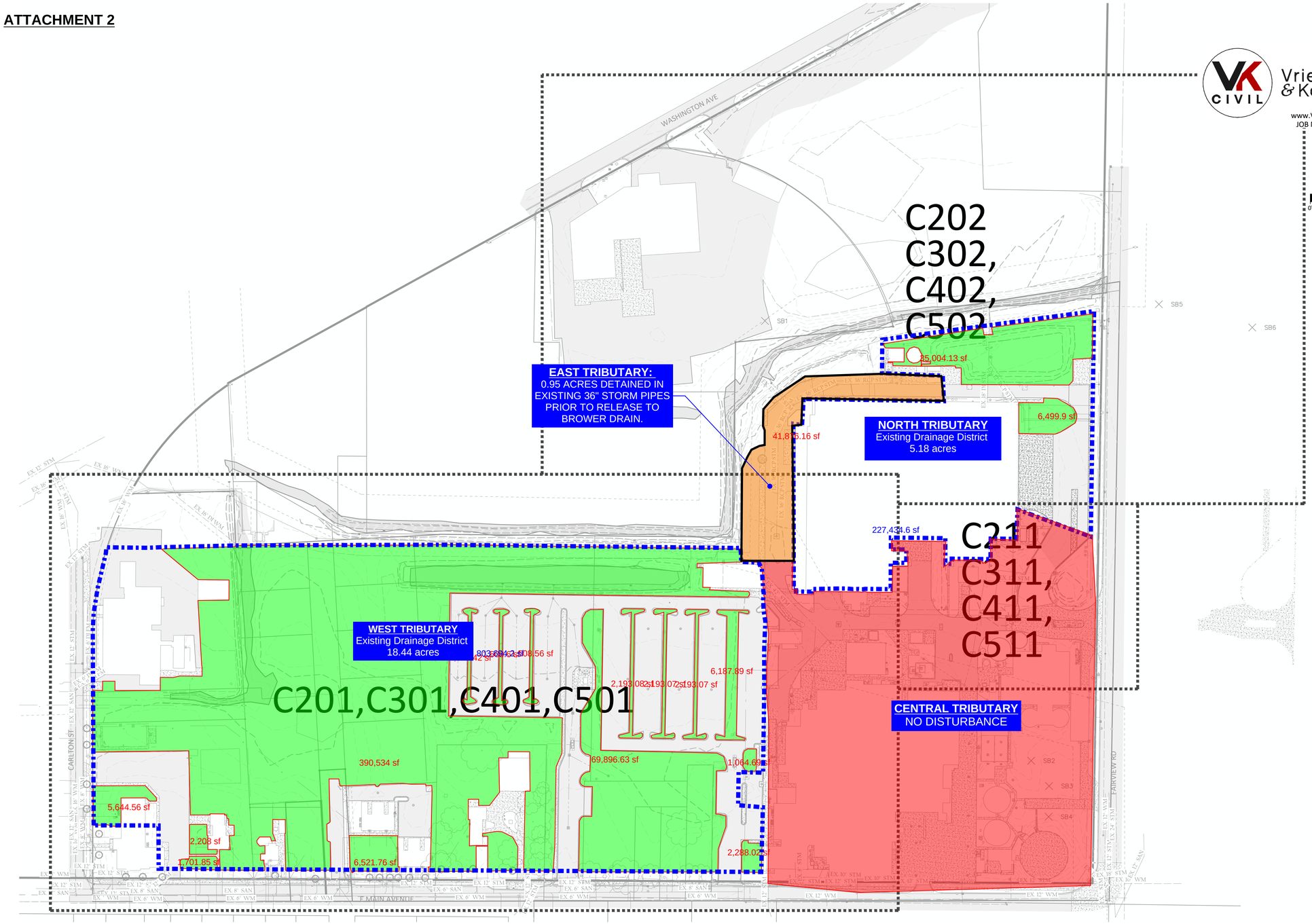
ATTACHMENT 2



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Approved by

Drafter / Designer mm/dd/yy

Project Manager mm/dd/yy

Quality Representative mm/dd/yy

Operation Manager mm/dd/yy

Maintenance Representative mm/dd/yy

Customer Representative / Document Manager mm/dd/yy

Key Plan

rev	date	description	by
B	06NOV2025	BCO OWNER REVIEW ISSUE	MDS
A	07AUG2025	CONCEPT ISSUE	MDS

Mead Johnson NUTRITION

title: EXISTING CONDITIONS

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O. NUMBER:

SCALE:	AS NOTED	DATE:	06-NOV-2025
PROJECT MANAGER:			DGL
DESIGNER:			DGL
DRAFTER:			MDS
VENDOR NAME:			VK CIVIL
VENDOR PROJECT NUMBER:			1471
DISCIPLINE:			-
SYSTEM NAME:			-
SYSTEM NUMBER:			-
EQUIPMENT TYPE:			-
LEGACY NUMBER:		SHEET #:	
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:		DRAWING NUMBER	C100
HARD COPY:			
DEPARTMENT:		SHEET:	

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DATE:

ENGINEER	ARCHITECT	REV BY	REV
DGL			A

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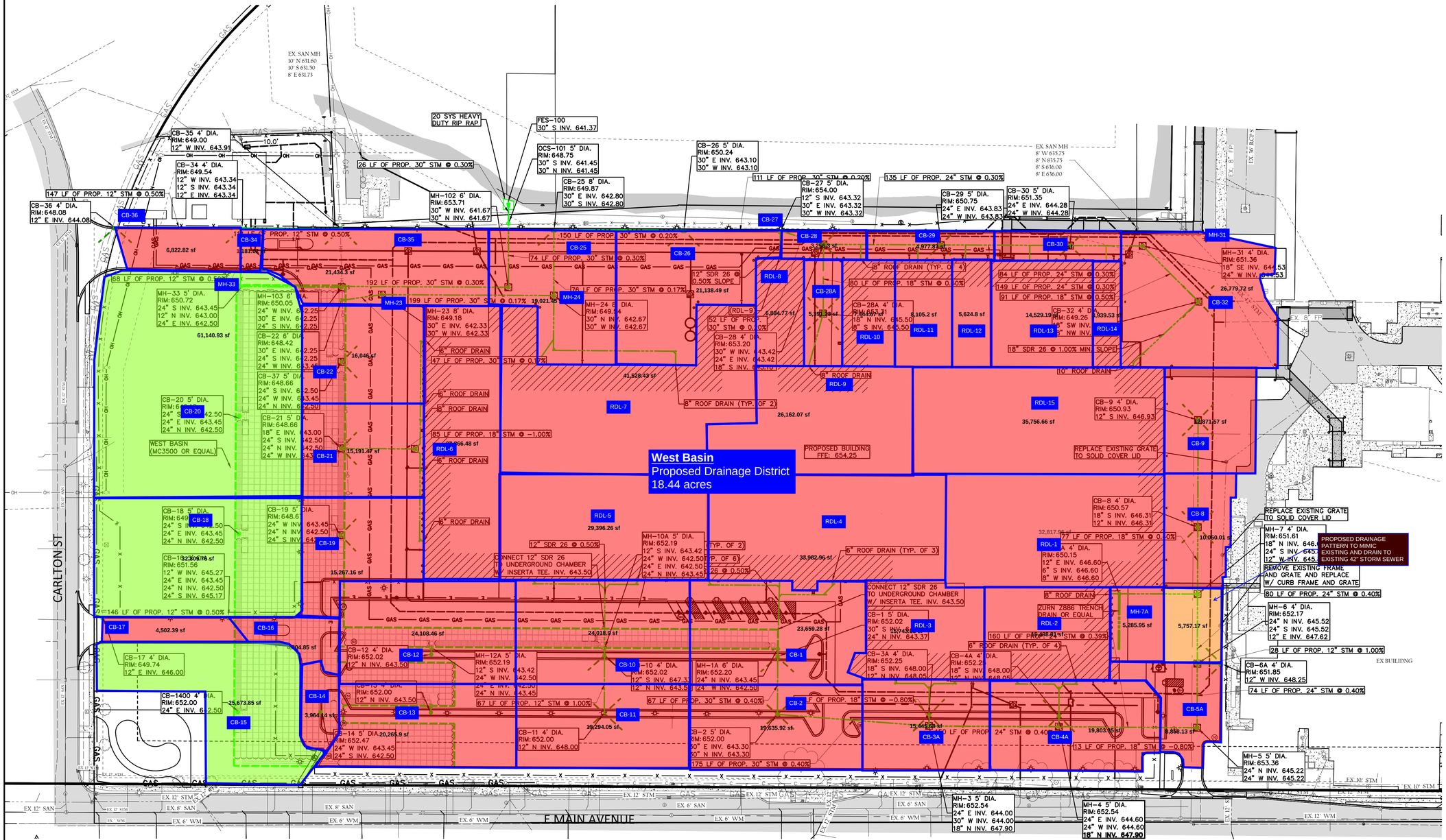
06/NOV/2025



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City of Zeeland, MI

ATTACHMENT 3

LINE LEGEND

OH	PROPOSED OVERHEAD ELECTRIC
E	PROPOSED ELECTRIC
GAS	PROPOSED GAS
C	PROPOSED COMMUNICATIONS
🟩	PROPOSED STORM SEWER
— —	PROPOSED 6" UNDERDRAIN W/ SOCK
——	PROPOSED SANITARY SEWER
FM	PROPOSED FORCEMAIN
— — —	PROPOSED WATERMAIN

PIERCE ENGINEERS
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VK CIVIL
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4664 Campus Dr. Ste 111
Kalamazoo, MI 49008
(269) 697-7120

SCALE: 1" = 60'
0' 30' 60' 90' 120'

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ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	A

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Approved by

Drafter / Designer mm/dd/yy

Project Manager mm/dd/yy

Quality Represenative mm/dd/yy

Operation Manager mm/dd/yy

Maintenance Representative mm/dd/yy

Customer Representative / Document Manager mm/dd/yy

rev	date	description	by

MeadJohnson NUTRITION

title: STORMWATER MANAGEMENT PLAN

project: VIVID

location: ZEELAND, MI

C.A.R OR P.O NUMBER			
SCALE:	AS NOTED	DATE:	02-APR-2026
PROJECT MANAGER:	ADS		
DESIGNER:	DGL		
DRAFTER:	MDS		
VENDOR NAME:	INTEGRATED PROJECT SERVICES		
VENDOR PROJECT NUMBER:	GLD25120		
DISCIPLINE:	CIVIL		
SYSTEM NAME:	-		
SYSTEM NUMBER:	-		
EQUIPMENT TYPE:	-		
LEGACY NUMBER:		SHEET #:	ZSCSIT-1473-C415-STORMWATER MANAGEMENT PLAN
LEGACY DATE:			
LEGACY VENDOR:			
CAD FILE NAME:		DRAWING NUMBER	C415
HARD COPY:			
DEPARTMENT:		SHEET:	18 OF 36

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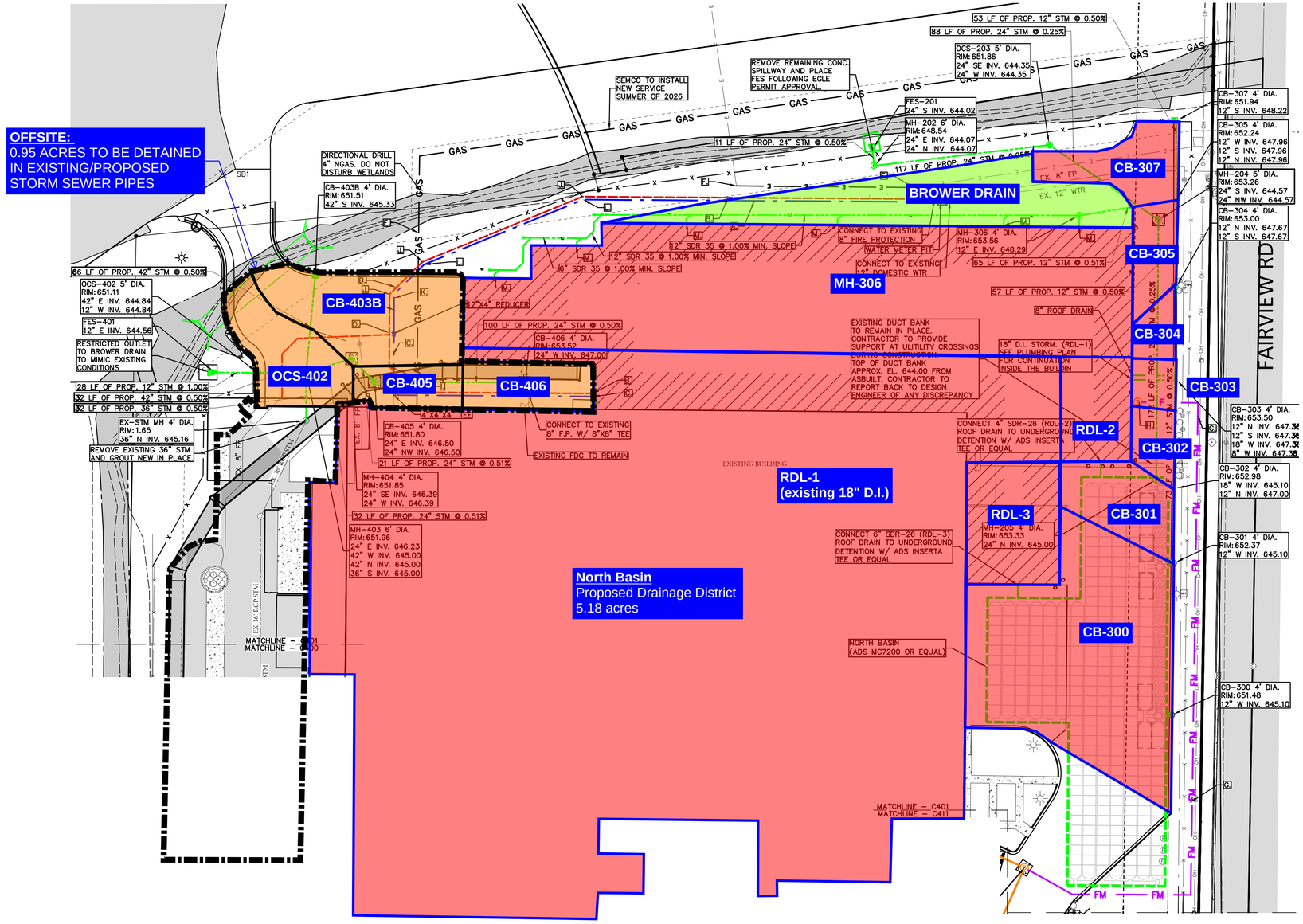
ATTACHMENT 4



LINE LEGEND

- OH — PROPOSED OVERHEAD ELECTRIC
- E — PROPOSED ELECTRIC
- GAS — GAS — PROPOSED GAS
- C — PROPOSED COMMUNICATIONS
- PROPOSED STORM SEWER
- PROPOSED 6" UNDERDRAIN W/ SOCK
- PROPOSED SANITARY SEWER
- FM — PROPOSED FORCEMAIN
- PROPOSED WATERMAIN

KEY NOTES:

A. 12" DOMESTIC WATER
B. 8" FIRE PROTECTION
C. 4" DOMESTIC WATER
D. CONNECT TO EXISTING W/ 8" X 8" X 8" TEE.
E. 4" NATURAL GAS
F. UNDERGROUND ELEC. REROUTE
G. 2" SANITARY FORCEMAIN
H. LIFT STATION. SEE PLUMBING FOR DETAILS.
I. 8" 45° BEND
J. 8" 22.5° BEND
K. 12" 45° BEND
L. 12" 22.5°BEND
M. 6" ROOF DRAIN

GENERAL NOTES:

A. REFER TO SHEET C601 FOR COMPREHENSIVE UTILITY PLAN NOTES
B. ALL SANITARY SEWER TO BE SDR-26.
C. ALL WATERMAIN TO BE C900.
D. ALL STORM SEWER ON THIS PAGE SHALL HAVE WATER TIGHT JOINTS.

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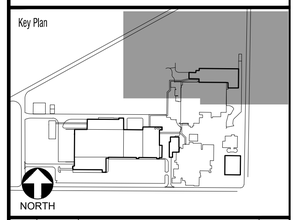
Approved by

Drafter / Designer	mm/dd/yy
Project Manager	mm/dd/yy
Quality Representative	mm/dd/yy
Operation Manager	mm/dd/yy
Maintenance Representative	mm/dd/yy
Customer Representative / Document Manager	mm/dd/yy

Key Plan



rev	date	description	by

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SCALE: 1" = 40'
0' 20' 40' 60' 80'

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ENGINEER	ARCHITECT	REV BY	REV
DGL	SRF	MCC	C

Mead Johnson NUTRITION

title: UTILITY PLAN

project: VIVID

location: ZEELAND, MI

C.A.R. OR P.O. NUMBER:	
SCALE: AS NOTED	DATE: 02-APR-2026
PROJECT MANAGER:	AOS
DESIGNER:	DGL
DRAFTER:	MDS
VENDOR NAME:	INTEGRATED PROJECT SERVICES
VENDOR PROJECT NUMBER:	GL005129
DISCIPLINE:	CIVIL
SYSTEM NAME:	-
SYSTEM NUMBER:	-
EQUIPMENT TYPE:	-
LEGACY NUMBER:	SHEET #: ZSC073-1473-C401-UTILITY PLAN
LEGACY DATE:	
LEGACY VENDOR:	
CAD FILE NAME:	DRAWING NUMBER: C401
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DEPARTMENT:	SHEET: 16 OF 36

ATTACHMENT 5

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LGROW Design Spreadsheet
Ottawa County Water Resources Commissioner

Version 3.4

Instructions

1) After opening the spreadsheet you will need to enable the use of an embedded macro. Look for security warning above and click "Enable Content."
2) Data is entered in yellow cells. Green cells allow selection of items from pulldown menus or buttons.
3) To clear all input data entered in a worksheet, click the Clear Worksheet button at the top of the page and hit the delete key.
4) Comments are indicated by red triangles in cells. Further direction is provided in the LGROW Design Spreadsheet Tutorial.
5) The spreadsheet can be used to model a single discharge point from the site including structural BMPs in series or parallel.

Project Description

Development Name	Reckitt - Zeeland - West Tributary	**Design Firm**	VK Civil
Address/Location	725 E Main Ave, Zeeland, MI 49464	**Engineer**	Dan Lewis
Developer/Owner	Mead Johnson	**Date**	4/2/2026

Run

	Select if Yes	Notes
Drainage District	☐	
Watershed Policy	☐	
Redevelopment/Addition	☑	
MS4	☐	
Hotspot	☐	
Coldwater Stream	☐	

Sensitive Areas

Description	Notes

Channel Protection Volume Basis

Pre-development Land Use Definition	Existing	Notes
Not Required	☐	
Provided Offsite	☐	Extended detention provided
Alternative Approach	☐	

Subcatchment Connectivity

Number of Subcatchments 1

Subcatchment Name	Downstream Subcatchment	Subcatchment Description
Sub1	Sub2	West Basin

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LGROW Design Spreadsheet
Ottawa County Water Resources Commissioner

Subcatchment Hydrology Summary

Subcatchment Name	Existing			Developed		
	Area [ac]	% Impervious	Average CN	Area [ac]	% Impervious	Average CN
Sub1	18.44	34%	74	18.44	85%	93
Site Totals and Averages:	**18.44**	**34%**	**74**	**18.44**	**85%**	**93**

Channel Protection Volume from Structural BMPs

Subcatchment Name	Channel Protection Volume [cft]			
	Required	Upstream	Credited	Unmet
Sub1	71,474	0	0	71,474
Total	**71,474**		**0**	

Percent of Channel Protection Volume met by Onsite Retention	**0**
Required Extended Detention Volume [cft]	**71,474**
Required Extended Detention Release Rate [cfs]	**0.551**
1-year Existing Peak Discharge [cfs]	5.93

Water Quality Volume and TSS Removal

Subcatchment Name	Water Quality Volume [cft]	Volume Met	TSS			
			Generated	Upstream	Total	Removed
Sub1	57,045	Yes	57,045	0	57,045	46,104
Total	**57,045**	**No**	**57,045**			**46,104**
					TSS Removal Efficiency [%]	**81**
					80% TSS removal met?	**Yes**

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LGROW Design Spreadsheet
Ottawa County Water Resources Commissioner

GVMC

Sub1: West Basin

Runoff

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Existing Land Use	HSG	Area	Units	Curve Number Existing	Curve Number Pre-settlement
Impervious (paved parking lot, roof, driveway, etc.)	B	274,267	sqft	98	69
Open spaces (grass cover) - good	B	518,143	sqft	61	58
Gravel	B	10,790	sqft	93	58
		18.44	acre	74	62

Developed Land Use	HSG	Area	Units	Curve Number	Notes
DIST: Impervious (paved parking lot, roof, driveway, etc.)	B	683,892	sqft	98	
DIST: Open spaces (grass cover) - good	B	119,354	sqft	61	
Notes:		18.44	acre	93	

Subcatchment Runoff Volume for Developed Land Use

Rainfall Frequency	1-year	2-year	10-year	25-year	100-year
Volume from this Subcatchment [cft]	116,530	136,732	217,091	281,932	405,776

Channel Protection Volume

Click here for documentation

Required Channel Protection Volume

		2-year Runoff Volumes [cft] Developed	Pre-developed
Is Channel Protection Volume required? If no, provide reason.	Yes		
Required this Subcatchment [cft]	**71,474**	136,732	65,257
Unmet from Upstream Subcatchments [cft]	**0**		
Required Channel Protection Volume [cft]	**71,474**		

Structural BMPs used to meet Channel Protection Volume

Structural BMP	A Infiltration Area [sqft]	V Storage Volume [cft]	i Design Infiltration Rate [in/hr]	Drain Time [hr]	Volume Retained [cft]
				N.A.	
				N.A.	
				N.A.	
				N.A.	
Totals		**0**			**0**

Credited Channel Protection Volume	**0**
Percentage of Channel Protection Volume Met by Retention	**0%**

Notes:

Water Quality Volume

Click here for documentation

		Paved [ac]	Pitched Roofs [ac]	Flat Roofs/Unpaved [ac]
Sum of Directly Connected Impervious Area [ac]	15.70	15.70		
Sum of Directly Connected Disturbed Pervious Area [ac]	2.74			

Required Volume this Subcatchment [cft]	**57,045**	**TSS Generated this Subcatchment**	**57,045**
Volume from Upstream Subcatchments [cft]	**0**	**TSS from Upstream Subcatchments**	**0**
Water Quality Volume to be Treated [cft]	**57,045**	**TSS to be Treated**	**57,045**

TSS Accounting

BMPs Used in Treatment Train	Treated Water Volume [cft]	TSS Removal Efficiency Tabulated	Third-Party	Effective	TSS Removed
PASS: Detention Basin (extended)	57,045	72		72	41,072
PASS: Catchbasin	57,045	22		22	3,514
PASS: Sediment Forebay	13,900	50		12	1,518
					0
					0

Released Water Volume [cft]	**57,045**	**Total TSS Removed**	**46,104**
Water Quality Volume met?	**Yes**	**TSS Remaining**	**10,941**
		TSS Removal Efficiency [%]	**81**

Notes:

**Sediment Forebay is actually Isolator Row Volume.

LGROW Design Spreadsheet
Ottawa County Water Resources Commissioner

GVMC

Existing Time-of-Concentration

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Sheet Flow

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Manning's n	Slope [ft/ft]		Travel Time [hr]
Short grass	653.00	652.50	101.00	0.150	0.0050		0.32
Short grass	652.50	651.50	75.00	0.150	0.0133		0.17
Short grass	651.50	651.00	50.00	0.150	0.0100		0.14
						Subtotal	0.63

Shallow Concentrated Flow (after 300 feet of sheet flow)

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Slope [ft/ft]	Velocity [ft/s]		Travel Time [hr]
Unpaved	651.00	649.00	90.00	0.0222	2.41		0.01
Unpaved	649.00	648.00	192.00	0.0052	1.16		0.05
Unpaved	647.00	645.50	101.00	0.0149	1.97		0.01
						Subtotal	0.07

Open Channels, Swales, and Pipes

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Area [sqft]	Wetted Perimeter [ft]	User Specified, n	Manning's n	Slope [ft/ft]	Velocity [ft/s]	Travel Time [hr]
									Subtotal	0.00

Existing Time-of-concentration [hr] **0.70**

Developed Time-of-Concentration

Click here for documentation

Sheet Flow

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Manning's n	Slope [ft/ft]		Travel Time [hr]
Short grass	654.25	653.65	60.00	0.150	0.0100		0.16
						Subtotal	0.16

Shallow Concentrated Flow (after 300 feet of sheet flow)

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Slope [ft/ft]	Velocity [ft/s]		Travel Time [hr]
						Subtotal	0.00

Open Channels, Swales, and Pipes

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Area [sqft]	Wetted Perimeter [ft]	User Specified, n	Manning's n	Slope [ft/ft]	Velocity [ft/s]	Travel Time [hr]
Concrete	645.50	645.10	80.00	3.14	6.2	0.012	0.013	0.0050	5.14	0.00
Concrete	643.32	642.25	755.00	19.6	15.7	0.012	0.013	0.0014	4.99	0.04
									Subtotal	0.05
									Developed Total without Storage Device [hr]	0.21

Storage Device

Storage Volume [cft]	10-year Design Discharge [cfs]	Description	Travel Time [hr]
		Subtotal	0.00

Developed Time-of-Concentration [hr] **0.21**

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Time-of-Concentration

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	Worksheet	User	Value Used
Existing [hr]	0.70	0.50	**0.50**
Developed [hr]	0.21	0.25	**0.25**

Method Selected: User

Notes:

Flood Control Volume

Click here for documentation

Detention - Routing Method

Design Storm	100-year
Total Contributing Area [ac]	18.44
Developed Peak Discharge [cfs]	99.72

Allowable Discharge Worksheet		Select
Standard Discharge [cfs] - 0.13 [cfs/ac]	2.40	◉
Alternate Discharge [cfs]		○

Retention - Summary of Volumes

Design Storm	100-year
Site Runoff Volume [cft]	405,776
BMP Storage Volume [cft]	0
BMP Infiltrating Volume [cft]	0
Total Volume Provided [cft]	0
Runoff Volume Retained by BMPs [cft]	0
Unretained Runoff Volume [cft]	405,776

Credited BMP Retention Volume	Volume Retained	← This should normally be set to "Volume Retained"
Detention Required?	Yes	
Allowable Discharge [cfs]	2.40	
Required Storage Volume [cft]	308,780	
Time to Drain [hrs]	71.5	

Required Storage Volume [cft]:

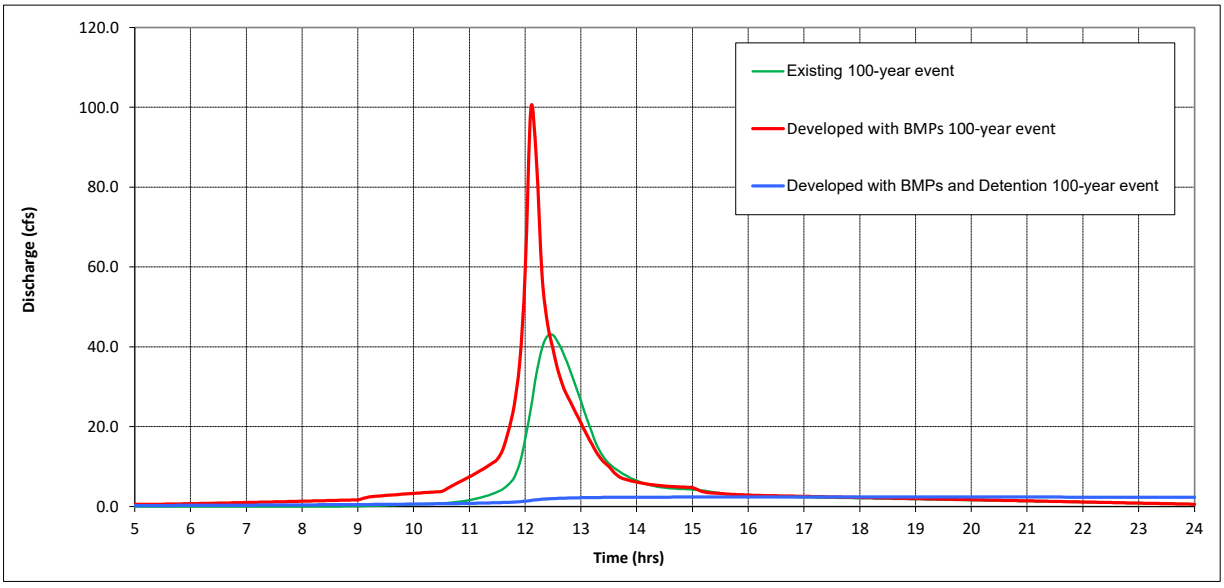
Minimum "BMP Storage Volume" that results in zero "Unretained Runoff Volume"

Calculate Detention Storage Volume — Calculated

No Emergency Overflow Routes: ☐

Notes:

Hydrograph



Plot Event: 100-year

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Ottawa County Water Resources Commissioner

Results Summary

Volume Units: cft

Rainfall

Source and Distribution	24-hour, NOAA Atlas 14 at West Olive, MI, NRCS MSE4				
Rainfall Frequency	1-year	2-year	10-year	25-year	100-year
Rainfall Depth [in]	2.25	2.59	3.91	4.95	6.90

Pre-settlement Land Use

Time-of-Concentration [hr]	0.50				
Average Runoff [in]	0.16	0.26	0.82	1.41	2.71
Peak Discharge [cfs]	0.73	1.43	7.14	13.62	28.55
Runoff Volume [cft]	10,665	17,428	55,150	94,218	181,653

Existing Land Use

Time-of-Concentration [hr]	0.50				
Percent Impervious	34%	34%	34%	34%	34%
Average Runoff [in]	0.79	0.97	1.79	2.53	4.05
Peak Discharge [cfs]	5.93	8.29	18.27	26.61	42.92
Runoff Volume [cft]	53,143	65,257	119,945	169,278	271,262

Developed Land Use

Time-of-Concentration [hr]	0.25				
Percent Impervious	85%	85%	85%	85%	85%
Average Runoff [in]	1.74	2.04	3.24	4.21	6.06
Peak Discharge [cfs]	30.71	35.83	56.14	71.78	99.72
Runoff Volume [cft]	116,530	136,732	217,091	281,932	405,776
Volume Retained by BMPs [cft]	0	0	0	0	0
BMP Volume Credited to Detention [cft]	0	0	0	0	0
Volume Released [cft]	116,530	136,732	217,091	281,932	405,776
Peak Discharge Released [cfs]	30.71	35.83	56.14	71.78	99.72

Developed with BMPs and Detention

Peak Discharge Released [cfs]	1.22	1.33	1.72	1.98	2.40
Maximum Volume Detained [cft]	80,212	95,543	158,719	209,873	308,780

ATTACHMENT 6

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LGROW Design Spreadsheet
Ottawa County Water Resources Commissioner

Version 3.4

Instructions

1) After opening the spreadsheet you will need to enable the use of an embedded macro. Look for security warning above and click "Enable Content."
2) Data is entered in yellow cells. Green cells allow selection of items from pulldown menus or buttons.
3) To clear all input data entered in a worksheet, click the Clear Worksheet button at the top of the page and hit the delete key.
4) Comments are indicated by red triangles in cells. Further direction is provided in the LGROW Design Spreadsheet Tutorial.
5) The spreadsheet can be used to model a single discharge point from the site including structural BMPs in series or parallel.

Project Description

Development Name	Reckitt - Zeeland - North Tributary	**Design Firm**	VK Civil
Address/Location	725 E Main Ave, Zeeland, MI 49464	**Engineer**	Dan Lewis
Developer/Owner	Mead Johnson	**Date**	4/2/2026

Run

	Select if Yes	Notes
Drainage District	☐	
Watershed Policy	☐	
Redevelopment/Addition	☑	
MS4	☐	
Hotspot	☐	
Coldwater Stream	☐	

Sensitive Areas

Description	Notes

Channel Protection Volume Basis

Pre-development Land Use Definition	Existing	Notes
Not Required	☐	Extended detention provided
Provided Offsite	☐	
Alternative Approach	☐	

Subcatchment Connectivity

Number of Subcatchments 1

Subcatchment Name	Downstream Subcatchment	Subcatchment Description
Sub1	Sub2	West Basin

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Subcatchment Hydrology Summary

Subcatchment Name	Existing			Developed		
	Area [ac]	% Impervious	Average CN	Area [ac]	% Impervious	Average CN
Sub1	5.18	82%	91	5.18	95%	96
Site Totals and Averages:	**5.18**	**82%**	**91**	**5.18**	**95%**	**96**

Channel Protection Volume from Structural BMPs

Subcatchment Name	Channel Protection Volume [cft]			
	Required	Upstream	Credited	Unmet
Sub1	5,271	0	0	5,271
Total	**5,271**		**0**	

Percent of Channel Protection Volume met by Onsite Retention	**0**
Required Extended Detention Volume [cft]	**5,271**
Required Extended Detention Release Rate [cfs]	**0.041**
1-year Existing Peak Discharge [cfs]	6.68

Water Quality Volume and TSS Removal

Subcatchment Name	Water Quality Volume [cft]	Volume Met	TSS			
			Generated	Upstream	Total	Removed
Sub1	17,563	Yes	17,563	0	17,563	14,110
Total	**17,563**	**No**	**17,563**			**14,110**
					TSS Removal Efficiency [%]	**80**
					80% TSS removal met?	**Yes**

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Sub1: West Basin

Runoff

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Existing Land Use	HSG	Area	Units	Curve Number Existing	Curve Number Pre-settlement
Impervious (paved parking lot, roof, driveway, etc.)	B	184,003	sqft	98	69
Open spaces (grass cover) - good	B	41,500	sqft	61	58	
		5.18	acre	91	67

Developed Land Use	HSG	Area	Units	Curve Number	Notes
DIST: Impervious (paved parking lot, roof, driveway, etc.)	B	213,593	sqft	98	
DIST: Open spaces (grass cover) - good	B	12,000	sqft	61	
Notes:		5.18	acre	96	

Subcatchment Runoff Volume for Developed Land Use

Rainfall Frequency	1-year	2-year	10-year	25-year	100-year
Volume from this Subcatchment [cft]	36,125	42,234	66,186	85,232	121,192

Channel Protection Volume

Click here for documentation

Required Channel Protection Volume

		2-year Runoff Volumes [cft] Developed	Pre-developed
Is Channel Protection Volume required? If no, provide reason.	Yes		
Required this Subcatchment [cft]	**5,271**	42,234	36,963
Unmet from Upstream Subcatchments [cft]	**0**		
Required Channel Protection Volume [cft]	**5,271**		

Structural BMPs used to meet Channel Protection Volume

Structural BMP	A Infiltration Area [sqft]	V Storage Volume [cft]	i Design Infiltration Rate [in/hr]	Drain Time [hr]	Volume Retained [cft]
				N.A.	
				N.A.	
				N.A.	
				N.A.	
Totals		**0**			**0**

Credited Channel Protection Volume	**0**
Percentage of Channel Protection Volume Met by Retention	**0%**

Notes: Channel protection volume met within UG detention w/ use of low flow orifiace. In-situ soils no conducive to infiltration.

Water Quality Volume

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		Paved [ac]	Pitched Roofs [ac]	Flat Roofs/Unpaved [ac]
Sum of Directly Connected Impervious Area [ac]	4.90	4.90		
Sum of Directly Connected Disturbed Pervious Area [ac]	0.28			
Required Volume this Subcatchment [cft]	**17,563**	**TSS Generated this Subcatchment**		**17,563**
Volume from Upstream Subcatchments [cft]	**0**	**TSS from Upstream Subcatchments**		**0**
Water Quality Volume to be Treated [cft]	**17,563**	**TSS to be Treated**		**17,563**

TSS Accounting

BMPs Used in Treatment Train	Treated Water Volume [cft]	TSS Removal Efficiency Tabulated	Third-Party	Effective	TSS Removed
PASS: Catchbasin	17,706	22		22	3,864
PASS: Detention Basin (extended)	17,706	72		72	9,864
PASS: Sediment Forebay	3,500	50		10	382
					0
					0
Released Water Volume [cft]	**17,563**			**Total TSS Removed**	**14,110**
Water Quality Volume met?	**Yes**			**TSS Remaining**	**3,454**
				TSS Removal Efficiency [%]	**80**

Notes: *Sediment forebay is Isolator Row volume.

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Existing Time-of-Concentration

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Sheet Flow

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Manning's n	Slope [ft/ft]		Travel Time [hr]
Paved	654.00	652.75	56.00	0.011	0.0223		0.01
Short grass	652.75	652.00	25.00	0.150	0.0300		0.05
Short grass	652.00	649.00	24.00	0.150	0.1250		0.03
						Subtotal	0.09

Shallow Concentrated Flow (after 300 feet of sheet flow)

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Slope [ft/ft]	Velocity [ft/s]		Travel Time [hr]
Unpaved	649.50	648.00	648.00	0.0023	0.78		0.23
						Subtotal	0.23

Open Channels, Swales, and Pipes

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Area [sqft]	Wetted Perimeter [ft]	User Specified, n	Manning's n	Slope [ft/ft]	Velocity [ft/s]	Travel Time [hr]
									Subtotal	0.00

Existing Time-of-concentration [hr] **0.32**

Developed Time-of-Concentration

Click here for documentation

Sheet Flow

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Manning's n	Slope [ft/ft]		Travel Time [hr]
Paved	701.00	700.00	100.00	0.011	0.0100		0.03
						Subtotal	0.03

Shallow Concentrated Flow (after 300 feet of sheet flow)

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Slope [ft/ft]	Velocity [ft/s]		Travel Time [hr]
						Subtotal	0.00

Open Channels, Swales, and Pipes

Type	US Elevation [ft]	DS Elevation [ft]	Flow Distance [ft]	Area [sqft]	Wetted Perimeter [ft]	User Specified, n	Manning's n	Slope [ft/ft]	Velocity [ft/s]	Travel Time [hr]
Concrete	652.40	648.25	414.00	1.77	4.71		0.013	0.0100	5.96	0.02
Concrete	648.25	647.00	190.00	3.14	6.28		0.013	0.0066	5.84	0.01
						0.012				
									Subtotal	0.03
									Developed Total without Storage Device [hr]	0.06

Storage Device

Storage Volume [cft]	10-year Design Discharge [cfs]	Description	Travel Time [hr]
		Subtotal	0.00

Developed Time-of-Concentration [hr] **0.06**

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Time-of-Concentration

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	Worksheet	User	Value Used
Existing [hr]	0.32	0.32	**0.32**
Developed [hr]	0.06	0.25	**0.25**

Method Selected: User

Notes:

Flood Control Volume

Click here for documentation

Detention - Routing Method

Design Storm	100-year
Total Contributing Area [ac]	5.18
Developed Peak Discharge [cfs]	28.35

Allowable Discharge Worksheet		Select
Standard Discharge [cfs] - 0.13 [cfs/ac]	0.67	◉
Alternate Discharge [cfs]		○

Retention - Summary of Volumes

Design Storm	100-year
Site Runoff Volume [cft]	121,192
BMP Storage Volume [cft]	0
BMP Infiltrating Volume [cft]	0
Total Volume Provided [cft]	0
Runoff Volume Retained by BMPs [cft]	0
Unretained Runoff Volume [cft]	121,192

Credited BMP Retention Volume	Volume Retained	← This should normally be set to "Volume Retained"
Detention Required?	Yes	
Allowable Discharge [cfs]	0.67	
Required Storage Volume [cft]	92,584	
Time to Drain [hrs]	76.3	

Time to Drain exceeds 72 [hrs]

Calculate Detention Storage Volume

Calculated

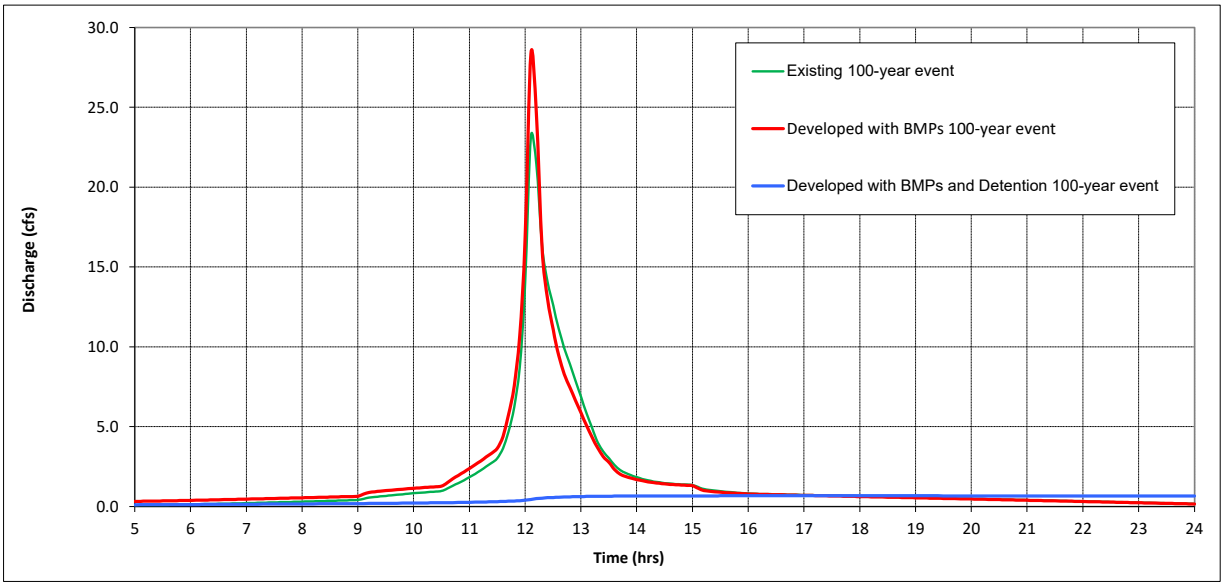
Required Storage Volume [cft]:

Minimum "BMP Storage Volume" that results in zero "Unretained Runoff Volume"

No Emergency Overflow Routes: ☐

Notes:

Hydrograph



Plot Event: 100-year

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Ottawa County Water Resources Commissioner

Results Summary

Volume Units: cft

Rainfall

Source and Distribution: 24-hour, NOAA Atlas 14 at West Olive, MI, NRCS MSE4

Rainfall Frequency	1-year	2-year	10-year	25-year	100-year
Rainfall Depth [in]	2.25	2.59	3.91	4.95	6.90

Pre-settlement Land Use

Time-of-Concentration [hr]	0.32				
Average Runoff [in]	0.27	0.41	1.10	1.78	3.23
Peak Discharge [cfs]	0.52	1.02	3.87	6.61	12.57
Runoff Volume [cft]	5,068	7,632	20,691	33,405	60,725

Existing Land Use

Time-of-Concentration [hr]	0.32				
Percent Impervious	82%	82%	82%	82%	82%
Average Runoff [in]	1.67	1.97	3.14	4.09	5.92
Peak Discharge [cfs]	6.68	7.98	12.71	16.52	23.17
Runoff Volume [cft]	31,453	36,963	59,009	76,902	111,232

Developed Land Use

Time-of-Concentration [hr]	0.25				
Percent Impervious	95%	95%	95%	95%	95%
Average Runoff [in]	1.92	2.25	3.52	4.53	6.45
Peak Discharge [cfs]	9.25	10.63	16.02	20.30	28.35
Runoff Volume [cft]	36,125	42,234	66,186	85,232	121,192
Volume Retained by BMPs [cft]	0	0	0	0	0
BMP Volume Credited to Detention [cft]	0	0	0	0	0
Volume Released [cft]	36,125	42,234	66,186	85,232	121,192
Peak Discharge Released [cfs]	9.25	10.63	16.02	20.30	28.35

Developed with BMPs and Detention

Peak Discharge Released [cfs]	0.35	0.38	0.49	0.56	0.67
Maximum Volume Detained [cft]	25,364	29,849	48,158	63,236	92,584

ATTACHMENT 7

Received 04-06-26
City of Zeeland, MI

PROPOSED STORMWATER SYSTEM
DETENTION POND VOLUME

Job Information

Description: Reckitt Zeeland - West Basin
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

Elevation (ft)	Area (sf)	Incremental Volume (cf)	Total Volume (cf)
641.50	89800	0.0	0.0
642.50	89800	46507.0	46507.0
643.50	89800	75973.0	122480.0
644.50	89800	70328.0	192808.0
645.50	89800	59418.0	252226.0
646.50	89800	38618.0	290844.0
647.00	89800	17964.0	308808.0

> 308,780 (cf) Required

OCS-101

Orfice Equation based on pipe invert elevation and 100-year Storm Event

Channel Protection
Required: 71,474 cft

Q=cA((2gh)^(1/2))

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow (cfs)	Allowable Release Rate (cfs)
6.625	0.6	0.239	32.200	0.31	0.212	< 0.551

Invert: 642.25

Flood Control
Required: 308,780 cft

Q=cA((2gh)^(1/2))

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow (cfs)	Allowable Release Rate (cfs)
6.625	0.6	0.239	32.200	4.47	2.361	< 2.400

Invert: 642.25

**** One 6-5/8" orifice will act as both channel protection and flood control orifices*.**

Weir Wall
10-yr flow = 56.14 cfs

Q=CLH^(3/2)

Length	Height	C from table based on height and breadth		h - water el to weir elev (ft)	Flow (cfs)	25 Yr Overflow Rate (cfs)
8	0		3.270	1.75	60.561	> 56.140

ATTACHMENT 8

Received 04-06-26
City of Zeeland, MI

PROPOSED STORMWATER SYSTEM
DETENTION POND VOLUME

Job Information

Description: Reckitt Zeeland - West Tributary
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

Elevation (ft)	Area (sf)	Incremental Volume (cf)	Total Volume (cf)
644.25	21900	0.0	0.0
645.25	21900	11253.0	11253.0
646.25	21900	18383.0	29636.0
647.25	21900	17579.0	47215.0
648.25	21900	16269.0	63484.0
649.25	21900	14122.0	77606.0
650.25	21900	9948.0	87554.0
651.00	21900	6576.0	94130.0

> 92,585 (cf) Required

OCS-203

Orfice Equation based on pipe invert elevation and 100-year Storm Event

Q=cA((2gh)^(1/2))

Channel Protection
Required: 5,271 cft
El: 644.92

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow (cfs)	Allowable Release Rate (cfs)
1.75	0.6	0.017	32.200	0.28	0.037	< 0.041

Invert: 644.57

Flood Control
Required: 92,585 cft
El: 651.00

Q=cA((2gh)^(1/2))

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow* (cfs)	Allowable Release Rate (cfs)
1.75	0.6	0.017	32.200	6.36	0.202	< 0.670

CPV @ 651.00 — Invert: 644.92 — **CPV @ 651.00*

Q=cA((2gh)^(1/2))

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow** (cfs)	Allowable Release Rate (cfs)
2.625	0.6	0.038	32.200	5.96	0.639	< 0.670

FC + CPV @ 651.00 — Invert: 644.92 — *** + 0.202 CFS*

Q=CLH^(3/2)

Weir Wall
10-yr flow = 16.02 cfs

Length	Height	C from table based on height and breadth	h - water el to weir elev (ft)	Flow (cfs)	25 Yr Overflow Rate (cfs)
5	0	3.270	1	16.350	> 16.020

ATTACHMENT 9

Received 04-06-26
City of Zeeland, MI

PROPOSED STORMWATER SYSTEM
DETENTION POND VOLUME

Job Information

Description: Reckitt Zeeland - East Tributary
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

OCS-402

Orfice Equation based on pipe invert elevation and the existing detention volume provided

Detention Volume
Existing 3,392 cft
El: 648.00

Q=cA((2gh)^(1/2))

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow (cfs)	Existing Release Rate (cfs)
6	0.6	0.196	32.200	3	1.568	equals 1.568

Invert: 645.00

Proposed: 3,502 cft
El: 649.00

Q=cA((2gh)^(1/2))

Size (in.)	c	A (ft^2)	g (ft/s^2)	h - water el to inv. of pipe (ft)	Flow (cfs)	Existing Release Rate (cfs)
5.5	0.6	0.165	32.200	4	1.543	equals 1.543

Invert: 645.00

Weir Wall
25-yr flow = 4.28 cfs

Q=CLH^(3/2)

Length	Height	C from table based on height and breadth		h - water el to weir elev (ft)	Flow (cfs)	25 Yr Overflow Rate (cfs)
5	0		3.330	0.5	5.887	> 4.280

*See rational method check for 25yr flow

ATTACHMENT 10

Received 04-06-26
City of Zeeland, MI

STORM STORAGE VOLUME
RATIONAL METHOD

Job Information

Description: Reckitt Zeeland - West Tributary
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

Design Parameter:	0.13 cfs / acre
Design Storm:	100-yr
Proposed Inflow Runoff Coefficient:	0.80
Inflow Draiange Area (ac):	18.44
Allowable Release Rate (cfs):	2.40

0.13 cfs / acre

Detention Volume Required: 211,789 cft 264736.626

Storm Duration		Intensity	Inflow Rate	Outflow Rate	Required Storage	Required Storage
(min)	(hr)	(in./hr)	(cfs)	(cfs)	(ac-ft)	(cft)
5	0.08	8.88	131.00	2.397	0.893	38901.7
10	0.17	7.74	114.18	2.397	1.553	67628.9
15	0.25	6.95	102.45	2.397	2.084	90800.3
20	0.33	6.15	90.72	2.397	2.454	106876.4
25	0.42	5.36	79.00	2.397	2.660	115857.1
30	0.50	4.56	67.27	2.397	2.703	117742.5
35	0.58	4.28	63.16	2.397	2.954	128671.9
40	0.67	4.00	59.06	2.397	3.148	137117.1
45	0.75	3.73	54.95	2.397	3.285	143078.3
50	0.83	3.45	50.85	2.397	3.364	146555.3
55	0.92	3.17	46.74	2.397	3.387	147548.2
60	1.00	2.89	42.63	2.397	3.353	146057.0
65	1.08	2.80	41.27	2.397	3.509	152862.3
70	1.17	2.71	39.90	2.397	3.647	158842.0
75	1.25	2.61	38.54	2.397	3.765	163996.1
80	1.33	2.52	37.18	2.397	3.864	168324.7
85	1.42	2.43	35.81	2.397	3.945	171827.8
90	1.50	2.34	34.45	2.397	4.006	174505.3
95	1.58	2.24	33.08	2.397	4.049	176357.2
100	1.67	2.15	31.72	2.397	4.072	177383.6
105	1.75	2.06	30.35	2.397	4.077	177584.4
110	1.83	1.97	28.99	2.397	4.062	176959.6
115	1.92	1.87	27.62	2.397	4.029	175509.3
120	2.00	1.78	26.26	2.397	3.977	173233.5
125	2.08	1.74	25.68	2.397	4.042	176082.0
130	2.17	1.70	25.10	2.397	4.100	178581.0
135	2.25	1.66	24.53	2.397	4.149	180730.4
140	2.33	1.62	23.95	2.397	4.190	182530.3
145	2.42	1.58	23.37	2.397	4.224	183980.6
150	2.50	1.55	22.79	2.397	4.249	185081.4
155	2.58	1.51	22.21	2.397	4.266	185832.5
160	2.67	1.47	21.64	2.397	4.275	186234.2
165	2.75	1.43	21.06	2.397	4.277	186286.2
170	2.83	1.39	20.48	2.397	4.270	185988.7
175	2.92	1.35	19.90	2.397	4.255	185341.7
180	3.00	1.31	19.33	2.397	4.232	184345.0
185	3.08	1.30	19.10	2.397	4.293	186989.1
190	3.17	1.28	18.88	2.397	4.350	189499.2
195	3.25	1.27	18.66	2.397	4.405	191875.5
200	3.33	1.25	18.44	2.397	4.456	194117.9
205	3.42	1.24	18.22	2.397	4.505	196226.4
210	3.50	1.22	18.00	2.397	4.550	198201.0
215	3.58	1.21	17.78	2.397	4.592	200041.8
220	3.67	1.19	17.55	2.397	4.632	201748.7
225	3.75	1.18	17.33	2.397	4.668	203321.7
230	3.83	1.16	17.11	2.397	4.701	204760.9
235	3.92	1.15	16.89	2.397	4.731	206066.2
240	4.00	1.13	16.67	2.397	4.758	207237.6
245	4.08	1.12	16.45	2.397	4.781	208275.1
250	4.17	1.10	16.23	2.397	4.802	209178.8
255	4.25	1.09	16.01	2.397	4.820	209948.5
260	4.33	1.07	15.78	2.397	4.834	210584.4
265	4.42	1.06	15.56	2.397	4.846	211086.5
270	4.50	1.04	15.34	2.397	4.854	211454.6
275	4.58	1.03	15.12	2.397	4.860	211688.9
280	4.67	1.01	14.90	2.397	4.862	211789.3
285	4.75	1.00	14.68	2.397	4.861	211755.8
290	4.83	0.98	14.46	2.397	4.857	211588.5
295	4.92	0.97	14.24	2.397	4.850	211287.3
300	5.00	0.95	14.01	2.397	4.841	210852.2
305	5.08	0.94	13.79	2.397	4.827	210283.2
310	5.17	0.92	13.57	2.397	4.811	209580.4
315	5.25	0.91	13.35	2.397	4.792	208743.7
320	5.33	0.89	13.13	2.397	4.770	207773.1
325	5.42	0.88	12.91	2.397	4.744	206668.6
330	5.50	0.86	12.69	2.397	4.716	205430.3
335	5.58	0.85	12.47	2.397	4.685	204058.1
340	5.67	0.83	12.24	2.397	4.650	202552.0
345	5.75	0.82	12.02	2.397	4.612	200912.0
350	5.83	0.80	11.80	2.397	4.572	199138.2
355	5.92	0.79	11.58	2.397	4.528	197230.5
360	6.00	0.77	11.36	2.397	4.481	195188.9
720	12.00	0.44	6.49	2.397	4.094	178320.7
1440	24.00	0.26	3.84	2.397	2.877	125306.4

ATTACHMENT 11

Received 04-06-26
City of Zeeland, MI

STORM STORAGE VOLUME
RATIONAL METHOD

Job Information

Description: Reckitt Zeeland - North Tributary
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

Design Parameter:	0.13 cfs / acre	
Design Storm:	100-yr	
Proposed Inflow Runoff Coefficient:	0.88	
Inflow Draiange Area (ac):	5.18	
Allowable Release Rate (cfs):	0.673	0.13 cfs / acre

Detention Volume Required: 66,594 cft 83242.6518 w/ 1.25 multiplier

Storm Duration (min)	Storm Duration (hr)	Intensity (in./hr)	Inflow Rate (cfs)	Outflow Rate (cfs)	Required Storage (ac-ft)	Required Storage (cft)
5	0.08	8.88	40.48	0.673	0.276	12041.1
10	0.17	7.74	35.28	0.673	0.481	20938.2
15	0.25	6.95	31.66	0.673	0.646	28118.6
20	0.33	6.15	28.03	0.673	0.760	33106.5
25	0.42	5.36	24.41	0.673	0.824	35902.0
30	0.50	4.56	20.79	0.673	0.838	36504.9
35	0.58	4.28	19.52	0.673	0.916	39902.5
40	0.67	4.00	18.25	0.673	0.976	42532.5
45	0.75	3.73	16.98	0.673	1.019	44394.8
50	0.83	3.45	15.71	0.673	1.044	45489.6
55	0.92	3.17	14.44	0.673	1.052	45816.8
60	1.00	2.89	13.17	0.673	1.042	45376.4
65	1.08	2.80	12.75	0.673	1.090	47499.6
70	1.17	2.71	12.33	0.673	1.133	49367.7
75	1.25	2.61	11.91	0.673	1.170	50980.7
80	1.33	2.52	11.49	0.673	1.202	52338.6
85	1.42	2.43	11.07	0.673	1.227	53441.5
90	1.50	2.34	10.64	0.673	1.246	54289.2
95	1.58	2.24	10.22	0.673	1.260	54881.8
100	1.67	2.15	9.80	0.673	1.268	55219.3
105	1.75	2.06	9.38	0.673	1.270	55301.7
110	1.83	1.97	8.96	0.673	1.266	55129.1
115	1.92	1.87	8.54	0.673	1.256	54701.3
120	2.00	1.78	8.11	0.673	1.240	54018.4
125	2.08	1.74	7.94	0.673	1.261	54919.0
130	2.17	1.70	7.76	0.673	1.279	55711.5
135	2.25	1.66	7.58	0.673	1.295	56396.1
140	2.33	1.62	7.40	0.673	1.308	56972.6
145	2.42	1.58	7.22	0.673	1.319	57441.1
150	2.50	1.55	7.04	0.673	1.327	57801.7
155	2.58	1.51	6.86	0.673	1.333	58054.1
160	2.67	1.47	6.69	0.673	1.336	58198.6
165	2.75	1.43	6.51	0.673	1.337	58235.1
170	2.83	1.39	6.33	0.673	1.335	58163.5
175	2.92	1.35	6.15	0.673	1.331	57983.9
180	3.00	1.31	5.97	0.673	1.325	57696.4
185	3.08	1.30	5.90	0.673	1.344	58533.7
190	3.17	1.28	5.83	0.673	1.362	59329.7
195	3.25	1.27	5.77	0.673	1.379	60084.4
200	3.33	1.25	5.70	0.673	1.396	60797.7
205	3.42	1.24	5.63	0.673	1.411	61469.6
210	3.50	1.22	5.56	0.673	1.426	62100.1
215	3.58	1.21	5.49	0.673	1.439	62689.3
220	3.67	1.19	5.42	0.673	1.452	63237.1
225	3.75	1.18	5.36	0.673	1.463	63743.5
230	3.83	1.16	5.29	0.673	1.474	64208.6
235	3.92	1.15	5.22	0.673	1.484	64632.3
240	4.00	1.13	5.15	0.673	1.493	65014.6
245	4.08	1.12	5.08	0.673	1.500	65355.6
250	4.17	1.10	5.01	0.673	1.507	65655.2
255	4.25	1.09	4.95	0.673	1.513	65913.4
260	4.33	1.07	4.88	0.673	1.518	66130.3
265	4.42	1.06	4.81	0.673	1.522	66305.8
270	4.50	1.04	4.74	0.673	1.525	66439.9
275	4.58	1.03	4.67	0.673	1.527	66532.7
280	4.67	1.01	4.60	0.673	1.529	66584.1
285	4.75	1.00	4.54	0.673	1.529	66594.1
290	4.83	0.98	4.47	0.673	1.528	66562.8
295	4.92	0.97	4.40	0.673	1.526	66490.1
300	5.00	0.95	4.33	0.673	1.524	66376.0
305	5.08	0.94	4.26	0.673	1.520	66220.6
310	5.17	0.92	4.19	0.673	1.516	66023.8
315	5.25	0.91	4.13	0.673	1.510	65785.6
320	5.33	0.89	4.06	0.673	1.504	65506.0
325	5.42	0.88	3.99	0.673	1.496	65185.1
330	5.50	0.86	3.92	0.673	1.488	64822.8
335	5.58	0.85	3.85	0.673	1.479	64419.2
340	5.67	0.83	3.78	0.673	1.469	63974.2
345	5.75	0.82	3.72	0.673	1.457	63487.8
350	5.83	0.80	3.65	0.673	1.445	62960.1
355	5.92	0.79	3.58	0.673	1.432	62390.9
360	6.00	0.77	3.51	0.673	1.418	61780.5
720	12.00	0.44	2.01	0.673	1.332	58034.8
1440	24.00	0.26	1.19	0.673	1.024	44586.6

ATTACHMENT 12

Received 04-06-26
City of Zeeland, MI

STORM STORAGE VOLUME
RATIONAL METHOD

Job Information

Description: Reckitt Zeeland - East Tributary
Reviewing Entity: Ottawa County
Job #: 1471
Date: 4/2/2026

Design Parameter:	0.13 cfs / acre
Design Storm:	25-yr
Proposed Inflow Runoff Coefficient:	0.90
Inflow Draiange Area (ac):	0.95
Allowable Release Rate (cfs):	0.12

0.13 cfs / acre

Storm Duration		Intensity	Inflow Rate	Outflow Rate	Required Storage	Required Storage
(min)	(hr)	(in./hr)	(cfs)	(cfs)	(ac-ft)	(cft)
5	0.08	6.36	5.44	0.124	0.037	1607.6
10	0.17	5.58	4.77	0.124	0.065	2811.7
15	0.25	5.01	4.28	0.124	0.087	3775.2
20	0.33	4.44	3.80	0.124	0.102	4444.0
25	0.42	3.87	3.31	0.124	0.111	4817.8
30	0.50	3.30	2.82	0.124	0.112	4896.9
35	0.58	3.10	2.65	0.124	0.123	5347.9
40	0.67	2.90	2.48	0.124	0.131	5694.6
45	0.75	2.70	2.30	0.124	0.136	5937.0
50	0.83	2.49	2.13	0.124	0.139	6075.1
55	0.92	2.29	1.96	0.124	0.140	6108.9
60	1.00	2.09	1.79	0.124	0.139	6038.3

Vriesman & Korhorn CIVIL

May 4th, 2026

Timothy Maday
City of Zeeland
21 S Elm St
Zeeland, MI 49464

Site Plan Review Comment Response Memo

The following review comments were received by VK Civil on Thursday 4/30/2026. We have reviewed the comments and summarized our responses to each item in red. Revisions to the plans have been made in accordance with the comments and are included in the revised submittal for staff review.

Re:
Re: Mead Johnson H Company Campus Modernization Project - Initial Staff Comments on Site Plan Review and Special Land Use Application Filed April 6, 2026

Dear Mr. Barron,

Staff has completed an initial review of the April 6, 2026 Planning Commission application for the above-referenced project. The following comments identify items requiring clarification, additional information, or plan revisions to ensure consistency with applicable ordinances and to support continued review. Certain items are advisory in nature or remain under coordination with the applicant's team and reviewing agencies. As the review progresses, some items may be addressed administratively or incorporated as conditions of any approval granted.

Utilities and Engineering

Water

1. Provide fire water service information, including whether the system can be connected to low pressure water lines.
   VK Civil has revised the plans to include a 12" domestic connection to the city's existing watermain in Carlton Street. Therefore, domestic and fire protection services will no longer be served from one single connection to the city system and pressure concerns will be resolved. See sheet C400.

2. Staff continues to coordinate with the City Consulting Engineer to model projected usage; additional follow-up will be provided.
   Noted

Sanitary Sewer (Clean Water Plant)

- Anticipate up to three (3) sanitary discharge points:
  - New specialty processes (requires flow meter and monitoring manhole)
  - Existing treatment facility (requires flow meter and monitoring manhole)
  - Admin building/cafeteria/locker rooms (requires monitoring manhole and oil/grease separator)
- Provide monitoring manholes and pretreatment components at connection points to City Sanitary Sewer per City standards.
  It is our understanding normal sanitary sewer from bathrooms and sinks do not need to be monitored. These "regular" sanitary sewer waste streams have been labeled more clearly on the revised plans. There is 4" process waste line (lab waste) out the south side of the building where a monitoring manhole has been added in Main Street ROW to meet your requirements. Additionally, one monitoring manhole has been added in the northwest area of the site for all other process waste from the proposed and existing WWTP and a proposed easement has been shown on the plans to this monitoring manhole. VK Civil has also revised the monitoring manhole and grease interceptor details to match those provided by the City. See sheets C300, C400, and C601 for revisions.
- Transition front private to public infrastructure at manhole SM7002 and reroute private sewer lateral KEBCO Properties (Parcel lD 70-17-18-400-010) into public infrastructure
  The existing KEBCO properties sanitary sewer lateral will be rerouted so the discharge does not flow through Mead Johnsons private sanitary sewer system. VK Civil has designed the revised routing for this pipe on sheet C400. The intended transition from private to public sanitary sewer will now be at proposed manhole MH-H. A 20.0' sanitary sewer easement is also proposed at this location.

City of Zeeland

- Wastewater modeling is ongoing; no final determination has been made regarding acceptable waste streams or discharge configuration. Further coordination with the City's engineering consultant will be required following completion of modeling.
  Noted.
- See attached materials for additional information.
  Received.

Engineering / Utilities Coordination (City Consulting Engineer)

- Existing and proposed utilities are difficult to follow. Some existing pipes are not labeled.
  VK Civil has added additional labels to the utility plans for existing pipes.
- Identify which pipes are public and which are private.
  VK Civil has added labels to identify public vs. private pipes at critical tie in locations.
- Label existing and proposed easements.
  All existing easements are labeled on survey plans provided by Nederveld. The previously proposed ROW north of Division was labeled by VK on the survey plans provided by Nederveld. Proposed easements with Semco, Consumers Energy, and the City of Zeeland are shown on corresponding layout and utility plans. See sheets C300 through C416.
- Show existing features on utility plans including the Brower Drain, water tank, and booster pump station.
  Existing features including Brower Drain, water tank, and booster station have been labeled on the plans. See sheets C200 and C400.

- The upgrades to the sewage lift station at Carlton Street are still to be determined. As referenced in the April 1, 2026 memorandum (attached), the preferred discharge point is at the intersection of Washington Avenue and Carlton Street, which would require the gravity sewer in Washington Avenue to be upsized to 12 inches from Carlton Street to Church Street.
  VK Civil and Mead Johnson intend to work with the City to finalize this design. Further discussions are required between all parties to come to an agreement that provides the most efficient design and meets logistical constraints.

- As noted in the same memorandum, the capacity of the City's treatment system is still being evaluated to determine what portions of the applicant's wastewater can be accepted.
  VK Civil understands this item is still being reviewed and will work with the City once the data has been finalized and a firm direction has been agreed upon between the City and Mead Johnson.

Stormwater

- There is an existing 15-inch storm sewer in Division Avenue that discharges to the Brower Drain (see attached plan). This will need to be rerouted, with appropriate easements provided. The proposed routing of the City's storm sewer through a private stormwater management system is not supported, as it would limit the City's ability to access and maintain the infrastructure. Revise the plans to ensure the public storm sewer remains accessible, either through a dedicated easement or by rerouting within the Main Avenue and Carlton Street rights-of-way.
  VK Civil has revised the design by placing a series of new manholes along Mead Johnson property adjacent to Main Street and Carlton Street. The existing storm sewer on MJN property will be redirected west at Main Street to Carlton Street and then North to the public utility easement along the north edge of MJN property near the proposed fire pump house. The fire pump house has been rotated 90 degrees and the proposed 16" watermain has been shifted south to accommodate the proposed 18" storm sewer. The proposed storm sewer will then discharge to the existing ditch west of the existing Carlton Lift Station. The existing tributary area to this ditch will shrink to near zero from the existing condition based on the proposed storm sewer infrastructure as part of the overall development. The existing 18" culvert will provide sufficient capacity in the proposed condition to handle the expected peak flow from the existing 15" storm sewer that is being rerouted. A 20' easement will be provided to the City for portions that are on MJN property. See sheet C411.
- Stormwater treatment and detention utilize Stormtech chambers for infiltration and underground detention. Per the plan notes, the system shall be designed to meet AASHTO LRFD Bridge design loads.
  The proposed ADS Stormtech system is designed to meet AASHTO LRFD Bridge Design Loads. See sheet C610.
- The stormwater management plan and calculations must be submitted to and approved by the Ottawa County Water Resources Commissioner's Office. Any site plan approval shall be conditioned upon obtaining all required approvals from that office.
  VK Civil intends on submitting to the Ottawa County Water Resources Commissioner's office during the week of May 4th, 2026.

Additional Engineering Review Items

- Check inverts at CB-1, as the north invert is currently shown higher than the south invert.
  VK Civil has revised the north invert of CB-1. See sheet C415.
- The submitted traffic study has been reviewed by the City's consulting traffic engineer-. Ongoing coordination with the applicant's engineer is occurring to address additional information and clarification needs.
  Noted.
- Clarify intended truck access routes, as prior discussions and submitted materials indicate differing assumptions regarding use of Carlton Street and Washington Avenue.
  Both the Carlton and Fairview truck entrances will be used for inbound and outbound truck traffic. The Carlton entrance will be used primarily to serve the new Specialty building and the Fairview entrance will be used primarily to serve the existing facilities. Mead Johnson will continue to evaluate this model as site operation changes over time in order to best serve the needs of both the Company and the City.
- With increased truck traffic on Carlton Street and Washington Avenue, pavement deterioration is expected to accelerate. Consideration should be given to increasing pavement thickness (e.g., to approximately 6 inches with higher stress mixes) to better support loading and reduce long-term maintenance.
  Mead Johnson will work with the City to determine the most feasible option for pavement repairs following the final determination of the Washington Avenue sanitary sewer upgrades. Further discussions are required between all parties before a determination can be made regarding this comment.

Public Safety (Fire)

- Provide apparatus access to all areas of the site, free of obstruction, and ensure adequate turning radius for emergency vehicles.
  VK Civil has added sheet C316 to the plan set depicting fire truck access to all areas of the site where new work is proposed.
- Provide Knox box access and ensure site accessibility at all times, particularly if the site is not continuously staffed.
- VK Civil has added notes to sheet C300 that require Knox Box access at all new entrances, gates, FACP access, and any other entrances desired by the ZFD officials.
- Fire Department Connections (FDCs) shall be designed as part of a looped system rather than a single riser connection.
  Two remote FDC’s have been implemented to meet the spacing requirements. These connections connect directly to the fire loop rather than a single riser connection to the building.
- Hydrants shall meet spacing and location requirements, including maximum distances from buildings and proximity to FDC connections.
  VK Civil has added two remote FDC’s to meet the FDC distance requirement. All public hydrants along Main Street, Carlton Street, and Fairview Avenue meet the 500’ spacing requirement.
- Access drives shall meet minimum width requirements, particularly in areas adjacent to hydrants.
  Access drives currently meet or exceed the minimum width requirements. Additional dimensions have been added to sheet C300 for clarity.

- Where building height exceeds 30 feet, provide at least one side of the building with a minimum of 15 feet of unobstructed clearance to accommodate aerial apparatus.
  VK Civil has added sheet C316 to the plan set depicting fire truck access to all areas of the site where new work is proposed.

- Design shall comply with IFC Chapter 5 and Appendix D. Site Design and Operations
  VK Civil has reviewed the above referenced specification and confirmed the current design meets the requirements. Additionally, post indicator valves have been added to each location where a proposed fire service enters the building.

Parking and Site Operations

- Existing on-site areas are proposed for contractor and overflow parking during construction. Clarify whether these areas are intended for temporary use only or as part of the long-term site plan.
  The existing on-site areas proposed for construction contractor and overflow parking (Rieth-Riley property) are currently intended to be utilized only during construction of the proposed development.
- If contractor or overflow parking areas are intended to remain as a permanent component of the site, they shall be clearly identified and may require inclusion as part of any requested parking or landscaping waivers.
  See previous response.
- Provide additional detail regarding any improvements proposed to support contractor or overflow parking.
  Improvements to the Reith-Riley property, to be used for construction parking and potential laydown area will be limited to clean up and patching to provide a suitable surface for parking and storage.
- To the extent that deferred parking areas are constructed, improved, or actively utilized, such areas shall comply with applicable ordinance requirements, including landscaping, greenbelt, and sidewalk provisions.
  See previous response number 1 under “Parking and Site Operations” above.

Southwest Corner Greenspace

- Provide additional detail regarding the proposed greenspace at the southwest corner of the site, including fencing, pavement treatments, landscaping, pedestrian circulation, and any proposed amenities.
  The Pocket Park at the corner of Main Avenue and Carlton Street is in a concept phase. Final design of this is in progress and design approval by the city can be included in the overarching development agreement.
- The timing of construction and maintenance responsibilities for this area shall be addressed as part of a development agreement.
  Mead Johnson is planning to cover the cost of design and construction of the proposed pocket park as part of the proposed development. Following the completion, it is Mead Johnson’s desire to deed the park to the City of Zeeland.

Development Agreement

- A development agreement will be required to address site-related improvements, including utilities and other elements identified during the review process.
  Understood. An overarching development agreement, which is currently in development, will address these issues.
- While the relocation of the playground equipment from Bethel CRC to ZPS is not a part of this site plan review process, it is likely that the Planning Commission v ill have one of the conditions as appropriate playground equipment from the former Bethel CRC property does get relocated to Zeeland Public Schools property as part of the overall site plan approval on the premise.
  Understood. An overarching development agreement, which is currently in development, will address these issues.

Zoning and Land Use Variances Required

The following elements of the proposal do not meet ordinance requirements and will require approval from the Zoning Board of Appeals:

- Building height exceeding the maximum permitted height
- Eight-foot (8') fencing within the required front yard
- Loading area located within the front yard
  Mead Johnson intends to apply for a variance for each of the above referenced non-conformities.

Any approval of the site plan shall be conditioned upon the applicant obtaining all required variances.

Landscaping and Waivers

- The proposed landscaping design deviates from certain requirements of the City's landscaping ordinance. A waiver from the Planning Commission is required for relocating parking lot trees to the Main Avenue greenbelt and for paving in landscaped islands. While the applicant has cited food safety regulations, these adjustments still require formal waiver consideration.
- On Carlton Street, the ordinance requires one canopy tree per 40 feet, resulting in a requirement of approximately 18 trees. The plan shows 16 canopy trees and 3 evergreen trees. If the Planning Commission accepts the substitution of evergreen trees in place of the remaining canopy trees, a waiver may not be required; otherwise, a waiver will be necessary.
- On Washington Avenue, no formal greenbelt currently exists, and the long-term approach to this frontage and adjacent parking areas has not yet been defined. Following additional clarification, staff will be able to determine whether additional improvements or waivers are required.
- Ultimately, the Planning Commission will review the final landscaping plan as submitted, including any requested waivers.
  Mead Johnson intends to apply for a waiver from the Planning Commission for each of the above reference non-conformities.

Received: 05/04/26
City of Zeeland, MI

Site Plan Review Comments (Sheet-Specific)

Sheet C300

- Remove unnecessary drive openings along Main Street and restore these areas with curb and gutter
  VK Civil has revised the plans to remove existing curb cuts that will no longer be utilized. High back curb and gutter will be replaced in areas that previously had flush V-style gutter at curb cuts. See sheet C200 for additional demolition items. See sheet C300 for proposed changes.
- Provide dimensioning to demonstrate compliance with the required 20-foot parking setback.
  VK Civil has added additional dimensions to sheet C300 indicating the 20' parking setback is met.
- Revise labeling along Carlton Street where two trees are currently identified as "A - Chain Link Fence."
  VK Civil has revised the plans to correct this issue. See sheet C300.
- Adjust the transition point from aluminum fence to chain link fence along Carlton so that it occurs at the back corner where the fence continues south.
  VK Civil has revised the plans to accommodate the above request. See sheet C300.
- Ensure ADA detectable warning plates meet City standards.
  VK Civil has added notes to the plans indicating ADA detectable warning plates must meet the requirements set forth by the City of Zeeland. Please indicate if the City has a preferred model in the next round of revisions and VK Civil will incorporate into the plan set.

Sheet C301

- Clarify fencing details in the area where Details A and B are both referenced; it appears Detail A is intended.
  VK Civil has revised the plans to correct this discrepancy. Keynote A is intended for proposed fencing in all areas on sheet C301.

Sheet C400

- Identify legend items labeled O, P, and Q.
  Legend items O,P, and Q refer to watermain bends. VK Civil has added bend symbols to the plans for clarity.
- Identify the red hash line shown in the plan and include it in the legend.
  VK Civil has revised the plans by adding the red dashed line to the legend. This line represents the proposed fire protection watermain.

Sheet C401

- Identify the red hash line shown in the plan and include it in the legend.
  VK Civil has revised the plans by adding the red dashed line to the legend. This line represents the proposed fire protection watermain.

- Identify legend items labeled I, J, K, and L.
  Legend items I,J,K and L refer to watermain bends. VK Civil has added bend symbols to the plans for clarity.

Sheet C411

- Identify legend items labeled I, J, K, and L.
  Legend items I,J,K and L refer to watermain bends. VK Civil has added bend symbols to the plans for clarity.

Sheet C601

- Provide detailed specifications for the proposed ornamental aluminum fence.
  VK Civil has provided the manufacture and model number of the 8' aluminum fence on sheet C601. Detailed specifications have been requested from the manufacturer and will be provided to the City once received.

Additional Items

- Please confirm whether a transformer is proposed on-site and, if so, ensure it will be screened in accordance with ordinance standards.
  The main electrical service for the proposed site is in the final design stages. Mead Johnson engineering has provided preliminary requirements, and is currently working with the Zeeland BPW to define the strategy for Electric service to the site. If an onsite transformer is needed for the site it will be screened from view of the street once a location is determined.
- The photometric plan for exterior lighting is currently under review; additional comments may be provided following completion of that review.
  Noted.

Staff appreciates the completeness of the plan set for a project of this scale. The continents provided herein reflect staffs initial review of the submitted materials. Given the size and complexity of the project, as well as ongoing coordination related to utilities, traffic, and other site design elements, additional or revised comments may be provided as the review progresses.

Please contact me directly if you would like to schedule a site development team meeting to discuss the project and these comments in further detail. You may also reach out to your existing staff contacts regarding specific review items.

For clarity and efficiency, please provide a consolidated response addressing all comments and plan revisions no later than the end of the day on Monday, May 4. Upon receipt of updated materials, staff will complete its review and provide a final report its advance of the May 11 Planning Commission public hearing.

Please feel free to contact me with any questions. Thank you for your continued coordination with staff on this significant project.

Sincerely,

Timothy Maday

Community Development Director City of Zeeland, MI

If you have any questions, concerns, or require additional information, please do not hesitate to contact our office.

Sincerely,

Dan Lewis, P.E.
VK Civil

Received: 05/07/26
City of Zeeland, MI

EXECUTIVE SUMMARY: Community Benefit & Mitigation Proposal

RE: Mead Johnson Nutrition – Zeeland Modernization Masterplan (725 E. Main Ave) Submitted by: Ryan Baas, 28 Sanford St. | May 11, 2026

Overview

As a direct neighbor to the proposed expansion, I support Mead Johnson's continued investment in the Zeeland economy. However, the requested height variances (234' towers) and the relocation of industrial operations closer to the Main Avenue residential corridor impose a permanent "cost" on local families. This proposal outlines three specific conditions for site plan approval intended to mitigate these impacts and foster a long-term strategic partnership between the company and its neighbors.

The Three Primary Conditions for Approval

1. Footprint Optimization (The North-Shift)

- **The Request:** Re-evaluate the site layout to shift the high-density construction and the 234-foot tower further North toward the Washington Avenue industrial zone.
- **The Goal:** To preserve the residential skyline along Main Avenue and reduce the immediate noise and vibration impact on Sanford, Division, and Park Street residents.

2. The Veldhof Legacy Playground

- **The Request:** Mead Johnson to fund and construct a modern, "destination-grade" playground to replace the loss of the Bethel Church Veldhof Playground.
- **Key Features:**
    - Inclusive, ADA-accessible surfacing (no woodchips).
    - Modern climbing structures, sensory play areas, and a community splash pad.

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3. Neighborhood-to-Career Scholarship Fund

- **The Request:** Establishment of a sustainable scholarship program for neighborhood youth, focusing on both traditional and non-traditional career paths.
- **The "Talent Pipeline":** This initiative includes annual HR mentorship and a direct interview process for recipients, turning neighborhood children into Mead Johnson's future skilled workforce.

Why These Conditions?

- **Fair Mitigation:** The 234-foot tower height is a massive deviation from standard city code. These benefits serve as a fair trade for the permanent alteration of the neighborhood's character.
- **Strategic Partnership:** By investing in a scholarship pipeline, Mead Johnson secures a reliable, local labor force while providing stability for neighborhood families.
- **Community Continuity:** Replacing the lost playground ensures that this Zeeland neighborhood remains a premier location for young families to stay and grow.

"Let's ensure this project creates a lasting legacy for the families who will live in the shadow of these towers for the next fifty years."

Ryan Baas

28 Sanford St
Zeeland, MI 49464

ryanebaas@gmail.com

708-846-8744

June 12th, 2025

To: Art Pike – Mead Johnson/Reckitt

Subject: Enhancing Community Partnership: A Sustainable Scholarship Fund for Local Youth

Dear Mr. Pike,

On behalf of the residents of the neighborhood affected by Mead Johnson's expansion, I am writing to you today with a proposal to deepen Reckitt's already valued presence in our community. As you expand your operations in Zeeland, we recognize the significant impact this growth will have, and we are eager to explore opportunities for mutually beneficial partnerships.

Following up on our discussions regarding a scholarship fund for students from families in the affected neighborhood, I've developed an idea that I believe could transform this initiative into a truly sustainable and strategic investment for Reckitt.

Our proposal is for a **higher education scholarship program** that not only provides essential financial support but also creates a direct talent pipeline for your company. Here's how it would work:

- **Application Interview:** When students apply for the scholarship during their senior year of high school, they would engage in an interview with Mead Johnson's Human Resources department. This provides an early opportunity for both the students and Reckitt to connect and assess potential alignment.
- **Annual HR Engagement:** To maintain their scholarship in subsequent years, recipients would have an annual contact or meeting with an HR representative. This ongoing engagement allows Mead Johnson to monitor their academic progress, offer mentorship, and provide career guidance relevant to your industry.
- **Strategic Workforce Development:** By consistently engaging with these students throughout their schooling, Mead Johnson's HR team would gain valuable insight into their skills, interests, and development. This sustained relationship could culminate in a tailored job offer for each student upon their graduation, ensuring a ready pool of qualified and familiar local talent.

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I believe this model offers a significant **"win-win"** for both our community and Reckitt. For the students, it provides not just financial assistance but also invaluable mentorship, career direction, and a clear path to employment. For Mead Johnson, it represents a proactive and cost-effective strategy for **recruiting and retaining skilled local employees**, fostering strong community ties, and enhancing your reputation as a committed corporate citizen. This integrated approach turns philanthropy into a strategic investment in your future workforce.

I am confident that by linking the scholarship fund to such a robust talent development initiative, Mead Johnson would see a significant return on its investment, justifying a more substantial contribution to the fund.

I would be grateful for the opportunity to discuss this proposal further with you at your convenience. Thank you for considering this innovative approach to community partnership.

Sincerely,

Ryan Baas

Received: 05/07/26
City of Zeeland, MI

VELDHOF LEGACY PARK PROPOSAL

Community Benefit & Mitigation | Zeeland City Planning Commission | May 11, 2026

Vision Statement

To replace the loss of the Veldhof Playground with a world-class, multi-generational discovery park. This destination-grade asset serves as a fair-trade mitigation for the permanent visual and industrial impact of the 234-foot tower expansion on the surrounding residential neighborhood.

Key Playground Zones

1. The "Sky-High" Discovery Tower

- 20-foot vertical climbing mesh tower.
- Landmark architecture echoing local modernization.
- Integrated transparent spiral tube-slides.

2. Kinetic Hydro-Lab (Splash Pad)

- Zero-depth entry for 100% accessibility.
- Interactive dams, waterwheels, and "Formula" pumps.
- Recirculating, filtered water system for sustainability.

3. All-Abilities Sensory Sanctuary

- Acoustic "cocoons" for sensory regulation.
- Tactile exploration walls and musical lithophones.
- Inclusive "We-Go-Round" and adaptive swings.

4. High-Rebound Terrain

- Seamless, pour-in-place rubber topography.
- Integrated in-ground trampoline mats.
- Safe "parkour" mounds for physical development.

Modern Amenities & Safety

- **Digital Integration:** Augmented Reality (AR) markers for gamified physical play.
- **Year-Round Use:** Heated pathways for snow-melt and solar-powered charging benches.
- **Natural Buffer:** Nature playscape transition with reclaimed wood and butterfly waystations.
- **Location:** Open field East of the Zeeland Bus Garage—centralized for residential access.

Received: 05/07/26
City of Zeeland, MI