Village of Hartland
210 Cottonwood Avenue
Hartland WI 53029
PH: 262-367-2714
FAX: 262-367-2430
www.villageofhartland.wi.gov

JOINT ARCHITECTURAL BOARD/PLAN COMMISSION AGENDA
MONDAY, OCTOBER 21, 2024
6:30 PM
BOARD ROOM, MUNICIPAL BUILDING, 210 COTTONWOOD

Roll Call

Public Comments: Please be advised the Joint Architectural Board/Plan Commission will receive comments from the public related to any item(s) on the agenda for a three-minute time period per person, with time extensions per the Chairman's discretion.

1. Consideration of a motion to approve the Jt. Architectural Board/Plan Commission minutes for September 16, 2024.

2. Architectural Board review and consideration of an application for signage for Empower Movement, 123 Lawn Street.

3. Architectural Board review and consideration of an application for signage for New Heights Physical Therapy, 1100 Cottonwood Avenue.

4. Architectural Board review and consideration of an application for signage for Mellow Mutts Spa, 230 Pawling Avenue.

5. Architectural Board review and consideration of site and building plan for new residential construction at 308 North Avenue.

6. Architectural Board review and consideration of an application for signage for The Inn, 110 Cottonwood Avenue.

7. Plan Commission review and consideration of a site plan for dumpster enclosure for The Inn, 110 Cottonwood Avenue.

8. Architectural Board review and consideration of an application for roof replacement and exterior modification at 544 E. Capitol Drive.

9. Plan Commission and Architectural Board review and consideration of plans for the addition of an exterior patio and pergola with revisions to the existing structure's adjacent windows and doors at The Legend at Bristlecone, 1500 Arlene Drive.

10. Plan Commission and Architectural Board review of plans for a warehouse and office structure for Lang Technik-USA, 1025 Walnut Ridge Drive.

11. Review, consideration and referral to Village Board of proposed PUD development ("Project") whose approval is being sought by Three Leaf Development on property tax key HAV 0423981056 located on Campus Drive. The Plan Commission will review and consider:

    a. Proposed preliminary site and building plans for senior living development (120 units);
    b. Proposed preliminary certified survey map;
    c. Proposed rezoning to RM-1 in conjunction with a PUD Agreement for the Project;
    d. Proposed petition for a Planned Unit Development
    e. Proposed land use amendment and Resolution

12. Conceptual review of Cherry Faith Hartland development

13. Announcements: The following individuals will be given an opportunity to make announcements at the meeting in regard to (1) activities taken since the previous meeting on behalf of the community, (2) future municipal activities, and (3) communications received from citizens. It is not contemplated that these matters will be discussed or acted upon. The following individuals may provide announcements: Village President or individual Village Board members or Village Administrator or other Village Staff members.

14. Adjourn.

Ryan Bailey, Village Manager

A complete packet of meeting materials is normally available by 5:00pm on the Friday before the meeting on the Village website: www.villageofhartland.wi.gov (Government/Agendas and Minutes). Notice: Please note that upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, contact Sandee Policello, Village Clerk, at 262-367-2714. The Municipal Building is handicap accessible. To participate in the Village of Hartland "Zoom" meeting with video, https://us02web.zoom.us/j/82238226276?pwd=nE7KAPvEEr7FmqQjwSxcjLojB5iXhz.1
The Meeting ID is 822 3822 6276, Passcode is 073193. To participate in the Village of Hartland "Zoom" meeting (audio only), please dial 1(312)626-6799.

JOINT ARCHITECTURAL BOARD/PLAN COMMISSION MINUTES
MONDAY SEPTEMBER 16, 2024
6:30 PM
BOARD ROOM
MUNICIPAL BUILDING, 210 COTTONWOOD AVE.

Present: Tim Hallquist, Jeff Bierman, Chip Schneeberger, Jeff Pfannerstill and David DeCourcy-Bower and Ann Wallschlager.
Others Present: Ryan Bailey, Scott Hussinger, Ryan Amtmann, Kevin Klink and Deputy Clerk Bushey.
Ann Wallschlager.
Call to Order- 6:30 pm

Roll Call taken. All present with 1 vacancy.

Public Comments: Please be advised the Joint Architectural Board/Plan Commission will receive comments from the public related to any item(s) on the agenda for a three-minute time period per person, with time extensions per the Chairman's discretion.

- No Comments

1. **Consideration of a motion to approve the Jt. Architectural Board/Plan Commission minutes of August 19, 2024.**
   Motion (Hallquist/Schneeberger) to approve the Jt. Architectural Board/Plan Commission minutes of August 19, 2024. Carried. (6-0).

2. **Architectural Board review and consideration of an application for signage for Austin Plumbing 530 Norton Ave-**
   John Kloske from Mke Sign explained they would like to remove the poster panel sign that is there currently and replace it with a non-illuminated monument aluminum sign. Building inspector Hussinger said he has no issues with the signage.

   Motion (deCourcy-Bower/Wallschlager) to approve the signage for Austin Plumbing. (6-0).

3. **Plan Commission review and consideration of an Extraterritorial Certified Survey Map for the Bong property, N61 W30697 Beaver View Road, Town of Merton-**
   Village manager Bailey stated Hartland is within the radius to have an extraterritorial review. He said this property will never come to Hartland and Hussinger said there is no issue with it.

   Motion (DeCourcy-Bower/Hallquist) to approve the Extraterritorial Certified Survey Map for the Bong property. Carried. (6-0).

4. **Plan Commission review and consideration of a Certified Survey Map for the Klink property, 308 North Avenue-**

Brian Gilmore from Gilmore builders is working with Mr. Klink and said they are looking to get the Certified Survey Map passed and then possibly have discussion on sewer and water.
Hussinger said Mr. Klink would like to split the parcel into 2 lots, and both lots would meet the requirements. Hussinger said staff would support this decision but with 2 conditions. One of the conditions is if there is an approval it should be subject to sewer and water into each parcel as well as removing of all structures including the house, shed and garage: and have that done before recording the Certified Survey Map.
Pfannerstill asked the reason to want to split the property, and Mr. Gilmore said it is one of the bigger lots in Hartland and there is frontage on North Ave and the ability to split it. He said the Klink's do not want to build a big house, they want to keep it smaller and will it on lot 1 and the other lot would be for sale.
Mr. Klink said the shed will eventually come down, but they are currently using it for storage as the get the current house ready to be razed. He said he would like to use the shed until house is built on other lot. Hussinger said that could be linked to occupancy. Pfannerstill asked what the urgency is and Hussinger replied it is a non-conforming lot with a shed and no structure. Bailey said if the utilities is not capped all the water goes down the sewer and Hussinger said he got the call today that it is being capped on Thursday which will prevent all the water from razing going down the sewer. Bailey said the house will be razed on Saturday so if there is no CSM we have one big lot, that is a non-conforming lot because of an accessory building and no principal structure, and he thinks what Scott is saying everyone is fine approving this contingent on water and sewer plan for the Village and no occupancy for the main house until the accessory structures are removed. Wallschlager asked Hussinger does he not want the CSM to go thru until everything is met minus the shed. Hussinger said yes, and Wallschlager asked should it be tabled. Hussinger said not recording the CSM does not prohibit them from getting a building permit from me on the larger lot until it is recorded. He said it is important to have the sewer and water services extended in because the Village approved a land split on Merton and Sunnyslope back in 2010 and that person promised to have the water services into the property, and we chased them for 5 years. Bailey said so you are saying approve it but don't sign it and record it until the conditions have been met. Hussinger said approve but don't sign it or record it until. Pfannerstill asked could this sit here for 10 years. Hussinger said he thinks the risk is minuet. Wallschlager asked is the only difference is he will have to come back another time. Hussinger said no, He could raze his house, build your new house and then split the house. Discussion on the lot. Mr. Gilmore said it will cost $45, 000 to add sewer and water on each lot and that is $90,000 they weren't planning on spending. Mr. Gilmore asked if they could use the existing laterals. Discussion on the existing laterals and splitting the lot.
Mr. Gilmore said Mid-City will get back to him tomorrow regarding the price. He asked if we build a new house do we have to remove the sheds. He verified with DPW interim director Jenson that they could put the curb stop in the driveway, and Jenson said that is correct.
24:14 deCourcy-Bower said there are a lot of things that need to be worked out, so maybe it should be tabled until you can figure out what you want to do.

5. **Plan Commission conceptual review of proposed additions to two buildings at 1010 and 1110 Richards Road-**

Bierman commented on a left-hand turn lane. Schneeberger said the projects look nice and will fit into the area really well.
Bailey told the Plan Commissioners this is coming back in a month so think of any questions or comments you may have.

6. Announcements -

None at this time.

7. Adjourn

Motion (Hallquist/Schneeberger) to adjourn. Carried (6-0).
Adjourned at 8:25 pm.

Respectfully submitted by

Recording Secretary,
Deidre Bushéy, Deputy Clerk

DEPARTMENT OF BUILDING INSPECTION **PERMIT #_____**
APPLICATION FOR SIGN PERMIT

JOB LOCATION 123 Lawn St TAX KEY # _____
OWNER Tom Howald PHONE 515-669-9874
ADDRESS 123 Lawn St CITY Hartland STATE WI ZIP 53029
CONTRACTOR Doyle Signs, Inc PHONE 630-543-9490
ADDRESS 232 W. Interstate Rd. CITY Addison STATE IL ZIP 60101

SIGN TYPE: ☒ WALL ☐ PROJECTING ☐ AWNING, CANOPY ☐ GROUND

☐ PORTABLE/TRAINING ☐ REAL ESTATE PERM. ☐ REAL ESTATE TEMP.

WORDS AS THEY WILL APPEAR ON THE SIGN:
EMPOWER(LOGO)MOVEMENT. PHYSICAL THERAPY

OVERALL DIMENSIONS OF SIGN 2' X 11' COLOR OF BACKGROUND WHITE

SIZE OF LETTERS IN INCHES 1' 10-1/4" COLOR OF LETTERS BLACK

CONSTRUCTION MATERIALS OF SIGN BACKGROUND (i.e. WOOD, ALUM, ETC.)
Aluminum

ILLUMINATED? ☒ YES ☐ NO ☐ INTERNALLY ☒ EXTERNALLY

SIGN PLANS MUST BE APPROVED BY ARCHITECTURAL BOARD PRIOR TO PERMIT BEING APPROVED (SEE ARCHITECTURAL BOARD APPLICATION)

ESTIMATED COST OF ABOVE SIGN $ 6,640.00

TO THE BUILDING INSPECTOR: THE UNDERSIGNED HEREBY APPLIES FOR A PERMIT TO DO WORK HEREIN DESCRIBED ACCORDING TO THE PLANS AND SPECIFICATIONS FILED HEREWITH AND LOCATED AS SHOWN ON THIS APPLICATION. THE UNDERSIGNED AGREES THAT SUCH WORK WILL BE DONE IN ACCORDANCE WITH THE SAID DESCRIPTION, PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ZONING ORDINANCE AND ALL OTHER ORDINANCES OF THE VILLAGE OF HARTLAND AND WITH ALL THE LAWS AND ORDERS OF THE STATE OF WISCONSIN APPLICABLE TO SAID PREMISES.

APPLICANT Diana Garza (Agent) DATE 9/6/24

PLANS APPROVED: ARCHITECTURAL BOARD _____

APPLICATION APPROVED: BUILDING INSPECTOR _____ DATE _____

—VILLAGE OF—
HARTLAND
WISCONSIN
EST. 1892

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address	123 Lawn St				
Lot	Block	Subdivision		Key No. HAV	
Owner Tom Howald		EMAIL tbhowald@gmail.com		Phone 515-669-9874	
Address 123 Lawn St		City Hartland		State WI	Zip 53029
Contractor Doyle Signs, inc		Phone 630-543-9490	FAX 630-543-9493	EMAIL permits@doylesigns.com	
Address 232 W. Interstate Rd.		City Addison		State IL	Zip 60101

The Architectural Board meets on the THIRD MONDAY of the Month at 6:30 p.m. in the Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue in the Village of Hartland.

The DEADLINE for filing is FIFTEEN WORKING DAYS PRIOR TO THE MEETING DATE at 4:30 p.m. All of the following information must be received prior to the deadline in order to be placed on the agenda.

All applications for consideration by the Architectural Board are subject to the policies described in this document.

Commercial/Industrial/Multifamily:

☐ One (1) bound set of plans and application material and one (1) electronic copy of all submittals.

☐ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.

Signs:

☑ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.

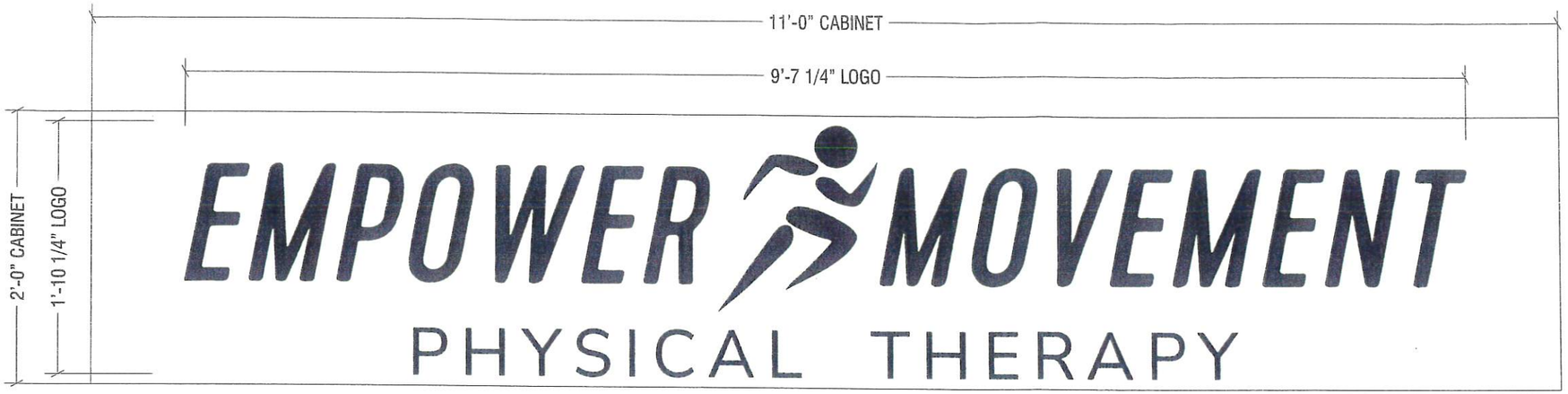
☑ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.

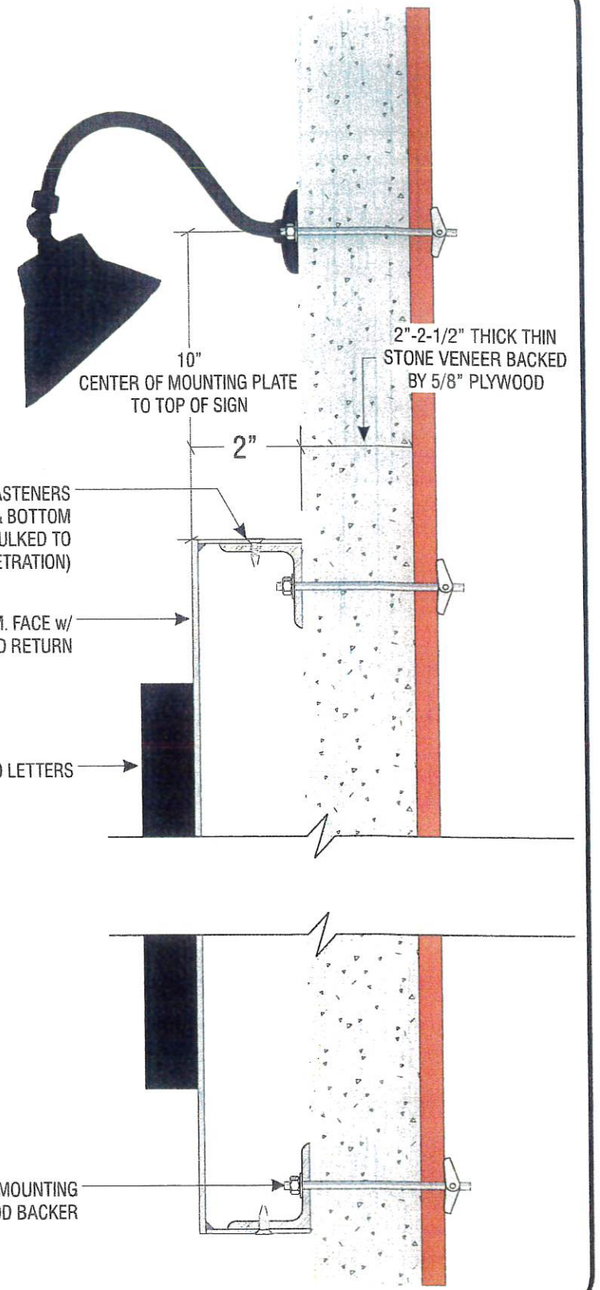
☐ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building.
One (1) set of lighting details. Include type, location, number and photometric plan.

☑ Submit Sign Permit Application

NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied: 9/8/24 Date of Meeting: 10/21/24 Item No. _____





A SINGLE FACE, NON ILLUMINATED WALL MOUNTED SIGN CABINET w/ FCO LETTERS MOUNTED FLUSH TO CABINET FACE

SCALE: 1"=1'

FACE:	PRE-FINISHED WHITE ALUM
RETURNS:	WHITE
GRAPHIC:	1" THK BLACK ACRYLIC FCO LTRS
MOUNTING:	PRE- FINISHED WHITE ALUM PAN w/ 2" RETURNS BOLTED TO 5/8" PLYWOOD SHEET BEHIND 2" THIN SET STONE VENEER
LIGHTING:	10 IN. 42-WATT, 4000 LUMENS LED BLACK ANGLE SHADE GOOSENECK BARN LIGHT WITH PHOTOCELL, OUTDOOR SIGN LIGHT MOUNTED w/ TOGGLE BOLTS

BLACK ACRYLIC

PRE-FINISHED WHITE ALUM



DOYLE
GENERAL SIGN CONTRACTORS
232 INTERSTATE RD. P.O. BOX 1068
ADDISON, IL 60101
630-543-9490
FAX 630-543-9493

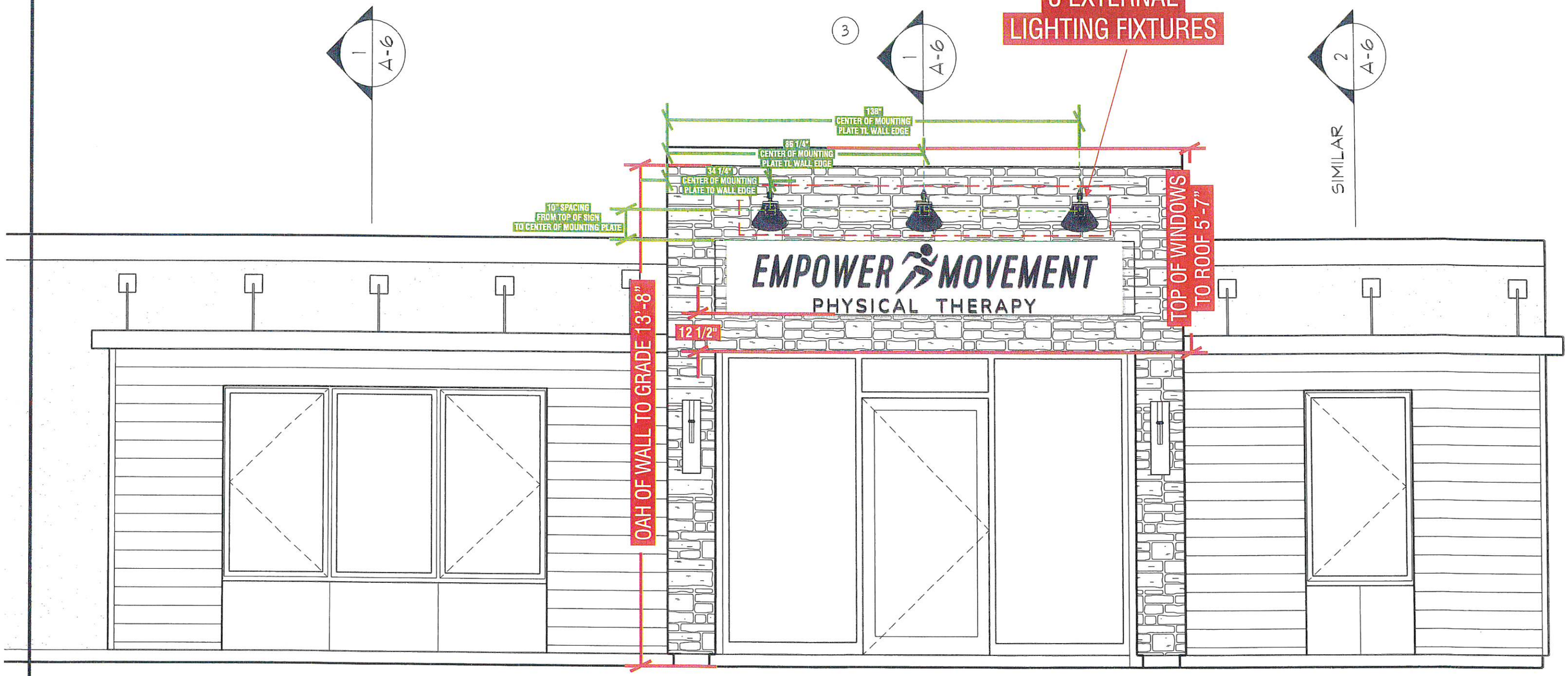
DATE	REVISION
07.09.24	UPDATED LOGO -NF
07.09.24	ADDED LIGHTING CALLOUTS -NF
07.31.24	ADDED OPTION B -NF
09.03.24	REVISED SECTION DETAIL -NF
09.06.24	ADDED LIGHT FIXTURE DETAILS -NF

CUSTOMER APPROVAL DATE

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CLIENT	EMPOWER PHYSICAL THERAPY, LLC						
ADDRESS	123 LAWN ST						
CITY	HARTLAND	**STATE**	WI	**DESIGNER**	NF	**SALESPERSON**	JD
DRWG. NO.	6981000636	**SCALE:**	NOTED	**DATE:**	07.08.2024	**SHEET NO.**	1

O:\Design\E\EMPOWER MOVEMENT\HARTLAND, WI\6981000636_V6.cdr



2 North Elevation
SCALE: 3/8"=1'

DOYLE
GENERAL SIGN CONTRACTORS
232 INTERSTATE RD. P.O. BOX 1068
ADDISON, IL 60101
630-543-9490
FAX 630-543-9493

DATE	REVISION
07.09.24	UPDATED LOGO -NF
07.09.24	ADDED LIGHTING CALLOUTS -NF
07.31.24	ADDED OPTION B -NF
09.03.24	REVISED SECTION DETAIL -NF
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DRWG. NO.	6981000636	SCALE:	NOTED	DATE:	07.08.2024	SHEET NO.	2

O:\Design\E\EMPOWER MOVEMENT\HARTLAND, WI\6981000636_V6.cdr

SCOTT LEE CROFT
210 NORTH AVE
HARTLAND, WI 53029-1718

ALARCON TRUST
W341S9275 CORNER CT
EAGLE, WI 53119-1661

HAROLD & KATHERINE KLEIFGEN 2020
LIVING TRUST
206 NORTH AVE
HARTLAND, WI 53029-1718

JAMES & MARY LEAHY
214 NORTH AVE
HARTLAND, WI 53029-1718

JOSEPH ERICK BARNES & RACHAEL L
WIERZCHOWSKI
224 NORTH AVE
HARTLAND, WI 53029-1718

KT REAL ESTATE LLC
391 SAND HILL LN
DOUSMAN, WI 53118-8837

RED CAP HOLDINGS LLC
W271N6155 MAPLE ST
SUSSEX, WI 53089-4711

ROBERT JEWELL III & JANET JEWELL
218 NORTH AVE
HARTLAND, WI 53029

Village of Hartland

hannah@newheightsphysicaltherapy.com

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address 1100 Cottonwood Dr Suite 300 Hartland WI 53029				
Lot	Block	Subdivision	Key No. HAV	
Owner Hannah Scherbarth		EMAIL hannahc newheightsphysicaltherapy.com	Phone 414 207 4417	
Address 726 Wexford Way		City Hartland	State WI	Zip 53029
Contractor Exew Print	Phone 262 367 0310	FAX	EMAIL customerservice exew-print.com	
Address 597 Progress Dr		City Hartland	State WI	Zip 53029

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- ☐ One (1) bound set of plans and application material and one (1) electronic copy of all submittals.
- ☐ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.

Signs:

- ☐ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.
- ☐ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.
- ☐ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building.
  One (1) set of lighting details. Include type, location, number and photometric plan.
- ☐ Submit Sign Permit Application

NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied: 9/13/24 Date of Meeting: 10/21/24 Item No. _____

Commercial

DEPARTMENT OF BUILDING INSPECTION **PERMIT #_____**
APPLICATION FOR SIGN PERMIT

JOB LOCATION New Heights Physical Therapy TAX KEY # 84-3818949
OWNER Hannah Scherbarth PHONE 414 207 4417
ADDRESS 1100 Cottonwood Ave CITY Hartland STATE WI ZIP 53029 Suite 300
CONTRACTOR Executrint PHONE 262-367-0390
ADDRESS 597 Progress Dr. CITY Hartland STATE WI ZIP 53029

SIGN TYPE: ☐ WALL ☐ PROJECTING ☐ AWNING, CANOPY ☒ GROUND

☐ PORTABLE/TRAINING ☐ REAL ESTATE PERM. ☐ REAL ESTATE TEMP.

WORDS AS THEY WILL APPEAR ON THE SIGN:
New Heights
Physical Therapy

OVERALL DIMENSIONS OF SIGN 21" x 71" COLOR OF BACKGROUND White

SIZE OF LETTERS IN INCHES 5" Main Letters COLOR OF LETTERS Green/Teal

CONSTRUCTION MATERIALS OF SIGN BACKGROUND (i.e. WOOD, ALUM, ETC.)
3mm thick composite material board

ILLUMINATED? ☒ YES ☐ NO ☐ INTERNALLY ☒ EXTERNALLY

SIGN PLANS MUST BE APPROVED BY ARCHITECTURAL BOARD PRIOR TO PERMIT BEING APPROVED (SEE ARCHITECTURAL BOARD APPLICATION)

ESTIMATED COST OF ABOVE SIGN $ 171.80 x 2 = 343.6 (one sign for each side of monument)

TO THE BUILDING INSPECTOR: THE UNDERSIGNED HEREBY APPLIES FOR A PERMIT TO DO WORK HEREIN DESCRIBED ACCORDING TO THE PLANS AND SPECIFICATIONS FILED HEREWITH AND LOCATED AS SHOWN ON THIS APPLICATION. THE UNDERSIGNED AGREES THAT SUCH WORK WILL BE DONE IN ACCORDANCE WITH THE SAID DESCRIPTION, PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ZONING ORDINANCE AND ALL OTHER ORDINANCES OF THE VILLAGE OF HARTLAND AND WITH ALL THE LAWS AND ORDERS OF THE STATE OF WISCONSIN APPLICABLE TO SAID PREMISES.

APPLICANT Hannah Scherbarth DATE 9/13/2024

PLANS APPROVED: ARCHITECTURAL BOARD _____

APPLICATION APPROVED: BUILDING INSPECTOR _____ DATE _____

TOTAL FEES: _____ **DATE PAID** _____ **RECEPIT #** _____

2001/FORMS/DEPT OF BLDG INSPEC

Mainline text is 5" tall





DEPARTMENT OF BUILDING INSPECTION **PERMIT #_____**
APPLICATION FOR SIGN PERMIT

JOB LOCATION New Heights Physical Therapy TAX KEY # 84-3818949
OWNER Hannah Scherbarth PHONE 414 207 4417
ADDRESS 1100 Cottonwood Ave CITY Hartland STATE WI ZIP 53029 Suite 300
CONTRACTOR ExcelPrint PHONE 262-367-0390
ADDRESS 597 Progress Dr CITY Hartland STATE WI ZIP 53029

SIGN TYPE: ☒ WALL ☐ PROJECTING ☐ AWNING, CANOPY ☐ GROUND

☐ PORTABLE/TRAINING ☐ REAL ESTATE PERM. ☐ REAL ESTATE TEMP.

WORDS AS THEY WILL APPEAR ON THE SIGN:
New Heights Physical Therapy

OVERALL DIMENSIONS OF SIGN 2' x 8' COLOR OF BACKGROUND Brown

SIZE OF LETTERS IN INCHES _____ COLOR OF LETTERS White

CONSTRUCTION MATERIALS OF SIGN BACKGROUND (i.e. WOOD, ALUM, ETC.) Foam

ILLUMINATED? ☐ YES ☒ NO ☐ INTERNALLY ☐ EXTERNALLY

SIGN PLANS MUST BE APPROVED BY ARCHITECTURAL BOARD PRIOR TO PERMIT BEING APPROVED (SEE ARCHITECTURAL BOARD APPLICATION)

ESTIMATED COST OF ABOVE SIGN $ 0

TO THE BUILDING INSPECTOR: THE UNDERSIGNED HEREBY APPLIES FOR A PERMIT TO DO WORK HEREIN DESCRIBED ACCORDING TO THE PLANS AND SPECIFICATIONS FILED HEREWITH AND LOCATED AS SHOWN ON THIS APPLICATION. THE UNDERSIGNED AGREES THAT SUCH WORK WILL BE DONE IN ACCORDANCE WITH THE SAID DESCRIPTION, PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ZONING ORDINANCE AND ALL OTHER ORDINANCES OF THE VILLAGE OF HARTLAND AND WITH ALL THE LAWS AND ORDERS OF THE STATE OF WISCONSIN APPLICABLE TO SAID PREMISES.

APPLICANT H Scherbarth DATE 10-4-2024

PLANS APPROVED: ARCHITECTURAL BOARD _____

APPLICATION APPROVED: BUILDING INSPECTOR _____ DATE _____

DETAIL VIEW



1" ROUTED SIGN FOAM, PAINTED ONE(1) COLOR WITH ONE(1) COLOR CUT VINYL.
MOUNTED FLUSH TO BUILDING AS SHOWN

SCALE:	3/4"= 1' 0"

LOCATION VIEW



AppletonSIGN COMPANY
2400 Holly Road • Neenah, WI 54956
Tel. 920.734.1601 • Fax. 920.734.1622
www.AppletonSIGN.com

CLIENT:	BAILEY FAMILY DENTAL
STREET ADDRESS:	557 COTTONWOOD AVENUE
CITY / STATE:	HARTLAND, WI
DATE:	10/28/2022
SALES:	MONICA SCHNEIDER
DESIGNER:	COREY LONG
GENERAL SPECIFICATIONS	
VOLTAGE:	
POWER DRAW:	
SQUARE FOOTAGE:	
REQUIRED ITEMS FROM CLIENT	
BRANDING STANDARDS?	

COLOR SCHEDULE		
1		PAINTED AKZO NOBEL MANOR HOUSE #A1701
2		ORACAL 751070 WHITE

SURVEY ITEMS REQUIRED

FIELD SURVEY?

- ☐ ON SITE COLOR MATCH
- ☐ AVAILABLE AREA
- ☐ FACE DETAILS
- ☐ POLE DETAILS
- ☐ ALL SIGN DETAILS
- ☐ OTHER:
- ☐ TRUCK ACCESS? YES or NO
- ☐ BEHIND WALL ACCESS? YES or NO
- ☐ ELECTRICAL EXISTING? YES or NO

SURVEY UPDATE

PLEASE SIGN BELOW STATING THAT THIS DESIGN IS APPROVED

X

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MANUFACTURE AND INSTALL THE FOLLOWING: A. S/F NON-LIT SIGN FOAM SIGN

DISCLAIMERS: THIS DOCUMENT IS OWNED BY APPLETON SIGN COMPANY. IT IS A CONCEPTUAL REPRESENTATION OF SERVICES PROVIDED BY APPLETON SIGN. CLIENT AGREES, BY RECEIPT OF THIS DESIGN, NOT TO SHARE CONCEPTS OR SPECIFICATIONS WITH ANY THIRD PARTY UNLESS PURCHASED BY PAYMENT OR GIVEN WRITTEN CONSENT. ANY VIOLATION WILL BE ENFORCED AND MAY CONSTITUTE DESIGN FEES. ©

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A | OPT. 1 | 221177-01

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NOT TO BE USED FOR PRODUCTION


NEW HEIGHTS


NEW HEIGHTS
PHYSICAL THERAPY

1005 LLC
2551 N WAHL AVE
MILWAUKEE, WI 53211-3825

COTTONWOOD III LLC
C/O BRIOHN MANAGEMENT LLC 3885
N BROOKFIELD RD STE 200
BROOKFIELD, WI 53045

TULSA INVESTORS LLC
C/O T5 REAL ESTATE SOLUTIONS LLC
PO BOX 628313
MIDDLETON, WI 53562-8313

JAMES LECLAIR AND LYNNETTE
LECLAIR
103 TRAILS EDGE CT
HARTLAND, WI 53029-2908

LOT OWNERS OF RIVER RESERVE II
C/O JACK WENSTROM PO BOX 82
HARTLAND, WI 53029

— VILLAGE OF —
HARTLAND
WISCONSIN
EST. 1892

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address 230 Pawling Ave, Hartland, WI, 53029					
Lot	Block	Subdivision		Key No. HAV	
Owner Andy Fallon		EMAIL andy.fallon@emergencydisasterrecovery.com		Phone (262) 825-3623	
Address 230 Pawling Ave		City Hartland		State WI	Zip 53029
Contractor	Phone	FAX		EMAIL	
Address		City		State	Zip

The Architectural Board meets on the THIRD MONDAY of the Month at 6:30 p.m. in the Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue in the Village of Hartland.

The DEADLINE for filing is FIFTEEN WORKING DAYS PRIOR TO THE MEETING DATE at 4:30 p.m. All of the following information must be received prior to the deadline in order to be placed on the agenda.

All applications for consideration by the Architectural Board are subject to the policies described in this document.

Commercial/Industrial/Multifamily:

- ☐ One (1) bound set of plans and application material and one (1) electronic copy of all submittals.
- ☐ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.

Signs:

- ☐ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.
- ☐ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.
- ☐ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building.
  One (1) set of lighting details. Include type, location, number and photometric plan.
- ☐ Submit Sign Permit Application

NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied: 9/30/24 Date of Meeting: _____ Item No. _____

DEPARTMENT OF BUILDING INSPECTION **PERMIT #_____**
APPLICATION FOR SIGN PERMIT

haileyrademacher22@gmail.com

JOB LOCATION 230 Pawling Ave, Hartland TAX KEY # _____
OWNER Hailey Rademacher PHONE (262) 844-5929
ADDRESS _____ CITY _____ STATE _____ ZIP _____
CONTRACTOR _____ PHONE _____
ADDRESS _____ CITY _____ STATE _____ ZIP _____

SIGN TYPE: ☒ WALL ☐ PROJECTING ☐ AWNING, CANOPY ☐ GROUND

☐ PORTABLE/TRAINING ☐ REAL ESTATE PERM. ☐ REAL ESTATE TEMP.

WORDS AS THEY WILL APPEAR ON THE SIGN:
Mellow Mutts Spa

OVERALL DIMENSIONS OF SIGN ~24 inches COLOR OF BACKGROUND White

SIZE OF LETTERS IN INCHES _____ COLOR OF LETTERS Black

CONSTRUCTION MATERIALS OF SIGN BACKGROUND (i.e. WOOD, ALUM, ETC.)
Acrylic

ILLUMINATED? ☐ YES ☒ NO ☐ INTERNALLY ☐ EXTERNALLY

SIGN PLANS MUST BE APPROVED BY ARCHITECTURAL BOARD PRIOR TO PERMIT BEING APPROVED (SEE ARCHITECTURAL BOARD APPLICATION)

ESTIMATED COST OF ABOVE SIGN $ 110.00

TO THE BUILDING INSPECTOR: THE UNDERSIGNED HEREBY APPLIES FOR A PERMIT TO DO WORK HEREIN DESCRIBED ACCORDING TO THE PLANS AND SPECIFICATIONS FILED HEREWITH AND LOCATED AS SHOWN ON THIS APPLICATION. THE UNDERSIGNED AGREES THAT SUCH WORK WILL BE DONE IN ACCORDANCE WITH THE SAID DESCRIPTION, PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ZONING ORDINANCE AND ALL OTHER ORDINANCES OF THE VILLAGE OF HARTLAND AND WITH ALL THE LAWS AND ORDERS OF THE STATE OF WISCONSIN APPLICABLE TO SAID PREMISES.

APPLICANT Hailey Rademacher DATE 9/30/24

PLANS APPROVED: ARCHITECTURAL BOARD _____

APPLICATION APPROVED: BUILDING INSPECTOR _____ DATE _____


emergency
disaster
recovery
fire & water damage repair
262-361-4300
230


MELLOW MUTTS SPA
fire & water
262-36


MELLOW MUTTS SPA

ANDREW J FALLON AND KYLE M MILLER
230 PAWLING AVE
HARTLAND, WI 53029-2013

EDWIN & ANNETTE MILLER TRUST
354 PROSPECT AVE
HARTLAND, WI 53029

HARTLAND MEADOWS RETIREMENT APARTMENTS LLC
W320N1161 BUTTERNUT RIDGE CT
DELAFIELD, WI 53018-2257

REDWOOD STATION LLC
249 PAWLING AVE
HARTLAND, WI 53029-2052

ROBERT F KALKE JR
370 PROSPECT AVE
HARTLAND, WI 53029

SARAH J SAUER
360 PROSPECT AVE
HARTLAND, WI 53029

STACY L SMITH
248 PAWLING AVE
HARTLAND, WI 53029-2013

UNIQUE SUITES LLC
1318 RIVERS EDGE CT
OCONOMOWOC, WI 53066-6912

— VILLAGE OF —
HARTLAND
WISCONSIN
EST. 1892

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address	308 NORTH AVE HARTLAND				
Lot	Block	Subdivision		Key No. HAV	
Owner	KEVIN AND BETTY KLENK			Phone	262-617-1020
Address	W307 N5581 ANDERSON RD	City	HARTLAND	State WI	Zip 53029
Contractor	GILMORE BUILDERS LLC	Phone 414-333-0404	FAX	E-Mail Address	brian@gilmorebuilders.com
Address	W307 N5480 ANDERSON RD	City	HARTLAND	State WI	Zip 53029

The Architectural Board meets on the THIRD MONDAY of the Month at 6:30 p.m. in the Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue in the Village of Hartland.

The DEADLINE for filing is FIVE WORKING DAYS PRIOR TO THE MEETING DATE at 4:30 p.m. All of the following information must be received prior to the deadline in order to be placed on the agenda.

All applications for consideration by the Architectural Board are subject to the policies described in this document.

One & Two Family

- ☐ One (1) bound set of construction plans and application material and one (1) electronic copy of all submittals. Plans must be stamped "approved by the developer" if required.
- ☐ These plans may be reused to apply for the building permit. Building elevations are all that is necessary to obtain Architectural Board approval. Although it is recommended that complete construction plans along with other building permit application material be submitted in order to begin the permit process as soon as possible after the meeting.
- ☐ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.
- ☐ One (1) site plan. The site plan must be detailed and dimensioned and may also be reused to apply for the building permit. One set of site plans must be stamped "approved by the developer" (if applicable).
- ☐ One (1) plat of survey is required for new dwellings at the time of building permit application.

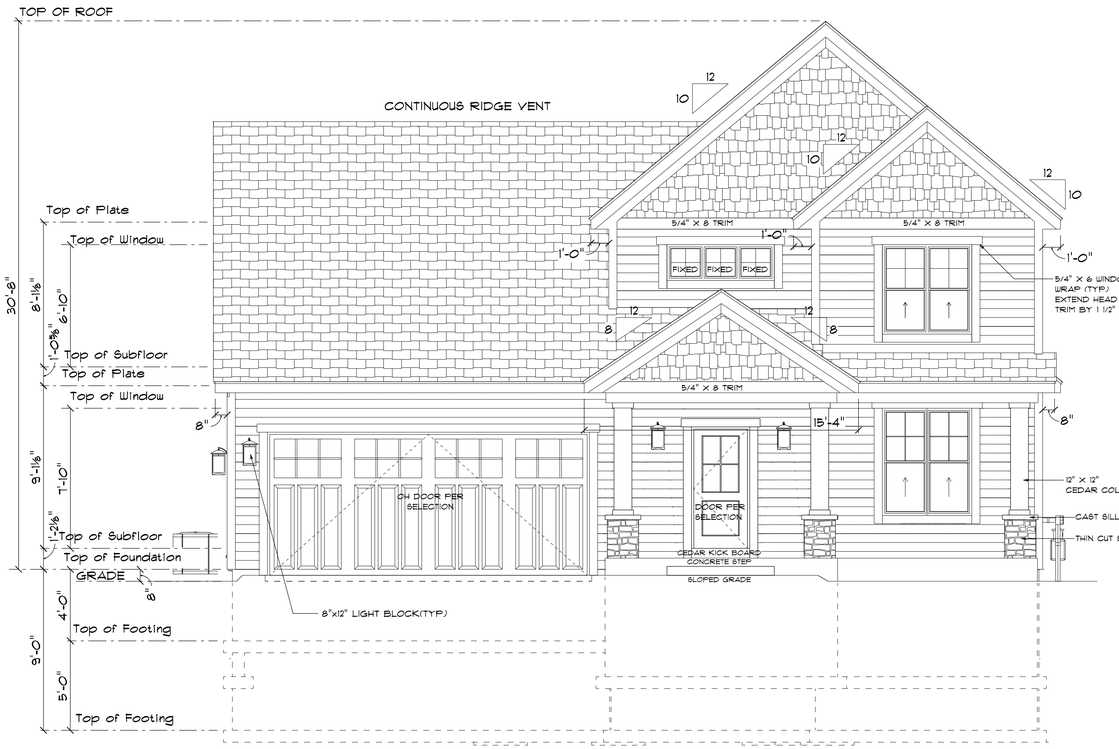
NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied:_____ Date of Meeting: _____ Item No. _____

GENERAL NOTES:
Floor plan dimensions are stud to stud.
Steel supplierto size steel beams and post.
Lumber supplier to proved Wall Bracing, Tall Wall desidn, Header layout & joist layout.
Single Hung windows per elevation.
Exterior man doors on the house and garage to be wood grain fiberglass doors.

EXTERIOR FINISH SCHEDULE
ASPHALT SHINGLES
1X8 LP FASICA
1X3 LP SHADOW BOARD
ALUMIUMN DRIP
3/8" LP SOFFIT
5/4 X 6 FRIEZE BOARD
LP SHAKES PER SELECTION
LP LAP SIDING W/6" EXPO. PER SELECTION
5/4 X 6 LP TRIM BOARDS
5/4 X 8 LP TRIM BOARD PER ELEV.
5/4 x 6 LP WINDOW WRAPS



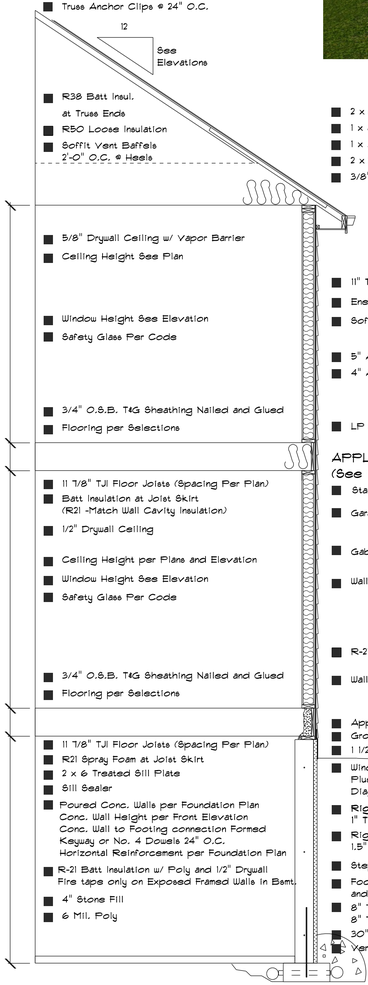


FRONT ELEVATION



REAR ELEVATION

- Continuous Ridge Venting
- Asphalt shingles
- 15# Building Felt
- 7/16" O.S.B. Sheathing w/ Clips
- Roof Truss @ 24" O.C.
- Gable End Truss - Stud Spacing 16" O.C. w/Horizontal Bracing
- Truss Anchor Clips @ 24" O.C.



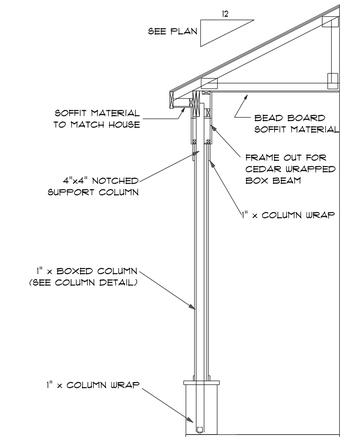
- R38 Batt Insul. at Truss Ends
- R50 Loose Insulation
- Soffit Vent Baffels 2'-0" O.C. @ Heels
- 5/8" Drywall Ceiling w/ Vapor Barrier
- Ceiling Height See Plan
- Window Height See Elevation
- Safety Glass Per Code
- 3/4" O.S.B. T&G Sheathing Nailed and Glued
- Flooring per Selections
- 11 7/8" TJI Floor Joists (Spacing Per Plan)
- Batt Insulation at Joist Skirt (R21 -Match Wall Cavity Insulation)
- 1/2" Drywall Ceiling
- Ceiling Height per Plans and Elevation
- Window Height See Elevation
- Safety Glass Per Code
- 3/4" O.S.B. T&G Sheathing Nailed and Glued
- Flooring per Selections
- 11 7/8" TJI Floor Joists (Spacing Per Plan)
- R21 Spray Foam at Joist Skirt
- 2 x 6 Treated Sill Plate
- Sill Sealer
- Poured Conc. Walls per Foundation Plan
  Conc. Wall Height per Front Elevation
  Conc. Wall to Footing connection Formed Keyway or No. 4 Dowels 24" O.C.
  Horizontal Reinforcement per Foundation Plan
- R-21 Batt Insulation w/ Poly and 1/2" Drywall
  Fire tape only on Exposed Framed Walls in Bsmt.
- 4" Stone Fill
- 6 Mil. Poly

BUILDING CROSS SECTION

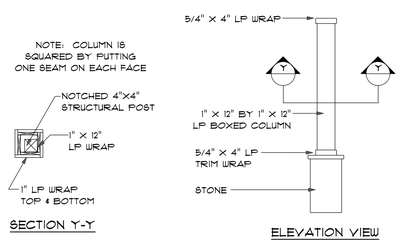
- 2 x 6 Sub-Fascia
- 1 x 8 LP Fascia
- 1 x 3 LP Shadow Board on Gable Ends
- 2 x 2 Nailers for Soffit
- 3/8" LP Smart Siding Soffits
- 11" Tails for 12" Overhang
- Energy Heal Heights
- Soffit Vents on House and Garages
- 5" Aluminum Gutters
- 4" Aluminum Downspouts
- LP Siding (U.N.)

APPLICATION SPECIFIC WALL TYPES
(See Floor Plans for Locations)

- Standard Wall - 2 x 6 Studs @ 16" O.C. w/ 7/16" OSB & House Wrap
- Garage Walls - 2 x 4 Studs @ 16" O.C. w/ 7/16" O.S.B. 2 x 6 Studs @ 16" O.C. 7/16" O.S.B. SEE PLAN FOR LOCATION
- Gable Ends - Gable End Truss w/ 7/16" O.S.B. & House Wrap
- Walls w/Thin Cut Stone - 2 x 4 or 2 x 6 Studs @ 16" O.C. w/ 7/16" O.S.B. & House Wrap w/15# Building Felt
- R-21 Batt Insulation w/ Poly for House Walls Only U.N.
- Wall Achors Per Code
  2 x 6 Plates Straps 4'-6" on center
  2 x 4 Plates Straps 3'-8" on center
- Approximate Grade 8" Below Top of Foundation
- Ground Breaker to Cover Top 12" of Foundation
- 1 1/2% Grade Min.
- Window Walls to Have 2" Min. Gravel Fill Plus 3" Gravel Filled Drain Diagonal #4 Rebar 24" Long @ All Reentrant Corners
- Rigid Insulation From Footing to Sill Plate 1" THICK R-5 RIGID INSULATION ON WALL W/EXPOSURE
- Rigid Insulation From Footing to Sill Plate 1.5" Thick R-7.5 Rigid U.N. on Foudation Plan
- Step Footings Reinforced per code
- Footing Drain System w/Bleeders @ 8' minimum and 12" min. Gravel Fill
- 8" Thick x 20" Wide Footings Min. @ 8" Thick Conc. Walls
  8" Thick x 22" Wide Footings Min. @ 10" Thick Conc. Walls
- 30" x 30" x 12" Min. Column Pads
- Verify Foundation Components Per Soil Conditions



PORCH DETAIL
(NOT TO SCALE)



12" COLUMN DETAIL
(NOT TO SCALE)

Gilmore Builders, LLC
Brian Gilmore
W307 N5480 Anderson Rd
Hartland WI 53029
brian@gilmorebuilders.com
414-333-0404

REVISIONS:
Rev. 0 - 9/8/24
Rev. 1 - 9/27/24

UNFINISHED FOUNDATION:	1,742 SF
FINISHED BASEMENT:	0 SF
1ST FLOOR:	1,752 SF
2ND FLOOR:	549 SF
FRONT PORCH:	137 SF
ATTACHED GARAGE:	646 SF
COVERED DECK:	102 SF
OPEN DECK:	131 SF
TOTAL LIVING:	2,301 SF

308 North Ave, Hartland, WI 53029
(VILLAGE OF HARTLAND) - WAUKESHA CO.

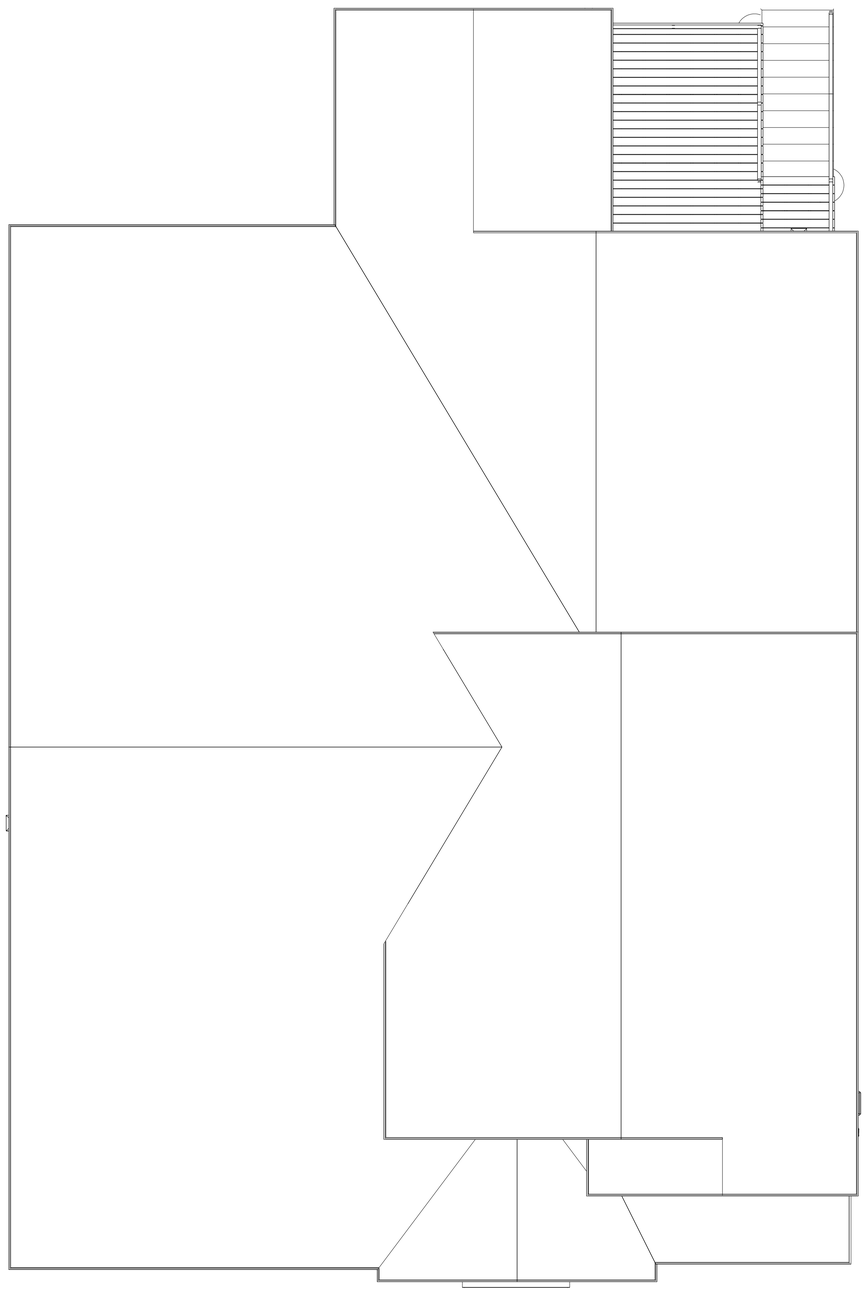
KLINK RESIDENCE
CUSTOM HOME

FRONT & REAR ELEVATION

DRAWN BY : DAVID HRIBAR
(262)-709-6153

DATE :9/27/2024

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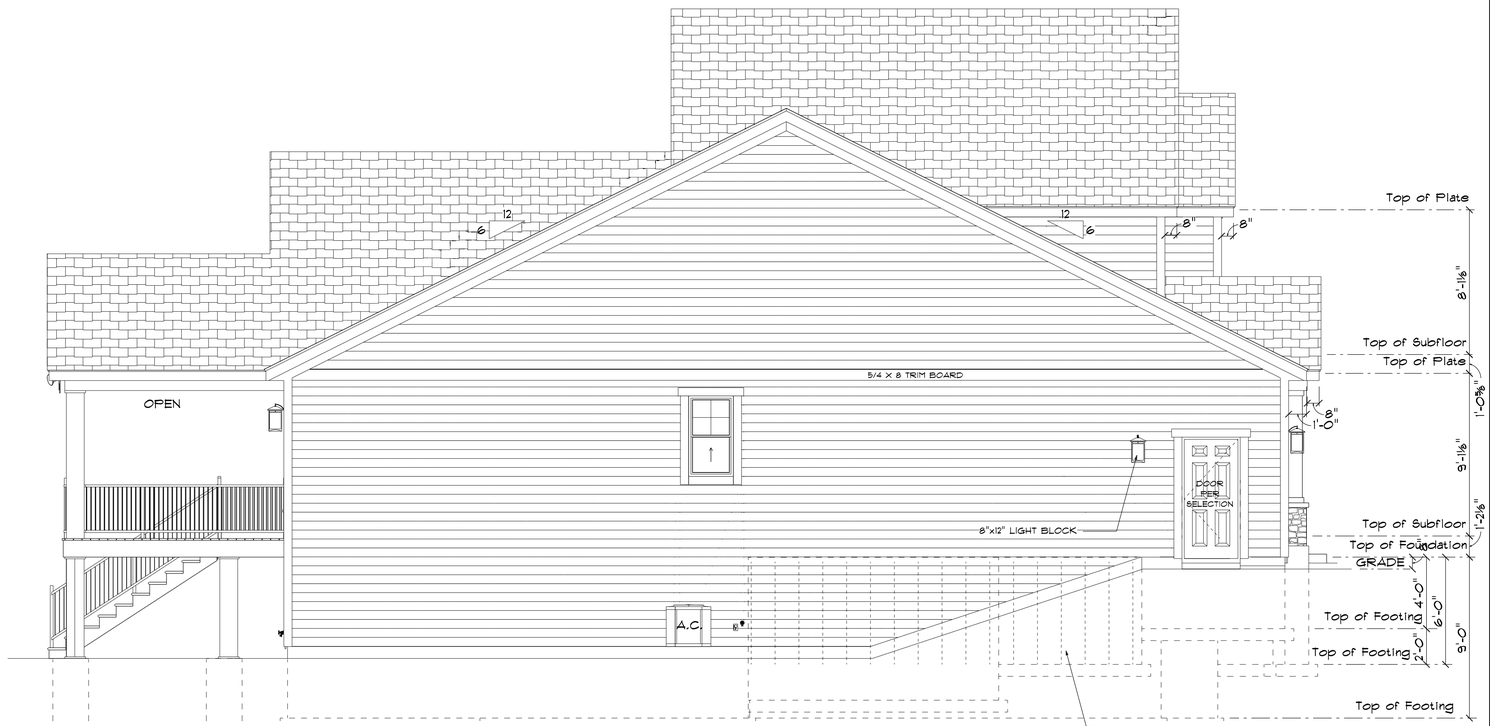
ROOF PLAN

SCALE: 1/4" = 1'-0"

ROOF PITCHES AS SHOWN
8" GABLE OVERHANG
12" SOFFIT OVERHANGS
RAISED HEEL PER ELEVATION



RIGHT ELEVATION



LEFT ELEVATION

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W307 N5480 Anderson Rd
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308 North Ave, Hartland, WI 53029
(VILLAGE OF HARTLAND) - WAUKESHA CO.

KLINK RESIDENCE
CUSTOM HOME

RIGHT & LEFT ELEVATION

2 of 5

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CONCRETE WALL HORIZONTAL REINFORCEMENT BAR SCHEDULE

8" X 3'-4" THRU 5'-0" POURED CONCRETE WALLS
(2) #4 HORIZONTAL BARS @ TOP & BOTTOM OF WALL

8" X 6'-0" THRU 8'-0" POURED CONCRETE WALLS
(3) #4 HORIZONTAL BARS @ TOP, MIDDLE & BOTTOM OF WALL

10" X 1'-4" THRU 8'-0" POURED CONCRETE WALLS
(3) #4 HORIZONTAL BARS @ TOP, MIDDLE & BOTTOM OF WALL

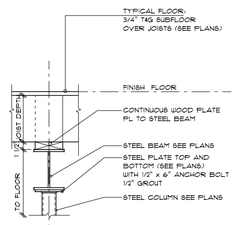
10" X 9'-0" POURED CONCRETE WALLS
(4) #4 HORIZONTAL BARS - TOP BAR WIHTIN 24" OF TOP OF WALL, BOTTOM BAR WITHIN 24"OF BOTTOM OF WALL. THE OTHER BARS TO BE EQUALLY SPACED

LAP LENGTH SHALL BE 24" MIN.

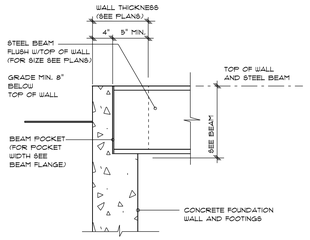
EXTEND BARS AROUND CORNER AND LAP A MIN. OF 30 BAR DIAMETERS.

ELECTRICAL LEGEND		
ELECTRICAL	COUNT	SYMBOL
electrical meter	1	
electrical panel	2	
Furnace	1	FURNANCE
Radon System	1	RADON SYSTEM
Smoke CO	1	SMOKE/CO
Sump Pump	1	SUMP PUMP
Water Heater	1	WATER HEATER
Water Softener	1	WATER SOFTNR.
switch 4 way	1	$_{4}$
light	1	
outlet gfi	1	GFI
pull chain light	10	PC
switch	1	$

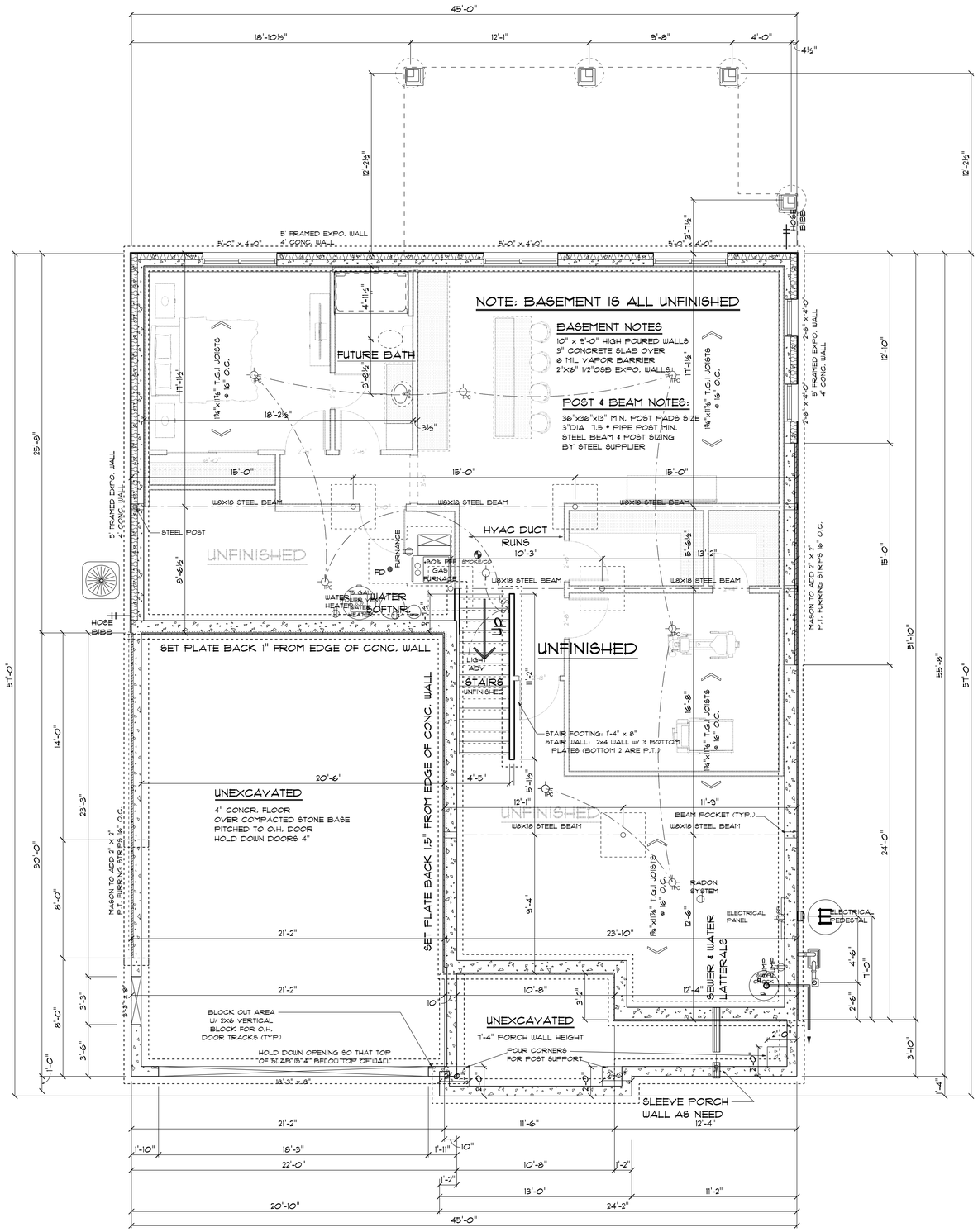
ELECTRICAL NOTES:
1). PLACEMENT OF OUTLETS, SWITCHES, AND LIGHT FIXTURES ON THIS DRAWING ARE SUGGESTIONS AND MAY NEED TO CHANGE SLIGHTLY DUE TO CODE OR STRUCTURAL REQUIREMENTS AT THE DISCRETION OF ELECTRICIAN.
2). ELECTRICIAN TO USE "CABINET DETAILS" PAGE FOR THE MOST ACCURATE MEASUREMENTS AS THIS DRAWING MAY NOT REFLECT CHANGES TO CABINETS.
3). WHEN A CEILING FAN IS SELECTED, ELECTRICIAN TO SUPPLY A SINGLE GANG BOX AND INSTALL ONE LUTRON SKYLARK SPEED OR SPEED/LIGHT CONTROL PER FAN IN COLOR TO MATCH WALL PLATES. SEE THE ELECTRICAL PLAN FOR LOCATION OF FAN READY FIXTURES.



TYPICAL BEAM DETAIL
STEEL / BOTTOM BEARING
N.T.S



STEEL BEAM POCKET
N.T.S



FOUNDATION PLAN

UNFINISHED FOUNDATION:	1,742 SF	
FINISHED BASEMENT:	0 SF	
1ST FLOOR:	1,752 SF	
2ND FLOOR:	1,649 SF	
FRONT PORCH:	137 SF	
ATTACHED GARAGE:	646 SF	
COVERED DECK:	162 SF	
OPEN DECK:	137 SF	
TOTAL LIVING:	2,301 SF	

Gilmore Builders, LLC
Brian Gilmore
W307 N5480 Anderson Rd
Hartland WI 53029
brian@gilmorebuilders.com
414-333-0404

REVISIONS:
Rev. 0 - 9/8/24
Rev. 1 - 9/27/24

308 North Ave, Hartland, WI 53029
(VILLAGE OF HARTLAND) - WAUKESHA CO.

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CUSTOM HOME

FOUNDATION PLAN

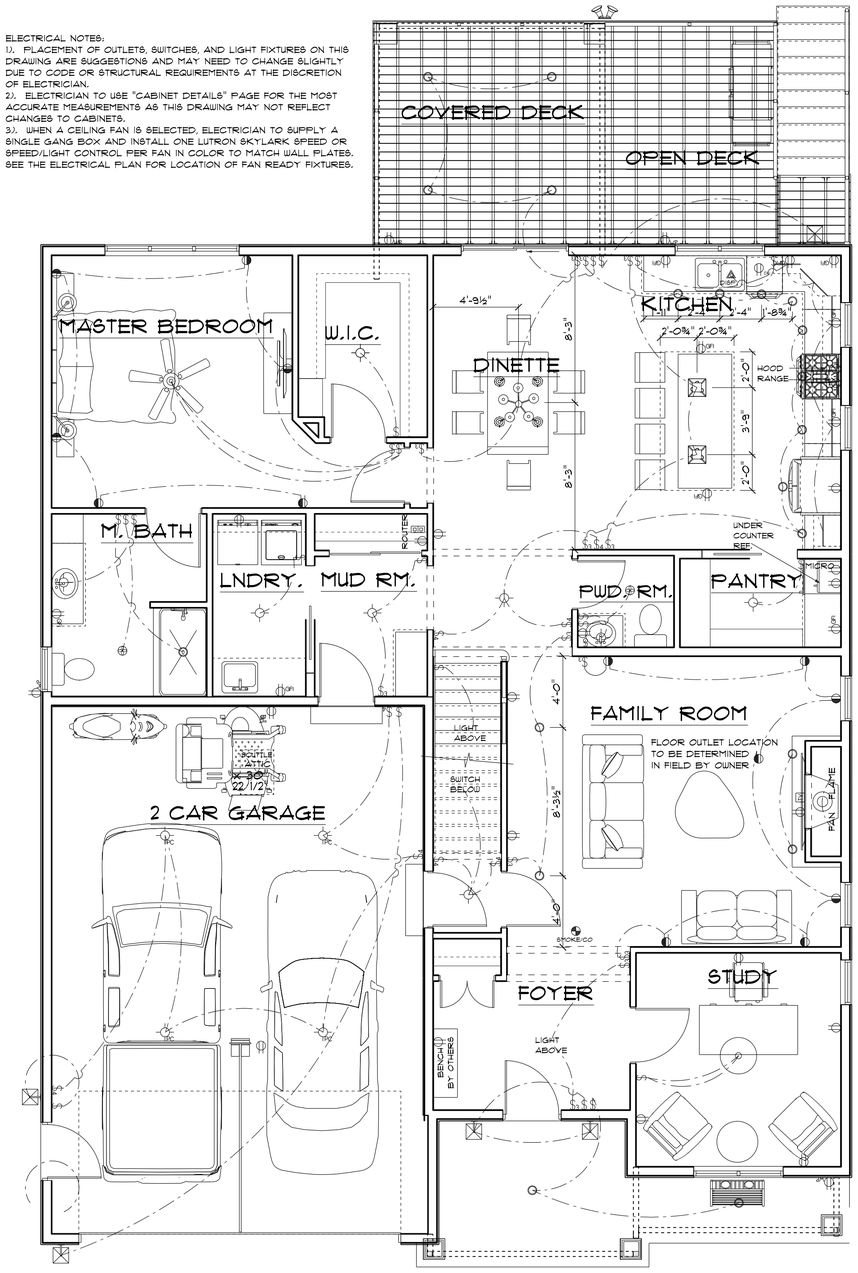
3 of 5

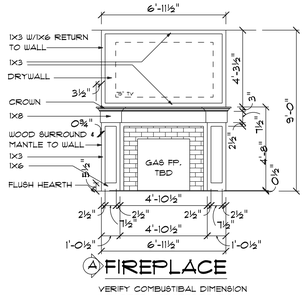
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(262)-709-6153

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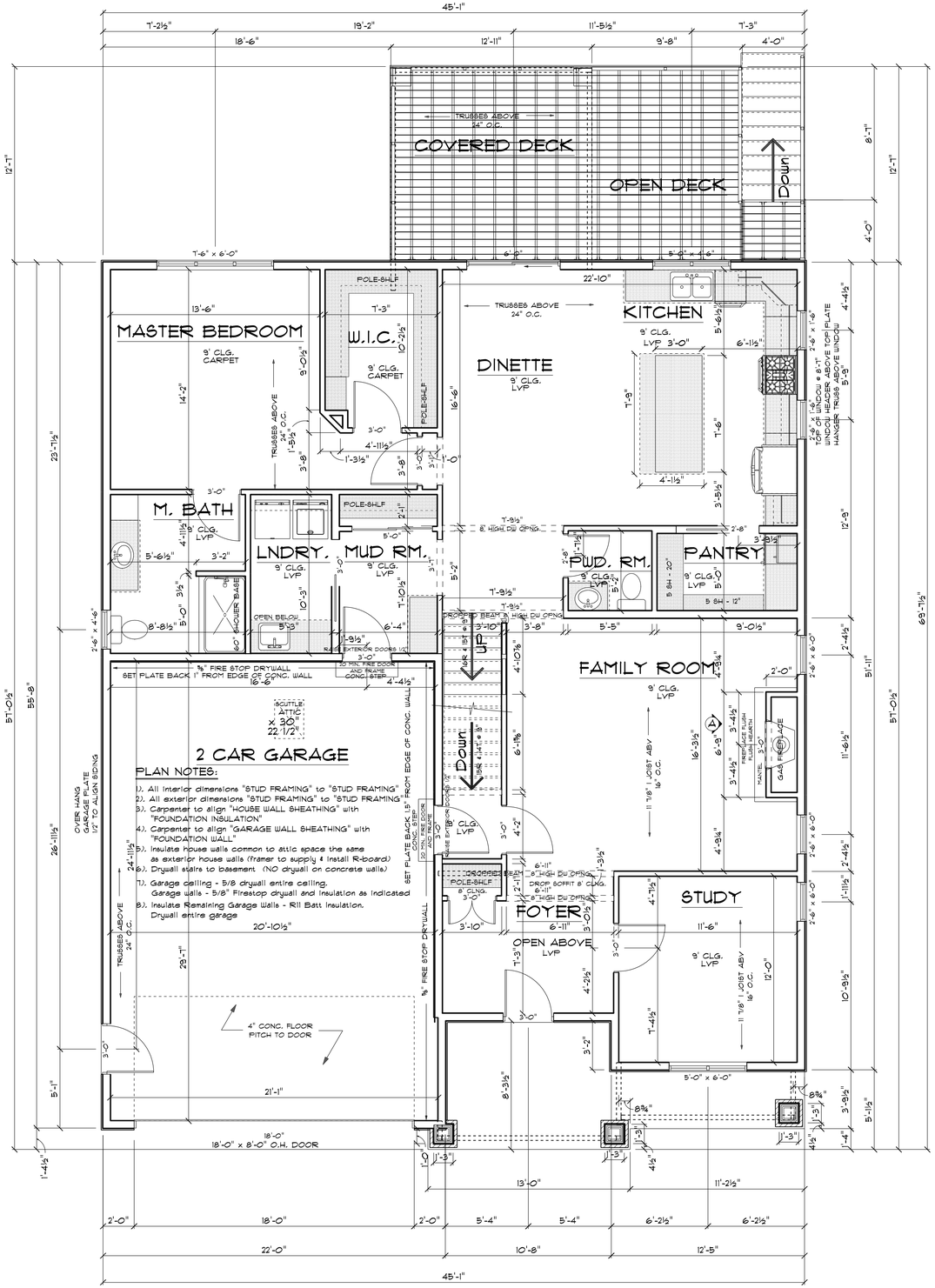
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ELECTRICAL LEGEND		
ELECTRICAL	COUNT	SYMBOL
cable tv outlet	1	TV
can light 6inch	20	
ceiling fan 5 bladed 02	1	
ceiling light 29	1	
Continuous Light (Cabinet)	142.8088"	
Disposal	1	DISP.
exterior craftsman light fixture	5	
fan	2	
garage door opener with track	1	
Ginsberg 3 Light Foyer Pendant	2	
light	9	
midland arts CP4920	1	
outlet	17	
Outlet 48 in AFF	1	48" AFF
Outlet Dish Washer	1	DW
outlet gfi	11	GFCI
outlet up	4	UP
outlet, split	12	
pull chain light	4	PC
Router	1	ROUTER
Smoke CO	1	SMOKE/CO
split receptacle	1	
spotlight double with motion detector	1	
switch	20	$
switch 3 way	14	$3
switch 4 way	8	$4

FIRST FLOOR ELECTRICAL PLAN



FIRST FLOOR PLAN

Gilmore Builders, LLC
Brian Gilmore
W307 N5480 Anderson Rd
Hartland WI 53029
brian@gilmorebuilders.com
414-333-0404

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(VILLAGE OF HARTLAND) - WAUKESHA CO.

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CUSTOM HOME

FIRST FLOOR PLAN & ELECTRICAL PLAN

4 of 5

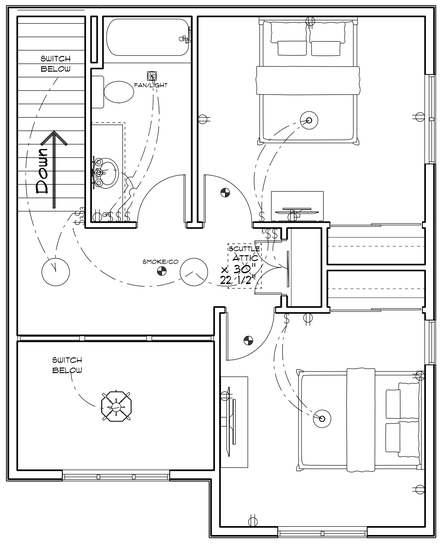
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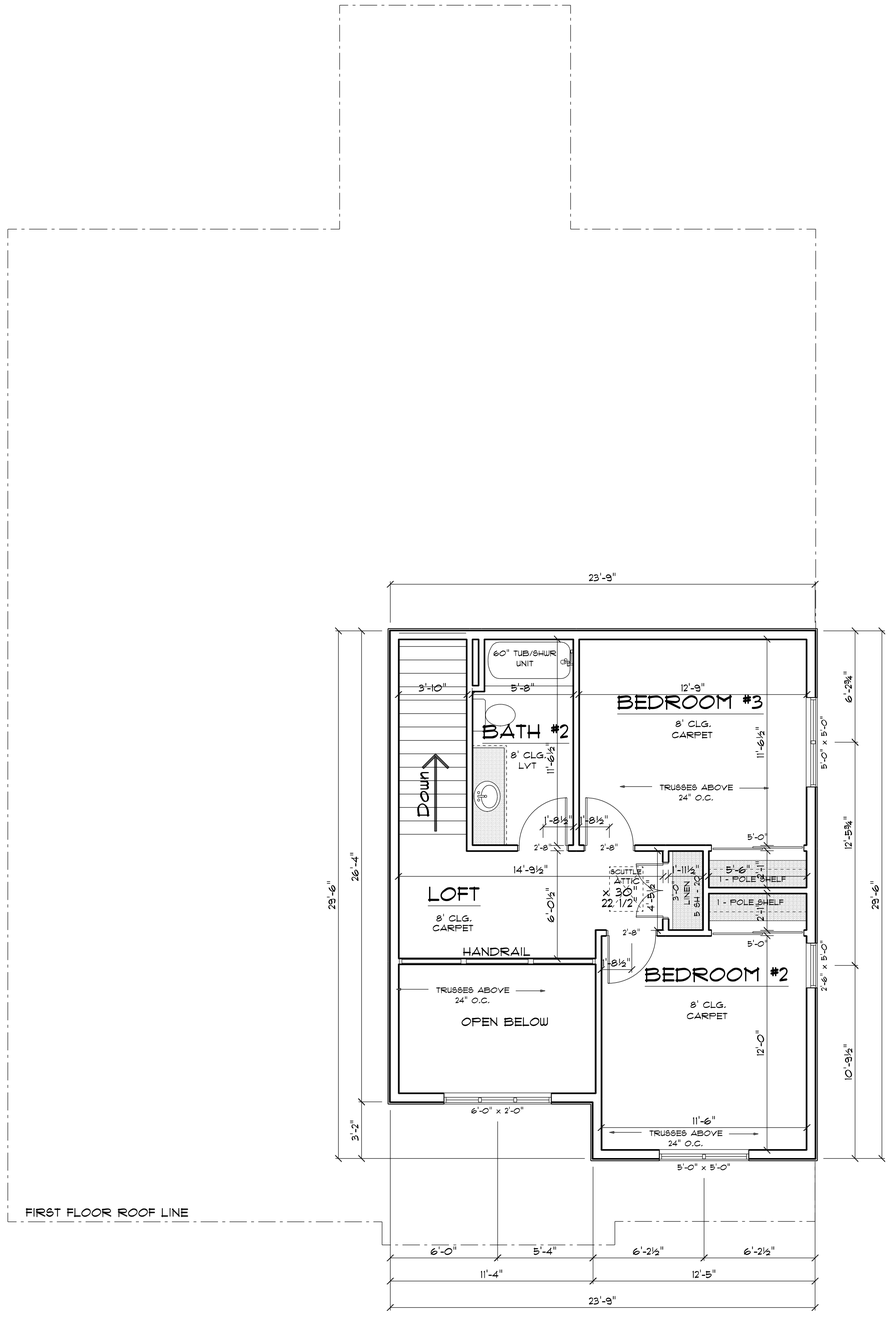
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1). PLACEMENT OF OUTLETS, SWITCHES, AND LIGHT FIXTURES ON THIS DRAWING ARE SUGGESTIONS AND MAY NEED TO CHANGE SLIGHTLY DUE TO CODE OR STRUCTURAL REQUIREMENTS AT THE DISCRETION OF ELECTRICIAN.
2). ELECTRICIAN TO USE "CABINET DETAILS" PAGE FOR THE MOST ACCURATE MEASUREMENTS AS THIS DRAWING MAY NOT REFLECT CHANGES TO CABINETS.
3). WHEN A CEILING FAN IS SELECTED, ELECTRICIAN TO SUPPLY A SINGLE GANG BOX AND INSTALL ONE LUTRON SKYLARK SPEED OR SPEED/LIGHT CONTROL PER FAN IN COLOR TO MATCH WALL PLATES. SEE THE ELECTRICAL PLAN FOR LOCATION OF FAN READY FIXTURES.

ELECTRICAL LEGEND		
ELECTRICAL	COUNT	SYMBOL
ceiling light 03	2	
Fan Light	1	FAN/LIGHT
fluorescent light 1 x 4	1	
outlet	9	
outlet gfi	1	GFI
Smoke CO	1	SMOKE/CO
smoke detector	2	
switch	6	S
switch 3 way	3	S3
traditional 03	2	
traditional 14	1	
wall mounted 03 3 lights	1	



SECOND FLOOR ELECTRICAL PLAN



SECOND FLOOR PLAN

Gilmore Builders, LLC
Brian Gilmore
W307 N5480 Anderson Rd
Hartland WI 53029
brian@gilmorebuilders.com
414-333-0404

REVISIONS:
Rev. 0 - 9/8/24
Rev. 1 - 9/27/24

UNFINISHED FOUNDATION:	1,742 SF
FINISHED BASEMENT:	0 SF
1ST FLOOR:	1,752 SF
2ND FLOOR:	549 SF
FRONT PORCH:	137 SF
ATTACHED GARAGE:	646 SF
COVERED DECK:	162 SF
OPEN DECK:	137 SF
TOTAL LIVING:	2,301 SF

308 North Ave, Hartland, WI 53029
(VILLAGE OF HARTLAND) - WAUKESHA CO.

KLINK RESIDENCE
CUSTOM HOME

SECOND FLOOR PLAN
& ELECTRICAL PLAN

5 of 5

DRAWN BY : DAVID HRIBAR
(262)-709-6153

DATE :9/27/2024

COPYRIGHT 2024 DAVID HRIBAR HOME DESIGNS LLC. ALL PLANS AND DESIGNS ARE THE PROPERTY OF DAVID HRIBAR HOME DESIGNS LLC. NO PLANS OR DESIGNS MAY BE REPRODUCED BY ANY MEANS OR BY ANY PERSON OTHERWISE EXPRESSED WITHOUT THE EXPRESSED WRITTEN PERMISSION OF DAVID HRIBAR HOME DESIGNS

Kevin and Betty Klink	
Description	**Selection**
Roofing Shingles	Certain Teed Landmark dimensional shingles "Weathered Wood"
Lap Siding	LP SmartSide Siding - Color: "Tundra Gray"
Trim	LP SmartSide Trim - Color: White
Soffit & Fascia	LP SmartSide Soffit & Fascia - Color: White
Shakes	LP SmartSide Cedar Textured Shakes - Color: "Quarry Gray"
Overhead door	CHI Accents Stamped Steel Carriage House - Color "Dark Oak"
Front Porch Posts	Cedar - stained to match overhead door - Color "Dark Oak"
Front porch stone bases	Thin stone - gray lannon stone with gray motar. Bedford gray caps
Front Door	Fiberglass - stained to match overhead door - Color "Dark Oak"
Decking	TimberTech "Driftwood"
Deck railings and balusters	Aluminum-Black

Gilmore Builders
Klink Residence

PLAT OF SURVEY

LOCATION: North Avenue, Hartland, Wisconsin

LEGAL DESCRIPTION: All that part of the Southeast 1/4 of the Southeast 1/4 of Section 34, Township 8 North, Range 18 East, described as follows:

Commencing at a point in the center of North Avenue of the Village of Hartland, 259 feet Southerly from a point in the center of North Avenue on the One-Eighth line; thence S 76° E, 249 feet to the old fence line; thence N 18°45' E along said fence line, 48 feet; thence N 76° W to center of highway aforesaid; thence Southerly along said center line 48 feet to beginning. Said land being in the Village of Hartland, Town of Merton, Waukesha County, State of Wisconsin.

ALSO All that part of the Southeast 1/4 of the Southeast 1/4 of Section 34, Township 8 North, Range 18 East, in the Village of Hartland, Town of Merton, Waukesha County, Wisconsin, described as follows to-wit:

Commencing at the South 1/8th corner of said quarter section and running thence N 1°22' E on the 1/8th line, 297.0 feet to a point; thence S 76° E, 373.75 feet to the center line of North Avenue; thence N 14°49' E on said center line, 781.30 feet to the point of commencement of the area herein described; thence S 76° E, 236.9 feet to a point; thence N 20°19'20" E, 138.5 feet to a point; thence N 73°48'30" W, 249.54 feet to a point in the center line of North Avenue aforesaid; thence S 14°49' W on said line, 146.79 feet to the point of commencement.

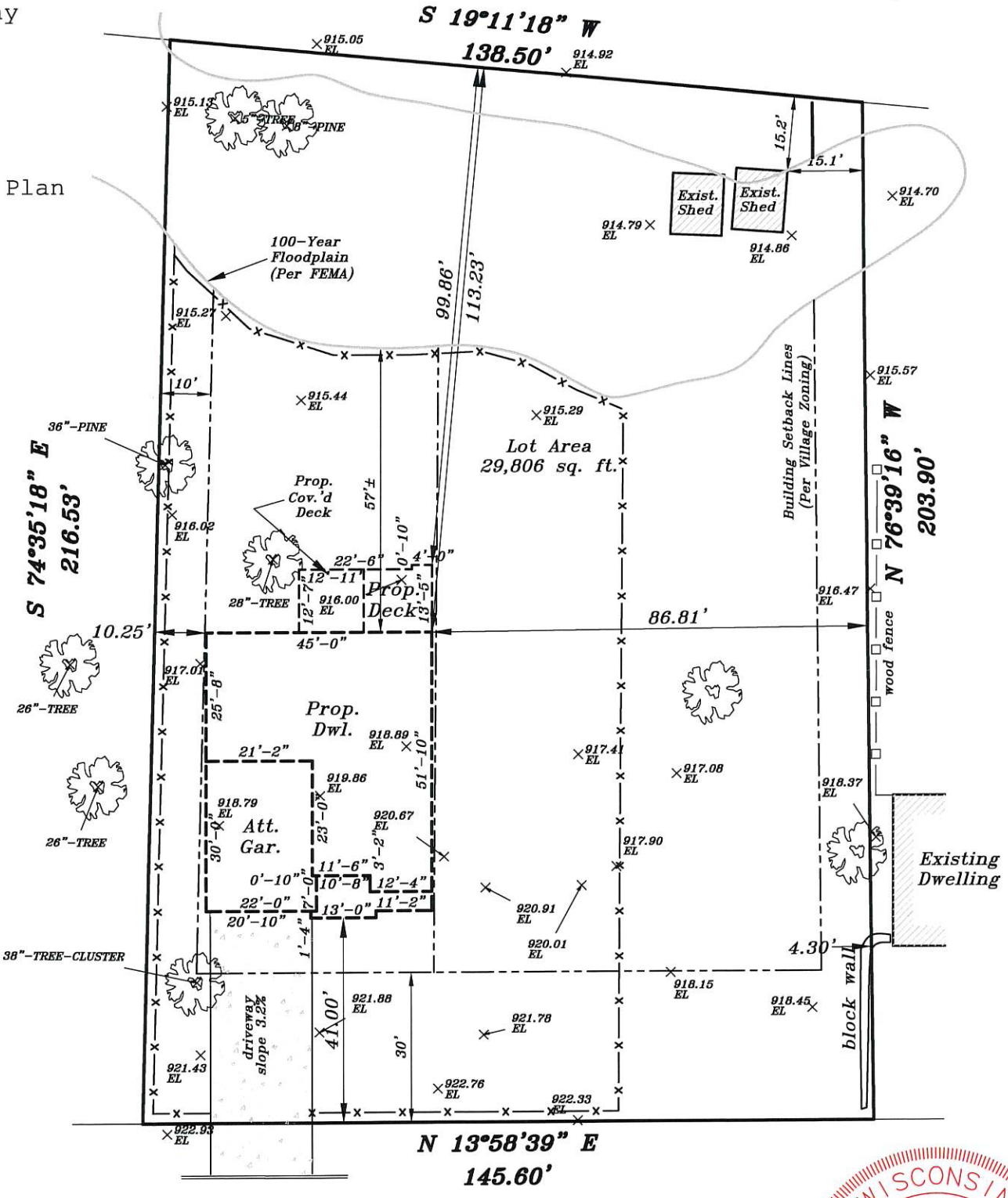
July 14, 2024
Lot Survey & Topography

September 26, 2024
Added Foundation Plan
(Not Staked)

October 11, 2024
Added Builder Grading Plan

October 14, 2024
Revised Grading Plan

Survey No. 115206-S





Prop. T.O.W.
924.67
(9' Basement)

Prop. Gar. Slab
924.33 *Prop. Fin. Yd. Gr.*

919.0
924.0
(Per Builder)

North Avenue
(66' R.O.W.)

Proposed finished yard, 1st floor or top of foundation grade shown on this drawing is a suggested grade and should be verified by the owner, builder or municipality.

920 *Denotes Existing Contour*
920 *Denotes Proposed Contour*

METROPOLITAN SURVEY SERVICE, INC.

PROFESSIONAL LAND SURVEYORS
8482 South 76th Street
Franklin, Wisconsin 53132
PHONE (414) 529-5380
survey@metropolitansurvey.com
www.metropolitansurvey.com

◉ — *Denotes Iron Pipe Found*
◎ — *Denotes Iron Pipe Set*
000.0 — *Denotes Proposed Grade*
—x—x—x— *Denotes Proposed Silt Screen*

GRAPHIC SCALE

30 0 15 30

(IN FEET)
1 inch = 30 ft.

WISCONSIN
DENNIS C. SAUER
S-2421
Franklin, WI
LAND SURVEYOR

I HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND THAT THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND SHOWS THE SIZE AND LOCATION OF THE PROPERTY. ITS EXTERIOR BOUNDARIES, THE LOCATION OF ALL VISIBLE STRUCTURES AND DIMENSIONS OF ALL PRINCIPAL BUILDINGS THEREON, BOUNDARY FENCES, APPARENT EASEMENTS AND ROADWAYS AND VISIBLE ENCROACHMENT, IF ANY.

THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT OWNERS OF THE PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO WITHIN ONE (1) YEAR FROM THE DATE HEREOF.

SIGNED _____

Dennis C. Sauer
Professional Land Surveyor S-2421

Gilmore Builders
Klink Residence

PLAT OF SURVEY

LOCATION: North Avenue, Hartland, Wisconsin

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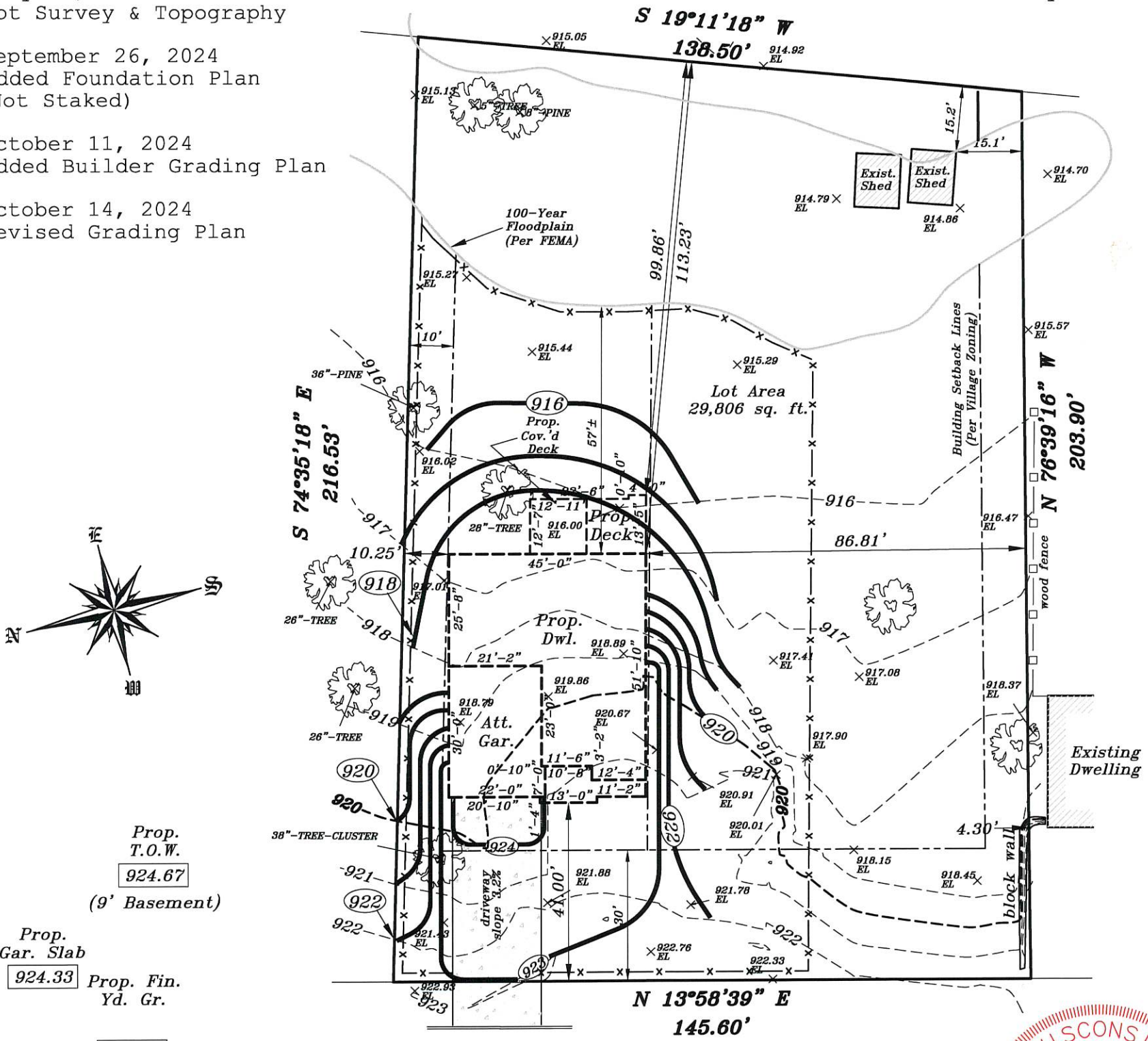
July 14, 2024
Lot Survey & Topography

Survey No. 115206-S

September 26, 2024
Added Foundation Plan
(Not Staked)

October 11, 2024
Added Builder Grading Plan

October 14, 2024
Revised Grading Plan



Prop. T.O.W. 924.67 (9' Basement)

Prop. Gar. Slab 924.33 Prop. Fin. Yd. Gr.

919.0
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(Per Builder)

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North Avenue
(66' R.O.W.)

920 Denotes Existing Contour
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WISCONSIN
DENNIS C. SAUER
S-2421
Franklin, WI
LAND SURVEYOR

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SIGNED _____

Dennis C. Sauer
Professional Land Surveyor S-2421

JOSEPH F MODL
502 N PONDEROSA DR
HARTLAND, WI 53029-8642

NICHOLAS & ALLISON BEHRENS
804 N PONDERSOA DR
HARTLAND, WI 53029-8638

JAMES & LAUREN MUELLER
905 N EVERGREEN CIR
HARTLAND, WI 53029-8636

MARC TREMBLAY & KAILA REDIFER
917 N EVERGREEN CIR
HARTLAND, WI 53029-8636

FREDERICK & AMY MEIER
500 N PONDEROSA DR
HARTLAND, WI 53029-8642

DAVID & KARYN ROELKE
907 N EVERGREEN CIR
HARTLAND, WI 53029-8636

THE LEGEND AT BRISTLECONE PINES LLC
1 LEGEND WAY
WALES, WI 53183

SHERRY & RANDALL KOHN
510 N PONDEROSA DR
HARTLAND, WI 53029-8642

TYSON & LORI WEBBER 2014 LIVING TRUST
505 N THORNBUSH CIR
HARTLAND, WI 53029-8649

VICTORIA I NIELSEN
514 N PONDEROSA DR
HARTLAND, WI 53029-8642

SCOTT SMITH
1201 E PINEVIEW CT
HARTLAND, WI 53029-8686

ROBERT & KATHLEEN KARIUS
915 N EVERGREEN CIR
HARTLAND, WI 53029-8636

PATRICK & TONYA STANLY
913 N EVERGREEN CIR
HARTLAND, WI 53029-8636

EVAN & BETHANY WIESNER
919 N EVERGREEN CIR
HARTLAND, WI 53029-8636

TIMOTHY & PATRICIA FREDMAN
508 N PONDEROSA DR UNIT 4
HARTLAND, WI 53029-8642

TODD & NANCY RODEE
501 N THORNBUSH CIR
HARTLAND, WI 53029-8649

FRED & MEGHAN KINATEDER
403 N THORNBUSH CIR
HARTLAND, WI 53029-8644

TODD & GURLYS BARDEN
904 N PONDEROSA DR
HARTLAND, WI 53029

THE EDWARD AND SUZANNE ALLEN REVOCABLE TRUST
503 N THORNBUSH CIR
HARTLAND, WI 53029-8649

GOVARDHAN & MALATHI KATTA
900 N PONDEROSA DR
HARTLAND, WI 53029-8643

JAMES H LAHR & JOYCE J LAHR LIVING TRUST
1203 E PINEVIEW CT
HARTLAND, WI 53029-8686

LORI A KASS
512 N PONDEROSA DR
HARTLAND, WI 53029-8642

AARON & DANA BOETTCHER
401 N THORNBUSH CIR
HARTLAND, WI 53029-8644

ROBERT & CECILIA JOHNSON
909 N EVERGREEN CIR
HARTLAND, WI 53029

JOSEPH & APRIL HOFFMAN
601 N THORNBUSH CIR
HARTLAND, WI 53029-8648

JAMIE EDWARDS & ELIZABETH BAGBY
1601 CEDAR BEND
HARTLAND, WI 53029

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address					
Lot 47	Block	Subdivision		Key No. HAV 0729097	
Owner VLC llc		EMAIL K@pci48.com		Phone 262-367-6080	
Address 4141 108th St		City Greenfield		State WI	Zip 53228
Contractor Green Hills Metal Werks	Phone 262-617-4793	FAX		EMAIL Jake@greenhillsmetal.com	
Address W376 S5190 E. Pretty Lake Rd		City Dousman		State WI	Zip 53118

The Architectural Board meets on the THIRD MONDAY of the Month at 6:30 p.m. in the Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue in the Village of Hartland.

The DEADLINE for filing is FIFTEEN WORKING DAYS PRIOR TO THE MEETING DATE at 4:30 p.m. All of the following information must be received prior to the deadline in order to be placed on the agenda.

All applications for consideration by the Architectural Board are subject to the policies described in this document.

Commercial/Industrial/Multifamily:

- ☐ One (1) bound set of plans and application material and one (1) electronic copy of all submittals.
- ☐ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.

Signs:

- ☑ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.
- ☑ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.
- ☑ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building. One (1) set of lighting details. Include type, location, number and photometric plan.
- ☑ Submit Sign Permit Application

NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied:_____ Date of Meeting: _____ Item No. _____

DEPARTMENT OF BUILDING INSPECTION **PERMIT #_____**
APPLICATION FOR SIGN PERMIT

JOB LOCATION 110 Cottonwood Ave TAX KEY # HAV 0729097
OWNER VLC LLC PHONE _____
ADDRESS 4141 108th St CITY Greenfield STATE WI ZIP 53228
CONTRACTOR Green Hills Metal Werks LLC PHONE 262-617-4793
ADDRESS W376S5190 E Pretty Lake Rd CITY Dousman STATE WI ZIP 53118

SIGN TYPE: ❒ WALL ☒ PROJECTING ❒ AWNING, CANOPY ❒ GROUND

❒ PORTABLE/TRAINING ❒ REAL ESTATE PERM. ❒ REAL ESTATE TEMP.

WORDS AS THEY WILL APPEAR ON THE SIGN:

The Inn

OVERALL DIMENSIONS OF SIGN Please see attached drawings. COLOR OF BACKGROUND _____

SIZE OF LETTERS IN INCHES _____ COLOR OF LETTERS _____

CONSTRUCTION MATERIALS OF SIGN BACKGROUND (i.e. WOOD, ALUM, ETC.)
Powder coated steel with stainless steel fasteners. Please see drwaings or email for full composition.

ILLUMINATED? ❒ YES ❒ NO ❒ INTERNALLY ☒ EXTERNALLY

SIGN PLANS MUST BE APPROVED BY ARCHITECTURAL BOARD PRIOR TO PERMIT BEING APPROVED (SEE ARCHITECTURAL BOARD APPLICATION)

ESTIMATED COST OF ABOVE SIGN $ 6476.15

TO THE BUILDING INSPECTOR: THE UNDERSIGNED HEREBY APPLIES FOR A PERMIT TO DO WORK HEREIN DESCRIBED ACCORDING TO THE PLANS AND SPECIFICATIONS FILED HEREWITH AND LOCATED AS SHOWN ON THIS APPLICATION. THE UNDERSIGNED AGREES THAT SUCH WORK WILL BE DONE IN ACCORDANCE WITH THE SAID DESCRIPTION, PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ZONING ORDINANCE AND ALL OTHER ORDINANCES OF THE VILLAGE OF HARTLAND AND WITH ALL THE LAWS AND ORDERS OF THE STATE OF WISCONSIN APPLICABLE TO SAID PREMISES.

APPLICANT Jake Schindler DATE 10/03/2024

PLANS APPROVED: ARCHITECTURAL BOARD _____

APPLICATION APPROVED: BUILDING INSPECTOR _____ DATE _____





This signage will consist of: 18ga steel main body (4" thickness) with internal structure and mounting brackets (wind load rated per requirements). The text and detail cut from 12ga steel with stainless steel studs. Text to be stood off the main body ½" and detail to be flush mounted. All pieces to be powder coated will have a primer base coat followed by a color coat and matte clear. All stainless steel hardware throughout.


the
INN
1906
50.976"
43.101"


the
INN
14.500ft
STOP

Village of Hartland

APPLICATION FOR PLAN COMMISSION

$300 REVIEW FEE DUE AT TIME OF APPLICATION

Project Description and Narrative: (attach additional sheet if necessary) Build a trash dumpster enclosure. height 6ft, length 15ft and width 5ft. 4 metal posts with wood framing Two wood swing open doors			
Proposed Use To enclose 2 4-yard trash bins			
Project Location Back Parking lot. Far left.			
Project Name The Inn			
Owner VLC, LLC	Phone 414 254 2842		
Address 110 Cottonwood Ave.	City Hartland	State WI	Zip 53029
Engineer/Architect Chad Kemnitz	Phone 414 254 2842	FAX	
Address 133 Hill St.	City Hartland	State WI	Zip 53029
Contact Person Maddie Armistead	Phone 414 467 9156	FAX	E-mail maddie@theinnhartland.com

The Plan Commission meets on the third Monday of the Month at 6:30 PM in the Village Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue, Hartland.

The deadline for filing is a minimum of fifteen (15) working days before the meeting.

All of the requested information must be received prior to the deadline in order to be placed on the agenda. Village Plan Review Staff has been directed to delay placement on the Plan Commission Agenda based on incomplete submittals.

One (1) set of bound application materials and one (1) electronic copy of all materials must be submitted.

Applications that include site plans must depict the following existing and proposed information:

- Complete dimensions (lot, building, setbacks, parking, drives, etc.)
- Scale and north arrow
- All structures (include building elevations and height)
- Drainage and grades (include design calculations for drainage)
- Storm Water Management Plan
- Utilities and easements (sewer, water, storm etc.)
- Calculation of lot coverage
- Parking stalls (stalls to be minimum 180 s.f., driving lanes minimum 24 ft. wide and 30 ft. maximum at street right-of-way, asphalt to be minimum 3 ft. from lot lines)
- Grading and erosion control
- Landscaping, including a Tree Protection Plan
- Exterior lighting details
- Exterior HVAC equipment location
- Dumpster location (screening required)
- Street right-of-way
- Miscellaneous, 100 year floodplain, wetland boundary, environmental corridor

Additional information may be requested by the Plan Commission or Staff.

All applications for consideration by the Plan Commission are subject to the policies described in this document.

The Inn
110 Cottonwood Ave.
Hartland

Potential Trash Enclosures

Included:
Picture of actual space where enclosure will be housed.
Picture of the trash bins we will be using.
Drawing of the trash enclosure on the back parking lot plans/plot.
Picture of trash enclosure design. Wood with four corner metal posts. Swing open gate doors.
The enclosure will house two 4-yard trash bins from GLF. We expect it will be 5ft x 15ft. There is a meter on the backside of the garage there which will not be covered or disrupted.

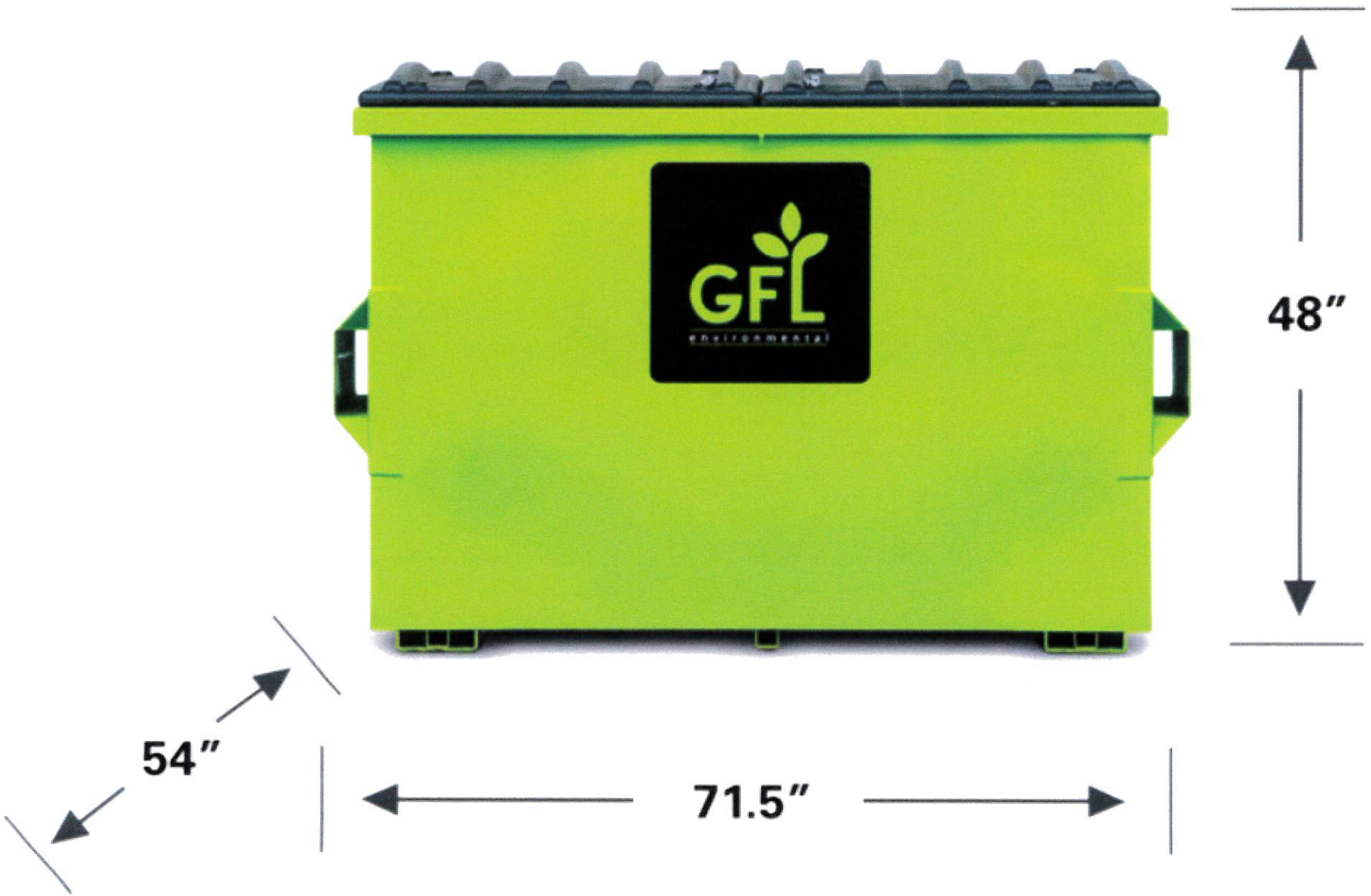
height 6ft
length 15ft
width 5ft

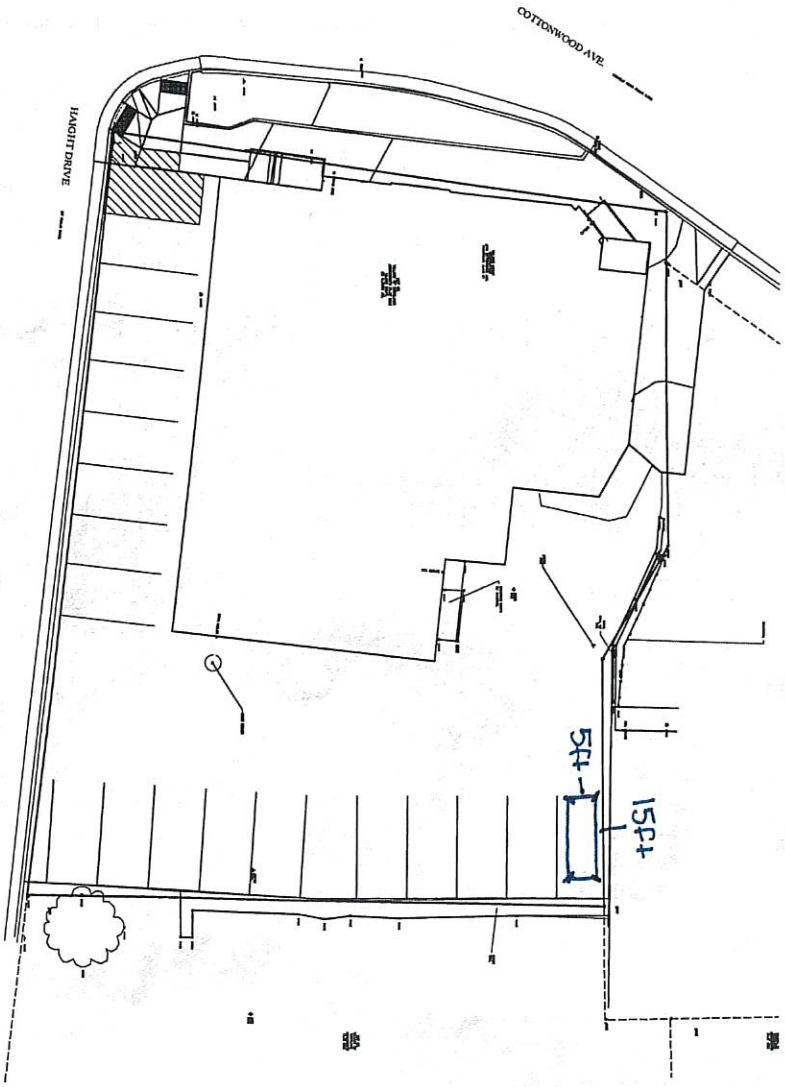
Maddie Armistead
414-467-9156
maddie@theinnhartland.com

Chad Kemnitz
414-254-2842
k@pci48.com



4 Yard Box




COTTONWOOD AVE.
HAGITT DRIVE
+15.5
+15.1



Village of Hartland

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address	544 E Capitol Dr.			
Lot	Block	Subdivision	Key No. HAV	
Owner Mike Moen		EMAIL moen1978@gmail.com	Phone 262-510-1096	
Address 163 E Capitol Dr.		City Hartland	State WI	Zip 53029
Contractor Mike Moen	Phone	FAX	EMAIL	
Address		City	State	Zip

The Architectural Board meets on the THIRD MONDAY of the Month at 6:30 p.m. in the Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue in the Village of Hartland.

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Commercial/Industrial/Multifamily:

N/A

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Signs:

- ☐ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.
- ☐ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.
- ☐ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building. One (1) set of lighting details. Include type, location, number and photometric plan.
- ☐ Submit Sign Permit Application

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Date Applied: 10/15/24 Date of Meeting: _____ Item No. _____

544 E. Capitol Dr.

What Is A Standing Seam Metal Roof?

Standing seam metal roofing has a flat area in the middle and raised vertical seams at both ends. It's a concealed fastener system, meaning that the fasteners are not visible or exposed to the weather. It's water-tight and long-lasting, but it's also an expensive panel system.

Standing seam metal roofs were first used in the late 1800s, but the history of metal roofing goes back much further.

544 E
Capitol Dr.




patch






Standing Seam
Metal Roo

V-RIBS

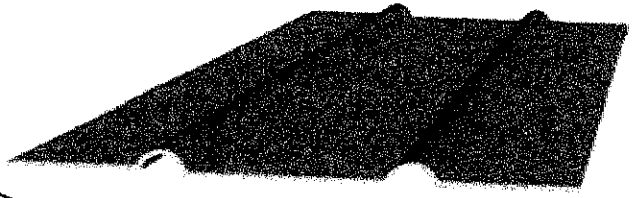


BEAD RIBS



Or

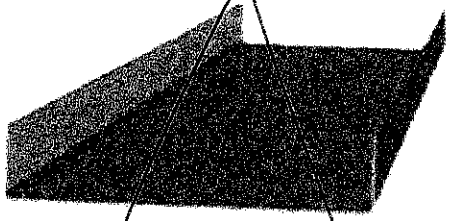
PENCIL RIBS



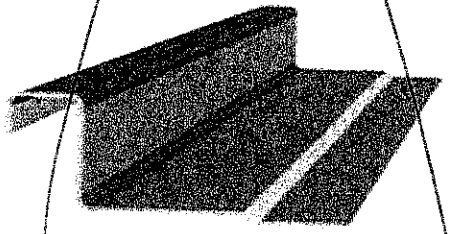
STRIATED



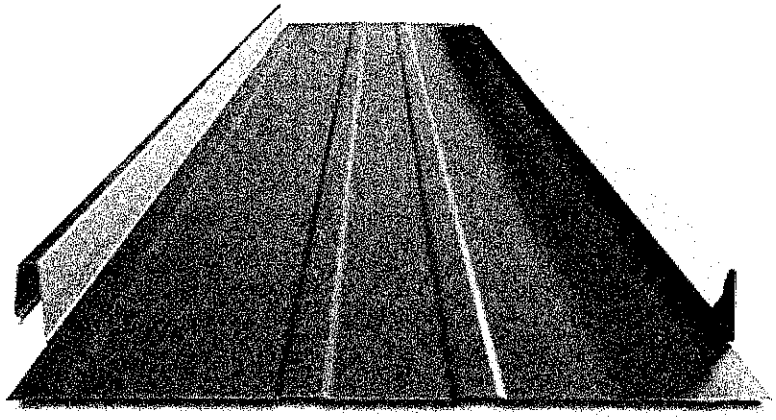
FLAT



CLIP RELIEF



Bead Ribs



Roof color

Dark Brown

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address	1500 ARLENE DR.				
Lot	Block	Subdivision		Key No. HAV	
Owner The Legend Clubs		EMAIL JOHN@THERODELLGROUP.COM		Phone 262-968-9717	
Address 1 LEGEND WAY		City WACES		State WI	Zip 53183
Contractor VJS CONSTRUCTION	Phone 262 542-9000	FAX		EMAIL KKING@VJSCS.COM	
Address W233 N2847 ROUNDY CIR.		City PEWAUKEE		State WI	Zip 53072

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- ☑ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.

Signs:

- ☐ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.
- ☐ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.
- ☐ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building. One (1) set of lighting details. Include type, location, number and photometric plan.
- ☐ Submit Sign Permit Application

NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied: 10/3/24 Date of Meeting: 10/21/24 Item No. _____

Commercial

VILLAGE OF HARTLAND WISCONSIN

APPLICATION FOR PLAN COMMISSION

258386
10/8/24
$300

☐ REVIEW FEE DUE AT TIME OF APPLICATION - $300
☐ INITIAL CONCEPTUAL REVIEW - (NO FEE)

Project Description and Narrative: (attach additional sheet if necessary) Exterior Patio addition with free-standy Pergola, NEW Handrails and Exit Stair New Exterior Doors and WINDOWS Facing PATIO EXPANSION, "PAYNE'S PATIO"			
Proposed Use EXPANSION OF EXTERIOR PATIO WITH FREE STANDING PERGOLA			
Project Location The Legend at BRISTLECONE			
Project Name The Legend at BRISTLECONE - "PAYNE'S PATIO"			
Owner The Legend clubs	Phone 262-968-9717		
Address 1 - Legend Way	City WALES	State WI	Zip 53183
Engineer/Architect GCA / RCP ASSOCIATES	Phone 414-291-0772	FAX N/A	
Address 6404 WEST NORTH AVE	City WAUWATOSA	State WI	Zip 53213
Contact Person JOHN RODELL ~~JOE GALBRAITH~~	Phone 262-391-0592 ~~414-291-~~	FAX NA	E-mail John@TheRodellGroup.com

The Plan Commission meets on the third Monday of the Month at 6:30 PM in the Village Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue, Hartland.

The deadline for filing is a minimum of fifteen (15) working days before the meeting.

All of the requested information must be received prior to the deadline in order to be placed on the agenda. Village Plan Review Staff has been directed to delay placement on the Plan Commission Agenda based on incomplete submittals.

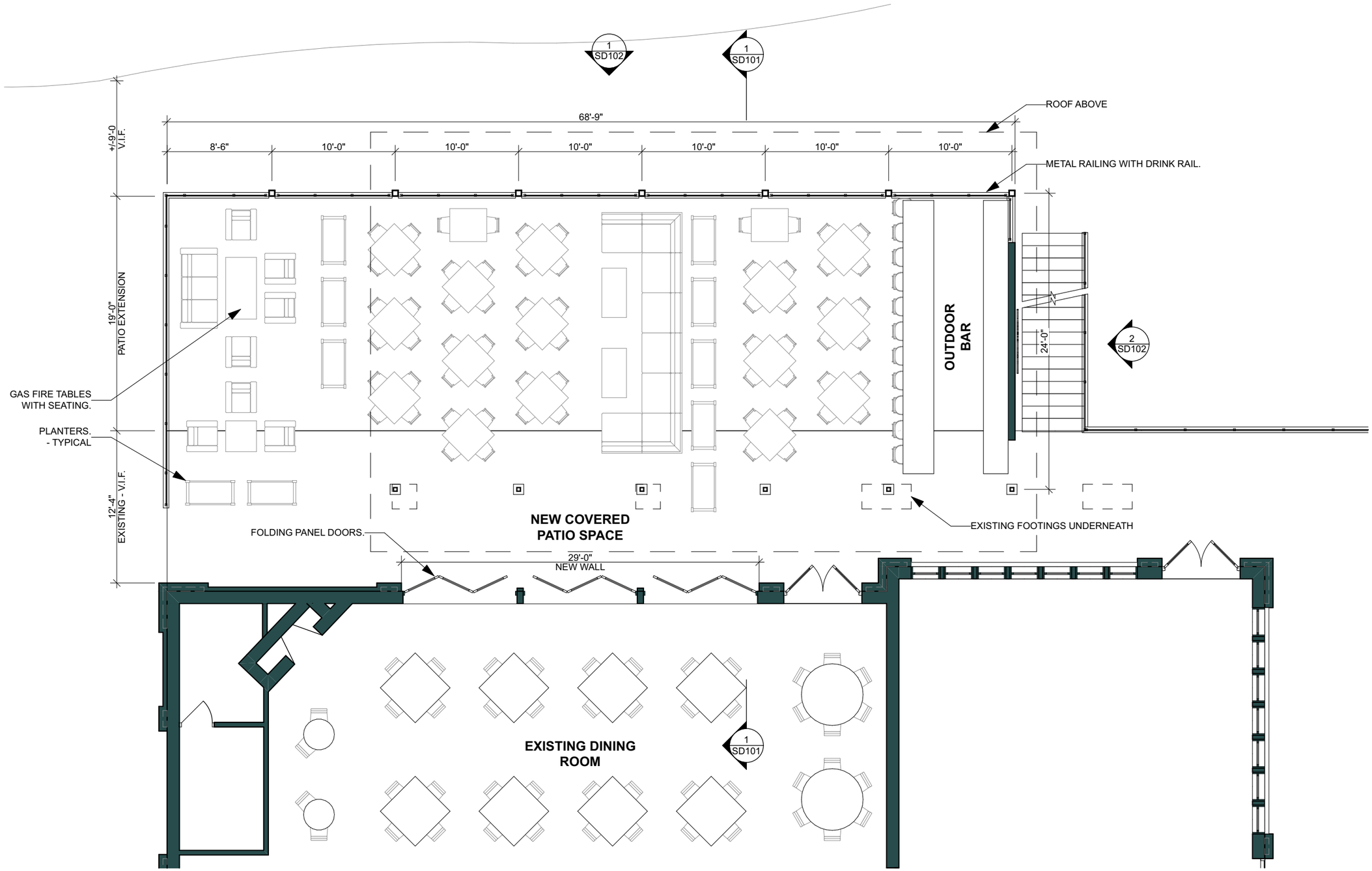
One (1) set of bound application materials and one (1) electronic copy of all materials must be submitted

Applications that include site plans must depict the following existing and proposed information:

- Complete dimensions (lot, building, setbacks, parking, drives, etc.)
- Scale and north arrow
- All structures (include building elevations and height)
- Drainage and grades (include design calculations for drainage)
- Storm Water Management Plan
- Utilities and easements (sewer, water, storm etc.)
- Calculation of lot coverage
- Parking stalls (stalls to be minimum 180 s.f., driving lanes minimum 24 ft. wide and 30 ft. maximum at street right-of-way, asphalt to be minimum 3 ft. from lot lines)
- Grading and erosion control
- Landscaping, including a Tree Protection Plan
- Exterior lighting details
- Exterior HVAC equipment location
- Dumpster location (screening required)
- Street right-of-way
- Miscellaneous, 100 year floodplain, wetland boundary, environmental corridor

Additional information may be requested by the Plan Commission or Staff.

All applications for consideration by the Plan Commission are subject to the policies described in this document.



1 SD100 FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

GALBRAITH CARNAHAN ARCHITECTS

6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

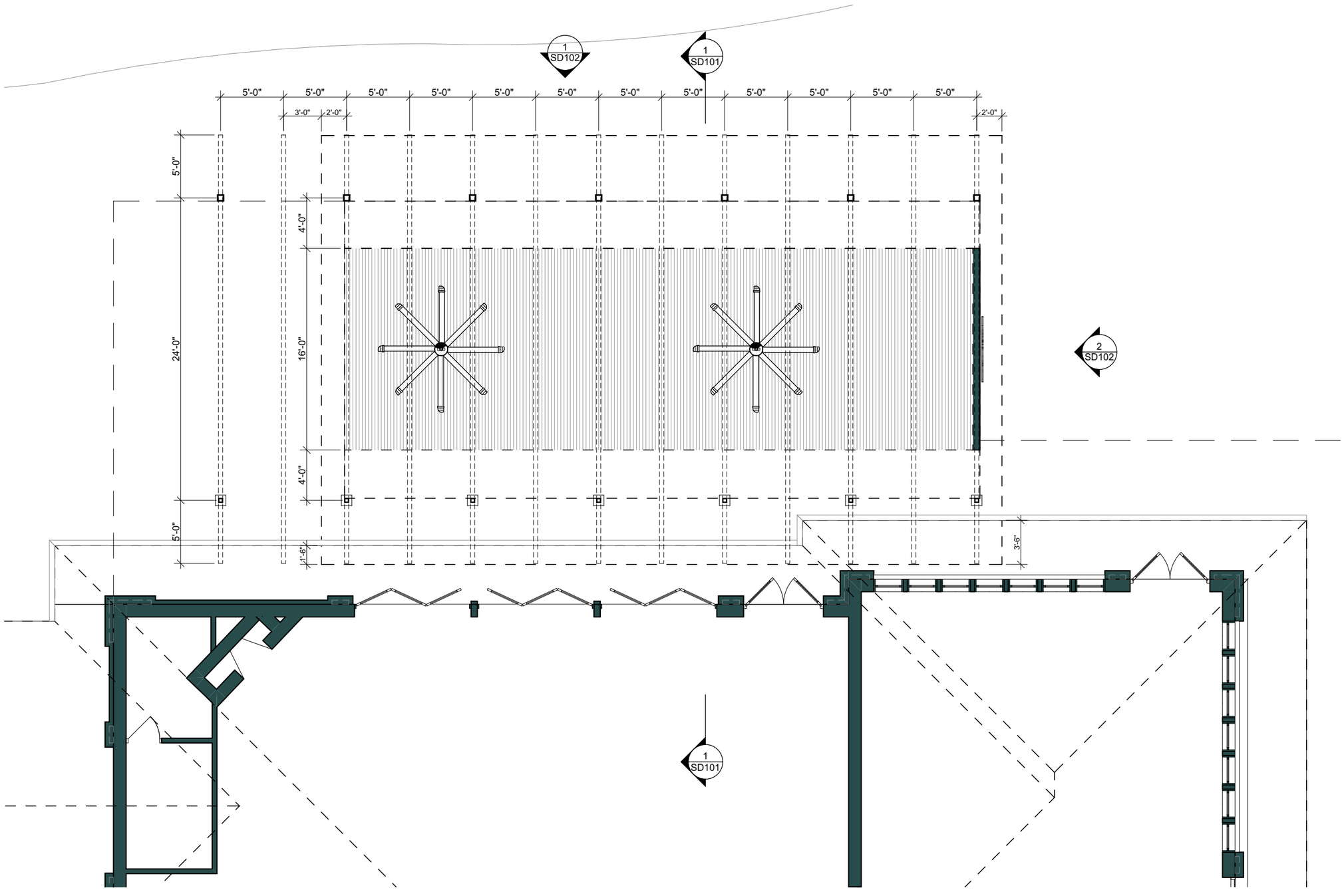
1500 ARLENE DR. HARTLAND, WI 53029

FLOOR PLAN

DATE: 10.02.2024
PROJECT #: #Project ID

SD100

GALBRAITH CARNAHAN
ARCHITECTS LLC



1 SD101

FIRST FLOOR RCP

SCALE: 1/8" = 1'-0"

GALBRAITH CARNAHAN ARCHITECTS

6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

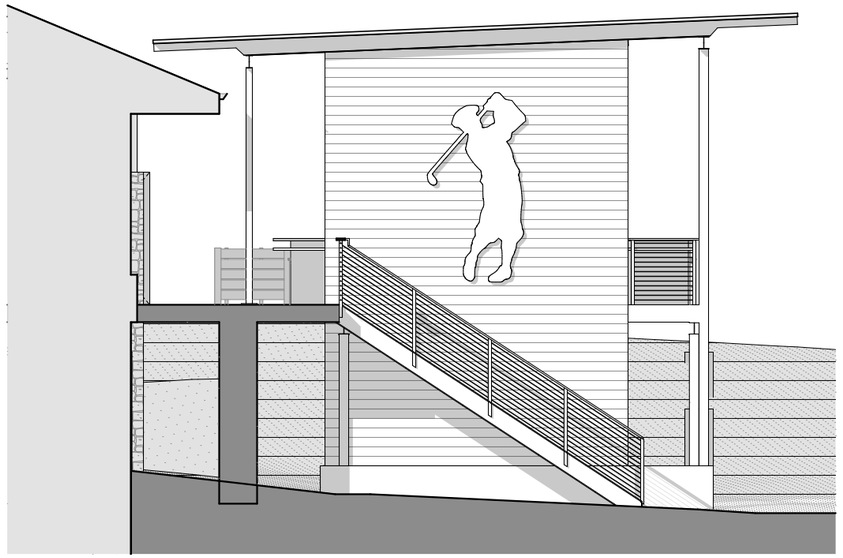
1500 ARLENE DR. HARTLAND, WI 53029

REFLECTED CEILING PLAN

DATE: 10.02.2024
PROJECT #: #Project ID

SD101

GALBRAITH CARNAHAN ARCHITECTS LLC



2 SD102

EAST ELEVATION

SCALE: 1/8" = 1'-0"



1 SD102

NORTH ELEVATION

SCALE: 1/8" = 1'-0"

GALBRAITH CARNAHAN ARCHITECTS

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Milwaukee, Wisconsin 53213
(414) 291-0772 phone
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CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

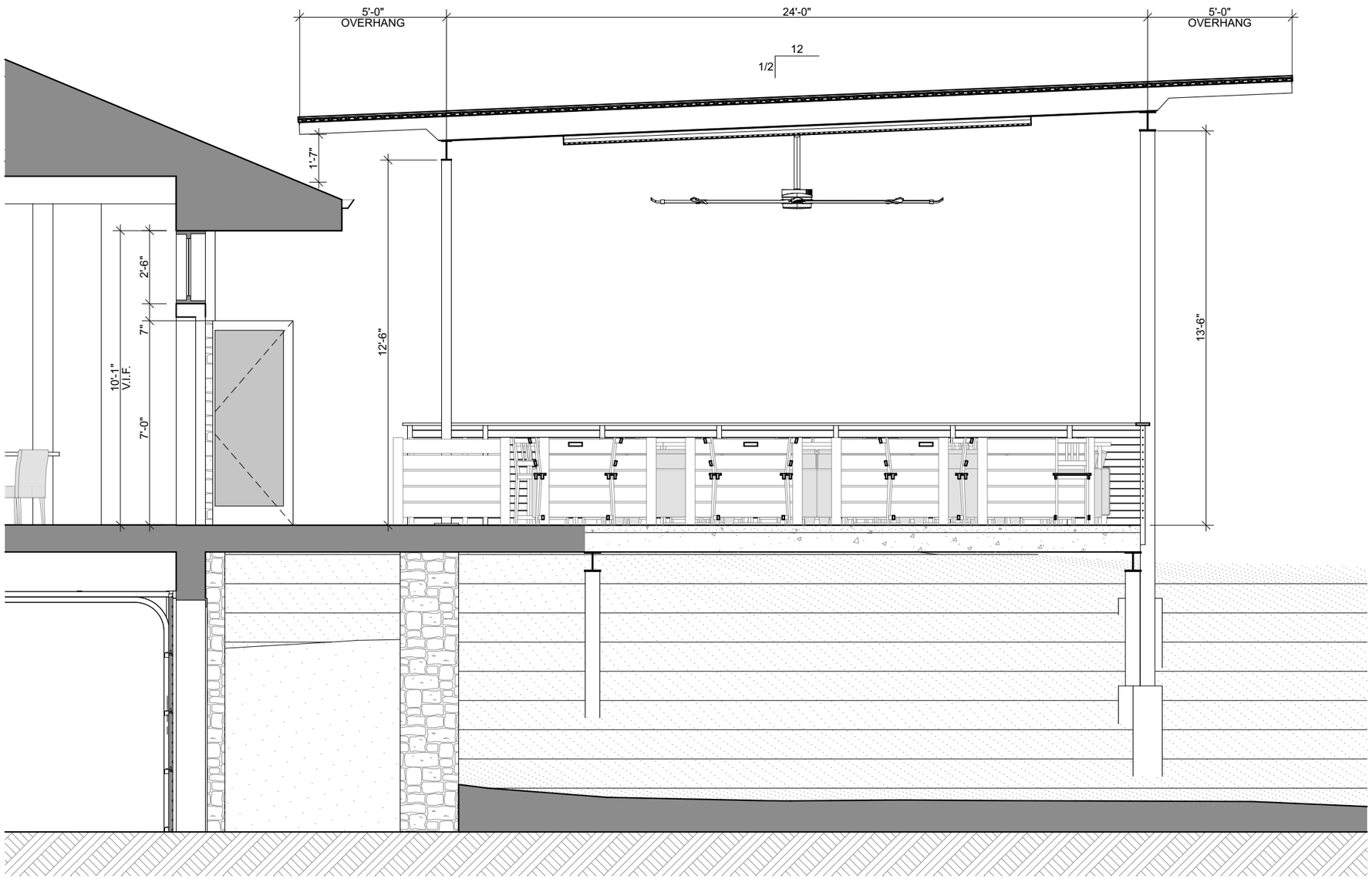
1500 ARLENE DR. HARTLAND, WI 53029

ELEVATION

DATE: 10.02.2024
PROJECT #: #Project ID

SD102

GALBRAITH CARNAHAN
ARCHITECTS LLC



GALBRAITH CARNAHAN ARCHITECTS

6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

1500 ARLENE DR. HARTLAND, WI 53029

SECTION

DATE: 10.02.2024
PROJECT #: #Project ID

SD103

GALBRAITH CARNAHAN
ARCHITECTS LLC





GALBRAITH CARNAHAN ARCHITECTS
6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO
1500 ARLENE DR. HARTLAND, WI 53029

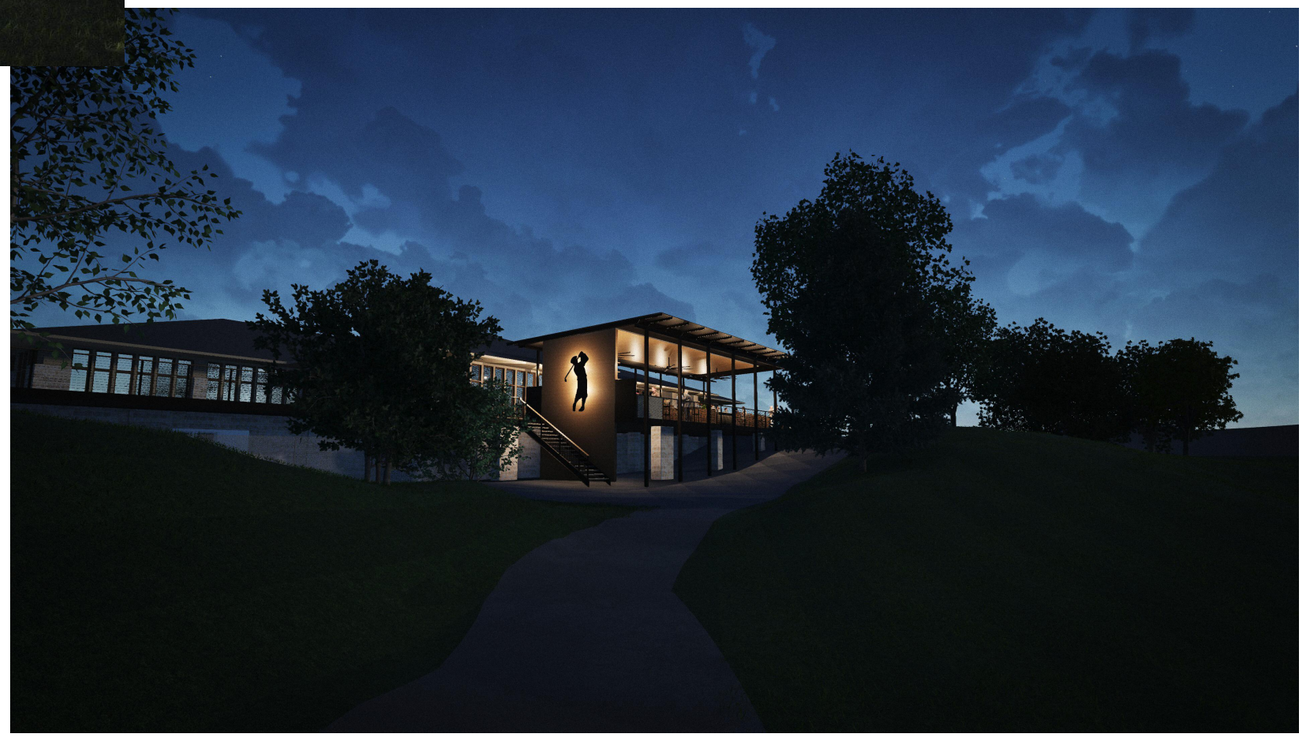
3D VIEW

DATE: 10.02.2024
PROJECT #: #Project ID

SD104

GALBRAITH CARNAHAN
ARCHITECTS LLC





GALBRAITH CARNAHAN ARCHITECTS

6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

1500 ARLENE DR. HARTLAND, WI 53029

3D VIEW

DATE: 10.02.2024
PROJECT #: #Project ID

SD105

GALBRAITH CARNAHAN ARCHITECTS LLC





GALBRAITH CARNAHAN ARCHITECTS

6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

1500 ARLENE DR. HARTLAND, WI 53029

3D VIEW

DATE: 10.02.2024
PROJECT #: #Project ID

SD106

GALBRAITH CARNAHAN
ARCHITECTS LLC





GALBRAITH CARNAHAN ARCHITECTS

6404 West North Avenue
Milwaukee, Wisconsin 53213
(414) 291-0772 phone
www.galbraithcarnahan.com

CONSTRUCTION MANAGER
TRG
The Rodell Group, LLC

PAYNE'S PATIO

1500 ARLENE DR. HARTLAND, WI 53029

3D VIEW

DATE: 10.02.2024
PROJECT #: #Project ID

SD107

GALBRAITH CARNAHAN
ARCHITECTS LLC

JOSEPH F MODL
502 N PONDEROSA DR
HARTLAND, WI 53029-8642

NICHOLAS & ALLISON BEHRENS
804 N PONDERSOA DR
HARTLAND, WI 53029-8638

JAMES & LAUREN MUELLER
905 N EVERGREEN CIR
HARTLAND, WI 53029-8636

MARC TREMBLAY & KAILA REDIFER
917 N EVERGREEN CIR
HARTLAND, WI 53029-8636

FREDERICK & AMY MEIER
500 N PONDEROSA DR
HARTLAND, WI 53029-8642

DAVID & KARYN ROELKE
907 N EVERGREEN CIR
HARTLAND, WI 53029-8636

THE LEGEND AT BRISTLECONE PINES LLC
1 LEGEND WAY
WALES, WI 53183

SHERRY & RANDALL KOHN
510 N PONDEROSA DR
HARTLAND, WI 53029-8642

TYSON & LORI WEBBER 2014 LIVING TRUST
505 N THORNBUSH CIR
HARTLAND, WI 53029-8649

VICTORIA I NIELSEN
514 N PONDEROSA DR
HARTLAND, WI 53029-8642

SCOTT SMITH
1201 E PINEVIEW CT
HARTLAND, WI 53029-8686

ROBERT & KATHLEEN KARIUS
915 N EVERGREEN CIR
HARTLAND, WI 53029-8636

PATRICK & TONYA STANLY
913 N EVERGREEN CIR
HARTLAND, WI 53029-8636

EVAN & BETHANY WIESNER
919 N EVERGREEN CIR
HARTLAND, WI 53029-8636

TIMOTHY & PATRICIA FREDMAN
508 N PONDEROSA DR UNIT 4
HARTLAND, WI 53029-8642

TODD & NANCY RODEE
501 N THORNBUSH CIR
HARTLAND, WI 53029-8649

FRED & MEGHAN KINATEDER
403 N THORNBUSH CIR
HARTLAND, WI 53029-8644

TODD & GURLYS BARDEN
904 N PONDEROSA DR
HARTLAND, WI 53029

THE EDWARD AND SUZANNE ALLEN REVOCABLE TRUST
503 N THORNBUSH CIR
HARTLAND, WI 53029-8649

GOVARDHAN & MALATHI KATTA
900 N PONDEROSA DR
HARTLAND, WI 53029-8643

JAMES H LAHR & JOYCE J LAHR LIVING TRUST
1203 E PINEVIEW CT
HARTLAND, WI 53029-8686

LORI A KASS
512 N PONDEROSA DR
HARTLAND, WI 53029-8642

AARON & DANA BOETTCHER
401 N THORNBUSH CIR
HARTLAND, WI 53029-8644

ROBERT & CECILIA JOHNSON
909 N EVERGREEN CIR
HARTLAND, WI 53029

JOSEPH & APRIL HOFFMAN
601 N THORNBUSH CIR
HARTLAND, WI 53029-8648

JAMIE EDWARDS & ELIZABETH BAGBY
1601 CEDAR BEND
HARTLAND, WI 53029

APPLICATION FOR PLAN COMMISSION

☑ **REVIEW FEE DUE AT TIME OF APPLICATION - $300**

☐ **INITIAL CONCEPTUAL REVIEW - (NO FEE)**

Project Description and Narrative: (attach additional sheet if necessary)

Storage/Shipping and receiving of precision workholding vices/clamps with a modest accessory office program for inside sales and warehouse personnel.

Proposed Use Warehouse and Office			
Project Location 1025 WALNUT RIDGE DR., HARTLAND, WI 53029			
Project Name LANG TECHNIK - USA NEW FACILITY			
Owner VLC llc	Phone 262-367-6080		
Address 4141 108th St	City Greenfield	State WI	Zip 53228
Engineer/Architect Daniel Ayala	Phone 262-617-4793	FAX	
Address W376 S5190 E. Pretty Lake Rd	City Dousman	State WI	Zip 53118
Contact Person Daniel Ayala	Phone 414-567-6677	FAX	E-mail daniela@oliverconstruction.com

The Plan Commission meets on the third Monday of the Month at 6:30 PM in the Village Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue, Hartland.

The deadline for filing is a minimum of fifteen (15) working days before the meeting.

All of the requested information must be received prior to the deadline in order to be placed on the agenda. Village Plan Review Staff has been directed to delay placement on the Plan Commission Agenda based on incomplete submittals.

One (1) set of bound application materials and one (1) electronic copy of all materials must be submitted.

Applications that include site plans must depict the following existing and proposed information:

- Complete dimensions (lot, building, setbacks, parking, drives, etc.)
- Scale and north arrow
- All structures (include building elevations and height)
- Drainage and grades (include design calculations for drainage)
- Storm Water Management Plan
- Utilities and easements (sewer, water, storm etc.)
- Calculation of lot coverage
- Parking stalls (stalls to be minimum 180 s.f., driving lanes minimum 24 ft. wide and 30 ft. maximum at street right-of-way, asphalt to be minimum 3 ft. from lot lines)
- Grading and erosion control
- Landscaping, including a Tree Protection Plan
- Exterior lighting details
- Exterior HVAC equipment location
- Dumpster location (screening required)
- Street right-of-way
- Miscellaneous, 100 year floodplain, wetland boundary, environmental corridor

Additional information may be requested by the Plan Commission or Staff.

All applications for consideration by the Plan Commission are subject to the policies described in this document.

DEPARTMENT OF BUILDING INSPECTION
APPLICATION FOR ARCHITECTURAL BOARD

Job Address 1025 Walnut Ridge Dr, Hartland, WI 53029					
Lot 47	Block	Subdivision		Key No. HAV 0729097	
Owner VLC llc		EMAIL K@pci48.com		Phone 262-367-6080	
Address 4141 108th St		City Greenfield		State WI	Zip 53228
Contractor Green Hills Metal Werks	Phone 262-617-4793	FAX		EMAIL Jake@greenhillsmetal.com	
Address W376 S5190 E. Pretty Lake Rd		City Dousman		State WI	Zip 53118

The Architectural Board meets on the THIRD MONDAY of the Month at 6:30 p.m. in the Board Room of the Hartland Municipal Building located at 210 Cottonwood Avenue in the Village of Hartland.

The DEADLINE for filing is FIFTEEN WORKING DAYS PRIOR TO THE MEETING DATE at 4:30 p.m. All of the following information must be received prior to the deadline in order to be placed on the agenda.

All applications for consideration by the Architectural Board are subject to the policies described in this document.

Commercial/Industrial/Multifamily:

- ☐ One (1) bound set of plans and application material and one (1) electronic copy of all submittals.
- ☐ Elevations must show all sides of the structure and state the building materials and colors. Additions must be shown with the existing building.

Signs:

- ☑ One (1) color rendering of the requested sign(s) and one (1) electronic copy of all submittals. Include colors and material type. Renderings are to be dimensioned and must show placement on building and height.
- ☑ Details (color picture) of all existing wall signs on the same building elevation. A photograph of the building with sign location shown is recommended.
- ☑ One (1) site plan with dimensions. Not required for wall signs or other signs attached to the building.
  One (1) set of lighting details. Include type, location, number and photometric plan.
- ☑ Submit Sign Permit Application

NOTE: Approval by the Architectural Board is not permission to begin construction; a building permit must first be obtained.

Date Applied:_____ Date of Meeting: _____ Item No. _____

DEPARTMENT OF BUILDING INSPECTION **PERMIT #_____**
APPLICATION FOR SIGN PERMIT

JOB LOCATION 1025 Walnut Ridge Dr, Hartland, WI 53029 TAX KEY # 0758999039
OWNER Lang Technik - USA PHONE 262- 446-9850
ADDRESS 1020 JAMES DR., SUITE I CITY Hartland STATE WI ZIP 53029
CONTRACTOR Oliver Construction Co. PHONE 262-567-6677
ADDRESS 1770 EXECUTIVE DRIVE CITY Oconomowoc STATE WI ZIP 53066

SIGN TYPE: ☒ WALL ❒ PROJECTING ❒ AWNING, CANOPY ☒ GROUND

❒ PORTABLE/TRAINING ❒ REAL ESTATE PERM. ❒ REAL ESTATE TEMP.

WORDS AS THEY WILL APPEAR ON THE SIGN:
WALL = LANG TECHNIK - USA
GROUND = LANG TECHNIK - USA

OVERALL DIMENSIONS OF SIGN GROUND = 11'-0"W X 5'-0"H / WALL = 18'-3 3/4"W X 6'-3"H COLOR OF BACKGROUND WHITE
SIZE OF LETTERS IN INCHES GROUND = 19.5" AND 7.5" / WALL = 43" AND 16.5" COLOR OF LETTERS GROUND = BLUE AND GRAY / WALL = BLUE AND GRAY

CONSTRUCTION MATERIALS OF SIGN BACKGROUND (i.e. WOOD, ALUM, ETC.)
ALUMINUM AND VINYL

ILLUMINATED? ❒ YES ❒ NO ❒ INTERNALLY ☒ EXTERNALLY

SIGN PLANS MUST BE APPROVED BY ARCHITECTURAL BOARD PRIOR TO PERMIT BEING APPROVED (SEE ARCHITECTURAL BOARD APPLICATION)

ESTIMATED COST OF ABOVE SIGN $ 20,000.00

TO THE BUILDING INSPECTOR: THE UNDERSIGNED HEREBY APPLIES FOR A PERMIT TO DO WORK HEREIN DESCRIBED ACCORDING TO THE PLANS AND SPECIFICATIONS FILED HEREWITH AND LOCATED AS SHOWN ON THIS APPLICATION. THE UNDERSIGNED AGREES THAT SUCH WORK WILL BE DONE IN ACCORDANCE WITH THE SAID DESCRIPTION, PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ZONING ORDINANCE AND ALL OTHER ORDINANCES OF THE VILLAGE OF HARTLAND AND WITH ALL THE LAWS AND ORDERS OF THE STATE OF WISCONSIN APPLICABLE TO SAID PREMISES.

APPLICANT DANIEL AYALA DATE 09/25/2024

PLANS APPROVED: ARCHITECTURAL BOARD _____

APPLICATION APPROVED: BUILDING INSPECTOR _____ DATE _____

Lang Technovation Co., 1020 James Dr., Suite I, Hartland, WI 53029 - USA

Summary of LANG Technovation

General Operations

1) Location in Hartland, the main headquarters for US operations – Headquarters serves as base for Sales and Support of LANG Workholding and automation for United States.
2) Storage/Shipping and receiving of precision Workholding vices/clamps with a modest accessory office program for inside sales and warehouse personnel.
3) Hartland also modifies products to meet customer requirements on as-needed basis. (No production)
4) Anticipating 1-2 semi-truck shipments per week of items imported from parent company in Germany

Business Operations

Hours of Operation – Monday-Friday, 8:00am to 5:00pm

Personnel (Full Capacity – 10-year plan)

- 10 office personnel
- 1-2 of facilities/shipping or technical staff
- 2 warehouse personnel
- 3-6 additional outside sales

Showroom for vendor/clientele (20-25 visitors)

- Utilized for display of product portfolio
- Training and education of customer on products and offerings
- Demonstration of automation system and application









THIS DOCUMENT AND THE INFORMATION HEREWITH IS THE EXCLUSIVE PROPERTY OF OLIVER CONSTRUCTION COMPANY. UNAUTHORIZED USE WILL BE PROSECUTED UNDER SECTION 943.205 OF THE WISCONSIN STATUTES AND IF CONVICTED, THE VIOLATOR SHALL BE SUBJECT TO A FINE NOT TO EXCEED $10,000.00 AND/OR IMPRISONMENT NOT TO EXCEED TWO YEARS

PROJECT INFORMATION

PROJECT NO.	: D945.24
DATE	: 09/25/2024
DRAWN BY	: DCA
SHEET TITLE	: RENDERINGS

REVISIONS

PROJECT INFORMATION:

OWNER: **LANG TECHNIK - USA**

TITLE: **NEW FACILITY**

ADDRESS: **1025 WALNUT RIDGE DR., HARTLAND, WI 53029**

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.

PR301

Lang Technik – New Facility
PARKING CONSIDERATIONS NARRATIVE
DATE: 10/16/2024
PROJECT ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029
ADDRESSED TO: Village of Hartland

PARKING CONSIDERATIONS NARRATIVE

Requirements:
Warehouse - 1 parking space for 2 employees
Office – 1 parking space for every 500 sqft

Total of 4 warehouse personnel = 2 parking spaces
*8,500 sqft of area specifically for office use (8,500 sqft / 500) = 17 parking spaces
Total Parking Spaces = 19

** Area that supports the warehouse function or is /incidental/accessory to the function of the warehouse was excluded from the office square footage.*

Specific owner/operator parking considerations:
The primary function of the facility is a warehouse where the owner operator's current projections of future growth consider a maximum of 20 employees. 6 of the 20 employees function as outside sales and have limited in-office tasks.

Considerations for additional parking:
Additional area has been defined for future parking spaces, if such a need is required for the current or future property owners. The additional parking illustrated is only intended to provide a general area; specific parking counts shall be validated in the future and approved per the Village of Hartland.

Daniel Ayala, D.Arch, AIA, NCARB
Architect
daniela@oliverconstruction.com
1770 Executive Drive | Oconomowoc, WI 53066
(262) 567-6677 | www.oliverconstruction.com

Lang Technik – New Facility
Table of Contents R1
DATE: 10/16/2024
PROJECT ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029
ADDRESSED TO: Village of Hartland

(RED INDICATES REVISED OR ADDED DOCUMENTATION PER VILLAGE REQUEST)

SUBMISSION SCOPE

1) PLAN COMMISSION
2) ARCHITECTURAL REVIEW
3) SIGNAGE PERMIT

DOCUMENTS

1) D945.24 Lang Technik – TOC
2) D945.24_OWNER OPERATIONS SUMMARY
3) Lang Tech Stormwater Report - 179532-Preliminary

DRAWINGS

T000 TITLE SHEET
G001 GENERAL INFORMATION
G003 LIFE SAFETY
A002 PARTITION TYPES
A004 ARCHITECTURAL SITE PLAN **(GROUND SIGN)**
A200 OVERALL FLOOR PLAN - 1ST LEVEL
A210 PARTIAL PLAN LEVEL 01 - AREA 'A'
A211 PARTIAL PLAN LEVEL 01 - AREA 'B'
A212 PARTIAL PLAN LEVEL 01 - AREA 'C'
A213 PARTIAL PLAN LEVEL 01 - AREA 'D'
A230 RCP - LEVEL 01
A240 ROOF PLAN
A301 EXTERIOR ELEVATIONS ARCHITECTURAL **(BUILDING SIGN)**
A400 BUILDING SECTIONS
A410 WALL SECTIONS
A411 WALL SECTIONS
A500 EXTERIOR DETAILS
A510 INTERIOR DETAILS
A520 INTERIOR DETAILS
A603 STAIR AND RAMP DETAILS
A604 WINDOW AND DOOR DETAILS
A801 ROOM FINISH SCHEDULE
A810 DOORS/OPENINGS/EQUIPMENT SCHEDULES
A820 WINDOW TYPES
A901 SPECIFICATIONS
A902 SPECIFICATIONS
A903 SPECIFICATIONS
A904 SPECIFICATIONS
A905 SPECIFICATIONS
A906 SPECIFICATIONS
A907 SPECIFICATIONS
A908 SPECIFICATIONS
A909 SPECIFICATIONS
A910 SPECIFICATIONS
C100 CIVIL SITE PLAN
C101 UTILITY PLAN
C102 GRADING PLAN
C103 BASIN DETAIL
C104 EROSION CONTROL PLAN
C105 DETAILS
C106 EROSION CONTROLS DETAILS
C107 TRUCK TURN
L100 LANSCAPE PLAN
L200 LANDSCAPE DETAILS

SUPPLEMENTAL EXHIBITS

1) D945.24_PR301_RENDERINGS_09-25-2024
2) Lang Technik E0P PHOTOMETRIC
3) D945.24_OWNER OPERATIONS SUMMARY
4) D945.24 Lang Technik – Narrative
5) HydroCAD Report-Frozen Ground
6) SWMA OLICO LANG TECHNIK

RESPONSE/REVISION SUMMARY

1) Lot Coverage
    a. See sheet C100 for lot coverage summary
2) Parking
    a. See exhibit, **D945.24 Lang Technik – Narrative**, for parking considerations and parking narrative.
    b. See sheet C100 or A004 for parking space dimensions
    c. See sheet C100 or A004 for future parking area

3) Parapet and roof top equipment
    a. See A240 for final roof top equipment locations
    b. See A301 for nominal parapet dimensions and roof top equipment relationship to parapet.
        i. Roof top equipment designed to be completely concealed on the east dimension.
4) Site lighting
    a. See **Lang Technik E0P PHOTOMETRIC** for revised site lighting photometric plan and pole heights.
        i. Footcandles do not exceed ½ foot candles at the property line
    b. See exhibit, Lang Technik SITE LIGHTING CUTS, for all site lighting products
5) Site plan
    a. See sheet C100 for revised water service size of 6”
    b. See sheet C101 for added cut-in tee and 6”shut off valve 1 foot inside right of way.
    c. See sheet C101 for added note related to slurry backfill for utilities within 5-feet of roadway.
    d. See sheet C101 for added sewer sampling manhole.
    e. See sheet C105 to validate removal of vertical sewer lateral riser.
    f. See sheet C101 for added scope and notes for full road width patch, perpendicular to curbs on both sides. (6-inches of pavement, 2 lifts)
6) Stormwater
    a. See exhibit, **HydroCAD Report-Frozen Ground** for frozen/failed condition of both infiltration basins, showing hydraulic elevation of resulting water, and overflow routes.
    b. See exhibit, **SWMA OLICO LANG TECHNIK** for stormwater maintenance agreement, per Village standard.

Daniel Ayala, D.Arch, AIA, NCARB
Architect
daniela@oliverconstruction.com
1770 Executive Drive | Oconomowoc, WI 53066
(262) 567-6677 | www.oliverconstruction.com

OLIVER CONSTRUCTION CO.

PROJECT TEAM

OWNER:
LANG TECHNIK, USA
1020 JAMES DR., SUITE I,
HARTLAND, WI 53029
PHONE: (262) 446-9850
CONTACT: JON DOBOSENSKI

CIVIL ENGINEER
SHORT ELLIOTT HENDRICKSON INC
501 MAPLE AVE, DELAFIELD, WI 53018
PHONE: (414) 949-8947
CONTACT: MARK MICKELSON

ARCHITECT:
OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
CONTACT: DANIEL AYALA, AIA, NCARB

WISCONSIN
DANIEL C. AYALA
12263-5
OCONOMOWOC, WI
ARCHITECT
10/16/24

ELECTRICAL ENGINEER:
TBD - DESIGN/BUILD

STRUCTURAL ENGINEER:
OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
CONTACT: TODD WEBER, PE

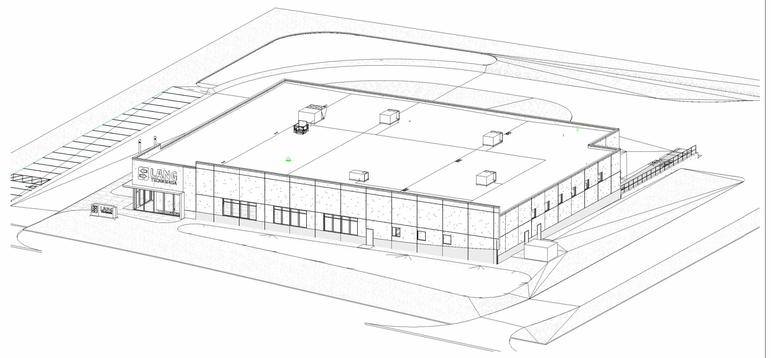
MECHANICAL ENGINEER:
TBD - DESIGN/BUILD

GENERAL CONTRACTOR:
OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
CONTACT: CONOR FARLEY

PLUMBING ENGINEER:
TBD - DESIGN/BUILD

LANG TECHNIK - USA
NEW FACILITY
1025 WALNUT RIDGE DR., HARTLAND, WI 53029

PROJECT CONCEPT



VICINITY MAP



VICINITY MAP
NO SCALE

1

GENERAL

GENERAL

SHEET NO.	SHEET NAME	CURRENT REVISION NUMBER	CURRENT REVISION ISSUE DATE
G001	GENERAL INFORMATION		
G003	LIFE SAFETY	1	10/16/2024

CIVIL

CIVIL

SHEET NO.	SHEET NAME	CURRENT REVISION NUMBER	CURRENT REVISION ISSUE DATE
C100	CIVIL SITE PLAN	1	10/16/2024
C101	UTILITY PLAN	1	10/16/2024
C102	GRADING PLAN		
C103	BASIN DETAIL		
C104	EROSION CONTROL PLAN		
C105	DETAILS	1	10/16/2024
C106	EROSION CONTROLS DETAILS		
C107	TRUCK TURN		

LANDSCAPE

LANDSCAPE

SHEET NO.	SHEET NAME	CURRENT REVISION NUMBER	CURRENT REVISION ISSUE DATE
L100	LANSCAPE PLAN		
L200	LANDSCAPE DETAILS		

STRUCTURAL

STRUCTURAL

SHEET NO.	SHEET NAME	CURRENT REVISION NUMBER	CURRENT REVISION ISSUE DATE
S000	STRUCTURAL ABBREVIATIONS AND DESIGN CRITERIA		
S001	STRUCTURAL SCHEDULES		
S002	STRUCTURAL SPECIFICATIONS		
S200	FOUNDATION PLAN	1	10/16/2024
S202	ENTRANCE CANOPY FRAMING PLAN AND DETAILS		
S240	ROOF FRAMING PLAN		
S800	FOUNDATION DETAILS		
S801	FOUNDATION DETAILS		
S802	FOUNDATION DETAILS		
S902	STRUCTURAL FRAMING DETAILS		
S903	STRUCTURAL FRAMING DETAILS	1	10/16/2024

ARCHITECTURAL

ARCHITECTURAL

SHEET NO.	SHEET NAME	CURRENT REVISION NUMBER	CURRENT REVISION ISSUE DATE
A002	PARTITION TYPES		
A004	ARCHITECTURAL SITE PLAN	1	10/16/2024
A200	OVERALL FLOOR PLAN - 1ST LEVEL		
A210	PARTIAL PLAN LEVEL 01 - AREA 'A'		
A211	PARTIAL PLAN LEVEL 01 - AREA 'B'		
A212	PARTIAL PLAN LEVEL 01 - AREA 'C'		
A213	PARTIAL PLAN LEVEL 01 - AREA 'D'		
A230	RCP - LEVEL 01	1	10/16/2024
A240	ROOF PLAN	1	10/16/2024
A301	EXTERIOR ELEVATIONS	1	10/16/2024
A400	BUILDING SECTIONS		
A410	WALL SECTIONS		
A411	WALL SECTIONS	1	10/16/2024
A500	EXTERIOR DETAILS		
A510	INTERIOR DETAILS, ELEVATIONS AND SECTIONS		
A520	INTERIOR DETAILS, ELEVATIONS AND SECTIONS		
A603	STAIR AND RAMP DETAILS		
A604	WINDOW AND DOOR DETAILS		
A801	ROOM FINISH SCHEDULE	1	10/16/2024
A810	DOORS/OPENINGS/EQUIPMENT SCHEDULES		
A820	WINDOW TYPES		
A901	SPECIFICATIONS		
A902	SPECIFICATIONS		
A903	SPECIFICATIONS		
A904	SPECIFICATIONS		
A905	SPECIFICATIONS		
A906	SPECIFICATIONS		
A907	SPECIFICATIONS	1	10/16/2024
A908	SPECIFICATIONS		
A909	SPECIFICATIONS		
A910	SPECIFICATIONS		

REVISIONS
1 10/16/2024 REVISION 1

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : TITLE SHEET

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676
OLIVER CONSTRUCTION CO.

SHEET NO.
T000

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DRAWING SYMBOLS KEY

- XXX / X — EXTERIOR ELEVATION REFERENCE. REFER TO SHEET NUMBER INDICATED INSIDE OF SYMBOL
- XXX / X — INTERIOR ELEVATION REFERENCE. REFER TO SHEET NUMBER INDICATED INSIDE OF SYMBOL
- X / XXX / SIM — DETAIL REFERENCE. REFER TO SHEET NUMBER INDICATED IN BOTTOM OF SYMBOL
- X / XXX / SIM — SECTION REFERENCE. REFER TO SHEET NUMBER INDICATED IN BOTTOM OF SYMBOL
- ROOM NAME / 2000 — ROOM NAME/NUMBER REFERENCE. REFER TO ROOM FINISH SCHEDULE
- XX — DOOR REFERENCE. REFER TO DOOR SCHEDULE
- X / X — INTERIOR PARTITION TYPE REFERENCE. REFER TO INTERIOR PARTITION TYPES
- ELEVATION REFERENCE
- X — COLUMN GRID REFERENCE
- X — NEW WORK KEY NOTE REFERENCE. REFER TO NEW WORK KEY NOTES
- X — DEMOLITION KEY NOTE REFERENCE. REFER TO DEMOLITION KEY NOTES
- X — EXTERIOR ELEVATION KEY NOTE REFERENCE. REFER TO EXTERIOR ELEVATION KEY NOTES
- X — WINDOW TYPE REFERENCE. REFER TO WINDOW TYPE ELEVATIONS
- X — SPECIALTY EQUIPMENT TAG
- X — REVISION REFERENCE. REFER TO TITLE BLOCK
- X' - XX" / XXX — CEILING HEIGHT REFERENCE

ABBREVIATION KEY:

AB	AIR BARRIER
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJACENT
A.F.F.	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
AP	ACCESS PANEL
AWP	ACOUSTICAL WALL PANEL
BL	BORROWED LIGHT
BLKG	BLOCKING
BLKHD	BULK HEAD
B.O.	BOTTOM OF
BRG	BEARING
BRZ	BRONZE
CH	COAT HOOK
CHKBD	CHALKBOARD
CJ	CONTROL/CONSTRUCTION JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEARANCE / CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CAST-IN-PLACE CONCRETE
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR
CPT	CARPET
CRK	CORK
CS	COPING SYSTEM
CT	CERAMIC TILE
CTB	CERMIC TILE BASE
CW	CURTAIN WALL SYSTEM
DCS	DIAPER CHANGING STATION
DIM	DIMENSION
DL	DEAD LOAD
DR	DOOR
DS	DOWN SPOUT
DWG	DRAWING
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
ERF	EPOXY RESINOUS FLOORING
ESS	EXTERIOR SOFFIT SYSTEM
EST	ESTIMATE
EWS	EXTERIOR WALL SYSTEM
EXJ	EXPANSION JOINT
EXP	EXPOSED CONSTRUCTION
EXTG	EXISTING
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEP	FINISHED END PANEL
FF	FINISHED FLOOR
FL MAT	FLOOR MAT AND FRAME
FLR	FLOOR
FR	FRAME
FRP	FIBERGLASS REINFORCED POLYESTER
FSTOP	FIRESTOPPING
FTG	FOOTING
FWS	FOUNDATION WALL SYSTEM
GALV	GALVANIZED
GB	GRAB BAR
GFI	GROUND FAULT INTERRUPTER
GFRC	GLASS FIBER REINFORCED CONCRETE
GL	GLASS, GLAZING
GMU	GLASS MASONRY UNIT
G	GROUT
GROM	GROMMET
GT	GLASS TILE
GWB	GYPSUM WALL BOARD
HB	HOSE BIBB
HD	ELECTRIC HAND DRYER
HM	HOLLOW METAL DOORS AND FRAMES
HP	HIGH POINT
HPC	HIGH PERFORMANCE COATINGS
HR	HOUR
IAW	INTERIOR ARCHITECTURAL WOODWORK
INSUL	INSULATION
IWP	IMPACT WALL PROTECTION
JAN	JANITOR
JNT	JOINT
JST	JOIST
LF	LINEAR FOOT
LL	LIVE LOAD
LMC	LINEAR METAL CEILING
LP	LOW POINT
LVR	LOUVER
LWC	LINEAR WOOD CEILING
MAS	MASONRY
MAT	MATERIAL
MB	MOISTURE BARRIER
MECH	MECHANICAL
MEP	MECHANICAL / ELECTRICAL / PLUMBING
MET	METAL
MIR	MIRROR
MKBD	MARKER BOARD
MO	MASONRY OPENING
MP	MANUFACTURED METAL PANEL
MPC	METAL PAN CEILING
MR	MOISTURE RESISTANT
MTD	MOUNTED
NTS	NOT TO SCALE
OC	ON CENTER
OCD	OVERHEAD COILING DOOR
OCG	OVERHEAD COILING GRILLE
OFD	OVERHEAD FABRIC DOOR
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
PC	PRECAST CONCRETE
PLAM	PLASTIC LAMINATE
PPT	PRESSURE TREATED WOOD
PREFIN	PREFINISHED
PRT	PARTITION
PS	PROJECTION SCREEN
P+S	CLOSET POLE AND SHELF
PT	PAINT
PTD	PAPER TOWEL DESPENSER
QT	QUARRY TILE
QTB	QUARRY TILE BASE
R	RISER
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REC	RECESSED
RECD	RECEIVED
REFER	REFERENCE
REQD	REQUIRED
RF	RESILIENT FLOOR SYSTEMS
RF-WB	RESILIENT FLOOR WALL BASE
RO	ROUGH OPENING
RS	ROOF SYSTEM
RVL	REVEAL
SA	SMOKE ALARM
SC	SEALED CONCRETE
SCD	SUN CONTROL DEVICE
SCHED	SCHEDULE
SD	SOAP DISPENSER
SF	SUBFLOOR
SHTG	SHEATHING
SIM	SIMILAR
SND	SANITARY NAPKIN DISPENSER
SNV	SANITARY NAPKIN VENDER
SOD	SECTIONAL OVERHEAD DOOR
SQ FT	SQUARE FOOT
SSF	SOLID SURFACE FABRICATION
SSG	STRUCTURAL SILICONE GLAZED
SST	STAINLESS STEEL
ST	STONE
STA	STAIN
STB	STONE TILE BASE
STC	SOUND TRANSMISSION CLASS
STL	STEEL
STOR	STORAGE
SUSP	SUSPENDED
T	TREAD
TB	TOILET & BATH ACCESSORIES
TER	TERRAZZO
T&G	TONGUE & GROOVE
T.O.	TOP OF
TPD	TOILET PAPER DISPENSERY
TR	TOILET ROOM
TWF	THROUGH WALL FLASHING
TYP	TYPICAL
UG	UNDER LAVATORY GUARD
UNO	UNLESS NOTED OTHERWISE
VDS	VISUAL DISPLAY SURFACES
VEST	VESTIBULE
VNR	VENEER
VTR	VENT THROUGH ROOF
WC	WALL COVERING
WD	WOOD
WDW	WINDOW
WL	WIND LOAD
WDP	WOOD PANEL
WP	WATER PROOFING
WRC	WAST RECEPTICAL
WT	WINDOW TREATMENT

GENERAL INFORMATION NOTES TO CONTRACTOR

1. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE INTENT OF THE PROJECT, BUT DO NOT NECESSARILY INDICATE ALL MATERIALS OR METHODS OF CONSTRUCTION. ALL CONTRACTORS ARE RESPONSIBLE TO REVIEW THE DOCUMENTS THOROUGHLY, AND FOR PROVIDING ALL MATERIALS AND MEANS OF CONSTRUCTION NECESSARY FOR THE COMPLETION OF THE WORK IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS.
2. ALL WORK OF ALL TRADES, SHALL BE COMPLETED IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND ORDINANCES.
3. EACH CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE OWNER, THE OWNER'S OTHER CONTRACTORS, AND ALL OTHERS AT THE SITE.
4. EACH CONTRACTOR IS TO OBTAIN AND PAY FOR PERMITS, LICENSES, FEES, ETC. AS REQUIRED FOR THE COMPLETION OF THEIR PORTION OF WORK.
5. EACH CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE TO SATISFY THEIR EXECUTION OF THE WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING. NEITHER THE OWNER NOR THE ARCHITECT ASSUMES RESPONSIBILITY FOR CONDITIONS OR DIMENSIONS SHOWN AS EXISTING.
6. IF ANY CONTRACTOR OBSERVES THAT ANY OF THE CONTRACT DOCUMENTS ARE AT VARIANCE WITH APPLICABLE LAWS, STATUTES, BUILDING CODES, OR ORDINANCES, THEY SHALL PROMPTLY NOTIFY THE ARCHITECT.
7. ALL HOLES FOR PLUMBING, ELECTRICAL, HVAC, FIRE PROTECTION CONDUIT, PIPING, OR DUCTWORK ARE TO BE REPAIRED BY THE ASSOCIATED TRADE.
8. ALL TRADES SHALL TAKE CARE TO MAKE HOLES ONLY AS LARGE AS NECESSARY. DO NOT PUNCH OR POUND HOLES IN WALL, FLOOR, OR ROOF DECK.
9. ANY HOLES OR PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE APPROPRIATELY FIRE STOPPED, DAMPENED, OR SEALED AS REQUIRED BY CODE.
10. EACH CONTRACTOR SHALL INCLUDE THE NECESSARY DEMOLITION, REMOVAL, AND CUTTING/PATCHING OF ALL MATERIAL AS REQUIRED TO PERFORM THEIR WORK.
11. REMOVAL OF ALL HAZARDOUS CONTAINING MATERIALS IS THE SOLE RESPONSIBILITY OF THE OWNER. SHOULD ANY MATERIALS BE ENCOUNTERED DURING ANY OF THE CONSTRUCTION PHASES CONTAINING, OR SUSPECTED TO BE HAZARDOUS: CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY OWNER AND ARCHITECT.
12. DO NOT SCALE DRAWINGS.
13. EACH CONTRACTOR SHALL PATCH, LEVEL, AND PREPARE ALL WALLS AND FLOORS AS SCHEDULED TO RECEIVE NEW FINISHES.

ROOM SIGNAGE REQUIREMENTS

REGULATORY REQUIREMENTS: PRODUCTS SHALL MEET REQUIREMENTS OF ICC A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES; 2009 AND LOCAL AMENDMENTS AND MODIFICATIONS

ROOM AND DOOR SIGNS: PROVIDE CODE REQUIRED ROOM AND DOOR SIGNAGE
1. SIGN TYPE: FLAT SIGNS WITH TACTILE PANEL MEDIA AS SPECIFIED.

2. PROVIDE "TACTILE" SIGNAGE, WITH LETTERS AND GRAPHICS RAISED MINIMUM 1/32 INCH AND GRADE II BRAILLE.
   A. COMPLY WITH RELEVANT ADA REGULATIONS AND REQUIREMENTS INDICATED FOR SIZE, STYLE, SPACING, CONTENT, POSITION, AND COLORS. COMPUTERIZED TRANSLATION OF SIGN COPY TO BE RESPONSIBILITY OF THE MANUFACTURER.

3. MOUNTING PANEL OPTIONS
   A. SIZE: SAME SIZE
   B. THICKNESS: .080 INCH THICK MATTE FINISHED ACRYLIC

4. BACKGROUND APPEARANCE OPTION:
   A. OPAQUE AND SOLID COLOR(S)
   B. COLOR: SELECT TWO COLORS FROM MANUFACTURER'S STANDARD RANGE. PROVIDE EXTENDED RANGE OF CUSTOM COLORS IF STANDARD RANGE DOES NOT MEET DESIRED OPTION.

5. TACTILE LETTERING AND GRAPHICS COLOR OPTIONS: SELECT FROM MANUFACTURER'S STANDARD COLORS.

6. OVERALL PANEL SIZE: 6 INCH BY 9 INCH; STANDARD SHAPE

8. LETTER STYLE, COLORS, LETTER SIZES, AND LAYOUT POSITION:

9. TEXT SCHEDULE:

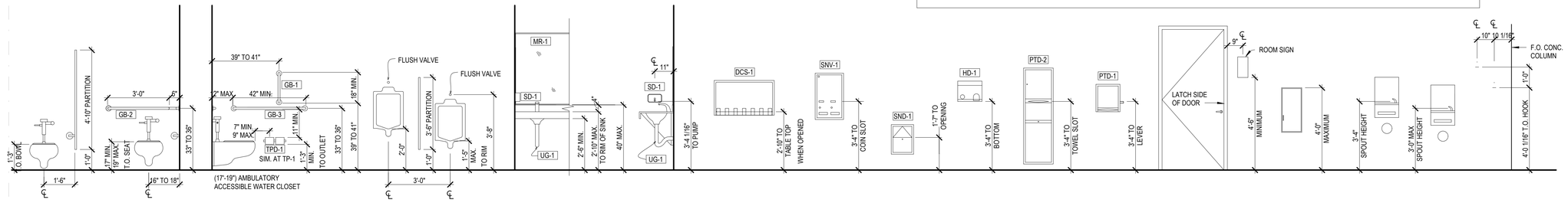
10. ASSEMBLY AREAS: PROVIDE MAX. OCCUPANCY IDENTIFIED IN THE CODE ANALYSIS SHEET. (TYPE MARK DESIGNATION **SGN1**)

11. REST ROOMS / SHOWER ROOMS (ROOM AND DOOR SIGNAGE): IDENTIFY WITH PICTOGRAMS AND BRAILLE AS REQUIRED PER ROOM USE, THE NAMES "MEN", "WOMEN", "GENDER NEUTRAL SHOWER", AND "GENDER NEUTRAL RESTROOM". (TYPE MARK DESIGNATION **SGN2**)

12. SERVICE ROOMS (ROOM AND DOOR SIGNAGE): IDENTIFY WITH THE ROOM NAMES AND NUMBERS SHOWN ON THE DRAWINGS. (TYPE MARK DESIGNATION **SGN3**)

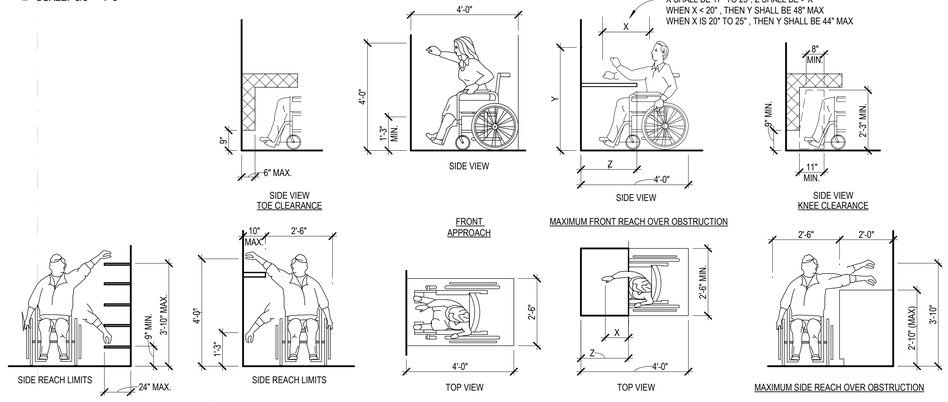
GENERAL NOTES: SOURCE: ANSI A117.1 - 2008

1. LIGHT SWITCHES, ELECTRICAL OUTLETS, AND OTHER ENVIRONMENTAL CONTROLS SHALL BE MOUNTED NO HIGHER THAN 4'-0" U.N.O. & NO LOWER THAN 1'-3" ABOVE FINISHED FLOOR. IF THE CONTROL IS MOUNTED ABOVE A COUNTER OR OTHER OBSTRUCTION, WHICH IS BETWEEN 20"-25" IN DEPTH, THEN THE MAXIMUM MOUNTING HEIGHT SHALL BE LOWERED TO 3'-8" AFF. LIGHT SWITCHES AND THERMOSTATS IN THE SAME LOCATION ARE TO ALIGN HORIZONTALLY. IF SWITCHES ARE UNABLE TO BE ALIGNED, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT BEFORE PROCEEDING WITH WORK. SEE GENERAL ADA REACH RANGES DIAGRAM FOR MORE INFORMATION.
2. PROVIDE SOLID WOOD BLOCKING OR METAL STRAPPING IN WALLS FOR INSTALLATION OF ACCESSORIES.
3. NOT ALL ACCESSORIES SHOWN ON THIS DRAWING ARE PROVIDED IN THE PROJECT.



STANDARD WATER CLOSET | ACCESSIBLE WHEELCHAIR WATER CLOSET | WATER CLOSET - SIDE ELEVATION | STANDARD URINAL | ADA URINAL | LAVATORY, SOAP DISPENSER, AND MIRROR | DIAPER CHANGING STATION | SANITARY NAPKIN VENDOR | SANITARY NAPKIN DISPOSAL | ELECTRIC HAND DRYER | PAPER TOWEL DISPENSER / WASTE RECEPTACLE | PAPER TOWEL DISPENSER | ROOM SIGNAGE | FIRE EXTINGUISHER CABINET | STANDARD E.W.C. | ADA E.W.C. | ROBE HOOKS

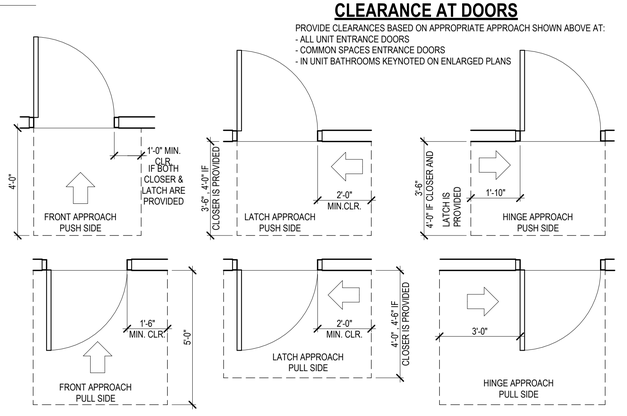
(2) MOUNTING HEIGHT STANDARDS - FOR REFERENCE ONLY
SCALE: 3/8" = 1'-0"



(1) ADA REACH RANGES - FOR REFERENCE ONLY
SCALE: 3/8" = 1'-0"

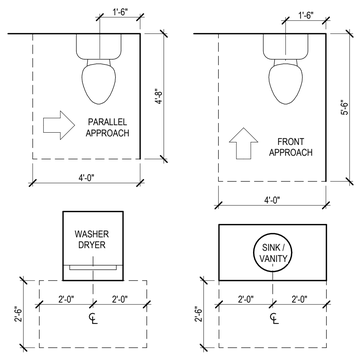
CLEARANCE AT DOORS

PROVIDE CLEARANCES BASED ON APPROPRIATE APPROACH SHOWN ABOVE AT:
- ALL UNIT ENTRANCE DOORS
- COMMON SPACES ENTRANCE DOORS
- IN UNIT BATHROOMS KEYNOTED ON ENLARGED PLANS



CLEARANCE AT FIXTURES

PROVIDE CLEARANCES BASED ON APPROPRIATE APPROACH SHOWN ABOVE AT UNIT BATHROOMS KEYNOTED ON ENLARGED PLANS. SEE GENERAL MOUNTING HEIGHT FOR ADDITIONAL FIXTURE INFO.



ACCESSORIES/TOILET ACCESSORIES	
TYPE MARK	DESCRIPTION
BC1	BABY CHANGING STATION
FE	FIRE EXTINGUISHER - BRACKET MOUNTED
FEC	FIRE EXTINGUISHER - & CABINET
GB1	1 1/2" STAINLESS STEEL GRAB BAR - 18" VERTICAL
GB2	1 1/2" STAINLESS STEEL GRAB BAR - 36" HORIZONTAL
GB3	1 1/2" STAINLESS STEEL GRAB BAR - 42" HORIZONTAL
MR1	30" X 48" FRAMELESS MIRROR
PD1	PAPER TOWEL DISPENSER
SD1	SOAP DISPENSER, BRADLEY
SGN1	ROOM SIGNAGE
SGN2	ROOM SIGNAGE
TPD-1	DOUBLE TOILET PAPER HOLDER
TR1	SANITARY NAPKIN RECEPTACLE

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : GENERAL INFORMATION

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-9977
FAX: (262) 567-4676

SHEET NO.
G001

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LIFE SAFETY SYMBOLS / LEGEND

EP — ACCESSIBLE MEANS OF EGRESS TRAVEL WAY - FURTHEST TRAVEL DISTANCES SHOWN ONLY

FE — FIRE EXTINGUISHER - MOUNTED WITH BRACKET

FEC — FIRE EXTINGUISHER - W/ CABINET

EXIT SIGNAGE - SEE ELECTRICAL FOR FIXTURE TYPE

1 1 — 1 HOUR RATED ASSEMBLY

2 2 — 2 HOUR RATED ASSEMBLY

GENERAL NOTES

1. SEE ELECTRICAL DRAWINGS FOR EMERGENCY EXIT SIGNAGE AND EMERGENCY LIGHTING.
2. ALL FIRE EXTINGUISHERS TO HAVE UL RATING OF 4A-80B:C (10LB) - SEE FLOOR PLANS FOR LOCATIONS. COORDINATE LOCATION WITH OWNER AND LOCAL FIRE DEPARTMENT.

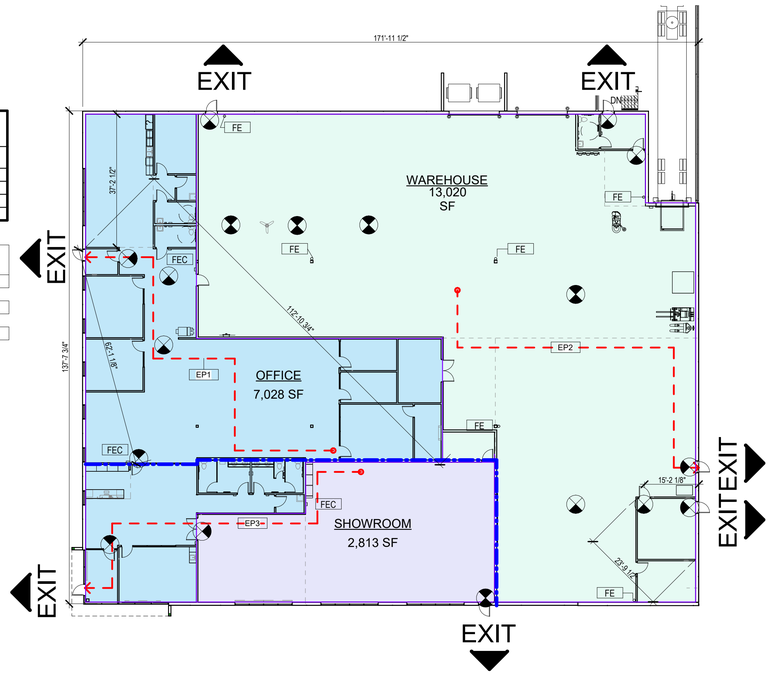
EXIT TRAVEL DISTANCE

PATH ID	TRAVEL DIST.	COMMENTS
EP1	123' - 3"	
EP2	117' - 0"	
EP4	109' - 6"	

FIRE EXTINGUISHERS	
TYPE	MARK
FIRE EXTINGUISHER - BRACKET MOUNTED	FE
6	
FIRE EXTINGUISHER - CABINET	FEC
3	

OCCUPANCY TYPE LEGEND

- A-3
- B
- S-2



2 LEVEL 01 - LIFE SAFETY
SCALE: 1" = 20'-0"

SECTION 1 - GOVERNING CODES

BUILDING PROJECTS IN THE CITY MUST MEET STATE BUILDING CODE AND LOCAL ADOPTED AMENDMENTS INCLUDED IN THE LOCAL MUNICIPAL CODE.

BUILDING :	2015 INTERNATIONAL BUILDING CODE W/ LOCAL AMENDMENTS
GAS:	2015 INTERNATIONAL FUEL GAS CODE W/ LOCAL AMENDMENTS
MECHANICAL:	2015 INTERNATIONAL MECHANICAL CODE W/ LOCAL AMENDMENTS
PLUMBING:	2015 INTERNATIONAL PLUMBING CODE W/ LOCAL AMENDMENTS
ELECTRICAL:	2017 NATIONAL ELECTRICAL CODE
ENERGY:	ANSI/ASHRAE/IESNA STANDARD 90.1-2013
FIRE:	SPS 314
ACCESSIBILITY:	ANSI ICC A117.1-2009

SECTION 2 - DEFERRED SUBMITTALS

1. FIRE PROTECTION DRAWINGS
2. RACKING DRAWINGS BY OWNER

SECTION 3 - BUILDING OCCUPANCY DATA

1. **BUILDING OCCUPANCY CLASSIFICATIONS:** B, A-3, S-2, F-2
2. **OCCUPANCY BY AREA:**
3. **OCCUPANCY LOAD BY GROUP:**

Level	AREA NAME	OCC. GROUP	AREA S.F.	LOAD FACTOR	GROSS / NET	OCC. LOAD	Comments
			ACTUAL OCCUPANT LOAD OF 125. MAX. OCCUPANT 125 (TO BE POSTED)				
LEVEL 01							
LEVEL 01	SHOWROOM	A-3	2,813 SF	15 SF	NET	188	125 POSTED MAX.
A-3			**2,813 SF**			**188**	
LEVEL 01	OFFICE	B	7,028 SF	100 SF	GROSS	70	
B			**7,028 SF**			**70**	
LEVEL 01	WAREHOUSE	S-2	13,020 SF	500 SF	GROSS	26	
S-2			**13,020 SF**			**26**	
			22,861 SF			**284**	
			22,861 SF			**284**	

SECTION 4 - SPECIAL USE & OCCUPANCY REQUIREMENTS

1. _____

SECTION 5 - SPECIAL USE & OCCUPANCY REQUIREMENTS

1. MAXIMUM BUILDING HEIGHT: 75'-0"
   ACTUAL BUILDING HEIGHT: 25'-0"
2. PROPOSED NUMBER OF STORIES: 1 STORY
3. PROPOSED BUILDING AREA: 22,861 SQFT
   ALLOWABLE BUILDING AREA : (S-2) 104,000 SQFT (B) 92,000 SQFT (F-2) 92,000 SQFT
4. PROPOSED YARD DIMENSIONS:
   FRONT (SOUTH): + 60'-0"
   REAR (NORTH): + 60'-0"
   SIDE (EAST): + 60'-0"
   SIDE (WEST): + 60'-0"

   ALLOWABLE YARD DIMENSIONS: PER 507.4 YARDS OR PUBLIC WAYS MUST NOT BE LESS THAN 60'-0" IN WIDTH
5. ACCESSORY OCCUPANCIES:
   PER IBC 508.2 ACCESSORY OCCUPANCIES WILL NOT BE SEPARATED FROM THE MAIN OCCUPANCY
   NO SEPARATION WILL BE PROVIDED AT B,S-2, A-3 OCCUPANCIES
6. SEPARATION OF OCCUPANCIES: NON-SEPARATED USES PER IBC 508.3
   NO SEPARATION IS REQUIRED BETWEEN OCCUPANCIES PER IBC 508.3.3

SECTION 6 - BUILDING CONSTRUCTION DATA

1 TYPE OF CONSTRUCTION: II-B, SPRINKLED(IBC TABLE 601)

2. FIRE RESISTANCE RATING REQUIREMENTS: (PER IBC TABLES 601 AND 602)

BUILDING ELEMENT	REQUIRED RATING	PROPOSED RATING
PRIMARY STRUCTURAL FRAME	0-HR	0-HR
BEARING WALLS - EXTERIOR	0-HR	0-HR
BEARING WALLS - INTERIOR	0-HR	0-HR
NON-BEARING WALLS - EXTERIOR	0-HR	0-HR
NON-BEARING WALLS - INTERIOR	0-HR	0-HR
ROOF CONSTRUCTION	0-HR	0-HR

SECTION 7 - FIRE WALL/BARRIER ELEMENTS

1. FIRE RESISTANCE RATING REQUIREMENTS FOR FIRE WALLS (IBC 705):
   1.1 FIRE RESISTANCE RATING OF FIRE WALLS: NOT APPLICABLE
   1.2 AREA OF OPENINGS IN FIRE WALLS: NOT APPLICABLE
   1.3 ALLOWABLE AREA OF OPENINGS: NOT APPLICABLE
   1.4 FIRE RESISTIVE RATING OF OPENING PROTECTION: NOT APPLICABLE
2. FIRE RESISTANCE RATING REQUIREMENTS FOR FIRE BARRIERS (IBC 706):
   2.1 FIRE RESISTANCE RATINGS OF FIRE BARRIERS: NOT APPLICABLE
   2.2 AREA OF OPENINGS IN FIRE BARRIERS: NOT APPLICABLE
   2.3 ALLOWABLE AREA OF OPENINGS: NOT APPLICABLE
   2.4 FIRE RESISTIVE RATING OF OPENING PROTECTION: NOT APPLICABLE

SECTION 8 - INTERIOR FINISHES

1 INTERIOR WALL AND CEILING REQUIREMENTS: (PER IBC TABLE 803.11)

GROUP	EXIT PASSAGEWAY	CORRIDOR	ROOMS AND ENCLOSED SPACES
A-3	B	B	C
B	B	C	C
F	C	C	C
S	C	C	C

SECTION 9 - BUILDING FIRE DETECTION & SUPPRESSION

1. THE ENTIRE FACILITY WILL BE PROTECTED BY A FULLY AUTOMATIC SPRINKLER SYSTEM (STANDARD WET AND ESFR SYSTEMS IN ACCORDANCE WITH SECTION 903.3.1.1 AND NFPA 13. DEFER TO FIRE PROTECTION DRAWING SUBMISSION.

SECTION 10 - BUILDING EXITING DATA

2. EXIT ACCESS TRAVEL DISTANCE (IBC TABLE 1017.2)
   2.1 A OCCUPANCY: 250' W/ SPRINKLER SYSTEM
   2.2 B OCCUPANCY: 300' W/ SPRINKLER SYSTEM
   2.3 S-2/F-2 OCCUPANCY: 400' W/ SPRINKLER SYSTEM
3. COMMON PATH OF EGRESS TRAVEL (IBC 1006.2.1)
   3.1 A OCCUPANCY: 75' W/ SPRINKLER SYSTEM
   3.2 B OCCUPANCY: 100' W/ SPRINKLER SYSTEM
   3.3 S/F OCCUPANCY: 100' W/ SPRINKLER SYSTEM
4. EMERGENCY EXIT ILLUMINATION PLAN (DEFER TO ELECTRICAL DRAWING SUBMISSION)
5. EXIT SIGN LAYOUT PLAN (DEFER TO ELECTRICAL DRAWING SUBMISSION)
6. 1005.3.1, MINIMUM REQUIRED EGRESS:
   STAIR WIDTH = 0.2 INCHES PER OCCUPANT WHEN EQUIPPED WITH AUTOMATIC SPRINKLER (MINIMUM 44 INCHES)
   OTHER EGRESS COMPONENTS = 0.15 INCHES PER OCCUPANT WHEN EQUIPPED WITH AUTOMATIC SPRINKLER (1018.2 MINIMUM 44 INCHES)

OTHER EGRESS COMPONENTS	ACTUAL PROVIDED
LEVEL 01 221 X .15 = 33.15"	

SECTION 11 - ACCESSIBILITY

1. SEE G003 FOR GENERAL ACCESSIBILITY STANDARDS
2. SEE PLANS

SECTION 12 - PLUMBING FIXTURE COUNT REQUIREMENTS

(IBC 2015) TABLE 2902.1, MINIMUM SANITARY FIXTURES:
INTERNATIONAL PLUMBING CODE 410.1 DRINKING FOUNTAIN APPROVAL - WHERE DRINKING FOUNTAINS ARE REQUIRED, WATER COOLERS OR BOTTLED WATER DISPENSER SHALL BE PERMITTED BY SUBSTITUTION.

	COUNTS PER CODE DEFINED OCC. LOAD	*COUNTS PROVIDED*
OCCUPANCY (A-3) 1 W.C./URINAL PER 125 MALE OCC. 1 W.C. PER 65 FEMALE OCC. 1 LAVATORY PER 200 OCC. 1 DRINKING FOUNTAIN PER 500 OCC.	***FIXTURES REQUIRED (A-3)*** 188 OCCUPANTS (94 MALE / 94 FEMALE) W.C. - 1 MALE AND 2 FEMALE REQUIRED LAVATORIES - 1 MALE AND 1 FEMALE REQUIRED	***FIXTURES REQUIRED (A-3) - ADJUSTED* (PER POSTED OCC.) LOAD*** W.C. - 2 MALE AND 2 FEMALE LAVATORIES - 2 MALE AND 2 FEMALE
OCCUPANCY (B) 1 W.C./URINAL PER 25 FOR THE FIRST 50 & 1 ADDITIONAL PER 50 FOR REMAINDER 1 LAVATORY PER 40 FOR FIRST 80 & 1 ADDTIONAL PER 80 FOR REMAINDER 1 DRINKING FOUNTAIN PER 100 OCC.	***FIXTURES REQUIRED - (B)*** 70 OCCUPANTS (35 MALE / 35 FEMALE) W.C. - 1 MALE AND 1 FEMALE REQUIRED LAVATORIES - 1 MALE AND 1 FEMALE REQUIRED	***SANITARY FIXTURES REQUIRED - (B)*** W.C. - 1 MALE AND 1 FEMALE LAVATORIES - 1 MALE AND 1 FEMALE
OCCUPANCY (S2) 1 W.C./URINAL PER 100 MALE OCC. 1 W.C. PER 100 FEMALE OCC. 1 LAVATORY PER 100 OCC. 1 DRINKING FOUNTAIN PER 400 OCC.	***FIXTURES REQUIRED - (S2)*** 26 OCCUPANTS (13 MALE / 13 FEMALE) W.C. - 1 REQUIRED LAVATORIES - 1 REQUIRED	***SANITARY FIXTURES - (S2)*** W.C. - 1 LAVATORIES - 1

NOTES:
SERVICE SINKS PROVIDED = 2
DRINKING FOUNTAINS* = * 1 ALTERNATE TO DRINKING FOUNTAIN

ABBREVIATIONS:
OCC. - OCCUPANT(S)
W.C. - WATER CLOSET(S)

SECTION 13 - BUILDING VENTILATION REQUIREMENTS

1. DEFER TO MECHANICAL SUBMISSION

SECTION 14 - ENERGY CODE REQUIREMENTS

1. 2015 INTERNATIONAL ENERGY CONSERVATION CODE w/ CITY AMENDMENTS
   ANSI/ASHRAE/IESNA STANDARD 90.1-2013
   1.1 BUILDING ENVELOPE REQUIREMENTS (FORMS TO BE SUBMITTED SEPARATELY)
   1.2 MECHANICAL SYSTEMS REQUIREMENTS (DEFER TO MECHANICAL DRAWING SUBMISSION)
   1.3 ELECTRICAL POWER AND LIGHTING SYSTEMS REQUIREMENTS (DEFER TO ELECTRICAL DRAWING SUBMISSION)

REVISIONS
1 — 10/16/2024 REVISION 1

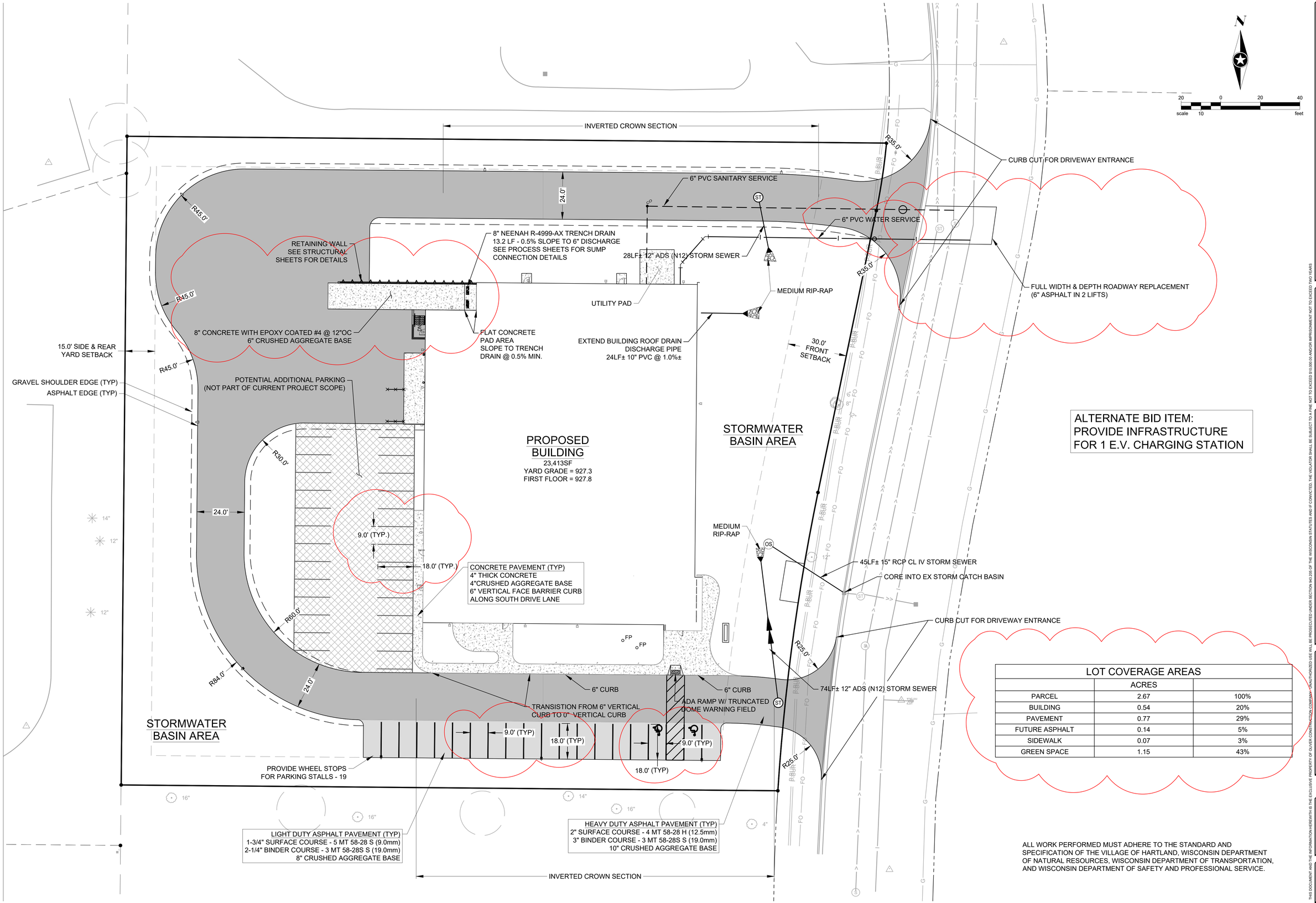
PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : LIFE SAFETY

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676
OLIVER CONSTRUCTION CO.

SHEET NO.
G003

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LOT COVERAGE AREAS		
	ACRES	
PARCEL	2.67	100%
BUILDING	0.54	20%
PAVEMENT	0.77	29%
FUTURE ASPHALT	0.14	5%
SIDEWALK	0.07	3%
GREEN SPACE	1.15	43%

ALL WORK PERFORMED MUST ADHERE TO THE STANDARD AND SPECIFICATION OF THE VILLAGE OF HARTLAND, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, WISCONSIN DEPARTMENT OF TRANSPORTATION, AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICE.

REVISIONS
1 10/16/2024 REVISION 1

PROJECT INFORMATION
PROJECT NO. - 179502
DATE - 09/25/2024
DRAWN BY - LP
SHEET TITLE - SITE PLAN

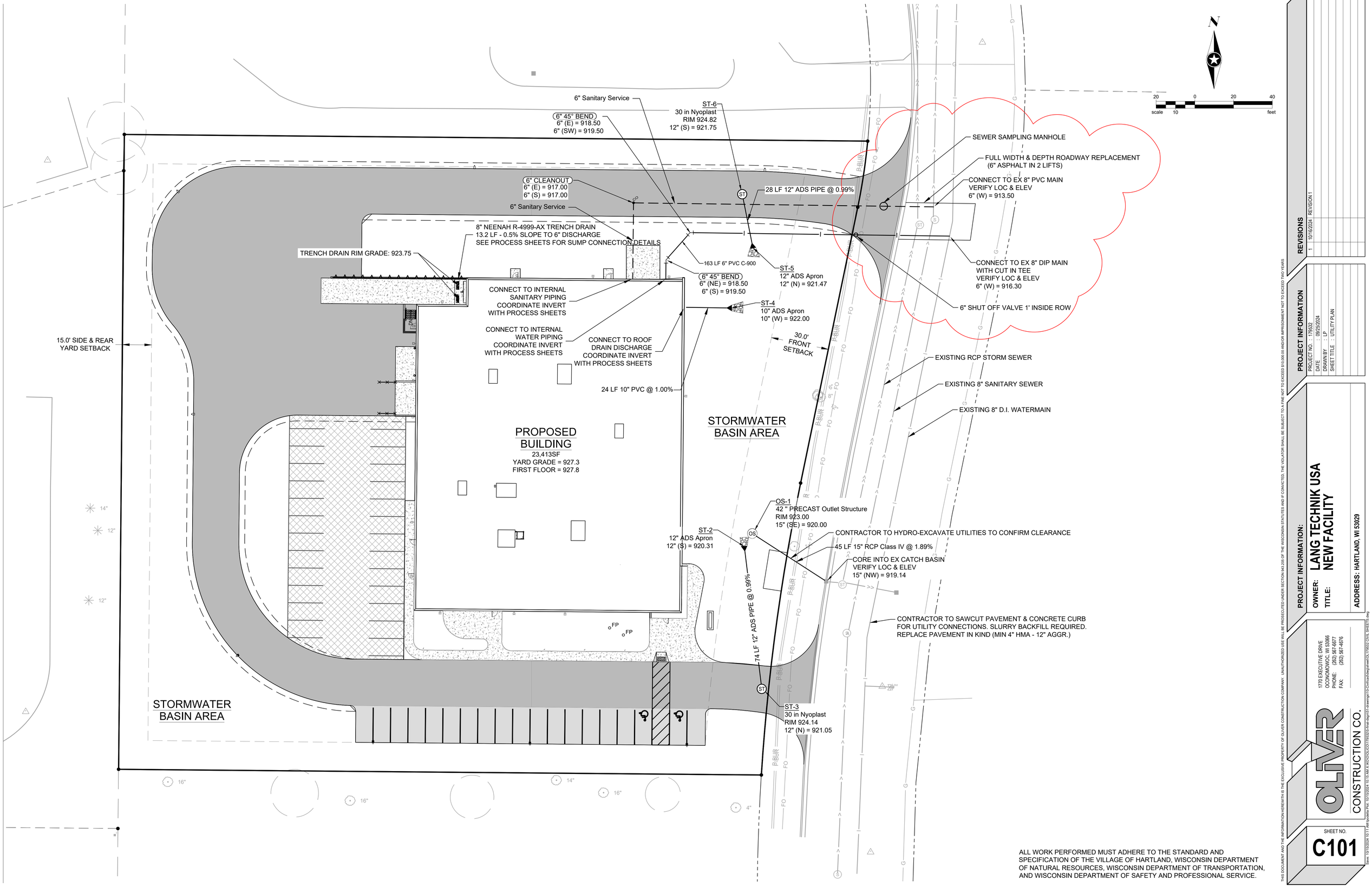
PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4016

SHEET NO.
C100

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REVISIONS

1	10/16/2024	REVISION 1

PROJECT INFORMATION

PROJECT NO. : 179302
DATE : 09/25/2024
DRAWN BY : LP
SHEET TITLE : UTILITY PLAN

PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

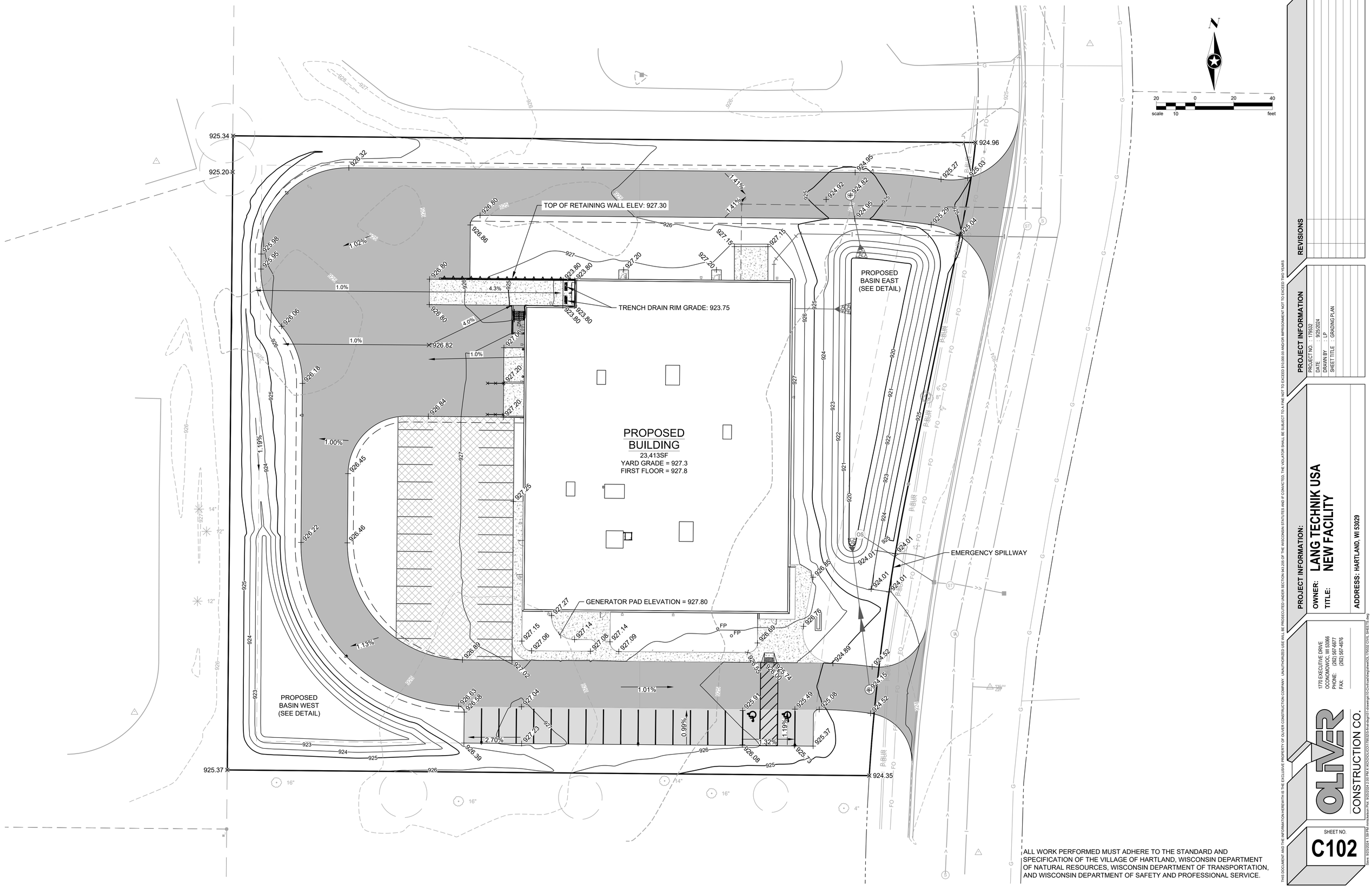
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-5577
FAX: (262) 567-4016

OLVER CONSTRUCTION CO.

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C101

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REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179302
DATE : 9/25/2024
DRAWN BY : LP
SHEET TITLE : GRADING PLAN

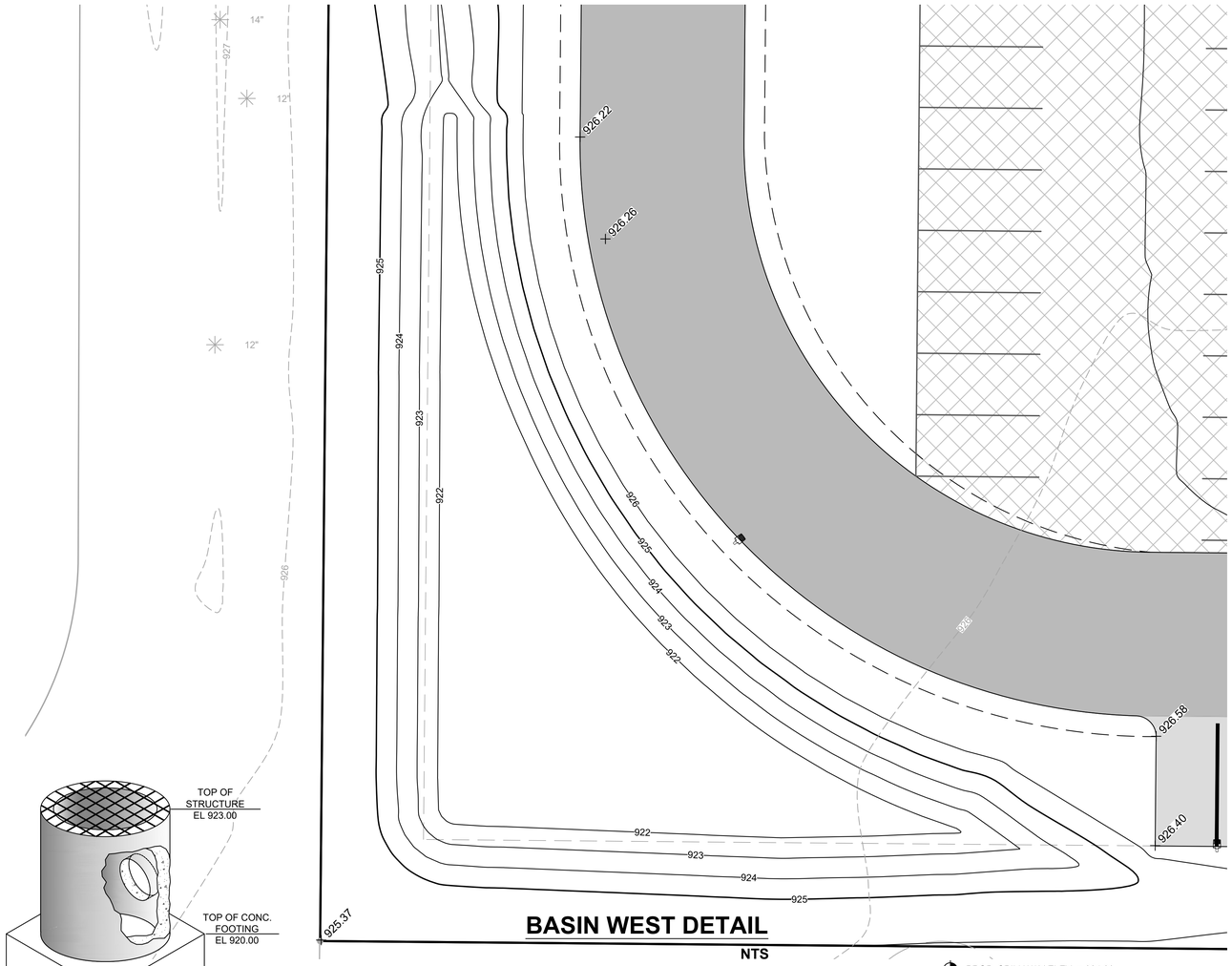
PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-5577
FAX: (262) 567-4016

SHEET NO.
C102

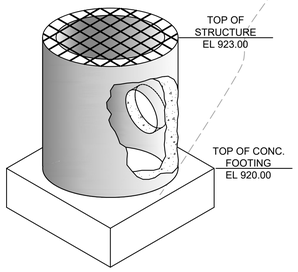
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BASIN WEST DETAIL

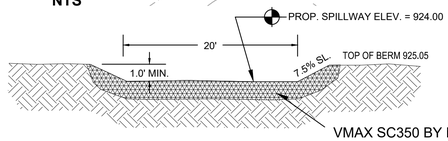
NTS



STRUCTURE CONSTRUCTION NOTES:
1. INSTALL RISER VERTICALLY ON TOP OF GRAVEL BASE
2. POUR FOOTING AROUND BASE OF STRUCTURE (EXTEND 4" BEYOND PIPE EDGE)
3. FILL RISER WITH CONCRETE TO SUMP ELEVATION

BASIN EAST OUTLET STRUCTURE (OS-1) DETAIL

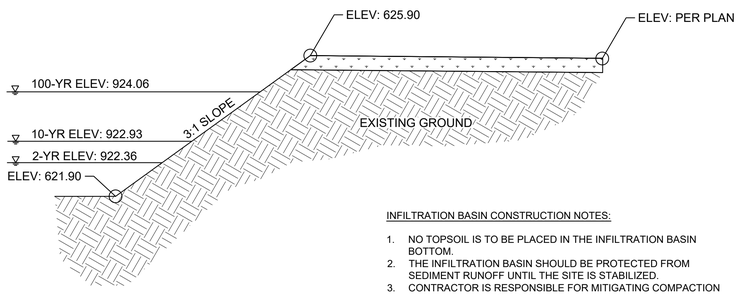
NTS



VMAX SC350 BY NAG (OR EQUAL)
INSTALL MATTING FROM 100 YR W.S. ELEV.
INSIDE BASIN TO TOE OF SLOPE OUTSIDE BASIN
TRM SHALL BE FILLED WITH TOPSOIL AND
OVER-MATTED WITH CLASS II - TYPE 'B' ECRM

BASIN EAST EMERGENCY SPILLWAY DETAIL

NTS

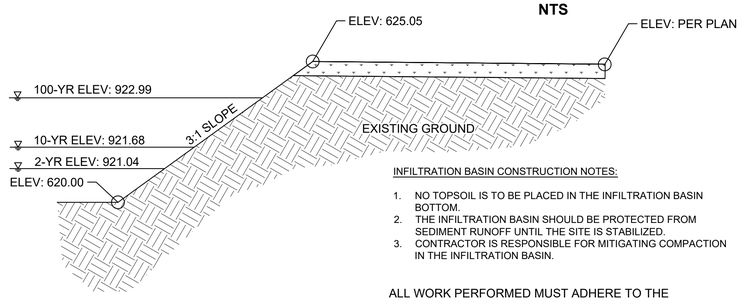


INFILTRATION BASIN CONSTRUCTION NOTES:

1. NO TOPSOIL IS TO BE PLACED IN THE INFILTRATION BASIN BOTTOM.
2. THE INFILTRATION BASIN SHOULD BE PROTECTED FROM SEDIMENT RUNOFF UNTIL THE SITE IS STABILIZED.
3. CONTRACTOR IS RESPONSIBLE FOR MITIGATING COMPACTION IN THE INFILTRATION BASIN.

BASIN WEST CROSS SECTION

NTS



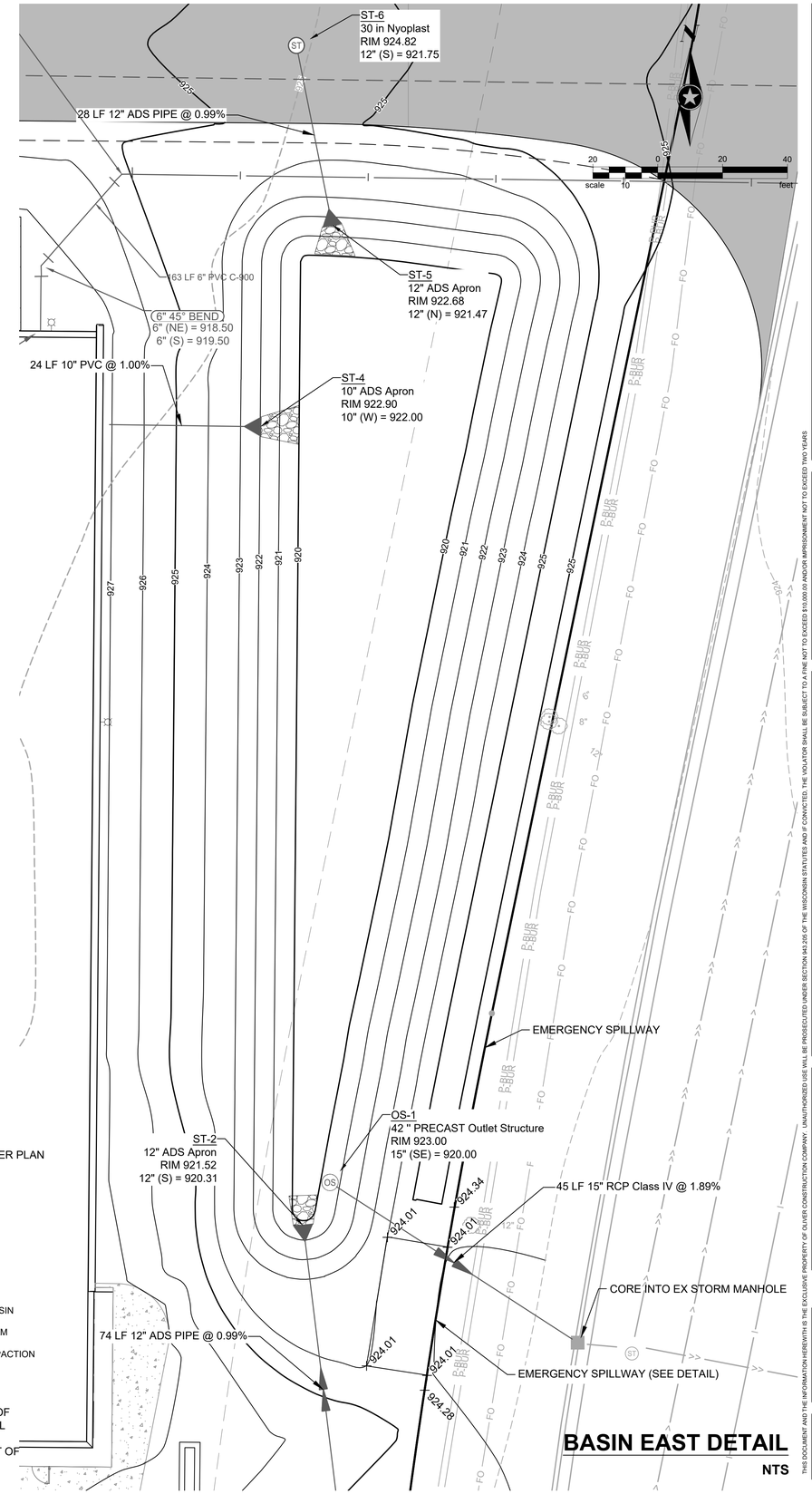
INFILTRATION BASIN CONSTRUCTION NOTES:

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2. THE INFILTRATION BASIN SHOULD BE PROTECTED FROM SEDIMENT RUNOFF UNTIL THE SITE IS STABILIZED.
3. CONTRACTOR IS RESPONSIBLE FOR MITIGATING COMPACTION IN THE INFILTRATION BASIN.

BASIN EAST CROSS SECTION

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BASIN EAST DETAIL

NTS

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179302
DATE : 9/25/2024
DRAWN BY : LP
SHEET TITLE : BASIN DETAIL

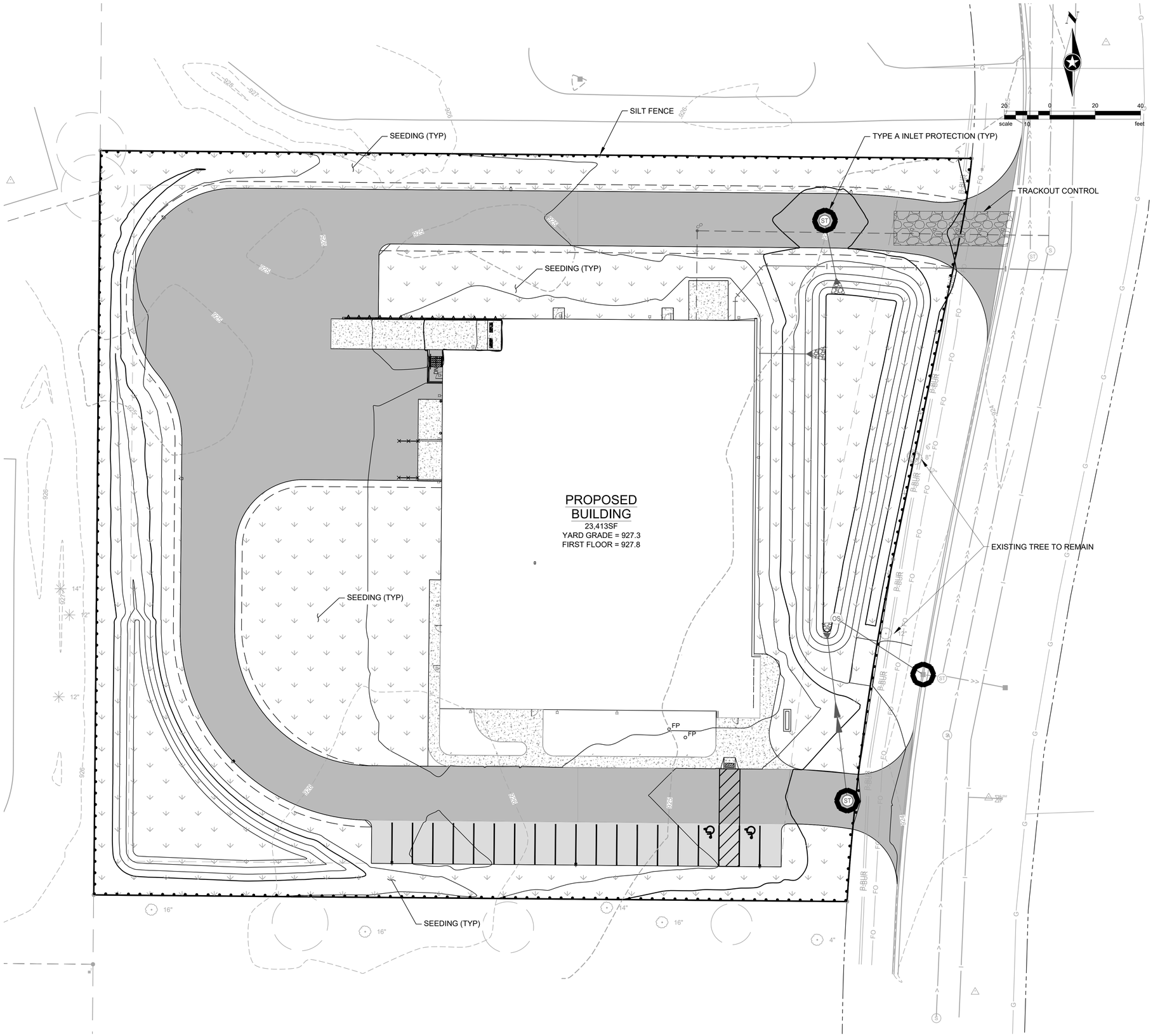
PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
C103

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LEGEND

- SILT FENCE
- ROCK TRACKING PAD
- SEEDING

EROSION CONTROL NOTES:

POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.

KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.

SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.

SITE INSPECTIONS SHALL BE COMPLETED AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.

INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.

INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).

INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT. REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.

IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR
7 DAYS OR LONGER.

IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.

STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.

SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY. SEPARATE SWEPT MATERIALS (SOILS AND TRASH AND DISPOSE OF APPROPRIATELY. CONTROLLING DUST SHALL BE COMPLETED PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES # 1068.

PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.

ALL WORK PERFORMED MUST ADHERE TO THE STANDARD AND SPECIFICATION OF THE VILLAGE OF HARTLAND, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, WISCONSIN DEPARTMENT OF TRANSPORTATION, AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICE.

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179302
DATE : 9/25/2024
DRAWN BY : LP
SHEET TITLE : EROSION CONTROL PLAN

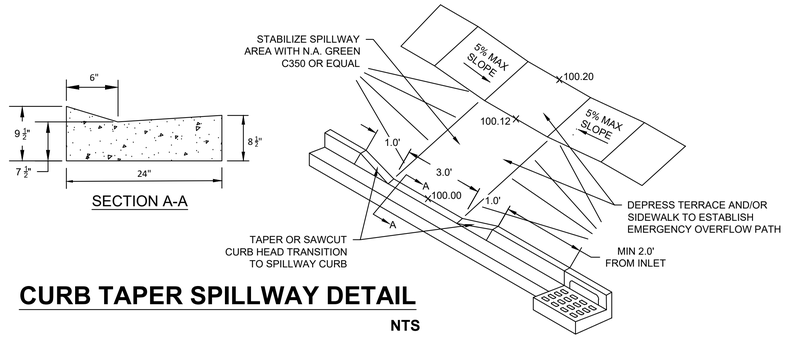
PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
C104

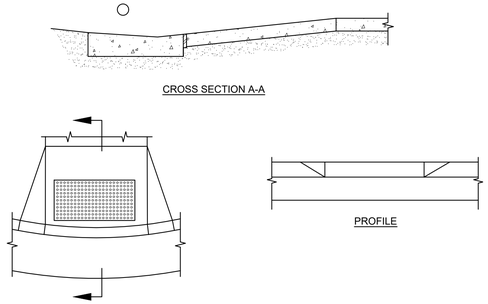
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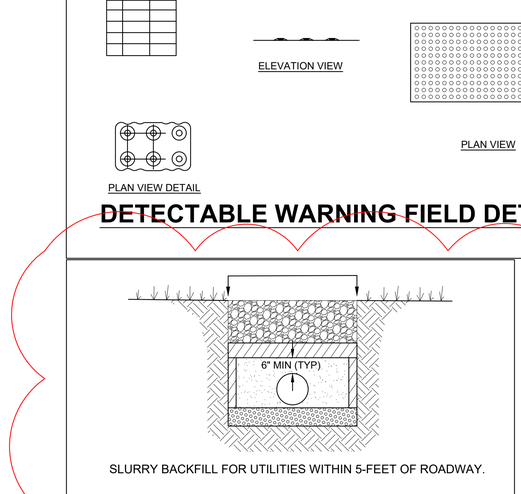
CURB TAPER SPILLWAY DETAIL

NTS



DETECTABLE WARNING FIELD DETAIL

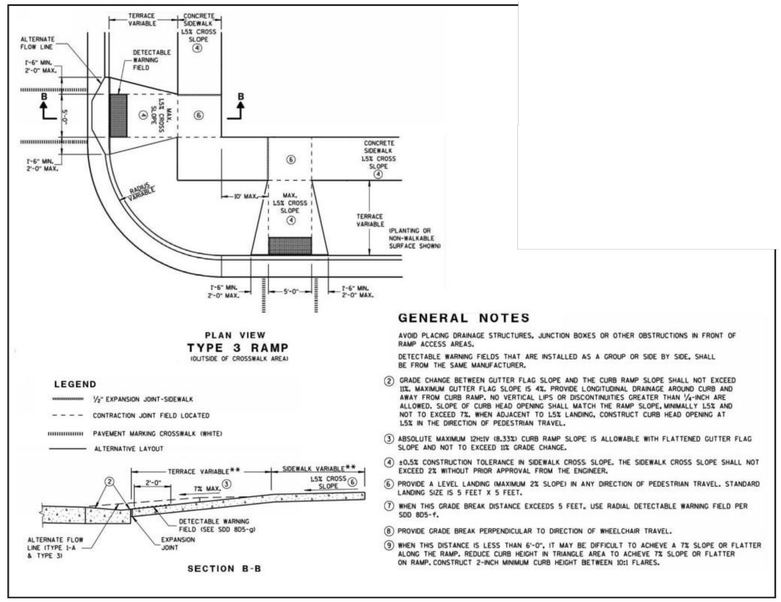
NTS



SLURRY BACKFILL FOR UTILITIES WITHIN 5-FEET OF ROADWAY.

PIPE INSULATION DETAIL

NTS



GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 805-1.

⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

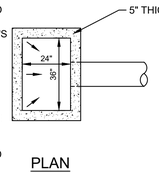
⑨ WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

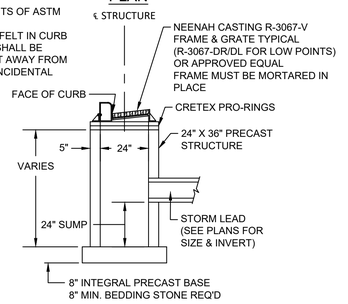
CROSSWALK RAMP 3 DETAIL

NTS

NOTES:

1. EZ STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL CATCH BASIN JOINTS. PROVIDE MANUFACTURER'S RECOMENDED SEALANT ABOVE, BELOW, AND BETWEEN PE ADJUSTMENT RINGS.
2. ADJUSTING RING MINIMUM OF 2" AND MAXIMUM OF 6".
3. NO CORBELLING OF PRECAST RINGS ALLOWED.
4. CLEAN UNDERSIDE OF CAST IRON FRAME AND MORTAR IN PLACE.
5. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACKPLASTERED INSIDE AND OUTSIDE OF ALL JOINTS.
6. MUST MEET REQUIREMENTS OF ASTM C478.
7. EXPANSION JOINTS WITH FELT IN CURB AND GUTTER FOR INLET SHALL BE LOCATED MINIMUM 5 FEET AWAY FROM FRAME ON BOTH SIDES (INCIDENTAL COST).





SECTION

TYPICAL STORM CATCH BASIN DETAIL

NTS

REVISIONS

1	10/16/2024	REVISION 1

PROJECT INFORMATION

PROJECT NO. - 179532
DATE - 09/25/2024
DRAWN BY - LP
SHEET TITLE - DETAILS

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PROJECT INFORMATION:

OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY

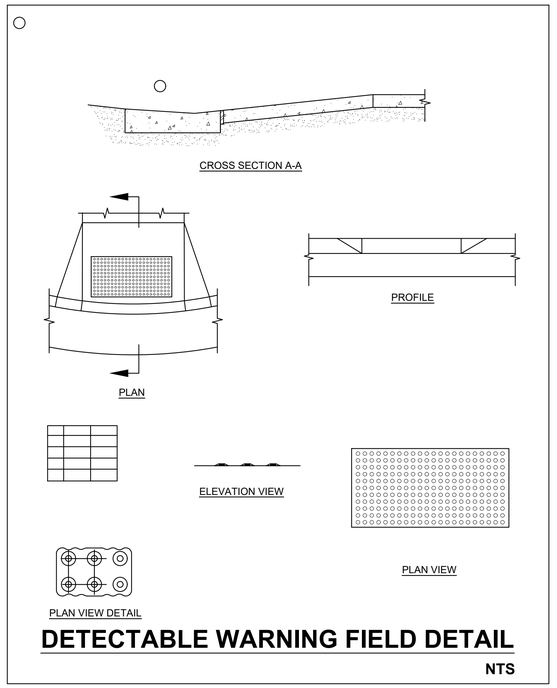
ADDRESS: HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4976

OLIVER CONSTRUCTION CO.

SHEET NO.
C105

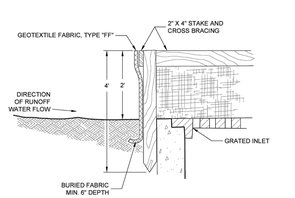
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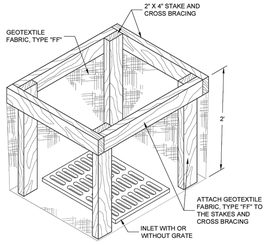


DETECTABLE WARNING FIELD DETAIL

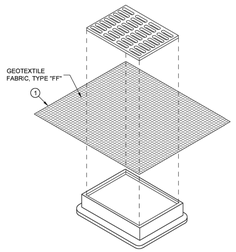
NTS

SDD 08E10 Inlet Protection, Types A, B, C and D



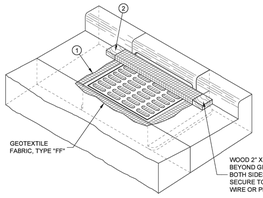


INLET PROTECTION, TYPE "A"

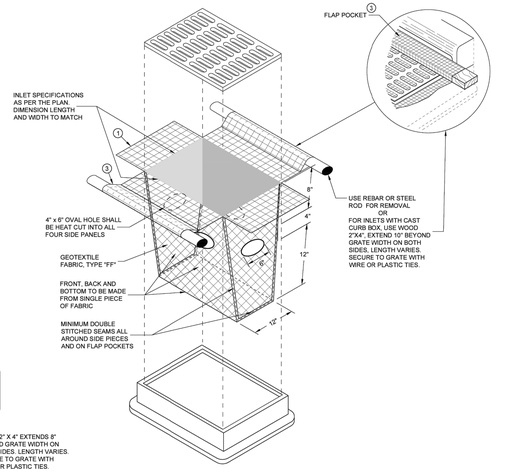


INLET PROTECTION, TYPE "B" (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE "C" (WITH CURB BOX)



INLET PROTECTION, TYPE "D"

(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUTA CURB BOX AS PER NOTE (2))

GENERAL NOTES

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

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

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

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPES B & C

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

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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

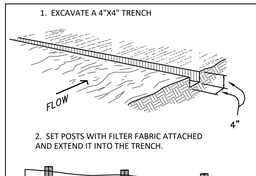
INLET PROTECTION TYPES A, B, C AND D

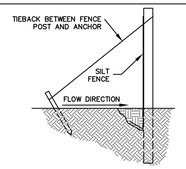
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/16/02 — DATE
/S/ Beth Cannestra — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

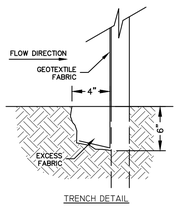
SDD 08E10 - 02

SDD 08E10 - 02

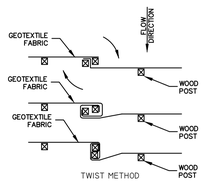




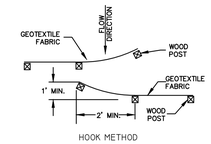
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL



TWIST METHOD



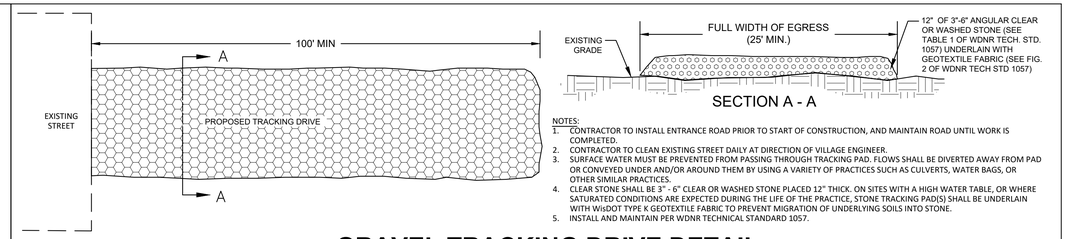
HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE

GENERAL NOTES
1. INSTALL AND MAINTAIN PER DNR TECHNICAL STANDARD 1056
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POST SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
4. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY, USE ONE OF THE THE FOLLOWING TWO METHODS:
   A) TWIST METHOD - - OVERLAP THE END POST AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, OR
   B) HOOK METHOD - - HOOK THE END OF EACH SILT FENCE LENGTH.
5. HORIZONTAL BRACE REQUIRED WITH A 2"X4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
6. SILT FENCE TO EXTEND ACROSS THE TOP OF PIPE.

SILT FENCE DETAIL

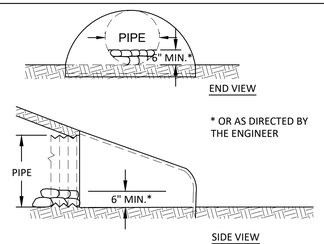
NTS



NOTES:
1. CONTRACTOR TO INSTALL ENTRANCE ROAD PRIOR TO START OF CONSTRUCTION, AND MAINTAIN ROAD UNTIL WORK IS COMPLETED.
2. CONTRACTOR TO CLEAN EXISTING STREET DAILY AT DIRECTION OF VILLAGE ENGINEER.
3. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM PAD OR CONVEYED UNDER AND/OR AROUND THEM BY USING A VARIETY OF PRACTICES SUCH AS CULVERTS, WATER BAGS, OR OTHER SIMILAR PRACTICES.
4. CLEAR STONE SHALL BE 3" - 6" CLEAR OR WASHED STONE PLACED 12" THICK. ON SITES WITH A HIGH WATER TABLE, OR WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PRACTICE, STONE TRACKING PAD(S) SHALL BE UNDERLAIN WITH WisDOT TYPE K GEOTEXTILE FABRIC TO PREVENT MIGRATION OF UNDERLYING SOILS INTO STONE.
5. INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD 1057.

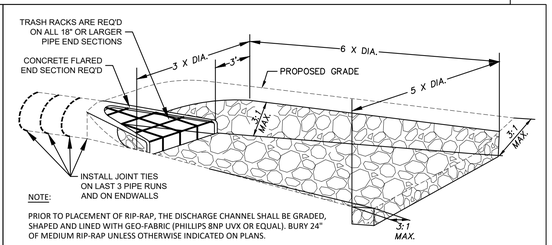
GRAVEL TRACKING DRIVE DETAIL

NTS



ROCK BAG PIPE CHECK DETAIL

NTS



NOTE:
PRIOR TO PLACEMENT OF RIP-RAP, THE DISCHARGE CHANNEL SHALL BE GRADED, SHAPED AND LINED WITH GEO-FABRIC (PHILLIPS 8NP UVX OR EQUAL). BURY 24" OF MEDIUM RIP-RAP UNLESS OTHERWISE INDICATED ON PLANS.

RIP-RAP OUTFALL DETAIL

NTS

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179322
DATE : 9/25/2024
DRAWN BY : LP
SHEET TITLE : EROSION CONTROL DETAILS

PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676

SHEET NO.
C106

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N

20 0 20 40
scale 10 feet

6" PVC SANITARY SERVICE

8" PVC WATER SERVICE

CURB CUT FOR DRIVEWAY ENTRANCE

CURB CUT FOR DRIVEWAY ENTRANCE

24.0'

R45.0'

R45.0'

R45.0'

15.0' SIDE & REAR YARD SETBACK

POTENTIAL ADDITIONAL PARKING (NOT PART OF CURRENT PROJECT SCOPE)

R30.0'

24.0'

R60.0'

R84.0'

24.0'

PROPOSED BUILDING
23,413SF
YARD GRADE = 927.3
FIRST FLOOR = 927.8

R35.0'

R35.0'

30.0' FRONT SETBACK

R25.0'

R25.0'

6" CURB

6" CURB

TRANSISTION FROM 6" VERTICAL CURB TO 0" VERTICAL CURB

ADA RAMP W/ TRUNCATED DOME WARNING FIELD

9.0' (TYP)

9.0' (TYP)

FP

FP

14"

12"

12"

16"

16"

14"

16"

4"

P-BUR

FO

G

ST

OS

S

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179302
DATE : 9/25/2024
DRAWN BY : LP
SHEET TITLE : TRUCK TURN

PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-5577
FAX: (262) 567-4016

SHEET NO.
C107

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(3) PIC BLA

(1) QUE MAC
(3) PIC BLA
(2) HAM VIR
(2) PHY NI2
(9) TAX DE4

ADJUST TREE LOCATIONS
(ALONG STREET SIDE OF BUILDING)
IN FIELD TO ALIGN TO MIDPOINT
BETWEEN WINDOW BAYS

PROPOSED
BUILDING
23,413SF
YARD GRADE = 927.3
FIRST FLOOR = 927.8

(4) QUE CRI
(1) CER CAN
(16) Sh
(2) HYD FIR
(6) Em
(10) Gt
(4) Nw
(5) Ls
(4) Cl

(2) HYD FIR
(15) Gt
(5) Em
(7) Cl
(10) Sh
(6) Nw

(11) Gt
(5) HYD FIR
(8) Sh
(3) PHY NI2
(9) RIB ALP

(3) QUE BIC

(1) OST VIR

MONUMENT
SIGN

(1) QUE BIC
(1) CER CAN

(1) PHY NI2
(4) RIB ALP

(1) PHY NI2
(4) RIB ALP

(2) ACE SA3

(2) PHY NI2
(14) RIB ALP

(1) ACE SA3
(3) DIE LON

N

20 0 20 40
scale 10 feet

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179322
DATE : 9/25/2024
DRAWN BY : MGW
SHEET TITLE : LANDSCAPE PLAN

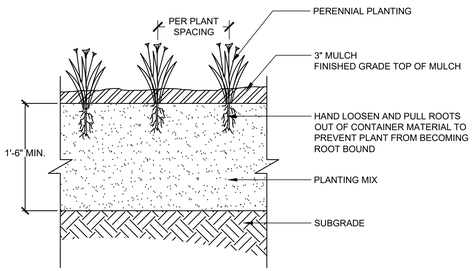
PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
L100

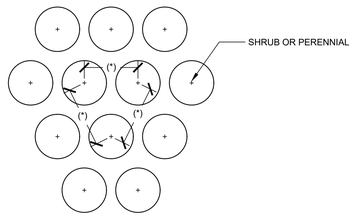
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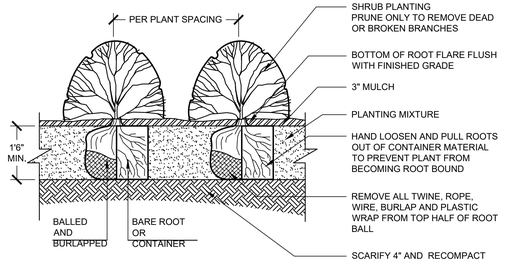
1 PERENNIAL PLANTING DETAIL

1" = 1'-0" 3293-01



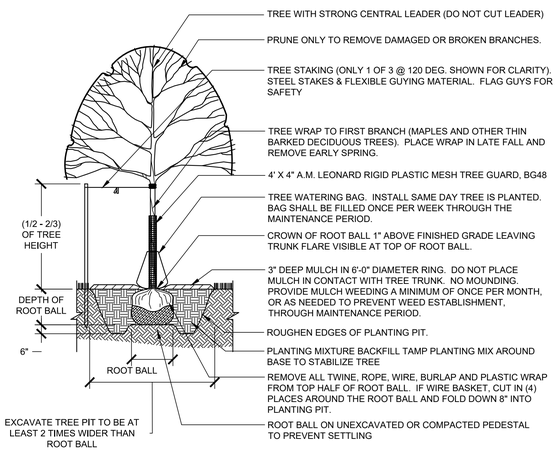
2 PLANT SPACING DETAIL

1/2" = 1'-0" 3293-02



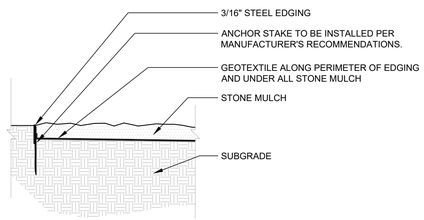
3 SHRUB PLANTING

1/2" = 1'-0" 329333-04



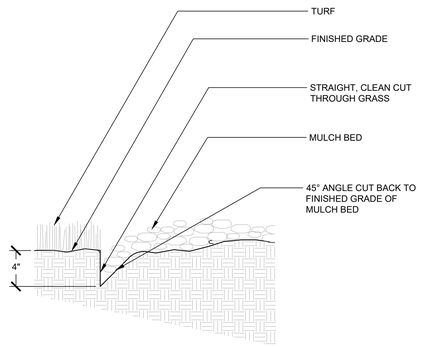
4 TREE PLANTING

1/4" = 1'-0" 329343-01



5 MAINTENANCE STRIP WITH STEEL EDGING

N.T.S. 329413.23-03



6 TRENCHED EDGE DETAIL

N.T.S. 329413.23-02

PLANTING NOTES

1. EXISTING TREES FOUND ON SITE SHALL BE PROTECTED AND SAVED UNLESS NOTED TO BE REMOVED OR ARE LOCATED IN AN AREA TO BE GRADED. QUESTIONS REGARDING EXISTING PLANT MATERIAL SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO REMOVAL.
2. REFERT TO CIVIL DRAWINGS FOR EXISTING AND PROPOSED UTILITIES, GRADING AND SPOT ELEVATION AND EROSION CONTROL.
3. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURES AND OTHER ELECTRICAL COMPONENT LOCATIONS.
4. THE LAYOUT OF ALL PLANTING BEDS AND INDIVIDUAL TREES SHALL BE STAKED BY THE CONTRACTOR IN ADVANCE OF INSTALLATION. FLAGGING, STAKES, OR PAINT MAY BE USED TO DELINEATE LOCATIONS AS SCALED FROM THE PLANS. THE LANDSCAPE ARCHITECT WILL REVIEW THESE LOCATIONS WITH THE CONTRACTOR AND MAKE MINOR ADJUSTMENTS AS NECESSARY. BED LAYOUT SHALL ALSO INCLUDE PERENNIAL GROUPINGS BY SPECIES.
5. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY DETERMINING THE PLANT MATERIAL QUANTITIES REQUIRED BY THE LANDSCAPE PLANS. REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
6. SALVAGE TOPSOIL FROM THE EARTHWORK AREAS AS APPROPRIATE AND/OR AS DIRECTED BY LANDSCAPE ARCHITECT AND STOCKPILE FOR REUSE IN LOCATION APPROVED BY OWNER.
7. AREAS UNDER PLANTING BEDS SHALL NOT CONTAIN COMPACTED AGGREGATE TO ALLOW FOR PROPER DRAINAGE AND GROWTH OF PLANT MATERIAL. REMOVE AGGREGATE AND PERFORM SUBSOILING AS NECESSARY TO OBTAIN LOOSE, FREE DRAINING SUBGRADE BELOW PLANTING BEDS. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN ALL AREAS.
8. CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE CONSTRUCTION SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN ALL AREAS.
9. ALL SEED & SOD AREAS SHALL RECEIVE A MINIMUM OF 4" DEPTH OF TOPSOIL.
10. ALL PLANTING BEDS SHALL RECEIVE 18" DEPTH OF PLANTING MIXTURE: 2 PARTS STOCKPILED TOPSOIL BY VOLUME, 1 PART COMPOST BY VOLUME, 2.9 POUNDS PER CUBIC YARD OF 4-4-4- ANALYSIS ORGANIC SLOW-RELEASE FERTILIZER .
11. WHERE TURF ABUTS PAVED SURFACES, FINISH GRADE OF TURF SHALL BE KEPT 1" BELOW SURFACE ELEVATION OF DOWNHILL SIDE OF WALK, CURB, SLAB, ETC.
12. PAINT OR STAKE LIMITS OF SEEDING FOR REVIEW BY LANDSCAPE ARCHITECT & OWNER PRIOR TO SEEDING.
13. NEW SEEDED AREAS TO BE TREATED WITH HERBICIDE TO KILL ALL EXISTING GROUNDCOVER. THERE SHALL BE A MINIMUM OF TWO (2) APPLICATIONS SEPARATED BY 10 DAYS. IF ALL EXISTING GROUNDCOVER VEGETATION IS NOT KILLED WITHIN 10 DAYS OF 2ND APPLICATION, A 3RD APPLICATION IS REQUIRED.
14. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF WORK SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
15. ALL PLANTING BEDS SHALL HAVE A SHOVEL CUT EDGE, UNLESS OTHERWISE SPECIFIED.
16. ALL PLANTING BEDS AND PLANTED TREES SHALL BE MULCHED WITH 3" DEEP SHREDDED HARDWOOD MULCH PER PLANTING DETAILS. MULCH SHALL BE CONSIDERED INCIDENTAL TO PLANT MATERIALS.
17. MAINTENANCE STRIP STONE MULCH SHALL CONSIST OF CLEAN, WASHED, ROUNDED RIVERBED GRAVEL, 3/4 INCH MAXIMUM, 1/4 INCH MINIMUM (PEA GRAVEL) IN READILY AVAILABLE NATURAL GRAVEL COLOR RANGE.
18. MAINTENANCE STRIP GEOTEXTILE SHALL CONSIST OF NONWOVEN, POLYPROPYLENE OR POLYESTER FABRIC.
19. LAWN SEED SHALL BE ESTABLISHED BY THE CONTRACTOR TO A DENSE, GREEN CONSISTENT LAWN VOID OF ANY BARE OR PATCHY AREAS LARGER THAN 3" X 3".
20. SEED PRIOR TO OCT. 15. IF SEEDED AFTER OCT. 15, MAINTAIN AND ESTABLISH LAWN UNTIL SPRING REVIEW.
21. NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED UNLESS APPROVAL BY THE LANDSCAPE ARCHITECT. ALL PLANT MATERIAL AND SEED SHALL BE PROVIDED FROM A NURSERY (WITHIN 200 MILES) WITH A SIMILAR PLANT HARDINESS ZONE AS PROJECT LOCATION.
22. CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIALS UNTIL TIME OF OWNER ACCEPTANCE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO OWNER ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
23. PROVIDE 1 YEAR WARRANTY ON ALL PLANT MATERIAL.

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	QTY
EVERGREEN TREES				
	PIC BLA	PICEA GLAUCA DENSATA / BLACK HILLS SPRUCE	8` TALL	6
DECIDUOUS TREES				
	ACE SA3	ACER SACCHARUM `GREEN MOUNTAIN` TM / GREEN MOUNTAIN SUGAR MAPLE	2" CAL	3
	CER CAN	CERCIS CANADENSIS / EASTERN REDBUD	2" CAL	2
	OST VIR	OSTRYA VIRGINIANA / AMERICAN HOPHORNBEAM	2" CAL	1
	QUE BIC	QUERCUS BICOLOR / SWAMP WHITE OAK	2" CAL	4
	QUE MAC	QUERCUS MACROCARPA / BURR OAK	2" CAL	1
	QUE CRI	QUERCUS ROBUR X ALBA 'CRIMSCHMIDT' / CRIMSON SPIRE™ OAK	2" CAL	4
SHRUBS				
	DIE LON	DIERVILLA LONICERA / DWARF BUSH HONEYSUCKLE	5 GAL.	3
	HAM VIR	HAMAMELIS VIRGINIANA / COMMON WITCH HAZEL	36" B&B	2
	HYD FIR	HYDRANGEA PANICULATA 'BULK' / QUICK FIRE® PANICLE HYDRANGEA	5 GAL.	9
	PHY NI2	PHYSOCARPUS OPULIFOLIUS / NINEBARK	36" B&B	9
	RIB ALP	RIBES ALPINUM / ALPINE CURRANT	5 GAL.	31
ORNAMENTAL GRASS				
	Sh	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	1 GAL.	34
PERENNIAL				
	Cl	COREOPSIS LANCEOLATA / LANCELEAF TICKSEED	1 GAL.	11
	Em	ECHINACEA PURPUREA 'MAGNUS' / MAGNUS PURPLE CONEFLOWER	1 GAL.	11
	Gt	GERANIUM SANGUINEUM 'TINY MONSTER' / TINY MONSTER BLOODRED GERANIUM	1 GAL.	36
	Ls	LIATRIS SPICATA / SPIKE GAYFEATHER	1 GAL.	5
	Nw	NEPETA X 'WALKER'S LOW' / WALKER'S LOW CATMINT	1 GAL.	10
EVERGREEN SHRUBS				
	TAX DE4	TAXUS X MEDIA / DENSE YEW	5 GAL.	9

SYMBOL	CODE	BOTANICAL / COMMON NAME	QTY
GROUND COVERS			
		GRAVEL MAINTENANCE STRIP	734 SF
		LAWN	57,903 SF

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179322
DATE : 9/25/2024
DRAWN BY : MGW
SHEET TITLE : LANDSCAPE DETAILS

PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

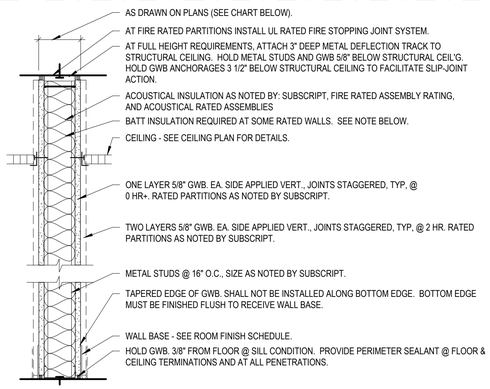
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
L200

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Save: 9/25/2024 1:58 PM | Plotted/per Plot: 9/25/2024 2:03 PM | X:\ACAD\OLIVER\179322\LS-final-dwgs\01-drawings\25-Plans\ACAD_179322 LS SHEETS.dwg

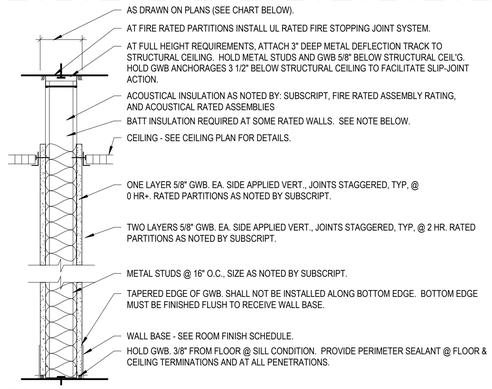


SCALE: 1 1/2" = 1'-0"

*** REFER TO SUBSCRIPT KEY FOR ADDITIONAL REQUIREMENTS ***

PARTITION TYPE	STUD WIDTH	PARTITION WIDTH 0.1hr/2hr	ACOUSTICAL INSULATION WIDTH	STC @ 0.1hr W/O INS	STC @ 0.1hr W/ INS	STC @ 2hr W/O INS	STC @ 2hr W/ INS	NOTES
A2	2 1/2"	3 3/4"/ 5"	2 3/4"	40	47	40	56	1.5" OF BATT INS. REQ. @ 1HR RATED PARTITION
A4	3 5/8"	4 7/8"/ 6 1/8"	3 5/8"	40	50	48	56	
A6	6"	7 1/4"/ 8 1/2"	6 1/2"	40	51	48	58	
A8	8"							

A METAL STUD PARTITION | FIRE RATING: 0, 1, 2 HR - UL #U419

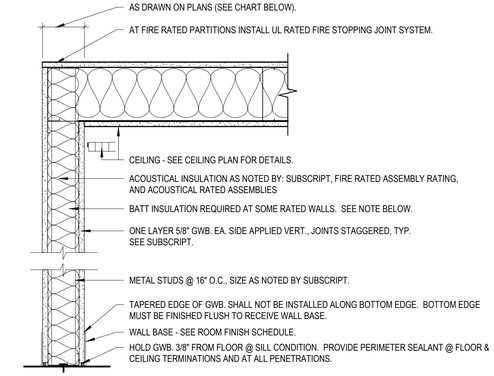


SCALE: 1 1/2" = 1'-0"

*** REFER TO SUBSCRIPT KEY FOR ADDITIONAL REQUIREMENTS ***

PARTITION TYPE	STUD WIDTH	PARTITION WIDTH 0.1hr/2hr	ACOUSTICAL INSULATION WIDTH	STC @ 0.1hr W/O INS	STC @ 0.1hr W/ INS	STC @ 2hr W/O INS	STC @ 2hr W/ INS	NOTES
B2	2 1/2"	3 3/4"/ 5"	2 3/4"	40	47	40	56	1.5" OF BATT INS. REQ. @ 1HR RATED PARTITION
B4	3 5/8"	4 7/8"/ 6 1/8"	3 5/8"	40	50	48	56	
B6	6"	7 1/4"/ 8 1/2"	6 1/2"	40	51	48	58	
B8	8"							

B METAL STUD PARTITION



SCALE: 1 1/2" = 1'-0"

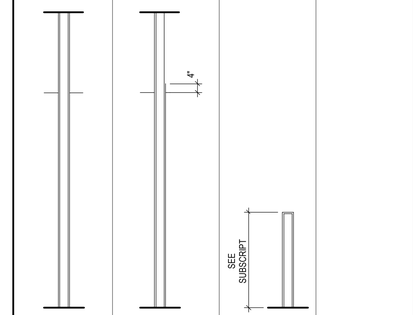
*** REFER TO SUBSCRIPT KEY FOR ADDITIONAL REQUIREMENTS ***

PARTITION TYPE	STUD WIDTH	PARTITION WIDTH 0.1hr	ACOUSTICAL INSULATION WIDTH	STC @ 0.1hr W/O INS	STC @ 0.1hr W/ INS			NOTES
G2	2 1/2"	3 3/4"	2 3/4"	40	47			1.5" OF BATT INS. REQ. @ 1HR RATED PARTITION
G4	3 5/8"	4 7/8"	3 5/8"	40	50			
G6	6"	7 1/4"	6 1/2"	40	51			

G METAL STUD PARTITION | FIRE RATING: NA

PARTITION TYPE SUBSCRIPT KEY

NOTE: TYPE A PARTITION IS SHOWN HERE AS A GENERAL REPRESENTATION. THESE SUBSCRIPT'S MODIFY BASIC PARTITION TYPE CONSTRUCTION REQUIREMENTS AND APPLY TO ALL PARTITION TYPES. (DEFER TO PARTITION TYPE WHERE SUBSCRIPT IS OMITTED)



A/RS — SUBSCRIPT (RS): PROVIDE BI-PASS CLIP AT FLOOR ASSEMBLY AS REQUIRED BY MANUFACTURER. EXTEND TO ROOF STRUCTURE.

A/0 — SUBSCRIPT (0): STUDS & GYP BD ONE SIDE TO STRUCTURE, GYP BD ONE SIDE TO 4" ABOVE CEILING

A/42" — SUBSCRIPT (X"): PARTITION HEIGHT AS NOTED. SEE DETAIL FOR WALL CAP REQUIREMENTS.

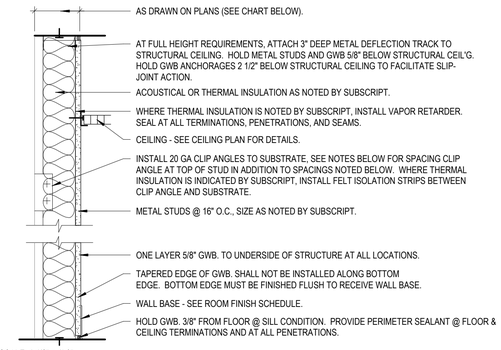
A/2HR — SUBSCRIPT (X HR): PARTITION TO BE FIRE RATED AS INDICATED.

A/A — SUBSCRIPT (A): ACOUSTICAL INSULATION (DEFER TO PARTITION TYPE WHERE 'A' IS NOT NOTED)

A/T — SUBSCRIPT (T): THERMAL INSULATION (DEFER TO PARTITION TYPE WHERE 'T' IS NOT NOTED)

A/AR — SUBSCRIPT (AR): ABUSE-RESISTANT GYP.

A/MR — SUBSCRIPT (MR): MOISTURE-RESISTANT GYP.



SCALE: 1 1/2" = 1'-0"

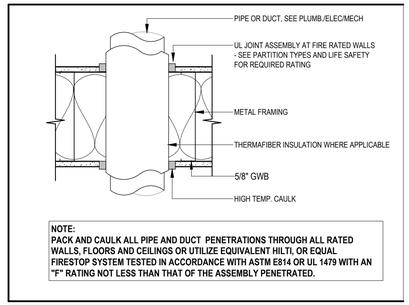
*** REFER TO SUBSCRIPT KEY & PARTITION NOTES FOR ADDITIONAL REQUIREMENTS ***

PARTITION TYPE	STUD WIDTH	PARTITION WIDTH	THERMAL INSULATION WIDTH & R VALUE	STC W/O INS	STC W/ INS	NOTES
F2	1 5/8"	2 1/4"	NOT AVAIL.	NA	NA	PROVIDE CLIP ANGLES TO SUBSTRATE @ 4'-0" O.C. (MAX.) VERTICAL
F4	3 5/8"	4 1/4"	3 1/2" R=11	NA	NA	PROVIDE BRACES TO SUBSTRATE AT VERTICAL MIDPOINT OF STUD WHERE UNBRACED HEIGHT EXCEEDS 12'-0"
F6	6"	6 5/8"	6 1/4" R=19	NA	NA	PROVIDE BRACES TO SUBSTRATE AT VERTICAL MIDPOINT OF STUD WHERE UNBRACED HEIGHT EXCEEDS 12'-0"

F METAL STUD FURRING/NON RATED SHAFT | FIRE RATING: 0 HOUR

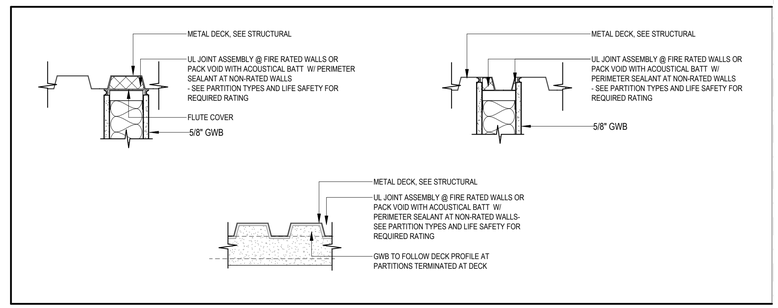
GENERAL INTERIOR PARTITION NOTES TO CONTRACTOR

1. REFER TO PARTITION DETAILS FOR CONSTRUCTION REQUIREMENTS OF PARTITION TYPES. REFER ALSO TO PARTITION TYPE SUBSCRIPT KEY FOR MODIFICATIONS TO BASIC PARTITION TYPE. IF NO PARTITION TYPE TAG IS INDICATED ON THE PLANS FOR A SPECIFIC SECTION OF METAL STUD WALL, PROVIDE PARTITION TYPE 'A3, SUBSCRIPT -.A'. IF NO PARTITION TYPE TAG IS INDICATED ON THE PLANS FOR A SPECIFIC SECTION OF MASONRY WALL, PROVIDE PARTITION TYPE 'M8'. NOTE SOME PARTITION TYPES DESCRIBED MAY NOT BE USED ON THIS PROJECT.
2. REFER TO 'PARTITION TYPE SUBSCRIPT KEY' FOR SYMBOLS AND SUBSCRIPTS USED TO IDENTIFY ADDITIONAL REQUIREMENTS OR MODIFICATIONS TO BASIC PARTITION TYPE.
3. PARTITION DETAILS DESCRIBE GENERAL REQUIREMENTS FOR PARTITIONS. REFER TO THE MANUFACTURERS' SPECIFICATIONS AND REQUIREMENTS OF APPLICABLE TESTING AGENCIES FOR SPECIFICS OF PARTITION CONSTRUCTION.
4. ALL PENETRATIONS IN ACOUSTICALLY RATED, FIRE RATED, AND SMOKE RATED PARTITIONS AND CONNECTIONS OF THE PARTITIONS TO OTHER PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED DETAILS AND IN COMPLIANCE WITH APPLICABLE TESTING AGENCY REQUIREMENTS.
5. ALL PENETRATIONS IN ACOUSTICALLY RATED PARTITIONS ARE TO BE ACOUSTICALLY SEALED TO MAINTAIN STC ASSEMBLY RATINGS.
6. FIREWALLS, FIRE PARTITIONS, FIRE BARRIERS OR ANY WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE IDENTIFIED PER SPECIFICATIONS AND CODE.
7. WHERE FIREWALLS, FIRE PARTITIONS, FIRE BARRIERS OR ANY WALL REQUIRED TO HAVE FIRE RATING IS CALLED OUT IN THE DRAWINGS, EXTEND THE RATING UP TO THE NEXT FIRE RATED PARTITION IN A MANNER THAT ENSURES A CONTINUOUS FIRE SEPARATION AND MAINTAINS THE INTEGRITY OF THE FIRE RATED PARTITION. PROVIDE FIRE RESISTIVE JOINT SYSTEMS PER SPECIFICATIONS.
8. AT PLENUM RATED CEILINGS, ALL PENETRATIONS ARE TO BE SEALED TO MAINTAIN PLENUM CEILINGS AIR TIGHTNESS / 5PSF.
9. REFER TO STRUCTURAL DRAWINGS FOR EXTENT AND DESCRIPTION OF INTERIOR STRUCTURAL WALLS.
10. INSTALL BLOCKING OR BACKER MATERIAL FOR ATTACHMENT/MOUNTING OF ALL WALL HUNG ITEMS OR EQUIPMENT DESCRIBED IN THE DOCUMENTS, WHETHER CONTRACTOR FURNISHED OR OWNER FURNISHED.
11. COORDINATE WITH OWNER THE LOCATION OF BLOCKING FOR OWNER SUPPLIED ITEMS.
12. WHERE PARTITIONS AND/OR FURRING MEET, MAINTAIN SURFACES FLUSH AND PLUMB.
13. PROVIDE 5/8" GWB UNLESS NOTED OTHERWISE.
14. PROVIDE MOISTURE RESISTANT GYPSUM BOARD AT ALL TOILET ROOMS AND WET AREAS UNLESS NOTED OTHERWISE.
15. INSTALLATION OF ALL TYPES OF GYPSUM BOARD SHALL CONFORM TO REQUIREMENTS FOR FIRE RATINGS AND ACOUSTICAL RATINGS.
16. ALL GYPSUM WALL BOARD IS TO BE INSTALLED WITH THE LONG DIMENSION RUNNING HORIZONTALLY UNLESS THE REQUIREMENT FOR THE FIRE RATING AND ACOUSTICAL RATINGS DIFFER.
17. U.N.O PROVIDE 4" AT DOOR JAMBS (FROM EDGE OF FRAME TO FINISHED FACE OF WALL)
18. TYPICAL FLOOR PLAN DIMENSIONS ARE TO THE FACE OF THE OUTERMOST LAYER OF GYPSUM BOARD UNLESS NOTED AS TO CENTERLINE OF PARITION.
19. WHERE A CLEAR DIMENSION OR OPENING IS REQUIRED OR NOTED, MEASURE DIMENSION TO FACE OF PARTITION FINISH.
20. WHERE THERMAL INSULATION IS NOTED BY SUBSCRIPT, INSTALL VAPOR RETARDER. SEAL AT ALL TERMINATIONS, PENETRATIONS, AND SEAMS. INSTALL FELT ISOLATION STRIPS BETWEEN CLIP ANGLE AND SUBSTRATE.
21. USE L/240 DEFLECTION AT ALL WALLS EXCEPT THOSE SPECIFIED WITH A TILE FINISH. USE L/360 AT WALLS SPECIFIED WITH A TILE FINISH
22. METAL STUDS TO BE 30 MIL (33 KSI) MINIMUM UNO. METAL FRAMING CONTRACTOR TO CONFIRM GUAGE, SPACING, BRACING REQUIREMENTS PER MANUFACTURER TESTING DATA AND AISI S201, AISI S100



NOTE:
PACK AND CAULK ALL PIPE AND DUCT PENETRATIONS THROUGH ALL RATED WALLS, FLOORS AND CEILINGS OR UTILIZE EQUIVALENT HILTI, OR EQUAL FIRESTOP SYSTEM TESTED IN ACCORDANCE WITH ASTM E814 OR UL 1479 WITH AN "F" RATING NOT LESS THAN THAT OF THE ASSEMBLY PENETRATED.

TYP. RATED WALL AND MEMBRANE PENETRATION



PARTITION TO DECK TERMINATIONS AND JOINTS

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REVISIONS

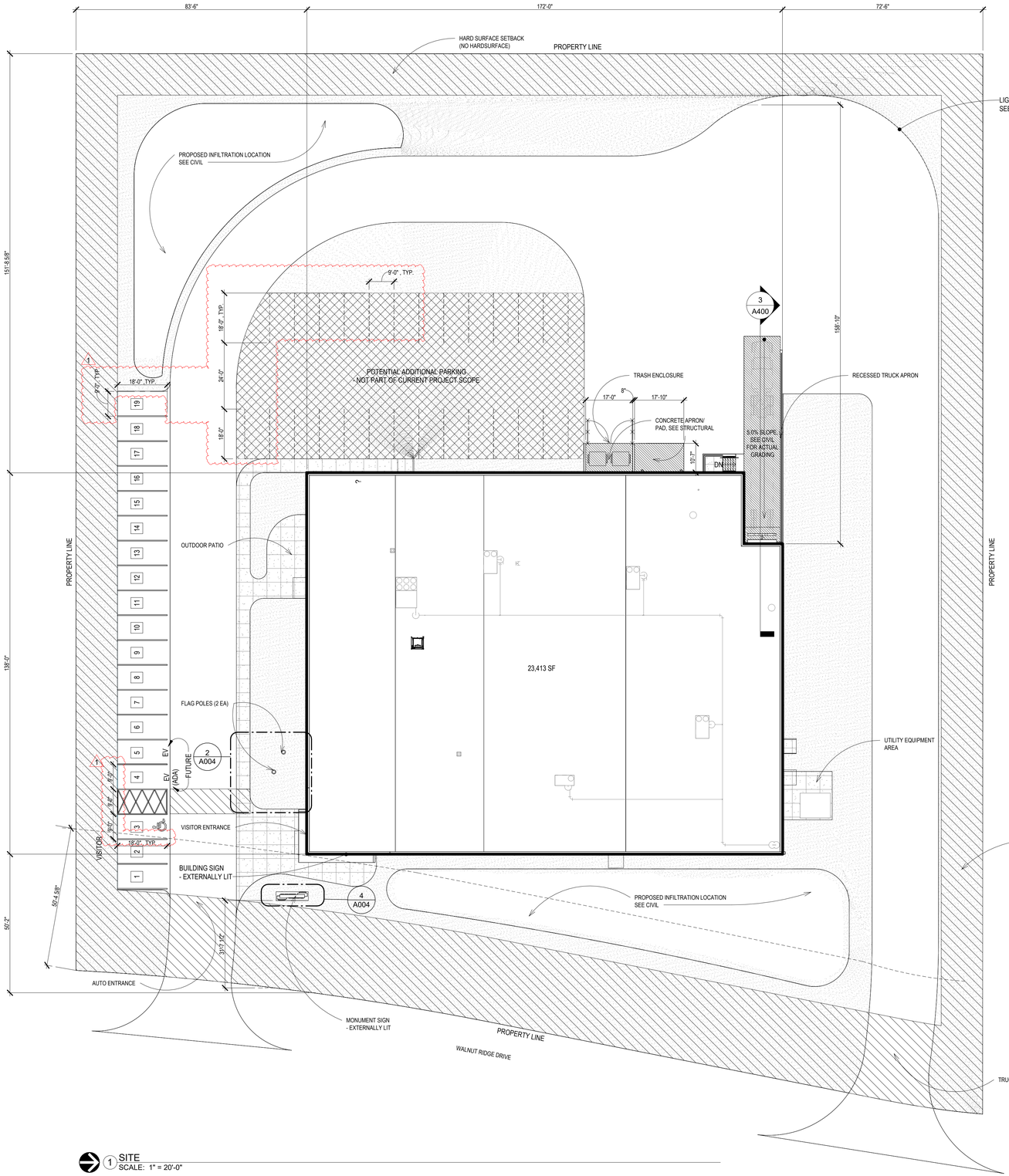
PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : PARTITION TYPES

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

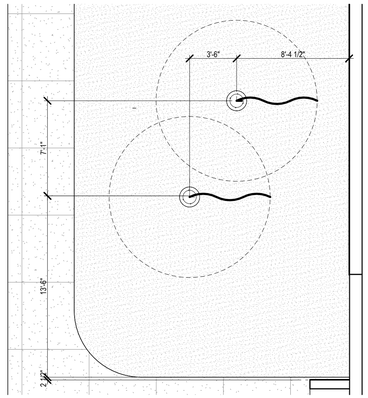
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

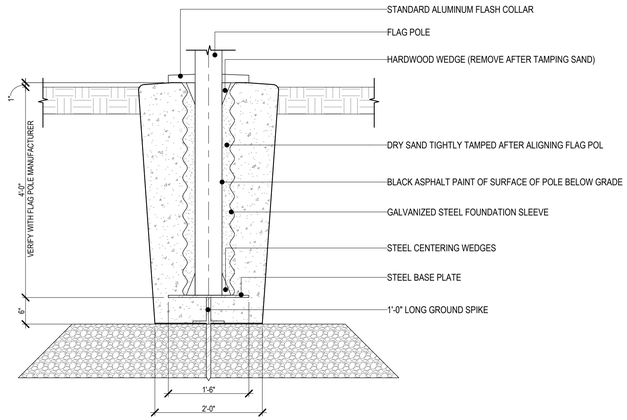
SHEET NO.
A002



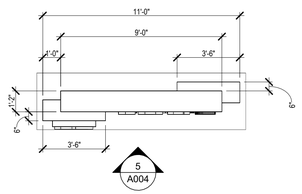
1 SITE
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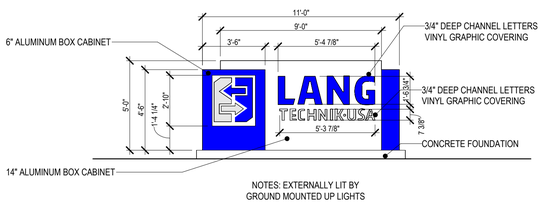
2 ENLARGED FLAGPOLE PLAN
SCALE: 3/16" = 1'-0"



3 FLAG POLE DETAIL
SCALE: 3/4" = 1'-0"



4 MONUMENT SIGN PLAN
SCALE: 1/4" = 1'-0"



5 MONUMENT SIGN ELEVATION
SCALE: 1/4" = 1'-0"

REVISIONS

1	10/16/2024	REVISION 1

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : ARCHITECTURAL SITE PLAN

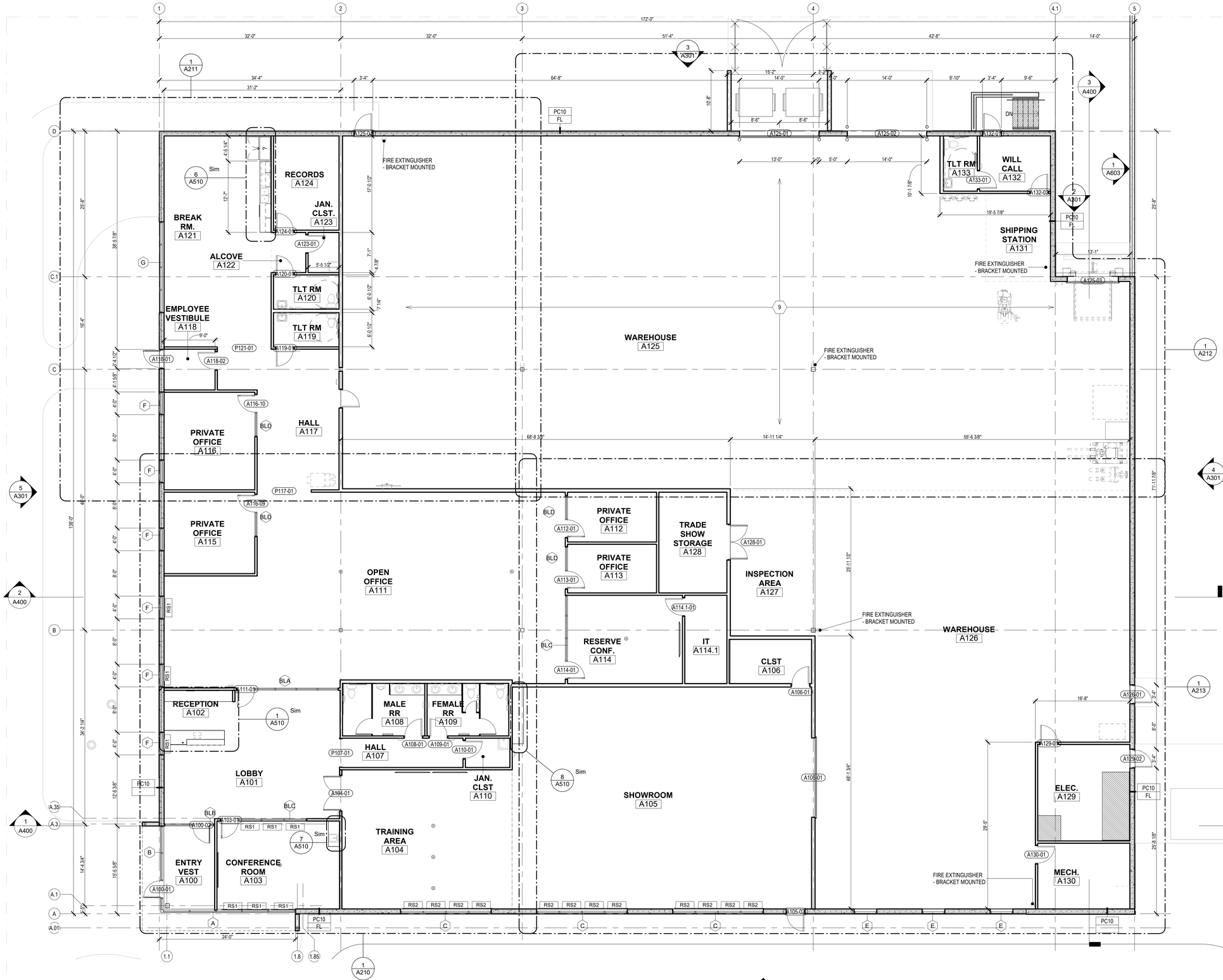
PROJECT INFORMATION:

OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

SHEET NO.
A004

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GENERAL FLOOR PLAN NOTES TO CONTRACTOR

1. THIS DRAWING IS FURTHER SUPPORTED BY INFORMATION CONTAINED IN THE SPECIFICATION MANUAL.
2. THE CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AUDIO-VISUAL, AND SECURITY DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE INFORMATION CONTAINED IN ALL THE DRAWINGS BEFORE THE INSTALLATION OF ALL WORK.
3. DO NOT SCALE DRAWINGS. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO COMMENCING CONSTRUCTION.
4. FLOOR ELEVATIONS ARE TO THE TOP OF THE SUB-FLOOR MATERIAL UNLESS OTHERWISE NOTED.
5. CONTRACTORS SHALL JOINTLY PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACKING PLATES, WALL BLOCKING AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF CASEWORK, TOILET ACCESSORIES, PARTITIONS, MILLWORK, AND ALL WORK MOUNTED OR SUSPENDED BY ALL TRADES.
6. SEE SHEET G001 FOR ACCESSORIES DESIGNATIONS.
7. SEE SHEET A810 FOR DOCK EQUIPMENT LEGEND.
8. ALL STEEL COLUMNS, BEAMS, AND STRUCTURE TO BE PAINTED TO MATCH ADJACENT WALL PAINT

NEW WORK PLAN KEY NOTES

SEE PROJECT GENERAL CONDITIONS, GENERAL INFORMATION AND SELECTIVE DEMOLITION, CUTTING AND PATCHING SPECIFICATIONS THAT ARE USED IN ASSOCIATION WITH THESE NOTES....

1	PROVIDE 3/4" PLYWOOD BLOCKING BEHIND GWB 36" AFF - 90"AFF AT LENGTH OF TV DISPLAY e
2	PHENOLIC ADA TOILET PARTITIONS W/ 32" (CLEAR DIM) X 72" DOORS AND PRIVACY BATTEN (OR EQUIVALENT)
3	PHENOLIC TOILET PARTITION W/ 24" X 72" DOORS AND PRIVACY BATTEN (OR EQUIVALENT)
4	SEE G100 FOR ADA GRAB BAR REQUIREMENTS
6	FINISH MASONRY WALL WITH BLOCK FILLER AND 2 COATS OF PAINT
7	16'-0" WIDE X 8'-0" HIGH MANUAL DOUBLE SWING CHAINLINK GATE. ALL MATERIAL TO BE GALVANIZED. PROVIDE VINYL PRIVACY SLATS
8	SHEET METAL VALANCE OVERHEAD TO CONCEAL COMPRESSED AIR PIPING. 24 GA SHEET METAL PAINTED TO MATCH WALL. BRACKET SUPPORTED @ 24" OC MAX. SEE DETAIL 14/A520
9	RACKING BY OWNER. NON-COMBUSTIBLE PRODUCT (METAL CLAMPS) IN CARDBOARD BOXES W/, ON WOOD PALLETS AND WRAPPED IN LINEAR LOW-DENSITY POLYETHYLENE (LLDPE/LDPE)PLASTIC. LIMITED QUANTITIES OF UNASSEMBLED CARDBOARD BOXES AND BUBBLE WRAP WILL BE STORED. TOP OF PRODUCT LESS THAN 12'-0".
10	PROVIDE TEAR AWAY BEAD AT ALL COLUMN TO GWB JOINTS, PROVIDE CONTINUOUS PAINTABLE SEALANT ALONG EDGE. STEEL COLUMN TO BE PAINTED TO MATCH ADJACENT WALL
11	PROVIDE EXPANSION JOINT AT GWB. PROVIDE DOUBLE STUD FOR GWB AND JOINT ATTACHMENT.
12	WALL OPENING. CORNER BEADS AT ALL CORNERS. GWB AND METAL FRAMED HEADER ABOVE
X	NOTE

NEW WORK PLAN LEGEND

STUD PARTITION, SEE PARTITION TYPES FOR DETAILS

MASONRY PARTITION, SEE PARTITION TYPES FOR DETAILS

AREA 'B' AREA 'C'

AREA 'A' AREA 'D'

KEY PLAN

TRUE NORTH

REVISIONS

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : OVERALL FLOOR PLAN - 1ST LEVEL

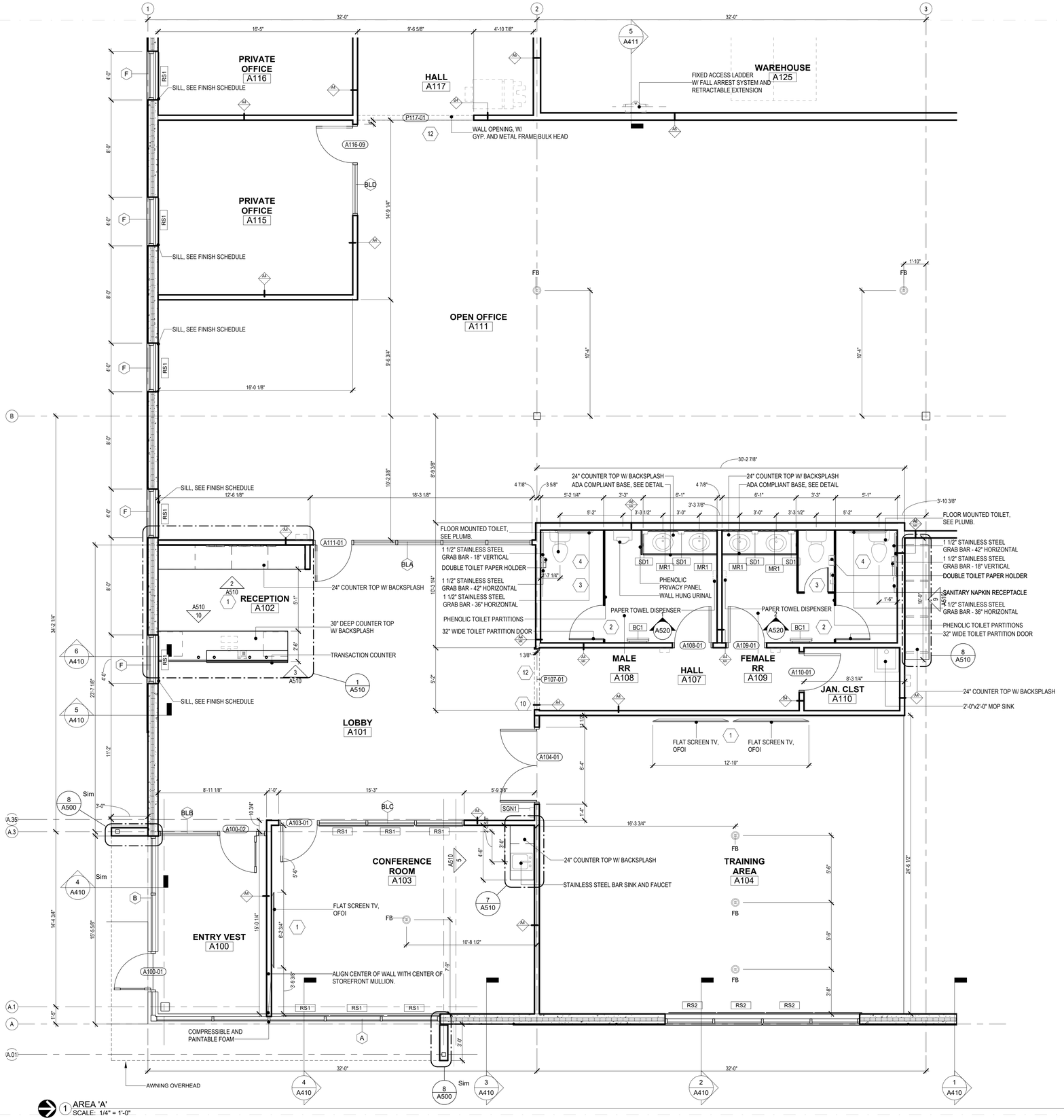
PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A200

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GENERAL FLOOR PLAN NOTES TO CONTRACTOR

1. THIS DRAWING IS FURTHER SUPPORTED BY INFORMATION CONTAINED IN THE SPECIFICATION MANUAL.
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3. DO NOT SCALE DRAWINGS. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO COMMENCING CONSTRUCTION.
4. FLOOR ELEVATIONS ARE TO THE TOP OF THE SUB-FLOOR MATERIAL UNLESS OTHERWISE NOTED.
5. CONTRACTORS SHALL JOINTLY PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACKING PLATES, WALL BLOCKING AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF CASEWORK, TOILET ACCESSORIES, PARTITIONS, MILLWORK, AND ALL WORK MOUNTED OR SUSPENDED BY ALL TRADES.
6. SEE SHEET G001 FOR ACCESSORIES DESIGNATIONS.
7. SEE SHEET A810 FOR DOCK EQUIPMENT LEGEND.
8. ALL STEEL COLUMNS, BEAMS, AND STRUCTURE TO BE PAINTED TO MATCH ADJACENT WALL PAINT

NEW WORK PLAN KEY NOTES

SEE PROJECT GENERAL CONDITIONS, GENERAL INFORMATION AND SELECTIVE DEMOLITION, CUTTING AND PATCHING SPECIFICATIONS THAT ARE USED IN ASSOCIATION WITH THESE NOTES....

1	PROVIDE 3/4" PLYWOOD BLOCKING BEHIND GWB 36" AFF - 90"AFF AT LENGTH OF TV DISPLAY e
2	PHENOLIC ADA TOILET PARTITIONS W/ 3/2" (CLEAR DIM) X 72" DOORS AND PRIVACY BATTEN (OR EQUIVALENT)
3	PHENOLIC TOILET PARTITION W/ 24" X 72" DOORS AND PRIVACY BATTEN (OR EQUIVALENT)
4	SEE G100 FOR ADA GRAB BAR REQUIREMENTS
6	FINISH MASONRY WALL WITH BLOCK FILLER AND 2 COATS OF PAINT
7	16'-0" WIDE X 8'-0" HIGH MANUAL DOUBLE SWING CHAINLINK GATE. ALL MATERIAL TO BE GALVANIZED. PROVIDE VINYL PRIVACY SLATS
8	SHEET METAL VALANCE OVERHEAD TO CONCEAL COMPRESSED AIR PIPING. 24 GA SHEET METAL PAINTED TO MATCH WALL. BRACKET SUPPORTED @ 24" OC MAX. SEE DETAIL 14/A520
9	RACKING BY OWNER. NON-COMBUSTIBLE PRODUCT (METAL CLAMPS) IN CARDBOARD BOXES W/, ON WOOD PALLETS AND WRAPPED IN LINEAR LOW-DENSITY POLYETHYLENE (LLDPE/LDPE)PLASTIC. LIMITED QUANTITIES OF UNASSEMBLED CARDBOARD BOXES AND BUBBLE WRAP WILL BE STORED. TOP OF PRODUCT LESS THAN 12'-0".
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11	PROVIDE EXPANSION JOINT AT GWB. PROVIDE DOUBLE STUD FOR GWB AND JOINT ATTACHMENT.
12	WALL OPENING. CORNER BEADS AT ALL CORNERS. GWB AND METAL FRAMED HEADER ABOVE
X	NOTE

AREA 'B' AREA 'C'

AREA 'A' AREA 'D'

TRUE NORTH

KEY PLAN

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REVISIONS

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : PARTIAL PLAN LEVEL 01 - AREA A

PROJECT INFORMATION:

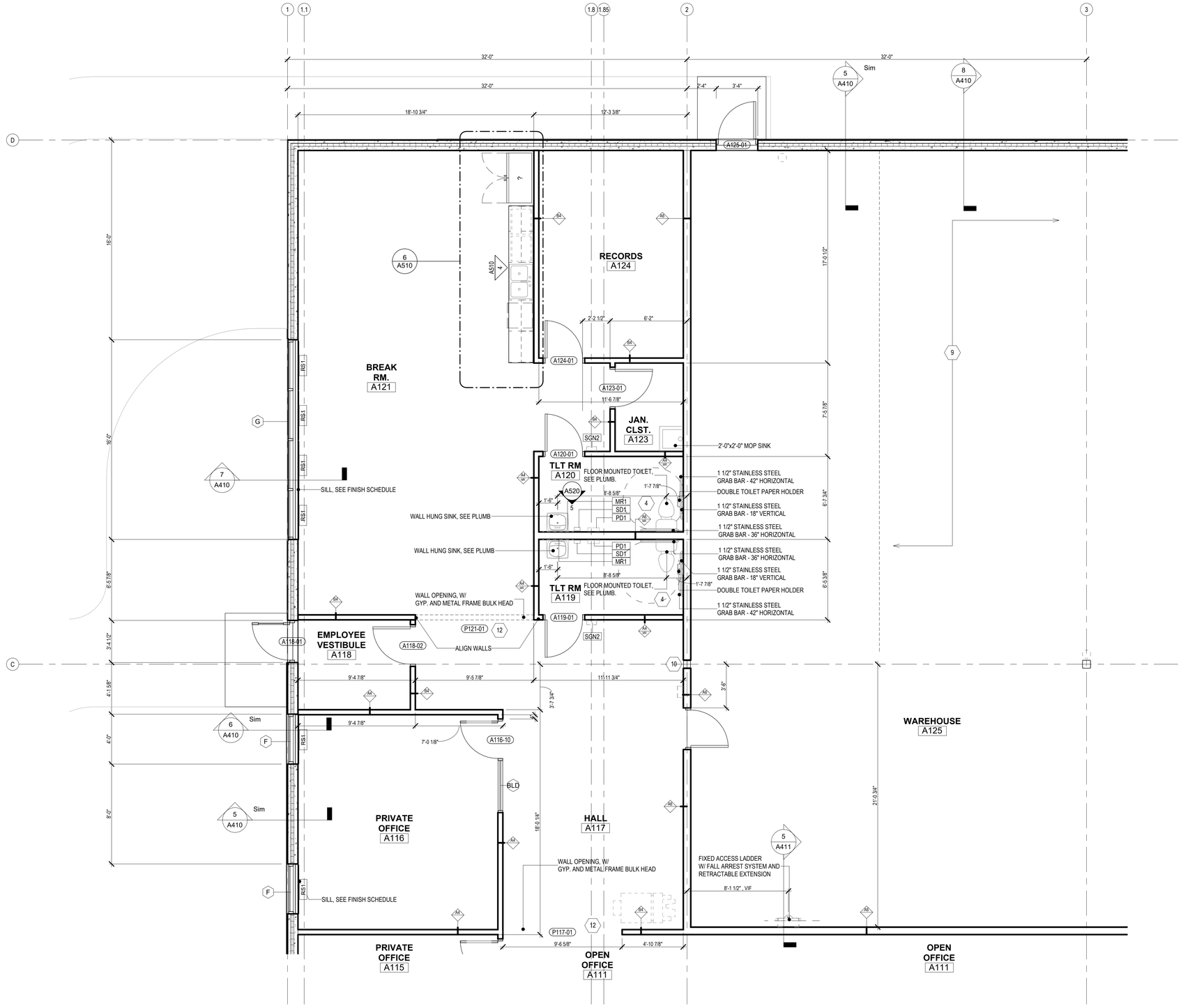
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY

ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-9977
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A210



1 AREA 'B'
SCALE: 1/4" = 1'-0"

GENERAL FLOOR PLAN NOTES TO CONTRACTOR

1. THIS DRAWING IS FURTHER SUPPORTED BY INFORMATION CONTAINED IN THE SPECIFICATION MANUAL.
2. THE CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AUDIO-VISUAL, AND SECURITY DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE INFORMATION CONTAINED IN ALL THE DRAWINGS BEFORE THE INSTALLATION OF ALL WORK.
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6 SEE SHEET G001 FOR ACCESSORIES DESIGNATIONS.
7 SEE SHEET A810 FOR DOCK EQUIPMENT LEGEND.
8 ALL STEEL COLUMNS, BEAMS, AND STRUCTURE TO BE PAINTED TO MATCH ADJACENT WALL PAINT

NEW WORK PLAN KEY NOTES

SEE PROJECT GENERAL CONDITIONS, GENERAL INFORMATION AND SELECTIVE DEMOLITION, CUTTING AND PATCHING SPECIFICATIONS THAT ARE USED IN ASSOCIATION WITH THESE NOTES....

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6	FINISH MASONRY WALL WITH BLOCK FILLER AND 2 COATS OF PAINT
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8	SHEET METAL VALANCE OVERHEAD TO CONCEAL COMPRESSED AIR PIPING. 24 GA SHEET METAL PAINTED TO MATCH WALL. BRACKET SUPPORTED @ 24" OC MAX. SEE DETAIL 14/A520
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12	WALL OPENING. CORNER BEADS AT ALL CORNERS. GWB AND METAL FRAMED HEADER ABOVE
X	NOTE

AREA 'B' AREA 'C'
AREA 'A' AREA 'D'

TRUE NORTH

KEY PLAN

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : PARTIAL PLAN LEVEL 01 - AREA 'B'

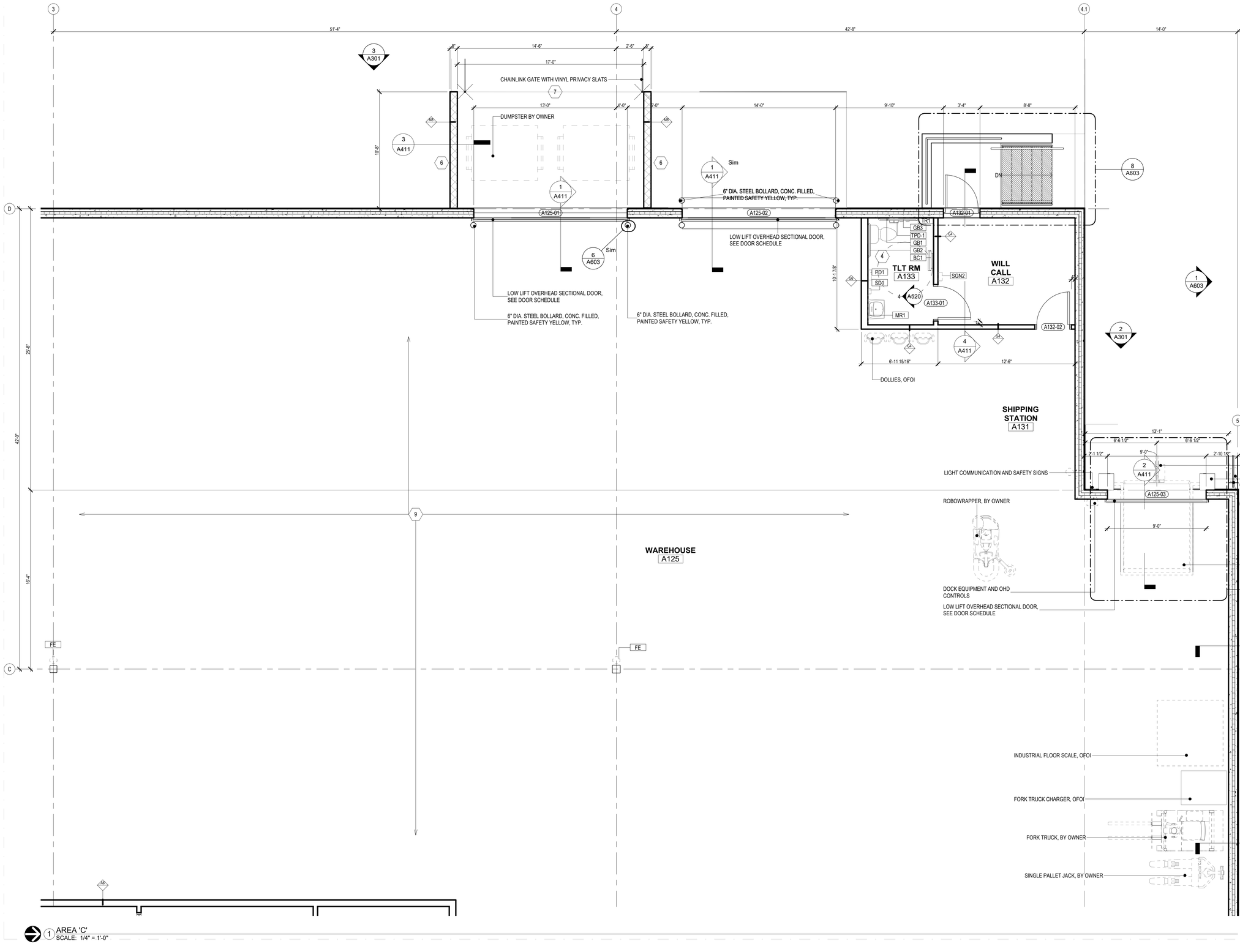
PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A211

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NEW WORK PLAN KEY NOTES

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X	NOTE

REVISIONS

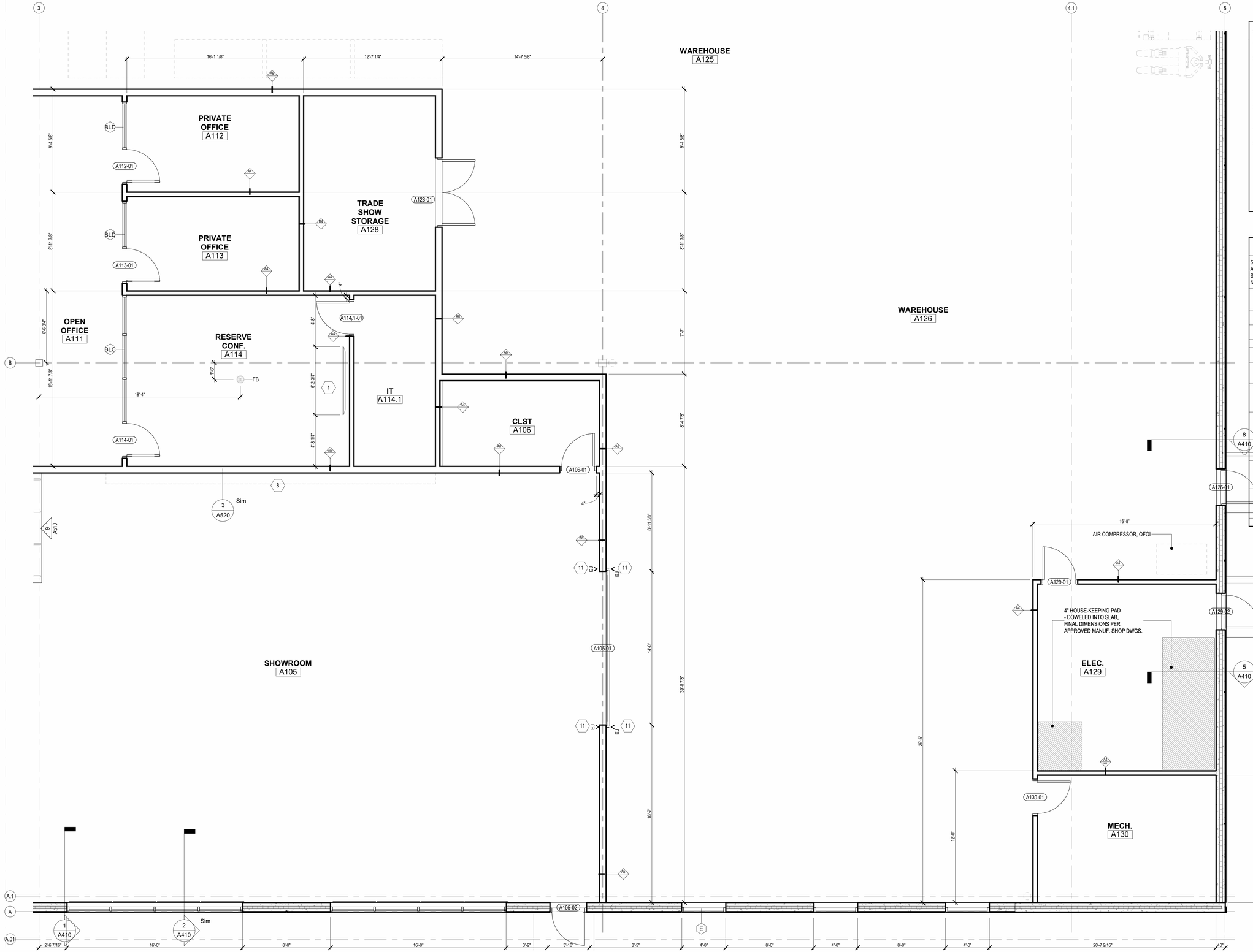
PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : PARTIAL PLAN LEVEL 01 - AREA 'C'

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6877
FAX: (262) 567-4676
OLIVER CONSTRUCTION CO.

SHEET NO.
A212

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NEW WORK PLAN KEY NOTES

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X	NOTE

KEY PLAN

1 AREA 'D'
SCALE: 1/4" = 1'-0"

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REVISIONS

PROJECT INFORMATION

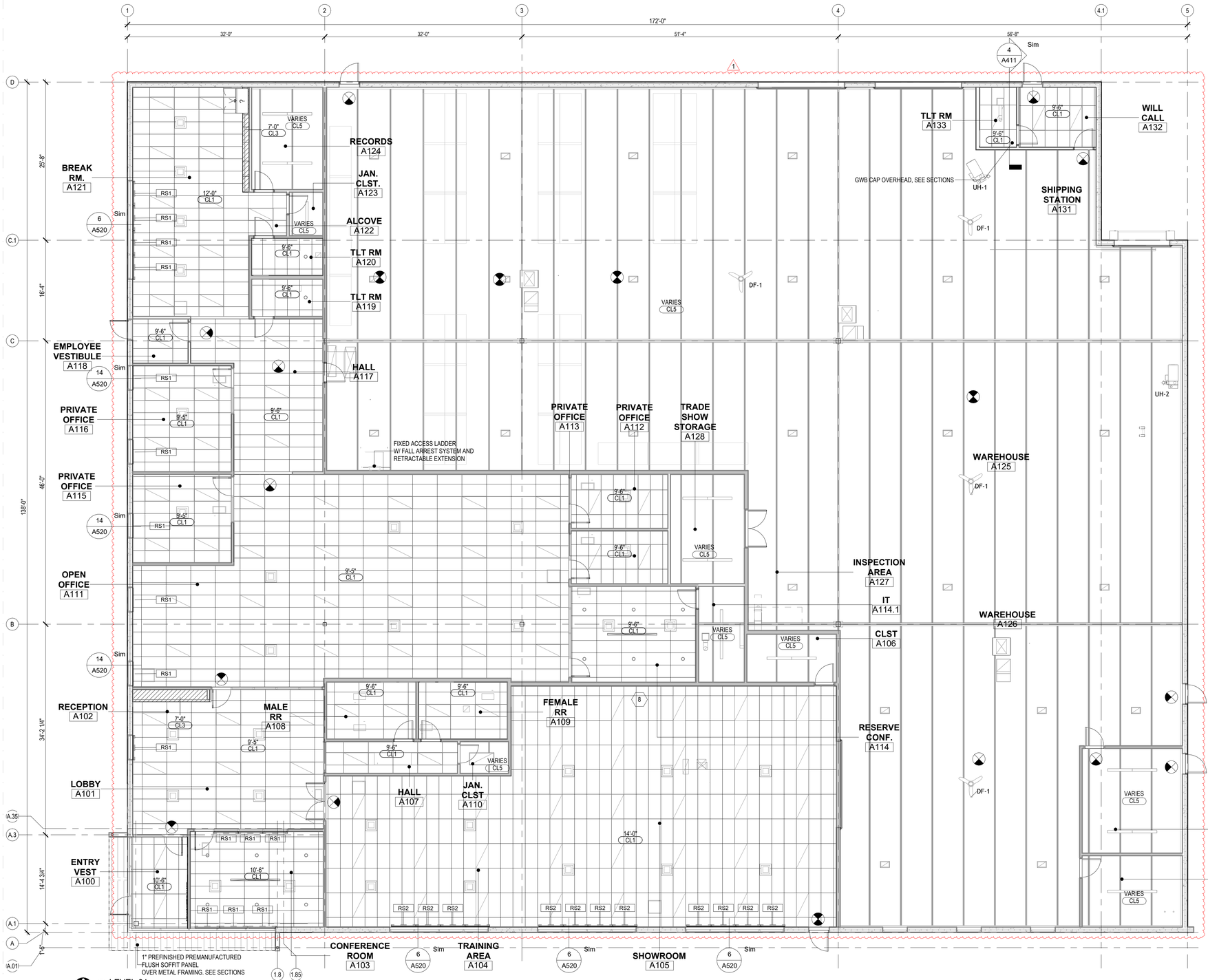
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : PARTIAL PLAN LEVEL 01 - AREA 'D'

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-9977
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A213



1 LEVEL 01
SCALE: 1/8" = 1'-0"

REFLECTED CEILING PLAN KEY

NOT ALL SYMBOLS MAY BE USED.

- (CL1) 2X4 ACOUSTICAL CEILING TILE SEE ROOM FINISH SCHEDULE FOR MORE INFORMATION
- (CL2) 2X4 ACOUSTICAL CEILING TILE. VINYL COATED GYPSUM. SEE ROOM FINISH SCHEDULE FOR MORE INFORMATION
- (CL3) GYPSUM WALL BOARD CEILING SEE ROOM FINISH SCHEDULE AND SPECIFICATIONS FOR MORE INFORMATION
- (CL4) EXPOSED CEILING SEE ROOM FINISH SCHEDULE
- (CL5) EXPOSED STEEL DECK AND STRUCTURE
- (CL7) METAL FRAMING W/ GYPSUM WALL BOARD CAP, PAINTED
- ROUND RECESSED DOWNLIGHT FIXTURE SEE ELECTRICAL DRAWINGS
- LINEAR PENDANT LIGHT SEE ELECTRICAL DRAWINGS
- 2X4 LIGHT FIXTURE SEE ELECTRICAL DRAWINGS
- (RS1) MANUAL ROLLER SHADE WITH VALANCE AND END CAPS
- (RS2) POWERED ROLLER SHADE WITH VALANCE AND END CAPS
- EXIT SIGN
- SUPPLY MECH DIFFUSER SEE MECHANICAL DRAWINGS
- MECH RETURN DIFFUSER SEE MECHANICAL DRAWINGS
- MECH EXHAUST SEE MECHANICAL DRAWINGS
- WALL ASSEMBLY TO DECK, SEE PARTITION TYPES

GENERAL REFLECTED CEILING PLAN NOTES TO CONTRACTOR

1. THIS PLAN SHALL BE USED TO ESTABLISH THE LOCATIONS OF THE MAJOR CEILING PENETRATIONS INCLUDING: LIGHTING, HVAC, ACCESS PANEL, SPRINKLERS, SPEAKERS, ETC. SEE MEPFP DRAWINGS FOR MORE SPECIFIC INFORMATION REGARDING EACH DISCIPLINE. IF CONFLICTS ARE DISCOVERED REGARDING LOCATION OF CEILING PENETRATIONS, CONTACT ARCHITECT FOR FURTHER INFORMATION.
2. ALL DEVICES SHOWN IN CEILING TILE SHALL BE LOCATED IN THE CENTER OF THAT TILE UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS TO CEILING FIXTURES ARE TO CENTER OF FIXTURE UNLESS NOTED OTHERWISE.

REVISIONS

1	10/16/2024 REVISION 1

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : RCP - LEVEL 01

PROJECT INFORMATION:

OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
A230

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ROOF SCHEDULE

TYPE A - ROOF ASSEMBLY - 7 1/2" ROOF CONSTRUCTION

- 2" OF STONE BALLAST PER ASTM D7655
- 60 MIL EPDM
- 1-LAYERS OF 2" POLYISOCYANURATE INSULATION **25 P.S.I. -** (ALL JOINTS TO BE STAGGERED BETWEEN LAYERS)
- 2-LAYER OF 2" POLYISOCYANURATE INSULATION TOTALING 4" - **20 P.S.I** - (ALL JOINTS TO BE STAGGERED BETWEEN LAYERS)
- 1 1/2" METAL ROOF DECK - SEE STRUCT. DWGS. FOR TYPE AND SPEC FOR FINISH

TYPE C - ROOF ASSEMBLY - 3" ROOF CONSTRUCTION

- FULLY ADHERED 60 MIL EPDM (WHITE) ROOF MEMBRANE
- 3/4" PRESSURE TREATED PLYWOOD - SEE STRUCT. DWGS. FOR TYPE AND SPEC

GENERAL ROOF NOTES

- NOT ALL MECHANICAL UNITS AND ROOF PENETRATIONS ARE SHOWN. REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL ROOF PENETRATIONS
- EPS INSULATION IS ALLOWABLE FOR DRAINAGE SADDLES
- SEE PLUMBING PLANS FOR GAS PIPE ROUTING.
- SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT ANCHORING

GENERAL ROOF NOTES

VTR	VENT THROUGH ROOF
EF	EXHAUST FAN (SEE MECH)
SF	SUPPLY VAN (SEE MECH)
RD	INTERNAL ROOF DRAIN
ORD	OVERFLOW ROOF DRAIN
DS	DOWNSPOUT WITH SCUPPER
RTU	ROOF TOP UNIT - SEE HVAC DWGS.
TWOS	THROUGH WALL OVERFLOW SCUPPER
SPO	SPILLOUT OVERFLOW
RTME	ROOF TOP MECHANICAL EQUIPMENT

GENERAL ROOF PLAN NOTES TO CONTRACTOR

1. PROVIDE FLASHINGS AND CRICKETS AT ALL EXTERIOR EQUIPMENT PENETRATIONS AND SUPPORT POSTS, ETC. REFER TO MECHANICAL DRAWINGS FOR DETAILS AND EXTENTS.

1 ROOF PLAN
SCALE: 1/8" = 1'-0"

3 ENLARGED ROOF PLAN HATCH
SCALE: 1/4" = 1'-0"

REVISIONS
1 10/16/2024 REVISION 1

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : ROOF PLAN

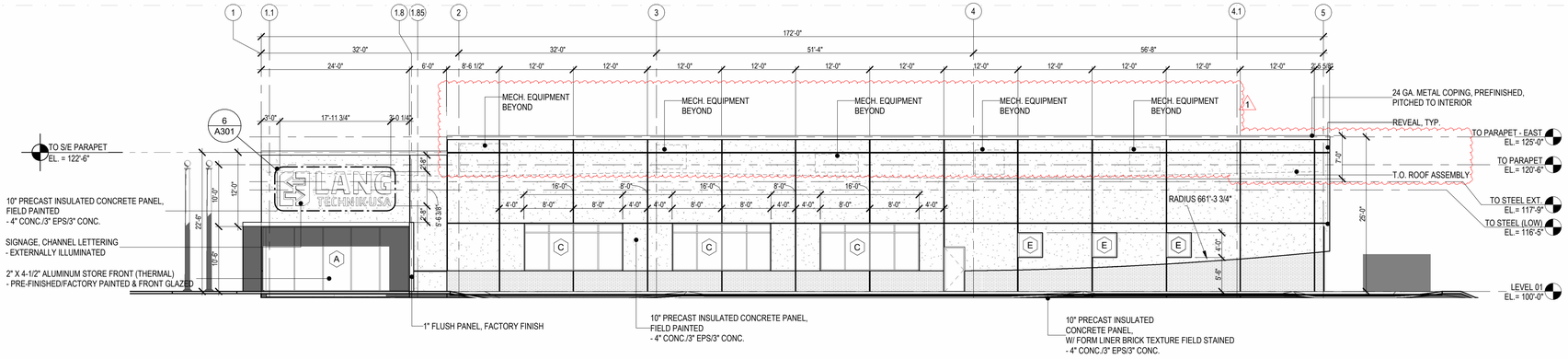
PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A240

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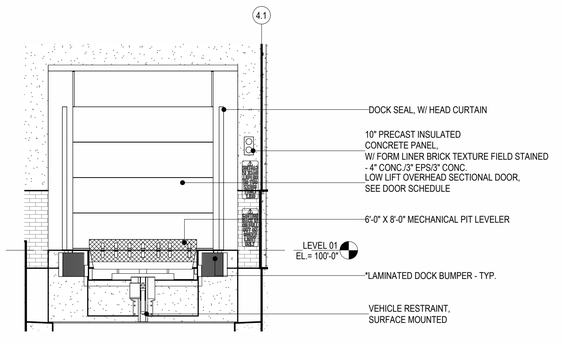


1 EXTERIOR ELEVATION - EAST
SCALE: 3/32" = 1'-0"

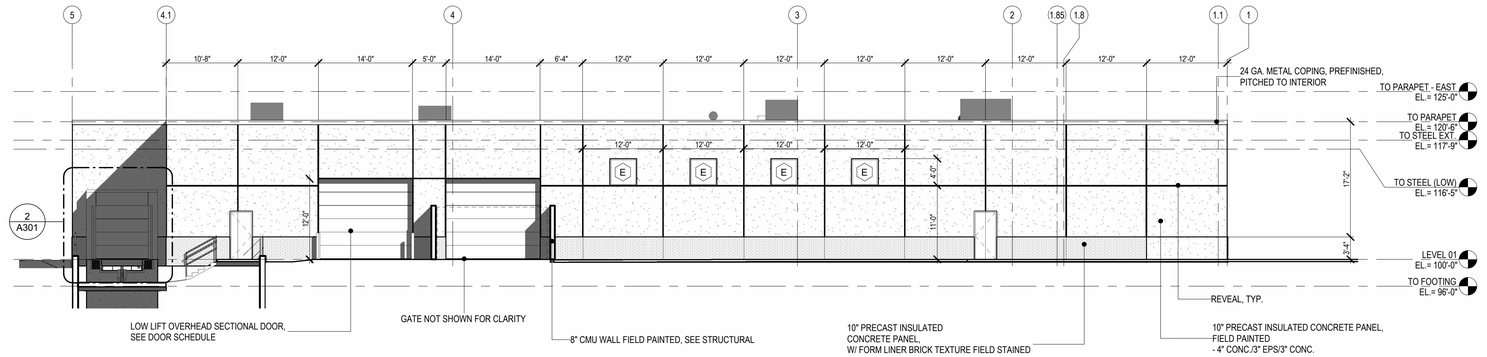
EXTERIOR FINISHES LEGEND

- SMOOTH FACE PRECAST, PAINTED
- FORM LINER BRICK TEXTURE, STAINED

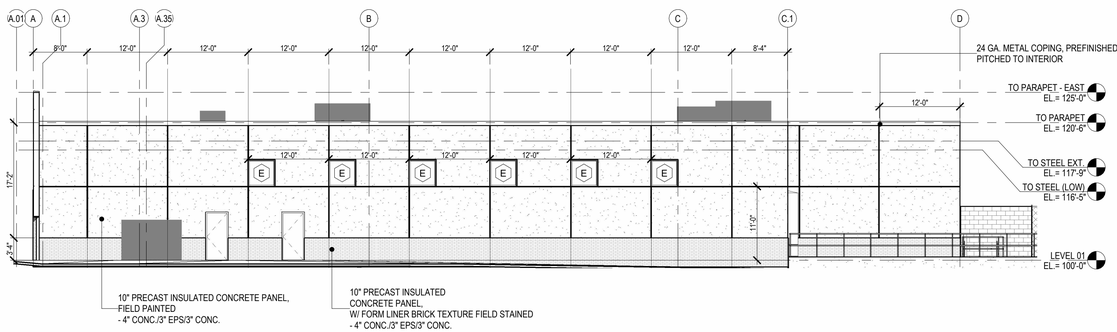
NOTES:
1) TRASH ENCLOSURE BLOCK TO BE PAINTED. BLOCK FILLER AND 2 COATS OF EPOXY PAINT



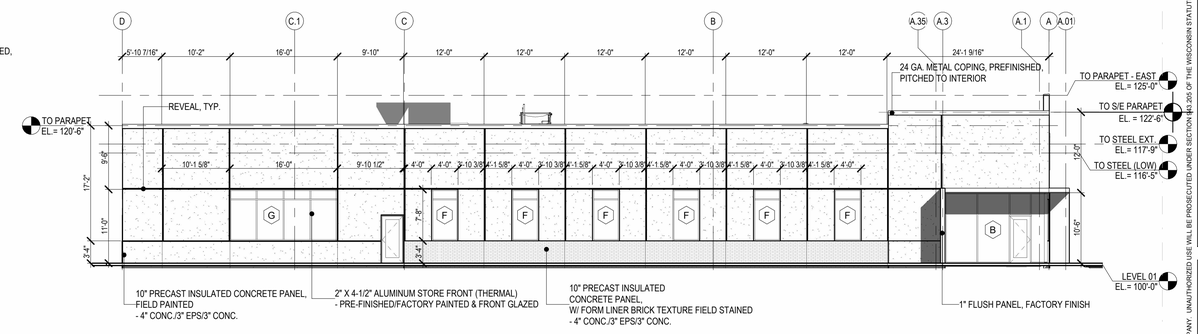
2 ENLARGED DOCK ELEVATION
SCALE: 1/4" = 1'-0"



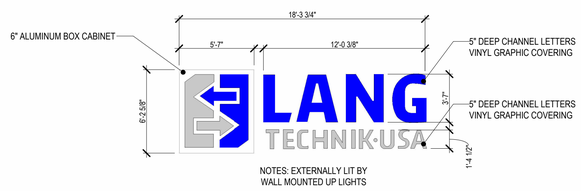
3 EXTERIOR ELEVATION - WEST
SCALE: 3/32" = 1'-0"



4 EXTERIOR ELEVATION - NORTH
SCALE: 3/32" = 1'-0"



5 EXTERIOR ELEVATION - SOUTH
SCALE: 3/32" = 1'-0"



6 BUILDING SIGNAGE
SCALE: 3/16" = 1'-0"

REVISIONS

1	10/16/2024 REVISION 1

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : EXTERIOR ELEVATIONS

PROJECT INFORMATION:

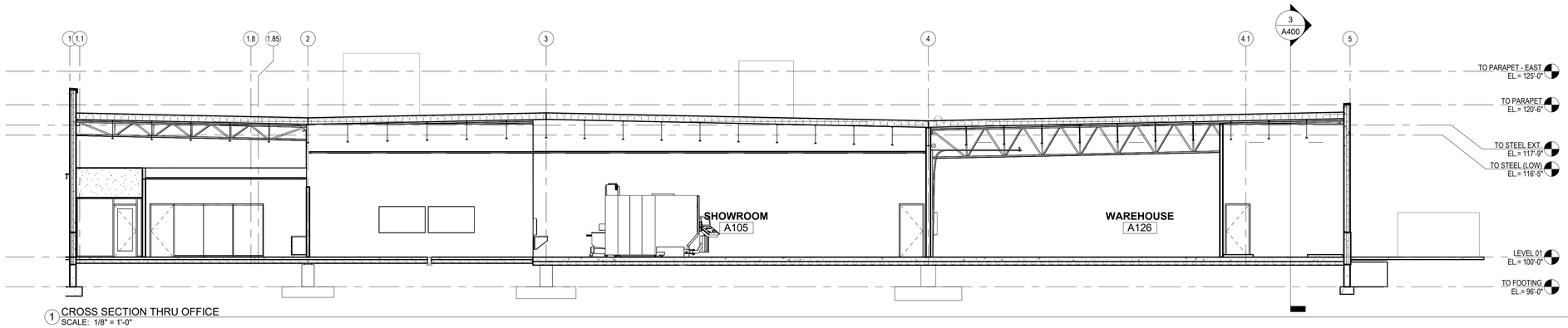
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

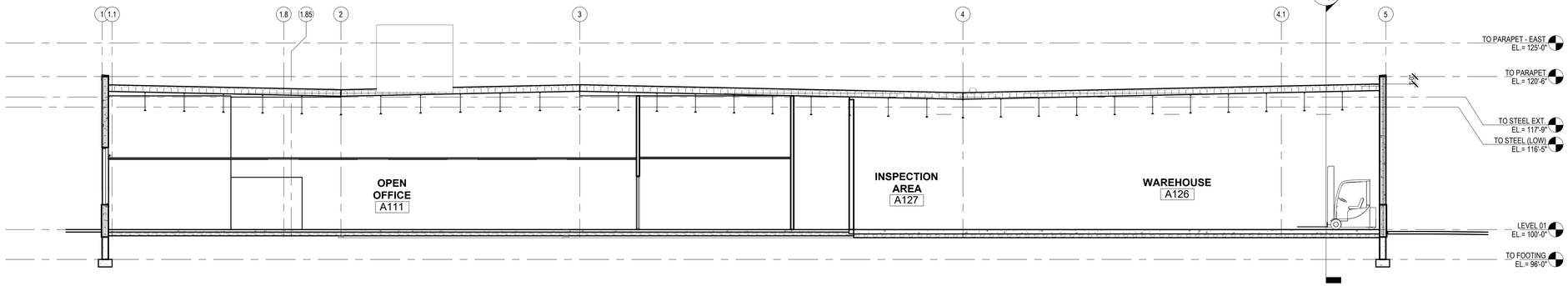
OLIVER CONSTRUCTION CO.

SHEET NO.
A301

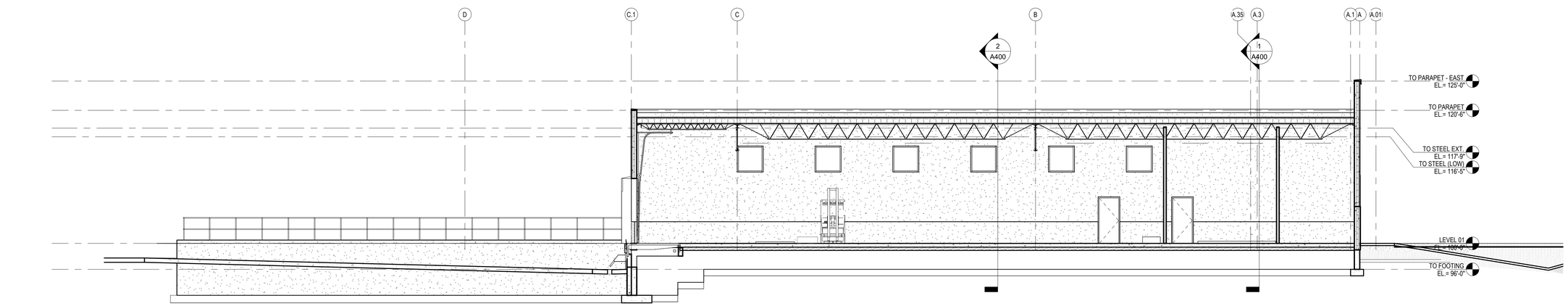
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1 CROSS SECTION THRU OFFICE
SCALE: 1/8" = 1'-0"



2 CROSS SECTION THRU OFFICE AND WAREHOUSE
SCALE: 1/8" = 1'-0"



3 DOCK
SCALE: 1/8" = 1'-0"

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : BUILDING SECTIONS

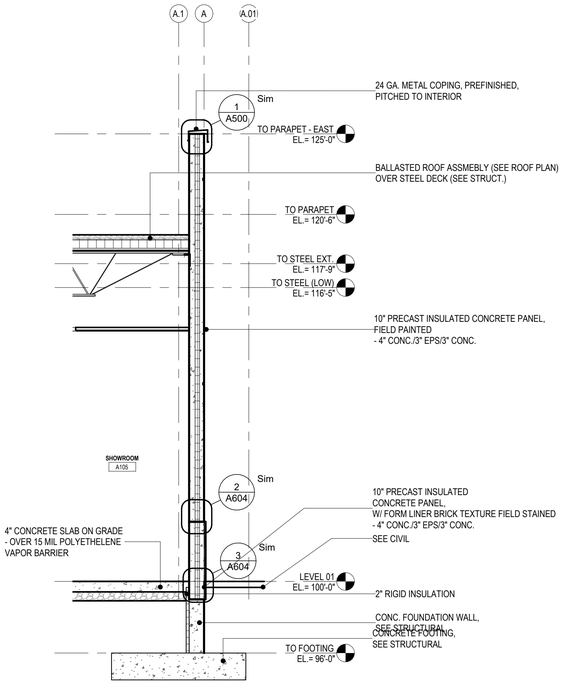
PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

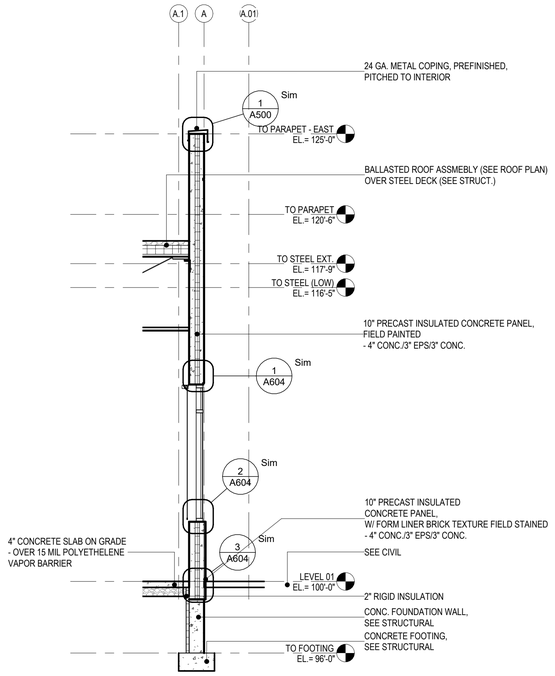
OLIVER CONSTRUCTION CO.

SHEET NO.
A400

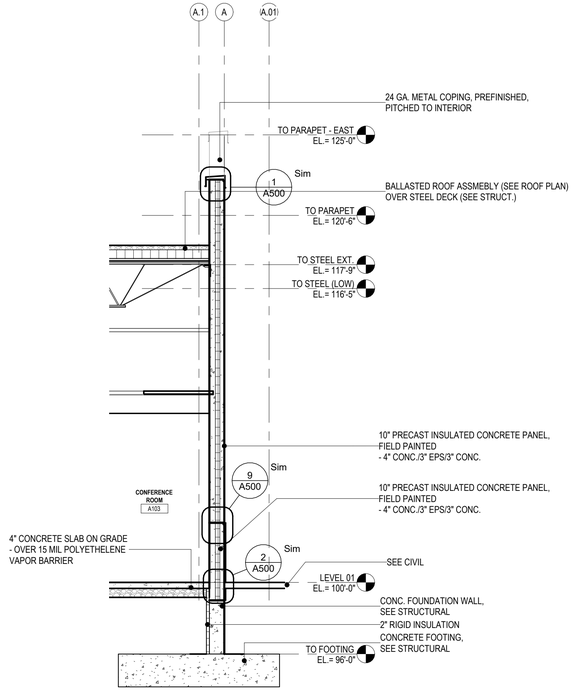
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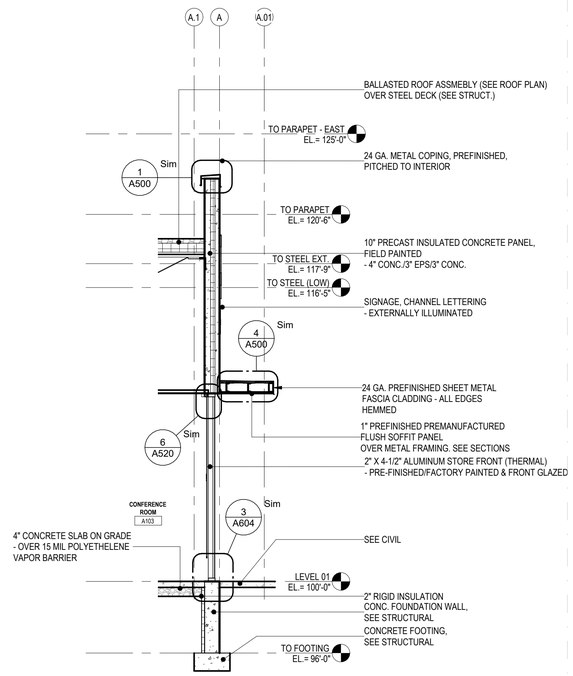
1 WALL SECTION @ EAST PRECAST
SCALE: 1/4" = 1'-0"



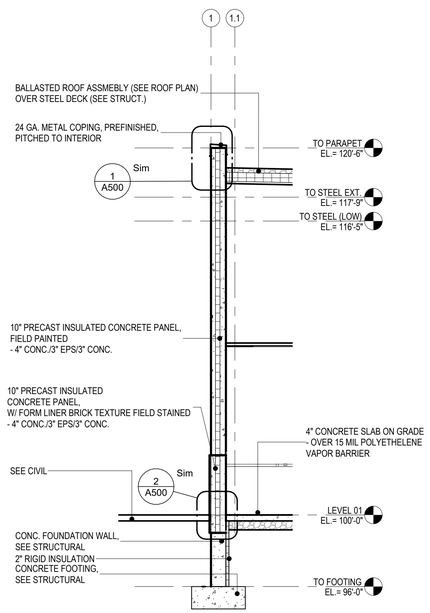
2 WALL SECTION @ EAST WALL W/ WINDOW
SCALE: 1/4" = 1'-0"



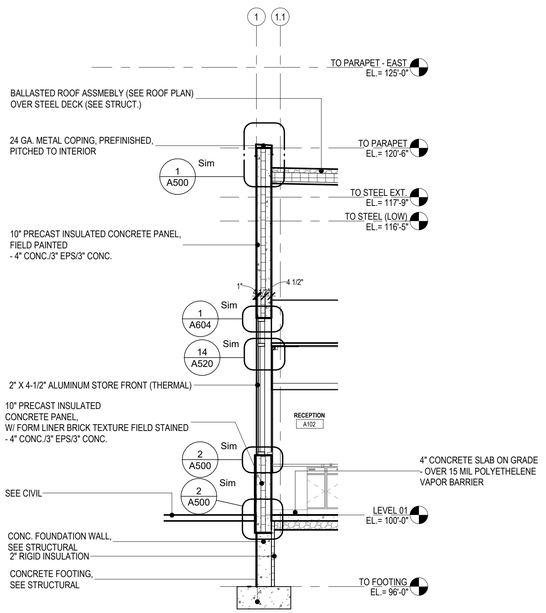
3 WALL SECTION @ TYPICAL EAST PRECAST
SCALE: 1/4" = 1'-0"



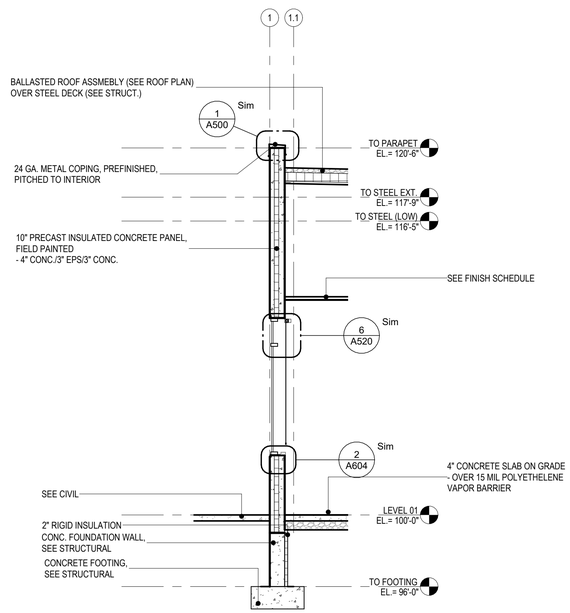
4 WALL SECTION @ AWNING
SCALE: 1/4" = 1'-0"



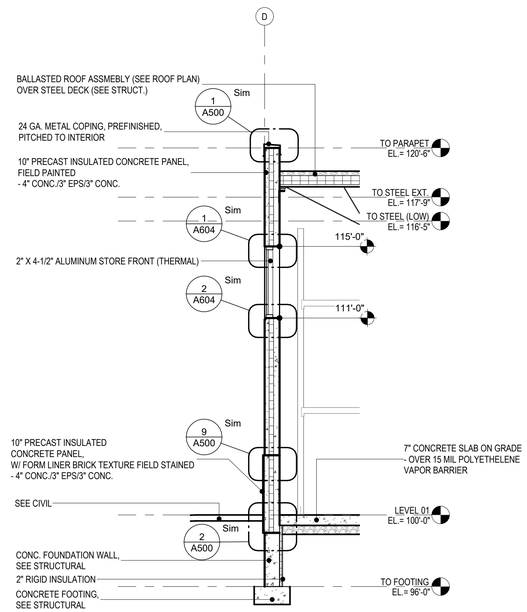
5 WALL SECTION @ SOUTH PRECAST WALL
SCALE: 1/4" = 1'-0"



6 WALL SECTION @ SOUTH PRECAST WALL 2
SCALE: 1/4" = 1'-0"



7 WALL SECTION @ SOUTH PRECAST (BREAK ROOM)
SCALE: 1/4" = 1'-0"



8 WALL SECTION @ HIGH WINDOWS
SCALE: 1/4" = 1'-0"

REVISIONS

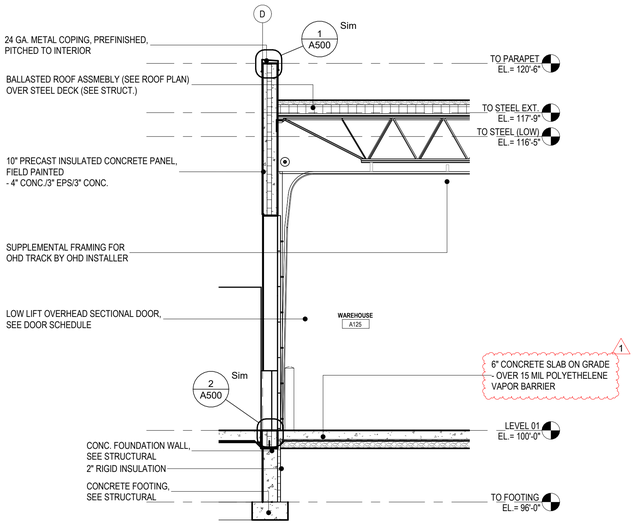
PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : WALL SECTIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

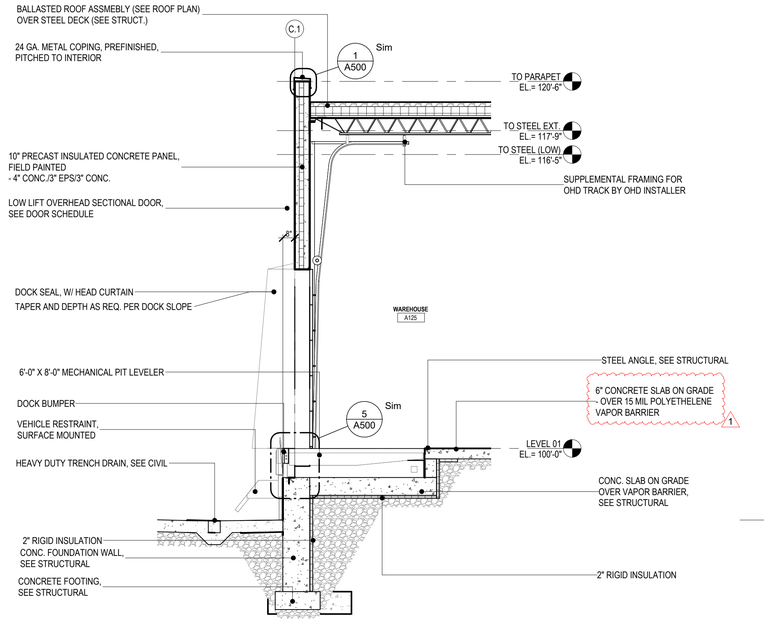
OLIVER CONSTRUCTION CO.
170 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
A410

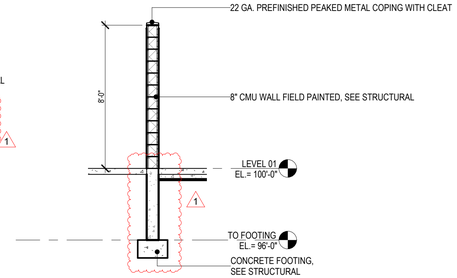
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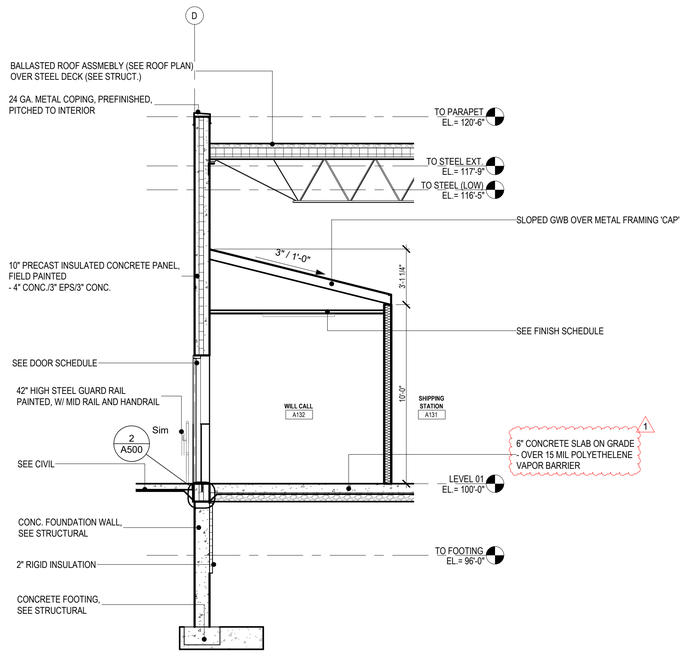
1 WALL SECTION @ OHD
SCALE: 1/4" = 1'-0"



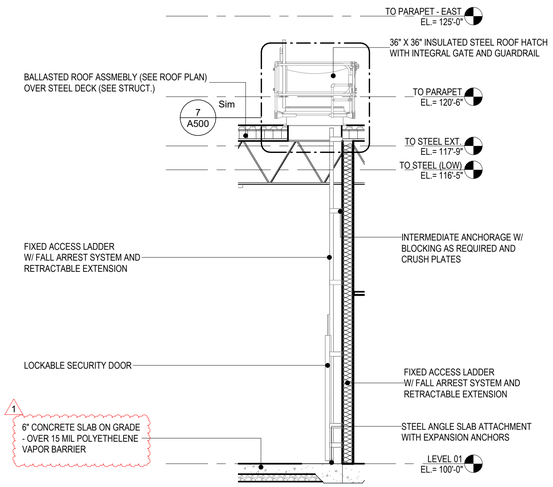
2 WALL SECTION @ DOCK
SCALE: 1/4" = 1'-0"



3 TRASH ENCLOSURE
SCALE: 1/4" = 1'-0"



4 WALL SECTION @ WILL CALL
SCALE: 1/4" = 1'-0"



5 WALL SECTION @ ROOF ACCESS LADDER/HATCH
SCALE: 1/4" = 1'-0"

REVISIONS

1	10/16/2024	REVISION 1

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : WALL SECTIONS

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PROJECT INFORMATION:

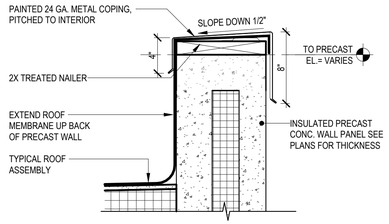
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY

ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

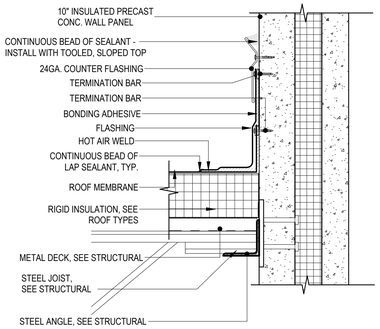
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A411

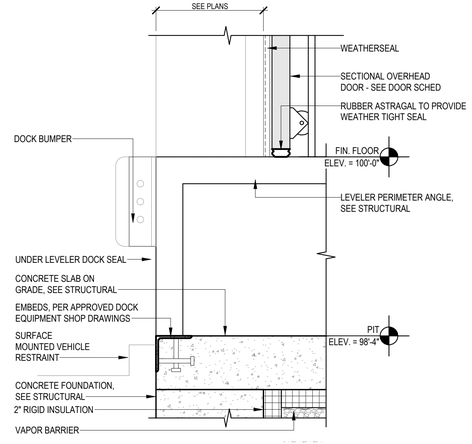


1 TYPICAL COPING DETAIL AT PRECAST
SCALE: 1 1/2" = 1'-0"

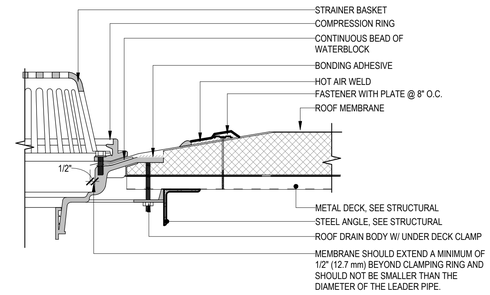


3 HIGH-LOW
SCALE: 1 1/2" = 1'-0"

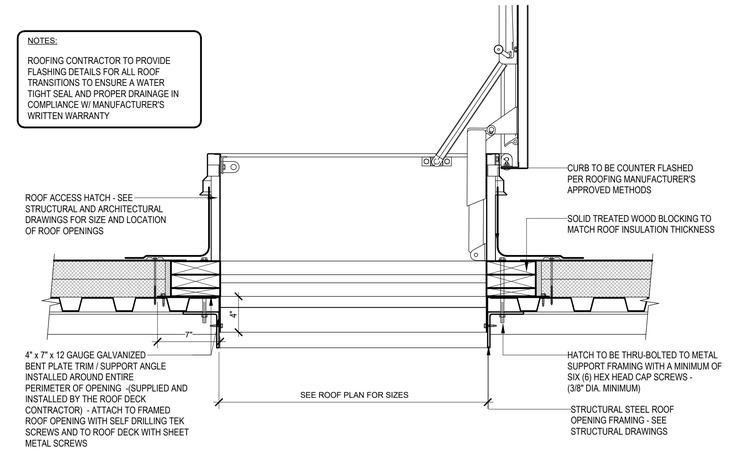
2 PRECAST BASE DETAIL
SCALE: 1 1/2" = 1'-0"



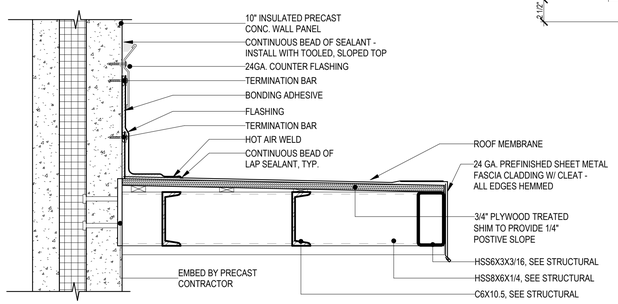
5 PIT LEVELER DETAIL
SCALE: 1 1/2" = 1'-0"



6 INTERNAL ROOF DRAIN
SCALE: 1 1/2" = 1'-0"

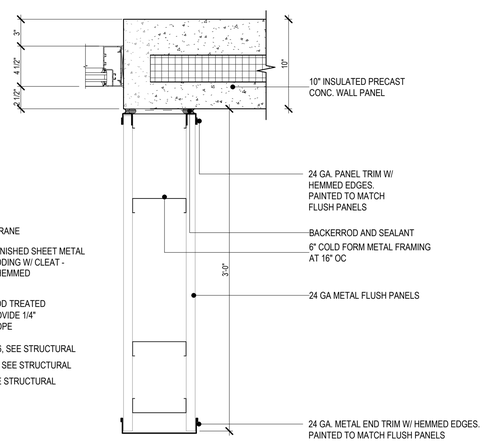


7 ROOF HATCH DETAIL
SCALE: 1 1/2" = 1'-0"



4 HIGH-LOW @ ENTRY AWNING
SCALE: 1 1/2" = 1'-0"

9 TYPICAL COPING DETAIL AT PRECAST
SCALE: 1 1/2" = 1'-0"



8 WALL @ AWNING PLAN DETAIL
SCALE: 1 1/2" = 1'-0"

REVISIONS

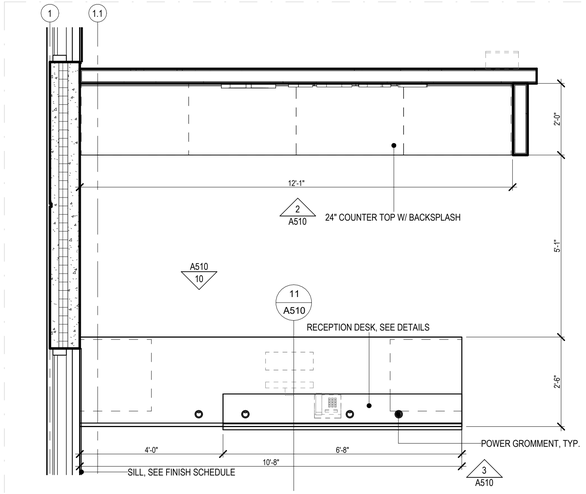
PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : EXTERIOR DETAILS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

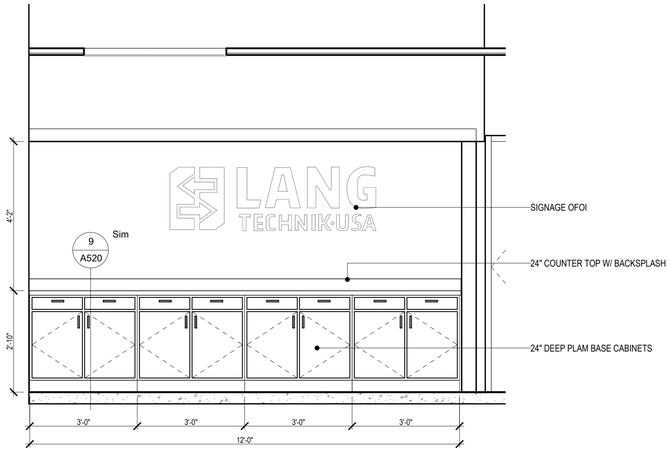
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4976
OLIVER CONSTRUCTION CO.

SHEET NO.
A500

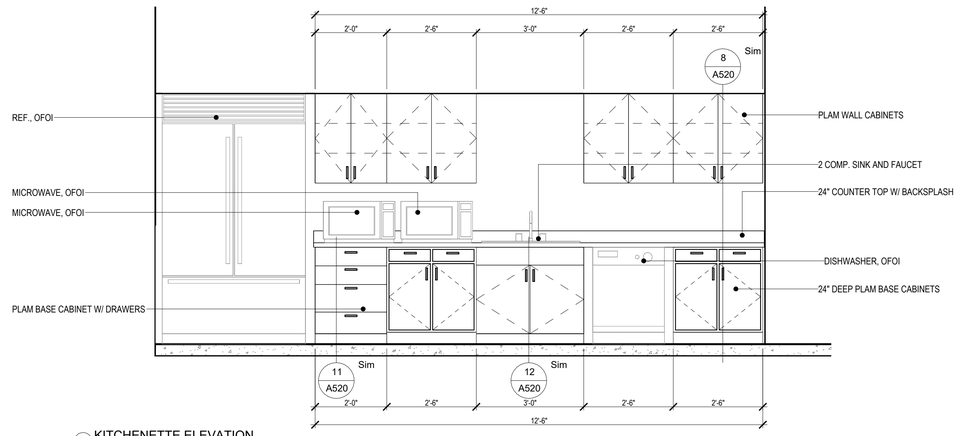
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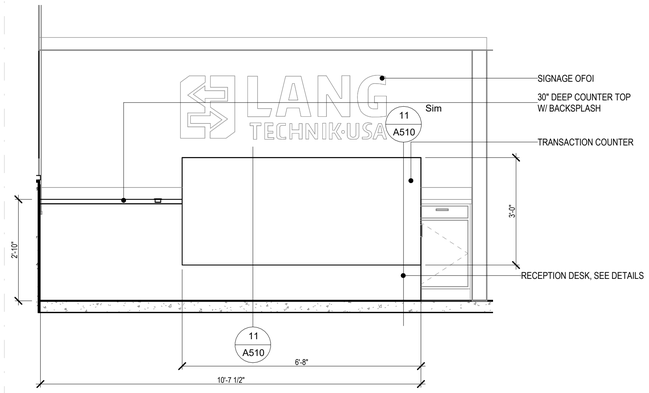
1 RECEPTION AREA PLAN
SCALE: 1/2" = 1'-0"



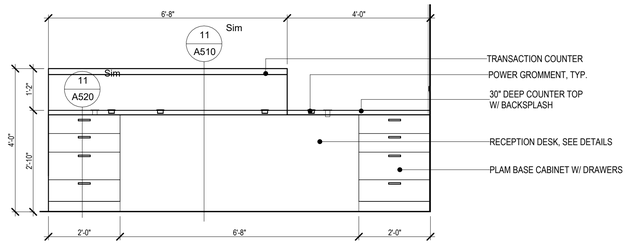
2 RECEPTION FOCAL WALL ELEVATION
SCALE: 1/2" = 1'-0"



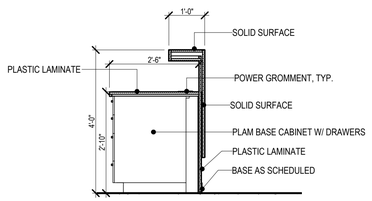
4 KITCHENETTE ELEVATION
SCALE: 1/2" = 1'-0"



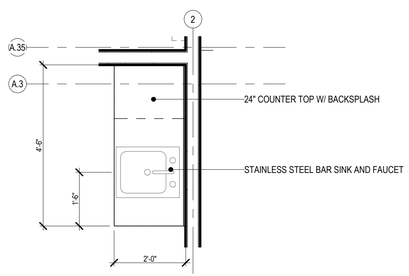
3 RECEPTION DESK FRONT ELEVATION
SCALE: 1/2" = 1'-0"



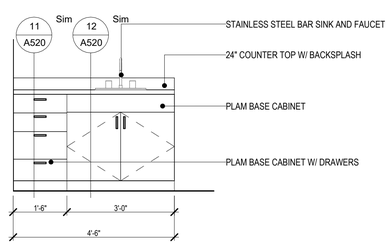
10 RECEPTION DESK ELEVATION
SCALE: 1/2" = 1'-0"



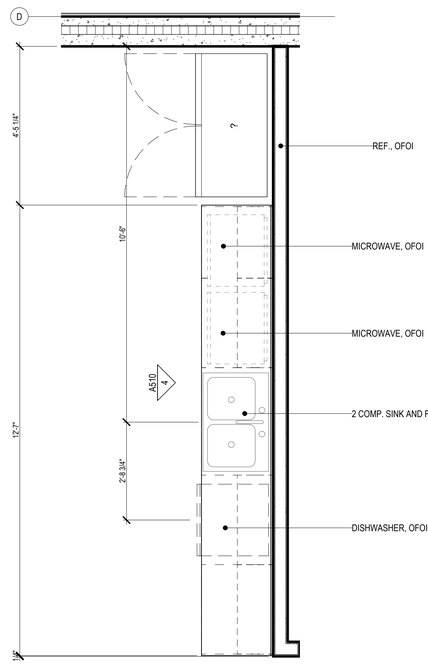
11 RECEPTION DESK SECTION
SCALE: 1/2" = 1'-0"



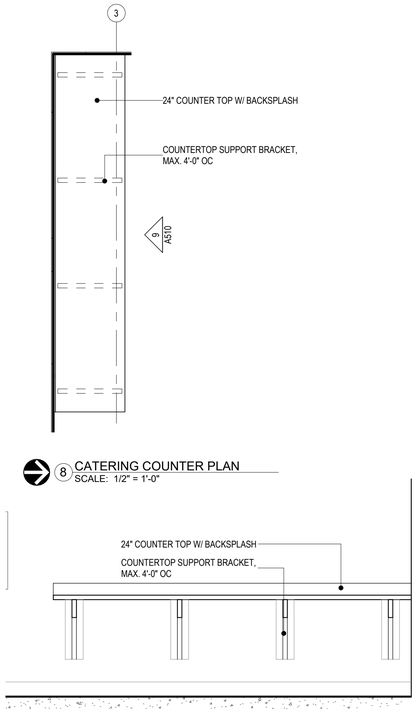
7 WET BAR PLAN
SCALE: 1/2" = 1'-0"



5 WET BAR ELEVATION
SCALE: 1/2" = 1'-0"



6 BREAKROOM KITCHENETTE
SCALE: 1/2" = 1'-0"



8 CATERING COUNTER PLAN
SCALE: 1/2" = 1'-0"

9 Elevation 1 - a
SCALE: 1/2" = 1'-0"

REVISIONS

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : INTERIOR DETAILS, ELEVATIONS AND SECTIONS

PROJECT INFORMATION:

OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY

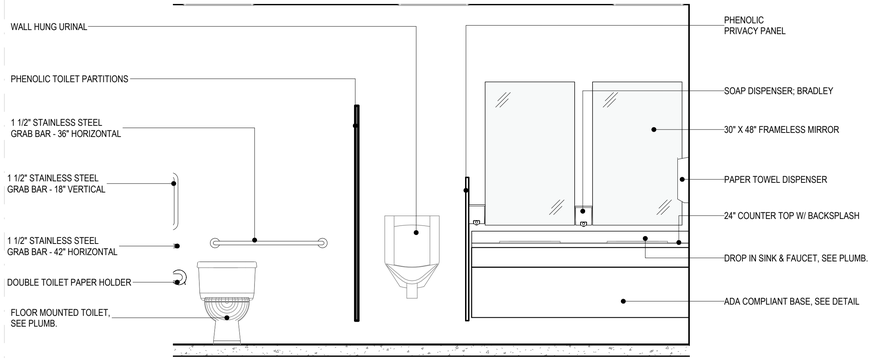
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676

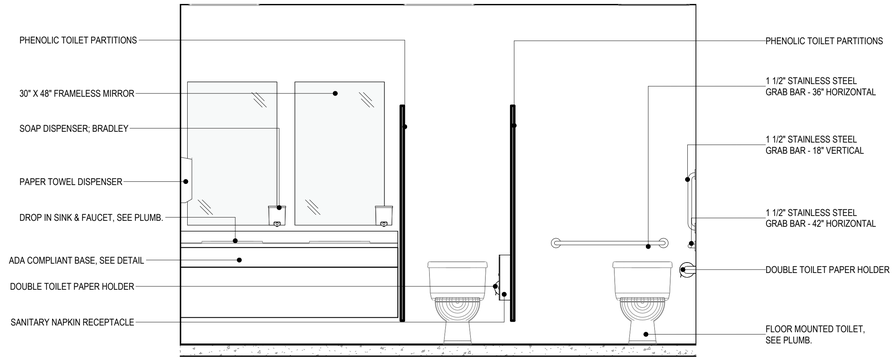
OLIVER CONSTRUCTION CO.

SHEET NO.
A510

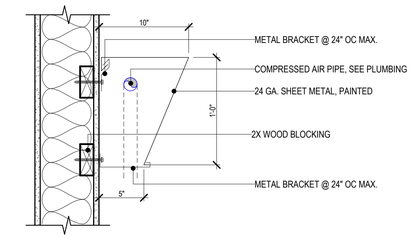
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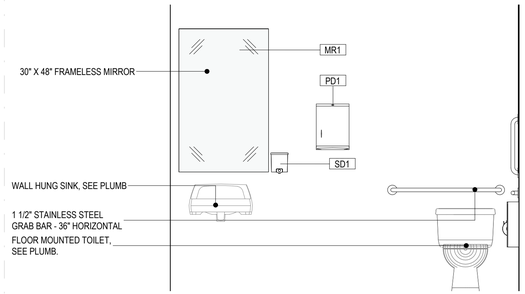
1 MENS PLUMBING WALL INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



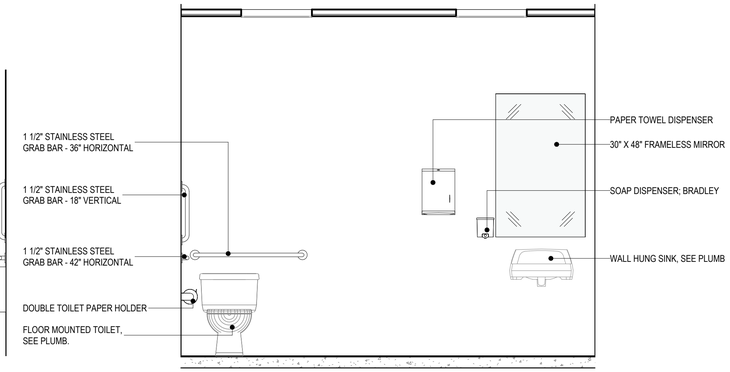
2 WOMENS PLUMING WALL INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



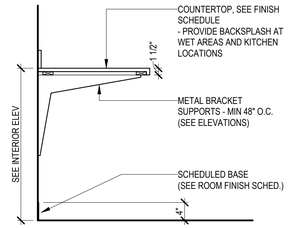
3 VALANCE
SCALE: 1 1/2" = 1'-0"



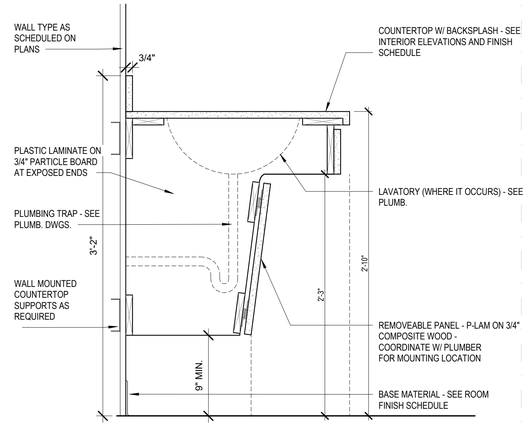
4 INTERIOR ELEVATION (WEST) - A130
SCALE: 1/2" = 1'-0"



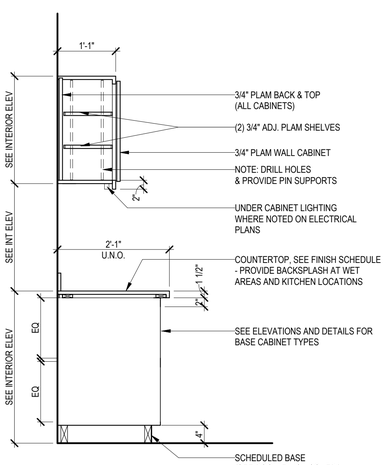
5 TOILET RM. INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



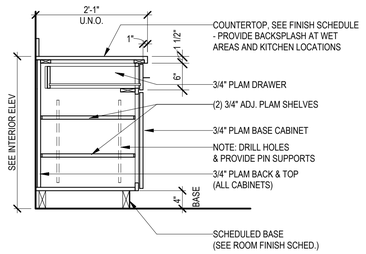
13 TYP COUNTER
SCALE: 3/4" = 1'-0"



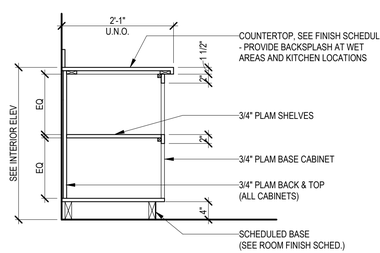
7 ADA LAVATORY BASE
SCALE: 1 1/2" = 1'-0"



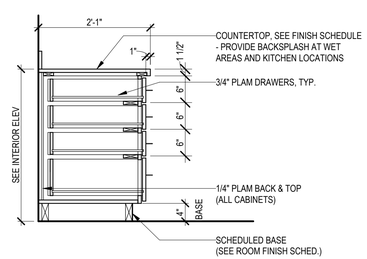
8 TYP. WALL CABINET
SCALE: 3/4" = 1'-0"



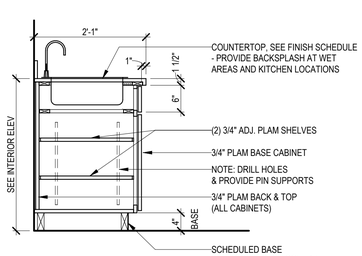
9 TYP BASE CABINET
SCALE: 3/4" = 1'-0"



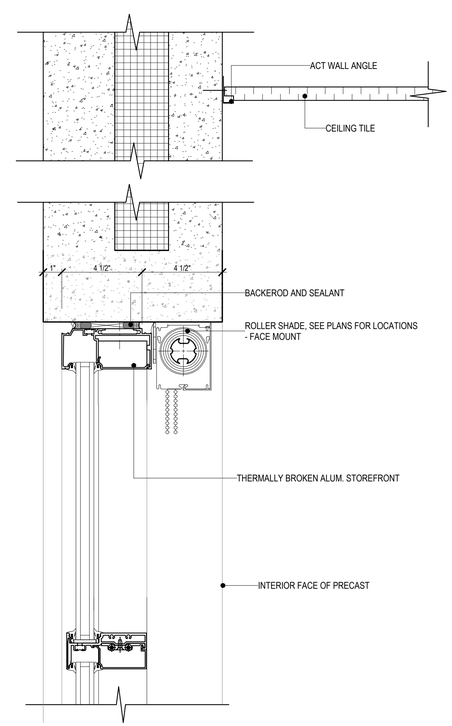
10 TYP. CUBBIE CABINET
SCALE: 3/4" = 1'-0"



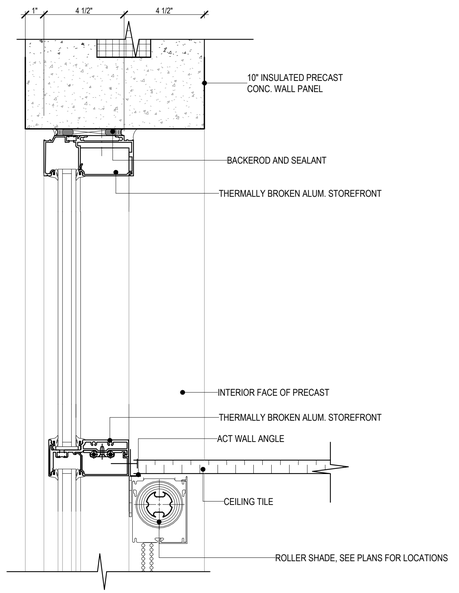
11 TYP. BASE CABINET W/ DRAWERS
SCALE: 3/4" = 1'-0"



12 TYP. SINK CABINET
SCALE: 3/4" = 1'-0"



6 CEILING AT STOREFRONT W/ ROLLER SHADE 2
SCALE: 3" = 1'-0"



14 CEILING AT STOREFRONT W/ ROLLER SHADE
SCALE: 3" = 1'-0"

REVISIONS

PROJECT INFORMATION

PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : INTERIOR DETAILS, ELEVATIONS AND SECTIONS

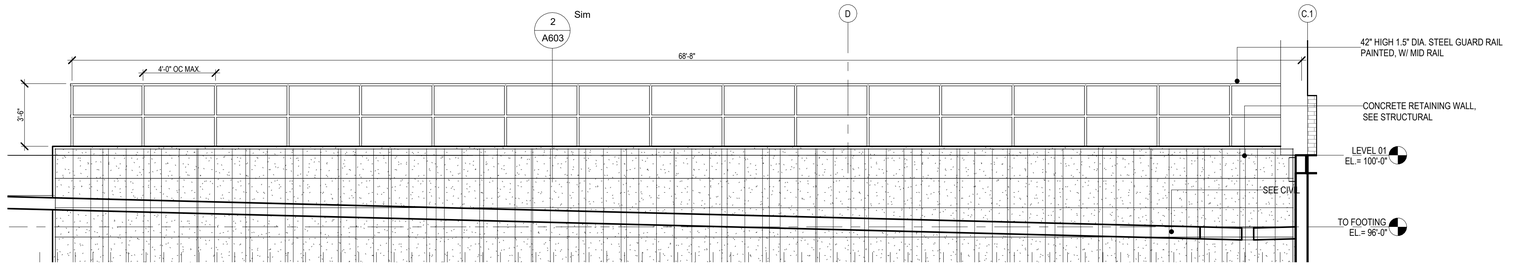
PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

170 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

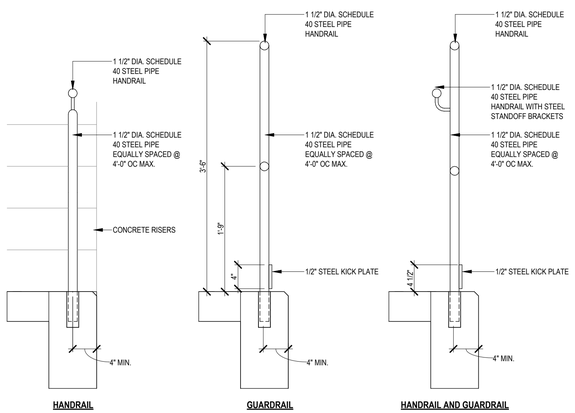
OLVER CONSTRUCTION CO.

SHEET NO.
A520

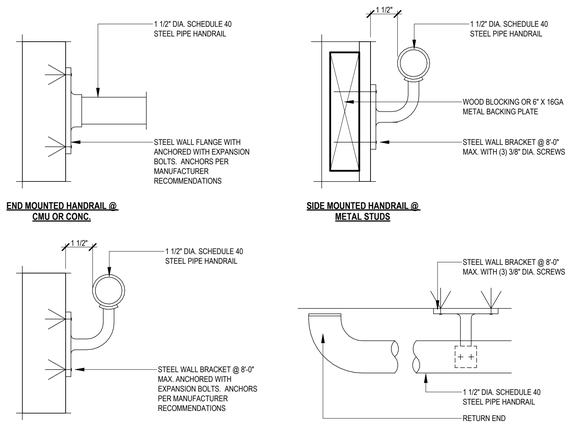
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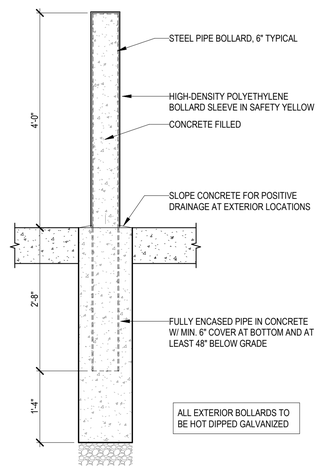
1 RETAINING WALL GUARDRAIL
SCALE: 1/4" = 1'-0"



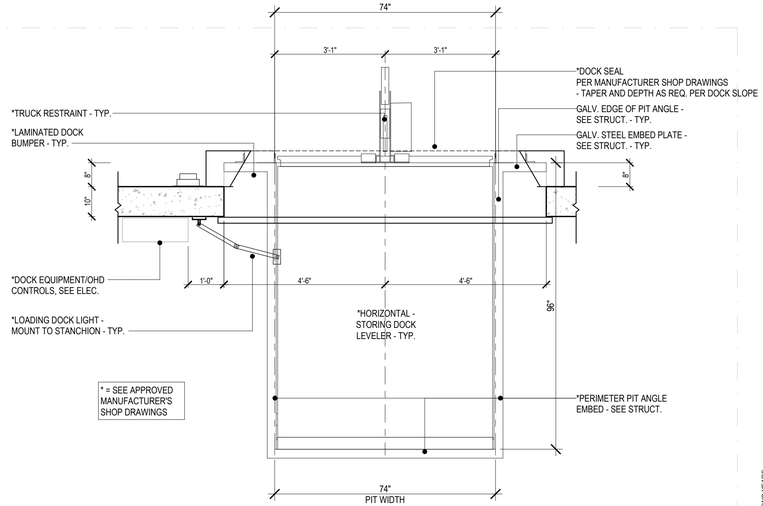
2 GUARDRAIL DETAILS
SCALE: 1" = 1'-0"



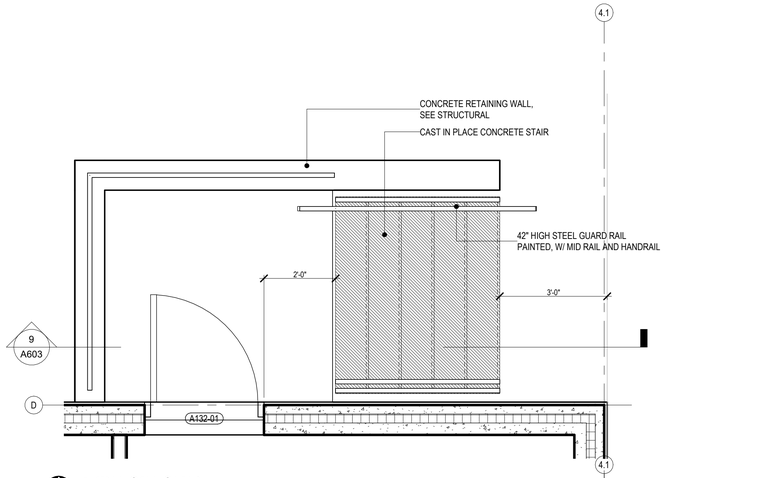
3 HANDRAIL DETAILS
SCALE: 3" = 1'-0"



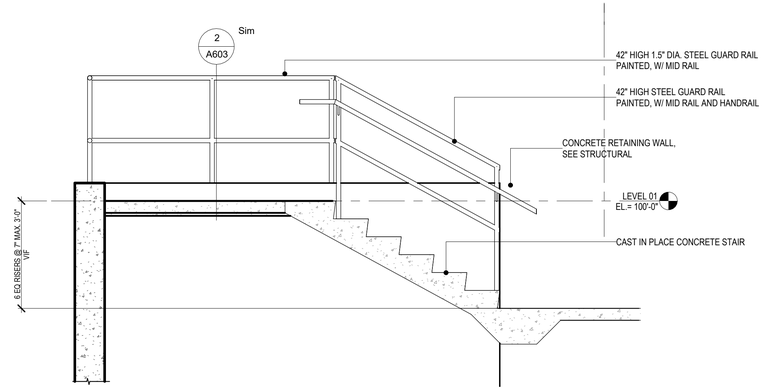
6 BOLLARD - EXTERIOR AND OVERHEAD DOORS (TYP.)
SCALE: 3/4" = 1'-0"



7 HORIZONTAL PIT LEVELER PLAN DETAIL
SCALE: 1/2" = 1'-0"



8 WILL CALL STAIR
SCALE: 1/2" = 1'-0"



9 WILL CALL STAIR SECTION
SCALE: 1/2" = 1'-0"

REVISIONS

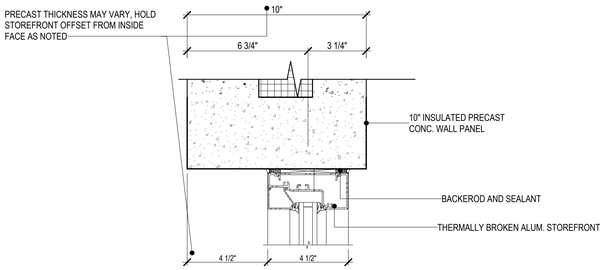
PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : STAIR AND RAMP DETAILS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

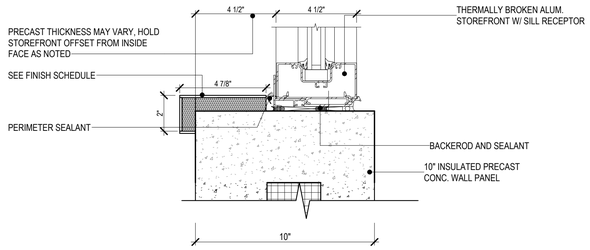
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676
OLIVER CONSTRUCTION CO.

SHEET NO.
A603

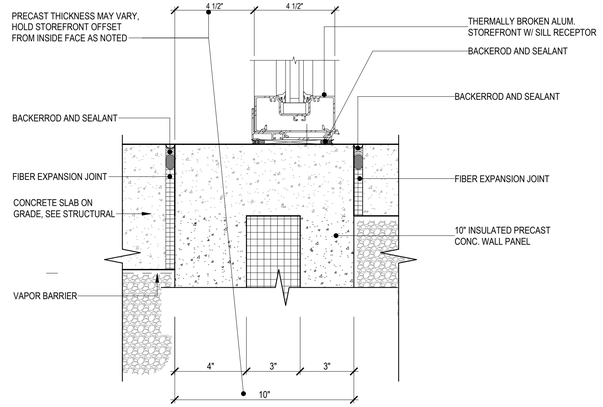
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1 ALUM. STOREFRONT HEAD @ PRECAST DETAIL
SCALE: 3" = 1'-0"



2 ALUM. STOREFRONT SILL @ PRECAST DETAIL
SCALE: 3" = 1'-0"



3 ALUM. STOREFRONT SILL @ PRECAST/GRADE DETAIL
SCALE: 3" = 1'-0"

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : WINDOW AND DOOR DETAILS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

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1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A604

ROOM FINISH SCHEDULE

NUMBER	ROOM NAME	FLOOR FINISH	BASE MATERIAL	WALL FINISH				CEILING FINISH	MILLWORK		COMMENTS (ALSO SEE NOTES SCHEDULE)
				NORTH	EAST	SOUTH	WEST		BASE / UPPER	SILL / COUNTER	
LEVEL 01											
A100	ENTRY VEST	PC-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A101	LOBBY	PC-1	VB1	PNT-2	PNT-1	PNT-1	PNT-1/PNT-2	CL1			3
A102	RECEPTION	PC-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1	PLAM-1/PLAM-1	PLAM-1/SS-1	SEE RECEPTION DESK DETAILS
A103	CONFERENCE ROOM	CPT-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1	PLAM-1/-	-/SS-1	3
A104	TRAINING AREA	CPT-2/PC	VB2	PNT-1	PNT-1	PNT-1	PNT-2	CL1		PLAM-1/-	SEE FINISH PLAN FOR FLOORING TYPE LOCATIONS. 3
A105	SHOWROOM	CPT-2/PC	VB2	PNT-1	PNT-1	PNT-2	PNT-1	CL1		PLAM-1/PLAM-1	SEE FINISH PLAN FOR FLOORING TYPE LOCATIONS. 3
A106	CLST	CS	VB2	PNT-1	PNT-1	PNT-1	PNT-1	CL5		-/SS-1	
A107	HALL	PC-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1		-/SS-1	
A108	MALE RR	PT-1	PT-1	PNT-1	PNT-1	PNT-1	PNT-3	CL1	PLAM-2/-	-/SS-2	1,2
A109	FEMALE RR	PT-1	PT-1	PNT-1	PNT-1	PNT-1	PNT-3	CL1	PLAM-2/-	-/SS-2	1,2
A110	JAN. CLST	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A111	OPEN OFFICE	CPT-2	VB2	PNT-1	PNT-1	PNT-1	PNT-1	CL1		PLAM-1/-	3
A112	PRIVATE OFFICE	CPT-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A113	PRIVATE OFFICE	CPT-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A114	RESERVE CONF.	CPT-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A114.1	IT	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A115	PRIVATE OFFICE	CPT-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1		PLAM-1/-	
A116	PRIVATE OFFICE	CPT-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1		PLAM-1/-	
A117	HALL	CPT-2	VB1	PNT-2	PNT-1	PNT-1	PNT-1	CL1			3
A118	EMPLOYEE VESTIBULE	PC-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			3
A119	TLT RM	PT-1	PT-1	PNT-1	PNT-1	PNT-1	PNT-3	CL1	PLAM-2/-	-/PLAM-2	1,2
A120	TLT RM	PT-1	PT-1	PNT-1	PNT-3	PNT-1	PNT-1	CL1	PLAM-2/-	-/PLAM-2	1,2
A121	BREAK RM.	PC-1	VB1	PNT-1	PNT-1	PNT-1	PT-3	CL1	PLAM-1/PLAM-1	PLAM-1/PLAM-1	3
A122	ALCOVE	PC-1	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A123	JAN. CLST.	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A124	RECORDS	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A125	WAREHOUSE	CS	VB1	-	PNT-1	PNT-1	-	CL5			
A126	WAREHOUSE	CS	VB1	-	PNT-1	PNT-1	-	CL5			
A127	INSPECTION AREA	CS	VB1	-	PNT-1	PNT-1	-	CL5			
A128	TRADE SHOW STORAGE	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A129	ELEC.	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A130	MECH.	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A131	SHIPPING STATION	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL5			
A132	WILL CALL	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			
A133	TLT RM	CS	VB1	PNT-1	PNT-1	PNT-1	PNT-1	CL1			

1

ROOM FINISH SCHEDULE ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE
APC	ARCHITECTURAL PRECAST CONCRETE
AWP	ACOUSTICAL WALL PANEL
CC	COLUMN COVER
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CPT	CARPET
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CS	"SEALED" CONCRETE : DENSIFIER
ERF	EPOXY RESINOUS FLOORING
ERF-CB	EPOXY RESINOUS FLOORING - INTEGRAL COVE BASE
EXP	EXPOSED
EXTG	EXISTING
FAB	FABRIC
FL MAT	FLOOR MAT
G	GROUT
GROM	GROMMET
GWB	GYPSUM WALL BOARD
IWP	IMPACT WALL PROTECTION
LMC	LINEAR METAL CEILING
LVT	LUXURY VINYL TILE
LWC	LINEAR WOOD CEILING
MPC	METAL PAN CEILING
PC	POLISHED CONCRETE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PM	PEDIMAT WALKOFF SYSTEM
PS	PAINTED STRUCTURE
PNT	PAINT
PT	PORCELAIN TILE
RT	RUBBER FLOOR TILE
RV	REVEAL
RVS	RIGID VINYL SHEET
SDT	STATIC DISSIPATIVE TILE
STA	STAIN
ST	STONE TILE FLOORING
STB	STONE TILE BASE
SS	SOLID SURFACE
SV	SHEET VINYL
SVT	SOLID VINYL FLOOR TILE
TER	TERRAZZO
TP	TOILET PARTITION
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VP	VINYL PLANK
WC	WALL COVERING
WD	WOOD
WD FL	WOOD FLOORING
WT	WINDOW TREATMENT
WD VNR	WOOD VENEER

ROOM FINISH BASIS OF DESIGN

PNT-1 SHERWIN WILLIAMS; PURE WHITE; SW 7005
PNT-2 SHERWIN WILLIAMS; DEBONAIR BLUE; SW 9139
PNT-3 SHERWIN WILLIAMS; LAZY GRAY; SW 6254

CPT-1 CARPET TILE; MANNINGTON; HOCUS COLLECTION; MAQUETTE; PACIFIC BLUE; 18 "X36"
CPT-2 CARPET TILE; MANNINGTON; HOCUS COLLECTION; MAQUETTE; JUNE FOG; 18 "X36"

PT-1 PORCELAIN TILE; DALTILE; LEGACY; CALGARY; 12" X 24"; INSTALLATION - MONOLITHIC; GROUT (3/16") - LATICRETE

SS-1 SOLID SURFACE; WILSON ART; QUIET SWIRL; 9241SS (CHAMFERED EDGES)

PLAM-1 PLASTIC LAMINATE; WILSON ART: PHANTOM ECRU; 8212K
PLAM-2 PLASTIC LAMINATE; WILSON ART: FROSTY WHITE; 1573
PLAM-3 PLASTIC LAMINATE; WILSON ART: FIELD ELM; 7999K-12

VB-1 VINYL BASE; TRADITIONAL 4" BASE (COLOR PER STANDARD SELECTIONS)
VB-2 VINYL BASE; TRADITIONAL 4" BASE (COLOR PER STANDARD SELECTIONS)

CL1 ACOUSTICAL CEILING TILE; ARMSTRONG, 2X4 ULTIMA, TEGULAR W/ 9/16" GRID
CL2 ACOUSTICAL CEILING TILE, ARMSTRONG, 2X4 VINYL COATED GYPSUM

GENERAL NOTES

1) ALL STEEL COLUMNS, BEAMS, AND STRUCTURE TO BE PAINTED TO MATCH ADJACENT WALL PAINT.

ROOM FINISH SCHEDULE NOTES

1.	PROVIDE ANODIZED ALUMINUM TRANSITION SCHLUTER AT DIFFERING FLOOR MATERIALS. ALL TRANSITIONS TO BE ADA COMPLIANT
2.	ALL TILE FINISHES AND GROUT TO BE SEALED.
3	PROVIDE VINYL TRANSITION AT CARPET TO CONCRETE



1 FINISH PLAN - LEVEL 01
SCALE: 1/16" = 1'-0"

REVISIONS
1 10/16/2024 REVISION 1

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : ROOM FINISH SCHEDULE

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6977
FAX: (262) 567-4676

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

SHEET NO.
A801

THIS DOCUMENT AND THE INFORMATION HEREWITH IS THE EXCLUSIVE PROPERTY OF OLIVER CONSTRUCTION COMPANY. UNAUTHORIZED USE WILL BE PROSECUTED UNDER SECTION 943.205 OF THE WISCONSIN STATUTES AND IF CONVICTED, THE VIOLATOR SHALL BE SUBJECT TO A FINE NOT TO EXCEED $10,000.00 AND/OR IMPRISONMENT NOT TO EXCEED TWO YEARS

DOOR SCHEDULE - PERSONNEL DOORS

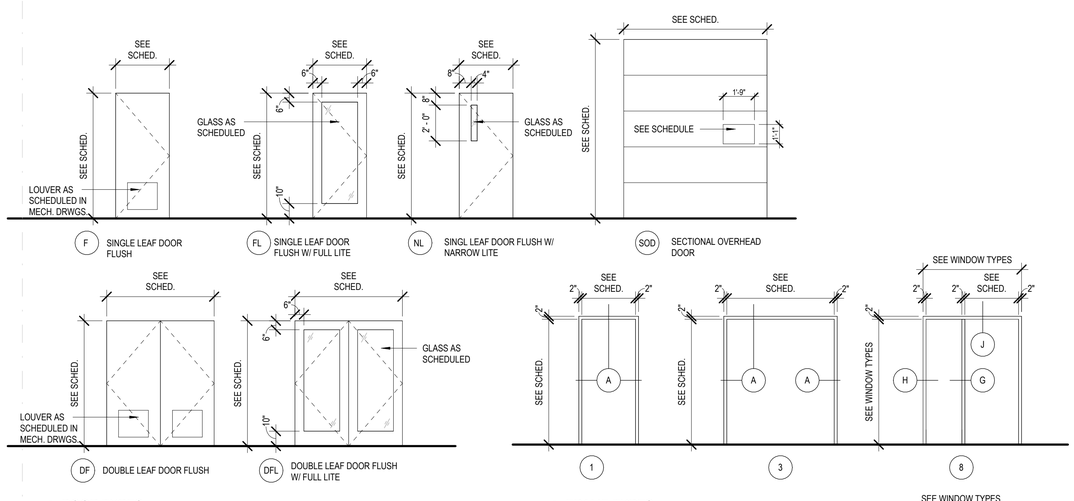
MARK	FROM ROOM	TO ROOM	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR MTL	DOOR FINISH	DOOR GLASS	FRAME TYPE	FRAME MTL	FRAME FINISH	FRAME GLASS	LABEL	HARDWARE GROUP	COMMENTS
A100-01	ENTRY VEST		3'-0"	7'-0"	SF	ALUM	ALUM	ISG	SF	ALUM	ALUM	ISG		HG-7	
A100-02	LOBBY		3'-0"	7'-0"	SF	ALUM	ALUM	SG	SF	ALUM	ALUM	SG		HG-8	
A103-01	CONFERENCE ROOM		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-1	
A104-01	TRAINING AREA		6'-0"	7'-0"	DFL	WD	SV	SG	3	ALUM	FP			HG-9	
A105-02	SHOWROOM		3'-0"	7'-0"	F	HMI	FP		1	HMI	FP			HG-14	
A106-01	CLST		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-2	
A108-01	MALE RR		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-5	UNDER CUT 1"
A109-01	FEMALE RR		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-5	UNDER CUT 1"
A110-01	JAN. CLST		3'-0"	7'-0"	F	HM	FP		1	HM	FP			HG-2	
A111-01	LOBBY		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-3	
A112-01	PRIVATE OFFICE		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-3	
A113-01	PRIVATE OFFICE		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-3	
A114-01	RESERVE CONF.		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-1	
A114.1-01	RESERVE CONF.		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-2	
A116-09	PRIVATE OFFICE		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-3	
A116-10	PRIVATE OFFICE		3'-0"	7'-0"	F	WD	SV		8	ALUM	ALUM	SG		HG-3	
A117-01	WAREHOUSE		3'-0"	7'-0"	NL	HM	FP	SG	1	HM	FP	SG		HG-1	
A118-01	EMPLOYEE VESTIBULE		3'-0"	7'-0"	SF	ALUM	ALUM	ISG	SF	ALUM	ALUM			HG-11	
A118-02	EMPLOYEE VESTIBULE		3'-0"	7'-0"	NL	WD	SV	SG	1	ALUM	ALUM			HG-1	
A119-01	TLT RM		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-6	UNDER CUT 1"
A120-01	TLT RM		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-6	UNDER CUT 1"
A123-01	JAN. CLST.		3'-0"	7'-0"	F	HM	FP		1	HM	FP			HG-2	
A124-01	RECORDS		3'-0"	7'-0"	F	WD	SV		1	ALUM	ALUM			HG-15	
A125-01	WAREHOUSE		3'-0"	7'-0"	F	HMI	FP		1	HMI	FP			HG-4	
A126-01	WAREHOUSE		3'-0"	7'-0"	F	HMI	FP		1	HMI	FP			HG-4	
A128-01	TRADE SHOW STORAGE		6'-0"	7'-0"	DF	HM	FP		3	HM	FP			HG-10	
A129-01	WAREHOUSE		3'-0"	7'-0"	F	HM	FP		1	HM	FP			HG-12	
A129-02	ELEC.		3'-0"	7'-0"	F	HMI	FP		1	HMI	FP			HG-14	
A130-01	WAREHOUSE		3'-0"	7'-0"	F	HM	FP		1	HM	FP			HG-2	
A132-01	WILL CALL		3'-0"	7'-0"	F	HMI	FP		1	HMI	FP			HG-11	
A132-02	WILL CALL		3'-0"	7'-0"	F	HM	FP		1	HM	FP			HG-2	
A133-01	TLT RM		3'-0"	7'-0"	F	HM	FP		1	HM	FP			HG-6	UNDER CUT 1"

OVERHEAD DOOR SCHEDULE

MARK	FROM ROOM	TO ROOM	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR MTL	DOOR FINISH	DOOR GLASS TYPE	FRAME TYPE	FRAME MTL	FRAME FINISH	FRAME GLASS TYPE	HARDWARE GROUP	COMMENTS
A105-01	WAREHOUSE		14'-0"	12'-0"	SOD									PUSH BUTTONS TO HAVE "OPEN/CLOSE/STOP" CAPABILITES. LOW LIFT TYPE.
A125-01	WAREHOUSE		14'-0"	12'-0"	SOD									PUSH BUTTONS TO HAVE "OPEN/CLOSE/STOP" CAPABILITES. LOW LIFT TYPE.
A125-02	WAREHOUSE		14'-0"	12'-0"	SOD									PUSH BUTTONS TO HAVE "OPEN/CLOSE/STOP" CAPABILITES. LOW LIFT TYPE
A125-03	WAREHOUSE		9'-0"	10'-0"	SOD							ISG		CONTROLS TO BE INTEGRATED INTO DOCK LEVELER MASTER CONTROL PANEL. LOW LIFT TYPE.

WALL OPENING SCHEDULE

MARK	FROM ROOM	TO ROOM	OPENING WIDTH	OPENING HEIGHT	OPENING TYPE	OPENING MTL	OPENING FINISH	COMMENTS
P107-01	LOBBY		5'-0"	7'-0"	OPENING			
P117-01	OPEN OFFICE		9'-6 9/16"	7'-0"	OPENING			
P121-01	HALL		9'-5 13/16"	7'-0"	OPENING			



DOOR SCHEDULE ABBREVIATIONS

ALUM	ALUMINUM
F	FACTORY PAINT/FINISH
FP	FIELD PAINTED
GL	GLASS
GS	GALVANIZED STEEL
HM	HOLLOW METAL
HMI	HOLLOW METAL INSULATED
WD	WOOD DOOR
SF	STOREFRONT
SG	SAFETY GLASS
SST	STAINLESS STEEL
SV	STAIN AND VARNISH
ISG	INSULATED SAFETY GLASS - MATCH EXTERIOR GLASS AS SCHEDULED IN WINDOW TYPES FOR EXTERIOR STOREFONT DOORS

GENERAL NOTES

1) HARDWARE GENERAL REQUIREMENTS: SCHLAGE; RHODES; ND SERIES; GRADE 1; CYLINDER LOCKS; INTERCHANGEABLE CORES

2) EXTERIOR HOLLOW METAL DOORS AND FRAMES GENERAL REQUIREMENTS: GALVANIZED, POLYURETHANE INSULATION, THERMALLY BROKEN FRAMES

3) ALL HOLLOW METAL DOORS TO BE 16 GA.

4) ALL WOOD DOORS TO BE WHITE MAPLE VENEER

5) OVERHEAD DOORS; ALL SUPPORT FRAMING TO SUPPORT TRACK AND CONNECT TO STRUCTURAL STEEL SHALL BE FURNISHED AND INSTALLED BY OHD INSTALLER. ANCHORAGE OF TORSION SPRING, OPERATOR AND TRACK TO PRECAST SHALL BE DESIGNED/FURNISHED/INSTALLED PER MANUFACTURERS REQUIREMENTS.

6) ALL DOORS TO HAVE SILENCERS

7) RATED DOOR, FRAMES, HARDWARE AND RELATED ACCESSORIES TO COMPLY WITH UL10C

HARDWARE GROUP

HG-1
PASSAGE LEVER SET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: WALL STOP, GASKETING, SWEEP, KICK PLATE

HG-2
STOREROOM LEVER SET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: WALL STOP, KICK PLATE, SWEEP

HG-3
OFFICE LEVER SET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: WALL STOP, KICK PLATE, GASKETING, SWEEP

HG-4
EXIT ONLY
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: WALL STOP, GASTETING, THRESHOLD, KICK PLATE, LATCH GUARD

HG-5
PUSH PULL
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: WALL STOP, KICK PLATE, THRESHOLD

HG-6
PRIVACY LEVER SET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: OVERHEAD STOP, KICK PLATE

HG-7
PANIC DEVICE W/ LEVER TRIM AND ENTRANCE LOCK
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: THRESHOLD, GASKETING, SWEEP

HG-8
PANIC DEVICE W/ DUMMY TRIM
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: THRESHOLD

HG-9 (DOUBLE DOOR-HARWARE FOR EACH LEAF AS REQ.)
PANIC DEVICE W/ LEVER TRIM
VERTICAL RODS
1 1/2 PAIR HINGES
CLOSERS WITH CUSH
ACCESSORIES: WALL/OVERHEAD STOP, KICKPLATES, THRESHOLD, SWEEPS, ASTAGRAL, BAR COORDINATOR W/ FILLER

HG-10
STOREROOM LOCKSET
3 PAIR HINGES
CLOSER WITH CUSH
INACTIVE LEAF W/ SURFACE BOLTS
DUSTPROOF STRIKE
ACCESSORIES: ASTAGRAL, BAR COORDINATOR W/ FILLER BAR, WALL STOPS, THRESHOLD, GASKETING, SWEEP

HG-11
ENTRANCE LOCKSET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: THRESHOLD, KICK PLATE, GASKETING, SWEEP

HG-11
ENTRANCE LOCK/LEVER SET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: THRESHOLD, GASKETING, SWEEP

HG-12
PANIC DEVICE W/ LEVER TRIM AND STOREROOM LOCK
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: OVERHEAD STOP

HG-13
STOREROOM LEVERSET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: GASKETING, THRESHOLD

HG-14
PANIC DEVICE (EXIT ONLY)
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: GASKETING, THRESHOLD, LATCH GUARD, SWEEP

HG-15
STOREROOM LEVERSET
1 1/2 PAIR HINGES
CLOSER WITH CUSH
ACCESSORIES: KICK PLATE, WALL STOP

DOCK EQUIPMENT SCHEDULE

DESCRIPTION	TYPE COMMENTS	TYPE MARK	COMMENTS	BASIS OF DESIGN MODEL
6'-0" X 8'-0" MECHANICAL PIT LEVELER				RHM-4000
VEHICLE RESTRAINT, SURFACE MOUNTED			INCLUDE EXTENSION AS REQUIRED PER DOCK SLOPE. SEE PLANS	GRH-700
LIGHT COMMUNICATION AND SAFETY SIGNS				GRH-700
DOCK EQUIPMENT AND OHD CONTROLS				CONTROLS WITH INTERLOCK OF RESTRAINT AND OHD
*LAMINATED DOCK BUMPER - TYP. W/ ABOVE DOCK MOUNTING BRACKETS			SIZE AS REQUIRED PER SLOPED DOCK	
*LAMINATED DOCK BUMPER - TYP. W/ ABOVE DOCK MOUNTING BRACKETS			SIZE AS REQUIRED PER SLOPED DOCK	
DOCK SEAL, W/ HEAD CURTAIN			TAPER AND DEPTH AS REQ. PER DOCK SLOPE	

REVISIONS

PROJECT INFORMATION
PROJECT NO.: D945.24
DATE: 02/25/2024
DRAWN BY: DCA
SHEET TITLE: DOORS/OPENINGS/EQUIPMENT SCHEDULES

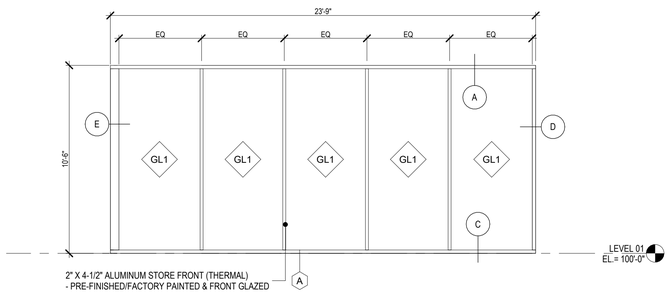
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PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

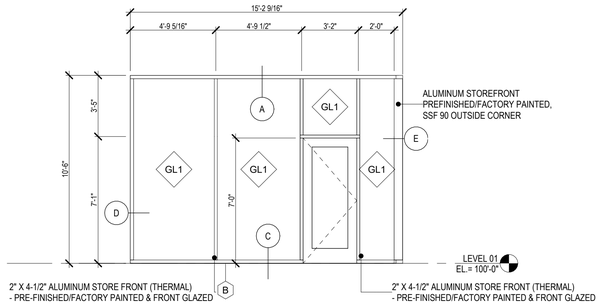
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

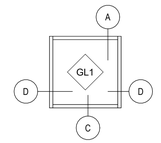
SHEET NO.
A810



1 WINDOW TYPE A
SCALE: 1/4" = 1'-0"



2 WINDOW TYPE B
SCALE: 1/4" = 1'-0"



5 WINDOW TYPE E
SCALE: 1/4" = 1'-0"

WINDOW COUNTS	
Area	Mark
247 SF	A
1	
155 SF	B
1	
129 SF	BLA
1	
71 SF	BLB
1	
<varies>	BLC
2	
54 SF	BLD
4	
123 SF	C
3	
16 SF	E
13	
31 SF	F
6	
123 SF	G
1	

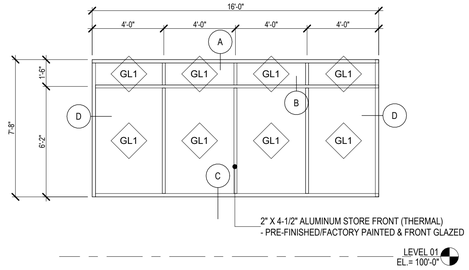
WINDOW AND GLAZING KEY

AL	ALUMINUM
ALCW	ALUMINUM CURTAIN WALL (THERMALLY BROKEN)
ALS	ALUMINUM STOREFRONT (THERMALLY BROKEN)
HM	HOLLOW METAL
HMI	HOLLOW METAL INSULATED
SCW	SOLID CORE WOOD
GS	GALVAIZED STEEL
SS	STAINLESS STEEL
SSG	STRUCTURAL SILICONE GLAZING
SG	1/4" SAFETY GLASS (TEMPERED)
GL1	1" INSULATED TEMPERED GLAZING WITH LOW E COATING AND TINTED BASIS OF DESIGN: SOLARBAN® R67 (2) STARPHIRE® + STARPHIRE® PERFORMARNCE CRITERIA: VLT=57, SGHC=.30, U=.29, EXT REF .=20%
GL2	1" INSULATED SPANDREL GLAZING, TINTED. MATCH GL1
GL3	1" INSULATED TEMPERED CLEAR SAFETY GLASS
FRG	FIRE RESISTANT GLASS
IFRG	INSULATED FIRE RESISTANT GLASS

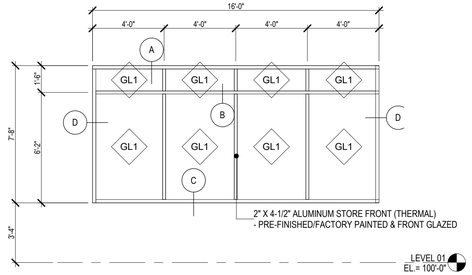
GENERAL NOTES

1) EXTERIOR STOREFRONT BASIS OF DESIGN: KAWNEER VG451T, 2" X 4-1/2" FRONT GLAZED
   - VG451 T
   - PERMAFLUOR FINISH

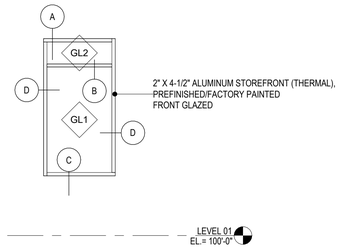
2) INTERIOR WINDOW SYSTEMS: ALUMINUM FRAMING SYSTEMS, CENTER GLAZED
   - INSULATED GLASS AS NOTED



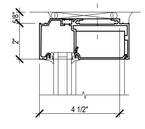
3 WINDOW TYPE C
SCALE: 1/4" = 1'-0"

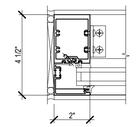


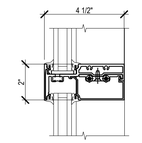
7 WINDOW TYPE G
SCALE: 1/4" = 1'-0"

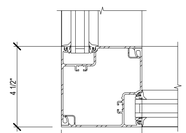


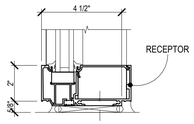
6 WINDOW TYPE F
SCALE: 1/4" = 1'-0"



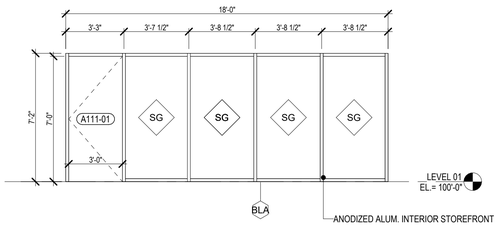




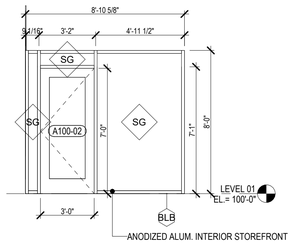




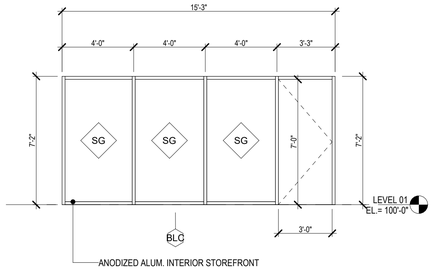
EXTERIOR STOREFRONT ASSEMBLY PROFILES
SCALE: 3" = 1'-0"



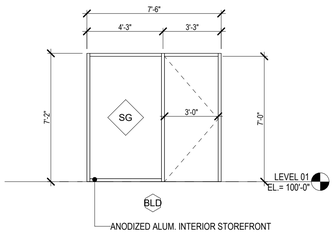
4 BORROWED LITE A
SCALE: 1/4" = 1'-0"



8 BORROWED LITE B
SCALE: 1/4" = 1'-0"



9 BORROWED LITE C
SCALE: 1/4" = 1'-0"



10 BORROWED LITE D
SCALE: 1/4" = 1'-0"

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REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : WINDOW TYPES

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A820

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

SECTION 00-01-01
PROJECT TITLE PAGE

PROJECT MANUAL
FOR LANG TECHNIK - NEW FACILITY

ARCHITECT'S PROJECT D945.24: DESIGN PROFESSIONAL'S PROJECT NUMBER.
DESIGN-BUILDER'S PROJECT 1795.24 : DESIGN-BUILDER'S PROJECT NUMBER.
1025 WALNUT RIDGE DR.
HARTLAND, WI 53029
PREPARED BY: DANIEL AYALA

END OF SECTION

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01-25-00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. No specific form is required. Contractor's Substitution Request documentation must include the following:
      a. Project Information:
      b. Substitution Request Information:
         1) Indication of whether the substitution is for cause or convenience.
         2) Issue date.
         3) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
         4) Description of Substitution.
         5) Reason why the specified item cannot be provided.
         6) Differences between proposed substitution and specified item.
         7) Description of how proposed substitution affects other parts of work.
      c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
         1) Physical characteristics.
         2) In-service performance.
         3) Expected durability.
         4) Visual effect.
         5) Warranties.
         6) Other salient features and requirements.
         7) Include, as appropriate or requested, the following types of documentation:
            (a) Product Data:
            (b) Samples.
            (c) Certificates, test, reports or similar qualification data.
            (d) Drawings, when required to show impact on adjacent construction elements.
      d. Impact of Substitution:
         1) Savings to Owner for accepting substitution.
         2) Change to Contract Time due to accepting substitution.

E. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

B. Submit request for Substitution for Convenience within 14 days of discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

3.03 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.04 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.05 CLOSEOUT ACTIVITIES

A. See Section 01-78-00 - Closeout Submittals, for closeout submittals.

END OF SECTION

SECTION 01-30-00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Design data.
   3. Shop drawings.
   4. Samples for selection.
   5. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01-78-00 - Closeout Submittals.

3.02 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.03 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01-78-00 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.04 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Documents for Review:
   1. Small Size Sheets, Not Larger Than 8-1/2 by 11 inches: Submit one copy; the Contractor shall make Contractor's own copies from original returned by the Architect after making a file copy.

C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.05 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.

B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
   2. Do not reproduce Contract Documents to create shop drawings.
   3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:
   1. Transmit related items together as single package.
   2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.06 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Approved", or language with same legal meaning.
      b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
         1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
   2. Not Authorizing fabrication, delivery, and installation:

E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01-40-00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Base design on performance and/or design criteria indicated in individual specification sections.

B. Scope of Contractor's Professional Design Services: Provide for the following items of work:

1.02 SUBMITTALS

A. Designer's Qualification Statement: Submit for Architect's knowledge as contract administrator, or for Owner's information.
   1. Include information for each individual professional responsible for producing, or supervising production of, design-related professional services provided by Contractor.
      a. Full name.
      b. Professional licensure information.
      c. Statement addressing extent and depth of experience specifically relevant to design of items assigned to Contractor.

B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
   1. Include calculations that have been used to demonstrate compliance to performance and regulatory criteria provided, and to determine design solutions.
   2. Include required product data and shop drawings.
   3. Include a statement or certification attesting that design data complies with criteria indicated, such as building codes, loads, functional, and similar engineering requirements.
   4. Include signature and seal of design professional responsible for allocated design services on calculations and drawings.

C. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.03 QUALITY ASSURANCE

A. Testing Agency Qualifications:

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 MOCK-UPS

A. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

2.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

C. If, in the opinion of Owner, it is not practical to remove and replace the work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01-41-00
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project are the following:

B. 29 CFR 1910 - Occupational Safety and Health Standards; Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01-45-33
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

END OF SECTION

SECTION 01-70-00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

PART 3 EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.02 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

3.03 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

3.04 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.05 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

3.06 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

C. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

D. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

E. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

SECTION 01-78-00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SUBMITTALS

A. Project Record Documents: Submit documents to Architect and General Contractor.

B. Operation and Maintenance Data:

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.

PART 3 EXECUTION

2.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

2.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

2.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

2.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

C. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

2.05 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

END OF SECTION

SECTION 01-79-00
DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 SUBMITTALS

A. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.

B. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.

B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.

C. Demonstration may be combined with Owner personnel training if applicable.

D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.

E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.

3.02 TRAINING - GENERAL

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A901

THIS DOCUMENT AND THE INFORMATION HEREWITH IS THE EXCLUSIVE PROPERTY OF OLIVER CONSTRUCTION COMPANY. UNAUTHORIZED USE WILL BE PROSECUTED UNDER SECTION 943.205 OF THE WISCONSIN STATUTES AND IF CONVICTED, THE VIOLATOR SHALL BE SUBJECT TO A FINE NOT TO EXCEED $10,000.00 AND/OR IMPRISONMENT NOT TO EXCEED TWO YEARS

A. Commissioning Authority will prepare the Training Plan based on draft plans submitted.
B. Conduct training on-site unless otherwise indicated.
C. Owner will provide classroom and seating at no cost to Contractor.
D. Do not start training until Functional Testing is complete, unless otherwise specified or approved by the Commissioning Authority.
E. Provide training in minimum two hour segments.
F. The Commissioning Authority is responsible for determining that the training was satisfactorily completed and will provide approval forms.
G. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.

END OF SECTION

DIVISION 03 - CONCRETE

SECTION 03-05-16
UNDERSLAB VAPOR BARRIER - STEGO

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Submit manufacturers' data on manufactured products.
B. Test Data: Submit report of tests showing compliance with specified requirements.
C. Samples: Submit samples of underslab vapor barrier to be used.
D. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Underslab Vapor Barrier:
1. Water Vapor Permeance: Not more than 0.010 perms, maximum.
2. Complying with ASTM E1745 Class A.
3. Thickness: 15 mils.
4. Basis of Design:
a. Stego Industries LLC; Stego Wrap Vapor Barrier (15-mil): www.stegoindustries.com/#sle.
b. Substitutions: See Section 01-60-00 - Product Requirements.
B. Accessory Products: Vapor barrier manufacturer's recommended tape, adhesive, mastic, etc., for sealing seams and penetrations in vapor barrier.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E1643.
B. Install vapor barrier under interior slabs on grade; lap sheet over footings and seal to foundation walls.

END OF SECTION

SECTION 03-35-11
CONCRETE FLOOR FINISHES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.
B. Product Data: Manufacturer's published data and installation instructions for concrete polishing system and finishing products, including manufacturer's installation instructions, information on compatibility of different products, and limitations.
C. Maintenance Data: Provide data on maintenance and renewal of applied finishes.

1.02 FIELD CONDITIONS

A. Maintain light level equivalent to a minimum 200 W light source at 8 feet above the floor surface over each 20 foot square area of floor being finished.
B. Do not finish floors until interior heating system is operational.

1.03 WARRANTY

A. See Section 01-78-00 - Closeout Submittals for additional warranty requirements.
B. Correct defective work within a two-year period commencing on the Date of Substantial Completion.

PART 2 PRODUCTS

2.01 CONCRETE FLOOR FINISH APPLICATIONS

A. Unless otherwise indicated, all concrete floors are to be finished using liquid densifier/hardener.
B. Liquid Densifier and Hardener:
1. Use at following locations: At exposed concrete slab locations, unless noted otherwise..
C. Clear Coating:
D. Polished Finish:
1. Use at following locations: As indicated on drawings..

2.02 SURFACE TREATMENTS

2.03 DENSIFIERS AND HARDENERS

A. Liquid Densifier and Hardener: Penetrating chemical compound that reacts with concrete, filling the pores, hardening, and dustproofing.
1. Composition: Sodium silicate.

2.04 COATINGS

A. High Gloss Clear Coating: Transparent, nonyellowing, acrylic polymer-based coating.
1. Composition: Solvent-based.

2.05 POLISHED CONCRETE SYSTEM

A. Polished Concrete System: Materials, equipment, and procedures designed and furnished by a single manufacturer to produce dense polished concrete of the specified sheen.

PART 3 EXECUTION

3.01 GENERAL

A. Apply materials in accordance with manufacturer's instructions.

3.02 COATING APPLICATION

A. Verify that surface is free of previous coatings, sealers, curing compounds, water repellents, laitance, efflorescence, fats, oils, grease, wax, soluble salts, residues from cleaning agents, and other impediments to adhesion.
B. Verify that water vapor emission from concrete and relative humidity in concrete are within limits established by coating manufacturer.
C. Protect adjacent non-coated areas from drips, overflow, and overspray; immediately remove excess material.
D. Apply coatings in accordance with manufacturer's instructions, matching approved mock-ups for color, special effects, sealing and workmanship.

3.03 CONCRETE POLISHING

A. Execute using materials, equipment, and procedures specified by manufacturer, using manufacturer approved installer.
1. Final Polished Sheen: Satin finish; other sheens are included as comparison to illustrate required sheen; final sheen is before addition of any sealer or coating, regardless of whether that is also specified or not.
2. Satin Finish: Reflecting images from side lighting.

END OF SECTION

SECTION 03-45-00
PRECAST ARCHITECTURAL CONCRETE

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's information on accessory products, including pigments, admixtures, inserts, plates, etc.
B. Shop Drawings: Indicate layout, unit locations, configuration, unit identification marks, reinforcement, integral insulation, insulated panel system connectors, connection details, support items, location of lifting devices, dimensions, openings, and relationship to adjacent materials. Provide erection drawings.
C. Samples: Submit two, 12 by 12 inch in size, illustrating surface finish, color and texture.
D. Designer's Qualification Statement.
E. Integrally Insulated Panel System Manufacturer's Qualification Statement.
F. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.
G. Integrally Insulated Panel System Design Data:
1. Thermal Resistance: Submit calculations complying with ASHRAE Std 90.1 I-P, isothermal planes method, and demonstrating thermal resistance of integrally insulated panel system.
2. Dew Point: Submit calculations complying with ASHRAE (FUND). Demonstrate condensation prevention, prevention of frost or ice formation on panels surfaces, and inner wall condensation potential of _____ ounce per day per square foot or less.
3. Thermal Bowing and Crack Mitigation: Submit drawing details and written procedures for mitigation and repair of bowing and cracking in insulated concrete panels without full-thickness concrete sections or metallic connectors between wythes.

1.02 QUALITY ASSURANCE

A. Design Engineer Qualifications: Design precast concrete units under direct supervision of a Professional Structural Engineer experienced in design of precast concrete and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Architectural Precast Concrete:
1. Any manufacturer holding a PCI Group A Plant Certification for the types of products specified; see www.pci.org/#sle.

2.02 PRECAST UNITS, GENERAL

A. Precast Architectural Concrete Units: Comply with PCI MNL-120, PCI MNL-122, PCI MNL-123, PCI MNL-135, and ACI CODE-318.
1. Concrete Face Mix: Minimum 5000 psi, 28 day strength, air entrained to 5 to 7 percent; comply with ACI SPEC-301.
2. Design Loads: Static loads, anticipated dynamic loading, including positive and negative wind loads, thermal movement loads, and erection forces as defined by applicable code.
3. Calculate structural properties of units in accordance with ACI CODE-318.
4. Accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
5. Provide connections that accommodate building movement and thermal movement and adjust to misalignment of structure without unit distortion or damage.

2.03 REINFORCEMENT

A. Comply with requirements of Section 03-20-00.
B. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi).

2.04 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
B. Other Cementitious Materials:
1. Fly Ash or Natural Pozzolans: Comply with ASTM C618.
2. Ground Granulated Blast Furnace Slag: ASTM C989/C989M.
3. Silica Fume: Comply with ASTM C1240.
C. Fine and Coarse Structural Aggregates: ASTM C33/C33M.
D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.
E. Grout:
1. Non-shrink, non-metallic, minimum 10,000 psi, 28 day strength.

2.05 FORM LINERS

A. Material: Polyurethane.

2.06 REVEAL AND ACCENT STRIPS

2.07 SUPPORT DEVICES

A. Connecting and Support Devices; Anchors and Inserts: ASTM A36/A36M steel; hot-dip galvanized in accordance with ASTM A153/A153M.
B. Bolts, Nuts, and Washers: ASTM A307 heavy hex bolts, Type A, hot-dip galvanized, with matching ASTM A563/A563M nuts and matching washers.

2.08 INTEGRALLY INSULATED PANEL SYSTEM (TRUSS CONNECTORS)

A. Integrally Insulated Panel System: Precast concrete panel formed from two layers of concrete with rigid insulation and non-conducting truss connectors between layers.
1. Panel Type: Structurally composite.

2.09 INSULATION

A. Integral Insulation: Rigid expanded polystyrene (EPS) board insulation.
1. Design and construct panels to maintain overall R-value of 13, with less than one percent change due to penetrations and connections, when calculated in accordance with ASHRAE Std 90.1 I-P, isothermal planes method.

2.10 FABRICATION

A. Fabricate in compliance with PCI MNL-117 and PCI MNL-135.

2.11 FABRICATION TOLERANCES

A. Comply with PCI MNL-117 and PCI MNL-135, except as specifically amended below.
1. Maximum Variation From Nominal Face Dimensions: Plus or minus 3/32 in.
2. Maximum Variation From Square or Designated Skew: Plus or minus 1/8 inch in 10 feet.
3. Maximum Variation from Thickness: Plus or minus 1/8 in.
4. Maximum Misalignment of Anchors, Inserts, Openings: Plus or minus 1/8 inch.
5. Maximum Bowing of Members: Plus or minus length/360.

2.12 ACCESSORIES

A. Bearing Pads: High density plastic; smooth both sides.

PART 3 EXECUTION

3.01 ERECTION

A. Erect units without damage to shape or finish. Replace or repair damaged panels.
B. Erect units level and plumb within allowable tolerances.
C. Weld units in place. Perform welding in accordance with AWS D1.1/D1.1M.
D. Touch-up field welds and scratched or damaged primed painted surfaces.

3.02 TOLERANCES

A. Erect members level and plumb within allowable tolerances. Comply with PCI MNL-135, except as specifically amended below.
1. Plan Location from Building Grid Datum: Plus or minus 3/8 in.
2. Top Elevation from Nominal Top Elevation: Plus or minus 3/8 inch.
3. Maximum Plumb Variation Over Height of Structure or 100 ft (whichever is less): Plus or minus 1/2 inch.
4. Exposed Joint Dimension: Plus or minus 3/16 inch.
5. Maximum Jog in Alignment of Matching Faces or Edges: Plus or minus 3/16 inch.
6. Differential Bowing or Camber as Erected Between Similar Adjacent Members: Plus or minus 3/16 inch.

END OF SECTION

DIVISION 04 - MASONRY

SECTION 04-05-11
MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.01 SUBMITTALS

A. See Section 01-30-00 - Administrative Requirements, for submittal procedures.
B. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.
C. Samples: Submit two samples of mortar, illustrating mortar color and color range.

1.02 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT APPLICATIONS

A. At Contractor's option, mortar and grout may be field-mixed from packaged dry materials, made from factory premixed dry materials with addition of water only, or ready-mixed.
B. Mortar Color: Natural gray unless otherwise indicated.
C. Mortar Mix Designs: ASTM C270, Property Specification.
1. Masonry below grade and in contact with earth: Type S.
2. Exterior, Loadbearing Masonry: Type N.
3. Exterior, Non-loadbearing Masonry: Type N.
D. Grout Mix Designs:
1. Bond Beams and Lintels: 3,000 psi strength at 28 days; 8-10 inches slump; provide premixed type in accordance with ASTM C 94/C 94M.
a. Fine grout for spaces with smallest horizontal dimension of 2 inches or less.
b. Coarse grout for spaces with smallest horizontal dimension greater than 2 inches.
2. Engineered Masonry: 3,000 psi strength at 28 days; 8-10 inches slump; provide premixed type in accordance with ASTM C 94/C 94M.

2.02 MATERIALS

A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
1. Color: Standard gray.
2. Water repellent mortar for use with water repellent masonry units.
B. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason's sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
1. Color: Standard gray.
2. Water repellent mortar for use with water repellent masonry units.
C. Portland Cement: ASTM C150/C150M.
1. Type: Type I - Normal; ASTM C150/C150M.
2. Color: Standard gray.
D. Masonry Cement: ASTM C91/C91M.
1. Type: Type N; ASTM C91/C91M.
E. Hydrated Lime: ASTM C207, Type S.
F. Quicklime: ASTM C5, non-hydraulic type.
G. Mortar Aggregate: ASTM C144.
H. Grout Aggregate: ASTM C404.
I. Water: Clean and potable.
J. Bonding Agent: Latex type.

2.03 GROUT MIXING

A. Mix grout in accordance with ASTM C94/C94M.
B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install mortar and grout to requirements of section(s) in which masonry is specified.

END OF SECTION

SECTION 04-20-00
UNIT MASONRY

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
B. Shop Drawings: Indicate pertinent dimensions, materials, anchorage, size and type of fasteners, and accessories for brickwork support system.
1. Include calculations or selections from the manufacturer's prescriptive design tables that indicate compliance with the applicable building code and project conditions.
2. Include the design engineer's stamp or seal on each sheet of shop drawings.
C. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.
D. Manufacturer's Certificate: Certify that water repellent admixture manufacturer has certified masonry unit manufacturer as an approved user of water repellent admixture in the manufacture of concrete block.
E. Test Reports: Concrete masonry manufacturer's test reports for units with integral water repellent admixture.
F. Installer's Qualification Statement.
G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01-60-00 - Product Requirements, for additional provisions.

1.02 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.
B. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depth of 8 inches.
2. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
3. Special Shapes: Provide nonstandard blocks configured for corners.
a. Provide bullnose units for outside corners.
4. Load-Bearing Units: ASTM C90, normal weight.
a. Hollow block, as indicated.
b. Exposed Faces: Manufacturer's standard color and texture where indicated.
5. Nonloadbearing Units: ASTM C129.
a. Hollow block, as indicated.

2.02 MORTAR AND GROUT MATERIALS

A. Mortar and Grout: As specified in Section 04-05-11.
B. Masonry Cement: ASTM C91/C91M, Type N.
1. Colored Mortar: Premixed cement as required to match Architect's color sample.
C. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.
D. Hydrated Lime: ASTM C207, Type S.
E. Mortar Aggregate: ASTM C144.
F. Grout Aggregate: ASTM C404.
G. Water: Clean and potable.
H. Accelerating Admixture: Nonchloride type for use in cold weather.
I. Moisture-Resistant Admixture: Water repellent compound designed to reduce capillarity.
J. Integral Water Repellent Admixture for Mortar: Polymeric liquid admixture added to mortar at the time of manufacture.
K. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
1. Type: Type N.
2. Color: Standard gray.
3. Water-repellent mortar for use with water repellent masonry units.
L. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason sand; complying with ASTM C1714/C1714M and capable of producing mortar of specified strength in accordance with ASTM C270 with addition of water only.
1. Type: Type N.
2. Color: Standard gray.

2.03 REINFORCEMENT AND ANCHORAGE

A. Reinforcing Steel: size as indicated on drawings; galvanized finish.
B. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi), deformed billet bars; galvanized.
C. Single Wythe Joint Reinforcement: ASTM A951/A951M.
1. Type: Ladder.
2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.

2.04 FLASHINGS

A. Metal Flashing Materials: Stainless Steel, as specified in Section 07-62-00.
B. Metal Flashing Materials:
1. Copper Flashing: ASTM B370, 060 soft annealed; 20 oz/sq ft thick; natural finish.
2. Stainless Steel Flashing: ASTM A666, Type 304, soft temper; 26 gauge, 0.0187 inch thick; finish 2B to 2D.
3. Prefabricated Metal Flashing: Smooth fabricated 12 oz/sq ft stainless steel (type 304) flashing for surface mounted conditions.
C. Combination Non-Asphaltic Flashing Materials - Stainless Steel:
1. Stainless Steel Flashing - Self-adhering: ASTM A240/A240M; 2 mil type 304 stainless steel sheet with 8 mil of butyl adhesive and a removable release liner.
D. Factory-Fabricated Flashing Corners and End Dams: Stainless steel.
E. Flashing Sealant/Adhesives: Silicone, polyurethane, or silyl-terminated polyether/polyurethane or other type required or recommended by flashing manufacturer; type capable of adhering to type of flashing used.
F. Termination Bars: Stainless steel; compatible with membrane and adhesives.
G. Drip Edge: Stainless steel; angled drip with hemmed edge; compatible with membrane and adhesives.
H. Lap Sealants and Tapes: As recommended by flashing manufacturer; compatible with membrane and adhesives.

2.05 ACCESSORIES

A. Preformed Control Joints: Polyvinyl chloride material. Provide with corner and tee accessories, fused joints.
B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; in maximum lengths available.
C. Weeps:
1. Type: Molded PVC grilles, insect resistant.

2.06 MORTAR AND GROUT MIXING

A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
1. Masonry below grade and in contact with earth: Type S.
2. Exterior, loadbearing masonry: Type N.
3. Exterior, non-loadbearing masonry: Type N.
4. Interior, loadbearing masonry: Type N.
5. Interior, non-loadbearing masonry: Type O.
B. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.
C. Mixing: Use mechanical batch mixer and comply with referenced standards.

PART 3 EXECUTION

3.01 COLD AND HOT WEATHER REQUIREMENTS

A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.02 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.
B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
C. Concrete Masonry Units:
1. Bond: Running.
2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave.

3.03 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
B. Lay hollow masonry units with face shell bedding on head and bed joints.
C. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.04 WEEPS/CAVITY VENTS

A. Install weeps in veneer and cavity walls at 24 inches on center horizontally on top of through-wall flashing above shelf angles and lintels and at bottom of walls.
B. Install cavity vents in veneer and cavity walls at 32 inches on center horizontally below shelf angles and lintels and near top of walls.

3.05 REINFORCEMENT AND ANCHORAGE - GENERAL AND SINGLE WYTHE MASONRY

A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
C. Place continuous joint reinforcement in first and second joint below top of walls.
D. Embed longitudinal wires of joint reinforcement in mortar joint with at least 5/8 inch mortar cover on each side.
E. Lap joint reinforcement ends minimum 6 inches.

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 08/26/2024
DRAWN BY : DCA
SHEET TITLE : SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-5677
FAX: (262) 567-4616

OLIVER CONSTRUCTION CO.

SHEET NO.
A902

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F. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

3.06 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.

B. Terminate flashing up 8 inches minimum on vertical surface of backing:

C. Install flashing in accordance with manufacturer's instructions and BIA Technical Notes No. 7.

3.07 GROUTED COMPONENTS

A. Place and consolidate grout fill without displacing reinforcing.

B. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

END OF SECTION

SECTION 04-26-00
SINGLE-WYTHE UNIT MASONRY

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data for decorative and pre-faced masonry units and fabricated wire reinforcement.

1.02 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

1.03 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
1. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depth of 8 inches.
2. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depths as indicated on drawings for specific locations.
3. Special Shapes: Provide non-standard blocks configured for corners.
4. Load-Bearing Units: ASTM C90, normal weight.
   a. Hollow block, as indicated.
5. Non-Loadbearing Units: ASTM C129.
   a. Hollow block, as indicated.

2.02 MORTAR AND GROUT MATERIALS

A. Mortar and Grout: As specified in Section 04-05-11.

2.03 REINFORCEMENT AND ANCHORAGE

A. Reinforcing Steel: size as indicated on drawings; galvanized finish.

B. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) yield strength, deformed billet bars; galvanized.

C. Single Wythe Joint Reinforcement: ASTM A951/A951M.
1. Type: Ladder.
2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.

D. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in width, 0.105 in thick, lengths as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A153/A153M Class B.

2.04 FLASHINGS

A. Metal Flashing Materials: Stainless Steel, as specified in Section 07-62-00.

B. Metal Flashing Materials:
1. Stainless Steel Flashing: ASTM A666, Type 304, soft temper; 26 gauge, 0.0187 inch thick; finish 2B to 2D.
2. Prefabricated Metal Flashing: Smooth fabricated 12 oz/sq ft stainless steel (type 304) flashing for surface mounted conditions.

C. Termination Bars: Stainless steel; compatible with membrane and adhesives.

D. Drip Edge: Stainless steel; angled drip with hemmed edge; compatible with membrane and adhesives.

E. Lap Sealants and Tapes: As recommended by flashing manufacturer; compatible with membrane and adhesives.

2.05 ACCESSORIES

A. Preformed Control Joints: Polyvinyl chloride material. Provide with corner and tee accessories, fused joints.

B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; 5/8 inch wide x by maximum lengths available.

C. Flashing - Weep - Vent System: Polypropylene pan and bridge unit with polyester mesh drainage mats and bug guards; wall system size: 12 inch.

D. Flashing - Drainage Tab - Vent System: Stainless steel drainage strip with bonded polyester mesh drainage mat.

PART 3 EXECUTION

3.01 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
1. Bond: Running.
2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave.

3.02 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

3.03 REINFORCEMENT AND ANCHORAGE

A. Install horizontal joint reinforcement 16 inches on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches.

E. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

F. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Space anchors at maximum of 24 inches horizontally and 16 inches vertically.

3.04 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
1. Extend flashings full width at such interruptions and at least 6 inches, minimum, into adjacent masonry or turn up at least 1 inch, minimum, to form watertight pan at non-masonry construction.

B. Install flashing in accordance with manufacturer's instructions and BIA Technical Notes No. 7.

C. Extend metal flashings through exterior face of masonry and terminate in an angled drip with hemmed edge. Install joint sealer below drip edge to prevent moisture migration under flashing.

D. Extend metal flashings to within 1/2 inch of exterior face of masonry and adhere to top of stainless steel angled drip with hemmed edge.

E. Support flexible flashings across gaps and openings.

F. Lap end joints of flashings at least 6 inches, minimum, and seal watertight with flashing sealant/adhesive.

3.05 GROUTED COMPONENTS

A. Place and consolidate grout fill without displacing reinforcing.

B. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

END OF SECTION

DIVISION 05 - METALS

SECTION 05-51-33
METAL LADDERS

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings:
1. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

B. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

C. Designer's Qualification Statement.

1.02 QUALITY ASSURANCE

A. Design under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

C. Plates: ASTM A283/A283M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

E. Bolts, Nuts, and Washers: ASTM A307, plain.

F. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

G. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

H. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.02 MATERIALS - ALUMINUM

A. Extruded Aluminum: ASTM B211/B211M, 6063 alloy, T6 temper.

B. Sheet Aluminum: ASTM B209/B209M, 5052 alloy, H32 or H22 temper.

C. Aluminum-Alloy Drawn Seamless Tubes: ASTM B210/B210M, 6063 alloy, T6 temper.

D. Aluminum-Alloy Bars: ASTM B211/B211M, 6061 alloy, T6 temper.

E. Aluminum-Alloy Sand Castings: ASTM B26/B26M.

F. Aluminum-Alloy Die Castings: ASTM B85/B85M .

G. Bolts, Nuts, and Washers: Stainless steel.

2.03 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

2.04 FABRICATED LADDERS

A. Ladders: Steel; in compliance with ANSI A14.3; with mounting brackets and attachments; prime paint finish.

2.05 PREFABRICATED LADDERS

A. Prefabricated Ladder: Welded metal unit complying with ANSI A14.3; factory fabricated to greatest degree practical and in the largest components possible.
1. Components: Manufacturer's standard rails, rungs, treads, handrails. returns, platforms and safety devices complying with the requirements of the MATERIALS article of this section.
2. Materials: Aluminum; ASTM B211/B211M 6063 alloy, T52 temper.

2.06 FINISHES - STEEL

A. Prime paint steel items.

2.07 FINISHES - ALUMINUM

A. Interior Aluminum Surfaces: Class I natural anodized.

B. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

END OF SECTION

SECTION 05-52-13
PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.02 QUALITY ASSURANCE

A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.

B. Fabricator Qualifications:
1. A qualified steel fabricator that is certified by the American Institute for Steel Construction (AISC) under AISC 201.
2. A qualified steel fabricator that is accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel in accordance with IAS AC172.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

B. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 75 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

C. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

D. Allow for expansion and contraction of members and building movement without damage to connections or members.

E. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

F. Provide slip-on non-weld mechanical fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.02 STEEL RAILING SYSTEM

A. Steel Tube: ASTM A501/A501M hot-formed structural tubing.

B. Steel Pipe: ASTM A53/A53M Grade B Schedule 80, galvanized finish.

C. Non-Weld Mechanical Fittings: Slip-on, galvanized malleable iron castings, for Schedule 40 pipe, with flush setscrews for tightening by standard hex wrench, no bolts or screw fasteners.

D. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.

E. Exposed Fasteners: No exposed bolts or screws.

F. Galvanizing: In accordance with requirements of ASTM A123/A123M.

2.03 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

END OF SECTION

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

SECTION 06-10-00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.

B. ABAA Field Quality Control Submittals: Submit third-party reports of testing and inspection required by ABAA QAP.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
1. Species: Douglas Fir-Larch, unless otherwise indicated.
2. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Stud Framing (2 by 2 through 2 by 6):
1. Species: Allowed under referenced grading rules.
2. Grade: No. 2.

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 2 or Standard Grade.
2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

A. Roof Sheathing: PS 2 type, rated Structural I Sheathing.
1. Bond Classification: Exterior.
2. Span Rating: 60.
3. Performance Category: 3/4 PERF CAT.

B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.

B. Water-Resistive Barrier: Plastic sheet complying with ICC-ES AC38.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 INSTALLATION OF CONSTRUCTION PANELS

A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

END OF SECTION

SECTION 06-10-53
MISCELLANEOUS ROUGH CARPENTRY

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide technical data on wood preservative materials and application instructions.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
1. Species: Douglas Fir-Larch, unless otherwise indicated.
2. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
3. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
4. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Sizes: Nominal sizes as required per application.

C. Moisture Content: S-dry or MC19.

D. Stud Framing for sizes 2 by 2 through 2 by 6:
1. Species: Allowed under referenced grading rules.
2. Grade: No.2.

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No.2 or Standard Grade.
2. Boards: Standard or No.3.

F. Window and Door Bucks: 1-1/2 inch thick laminated strand lumber.

G. Parapet Caps: 1-1/2 inch thick, dimensional lumber.

2.03 CONSTRUCTION PANELS

A. Communications and Electrical Room Mounting Boards: PS 1, A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Anchors: Toggle bolt type for anchorage to hollow masonry.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 INSTALLATION OF CONSTRUCTION PANELS

END OF SECTION

SECTION 06-20-00
FINISH CARPENTRY

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1.02 QUALITY ASSURANCE

A. Quality Certification:

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

2.02 LUMBER MATERIALS

A. Softwood Lumber: Maple species, Quarter sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.
1. Grading: In accordance with rules certified by ALSC; www.alsc.org.

B. Hardwood Lumber: Species as indicated on drawings, Quarter sawn, maximum moisture content of 6 percent ; with vertical grain , of quality suitable for transparent finish.
1. Grading: In accordance with NHLA G-101 Grading Rules; www.nhla.com.

2.03 SHEET MATERIALS

A. Softwood Plywood, Not Exposed to View: Any face species, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.

B. Softwood Plywood, Exposed to View: Face species as indicated, plain sawn, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.
1. Grading: Certified by the American Plywood Association.

C. Hardwood Plywood: Face species as indicated, plain sawn, book matched, medium density fiberboard core; HPVA HP-1 Front Face Grade AA, Back Face Grade 1, glue type as recommended for application.

D. Particleboard: ANSI A208.1 Composed of wood chips, sawdust, or flakes of medium density, made with waterproof resin binders; of grade to suit application; sanded faces.

2.04 PANEL CORE MATERIALS

A. Medium Density Fiberboard (MDF): Composite panel composed of cellulosic fibers, additives, and bonding system; cured under heat and pressure; comply with ANSI A208.2.

2.05 PLASTIC LAMINATE MATERIALS

A. Plastic Laminate: NEMA LD 3; color as indicated; textured, low gloss finish.

B. Low Pressure Laminate: Melamine; White color and gloss surface texture.

2.06 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Plastic Edge Trim: Extruded convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness; color as selected.

C. Wood Filler: Solvent base, tinted to match surface finish color.

2.07 HARDWARE

A. Hardware: Comply with BHMA A156.9.

2.08 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

2.09 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A903

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END OF SECTION

SECTION 06-41-00
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

B. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.

1.02 QUALITY ASSURANCE

A. Quality Certification:
1. Replace, repair, or rework all work for which certification is refused.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Faced Cabinets: Custom grade.

C. Cabinets:
1. Finish - Exposed Exterior Surfaces: Decorative laminate.
2. Finish - Exposed Interior Surfaces: Decorative laminate
3. Finish - Semi-Exposed Surfaces: Decorative laminate
4. Finish - Concealed Surfaces: Manufacturer's option.
5. Door and Drawer Front Edge Profiles: Square edge with thin applied band.
6. Door and Drawer Front Retention Profiles: Fixed panel.
7. Casework Construction Type: Type A - Frameless.
8. Interface Style for Cabinet and Door: Style 2 - Finish Inset; flush overlay.
9. Layout for Cabinet and Door Fronts: Flush panel.
a. Custom Grade: Doors, drawer fronts and false fronts wood grain to run and match vertically within each cabinet unit.
10. Adjustable Shelf Loading: 40 psf.
a. Deflection: L/144.
11. Cabinet Style: Flush overlay.
12. Cabinet Doors and Drawer Fronts: Flush style.
13. Drawer Side Construction: Manufacturer's option.
14. Drawer Construction Technique: As recommended by fabricator.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 PANEL CORE MATERIALS

A. Particleboard: Composite panel composed of cellulosic particles, additives, and bonding system; comply with ANSI A208.1.
1. Grade: M-2; moisture resistance: MR10.

B. Medium Density Fiberboard (MDF): Composite panel composed of cellulosic fibers, additives, and bonding system; cured under heat and pressure; comply with ANSI A208.2.
1. Grade: 115; moisture resistance: MR10.

2.04 LAMINATE MATERIALS

A. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

B. Provide specific types as indicated on drawings.

2.05 COUNTERTOPS

A. Countertops: See Section 12-36-00.

2.06 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Vinyl Countertop Edge: PVC anchor type tee-molding edging in width to match thickness of countertop, color as indicated, used at locations as indicated.

C. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

2.07 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Metal Z-Shaped Wall Cabinet Support Clips: Paired, cleated, structural anchorage components applied to back of cabinets and walls for wall cabinet mounting.

C. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.

D. Adjustable Shelf Supports: Standard back-mounted system using surface mounted metal shelf standards and coordinated cantilevered shelf brackets, satin chrome finish, for nominal 1 inch spacing adjustments.

E. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.

F. Keyed Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

G. Cabinet Catches and Latches:

H. Drawer Slides:
1. Type: Standard extension.
2. Static Load Capacity: Commercial grade.
3. Mounting: Side mounted.

I. Drawer Systems: Integrated drawers and slides.
1. Side Type: Single wall.
2. Extension Type: Standard extension.
3. Static Load Capacity: Residential/Light Commercial grade.
4. Mounting: Side mounted.

J. Hinges: European style concealed self-closing type, steel with nickel-plated finish.

K. Pull Up Cabinet Door Supports: Surface-mounted; steel with nickel-plated finish.

L. Hooks: Surface-mounted; stainless steel, satin finish.

2.08 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

E. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

C. Use concealed joint fasteners to align and secure adjoining cabinet units.

END OF SECTION

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

SECTION 07-53-23
ETHYLENE PROPYLENE DIENE MONOMER MEMBRANE ROOFING - JOHNS MANVILLE

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, and fasteners.

B. Shop Drawings: Provide roofing system plans, elevations, sections, details, and attachment details to other work, including:
1. Base flashings, cants, and membrane terminations.
2. Tapered insulation, including slopes.
3. Crickets, saddles, and tapered edge strips, including slopes.
4. Insulation fastening patterns.

C. Manufacturer's qualification statement.

D. Guarantees: Provide manufacturer's current guarantee specimen for the following:
1. Roofing subcontractor to provide copy of final System Assembly Letter issued by Johns Manville Roofing Systems, indicating products and system installed eligible to receive specified manufacturer's guarantee when installed by certified Johns Manville contractor, in accordance with manufacturer's application requirements, and inspected and approved by Johns Manville technical representative.
2. Prior to roofing system installation, roofing subcontractor to provide copy of Guarantee Application Confirmation document issued by John Manville Roofing Systems, indicating project has been reviewed for eligibility to receive specified guarantee and registered.

1.02 QUALITY ASSURANCE

1.03 WARRANTY

A. Provide manufacturer's system guarantee equal to Johns Manville's Peak Advantage No Dollar Limit Roofing System Guarantee:
1. Single-source special guarantee includes roofing membrane, accessories, basic flashing, and other approved single-source components of roofing system marketed by manufacturer, including roof insulation.
2. Warranty Period: 10 years from Date of Substantial Completion.

B. Installer's Warranty: Submit roofing Installer's Warranty, including components of roofing system for a guarantee period of two years from Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Substitutions: See Section 01-60-00 - Product Requirements.

B. Source Limitations: Furnish products produced by single manufacturer and obtained from single supplier.

2.02 EPDM MEMBRANES

2.03 ROOF INSULATION

A. Standard:
1. Preformed roof insulation boards complying with requirements and referenced standards, selected from material sizes and thicknesses indicated. Provide insulation package with minimal R Value: 34
2. Provide insulation package in multiple layers.
3. Minimum Long-Term Thermal Resistance (LTTR): 5.7 per inch, determined in accordance with CAN-ULC-S770 at 75 degrees F.

2.04 SURFACING - AGGREGATE BALLAST

A. Provide aggregate ballast to withstand weather exposure without significant deterioration and to not contribute to membrane degradation, comprised of the following type and size:
1. Aggregate Type: Smooth, washed riverbed gravel or other acceptable smooth-faced stone.
2. Crushed grave or crushed stone not allowed without protection mat.
3. Size: ASTM D448, Size 4, ranging in size from 0.75 inch to 1.50 inches.

2.05 AUXILIARY ROOFING MATERIALS

PART 3 EXECUTION

3.01 INSTALLATION - MEMBRANE

3.02 INSTALLATION - INSULATION

A. Standard Installation:
1. Coordinate installation of roof system components so insulation and cover board not exposed to precipitation or left exposed at end of each work day.
2. Place insulation boards over roofing membrane; butt edges in close contact; place channel cut face down; bevel insulation to allow snug fit at cant strips; cut neatly around protrusions through roof.
3. Install tapered insulation under area of roofing to conform to slopes indicated.
4. Install insulation boards with long joints in continuous straight line. Stagger joints between rows, abutting edges. Fill gaps exceeding .25 inch with like materials.
5. Install two or more layers with joints of each succeeding layer staggered minimum of 6 inches from joints of previous layer.
6. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.
7. Install tapered edge strips at perimeter edge of roof not terminating at vertical surfaces.

B. Loose-Laid Insulation with Mechanically Fastened Top Layer:
1. Loose-lay insulation with staggered joints and secure top layer of insulation to deck using mechanical fasteners designed and sized for fastening specified board type to deck type.
2. Fasten first layer to resist uplift pressure at corners, perimeter, and entire roof field.
3. Install subsequent layers in; a two-part urethane adhesive, according to roofing system manufacturer's instruction.
4. Install each layer to resist uplift pressure at corners, perimeter and entire roof field.

3.03 INSTALLATION - FLUTE FILLER INSULATION

A. Coordinate installation of roof system components so insulation not exposed to precipitation or left exposed at end of each work day.

B. Comply with roofing system manufacturer's written instructions for installing roof insulation.

C. Loose-lay polyisocyanurate flute filler insulation between metal roof standing seams.

3.04 INSTALLATION - BASE SHEET

A. Install one lapped base sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions:
1. Enhance fastening rate along perimeter and corner zones, according to code requirements, including wind uplift system minimums and manufacturer's warranty requirements.

B. Comply with roofing manufacturer's written instructions for installing roof insulation.

3.05 INSTALLATION - BASE FLASHING

A. Install sheet flashing and preformed flashing accessories and adhere to substrates in accordance with membrane roofing system manufacturer's written instructions.

B. Apply solvent-based bonding adhesive at required rate and allow to dry partially. Do not apply bonding adhesive to seam area of flashing.

C. Apply two-sided water-based bonding adhesive at required rate and allow to dry partially. Do not apply bonding adhesive to seam area of flashing.

D. Apply single-ply liquid-applied flashing system as directed by manufacturer's written instructions.

E. Flash penetrations and field form both inside and outside corners with cured or uncured sheet flashing.

F. Clean seam areas, overlap, and firmly roll sheet flashings into adhesive.

G. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.06 INSTALLATION - EDGE METAL

A. Examine substrates and conditions under which sheet metal flashings and trim installed and verify work can commence. Do not proceed with installation until unsatisfactory conditions corrected.

B. Provide edge details as indicated on drawings. Install in accordance with membrane manufacturer's requirements and SMACNA (ASMM) Architectural Sheet Metal Manual.

C. Join individual sections in accordance with membrane manufacturer's requirements and SMACNA (ASMM) Architectural Sheet Metal Manual.

3.07 FIELD QUALITY CONTROL

END OF SECTION

SECTION 07-62-00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

B. Samples: Submit two samples, 6 by 6 inches in size, illustrating metal finish color.

1.02 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, 0.0239-inch thick base metal.

B. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, 0.0239-inch thick base metal, shop pre-coated with PVDF coating.
1. Polyvinylidene Fluoride (PVDF) Coating: Superior performing organic powder coating, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.
2. Color: As selected by Architect from manufacturer's standard colors.

C. Pre-Finished Aluminum: ASTM B209/B209M, 3005 alloy, H12 or H14 temper; 18 gauge, 0.040 inch thick; plain finish shop pre-coated with silicone modified polyester coating.
1. Polyvinylidene Fluoride (PVDF) Coating: Superior performing organic powder coating, AAMA 2605; pretreated metal with two-coat system including primer and color coat with at least 70 percent PVDF coating.
2. Color: As selected by Architect from manufacturer's standard colors.

D. Lead Sheet: ASTM B749, 0.047-inch minimum thickness; UNS Number L51121.

E. Stainless Steel: ASTM A666, Type 304 alloy, soft temper, 28 gauge, 0.0156 inch thick; smooth No. 4 - Brushed finish.

2.02 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

2.03 FLASHING

A. Flashing Panels for Exterior Wall Penetrations: Premanufactured components and accessories as required to preserve integrity of building envelope; suitable for conduits and facade materials to be installed.

2.04 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer Type: Zinc chromate.

C. Concealed Sealants: Non-curing butyl sealant.

D. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

E. Fenestration Perimeter Flashing Attachments: Two-piece flashing receiver and clip of extruded aluminum, at least 0.045 inch thick, for attaching flashing at perimeter of exterior wall fenestration openings.

F. Asphalt Roof Cement: ASTM D4586/D4586M, Type I, asbestos-free.

PART 3 EXECUTION

3.01 INSTALLATION

A. Secure flashings in place using concealed fasteners.

B. Exterior Flashing Receivers: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction, and as follows:

C. Seal metal joints watertight.

END OF SECTION

SECTION 07-71-00
ROOF SPECIALTIES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.

B. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

PART 2 PRODUCTS

2.01 COMPONENTS

A. Roof Edge Flashings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
1. Configuration: Fascia, cant, and edge securement for roof membrane.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test methods RE-1 and RE-2 to positive and negative design wind pressure as defined by applicable local building code.
3. Exposed Face Height: As indicated on drawings.
4. Finish: 70 percent polyvinylidene fluoride.
5. Color: As selected by Architect from manufacturer's standard range.

B. Copings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness, and finish as cap; concealed stainless steel fasteners.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by applicable local building code.
3. Wall Width: As indicated on drawings.
4. Outside Face Height: As indicated on drawings.
5. Inside Face Height: As indicated on drawings.
6. Material: Formed steel sheet, galvanized, 24 gauge, 0.024 inch thick, minimum.
7. Finish: 70 percent polyvinylidene fluoride.
8. Color: As selected by Architect from manufacturer's standard range.

C. Pipe and Penetration Flashing: Base of rounded aluminum, compatible with sheet metal roof systems, and capable of accomodating pipes sized between 3/8 inch and 12 inches.

D. Roof Penetration Sealing Systems: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.

E. Counterflashings: Factory fabricated and finished sheet metal that overlaps top edges of base flashing by at least 4 inches, and designed to snap into through-wall flashing or reglets with lapped joints.
1. Material: Formed aluminum sheet, 0.025 inch thick, minimum.
2. Material: Zinc-coated steel sheet, 0.022 inch thick, minimum.
3. Color: To be selected by Architect from manufacturer's standard range.

F. Pipe Penetration Wall Seal: Seal for HVAC piping wall penetrations with wall-mounted rigid plastic outlet cover and elastomeric wall seal gasket.
1. Outlet Cover Color: White.

G. Pipe Penetration Wall Seal and Insulated Piping Protection System: Seal for HVAC piping wall penetrations with wall mounted rigid plastic outlet cover and elastomeric wall seal gasket and having mechanical line insulation with PVC protective cover.
1. Outlet Cover Color: White.
2. PVC Insulation Cover Color: Black with full-length velcro fastener.

2.02 FINISHES

A. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as indicated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install components in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

END OF SECTION

SECTION 07-72-00
ROOF ACCESSORIES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used.

1.02 WARRANTY

A. See Section 01-78-00 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for Roof Accessories. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.01 ROOF CURBS

A. Roof Curbs Mounting Assemblies: Factory fabricated hollow sheet metal construction, internally reinforced, and capable of supporting superimposed live and dead loads and designated equipment load with fully mitered and sealed corner joints welded or mechanically fastened, and integral counterflashing with top and edges formed to shed water.
1. Applications: Roof curbs used for roof penetrations/openings as indicated on drawings.
2. Roof Curb Mounting Substrate: Curb substrate consists of standing seam metal roof panel system.
3. Sheet Metal Material:
a. Aluminum: 0.080 inch minimum thickness, with 3003 alloy, and H14 temper.
1) Finish: Mill finish.
b. Galvanized Steel: Hot-dip zinc coated steel sheet complying with ASTM A653/A653M, SS Grade 33; G60 coating designation; 18 gauge, 0.048 inch thick.
4. Fabricate curb bottom and mounting flanges for installation directly on metal roof panel system to match slope and configuration of system.
a. Extend side flange to next adjacent roof panel seam and comply with seam configurations and seal connection, providing at least 6 inch clearance between curb and metal roof panel flange allowing water to properly flow past curb.
b. Where side of curb aligns with metal roof panel flange, attach fasteners on upper slope of flange to curb connection allowing water to flow past below fasteners, and seal connection.
c. Maintain at least 12 inch clearance from curb, and lap upper curb flange on underside of down sloping metal roof panel, and seal connection.
d. Lap lower curb flange overtop of down sloping metal roof panel and seal connection.

B. Curbs Adjacent to Roof Openings: Provide curb on each side of opening, with top of curb horizontal for equipment mounting.

C. Equipment Rail Curbs: Straight curbs on each side of equipment, with top of curbs horizontal and level with each other for equipment mounting.

D. Equipment Support: Straight curbs on each side of equipment, with top of curbs parallel with metal roofing system and each other for equipment mounting.

E. Pipe, Duct, or Conduit Mounting Curbs: Vertical posts, minimum 8 inches square unless otherwise indicated.

2.02 ROOF HATCHES AND VENTS

A. Frames and Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
1. Insulation: Manufacturer's standard; 1 inch rigid glass fiber, located on outside face of curb.

B. Metal Covers: Flush, insulated, hollow metal construction.
1. Capable of supporting 40 psf live load.
2. Material: Galvanized steel; outer cover 14 gauge, 0.0747 inch thick, liner 22 gauge, 0.03 inch thick.
3. Finish: Factory finish
4. Insulation: Manufacturer's standard 1 inch rigid glass fiber.

C. Safety Railing System: Roof hatch safety rail system mounted directly to curb without penetration of roofing system.

D. Hardware: Steel, zinc coated and chromate sealed, unless otherwise indicated or required by manufacturer.
1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
2. Hinges: Heavy duty pintle type.
3. Hold open arm with vinyl-coated handle for manual release.
4. Latch: Upon closing, engage latch automatically and reset manual release.
5. Locking: Padlock hasp on interior.

2.03 NON-PENETRATING ROOFTOP SUPPORTS/ASSEMBLIES

A. Non-Penetrating Rooftop Support/Assemblies: Manufacturer-engineered and factory-fabricated, with pedestal bases that rest on top of roofing membrane, and not requiring any attachment to roof structure and not penetrating roofing assembly.
1. Design Loadings and Configurations: As required by applicable codes.
2. Height: Provide minimum clearance of 6 inches under supported items to top of roofing.
3. Support Spacing and Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.

B. Safety Railing System: Roof hatch safety rail system mounted directly to curb without penetration of roofing system.
1. Railing Size: As indicated on drawings.
2. Railing: Comply with 29 CFR 1910.23 for ladder safety, with safety factor of two.
3. Self-Closing Gate: Comply with 29 CFR 1910.29 for safe egress and fall protection through hatch opening.
4. Posts and Rails: Galvanized steel tubing.
5. Gate: Same material as railing; automatic closing with latch.
6. Finish: Manufacturer's standard, factory-applied.
7. Gate Hinges and Post Guides: ASTM B221 (ASTM B221M), 6063 alloy, T5 temper aluminum.
8. Mounting Brackets: Hot-dip galvanized steel, 1/4 inch thick, minimum.
9. Fasteners: Stainless steel, Type 316.

C. Pipe Supports: Provide attachment fixtures complying with MSS SP-58 and as indicated.

D. Non-Penetrating Pedestals: Steel pedestals with square, round, or rectangular bases.
1. Bases: High density polypropylene.
2. Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
3. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

END OF SECTION

SECTION 07-92-00
JOINT SEALANTS

PART 1 GENERAL

1.01 SUBMITTALS

REVISIONS

PROJECT INFORMATION
PROJECT NO.: D945.24
DATE: 09/25/2024
DRAWN BY: DCA
SHEET TITLE: SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

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1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A904

A. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.

B. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

D. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

1.02 QUALITY ASSURANCE

A. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
   1. Deliver sufficient samples to manufacturer for testing.
   2. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
   3. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

1.03 WARRANTY

A. See Section 01-78-00 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.01 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Exterior Joints:
      a. Seal open joints except open joints indicated on drawings as not sealed.
      b. Seal the following joints:
         1) Wall expansion and control joints.
         2) Joints between doors, windows, and other frames or adjacent construction.
         3) Joints between different exposed materials.
   2. Interior Joints:
      a. Do not seal interior joints indicated on drawings as not sealed.
      b. Do not seal gaps and openings in gypsum board and suspended ceilings
      c. Do not seal through-penetrations in sound-rated assemblies that are also fire-rated assemblies.
      d. Seal open joints except specific open joints indicated on drawings as not sealed.
      e. Seal the following joints:
         1) Joints between door frames and window frames and adjacent construction.
         2) In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, and piping penetrations.
         3) In sound-rated wall and ceiling assemblies, seal joints between wall assemblies and ceiling assemblies; between wall assemblies and other construction; between ceiling assemblies and other construction.
   3. Do Not Seal:
      a. Intentional weep holes in masonry.
      b. Joints indicated to be covered with expansion joint cover assemblies.
      c. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
      d. Joints where sealant installation is specified in other sections.
      e. Joints between suspended ceilings and walls.

B. Exterior Joints: Use nonsag nonstaining silicone sealant, unless otherwise indicated.
   1. Type JS-MPF - Lap Joints in Sheet Metal Fabrications: Butyl rubber, noncuring.
   2. Type JS-MPF - Lap Joints between Manufactured Metal Panels: Butyl rubber, noncuring.

C. Interior Joints: Use sealant types as indicated.
   1. Type JS-IN - Wall and Ceiling Joints in Nonwet Areas: Acrylic emulsion latex sealant.
   2. Type JS-INW - Wall and Ceiling Joints in Wet Areas: Nonsag polyurethane sealant for continuous liquid immersion.
   3. Type JS-T - Joints between Tile in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant polyurethane sealant; white.
   4. Type JS-INF1 - Joints in Interior Concrete Slabs: Self-leveling polyurea sealant.
   5. Type JS-INF2 - Other Floor Joints: Self-leveling polyurethane traffic-grade sealant.

D. Interior Wet Areas: Bathrooms, restrooms, and kitchens; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items.

E. Sound-Rated Assemblies: Walls and ceilings identified as STC-rated, sound-rated, or acoustical.

2.02 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

B. Colors: As selected by Architect from manufacturer's standard colors.

2.03 SPRAY-APPLIED JOINT SEALANTS

A. Spray-Applied Water-Based Acrylic Latex Sealant: For interior applications, spray-applied, fast-drying, premixed acrylic latex sealant, intended for air sealing penetrations and joints.
   1. Surface Burning Characteristics: Smoke developed index of 450 or less, and flame spread index of 25 or less, Class A, when tested in accordance with ASTM E84.
   2. Spray Equipment: Use rate of application and methods as recommended by manufacturer.
   3. Wood Adhesion: Passes ASTM D4541, without pulling back, shrinking, or cracking.

2.04 NONSAG JOINT SEALANTS

A. Type JS-IN - Nonstaining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Color: Match adjacent finished surfaces.
   5. Color: To be selected by Architect from manufacturer's standard range.
   6. Service Temperature Range: Minus 20 to 180 degrees F.

B. Type NA - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: As selected by Architect from Manufacturer's standard range..

C. Type JS-INW - Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Color: Match adjacent finished surfaces.
   3. Color: To be selected by Architect from manufacturer's standard range.

D. Type JS-T - Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; multicomponent; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface.
   1. Movement Capability: Plus and minus 35 percent, minimum.
   2. Color: Match adjacent finished surfaces.
   3. Color: To be selected by Architect from manufacturer's standard range.

E. Type NA - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, nonstaining, nonbleeding, nonsagging; not intended for exterior use.

F. Type MPF - Butyl Sealant: Solvent-based; ASTM C1311; single component, nonsag; not expected to withstand continuous water immersion or traffic.
   1. Color: Match adjacent finished surfaces.
   2. Color: To be selected by Architect from manufacturer's standard range.

G. Type NA - Noncuring Butyl Sealant: Solvent-based, single component, nonsag, nonskinning, nonhardening, nonbleeding; nonvapor permeable; intended for fully concealed applications.

2.05 SELF-LEVELING JOINT SEALANTS

A. Type NA - Self-Leveling Polyurethane Sealant for Continuous Water Immersion: Polyurethane; ASTM C920, Grade P, Uses M and A; single component; explicitly approved by manufacturer for traffic exposure and continuous water immersion.
   1. Movement Capability: Plus and minus 25 percent, minimum.

B. Type JS-INF2 - Rigid Self-Leveling Polyurethane Joint Filler: Two part, low viscosity, fast setting; intended for cracks and control joints not subject to significant movement.
   1. Hardness Range: Greater than 100, Shore A, and 50 to 80, Shore D, when tested in accordance with ASTM C661.

C. Type JS-INF1 - Semi-Rigid Self-Leveling Polyurea Joint Filler: Two-component, 100 percent solids; intended for filling cracks and control joints not subject to significant movement; rigid enough to support concrete edges under traffic.
   1. Durometer Hardness, Type A: 75, minimum, after seven days when tested in accordance with ASTM D2240.
   2. Color: Concrete gray.
   3. Color: To be selected by Architect from manufacturer's standard colors.

END OF SECTION

DIVISION 08 - OPENINGS

SECTION 08-11-13
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

B. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

1.02 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Doors and Frames:
   1. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
   2. Accessibility: Comply with ICC A117.1 and ADA Standards.
   3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
   4. Door Edge Profile: Manufacturers standard for application indicated.
   5. Typical Door Face Sheets: Flush.
   6. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturer's standard.
   7. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
   8. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
      a. Based on SDI Standards: Provide at least A40/ZF120 (galvannealed) when necessary, coating not required for typical interior door applications, and at least A60/ZF180 (galvannealed) for corrosive locations.
      b. Based on NAAMM HMMA Custom Guidelines: Provide at least A25/ZF75 (galvannealed) for interior applications, and at least A60/ZF180 (galvannealed) or G60/Z180 (galvanized) for corrosive locations.

B. Hollow Metal Panels: Same construction, performance, and finish as doors.

C. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.02 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished.

B. Exterior Doors: Thermally insulated.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 2 - Heavy-duty.
      b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 18 gauge, 0.042 inch, minimum.
      e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M.
   2. Based on NAAMM HMMA Custom Guidelines:
      a. Comply with guidelines of NAAMM HMMA 860 for Hollow Metal Doors and Frames.
      b. Performance Level 2 - Moderate Duty, in accordance with NAAMM HMMA 805.
      c. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
      d. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
      e. Zinc Coating: G90/Z275 galvanized coating; ASTM A653/A653M.
   3. Door Core Material: Polystyrene, 1 lbs/cu ft minimum density.
      a. Foam Plastic Insulation: Manufacturer's standard board insulation with maximum flame spread index (FSI) of 75, and maximum smoke developed index (SDI) of 450 in accordance with ASTM E84, and completely enclosed within interior of door.
   4. Door Thermal Resistance: R-Value of 6.0 minimum, for installed thickness of polystyrene.
   5. Door Thickness: 1-3/4 inches, nominal.
   6. Top Closures for Outswinging Doors: Flush with top of faces and edges.
   7. Door Face Sheets: Flush.
   8. Weatherstripping: Refer to Section 08-71-00.
   9. Door Finish: Factory primed and field finished.

C. Interior Doors, Non-Fire-Rated:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 2 - Heavy-duty.
      b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 18 gauge, 0.042 inch, minimum.
      e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M.
   2. Based on NAAMM HMMA Custom Guidelines:
      a. Comply with guidelines of NAAMM HMMA 860 for Hollow Metal Doors and Frames.
      b. Performance Level 2 - Moderate Duty, in accordance with NAAMM HMMA 805.
      c. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
      d. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
      e. Zinc Coating: G90/Z275 galvanized coating; ASTM A653/A653M.
   3. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   4. Door Thickness: 1-3/4 inches, nominal.
   5. Door Face Sheets: Flush.
   6. Door Finish: Factory primed and field finished.

2.03 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Frame Finish: Factory primed and field finished.

C. Exterior Door Frames: Face welded type.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
   2. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
   3. Frame Finish: Factory primed and field finished.
   4. Weatherstripping: Separate, see Section 08-71-00.

D. Interior Door Frames, Non-Fire Rated: Face welded type.
   1. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch, maximum, above floor at 45 degree angle.
   2. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
   3. Frame Finish: Factory primed and field finished.

E. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.

F. Mullions for Pairs of Doors: Removable type, with profile similar to jambs.

G. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

H. Transom Bars: Fixed, of profile same as jamb and head.

I. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.

J. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high to fill opening without cutting masonry units.

K. Frames Wider than 48 inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

2.04 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.05 ACCESSORIES

A. Louvers: Roll formed steel with overlapping frame; finish same as door components ; factory-installed.
   1. Style: Sightproof inverted V blade.
   2. Louver Free Area: 50 percent.
   3. Fasteners: Exposed, tamper proof fasteners.

B. Door Window Frames: Door window frames with glazing securely fastened within door opening.
   1. Size: As indicated on drawings.
   2. Frame Material: 18 gauge, 0.0478 inch, galvanized steel.
   3. Metal Finish: Gray polyester powder coating.
   4. Glazing: 1/4 inch thick, tempered glass, in compliance with requirements of authorities having jurisdiction.

C. Astragals and Edges for Double Doors: Pairs of door astragals, and door edge sealing and protection devices.
   1. UL listed products in compliance with requirements of authorities having jurisdiction.
   2. Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.
   3. Astragal Type: Split, two parts, and with automatic locking, cutouts for other door hardware, and sealing gasket.
   4. Edge Type: Beveled edge
   5. Material: Manufacturers standard.
   6. Metal Finish: Gray powder coating.

D. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.

E. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

F. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Coordinate frame anchor placement with wall construction.

END OF SECTION

SECTION 08-11-16
ALUMINUM DOORS AND FRAMES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's descriptive literature for each type of door; include information on fabrication methods.

B. Shop Drawings: Include elevations of each opening type.

C. Selection Samples: Complete set of color and finish options, using actual materials, for Architect's selection.

D. Verification Samples: Two actual pieces of products in each finish specified, not less than 6 inches square or 6 inches long for linear components. For finishes subject to color variation, include not less than two samples illustrating extreme range to be anticipated.

E. Test Report: Certified test reports from qualified independent testing agency indicating doors comply with specified performance requirements.

F. Manufacturer's qualification statement.

G. Installer's qualification statement.

H. Specimen warranty.

1.02 QUALITY ASSURANCE

1.03 WARRANTY

A. See Section 01-78-00 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Manufacturer Warranty: Provide 10-year manufacturer warranty for defects in workmanship and materials. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.01 DOORS AND FRAMES

A. Accessibility: Comply with ICC A117.1 and ADA Standards.

B. Glazed Aluminum Doors: Extruded aluminum tube frame, full glazed, with middle rail; factory glazed.
   1. Thickness: 1-3/4 inches, nominal.
   2. Thickness: Manufacturer's standard for door size and construction.
   3. Stile Width: 4 inches, nominal.
   4. Finish: Class I - Natural anodized.
   5. Texture: Smooth.
   6. Seals: Manufacturer's standard.
   7. Glazing, Exterior Doors: Sealed insulating units, 1 inch thick, made of clear 1/4 inch thick fully tempered glass.
   8. Glazing, Interior Doors: Clear, 1/4 inch thick fully tempered glass.
   9. Glazing: See Section 08-80-00.
   10. Manufacturer's Door Hardware: Manufacturer's standard.
      a. Hanging Devices: Butt hinges.
         1) Single Door Swing Direction: As indicated on drawings.
         2) Pair of Doors Swing Direction: As indicated on drawings.
      b. Securing Devices: As required for project applications.
         1) See Section 08-71-00.
         2) Selected from manufacturer's standard range of devices and finishes.

C. Aluminum Frames for Doors, Sidelights, or Transoms: Extruded aluminum, thermally broken hollow or C-shaped sections; no steel components.
   1. Frame Depth: 4-1/2 inches.
   2. Finish: Same as doors.
   3. Weatherstripping: Replaceable pile type; at jambs and head.
   4. Sidelight/Transom Glazing: Sealed insulating glass units, 1 inch overall thickness, with two panes of clear 1/4 inch thick fully tempered glass.
   5. Sidelight/Transom Glazing: Clear, single pane of 1/4 inch thick fully tempered glass.

D. Aluminum Frames for Doors, Sidelights, or Transoms: Extruded aluminum nonthermally broken sections for double-glazing; no steel components.
   1. System Acoustical Performance: Sound Transmission Class (STC) of 53, minimum, when tested in accordance with ASTM E90.
   2. Finish: Same as doors.

E. Dimensions and Shapes: As indicated on drawings; dimensions indicated are nominal.
   1. Provide the following clearances:
      a. Hinge and Lock Stiles: 1/8 inch.
      b. Between Meeting Stiles: 1/4 inch.
      c. At Top Rail and Bottom Rail: 1/8 inch.

2.02 COMPONENTS

A. Frames: Extruded aluminum shapes, not less than 0.062 inch thick, reinforced at hinge and strike locations.
   1. Corner Brackets: Extruded aluminum, fastened with stainless steel screws.
   2. Trim: Extruded aluminum, not less than 0.062 inch thick, removable snap-in type without exposed fasteners.

2.03 PERFORMANCE REQUIREMENTS

A. Provide door assemblies that have been designed and fabricated in compliance with specified performance requirements.

B. Water Leakage: No uncontrolled leakage on interior face when tested in accordance with ASTM E331 at differential pressure of 7.5 psf.

C. Air Leakage: Maximum of 0.1 cu ft/min/sq ft at 6.27 psf differential pressure, when tested in accordance with ASTM E283/E283M.

D. Condensation Resistance Factor: 50, measured in accordance with AAMA 1503.

E. Overall U-value, Including Glazing: 0.35, minimum, measured on exterior door size required for this project.

F. Acoustical Performance: Sound Transmission Class (STC) of 25, minimum, when tested in accordance with ASTM E90.

2.04 MATERIALS

A. Aluminum Sheet: ASTM B209/B209M, alloy 5005, temper H14, stretcher leveled.

B. Extruded Aluminum: ASTM B221 (ASTM B221M), alloy 6063, temper T5, or alloy 6463, temper T5.

2.05 FINISHES

A. Class I Natural Anodized Finish: Clear anodic coating; AAMA 611 AA-M12C22A41, minimum dry film thickness (DFT) of 0.7 mils, 0.0007 inch.

2.06 ACCESSORIES

A. Fasteners: Aluminum, non-magnetic stainless steel, or other material warranted by manufacturer as non-corrosive and compatible with aluminum components.

B. Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible, otherwise, non-magnetic stainless steel or steel hot-dip galvanized in compliance with ASTM A123/A123M.

C. Bituminous Coating: Cold-applied asphaltic mastic, compounded for 30-mil thickness per coat.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and approved shop drawings.

B. Install exterior doors and frames in accordance with ASTM E2112.

C. Set frames plumb, square, level, and aligned to receive doors. Anchor frames to adjacent construction in strict accordance with manufacturer's recommendations and within specified tolerances.

D. Hang doors and adjust hardware to achieve specified clearances and proper door operation.

END OF SECTION

SECTION 08-14-16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

B. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.

C. Samples: Submit two samples of door veneer, ___ by ___ inches in size illustrating wood grain, stain color, and sheen.

1.02 QUALITY ASSURANCE

1.03 WARRANTY

A. Manufacturer Warranty: Provide manufacturer's warranty on interior doors for the life of the installation. Complete forms in Owner's name and register with manufacturer.
   1. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 DOORS AND PANELS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
   2. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS), AWMAC/WI (NAAWS) or WDMA I.S. 1A.
   3. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.
   2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.

2.02 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

2.03 DOOR FACINGS

A. Veneer Facing for Transparent Finish: White birch, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: Same species as face veneer.
   2. "Running Match" each pair of doors and doors in close proximity to each other.
   3. "Pair Match" each pair of doors; "Set Match" pairs of doors within 10 feet of each other when doors are closed.

2.04 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

C. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

2.05 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. System - 1, Lacquer, Nitrocellulose.

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REVISIONS

PROJECT INFORMATION
PROJECT NO. : 0945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
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PHONE: (262) 567-6677
FAX: (262) 567-4676

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b. Stain: As selected by Architect.
c. Sheen: Satin.

B. Finish work in accordance with WDMA I.S. 1A for grade specified and as follows:

2.06 ACCESSORIES

A. Glazed Openings:
1. Heat-Strengthened and Fully Tempered Glass: ASTM C1048.
2. Glazing: Single vision units, 1/4 inch thick glass.

B. Door Window Frames: Door window frames with glazing securely fastened within door opening.
1. Size: As indicated on drawings.
2. Frame Material: 18 gauge, 0.0478 inch, galvanized steel.
3. Metal Finish: Gray polyester powder coating.
4. Glazing: 1/4 inch thick, tempered glass, in compliance with requirements of authorities having jurisdiction.

C. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

D. Astragals and Edges for Double Doors: Pairs of doors astragals, and door edge sealing and protection devices.
1. Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.
2. Astragal Type: Split, two parts, and with automatic locking, cutouts for other door hardware, and sealing gasket.
3. Edge Type: Beveled edge
4. Material: Aluminum.

E. Astragals for Non-Rated Double Doors: Steel, T shaped, overlapping and recessed at face edge.

F. Door Hardware: See Section 08-71-00.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.
1. Install fire-rated doors in accordance with NFPA 80 requirements.
2. Install smoke and draft control doors in accordance with NFPA 105 requirements.
3. Install exterior doors in accordance with ASTM E2112.

B. Coordinate installation of doors with installation of frames and hardware.

END OF SECTION

SECTION 08-36-13
SECTIONAL DOORS

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

B. Product Data: Show component construction, anchorage method, and hardware.

C. Samples: Two panel finish samples, 4 by 4 inch in size, illustrating color and finish.

D. Specimen warranty.

1.02 WARRANTY

A. Extended Correction Period: Correct defective work within a 2-year period commencing on Date of Substantial Completion.

B. Manufacturer Warranty: Provide 5-year manufacturer warranty for electric operating equipment. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.

B. Air Leakage Rate: Less than 0.40 cfm/sq ft when tested in accordance with ASTM E283/E283M at test pressure difference of 1.57 psf.

C. Thermal Transmittance: U-factor of 0.31 Btu/hr sq ft degrees F, maximum, in accordance with DASMA 102.

2.02 STEEL DOORS

A. Type SSD-1 - Doors: Flush steel, insulated; high lift operating style with track and hardware; complying with DASMA 102, Commercial application.
1. Door Panels: Steel construction; outer steel sheet of 20 gauge, 0.0359 inch minimum thickness, flush profile; inner steel sheet of 20 gauge, 0.0359 inch minimum thickness, flat profile; core reinforcement sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; polyurethane insulation.
2. Door Nominal Thickness: 2 inches thick.
3. Exterior Finish:
a. Factory finished with polyester baked enamel; color as selected by Architect.
4. Interior Finish:
a. Factory finished with polyester baked enamel; color as selected from manufacturers standard line.
5. Glazed Lites: Manufacturers standard lite options. See drawings for design intent.
a. Glazing: Fully tempered glass; insulated glass units; clear; 1 inch nominal overall thickness.
6. Manual Operation: Pull rope.
7. Electric Operation: Electric control station.

2.03 COMPONENTS

A. Track: Rolled galvanized steel, 0.090 inch minimum thickness; 2 inch wide, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick.

B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.

C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables.

D. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.

E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.

F. Head Weatherstripping: EPDM rubber seal, one piece full length.

G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

H. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle.

I. Lock Cylinders: Keyed alike.

2.04 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface.

B. Float Glass: Provide float glass glazing, unless noted otherwise.

C. Laminated Safety Glass: ASTM C1172 with at least 0.030 inch thick polyvinyl butyral (PVB) interlayer, and in compliance with safety criteria 16 CFR 1201 Categories 1 and 2, and ANSI Z97.1.

D. Insulation: Foamed-in-place polyurethane, bonded to facing.

2.05 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
1. Provide interlock switches on motor operated units.
2. Provide interlock with vehicle restraint.

B. Electric Operators:
1. Mounting: Side mounted on cross head shaft.
2. Motor Enclosure:
a. Exterior Doors: NEMA MG 1, Type 4; open drip proof.
b. Interior Doors: NEMA MG 1, Type 1; open drip proof.
3. Motor Rating: 1/2 hp; continuous duty.
4. Motor Voltage: 480 volts, three phase, 60 Hz.
5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
6. Controller Enclosure: NEMA 250, Type 1.
7. Opening Speed: 12 inches per second.
8. Brake: Adjustable friction clutch type, activated by motor controller.
9. Manual override in case of power failure.

C. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
1. 24 volt circuit.
2. Surface mounted, at interior door jamb.
3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.

D. Safety Edge: Located at bottom of sectional door panel, full width; electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

END OF SECTION

SECTION 08-43-13
ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and internal drainage details.

B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.

C. Design Data: Provide framing member structural and physical characteristics, engineering calculations, and dimensional limitations.

D. Manufacturer's qualification statement.

E. Specimen warranty.

1.02 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

B. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

C. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 ALUMINUM-FRAMED STOREFRONT

A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
1. Glazing Rabbet: For 1 inch insulating glazing.
2. Glazing Rabbet: For 1/4 inch monolithic glazing.
3. Glazing Position: Front-set.
4. Vertical Mullion Dimensions: 2 inches wide by 4-1/2 inches deep.
5. Finish: High performance organic coatings.
a. Factory finish all surfaces that will be exposed in completed assemblies.
b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
c. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
6. Finish Color: As selected by Architect from manufacturer's standard line.
7. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
8. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
9. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.

B. Performance Requirements
1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
a. Design Wind Loads: Comply with requirements of ASCE 7.
b. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
2. Air Leakage: 0.06 cfm/sq ft maximum leakage of storefront wall area when tested in accordance with ASTM E283/E283M at 1.57 psf pressure difference.
3. Condensation Resistance Factor of Framing: 50, minimum, measured in accordance with AAMA 1503.

2.02 COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections, drainage holes and internal weep drainage system.
1. Framing members for interior applications need not be thermally broken.
2. Glazing Stops: Flush.

B. Swing Doors: Glazed aluminum.
1. Thickness: 1-3/4 inches.
2. Top Rail: 3-1/2 inches wide.
3. Vertical Stiles: 3-1/2 inches wide.
4. Bottom Rail: 10 inches wide.
5. Glazing Stops: Square.
6. Finish: Same as storefront.

2.03 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Structural Steel Sections: ASTM A36/A36M; galvanized in accordance with requirements of ASTM A123/A123M.

C. Structural Steel Sections: ASTM A36/A36M; shop primed.

D. Fasteners: Stainless steel.

2.04 FINISHES

A. High Performance Organic Coating: AAMA 2604; multiple coats, thermally cured fluoropolymer system.

2.05 HARDWARE

A. For each door, include weatherstripping, sill sweep strip, and threshold.

B. Other Door Hardware: See Section 08-71-00.

C. Other Door Hardware: Storefront manufacturer's standard type to suit application.
1. Finish on Hand-Contacted Items: Polished chrome.
2. For each door, include butt hinges, pivots, push handle, pull handle, exit device, narrow stile handle latch, and closer.

D. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.

E. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

F. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.

G. Hinges: Butt type, swing clear; top and bottom.

H. Pivots: Center type; top and bottom.

I. Push/Pull Set: Standard configuration push/pull handles.

J. Exit Devices: Panic type.

K. Door Closers: Exposed overhead.

L. Handle Latch: _____.

M. Locks: _____; keyed cylinder outside.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

END OF SECTION

SECTION 08-71-00
DOOR HARDWARE

PART 1 GENERAL

1.01 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week prior to commencing work of this section; attendance is required by affected installers and the following:
1. Architect.
2. Installer's Architectural Hardware Consultant (AHC).
3. Hardware Installer.
4. Owner's Security Consultant.

B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

C. Keying Requirements Meeting:
1. Schedule meeting at project site prior to Contractor occupancy.
2. Architect will schedule meeting at project site prior to Contractor occupancy.
3. Attendance Required:
a. Owner.
b. Architect.
c. Hardware Installer.
4. Agenda:
a. Establish keying requirements.
b. Verify locksets and locking hardware are functionally correct for project requirements.
c. Verify that keying and programming complies with project requirements.
d. Establish keying submittal schedule and update requirements.
5. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:

1.02 SUBMITTALS

A. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.

B. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
2. List groups and suffixes in proper sequence.
3. Provide complete description for each door listed.
4. Provide manufacturer name, product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
5. Include account of abbreviations and symbols used in schedule.

C. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
1. Submit manufacturer's parts lists and templates.

1.03 WARRANTY

A. Manufacturer's Warranty: Provide warranty against defects in material and workmanship for period indicated. Complete forms in Owner's name and register with manufacturer.
1. Closers: Five years, minimum.
2. Exit Devices: Three years, minimum.
3. Locksets and Cylinders: Three years, minimum.
4. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.

B. Provide door hardware products that comply with the following requirements:
1. Applicable provisions of federal, state, and local codes.
2. Fire-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
3. Hardware on Fire-Rated Doors: Listed and classified by UL (DIR), ITS (DIR), testing firm acceptable to authorities having jurisdiction, or _____ as suitable for application indicated.
4. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide door hardware that complies with local codes, and requirements of assemblies tested in accordance with UL 1784.
a. Air Leakage Rate: Tested in accordance with UL 1784, with air leakage rate not to exceed 3.0 cfm/sf of door opening at 0.10 inch of water for both ambient and elevated temperature tests.
5. Listed and certified compliant with specified standards by BHMA (CPD).
6. Auxiliary Hardware: BHMA A156.16.
7. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
8. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
9. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.

2.02 HINGES

A. Hinges: Comply with BHMA A156.1, Grade 1.
1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
2. Provide hinges on every swinging door.
3. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
4. Provide non-removable pins on exterior outswinging doors.
5. Provide following quantity of butt hinges for each door:
a. Doors From 60 inches High up to 90 inches High: Three hinges.
b. Doors 90 inches High up to 120 inches High: Four hinges.

2.03 FLUSH BOLTS

A. Flush Bolts: Comply with BHMA A156.16, Grade 1.
1. Flush Bolt Throw: 3/4 inch, minimum.
2. Provides extension bolts in leading edge of door, one bolt into floor, one bolt into top of frame.
a. Pairs of Swing Doors: At inactive leaves, provide flush bolts of type as required to comply with code.
3. Provide dustproof floor strike for bolt into floor, except at metal thresholds.
4. Manual Flush Bolts: Provide lever extensions for top bolt at over-sized doors.
5. Automatic Flush Bolts: Automatically latch upon closing of door; automatic retraction of bolts when active leaf is opened; located on inactive leaf of pair of doors.

2.04 EXIT DEVICES

A. Exit Devices: Comply with BHMA A156.3, Grade 1.
1. Lever design to match lockset trim.
2. Provide cylinder with cylinder dogging or locking trim.
3. Provide exit devices properly sized for door width and height.
4. Provide strike as recommended by manufacturer for application indicated.
5. Provide UL (DIR) listed exit device assemblies for fire-rated doors and panic device assemblies for non-fire-rated doors.

2.05 LOCK CYLINDERS

A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
1. Provide full size interchangeable core (FSIC) type cylinders, Grade 1, with six-pin core in compliance with BHMA A156.5 at locations indicated.
2. Provide cylinders from same manufacturer as locking device.
3. Provide cams and/or tailpieces as required for locking devices.

2.06 CYLINDRICAL LOCKS

A. Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.
1. Bored Hole: 2-1/8 inch diameter.
2. Latchbolt Throw: 1/2 inch, minimum.
3. Backset: 2-3/4 inch unless otherwise indicated.
4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
a. Finish: To match lock or latch.
5. Provide a lock for each door, unless otherwise indicated that lock is not required.
6. Provide an office lockset for swinging door where hardware set is not indicated.
7. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.

2.07 DOOR PULLS AND PUSH PLATES

A. Door Pulls and Push Plates: Comply with BHMA A156.6.
1. Pull Type: Straight, unless otherwise indicated.
2. Push Plate Type: Flat, with square corners, unless otherwise indicated.
a. Edges: Beveled, unless otherwise indicated.
3. Material: Aluminum, unless otherwise indicated.
4. On solid doors, provide matching door pull and push plate on opposite faces.

2.08 COORDINATORS

A. Coordinators: Provide on doors having closers and self-latching or automatic flush bolts to ensure that inactive door leaf closes before active door leaf.
1. Type: Bar, unless otherwise indicated.
2. Material: Aluminum, unless otherwise indicated.
3. Ensure that coordination of other door hardware affected by placement of coordinators and carry bar is applied properly for completely operable installation.

2.09 CLOSERS

A. Closers: Comply with BHMA A156.4, Grade 1.
1. Type: Surface mounted to door.
2. Provide door closer on each exterior door.
3. Provide door closer on each fire-rated and smoke-rated door.

2.10 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
1. Provide stop for every swinging door, unless otherwise indicated.

2.11 KICK PLATES

A. Kick Plates: Provide along bottom edge of push side of every door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.
1. Size: 12 inch high by 2 inch less door width (LDW) on push side of door.

2.12 WALL STOPS

A. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
1. Provide wall stops to prevent damage to wall surface upon opening door.
2. Type: Bumper, concave, wall stop.
3. Material: Aluminum housing with rubber insert.

2.13 ASTRAGALS

A. Astragals: Comply with BHMA A156.22.
1. Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.
2. Type: Split, two parts, and with sealing gasket.
3. Material: Aluminum, with neoprene weatherstripping.

2.14 THRESHOLDS

A. Thresholds: Comply with BHMA A156.21.
1. Provide threshold at interior doors for transition between two different floor types, and over building expansion joints, unless otherwise indicated.
2. Provide threshold at each exterior door, unless otherwise indicated.
3. Type: Flat surface.
4. Material: Aluminum.
5. Threshold Surface: Fluted horizontal grooves across full width.
6. Field cut threshold to profile of frame and width of door sill for tight fit.

2.15 WEATHERSTRIPPING AND GASKETING

A. Weatherstripping and Gasketing: Comply with BHMA A156.22.
1. Head and Jamb Type: Adjustable.
2. Door Sweep Type: Encased in retainer.
3. Material: Aluminum, with neoprene weatherstripping.
4. Provide door bottom sweep on each exterior door, unless otherwise indicated.

2.16 PADLOCKS

A. Padlocks: Solid extruded brass case with shackle that locks at heel and toe.
1. Shackle Height: 3/4 inch, and width of opening is 7/8 inch.
2. Shackle Diameter: 1/4 inch.

2.17 LATCH PROTECTOR

A. Latch Protector: Provide on door to protect latch from being tampered with while in locked position.
1. Type: Standard latch protector.
2. Material: Stainless steel.

2.18 SIGNAGE

A. Signage (Room Name Plates and Numbers): Provide on doors for individuals to easily identify room names and/or numbers.
1. Text Required: "RESTROOM" with symbols and braille text.

REVISIONS

PROJECT INFORMATION
PROJECT NO.: D945.24
DATE: 09/25/2024
DRAWN BY: DCA
SHEET TITLE: SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A906

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2. Material: In plastic or metal with paint used to create necessary text, adhered to door.

2.19 SILENCERS

A. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
1. Single Door: Provide three on strike jamb of frame.
2. Pair of Doors: Provide two on head of frame, one for each door at latch side.
3. Material: Rubber, gray color.

2.20 VERTICAL ROD COVERS

A. Vertical Rod Covers: Provides protection from damage or tampering of surface mounted bottom vertical rod of exit device and to accommodate ADA Standards.
1. Length: 12 inch.
2. Material: Stainless steel.

2.21 FIRE DEPARTMENT LOCK BOX

A. Fire Department Lock Box:
1. Heavy-duty, surface mounted, solid stainless-steel box with hinged door and interior gasket seal; single drill resistant lock with dust covers and tamper alarm.
2. Capacity: Holds 10 keys.
3. Finish: Manufacturer's standard dark bronze.

2.22 FINISHES

A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
1. Primary Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.
2. Secondary Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.
a. Use secondary finish in kitchens, bathrooms, and other spaces containing chrome or stainless steel finished appliances, fittings, and equipment; provide primary finish on one side of door and secondary finish on other side if necessary.
3. Exceptions:
a. Where base material metal is specified to be different, provide finish that is an equivalent appearance in accordance with BHMA A156.18.
b. Hinges for Fire-Rated Doors: Steel base material with painted finish, in compliance with NFPA 80.
c. Hardware for Aluminum Entrance Doors: Finished to match door panel finish, except at hand contact surfaces provide stainless steel with satin finish, unless otherwise indicated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Install hardware on fire-rated doors and frames in accordance with applicable codes and NFPA 80.

C. Install hardware for smoke and draft control doors in accordance with NFPA 105.

D. Use templates provided by hardware item manufacturer.

E. Do not install surface mounted items until application of finishes to substrate are fully completed.

3.02 ADJUSTING

A. Adjust hardware for smooth operation.

END OF SECTION

SECTION 08-80-00
GLAZING

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data on Insulating Glass Unit and Glazing Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

C. Samples: Submit two samples, showing design.

D. Samples: Submit sample of glazing sealant, color as selected.

1.02 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM), GANA (SM), GANA (LGRM), and IGMA TM-3000 for glazing installation methods. Maintain one copy on site.

1.03 WARRANTY

A. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including providing products to replace failed units.

B. Laminated Glass: Provide a five (5) year manufacturer warranty to include coverage for delamination, including providing products to replace failed units.

C. Heat Soaked Tempered Glass: Provide a five (5) year manufacturer warranty to include coverage for spontaneous breakage of fully tempered glass caused by nickel sulfide (NiS) inclusions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
1. Design Pressure: Calculated in accordance with ASCE 7.
2. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
3. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
4. Glass thicknesses listed are minimum.

B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
1. In conjunction with weather barrier related materials described in other sections, as follows:
a. Water-Resistive Barriers: See Section 07-25-00.
b. Vapor Retarders: See Section 07-26-00.
c. Air Barriers: See Section 07-27-00.

C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
4. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.
5. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality - Q3, with color and performance characteristics as indicated.
6. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

B. Laminated Glass: Float glass laminated in accordance with ASTM C1172.
1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category I impact test requirements.

2.04 INSULATING GLASS UNITS

A. Fabricator: Certified by glass manufacturer for type of glass, coating, and treatment involved and capable of providing specified warranty.

B. Insulating Glass Units: Types as indicated.
1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
3. Metal-Edge Spacers: Aluminum, bent and soldered corners.
4. Warm-Edge Spacers: Low-conductivity thermoplastic with desiccant warm-edge technology design.
5. Spacer Color: Black.
6. Edge Seal:
a. Color: Black.
7. Purge interpane space with dry air, hermetically sealed.

C. Type GL1 - Insulating Glass Units: Vision glass, double glazed.
1. Applications: Exterior glazing unless otherwise indicated.
2. Space between lites filled with argon.
3. Outboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
a. Tint: Blue.
b. Coating: Self-cleaning type, on #1 surface.
c. Coating: Low-E (passive type), on #2 surface.
4. Inboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
a. Tint: Clear.
5. Total Thickness: 1 inch.
6. Thermal Transmittance (U-Value), Summer - Center of Glass: .29, nominal.
7. Visible Light Transmittance (VLT): 57 percent, nominal.
8. Solar Heat Gain Coefficient (SHGC): .30, nominal.
9. Glazing Method: Dry glazing method, gasket glazing.

D. Type GL2 - Insulating Glass Units: Spandrel glazing.
1. Applications: Exterior spandrel glazing unless otherwise indicated.
2. Space between lites filled with argon.
3. Outboard Lite: Annealed float glass, 1/4 inch thick, minimum.
a. Tint: Clear.
b. Coating: Same as on vision units, on #2 surface.
4. Inboard Lite: Heat-strengthened float glass, 1/4 inch thick.
a. Tint: Clear.
b. Opacifier: Ceramic frit, on #4 surface.
5. Total Thickness: 1 inch.
6. Thermal Transmittance (U-Value), Summer - Center of Glass: _____, nominal.

2.05 BASIS OF DESIGN - INSULATING GLASS UNITS

A. Basis of Design - Insulating Glass Units: Vision glazing, with low-e coating.
1. Applications: Exterior insulating glass glazing unless otherwise indicated.
2. Glazing Method: Dry glazing method, gasket glazing.
3. Durability: Certified by an independent testing agency to comply with ASTM E2190.
4. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
5. Spacer Color: Black.
6. Edge Seal:
7. Color: Black.
8. Purge interpane space with dry air, hermetically sealed.

2.06 GLAZING UNITS

A. Type SG - Monolithic Safety Glazing: Non-fire-rated.
1. Applications:
a. Glazed lites in doors, except fire doors.
b. Glazed sidelights to doors, except in fire-rated walls and partitions.
c. Other locations required by applicable federal, state, and local codes and regulations.
d. Other locations indicated on drawings.
2. Glass Type: Fully tempered safety glass as specified.
3. Tint: Clear.
4. Thickness: 1/4 inch, nominal.

2.07 GLAZING COMPOUNDS

A. Type GC-1 - Glazing Putty: Polymer modified latex recommended by manufacturer for outdoor use, knife grade consistency; gray color.

B. Type GC-2 - Butyl Sealant: Single component; ASTM C920 Grade NS, Class 12-1/2, Uses M and A, Shore A hardness of 10 to 20; black color.

C. Type GC-3 - Polysulfide Sealant: Two component; chemical curing, nonsagging type; ASTM C920 Type M, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color as selected.

D. Type GC-4 - Polyurethane Sealant: Single component, chemical curing, nonstaining, nonbleeding; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 20 to 35; _____ color.

E. Type GC-5 - Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; nonbleeding, nonstaining; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; _____ color.

2.08 ACCESSORIES

A. Concealed nonprogressive structural glass mounting system.
1. Glass Panel Mounting System: Two-part patented system of interlocking metal rail brackets structurally connected to substrate surface and backs of glass units for concealed support.
a. Applications: As indicated on drawings for wall mounted glass units.
b. Mounting Action: Hook shape of mounting rail bracket interlocks with hook shape of another mounting bracket.
c. Maximum Reveal Width Between Panel Edges: 1/4 inch at completed installation.

B. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch by width of glazing rabbet space minus 1/16 inch by height to suit glazing method and pane weight and area.

C. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.

D. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Continuous by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.

E. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.

F. Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent, designed for compression of 25 percent to effect an air barrier and vapor retarder seal; ____x____ inch size.

G. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

PART 3 EXECUTION

3.01 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

A. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.02 INSTALLATION - DRY GLAZING METHOD (TAPE AND GASKET SPLINE GLAZING)

A. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.

C. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.

3.03 INSTALLATION - DRY GLAZING METHOD (TAPE AND TAPE)

A. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

C. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.

D. Place glazing tape on free perimeter of glazing in same manner described above.

E. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

F. Carefully trim protruding tape with knife.

3.04 INSTALLATION - PRESSURE GLAZED SYSTEMS

A. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

C. Install pressure plates without displacing glazing gasket; exert pressure for full continuous contact.

D. Install cover plate.

END OF SECTION

DIVISION 09 - FINISHES

SECTION 09-05-61
COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:

B. Testing Agency's Report:
1. Moisture and alkalinity (pH) test reports.
2. Recommendations for remediation of unsatisfactory surfaces.
3. Product data for recommended remedial coating.

C. Adhesive Bond and Compatibility Test Report.

1.02 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing will be performed by an independent testing agency employed and paid by Owner.

B. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

C. Contractor may perform adhesive and bond test with Contractor's own personnel or hire a testing agency.

PART 2 PRODUCTS

2.01 MATERIALS

A. Patching Compound: Floor covering manufacturer's recommended product, suitable for conditions, and compatible with adhesive and floor covering. In the absence of any recommendation from flooring manufacturer, provide a product with the following characteristics:
1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
2. Latex or polyvinyl acetate additions are permitted; gypsum content is prohibited.
3. Compressive Strength: 3000 psi, minimum, after 28 days, when tested in accordance with ASTM C109/C109M or ASTM C472, whichever is appropriate.

B. Alternate Flooring Adhesive: Floor covering manufacturer's recommended product, suitable for the moisture and pH conditions present; low-VOC. In the absence of any recommendation from flooring manufacturer, provide a product recommended by adhesive manufacturer as suitable for substrate and floor covering and for conditions present.

C. Remedial Floor Coating: Single- or multi-layer coating or coating/overlay combination intended by its manufacturer to resist water vapor transmission to degree sufficient to meet flooring manufacturer's emission limits, resistant to the level of alkalinity (pH) found, and suitable for adhesion of flooring without further treatment.

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. Perform following operations in the order indicated:
1. Preliminary cleaning.
2. Moisture vapor emission tests; 3 tests in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
3. Internal relative humidity tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
4. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
5. Specified remediation, if required.
6. Patching, smoothing, and leveling, as required.
7. Other preparation specified.
8. Adhesive bond and compatibility test.
9. Protection.

B. Remediations:
1. Active Water Leaks or Continuing Moisture Migration to Surface of Slab: Correct this condition before doing any other remediation; re-test after correction.
2. Excessive Moisture Emission or Relative Humidity: If an adhesive that is resistant to the level of moisture present is available and acceptable to flooring manufacturer, use that adhesive for installation of the flooring; if not, apply remedial floor coating or remedial sheet membrane over entire suspect floor area.
3. Excessive Alkalinity (pH): If remedial floor coating is necessary to address excessive moisture, no additional remediation is required; if not, if an adhesive that is resistant to the level present is available and acceptable to the flooring manufacturer, use that adhesive for installation of the flooring; otherwise, apply a skim coat of specified patching compound over entire suspect floor area.

3.02 MOISTURE VAPOR EMISSION TESTING

A. Test in accordance with ASTM F1869 and as follows.

B. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if test values exceed 3 pounds per 1000 square feet per 24 hours.

3.03 INTERNAL RELATIVE HUMIDITY TESTING

A. Test in accordance with ASTM F2170 Procedure A and as follows.

B. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if any test value exceeds 75 percent relative humidity.

3.04 ALKALINITY TESTING

A. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.05 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

3.06 APPLICATION OF REMEDIAL FLOOR COATING

A. Comply with requirements and recommendations of coating manufacturer.

3.07 APPLICATION OF REMEDIAL FLOOR TREATMENT

A. Comply with requirements and recommendations of treatment manufacturer.

3.08 INSTALLATION OF REMEDIAL FLOOR SHEET MEMBRANE

A. Install in accordance with sheet membrane manufacturer's instructions.

END OF SECTION

SECTION 09-21-16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data:
1. Provide data on metal framing, gypsum board, accessories, and joint finishing system.
2. Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

B. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.

C. Test Reports: For stud framing products that do not comply with AISI S220 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

D. SSFSA Manufacturer Qualification: Submit documentation of manufacturer association membership.

E. Installer's Qualification Statement.

1.02 QUALITY ASSURANCE

A. Designer Qualifications: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

C. Shaft Walls at HVAC Shafts: Provide completed assemblies with the following characteristics:
1. Air Pressure Within Shaft: Sustained loads of 5 lbf/sq ft with maximum mid-span deflection of L/240.
2. Acoustic Attenuation: STC of 35-39 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

2.02 METAL FRAMING MATERIALS

A. Material and Product Requirements Criteria: AISI S201.

B. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.
1. Structural Grade: As required to meet design criteria.
2. Corrosion Protection Coating Designation: G40, or equivalent in accordance with AISI S220.

C. Nonstructural Steel Framing for Application of Gypsum Board: See Section 09-22-16.

D. Nonstructural Framing System Components: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
1. Studs: C-shaped with knurled or embossed faces.
2. Runners: U shaped, sized to match studs.
3. Ceiling Channels: C-shaped.
4. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch.
5. Furring Members: U-shaped sections, minimum depth of 3/4 inch.
6. Furring Members: Zee-shaped sections, minimum depth of 1 inch.

E. Shaft Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.

F. Area Separation Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with specified performance requirements.

G. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and fastened as indicated on drawings.

H. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection and prevent rotation of studs while maintaining structural performance of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.

2.03 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
a. Mold-resistant board is required whenever board is being installed before the building is enclosed and conditioned.
b. Mold resistant board is required at all bathrooms.
3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Thickness:
a. Vertical Surfaces: 5/8 inch.
b. Ceilings: 5/8 inch.
c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.

B. Abuse Resistant Wallboard:
1. Application: High-traffic areas indicated.
2. Surface Abrasion: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Soft Body Impact: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
6. Paper-Faced Type: Gypsum wallboard, as defined in ASTM C1396/C1396M.
7. Type: Fire-resistance-rated Type X, UL or WH listed.
8. Thickness: 5/8 inch.
9. Edges: Tapered.

C. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including tub and shower surrounds, shower ceilings, and _____.
2. Application: Horizontal surfaces behind tile in wet areas including countertops and toilet rooms and restrooms.
3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
4. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.

2.04 GYPSUM BOARD ACCESSORIES

A. Fire and Sound Attenuating Insulation: Sprayed cellulose fire-rated material for cavities in wall assemblies.
1. Surface Burning Characteristics: Provide assemblies with Class I rating, when tested in accordance with ASTM E84.
2. Sound Transmission Class (STC): 56, calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

B. Acoustic Insulation: ASTM C665: preformed glass fiber, friction fit type, unfaced. Thickness is to be full cavity depth. Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

C. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

D. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
1. Corner Beads: Low profile, for 90 degree outside corners.
2. L-Trim with Tear-Away Strip: Sized to fit 1/2-inch thick gypsum wallboard.
3. Architectural Reveal Beads:

REVISIONS

1	10/16/2024	REVISION 1

PROJECT INFORMATION

PROJECT NO.: D945.24
DATE: 09/25/2024
DRAWN BY: DCA
SHEET TITLE: SPECIFICATIONS

PROJECT INFORMATION:

OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY

ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-8677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A907

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a. Reveal Depth: 1/2 inch.
4. Expansion Joints:

F. Ceiling Pockets with Prewired Raceway: UL 325 listed, extruded aluminum shade pocket with removable closure panel and ceiling tile support, for recess mounting in acoustical tile or drywall ceilings; size and configuration as indicated on drawings.

G. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Paper Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
2. Joint Compound: Setting type, field-mixed.

H. Finishing Compound: Surface coat and primer, takes the place of skim coating.

I. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

J. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

K. Nails for Attachment to Wood Members: ASTM C514.

PART 3 EXECUTION

3.01 SHAFT WALL INSTALLATION

A. Shaft Wall Framing: Install in accordance with manufacturer's installation instructions.

B. Shaft Wall Liner: Cut panels to accurate dimensions and install sequentially between special friction studs.

3.02 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C1007AISI S220 and manufacturer's instructions.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

3.04 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Double-Layer, Nonrated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.

D. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

E. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.

F. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

G. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For nonrated assemblies, install as follows:

3.05 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
3. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

END OF SECTION

SECTION 09-22-16
NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings:
1. Indicate prefabricated work, component details, stud layout, framed openings, anchorage to structure, acoustic details, type and location of fasteners, accessories, and items of other related work.

B. Product Data: Provide data describing framing member materials and finish, product criteria, load charts, and limitations.

C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

D. SSFSA Manufacturer Qualification: Submit documentation of manufacturer association membership.

E. SSMA Manufacturer Qualification: Submit documentation of manufacturer association membership.

PART 2 PRODUCTS

2.01 FRAMING MATERIALS

A. Fire-Resistance-Rated Assemblies: Comply with applicable code and as indicated on drawings.

B. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220.
1. Structural Grade: As required to meet design criteria.
2. Corrosion Protection Coating Designation: G40, or equivalent in accordance with AISI S220.

C. Material and Product Requirements Criteria: AISI S201.

D. Non-Loadbearing Framing System Components: AISI S220; sheet steel, of size and properties necessary for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
1. Studs: C-shaped with flat faces.
2. Runners: U-shaped, sized to match studs.
3. Ceiling Channels: C-shaped.
4. Furring: Hat-shaped sections, minimum depth of 7/8 inch.

E. Shaft Wall Studs and Accessories: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.

F. Partition Head to Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and braced with continuous bridging on both sides.

G. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws, and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code when evaluated in accordance with AISI S100.
2. Material: ASTM A653/A653M steel sheet, SS Grade 50.
3. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.

H. Non-Loadbearing Framing Accessories:
1. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

I. Sound Isolation Tape: Elastomeric foam tape for sound decoupling.
1. Surface Burning Characteristics: Provide assemblies with flame spread index of 75 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.02 FABRICATION

A. Fabricate assemblies of framed sections to sizes and profiles required.

B. Fit, reinforce, and brace framing members to suit design requirements.

C. Fit and assemble in largest practical sections for delivery to site, ready for installation.

PART 3 EXECUTION

3.01 INSTALLATION OF STUD FRAMING

A. Comply with requirements of ASTM C1007.

B. Extend partition framing to structure where indicated and to ceiling in other locations.

C. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

D. Align and secure top and bottom runners at 24 inches on center.

E. Install studs vertically on center as required per referenced standards.

3.02 CEILING AND SOFFIT FRAMING

A. Comply with requirements of ASTM C754.

B. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.

C. Space main carrying channels at maximum 72 inches on center, and not more than 6 inches from wall surfaces. Lap splice securely.

D. Place furring channels perpendicular to carrying channels, not more than 2 inches from perimeter walls, and rigidly secure. Lap splices securely.

END OF SECTION

SECTION 09-30-00
TILING

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

B. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches in size illustrating pattern, color variations, and grout joint size variations.

1.02 FIELD CONDITIONS

A. Do not install solvent-based products in an unventilated environment.

B. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

PART 2 PRODUCTS

2.01 TILE

A. Porcelain Tile, Type As indicated in drawings: ANSI A137.1 standard grade.
1. Color(s): As indicated on drawings.
2. Trim Units: Matching bullnose, cove base, and cove shapes in sizes coordinated with field tile.

2.02 SETTING MATERIALS

A. Provide setting and grout materials from same manufacturer.

B. Improved Latex-Portland Cement Mortar Bond Coat: ANSI A118.15.
1. Applications: Use this type of bond coat where Large and Heavy Tile (LHT) mortar is indicated.

C. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3.
1. Applications: Where indicated on drawings.

D. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, latex additive, and water.

2.03 GROUTS

A. Provide setting and grout materials from same manufacturer.

B. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.

C. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
1. Applications: Typical.

D. Stain Resistant Grout Additive: Liquid admixture for sanded and unsanded cement-based grouts; mix with dry grout material in place of water.
1. Applications: Typical.

2.04 MAINTENANCE MATERIALS

A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
1. Applications: Between tile and plumbing fixtures.

B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
1. Composition: Water-based colorless silicone.

C. Tile Sealer: Stain protection for ceramic tile and natural stone tile.

2.05 ACCESSORY MATERIALS

A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
1. Crack Resistance: No failure at 1/8 inch gap, minimum.
2. Fluid or Trowel Applied Type:
a. Material: Synthetic rubber or Acrylic.
b. Thickness: 20 mils, maximum.

B. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
1. Crack Resistance: No failure at 1/16 inch gap, minimum; comply with ANSI A118.12.
2. Fluid or Trowel Applied Type:
a. Material: Synthetic rubber or Acrylic.

C. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 7/16 inch thick; 2 inch wide coated glass fiber tape for joints and corners.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.20, manufacturer's instructions, and TCNA (HB) or TCNA (HB-GP) recommendations, as applicable.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

3.02 INSTALLATION - FLOORS - THIN-SET METHODS

A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.
1. Use uncoupling membrane under all tile unless other underlayment is indicated.

3.03 INSTALLATION - WALL TILE

A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.

B. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.
1. Where mortar bed is indicated, install in accordance with TCNA (HB) Method W222, one coat method.

END OF SECTION

SECTION 09-51-00
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate grid layout and related dimensioning.

B. Product Data: Provide data on suspension system components and acoustical units.

C. Samples: Submit two samples 6 by 6 inch in size illustrating material and finish of acoustical units.

D. Samples: Submit two full size samples illustrating material and finish of acoustical units.

E. Manufacturer's qualification statement.

1.02 QUALITY ASSURANCE

1.03 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Rating: Determined in accordance with test procedures in ASTM E119 and complying with the following:
1. UL (FRD) Assembly Design No. As indicated on drawings.

B. Seismic Performance: Ceiling systems designed to withstand the effects of earthquake motions determined according to ASCE 7 for Seismic Design Category D, E, or F and complying with the following:
1. Local authorities having jurisdiction.

2.02 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.
1. VOC Content: As specified in Section 01-61-16.
2. VOC Content: Certified as Low Emission by one of the following:

B. Acoustical Panels As indicated on drawings.: Painted mineral fiber, with the following characteristics:
1. Classification: ASTM E1264 Type III.
a. Form: 2, water felted.
2. Size: 24 by 48 inches.
3. Thickness: 3/4 inch.
4. NRC Range: .60 to .75, determined in accordance with ASTM E1264.
5. Ceiling Attenuation Class (CAC): .35, determined in accordance with ASTM E1264.
6. Panel Edge: Tegular.
7. Tile Edge: Beveled.
a. Joint: Kerfed and rabbeted.
8. Color: White.
9. Suspension System: Exposed grid.

C. Acoustical Panels, Type As indicated on drawings: Mineral fiber with scrubbable finish, with the following characteristics:
1. Application(s): Wet areas, kitchens and areas indicated on drawings..
2. Classification: ASTM E1264 Type IX.
a. Pattern: "G" - smooth.
3. Size: 24 by 24 inches.
4. Thickness: 3/4 inch.
5. Light Reflectance: .89 percent, determined in accordance with ASTM E1264.
6. Panel Edge: Square.
7. Color: White.
8. Suspension System: Exposed grid.

2.03 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.
1. Materials:
a. Steel Grid: ASTM A653/A653M, G30 coating, unless otherwise indicated.
b. Aluminum Grid: Aluminum sheet, ASTM B209/B209M.

B. Exposed Suspension System: Hot-dipped galvanized steel grid with aluminum cap.
1. Structural Classification: Intermediate-duty, when tested in accordance with ASTM C635/C635M.
2. Profile: Tee; 15/16 inch face width.
3. Finish: Baked polyester or powder coat.
4. Color: White.

2.04 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.

C. Hold-Down Clips: Manufacturer's standard clips to suit application.

D. Seismic Clips: Manufacturer's standard clips for seismic conditions and to suit application.

E. Perimeter Moldings: Same metal and finish as grid.
1. Size: As required for installation conditions and specified Seismic Design Category.

F. Metal Edge Trim for Suspension Systems: Steel or extruded aluminum; provide attachment clips, splice plates, and preformed corner pieces for complete trim system.
1. Trim Height: 6 inch.

PART 3 EXECUTION

3.01 PREPARATION

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

C. Provide hanger clips during steel deck erection. Provide additional hangers and inserts as required.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

B. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Lay directional patterned units with pattern parallel to longest room axis.

END OF SECTION

SECTION 09-68-13
TILE CARPETING

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

B. Shop Drawings: Indicate layout of joints.

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Accessory Samples: Submit two 6 inch long samples of edge strip, base cap, stair nosing, and transitions.

E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and _____.

F. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

G. Manufacturer's Qualification Statement.

H. Installer's Qualification Statement.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01-60-00 - Product Requirements, for additional provisions.
2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Tile Carpeting: Tufted, manufactured in one color dye lot.
1. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
2. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
3. Maximum Electrostatic Charge: 3 Kv. at 20 percent relative humidity.
4. Primary Backing Weight: 115 oz/sq yd.

2.02 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge Strips: Vinyl, color as selected by Architect.

C. Adhesives:
1. Compatible with materials being adhered; maximum VOC content as specified in Section 01-61-16.
2. Compatible with materials being adhered; maximum VOC content of 50 g/L; CRI (GLP) certified; in lieu of labeled product, independent test report showing compliance is acceptable.

D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.01 INSTALLATION

A. Blend carpet from different cartons to ensure minimal variation in color match.

B. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

C. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

END OF SECTION

SECTION 09-91-13
EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
2. Exposed surfaces of steel lintels and ledge angles.
3. Mechanical and Electrical:

B. Do Not Paint or Finish the Following Items:
1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
2. Items indicated to receive other finishes.
3. Items indicated to remain unfinished.
4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
5. Non-metallic roofing and flashing.
6. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, zinc, and lead.
7. Marble, granite, slate, and other natural stones.
8. Floors, unless specifically indicated.
9. Ceramic and other types of tiles.
10. Glass.
11. Concealed pipes, ducts, and conduits.

1.02 SUBMITTALS

A. Product Data: Provide complete list of products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
2. MPI product number (e.g. MPI #47).
3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
1. Where sheen is specified, submit samples in only that sheen.
2. Where sheen is not specified, submit each color in each sheen available.
a. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

C. Samples: Submit two paper chip samples, 6 x 6 inch in size illustrating range of colors and textures available for each surface finishing product scheduled.

D. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on aluminum sheet, 6 x 6 inch in size.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Provide paints and finishes from the same manufacturer to the greatest extent possible.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless required to be a field-catalyzed paint.
1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is described explicitly in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
b. SCAQMD 1113 Rule.
c. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
1) Opaque, Flat: 50 g/L, maximum.
2) Opaque, Nonflat: 150 g/L, maximum.
3) Opaque, High Gloss: 250 g/L, maximum.
d. Architectural coatings VOC limits of the State in which the Project is located.
e. Architectural coatings VOC limits of State in which the project is located.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Colors: To be selected from manufacturer's full range of available colors.
1. Selection to be made by Architect after award of contract.
2. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.

2.03 PAINT SYSTEMS - EXTERIOR

A. Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete, concrete masonry units, and primed metal.
1. Two top coats and one coat primer.

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REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 09/25/2024
DRAWN BY : DCA
SHEET TITLE : SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6877
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A908

2. Top Coat(s): Exterior Latex, High Performance Architectural; MPI #311 or 315.

B. Architectural Precast:
1. 2 coats stain.
2. Stain: Solid Color Stain for Concrete; Sherwin Williams: HC Colortop

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
1. Alkali-Resistant Water-Based Primer; MPI #3.
2. Interior/Exterior Latex Block Filler; MPI #4.
3. Water Based Primer for Galvanized Metal; MPI #134.
4. Rust-Inhibitive Water Based Primer; MPI #107.
5. Latex Primer for Exterior Wood; MPI #6.

PART 3 EXECUTION

3.01 EXAMINATION

A. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
2. Concrete Floors and Traffic Surfaces: 8 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

END OF SECTION

SECTION 09-91-23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
2. Mechanical and Electrical:
a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
b. In finished areas, paint shop-primed items.
c. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
d. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

B. Do Not Paint or Finish the Following Items:
1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
2. Items indicated to receive other finishes.
3. Items indicated to remain unfinished.
4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
6. Marble, granite, slate, and other natural stones.
7. Floors, unless specifically indicated.
8. Ceramic and other tiles.
9. Glass.
10. Acoustical materials, unless specifically indicated.
11. Concealed pipes, ducts, and conduits.

1.02 SUBMITTALS

A. Product Data: Provide complete list of products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
2. MPI product number (e.g., MPI #47).
3. Cross-reference to specified paint system products to be used in project; include description of each system.

B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
1. Where sheen is specified, submit samples in only that sheen.
2. Where sheen is not specified, submit each color in each sheen available.
3. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Provide paints and finishes from the same manufacturer to the greatest extent possible.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
4. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
5. Supply each paint material in quantity required to complete entire project's work from a single production run.
6. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
b. SCAQMD 1113 Rule.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

2.03 PAINT SYSTEMS - INTERIOR

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, concrete masonry units, uncoated steel, shop primed steel, galvanized steel, aluminum, and acoustical ceilings.
1. Two top coats and one coat primer.
2. Top Coat(s): Interior Latex; MPI #43, 44, 52, 53, 54, or 114.
3. Top Coat Sheen:
a. Flat: MPI gloss level 1; use this sheen for ceilings and other overhead surfaces.
b. Satin: MPI gloss level 4; use this sheen for items subject to frequent touching by occupants, including door frames and railings.

B. Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:
1. Two top coats and one coat primer.
2. Top Coat(s): Interior Alkyd; MPI #47, 48, 81, or 96.
3. Top Coat Sheen:
a. Satin: MPI gloss level 4; use this sheen at all locations.

C. Dry Fall: Metals; exposed structure and overhead-mounted services in utilitarian spaces, including shop primed steel deck, structural steel, metal fabrications, galvanized ducts, galvanized conduit, and galvanized piping.
1. One top coat.
2. Top Coat: Latex Dry Fall; MPI #118, 155, or 226.
3. Top Coat Sheen:
a. Flat: MPI gloss level 1; use this sheen at all locations.

D. Concrete/Masonry, Opaque, Latex, 3 Coat:
1. One coat of block filler.
2. Semi-gloss: Two coats of latex enamel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
1. Gypsum Wallboard: 12 percent.
2. Plaster and Stucco: 12 percent.
3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

END OF SECTION

SECTION 09-97-23
CONCRETE AND MASONRY COATINGS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data indicating coating materials.

1.02 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

B. Warranty: Include coverage for bond to substrate.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 MATERIALS

A. Coatings - General: Provide complete systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated.

PART 3 EXECUTION

3.01 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

3.02 COATING APPLICATION

A. Apply coatings in accordance with manufacturer's instructions, to thicknesses specified.

B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

END OF SECTION

DIVISION 10 - SPECIALTIES

SECTION 10-14-23
PANEL SIGNAGE

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's product literature for each type of panel sign, indicating styles, font, foreground and background colors, locations, and overall dimensions of each sign.

B. Shop Drawings:
1. Include dimensions, locations, elevations, materials, text and graphic layout, attachment details, and schedules.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS

A. Accessibility Requirements: Comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most restrictive requirements.

2.02 PANEL SIGNAGE

A. Panel Signage:
1. Application: Room and door signs.
2. Description: Flat signs with engraved panel media, tactile characters.
3. Sign Size: 6 inches by 9 inches.
4. Total Thickness: 1/8 inch.
5. Sign Edges: Squared.
6. Corners: Radiused.
7. Color and Font, unless otherwise indicated:
a. Character Font: Helvetica, Arial, or other sans serif font.
b. Character Case: Upper and lower case (title case).
c. Background Color: As selected by Architect from manufacturers standard colors.
d. Character Color: Contrasting color.
8. Material: Laminated colored plastic engraved through face to expose core as background color.
9. Profile: Flat panel in aluminum frame.
a. Frame Finish: Natural (clear) anodized.
10. Tactile Letters: Raised 1/32 inch minimum.
11. Braille: Grade II, ADA-compliant.
12. One-Sided Wall Mounting: Concealed screws.

2.03 SIGNAGE APPLICATIONS

A. Room and Door Signs:
1. Service Rooms: Identify with room names and numbers to be determined later, not those indicated on drawings.
2. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers to be determined later, and braille.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install with horizontal edges level.

END OF SECTION

SECTION 10-21-13.17
PHENOLIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data on panel construction, hardware, and accessories.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.

C. Samples: Submit two samples of partition panels, 6 by 6 inch in size illustrating panel finish, color, and sheen.

PART 2 PRODUCTS

2.01 PHENOLIC TOILET COMPARTMENTS

A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid phenolic core panels with integral melamine finish, floor-mounted headrail-braced, and interlocking doors and pilasters with integral Zero-Sightline System routed edges.

B. Doors:
1. Thickness: 3/4 inch.
2. Width: 24 inch.
3. Width for Handicapped Use: 36 inch, out-swinging.
4. Height: 58 inch.

C. Panels:
1. Thickness: 1/2 inch.
2. Height: 58 inch.
3. Depth: As indicated on drawings.

D. Pilasters:
1. Thickness: 3/4 inch.
2. Width: As required to fit space; minimum 3 inch.

E. Screens: Without doors; to match compartments; mounted to wall with two panel brackets with vertical support/bracing same as compartments.

2.02 ACCESSORIES

A. Pilaster Shoes: Formed ASTM A666 Type 304 stainless steel with No. 4 finish, 3 inch high, concealing floor fastenings.

B. Head Rails: Hollow anodized aluminum, 1 inch by 1-1/2 inch size, with anti-grip profile and cast socket wall brackets.

C. Wall and Pilaster Brackets: Polished stainless steel; manufacturer's standard type for conditions indicated on drawings.

D. Attachments, Screws, and Bolts: Stainless steel , tamper proof type.

E. Hardware: Natural anodized aluminum:
1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.
2. Door Latch: Slide type with exterior emergency access feature.
3. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
4. Coat hook with rubber bumper; one per compartment, mounted on door.
5. Provide door pull for outswinging doors.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 inch to 1/2 inch space between wall and panels and between wall and end pilasters.

3.02 TOLERANCES

A. Maximum Variation From True Position: 1/4 inch.

B. Maximum Variation From Plumb: 1/8 inch.

END OF SECTION

SECTION 10-28-00
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide products of each category type by single manufacturer.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

B. Keys: Provide _____ keys for each accessory to Owner; master key lockable accessories.

C. Stainless Steel Sheet: ASTM A666, Type 304.

D. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

E. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.

F. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.

2.03 FINISHES

A. Stainless Steel: Satin finish, unless otherwise noted.

2.04 COMMERCIAL TOILET ACCESSORIES

A. Toilet Paper Dispenser: Double roll, surface mounted bracket type, stainless steel, spindleless type for tension spring delivery designed to prevent theft of tissue roll.
1. Attached Purse Shelf: 0.03 inch satin finished stainless steel, with rolled or formed edge at front.

B. Paper Towel Dispenser: Folded paper type, stainless steel, surface-mounted, with viewing slots on sides as refill indicator and tumbler lock.
1. Capacity: 400 C-fold minimum.

C. Automated Soap Dispenser: Foam soap dispenser, deck-mounted on vanity, with container concealed below deck; stainless steel with bright polished finish; chrome-plated deck escutcheon.
1. Minimum Capacity: 27 ounces.
2. Power: Battery operated.

D. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
1. Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
2. Size: As indicated on drawings.
3. Frame: 0.05 inchangle shapes, with mitered and welded and ground corners, and tamperproof hanging system; satin finish.

E. Grab Bars: Stainless steel, smooth surface.
1. Standard Duty Grab Bars:
a. Push/Pull Point Load: 250 pound-force, minimum.
b. Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
c. Finish: Satin.
d. Length and Configuration: As indicated on drawings.

F. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.

2.05 UNDER-LAVATORY PIPE AND SUPPLY COVERS

A. Under-Lavatory Pipe and Supply Covers:
1. Insulate exposed drainage piping, including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
3. Construction: 1/8 inch flexible PVC.
a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
b. Comply with ICC A117.1.
4. Color: White.

2.06 DIAPER CHANGING STATIONS

A. Diaper Changing Station: Wall-mounted folding diaper changing station for use in commercial toilet facilities, meeting or exceeding ASTM F2285.
1. Material: Polyethylene.
2. Mounting: Surface.
3. Color: White.
4. Minimum Rated Load: 250 pounds.

2.07 UTILITY ROOM ACCESSORIES

A. Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, hat-shaped channel.
1. Holders: Three spring-loaded rubber cam holders.
2. Length: 36 inches.
3. Length: Manufacturer's standard length for number of holders.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

END OF SECTION

SECTION 10-44-00
FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide extinguisher operational features.

1.02 FIELD CONDITIONS

A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.01 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and as indicated.

B. Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
1. Cartridge Operated: Spun shell.
2. Class: A:B:C type.
3. Size: 20 pound.
4. Finish: Baked polyester powder coat, color as selected.
5. Temperature range: Minus 65 degrees F to ___ degrees F.

2.02 FIRE EXTINGUISHER CABINETS

A. Fire Rating: Listed and labeled in accordance with ASTM E814 requirements for fire resistance rating of walls where being installed.

B. Cabinet Construction: Non-fire rated.

C. Fire Rated Cabinet Construction: One-hour fire rated.
1. Steel; outer and inner boxes with 5/8 inch thick fire barrier material.

D. Cabinet Configuration: Semi-recessed type.
1. Trim: Flat rolled edge.

E. Door: 0.036 inch metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinges.

F. Door Glazing: Float glass, clear, 1/8 inch thick, and set in resilient channel glazing gasket.

G. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.

H. Finish of Cabinet Interior: _____ colored enamel.

2.03 ACCESSORIES

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Secure rigidly in place.

C. Place extinguishers in cabinets.

END OF SECTION

SECTION 10-75-00
FLAGPOLES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data on pole, accessories, and configurations.

B. Shop Drawings: Indicate detailed dimensions, base details, anchor requirements, and imposed loads.

1.02 QUALITY ASSURANCE

A. Designer Qualifications: Design flagpole foundation under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed the State in which the Project is located.

PART 2 PRODUCTS

2.01 FLAGPOLES

A. Flagpoles: Designed in accordance with NAAMM FP 1001
1. Material: Aluminum.
2. Design: Cone tapered.
3. Mounting: Ground mounted type.
4. Nominal Height: ____ ft; measured from nominal ground elevation.
5. Halyard: Internal type, electric operation.

2.02 POLE MATERIALS

A. Aluminum: ASTM B241/B241M , 6063 alloy , T6 temper.

2.03 ACCESSORIES

A. Finial Ball: Aluminum, 6 inch diameter.

REVISIONS

PROJECT INFORMATION
PROJECT NO. : D945.24
DATE : 08/26/2024
DRAWN BY : DCA
SHEET TITLE : SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1170 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-4677
FAX: (262) 567-4676

OLIVER CONSTRUCTION CO.

SHEET NO.
A909

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B. Truck Assembly: Cast aluminum; revolving, stainless steel ball bearings, non-fouling.
C. Flag:5 ft by 8 ft size, nylon fabric, brass grommets, hemmed edges.
D. Cleats: 9 inch size, aluminum with galvanized steel fastenings, one per halyard.
E. Cleat Box: Aluminum, with built-in hinge and hasp assembly, attached to pole with tamper proof screws inside box.
F. Halyard: 5/16 inch diameter nylon, braided, white.

2.04 OPERATORS

A. Hand Crank: Removable type.

2.05 MOUNTING COMPONENTS

A. Foundation Tube Sleeve: AASHTO M 36, corrugated 16 gauge, 0.0598 inch steel, galvanized, depth as required by flag pole manufacturer.
B. Pole Base Attachment: Flush; steel base with base cover.

2.06 FINISHING

A. Metal Surfaces in Contact With Concrete: Asphaltic paint.
B. Concealed Steel Surfaces: Prime painted.
C. Aluminum: Mill finish.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install flagpole , base assembly, and fittings in accordance with manufacturer's instructions.
B. Fill foundation tube sleeve with sand specified in Section 31-23-23 and compact.
C. Install foundation plate and centering wedges for flagpoles base set in concrete base and fasten.

END OF SECTION

DIVISION 11 - EQUIPMENT

SECTION 11-13-13
LOADING DOCK BUMPERS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Submit data on unit dimensions, method of anchorage, and details of construction.

PART 2 PRODUCTS

2.01 COMPONENTS

A. Loading Dock Bumpers: Fabric reinforced rubber pads, ozone resistant, laminated and compressed in position using two galvanized steel rods with threaded ends, washers, and nuts between galvanized steel angle end plates.
1. Projection From Wall: 6 inches.
2. Vertical Height: 10 inches.
3. Width: 24 inches.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install dock bumpers in accordance with manufacturer's instructions.
B. Set plumb and level.

END OF SECTION

SECTION 11-13-16
LOADING DOCK SEALS AND SHELTERS

PART 1 GENERAL

1.01 SUBMITTALS

A. Shop Drawings: Indicate framed wall opening, dimensions and tolerances, adjacent construction and fittings required for anchorages, and anchor points.

PART 2 PRODUCTS

2.01 COMPONENTS

A. Door Seal: Compressible construction:
1. Cross Sectional Dimensions as required for standard operation, use and per project specific design conditions and constraints.
2. Cushion: Closed cell foam for full depth of seal; straight jambs.
3. Covering Material: Vinyl impregnated waterproof nylon fabric; with supplementary high abrasion resistant wear layer, to remain flexible to minus 65 degrees F.
4. Covering Weight: 22 oz/sq ft.
5. Covering Color: Black color.
a. Provide 5 inch wide continuous yellow strip.
6. Header: Movable air vented construction.
7. Seams: Molded without mechanical stitching; double ply at exposed face.
8. Bottom Door Seal: Same construction as above.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install seal and shelter components in accordance with manufacturer's instructions.
B. Set plumb and level.
C. Attach anchors and fittings to prepared wall construction and opening frame.

END OF SECTION

SECTION 11-13-19
STATIONARY LOADING DOCK EQUIPMENT

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide materials and finish, installation details, roughing-in measurements, and operation of unit and safety lock device.
B. Shop Drawings: Indicate required opening dimensions and tolerances, perimeter conditions of construction, placement dimensions of safety lock devices, and diagrams for power, signal, and control wiring.
C. Manufacturer's Qualification Statement.

1.02 QUALITY ASSURANCE

1.03 FIELD CONDITIONS

A. Existing Conditions: Field verify dimensions of construction related to stationary loading dock equipment prior to fabrication, including recessed pit dimensions, dock height, height and width of dock door openings, and slope of declined approach.

1.04 WARRANTY

A. See Section 01-78-00 - Closeout Submittals, for additional warranty requirements.
B. Manufacturer agrees to correct defective work within two year period from Date of Substantial Completion.

PART 2 PRODUCTS

2.01 RECESSED LOADING DOCK LEVELERS

A. Recessed Loading Dock Levelers: Provide manufacturer's standard loading dock levelers, in compliance with ANSI MH30.1 requirements, and of capacity, size, and construction as indicated, consisting of a nonslip steel platform, complete with controls, safety devices, and required accessories.
1. Recessed Concrete Pit: Provide preformed concrete pit sized to fit dimensions of specified loading dock levelers.
a. Ensure concrete slab is reinforced as required to support dock leveler.
2. Rated Capacity: Capable of supporting 35,000 lbs without permanent deflection or distortion.
3. Platform Width: As indicated on drawings.
4. Platform Length: As indicated on drawings.
5. Toe Guards: Provide open sides of dock leveler with metal toe guards, equipped for entire upper operating-range.
6. Range of Operating: Dock levelers to compensate for height differences between truck bed and loading platform, as follows; 6 inches above dock level, and 6 inches below dock level.
7. Automatic Vertical Compensation: Floating travel of dock leveler ramp edge extended to automatically compensate for upward and downward movement of truck bed during loading and unloading operations.
8. Automatic Lateral Compensation: Tilting of dock leveler ramp edge extended and resting on truck bed to automatically compensate for canted truck bed up to 4 inches over width of ramp.
9. Ramp Edge Operation: Manufacturer's standard mechanism that automatically extends and supports hinged ramp edge and rests on truck bed over dock leveler's working range, allows ramp edge to yield under incoming truck impact and automatically retracts ramp edge when truck departs.

B. Mechanical Operating System: Manually controlled, with counterbalance and spring operation; spring-operated raising and walk-down lowering of unloaded ramp.
C. Construction: Fabricate loading dock leveler frame, edge and platform supports from structural and formed steel shapes, with platform and hinged edge welded to supports, chamfer edge to minimize obstructing material-handling vehicles, and ensure entire assembly is fabricated to withstand deformation during operation and storage phases of service.
D. Integral Laminated Tread Dock Bumpers: Fabricate from 4-1/2 inch thick, multiple, uniformly thick plies cut from fabric-reinforced rubber tires, and laminate plies under pressure on at least two 3/4 inch diameter, steel supporting rods welded at one end to 1/4 inch thick, structural steel end angle and secured with nut and angle at other end.
E. Finish: Manufacturer's standard paint applied to factory-assembled and tested loading dock levelers prior to shipment.

2.02 VEHICLE RESTRAINTS

A. Vehicle Restraints: Complies with ANSI MH30.3, with metal restraining arm and mechanical lock and adaptable to work with rear of trailer ICC (Interstate Commerce Commission) bars being used at loading docks.
1. Type of Restraint: Mounted to exterior face of loading dock.
2. Power Operating System: Provide manufacturer's standard unit with remote-control station type having constant-pressure single-button control.
3. Mechanical Operating System: Operate restraint using lifting rod or hook to raise engagement device.
4. Rated Restraint Capacity: 32,000 lbs.

2.03 COMMUNICATION LIGHTS SYSTEMS

A. Communication Lights Systems: Provide system consisting of interior control panel, surface mounted two-way communication using interior and exterior signal light sets and signage for both dock attendant and truck driver, exterior regular and mirror viewable written instruction signage to inform truck driver to move on green light only.
1. Provide communication lights system at each individual loading dock location.
2. Signal Light Sets: Red and green lights, with each lens 4 inch in diameter, nominal, enclosed in steel or plastic housing, and exterior set with sunshade.
3. Interior Signs: Provide wall mounted sign adjacent to light sets, readable by dock personnel regarding access to trailer.
4. Exterior Signs: Provide two wall mounted signs adjacent to light sets, one readable from truck mirror and other from standard view regarding movement of trailer.
5. Integrate communication lights system with vehicle restraints using interlock feature that only allows operation of dock leveler or lift system when vehicle restraint is engaged and overhead door is in open position.

2.04 CONTROL STATIONS

A. Remote-Control Station for Vehicle Restraints and Overhead Sectional Door: Provide single-button station, constant-pressure type, enclosed in NEMA ICS 6, Type 4 box.

2.05 MATERIALS

A. Structural Steel Sections: ASTM A36/A36M.
B. Checkered Steel Plate: ASTM A786/A786M, rolled steel floor plate; manufacturer's standard pattern.
C. Steel Tubing: ASTM A500/A500M or ASTM A501/A501M structural tubing, round and shapes as indicated.
D. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
E. Steel Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, and galvanized in accordance with ASTM A153/A153M where connecting galvanized hardware components.

2.06 FINISHES

A. Galvanizing: Hot-dip galvanize to minimum requirements of ASTM A123/A123M.
B. Metal Plate Platform: Hot-dip galvanized to 1.25 oz/sq ft finish.
C. Frame: Factory enameled finish.
D. Pit Frame: Hot-dip galvanized to 1.25 oz/sq ft finish.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install loading dock leveler unit in prepared opening in accordance with manufacturer's written instructions.
1. Set square and level.
2. Anchor unit securely, flush with dock, and weld back of leveling dock to pit frame; touch-up welds with primer.
3. Install electrical connections as required for fully operational system.
B. Truck Restraints: Anchor truck restraints in compliance with requirements for location and height to properly engage with vehicle rear impact guard (RIG).
1. Provide integrated connection with control panel, communication lights and alarm system, and operation signals from dock leveler.
C. Communication Lights System: Install in accordance with manufacturer's written instructions and in compliance with specified requirements.
D. Control Stations: Install in accordance with manufacturer's written instructions and in compliance with specified requirements.

3.02 ADJUSTING

A. Adjust installed loading dock equipment and safety devices for smooth and balanced operation, and lubricate as recommended by manufacturer.

END OF SECTION

SECTION 11-81-29
FACILITY FALL PROTECTION

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's data sheets on each ladder safety system product to be used, including installation instructions.
B. Product Data: Material, equipment, and fixture lists. Manufacturer's catalog data indicating the sizes, descriptions, capacities, test certifications, and other descriptive data showing in sufficient detail that product complies with contract requirements. Equipment and performance data including but not limited to lifeline anchors, safety tieback anchors, and lifeline cable.
C. Shop Drawings: Installation details: plan showing locations and types of anchorage points for personal fall protection systems and building maintenance equipment.
1. Detail mounting, securing, and flashing of roof-mounted items to roof structure. Indicate coordinating requirements with roof membrane system.
2. Indicate anchorage details and quantity, diameter, and depth of penetration of anchors.
D. Delegated Design Documents: Drawings and calculations sealed by Designer for fall protection system, indicating compliance with performance requirements and design criteria.
E. Manufacturer's qualification statement.
F. Maintenance Data: Include parts list and maintenance requirements for equipment.

1.02 QUALITY ASSURANCE

1.03 WARRANTY

A. See Section 01-78-00 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 LADDER SAFETY SYSTEMS

A. Ladder Safety System:
1. Description: Ladder safety system allows the worker to climb up and down using both hands; does not require the employee continuously, hold, push, or pull any part of the system while climbing.
2. Comply with 29 CFR 1910.29, 29 CFR 1926.1053, and Section 7 of ANSI A14.3.
3. Install on new fixed ladders over 24 feet in height.
4. Anchorage: Fixed ladder meeting requirements of 29 CFR 1910.23.
5. Flexible Carrier: Fixed 3/8-inch diameter stainless steel wire rope lifeline with shock absorber and top, bottom, and intermediate supports.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install anchorage and fasteners in accordance with shop drawings and manufacturer's recommendations to obtain allowable working loads published in product literature and in accordance with this specification.

3.02 FIELD QUALITY CONTROL

3.03 ADJUSTING

A. Adjust fall protection components to function smoothly and safely.

3.04 MAINTENANCE

A. 29 CFR 1910 and ANSI/IWCA I-14 require that anchors first be certified and subsequently inspected on an annual basis. Coordinate with manufacturer and local inspectors as required to maintain compliance.

END OF SECTION

DIVISION 12 - FURNISHINGS

SECTION 12-24-00
WINDOW SHADES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide manufacturer's standard catalog pages and data sheets, including materials, finishes, fabrication details, dimensions, profiles, mounting requirements, and accessories.
1. Motorized Shades: Include power requirements and standard wiring diagrams for specified products.
B. Shop Drawings: Include shade schedule indicating size, location and keys to details, head, jamb and sill details, mounting dimension requirements for each product and condition, and operation direction.
1. Motorized Shades: Provide schematic system riser diagram indicating component interconnections. Include requirements for interface with other systems.
C. Source Quality Control Submittals: Provide test reports indicating compliance with specified fabric properties.
D. Selection Samples: Include fabric samples in full range of available colors and patterns.
E. Verification Samples: Minimum size 6 inches square, representing actual materials, color and pattern.

1.02 QUALITY ASSURANCE

1.03 WARRANTY

A. Provide manufacturer's warranty from Date of Substantial Completion, covering the following:
1. Shade Hardware: One year.
2. Electric Motors: One year.
3. Fabric: One year.
4. Aluminum and Steel Coatings: One year.

PART 2 PRODUCTS

2.01 ROLLER SHADES

A. General:
1. Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.
2. Provide shade system that operates smoothly when shades are raised or lowered.
3. Motorized Shades: Motor system housed inside roller tube, controlling shade movement via motor controls indicated; listed or recognized to UL 325.
a. Comply with NFPA 70.
b. Electrical Components: Listed, classified, and labeled as suitable for the purpose intended. Where applicable, system components to be FCC compliant.
c. Motors: Size and configuration as recommended by manufacturer for the type, size, and arrangement of shades to be operated; integrated into shade operating components and concealed from view; fully compatible with controls to be installed.
B. Roller Shades Type RS1:
1. Description - Interior Roller Shades: Single roller, manually operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and accessories.
a. Mounting: As required per condition.
b. Size: As indicated on drawings.
c. Fabric: As indicated under Shade Fabric article.
2. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
3. Roller Tubes: As required for type of shade operation.
4. Hembars: Designed to maintain bottom of shade straight and flat.
5. Manual Operation for Interior Shades:
a. Clutch Operator: Manufacturer's standard material and design, permanently lubricated.
b. Drive Chain: Continuous loop beaded ball chain, 95 lb minimum breaking strength. Provide upper and lower limit stops.
6. Accessories:
a. Fascia: Extruded aluminum, size as required to conceal shade mounting, attachable to brackets without exposed fasteners; clear anodized finish.
C. Roller Shades Type [RS2]:
1. Description - Interior Roller Shades: Single roller, motor operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and accessories.
a. Mounting: As required per condition.
b. Size: As indicated on drawings.
c. Fabric: As indicated under Shade Fabric article.
2. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
3. Roller Tubes: As required for type of shade operation.
4. Hembars: Designed to maintain bottom of shade straight and flat.
5. Accessories:
a. Fascia: Extruded aluminum, size as required to conceal shade mounting, attachable to brackets without exposed fasteners; clear anodized finish.

2.02 SHADE FABRIC

A. Fabric: Nonflammable, color-fast, impervious to heat and moisture, and able to retain its shape under normal operation.
1. Material: Vinyl coated polyester.
2. Performance Requirements:
a. Flammability: Pass NFPA 701 large and small tests.
3. Openness Factor: 1%.
4. Fabrication:
a. Fabric Orientation: Railroaded, fabric is turned 90 degrees off the roll.
b. If height of opening requires multiple panels of railroaded fabric, use manufacturer's standard sewn seams.

2.03 MOTOR CONTROLS

A. Unless specifically indicated to be excluded, provide all required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the control intent indicated.
B. Provide all components and connections necessary to interface with other systems as indicated.
C. Manual Controls:
1. Control Functions:
a. Open: Automatically open controlled shade(s) to fully open position when button is pressed.
b. Close: Automatically close controlled shade(s) to fully closed position when button is pressed.
2. Wall Controls: Provided by shade manufacturer.
a. Finish: As specified in Section 26-27-26.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved shop drawings, using mounting devices as indicated.
B. Adjust level, projection, and shade centering from mounting bracket. Verify there is no telescoping of shade fabric. Ensure smooth shade operation.

END OF SECTION

SECTION 12-36-00
COUNTERTOPS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Specimen warranty.
B. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.
C. Verification Samples: For each finish product specified, minimum size 6 inches square, representing actual product, color, and patterns.
D. Installer's qualification statement.

PART 2 PRODUCTS

2.01 COUNTERTOPS

A. Quality Standard: Economy Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
a. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
b. Wear Resistance: In addition to specified grade, comply with NEMA LD 3 High Wear Grade requirements for wear resistance.
c. Finish: Matte or suede, gloss rating of 5 to 20.
d. Surface Color and Pattern: As indicated on drawings.
2. Exposed Edge Treatment: Postformed laminate; front edge substrate built up to minimum 1-1/4 inch thick with raised radiused edge, integral coved backsplash with radiused top edge.
3. Back and End Splashes: Same material, same construction.
C. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
1. Flat Sheet Thickness: 1/2 inch, minimum.
2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
a. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
b. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
c. Color and Pattern: As indicated on drawings.
3. Other Components Thickness: 1/2 inch, minimum.
4. Exposed Edge Treatment: Built up to minimum 1-1/4 inch thick; edge profile as indicated on drawings.
5. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.
6. Fabricate in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 11 - Countertops, Premium Grade.
7. Fabricate in accordance with manufacturer's standard requirements.
D. Natural Quartz and Resin Composite Countertops: Sheet or slab of natural quartz and plastic resin over continuous substrate.
1. Flat Sheet Thickness: 1-1/4 inch, minimum.
2. Natural Quartz and Resin Composite Sheets, Slabs and Castings: Complying with ISFA 3-01 and NEMA LD 3; orthophthalic polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard stone fabrication tools; no surface coating; color and pattern consistent throughout thickness.
a. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
b. Sinks: Separate units for undercounter mounting; minimum 3/4 inch wall thickness; comply with IAPMO Z124.
c. Finish on Exposed Surfaces: Polished.
d. Color and Pattern: As indicated on drawings.

2.02 MATERIALS

A. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch thick; join lengths using metal splines.
B. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.

2.03 FABRICATION

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
C. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces as indicated on drawings, finished to match.

PART 3 EXECUTION

3.01 INSTALLATION

A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
B. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.
C. Seal joint between back/end splashes and vertical surfaces.

END OF SECTION

REVISIONS

PROJECT INFORMATION
PROJECT NO.: D945.24
DATE: 09/25/2024
DRAWN BY: DCA
SHEET TITLE: SPECIFICATIONS

PROJECT INFORMATION:
OWNER: LANG TECHNIK - USA
TITLE: NEW FACILITY
ADDRESS: 1025 WALNUT RIDGE DR., HARTLAND, WI 53029

1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-5677
FAX: (262) 567-4676

OLVER CONSTRUCTION CO.

SHEET NO.
A910

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.541	98	Building (34S)
1.148	98	Frozen Ground (31S, 34S)
0.769	98	Pavement (31S, 34S)
0.073	98	Sidewalk (31S, 34S)
2.531	**98**	**TOTAL AREA**

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	31S	0.00	0.00	82.0	0.0100	0.013	0.0	15.0	0.0	Lang -
2	34S	0.00	0.00	220.0	0.0100	0.013	0.0	15.0	0.0	Lang -
3	35P	920.00	919.34	50.4	0.0131	0.011	0.0	15.0	0.0	Infiltration

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Summary for Pond 32P: Infiltration Pond W

Inflow Area = 1.017 ac,100.00% Impervious, Inflow Depth > 5.75" for 100-yr event
Inflow = 8.72 cfs @ 12.14 hrs, Volume= 0.487 af
Outflow = 0.13 cfs @ 15.30 hrs, Volume= 0.109 af, Atten= 99%, Lag= 189.3 min
Discarded = 0.13 cfs @ 15.30 hrs, Volume= 0.109 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 925.59' @ 15.30 hrs Surf.Area= 7,728 sf Storage= 17,001 cf

Plug-Flow detention time= 276.2 min calculated for 0.108 af (22% of inflow)
Center-of-Mass det. time= 128.0 min (863.2 - 735.2)

Volume	Invert	Avail.Storage	Storage Description
#1	921.90'	19,484 cf	**Infiltration Pond West (Irregular)** Listed below (Recalc)

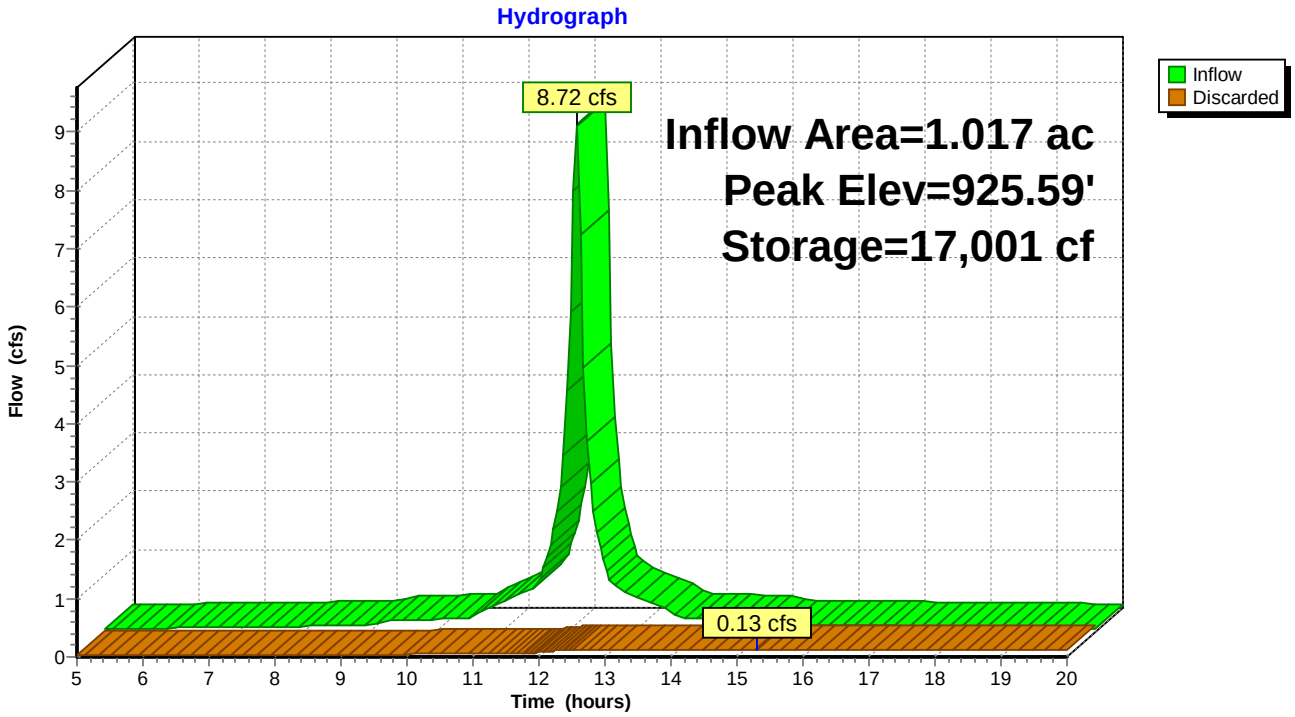
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
921.90	2,193	316.4	0	0	2,193
922.00	2,289	324.8	224	224	2,623
923.00	3,294	382.1	2,776	3,000	5,865
924.00	4,838	593.2	4,041	7,042	22,257
925.00	6,647	613.1	5,719	12,760	24,260
925.90	8,327	631.0	6,724	19,484	26,118

Device	Routing	Invert	Outlet Devices
#1	Discarded	921.90'	**0.720 in/hr Exfiltration over Surface area**

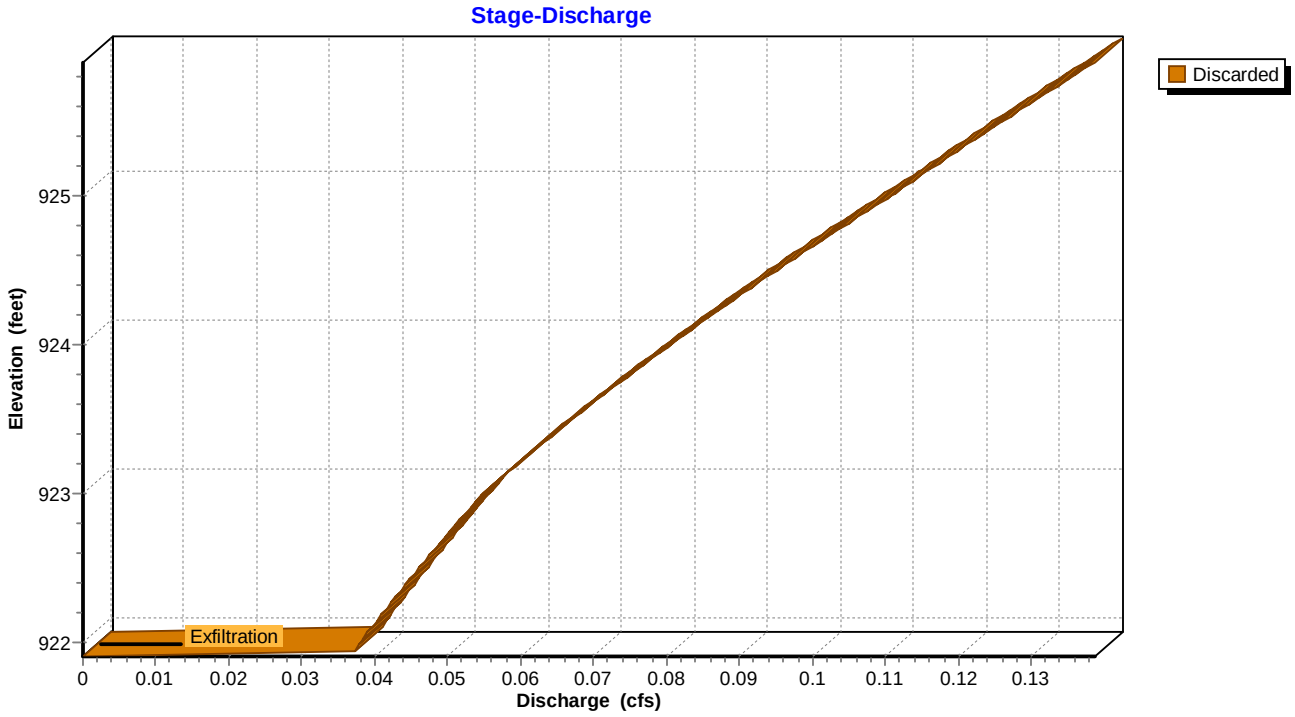
Discarded OutFlow Max=0.13 cfs @ 15.30 hrs HW=925.59' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.13 cfs)

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Pond 32P: Infiltration Pond W



Pond 32P: Infiltration Pond W



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Summary for Pond 35P: Infiltration Pond E

Inflow Area = 1.514 ac,100.00% Impervious, Inflow Depth > 5.75" for 100-yr event
Inflow = 13.15 cfs @ 12.14 hrs, Volume= 0.725 af
Outflow = 7.92 cfs @ 12.24 hrs, Volume= 0.615 af, Atten= 40%, Lag= 5.7 min
Discarded = 0.11 cfs @ 12.24 hrs, Volume= 0.085 af
Primary = 7.82 cfs @ 12.24 hrs, Volume= 0.530 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 923.40' @ 12.24 hrs Surf.Area= 6,306 sf Storage= 14,633 cf

Plug-Flow detention time= 143.4 min calculated for 0.615 af (85% of inflow)
Center-of-Mass det. time= 104.3 min (839.2 - 734.9)

Volume	Invert	Avail.Storage	Storage Description
#1	920.00'	27,086 cf	**Infiltration Pond East (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
920.00	2,519	329.9	0	0	2,519
921.00	3,536	348.7	3,013	3,013	3,589
922.00	4,612	367.7	4,062	7,075	4,730
923.00	5,745	386.7	5,168	12,243	5,932
924.00	7,208	426.4	6,463	18,706	8,532
925.00	9,609	530.7	8,380	27,086	16,491

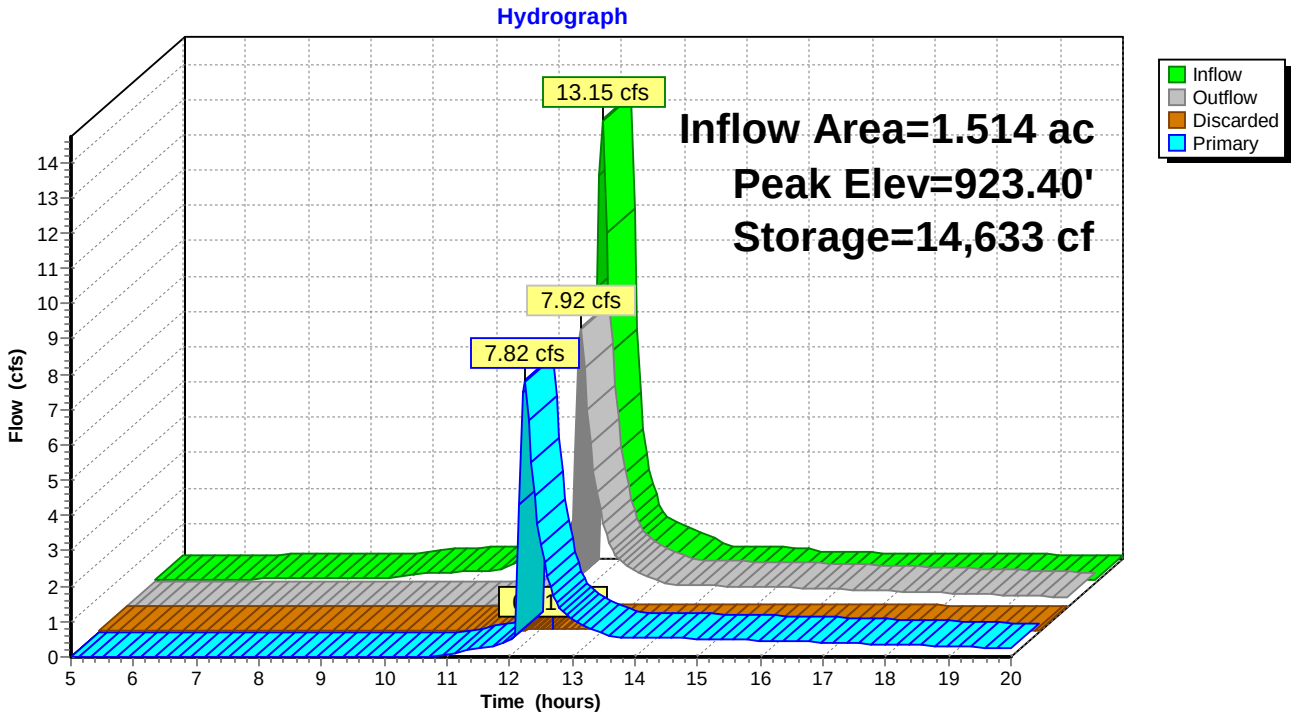
Device	Routing	Invert	Outlet Devices
#1	Device 2	921.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	920.00'	**15.0" Round Culvert** L= 50.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 920.00' / 919.34' S= 0.0131 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Discarded	920.00'	**0.720 in/hr Exfiltration over Surface area**
#4	Device 2	922.90'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.10 cfs @ 12.24 hrs HW=923.39' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.10 cfs)

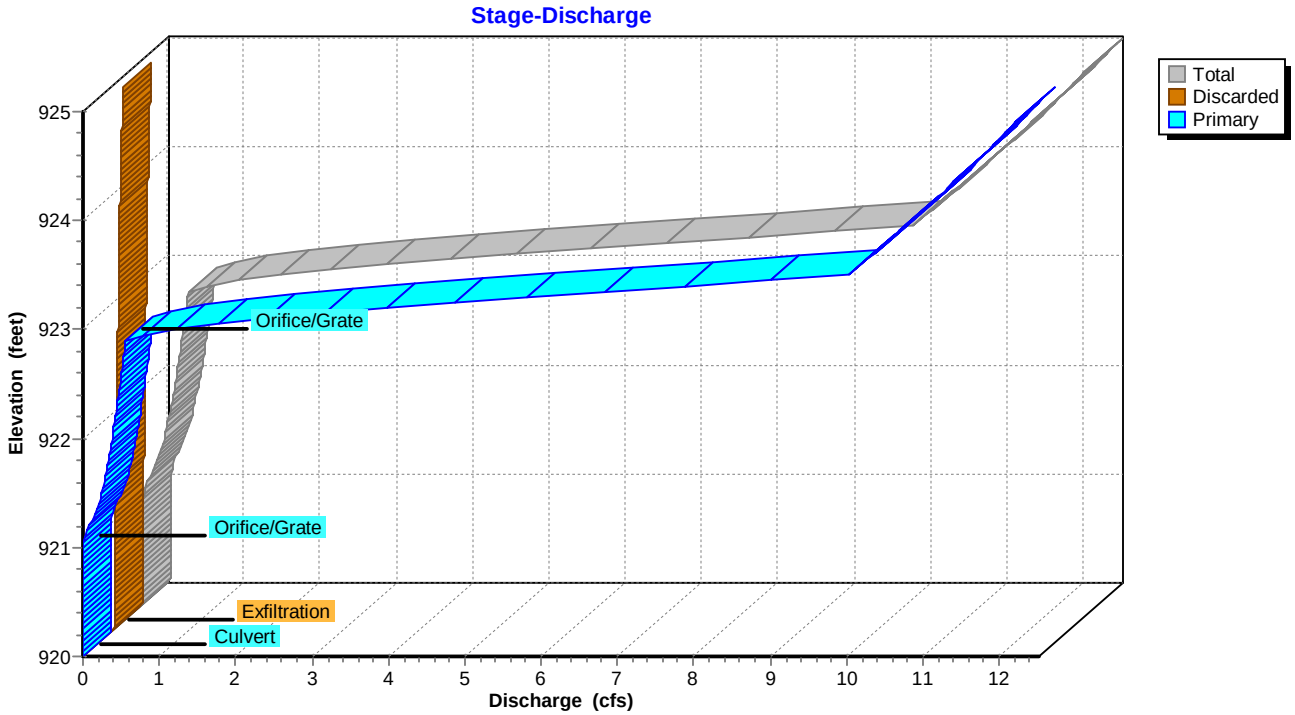
Primary OutFlow Max=7.68 cfs @ 12.24 hrs HW=923.39' (Free Discharge)
└**2=Culvert** (Passes 7.68 cfs of 9.83 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.63 cfs @ 7.18 fps)
  └**4=Orifice/Grate** (Weir Controls 7.05 cfs @ 2.29 fps)

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Pond 35P: Infiltration Pond E



Pond 35P: Infiltration Pond E



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Erosion Control and Stormwater Management Plan

Lang Technik

Village of Hartland

OLICO 179532 | September 25, 2024

SEH

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Engineers | Architects | Planners | Scientists

Erosion Control and Stormwater Management Plan

Lang Technik Facility
Village of Hartland

Prepared for:
Oliver Construction

Project Address:
1025 Walnut Ridge Drive
Hartland, WI 53029

Prepared by:
Short Elliott Hendrickson Inc.
501 Maple Avenue
Delafield, WI 53018
262.646.6855

I, Mark Mickelson, hereby certify that I am a registered Professional Engineer in the State of Wisconsin in accordance with ch. A-E 4, Wis. Adm. Code and that this report has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code.

Prepared by: _____ _____
Nathan Levy Date

Reviewed by:  September 27, 2024
Mark Mickelson, PE Date

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Erosion Control and Stormwater Management Plan

Lang Technik Facility

Prepared for Oliver Co.

1 Introduction

The project includes the construction of a commercial building, parking lot, and two stormwater infiltration basins for a project known as the Lang Technik Facility. The drainage of the project is split to the west and east, draining to the respective basins, with the drainage divide occurring at approximately along the west side of the proposed building. Approximately 2.67 acres will be disturbed in this project.

The project consists of one acre or more of land disturbing construction activity and therefore requires a WPDES Storm Water Discharge Permit. The Storm Water Permit Application General Information is included in **Appendix A**. In addition, this project will comply with the Village of Hartland's Storm Water Management requirements which requires to reduce the 10-year 24-hour post-development peak runoff discharge rate to the 2-year 24-hour pre-development peak runoff discharge rate as well as reducing the 100-year 24-hour post-development peak runoff discharge rate to the 10-year 24-hour pre-development peak runoff discharge rate.

2 Erosion Control

The project proposes the installation of erosion control mats on all disturbed areas with slopes greater than 3:1, silt fence perimeter control along the perimeter of the site, and a rock construction entrance. Stormwater infiltration basins will be constructed first, so that the majority of stormwater runoff will be diverted to them once mass grading is complete.

The Soil Loss & Sediment Discharge Calculation Tool was used to show compliance well below the allowable discharge of 5 tons/acre/year per NR 151.11(6m)(b)2 and a narrative and calculations are located in **Appendix B**.

3 Post-Construction Stormwater Management

3.1 Standards

The project is subject to the post-construction performance standards NR 151.121 through NR151.125. The site is also subject to the Village of Hartland Ordinance 844-17 Chapter 76. The specific standards include:

- The site is classified as new development (2.67 acres)
  - An 80% TSS reduction.

- A 30% Phosphorus reduction.
- Reduce the 10-year 24-hour post-development peak runoff discharge rate to the 2-year 24-hour pre-development peak runoff discharge rate.
- Reduce the 100-year 24-hour post-development peak runoff discharge rate to the 10-year 24-hour pre-development peak runoff discharge rate.
- Infiltrate at least 75 percent of the pre-development infiltration volume, based on average annual rainfall, while not exceed more than 2 percent of total area to infiltration.

It should be noted that the Village of Hartland Ordinance 844-17 Chapter 76 dictates the curve numbers that must be used in the analysis of the Pre-Development conditions.

3.2 Design

The project includes the construction of a commercial building, parking lot, and two stormwater infiltration basins. The site's stormwater is split to the west and east with the drainage divide occurring at approximately along the west side of the proposed building, with a west infiltration basin and east infiltration basin.

Soil borings on site show that the infiltration basins consist of 4-6 inches of topsoil, with underlying soils that were lean clay (CL) to depths of up to six feet, with the boring terminating with gravelly sand (GP) to depths up to twenty feet. The infiltration rates are assumed to be 3.6 inches per hour for the sandy subsoils per WDNR Infiltration Basin standards. The entire site consists of fox silt loam and is Hydrologic Soil Group B according to NRCS Web Soil Survey.

The west area is 1.02 acres and is predominately pavement and green space. The west infiltration basin is 0.19 acres, the impervious area, which includes pavement and sidewalk area, is 0.43 acres, and the landscaped area is 0.40 acres.

The east area is 1.51 acres and includes the proposed building, pavement, sidewalk, and green space. The east retention basin is 0.17 acres, the building area is 0.54 acres, the pavement area is 0.35 acres, the sidewalk area is 0.06 acres, and the landscaped area is 0.39 acres.

The infiltration basins will remove 100% TSS and peak discharge is controlled by detainment and infiltration for NR 151 and the Village of Hartland Ordinance 844-17 Chapter 76.

A long-term maintenance agreement for the two infiltration basins is included in **Appendix E**.

3.3 Modeling

3.3.1 Water Quantity Modeling

HydroCAD (Version 10.20-3c) modeling software was used to calculate water quantity and peak flow rates for the 1, 2, 10, and 100-year storm events. This software utilizes the TR-20 methodology using the MSE3 rainfall distribution for computing the stormwater peak flow rates and runoff volumes. The rainfall values area based on NOAA Atlas 14 rainfall data.

Table 1 – Rainfall Depths

Storm Event	Storm Duration (hrs)	Rainfall Depth (in)
1-year	24	2.39
2-year	24	2.70
10-year	24	3.82
100-year	24	6.24

Existing and proposed conditions were modeled in HydroCAD. The site contains solely Hydrologic Soil Groups B which was determined using the Natural Resource Conservation Service (NRCS) Web Soil Survey. The NRCS soil information is shown in Appendix D. Per the Village of Hartland Ordinance 844-17 Chapter 76, the pre-development runoff curve number for Grassland, Hydrologic Soil Group B, is 61 which was used when modeling the pre-development runoff. The post development curve numbers for the basins were calculated to be 84 and 77 for the east and west basins, respectively. Time of concentration values were calculated within the HydroCAD program and paths are shown in Exhibit A2. Drainage area characteristics for existing and proposed conditions are shown in Table 2 below.

Table 2 – Existing and Proposed Drainage Areas

Sub-Area Name	Drainage Area (Ac)	CN	Tc (min)
Existing Conditions:			
Pre Dev	2.670	61	27.1
Proposed Conditions:			
Post Dev - E	1.514	84	7.3
Post Dev - W	1.017	77	7.6
Total	2.531		

The west infiltration basin is designed to detain and infiltrate flows up to the 100-year storm, so no run-off will leave the site. The east infiltration basin will have discharge but is designed per the Village of Hartland Ordinance 844-17 Chapter 76 requirements which requires to reduce the 10-year 24-hour post-development peak runoff discharge rate to the 2-year 24-hour pre-development peak runoff discharge rate as well as reducing the 100-year 24-hour post-development peak runoff discharge rate to the 10-year 24-hour pre-development peak runoff discharge rate.

Existing peak flows can be seen in Table 3. Proposed basin peak flow rates with peak elevations can be seen in Table 4. Allowable versus proposed peak outflows can be seen in Table 5. Detailed HydroCAD modeling results are shown in Appendix C.

Table 3 – Existing Peak Flows (cfs)

Sub-Area Name	1-Year	2-Year	10-Year	100-Year
Pre Dev	0.19	0.37	1.48	5.27

Table 4 – Proposed Basin Peak Outflows and Basin Elevations

Description	1-Year		2-Year		10-Year		100-Year	
	Peak Outflow (cfs)	Peak Basin WSEL (ft)	Peak Outflow (cfs)	Peak Basin WSEL (ft)	Peak Outflow (cfs)	Peak Basin WSEL (ft)	Peak Outflow (cfs)	Peak Basin WSEL (ft)
Post Dev - E	0.00	920.82	0.00	921.04	0.30	921.68	1.11	922.99
Post Dev - W	0.00	922.21	0.00	922.36	0.00	922.93	0.00	924.06

Table 5 – Allowable vs Proposed Basin Peak Outflows

Allowable 10-Year Peak Flow Rate (2-Year Pre-Dev) (cfs)	Peak 10-Year Outflow (cfs)	Allowable 100-Year Peak Flow Rate (10-Year Pre-Dev) (cfs)	Peak 100-Year Outflow (cfs)
0.37	0.30	1.48	1.11

3.3.2 Water Quality Modeling

The WDNR and Village of Hartland both require that developed sites remove at least 80% of the total suspended solids on an annual basis. The project will be modeled the WinSLAMM v. 10.5 software to determine the total suspended solids removal rate for the proposed site. Each proposed drainage area will be modeled with its respective infiltration basin. The water quality calculations are conservative to ensure the site, as designed, will go above and beyond the design requirements. Total Suspended Solids (TSS) parameter has been modeled. If requested, Total Phosphorus (TP) can also be modeled. Runoff volume to the basin that will be infiltrated can be considered to have 100% TSS Removal. Based on this, the site is assumed to meet the 80% TSS reduction requirements and no water quality modeling was done. Per to the Village of Hartland Ordinance 844-17 Chapter 76, the project must Infiltrate at least 75 percent of the pre-development infiltration volume, based on average annual rainfall, while not exceed more than 2 percent of total area to infiltration. As seen in the WinSLAMM results, the project infiltrates 100% of the pre-development infiltration volume. Detailed WinSLAMM results can be found in Appendix D.

Due to the results of the soil borings, it is assumed that the soil on site will have a high infiltration rate. Therefore, the ultimate infiltration rates utilized in the model were 3.60 in/hr for both the west basin and the east basin.

3.3.3 Results

According to the results of Section 3.3.1 and 3.3.2, the stormwater management plan proposed will meet the stormwater quantity and quality requirements of the Village of Hartford and the Wisconsin Department of Natural Resources.

Appendix A

Storm Water Permit Application General Information

(WDNR-NOI APPROVAL TO BE INCLUDED IN FUTURE)

Appendix B

Soil Loss/Sediment Discharge Calculations

Soil Loss Calculation Narrative

Oliver Construction – Lang Technik

Village of Hartland, WI

SEH No. 179532

September 27, 2024

Prepared by:
Short Elliott Hendrickson Inc.
501 Maple Avenue
Delafield, WI 53018
262.646.6855

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Soil Loss Calculation Narrative

Lang Technovik

Prepared for Oliver Construction

1.0 Introduction

This project includes the construction of an industrial building,driveways and parking lot area, and two stormwater infiltration basins. This project is located on Walnut Ridge Dr, in the industrial park in the Village of Hartland, Waukesha County, Wisconsin. The total project area is 2.68 acres, with 0.54 acres of roof, 0.84 acres of impervious paved surface and 1.15 acres of pervious surface lawn and basin area. Construction activities include the construction of two basins, mass grading, construction of a parking lot, driveways and building. The project site was analyzed to determine the sediment discharge in tons per acre per year in accordance with NR 151.11(6m) (b) 2.

2.0 Schedule

Construction will begin with the installation of the temporary tracking pads and erosion control measures. Topsoil in the stormwater infiltration basins areas will be stripped and the basins will be constructed, and area restored prior to starting construction on the remainder of the site. Mass grading will be done for the entire site. Erosion matting will be applied to slopes on the perimeter of the site so vegetation can be established. Construction will then include the footings and concrete slab. The driveway and parking areas will receive preliminary gravel surfacing for site access and staging, while the building is started. Building construction will continue during the winter months and final paving and restoration during the summer of 2025.

Once all site construction has been completed and the site has achieved 80% vegetative cover, all remaining temporary erosion control measures shall be removed/restored as required, and the basin infiltration areas will be completed.

3.0 Modeling Results

Modeling Results – Site Construction

Conditions	Activity	Sediment Control Practice	Slope (%)	Slope Length (ft.)	Sediment Discharge (tons/acre)
Existing	Bare Ground	Sediment Basin	0.8	100	0.6
Proposed	Bare Ground	Sediment Basin	1.0	275	3.9
Proposed	Seed with Mulch	Sediment Basin	1.0	275	0.2

Soils encountered during this phase of construction on the site consist of either clay or sand, which was entered into the *Soil Loss & Sediment Discharge Calculation Tool*. Due to the variable slopes across the site and different construction activities, the slope and erosion control practice that resulted in the highest sediment discharge for overall proposed conditions was used to account for the worst-case scenario. The scenarios used in the attached spreadsheet are shown in red above.

Entering the data into the Calculation tool, the site results in a total sediment discharge of 0.7 tons/acre/year, less than the maximum 5.0 tons/acre/year.

4.0 Prescriptive Compliance

Prescriptive compliance areas will be restored as follows:

- Areas noted on the Erosion Control Plan to be restored immediately following construction and restored per the General Notes/as specified within the construction plan set.
- Any areas controlled only by silt fence will be fully restored within 30 days of disturbance as specified in the Erosion Control Plan General Notes.
- Class I - Type A Erosion Matting per WDNR Technical Standard 1052 on slopes 5:1 or greater.
- Class II - Type B Channel Matting per WDNR Technical Standard 1053 within standard channels.
- Class III – Type B Turf Reinforcing Matting per WDNR Technical Standard 1053 within channels that have large drainage areas, high flows, and/or steep slopes.
- Soil stockpiles will be protected by silt fencing and stabilized with temporary seed within 14 days of inactivity and/or 30 days of layup.

SILT FENCE

SEEDING (TYP)

TYPE A INLET PROTECTION (TYP)

TRACKOUT CONTROL

SEEDING (TYP)

EXISTING SURFACE
100 L.F. @ 0.8%

PROPOSED
BUILDING
23,413SF
YARD GRADE = 927.3
FIRST FLOOR = 927.8

PROPOSED SURFACE
275 L.F. @ 1%

SEEDING (TYP)

EXISTING TREE TO REMAIN

SEEDING (TYP)

20 0 20 40
scale 10 feet

LEGEND

- SILT FENCE
- ROCK TRACKING PAD
- SEEDING

EROSION CONTROL NOTES:

POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.

KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.

SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.

SITE INSPECTIONS SHALL BE COMPLETED AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.

INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.

INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).

INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT. REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.

IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR
7 DAYS OR LONGER.

IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.

STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.

SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY. SEPARATE SWEPT MATERIALS (SOILS AND TRASH AND DISPOSE OF APPROPRIATELY. CONTROLLING DUST SHALL BE COMPLETED PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES # 1068.

PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.

ALL WORK PERFORMED MUST ADHERE TO THE STANDARD AND SPECIFICATION OF THE VILLAGE OF HARTLAND, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, WISCONSIN DEPARTMENT OF TRANSPORTATION, AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICE.

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179302
DATE : 9/27/2024
DRAWN BY : LP
SHEET TITLE : EROSION CONTROL PLAN

PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
C104

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Date: 9/27/2024 2:45 PM mmckeirnon File: 9/27/2024 7:38 AM X:\ADD\OLIVER\179302\Civil\sheet\dgn\03-civil\sheet\dgn\05-Civil\sheet\dgn\C104_SHEETS.dwg

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 1

Developer: Oliver Construction

Project: Lang Technovation

Date: 09/27/24

County: Waukesha

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	11/01/24	05/01/25	12.3%	130	Clay	0.32	0.8%	100	0.11	1.00	0.6	0.809	Sediment Basin	0.1
							dist							
Bare Ground	05/01/25	08/01/25	54.3%	130	Clay	0.32	1.0%	275	0.17	1.00	3.9	0.710	Sediment Basin	0.6
Seed with Mulch or Er	08/01/25	10/01/25	27.6%	130	Clay	0.32	1.0%	275	0.17	0.10	0.2	0.710	Sediment Basin	0.0
End	10/01/25	-----	-----	-----	-------	-----			-----	------	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
										TOTAL	**4.7**		**TOTAL**	**0.7**
													% Reduction Required	**NONE**

Notes:

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

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

Recommended Permanent Seeding Dates:

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

Designed By:	MM
Date	9/27/2024

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 1

Developer: Oliver Construction

Project: Lang Technovation

Date: 09/27/24

County: Waukesha

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	11/01/24	09/01/25	83.4%	130	Sand	0.15	0.8%	100	0.11	1.00	1.8	0.929	Sediment Basin	0.3
							dist							
Seed with Mulch or Er	09/01/25	10/31/25	16.5%	130	Sand	0.15	1.0%	275	0.17	0.10	0.1	0.904	Sediment Basin	0.0
End	10/31/25	-----	-----	-----	-------	-----			-----	------	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
										TOTAL	**1.8**		**TOTAL**	**0.3**
													% Reduction Required	**NONE**

Notes:

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

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

Recommended Permanent Seeding Dates:

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

Designed By:	MM
Date	9/27/2024

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

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YEAR 1

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Date: 09/27/24

County: Waukesha

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	11/01/24	09/01/25	83.4%	130	Clay	0.32	0.8%	100	0.11	1.00	3.8	0.809	Sediment Basin	0.6
							dist							
Seed with Mulch or Er	09/01/25	10/31/25	16.5%	130	Clay	0.32	1.0%	275	0.17	0.10	0.1	0.710	Sediment Basin	0.0
End	10/31/25	-----	-----	-----	-------	-----			-----	------	-----	0.000	Sediment Basin	0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----			-----	-----	-----	0.000		0.0
										TOTAL	**3.9**		**TOTAL**	**0.6**
													% Reduction Required	**NONE**

Notes:

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

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

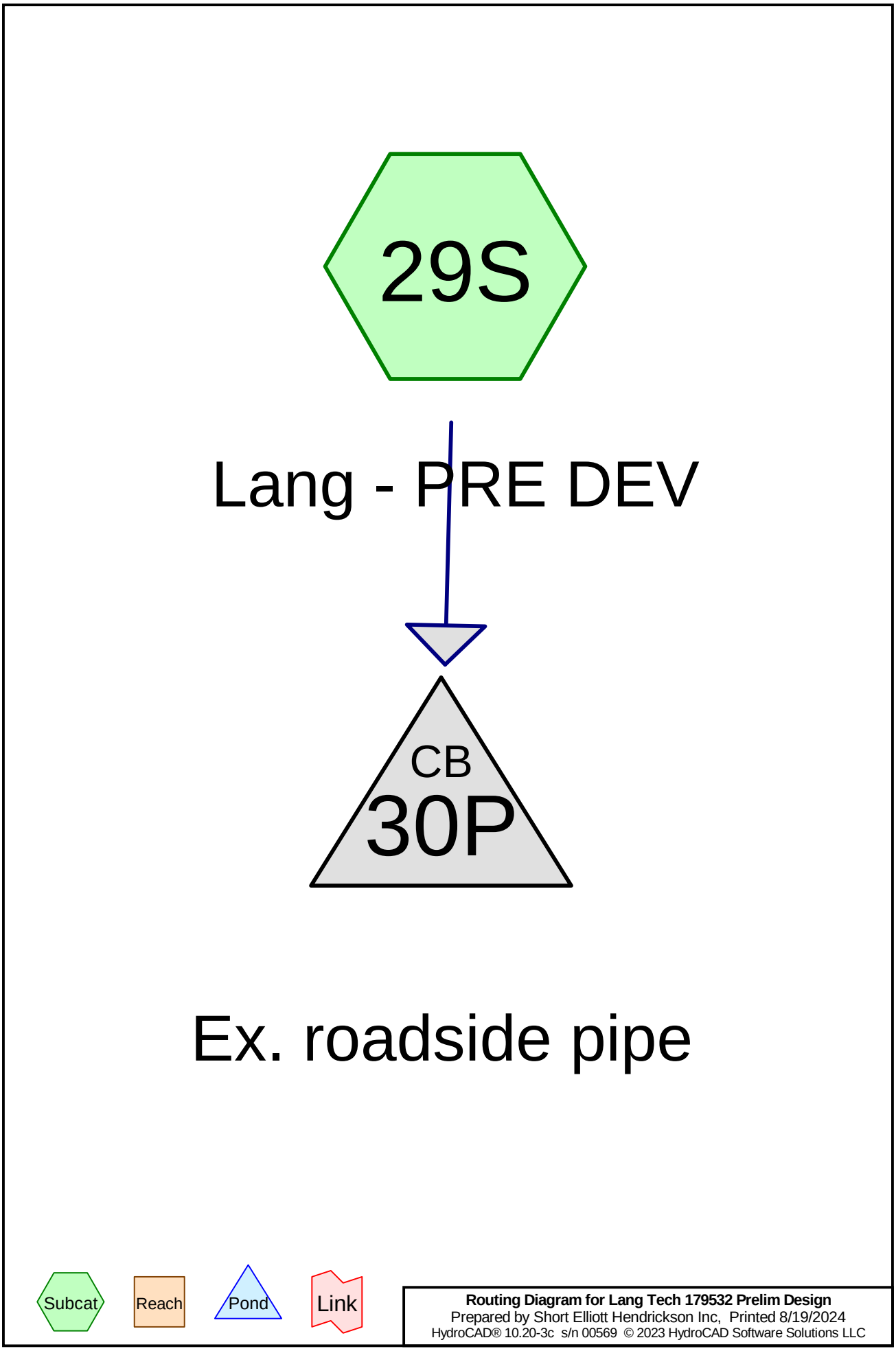
Recommended Permanent Seeding Dates:

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

Designed By:	MM
Date	9/27/2024

Appendix C

HydroCAD Modeling Results



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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.670	61	Grassland (29S)

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Summary for Subcatchment 29S: Lang - PRE DEV

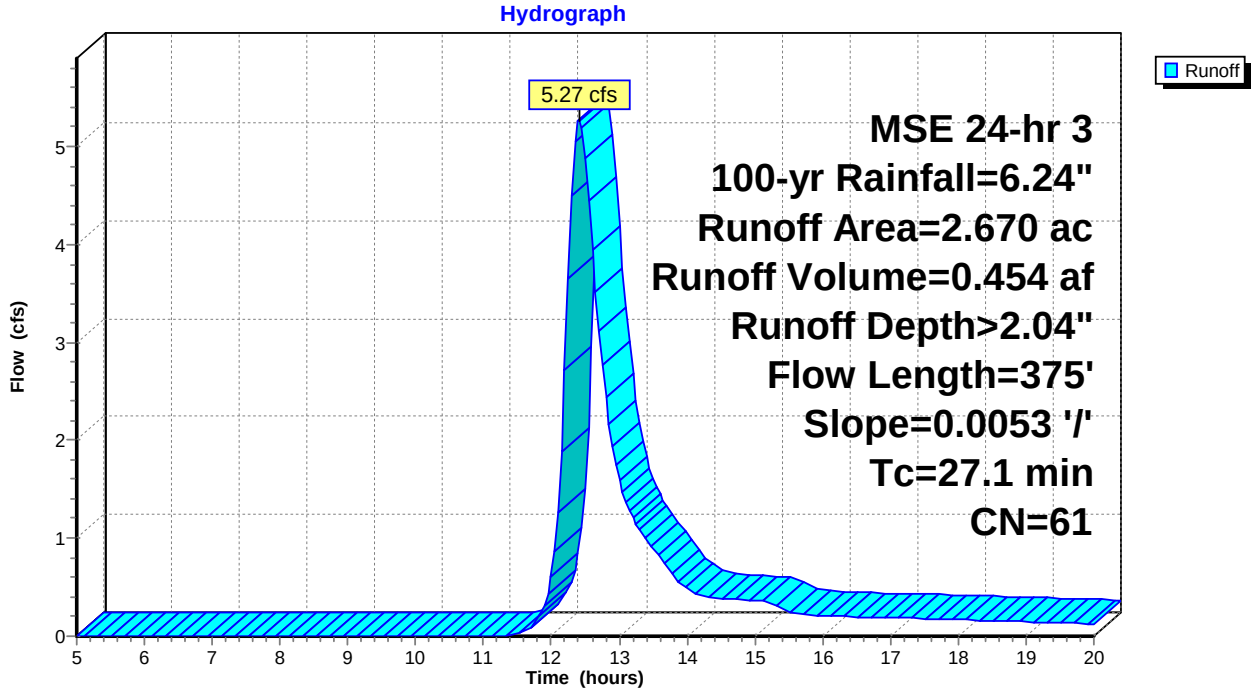
Runoff = 5.27 cfs @ 12.41 hrs, Volume= 0.454 af, Depth> 2.04"
Routed to Pond 30P : Ex. roadside pipe

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=6.24"

	Area (ac)	CN	Description
*	2.670	61	Grassland
	2.670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1	100	0.0053	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.70"
9.0	275	0.0053	0.51		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
27.1	375	Total			

Subcatchment 29S: Lang - PRE DEV



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Summary for Pond 30P: Ex. roadside pipe

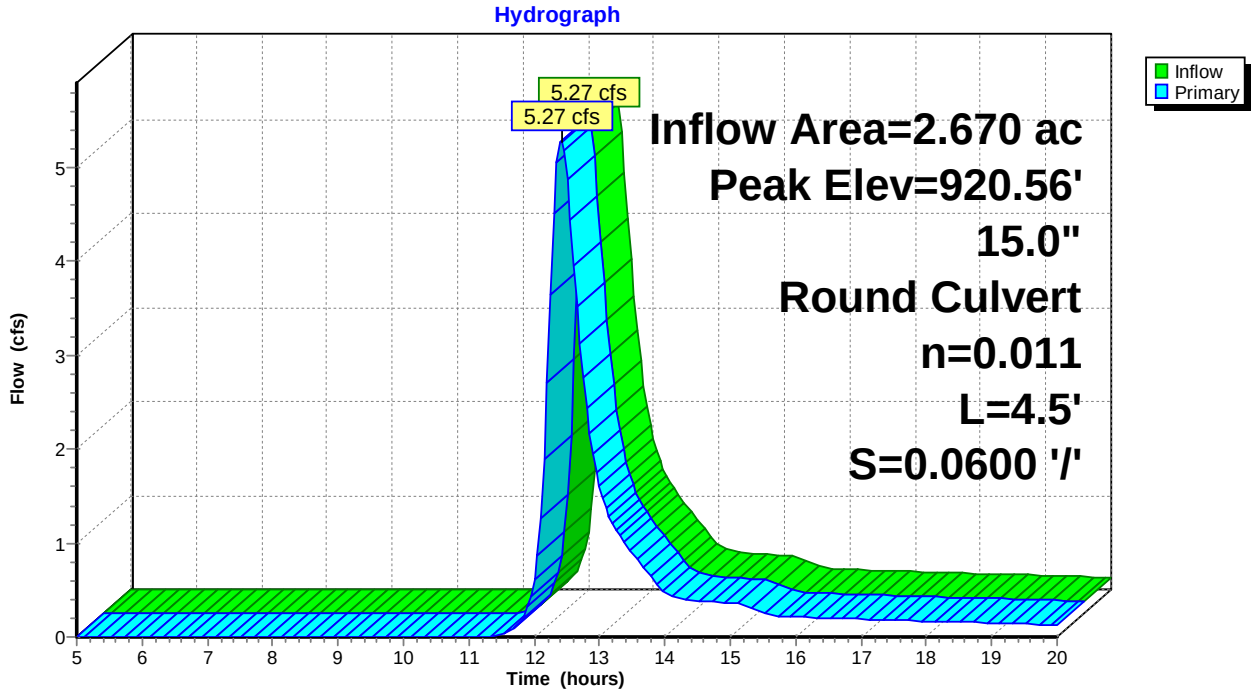
Inflow Area = 2.670 ac, 0.00% Impervious, Inflow Depth > 2.04" for 100-yr event
Inflow = 5.27 cfs @ 12.41 hrs, Volume= 0.454 af
Outflow = 5.27 cfs @ 12.41 hrs, Volume= 0.454 af, Atten= 0%, Lag= 0.0 min
Primary = 5.27 cfs @ 12.41 hrs, Volume= 0.454 af
Routed to nonexistent node 33L

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 920.56' @ 12.41 hrs

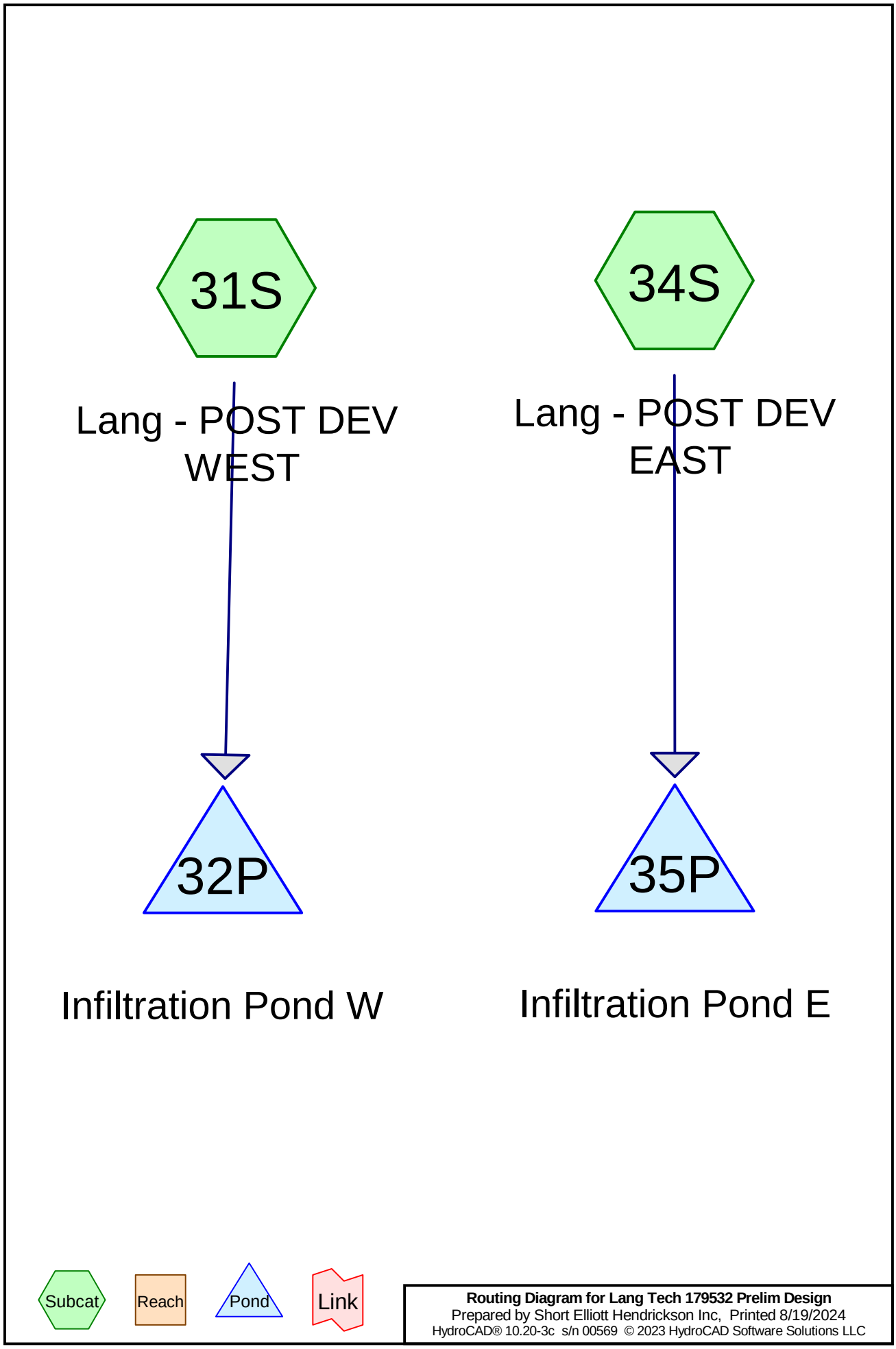
Device	Routing	Invert	Outlet Devices
#1	Primary	919.14'	**15.0" Round Culvert** L= 4.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 919.14' / 918.87' S= 0.0600 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf

Primary OutFlow Max=5.24 cfs @ 12.41 hrs HW=920.55' (Free Discharge)
1=Culvert (Inlet Controls 5.24 cfs @ 4.27 fps)

Pond 30P: Ex. roadside pipe



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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.541	98	Building (34S)
1.148	61	Green Space (31S, 34S)
0.769	98	Pavement (31S, 34S)
0.073	98	Sidewalk (31S, 34S)

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Summary for Subcatchment 31S: Lang - POST DEV WEST

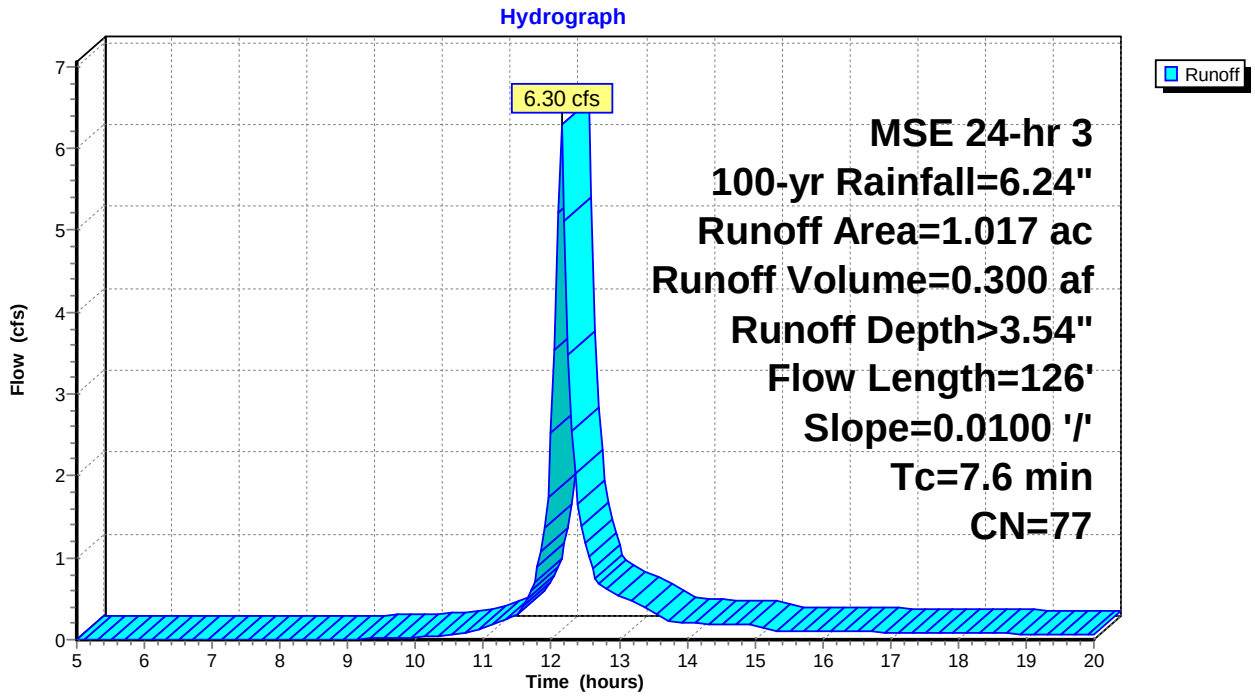
Runoff = 6.30 cfs @ 12.15 hrs, Volume= 0.300 af, Depth> 3.54"
Routed to Pond 32P : Infiltration Pond W

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=6.24"

	Area (ac)	CN	Description
*	0.009	98	Sidewalk
*	0.000	98	Building
*	0.422	98	Pavement
*	0.586	61	Green Space
	1.017	77	Weighted Average
	0.586		57.62% Pervious Area
	0.431		42.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	44	0.0100	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.70"
0.3	82	0.0100	5.26	6.46	**Pipe Channel, RCP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
7.6	126	Total			

Subcatchment 31S: Lang - POST DEV WEST



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Summary for Subcatchment 34S: Lang - POST DEV EAST

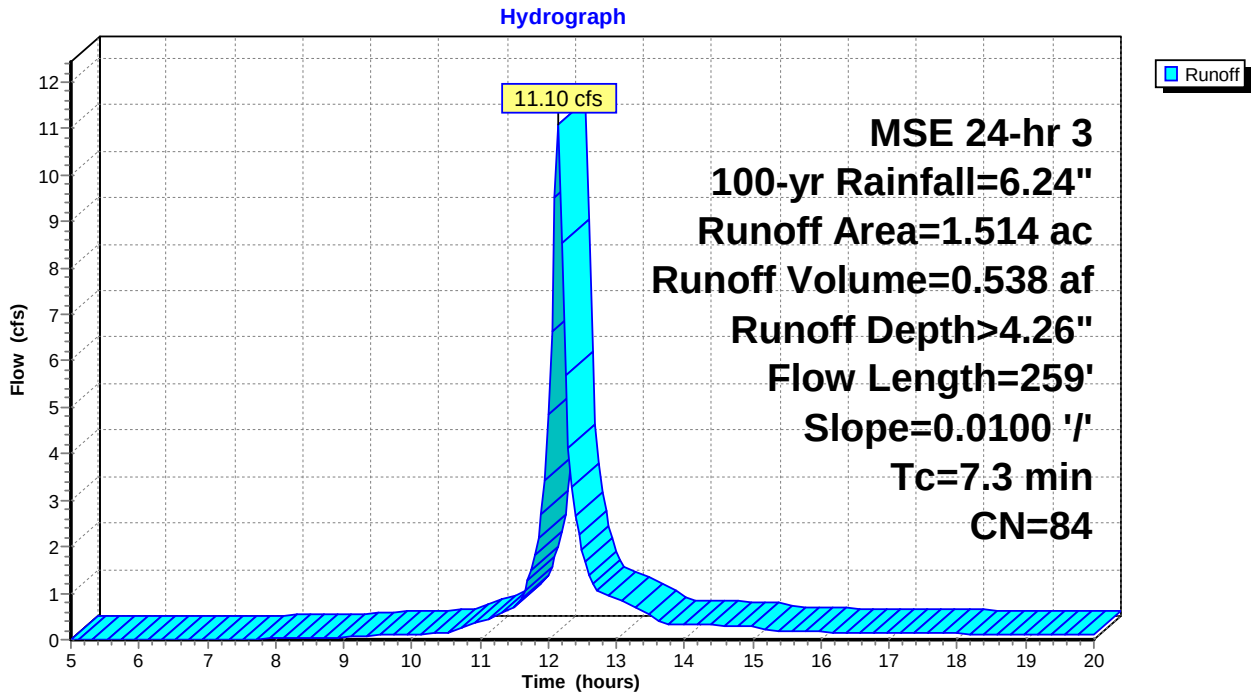
Runoff = 11.10 cfs @ 12.14 hrs, Volume= 0.538 af, Depth> 4.26"
Routed to Pond 35P : Infiltration Pond E

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-yr Rainfall=6.24"

	Area (ac)	CN	Description
*	0.064	98	Sidewalk
*	0.541	98	Building
*	0.347	98	Pavement
*	0.562	61	Green Space
	1.514	84	Weighted Average
	0.562		37.12% Pervious Area
	0.952		62.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	39	0.0100	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.70"
0.7	220	0.0100	5.26	6.46	**Pipe Channel, RCP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
7.3	259	Total			

Subcatchment 34S: Lang - POST DEV EAST



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Summary for Pond 32P: Infiltration Pond W

Inflow Area = 1.017 ac, 42.38% Impervious, Inflow Depth > 3.54" for 100-yr event
Inflow = 6.30 cfs @ 12.15 hrs, Volume= 0.300 af
Outflow = 0.41 cfs @ 13.32 hrs, Volume= 0.249 af, Atten= 93%, Lag= 70.3 min
Discarded = 0.41 cfs @ 13.32 hrs, Volume= 0.249 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 924.06' @ 13.32 hrs Surf.Area= 4,941 sf Storage= 7,343 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 139.4 min (918.2 - 778.8)

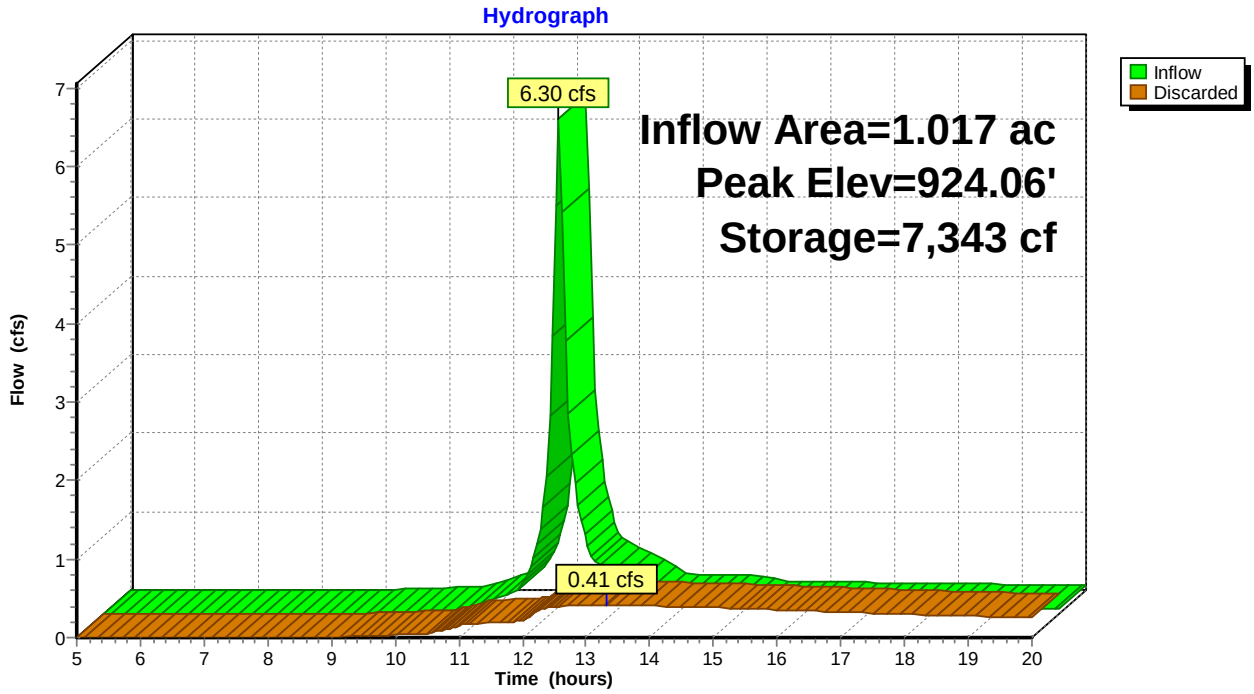
Volume	Invert	Avail.Storage	Storage Description
#1	921.90'	19,484 cf	**Infiltration Pond West (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
921.90	2,193	316.4	0	0	2,193
922.00	2,289	324.8	224	224	2,623
923.00	3,294	382.1	2,776	3,000	5,865
924.00	4,838	593.2	4,041	7,042	22,257
925.00	6,647	613.1	5,719	12,760	24,260
925.90	8,327	631.0	6,724	19,484	26,118

Device	Routing	Invert	Outlet Devices
#1	Discarded	921.90'	**3.600 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.41 cfs @ 13.32 hrs HW=924.06' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.41 cfs)

Pond 32P: Infiltration Pond W



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Summary for Pond 35P: Infiltration Pond E

Inflow Area = 1.514 ac, 62.88% Impervious, Inflow Depth > 4.26" for 100-yr event
Inflow = 11.10 cfs @ 12.14 hrs, Volume= 0.538 af
Outflow = 1.59 cfs @ 12.57 hrs, Volume= 0.490 af, Atten= 86%, Lag= 25.3 min
Discarded = 0.48 cfs @ 12.57 hrs, Volume= 0.288 af
Primary = 1.11 cfs @ 12.57 hrs, Volume= 0.202 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 922.99' @ 12.57 hrs Surf.Area= 5,732 sf Storage= 12,179 cf

Plug-Flow detention time= 135.2 min calculated for 0.488 af (91% of inflow)
Center-of-Mass det. time= 107.2 min (875.0 - 767.8)

Volume	Invert	Avail.Storage	Storage Description
#1	920.00'	27,086 cf	**Infiltration Pond East (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
920.00	2,519	329.9	0	0	2,519
921.00	3,536	348.7	3,013	3,013	3,589
922.00	4,612	367.7	4,062	7,075	4,730
923.00	5,745	386.7	5,168	12,243	5,932
924.00	7,208	426.4	6,463	18,706	8,532
925.00	9,609	530.7	8,380	27,086	16,491

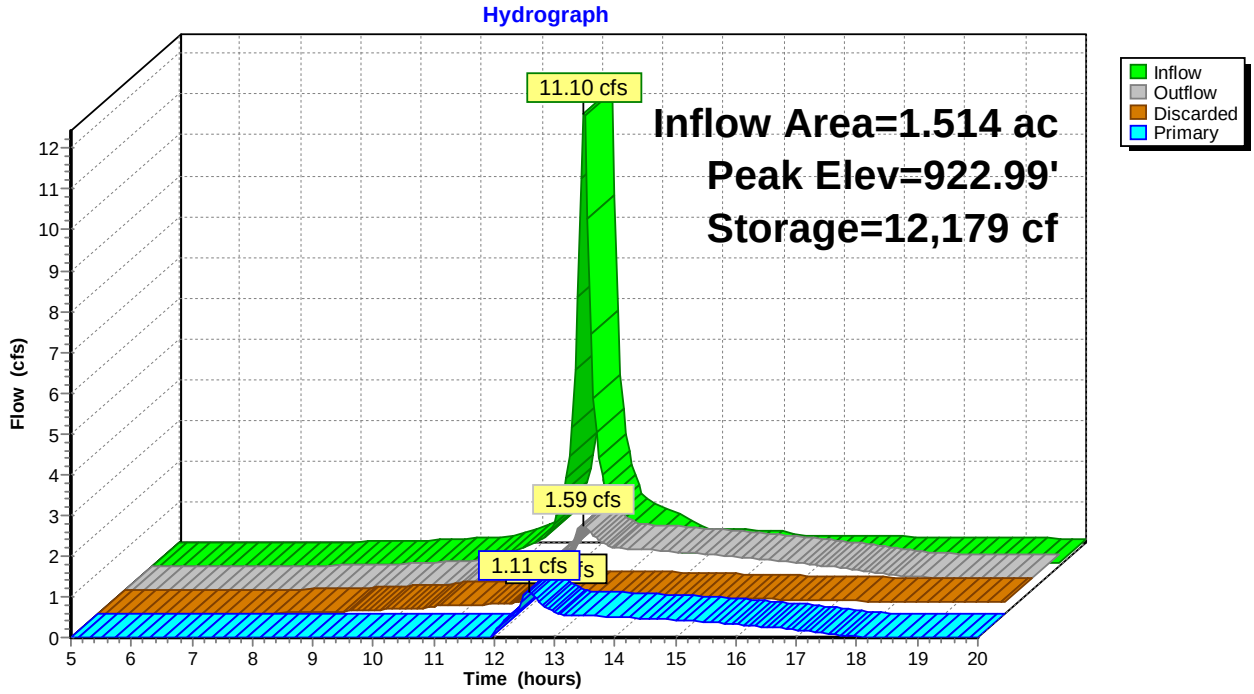
Device	Routing	Invert	Outlet Devices
#1	Device 2	921.00'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	920.00'	**15.0" Round Culvert** L= 50.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 920.00' / 919.34' S= 0.0131 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#3	Discarded	920.00'	**3.600 in/hr Exfiltration over Surface area**
#4	Device 2	922.90'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.48 cfs @ 12.57 hrs HW=922.99' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.48 cfs)

Primary OutFlow Max=1.10 cfs @ 12.57 hrs HW=922.99' (Free Discharge)
└**2=Culvert** (Passes 1.10 cfs of 9.08 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.57 cfs @ 6.50 fps)
  └**4=Orifice/Grate** (Weir Controls 0.53 cfs @ 0.97 fps)

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Pond 35P: Infiltration Pond E

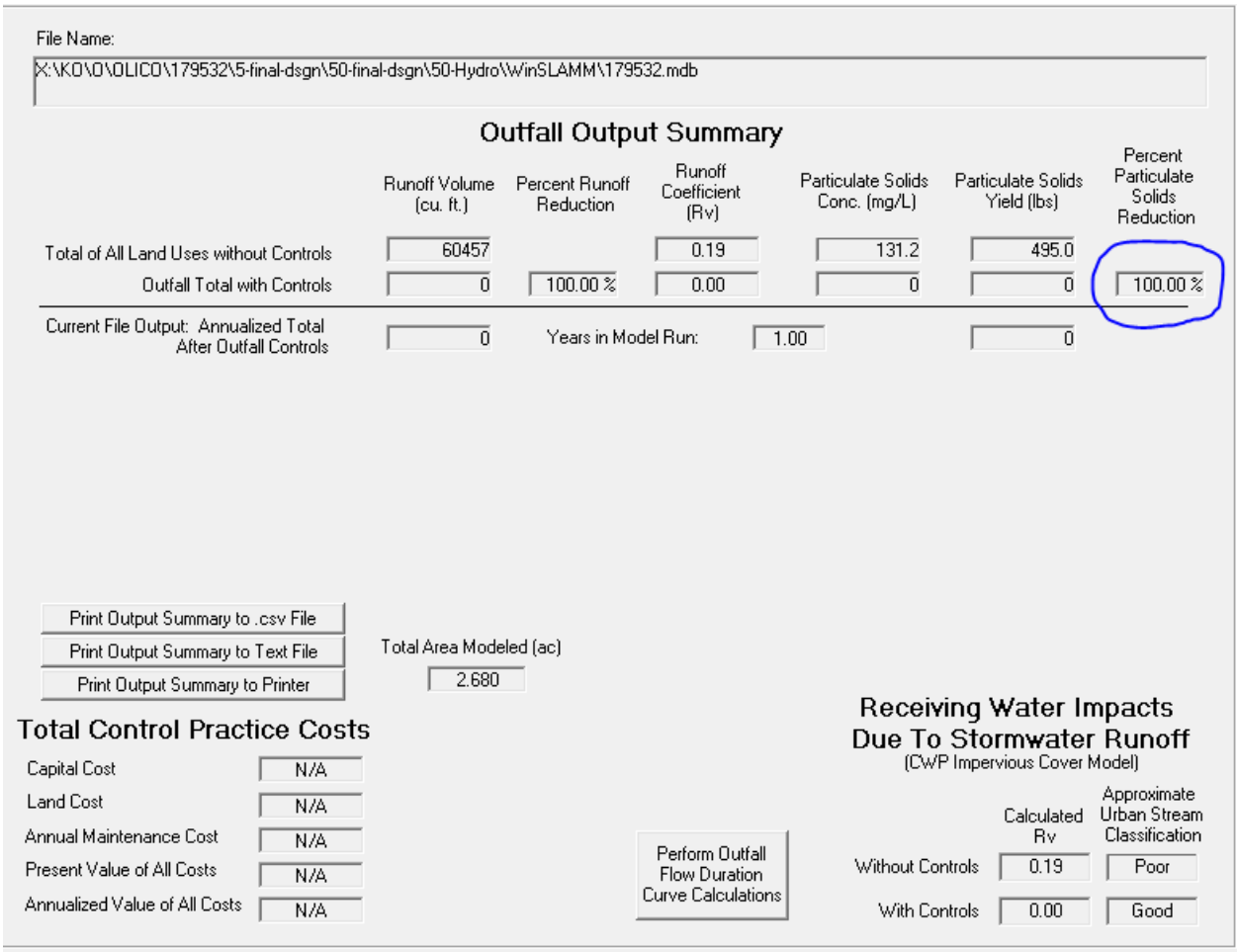


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Appendix D

WinSLAMM Modeling Results

Results:


File Name:
X:\KO\O\OLICO\179532\5-final-dsgn\50-final-dsgn\50-Hydro\WinSLAMM\179532.mdb
Outfall Output Summary
Runoff Volume (cu. ft.)
Percent Runoff Reduction
Runoff Coefficient (Rv)
Particulate Solids Conc. (mg/L)
Particulate Solids Yield (lbs)
Percent Particulate Solids Reduction
Total of All Land Uses without Controls
60457
0.19
131.2
495.0
Outfall Total with Controls
0
100.00 %
0.00
0
0
100.00 %
Current File Output: Annualized Total After Outfall Controls
0
Years in Model Run:
1.00
0
Print Output Summary to .csv File
Print Output Summary to Text File
Print Output Summary to Printer
Total Area Modeled (ac)
2.680
Total Control Practice Costs
Capital Cost
N/A
Land Cost
N/A
Annual Maintenance Cost
N/A
Present Value of All Costs
N/A
Annualized Value of All Costs
N/A
Perform Outfall Flow Duration Curve Calculations
Receiving Water Impacts Due To Stormwater Runoff
(CWP Impervious Cover Model)
Calculated Rv
Approximate Urban Stream Classification
Without Controls
0.19
Poor
With Controls
0.00
Good

Data File: X:\KO\O\OLICO\179532\5-final-dsgn\50-final-dsgn\50-Hydro\WinSLAMM\179532 - Pre Dev.mdb
Rain File: WisReg - Madison WI 1981.RAN
Date: 08-20-24 Time: 11:07:58 AM
Site Description:

Runoff Volume Total (cf) at the Outfall

Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
73	08/28/81	0.04	0	0.000	0.04	n/a	0.000
74	08/31/81	0.03	0	0.000	0.03	n/a	0.000
75	08/31/81	1.52	232.5	0.016	1.50	63.7	0.016
76	09/07/81	0.89	95.61	0.011	0.88	74.1	0.017
77	09/11/81	0.08	0	0.000	0.08	n/a	0.000
78	09/16/81	0.03	0	0.000	0.03	n/a	0.000
79	09/21/81	0.45	24.39	0.006	0.45	84.0	0.003
80	09/24/81	0.90	97.57	0.011	0.89	73.9	0.004
81	09/26/81	0.12	0	0.000	0.12	n/a	0.000
82	09/28/81	0.10	0	0.000	0.10	n/a	0.000
83	09/29/81	0.16	0	0.000	0.16	n/a	0.000
84	09/30/81	0.36	14.51	0.004	0.36	86.5	0.013
85	10/01/81	0.01	0	0.000	0.01	n/a	0.000
86	10/04/81	0.15	0	0.000	0.15	n/a	0.000
87	10/05/81	0.04	0	0.000	0.04	n/a	0.000
88	10/05/81	0.02	0	0.000	0.02	n/a	0.000
89	10/09/81	0.14	0	0.000	0.14	n/a	0.000
90	10/13/81	1.20	164.6	0.014	1.18	68.6	0.011
91	10/15/81	0.02	0	0.000	0.02	n/a	0.000
92	10/17/81	0.95	107.7	0.012	0.94	72.9	0.012
93	10/18/81	0.06	0	0.000	0.06	n/a	0.000
94	10/21/81	0.06	0	0.000	0.06	n/a	0.000
95	10/21/81	0.01	0	0.000	0.01	n/a	0.000
96	10/24/81	0.01	0	0.000	0.01	n/a	0.000
97	10/31/81	0.01	0	0.000	0.01	n/a	0.000
98	11/05/81	0.04	0	0.000	0.04	n/a	0.000
99	11/15/81	0.07	0	0.000	0.07	n/a	0.000
100	11/18/81	0.05	0	0.000	0.05	n/a	0.000
101	11/19/81	0.26	4.057	0.002	0.26	89.4	0.000
102	11/23/81	0.18	0	0.000	0.18	n/a	0.000
103	11/25/81	0.89	95.61	0.011	0.88	74.1	0.004
104	11/30/81	0.37	15.83	0.004	0.37	86.3	0.001
105	12/03/81	-	-	-	-	-	-
106	12/14/81	-	-	-	-	-	-
107	12/20/81	-	-	-	-	-	-
108	12/26/81	-	-	-	-	-	-
109	12/31/81	-	-	-	-	-	-
Minimum:		0.00	0	0.000	0.01	51.6	0.000
Maximum:		2.59	493.3	0.020	2.54	90.0	0.083
Average:		0.26	25.87	0.003	0.26	66.4	0.026
Total:		28.81	2820		28.55		

* Note: NRCS does not recommend using CN method for rains < 0.5 in.
See 'PreDevelopment Areas and CN' Help for more info.

Total infiltration volume required = 75% of the predevelopment runoff volume

Total infiltration volume required = 0.75 * 28.6 in. * (1 ft/12 in.) * (43,560 ft^2/1 acre) * 2.67 acres

Total infiltration volume required = **207,895.5 cf**

Data File: X:\KO\O\OLICO\179532\5-final-dsgn\50-final-dsgn\50-Hydro\WinSLAMM\179532.mdb
Rain File: WisReg - Madison WI 1981.RAN
Date: 08-20-24 Time: 10:50:31 AM
Site Description:

Runoff Volume Total (cf) at the Outfall

Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
73	08/28/81	0.04	0	0.000	0.04	n/a	0.000
74	08/31/81	0.03	0	0.000	0.03	n/a	0.000
75	08/31/81	1.52	0	0.000	1.52	n/a	0.000
76	09/07/81	0.89	0	0.000	0.89	n/a	0.000
77	09/11/81	0.08	0	0.000	0.08	n/a	0.000
78	09/16/81	0.03	0	0.000	0.03	n/a	0.000
79	09/21/81	0.45	0	0.000	0.45	n/a	0.000
80	09/24/81	0.90	0	0.000	0.90	n/a	0.000
81	09/26/81	0.12	0	0.000	0.12	n/a	0.000
82	09/28/81	0.10	0	0.000	0.10	n/a	0.000
83	09/29/81	0.16	0	0.000	0.16	n/a	0.000
84	09/30/81	0.36	0	0.000	0.36	n/a	0.000
85	10/01/81	0.01	0	0.000	0.01	n/a	0.000
86	10/04/81	0.15	0	0.000	0.15	n/a	0.000
87	10/05/81	0.04	0	0.000	0.04	n/a	0.000
88	10/05/81	0.02	0	0.000	0.02	n/a	0.000
89	10/09/81	0.14	0	0.000	0.14	n/a	0.000
90	10/13/81	1.20	0	0.000	1.20	n/a	0.000
91	10/15/81	0.02	0	0.000	0.02	n/a	0.000
92	10/17/81	0.95	0	0.000	0.95	n/a	0.000
93	10/18/81	0.06	0	0.000	0.06	n/a	0.000
94	10/21/81	0.06	0	0.000	0.06	n/a	0.000
95	10/21/81	0.01	0	0.000	0.01	n/a	0.000
96	10/24/81	0.01	0	0.000	0.01	n/a	0.000
97	10/31/81	0.01	0	0.000	0.01	n/a	0.000
98	11/05/81	0.04	0	0.000	0.04	n/a	0.000
99	11/15/81	0.07	0	0.000	0.07	n/a	0.000
100	11/18/81	0.05	0	0.000	0.05	n/a	0.000
101	11/19/81	0.26	0	0.000	0.26	n/a	0.000
102	11/23/81	0.18	0	0.000	0.18	n/a	0.000
103	11/25/81	0.89	0	0.000	0.89	n/a	0.000
104	11/30/81	0.37	0	0.000	0.37	n/a	0.000
105	12/03/81	-	-	-	-	-	-
106	12/14/81	-	-	-	-	-	-
107	12/20/81	-	-	-	-	-	-
108	12/26/81	-	-	-	-	-	-
109	12/31/81	-	-	-	-	-	-
Minimum:		0.00	0	0.000	0.01	9999999.0	0.000
Maximum:		2.59	0	0.000	2.59	0.0	0.000
Average:		0.26	0	0.000	0.26		
Total:		28.81	0		28.81		

* Note: NRCS does not recommend using CN method for rains < 0.5 in.
See 'PreDevelopment Areas and CN' Help for more info.

Total infiltration volume provided = 28.8 in. * (1 ft/12 in.) * (43,560 ft^2/1 acre) * 2.67 acres

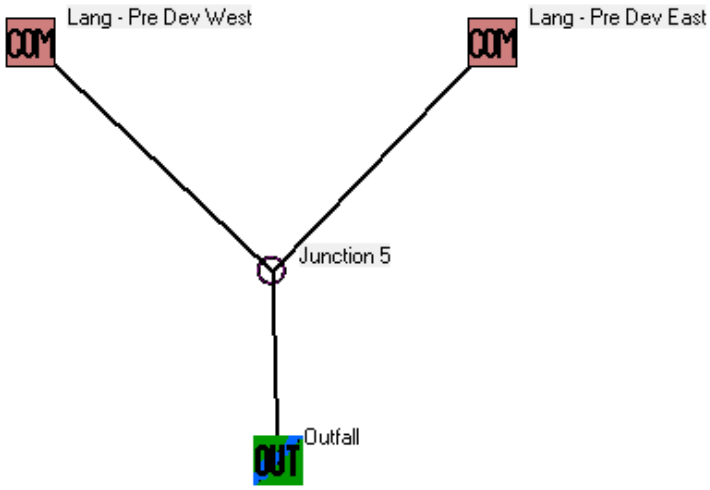
Total infiltration volume provided = **279,132.5 cf**

Total infiltration volume provided (279,132.5 cf) is greater than the total infiltration volume required (207,895.5 cf), therefore the infiltration requirement is met.

Data file name: X:\KO\O\OLICO\179532\5-final-dsgn\50-final-dsgn\50-Hydro\WinSLAMM\179532 - Pre Dev.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 08-20-2024 Time: 10:56:41
Site information:

LU# 1 - Commercial: Lang - Pre Dev East Total area (ac): 1.550
51 - Small Landscaped Areas 1: 1.550 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Lang - Pre Dev West Total area (ac): 1.130
51 - Small Landscaped Areas 1: 1.130 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz



Data file name: X:\KO\O\OLICO\179532\5-final-dsgn\50-final-dsgn\50-Hydro\WinSLAMM\179532.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 08-20-2024 Time: 09:54:00
Site information:

LU# 1 - Commercial: Lang - Infiltration Pond East Total area (ac): 1.550
1 - Roofs 1: 0.540 ac. Pitched Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP
13 - Paved Parking 1: 0.300 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.080 ac. Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.630 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Lang - Infiltration Pond West Total area (ac): 1.130
13 - Paved Parking 1: 0.470 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.010 ac. Disconnected Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.650 ac. Normal Sandy PSD File: C:\WinSLAMM Files\NURP.cpz Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Biofilter CP# 1 (DS) - DS Biofilters # 1
1. Top area (square feet) = 9609
2. Bottom aea (square feet) = 2518
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 3.6
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0
Soil Data Soil Type Fraction in Eng. Soil
Biofilter Outlet/Discharge Characteristics:
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 20
2. Weir crest width (ft): 3
3. Height of datum to bottom of weir opening: 4
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 2.9
Outlet type: Surface Discharge Pipe
1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 1
3. Number of surface pipe outlets: 1

Control Practice 2: Biofilter CP# 2 (DS) - DS Biofilters # 2

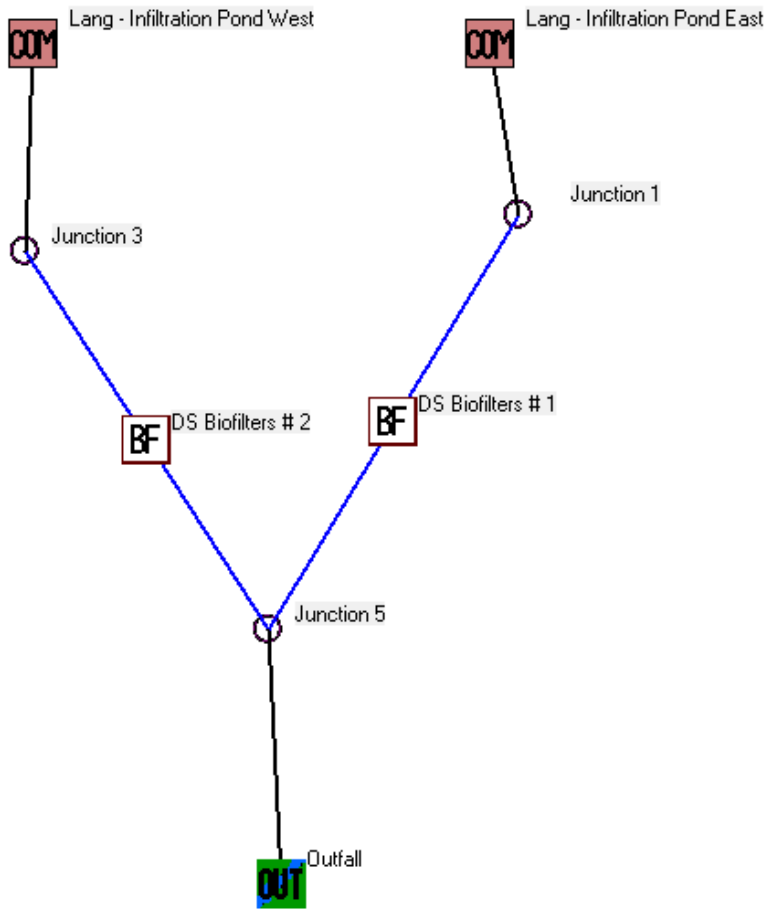
1. Top area (square feet) = 7410
2. Bottom aea (square feet) = 2024
3. Depth (ft): 2.6
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 3.6
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

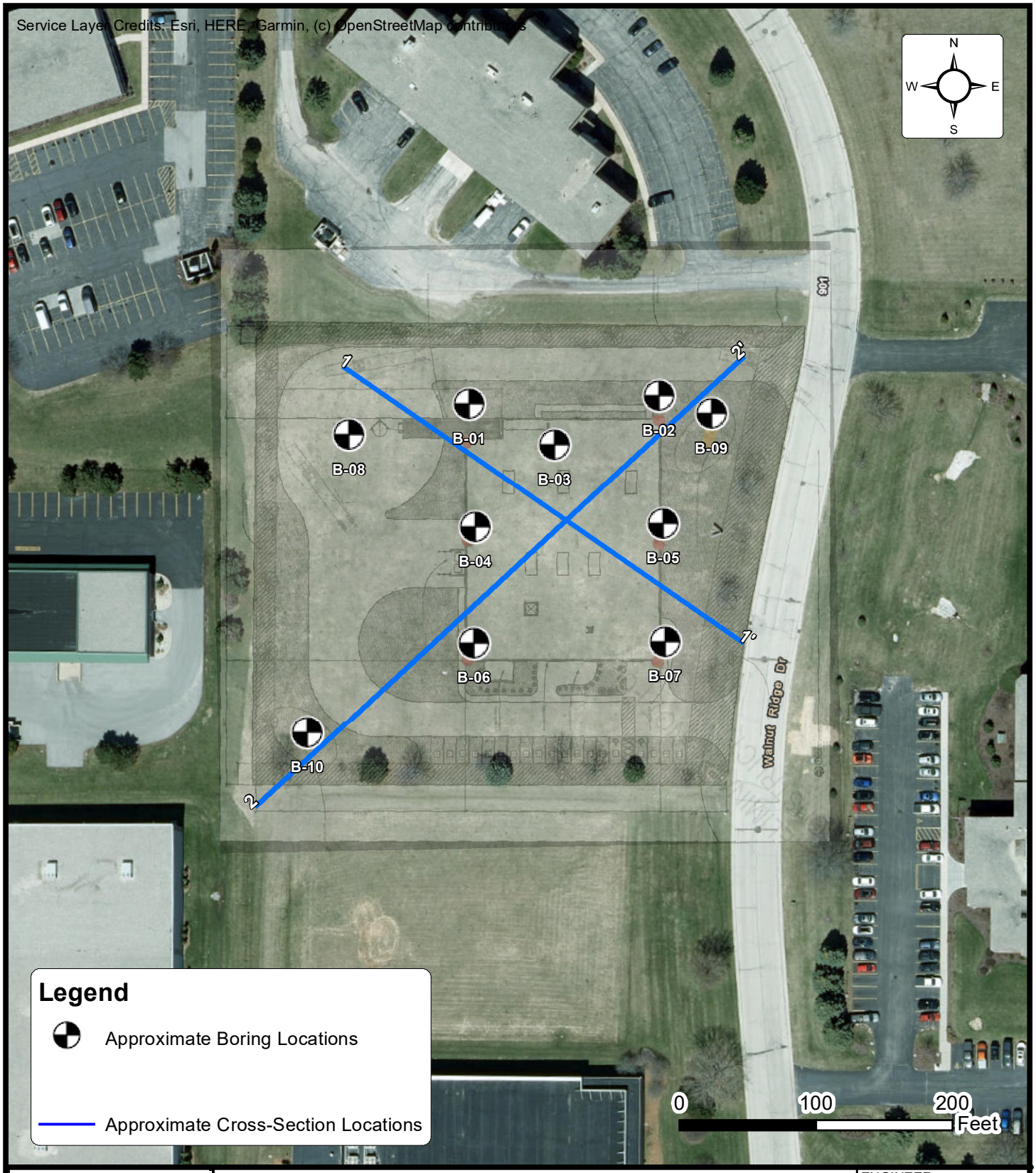
Outlet type: Broad Crested Weir

1. Weir crest length (ft): 0.01
2. Weir crest width (ft): 0.01
3. Height of datum to bottom of weir opening: 2.59



Appendix E

Soils Information

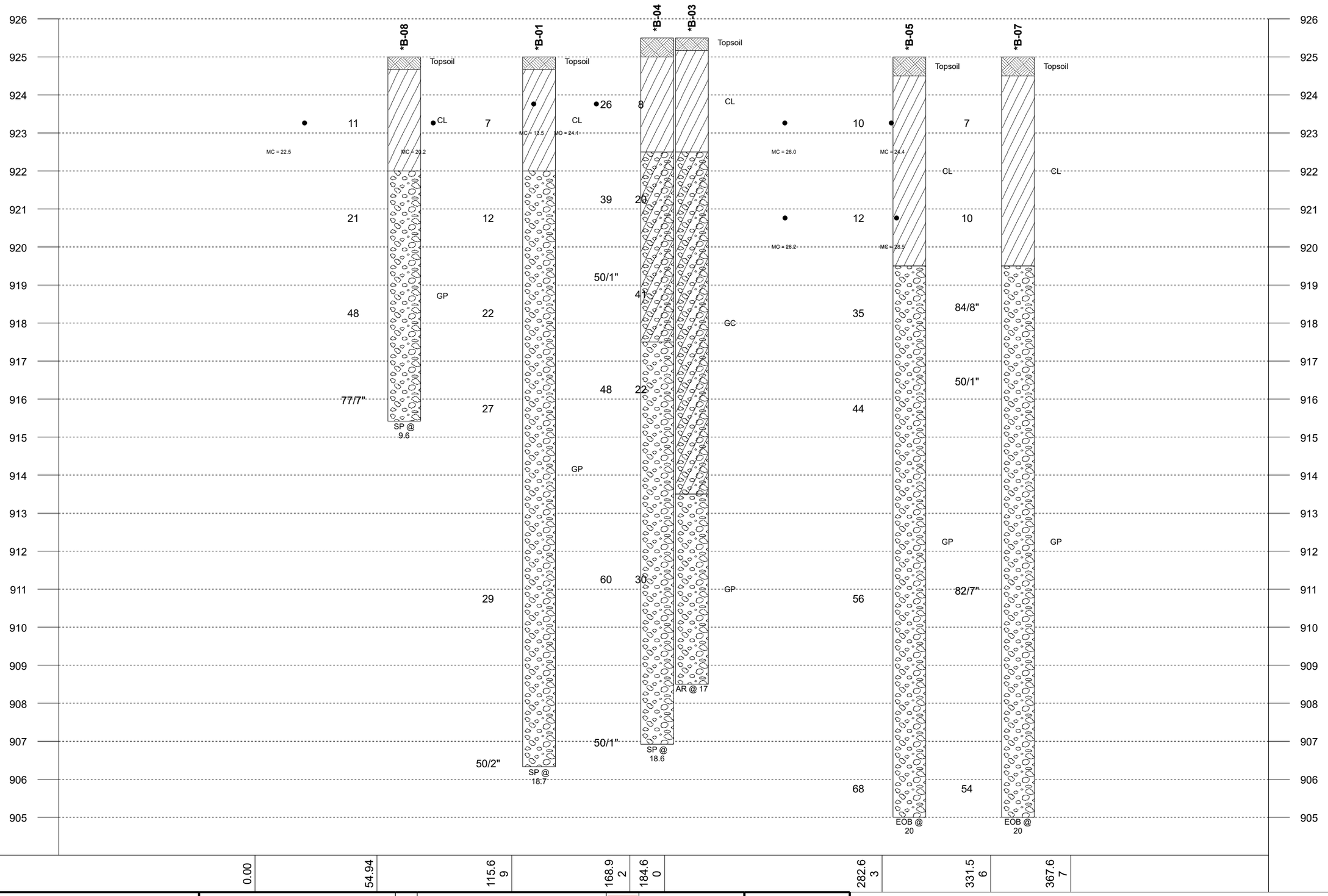


BORING LOCATION DIAGRAM
LANG TECHNOVATION FACILITY

1025 WALNUT RIDGE DRIVE, HARTLAND, WISCONSIN

OLIVER CONSTRUCTION CO.

ENGINEER	DM1
SCALE	AS NOTED
PROJECT NO.	42:2601
FIGURE	1 OF 1
DATE	6/14/2024



Legend Key

- Topsoil
- Lean CLAY
- CLAYEY GRAVEL
- Poorly Graded GRAVEL

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit
X———●———△
[FINES CONTENT %]
BOTTOM OF CASING
100 LOSS OF CIRCULATION
CALIBRATED PENETROMETER

WL (First Encountered)
WL (Completion)
WL (Estimated Seasonal High Water)
WL (Stabilized)

Fill
Possible Fill
Probable Fill
Rock

GENERALIZED SUBSURFACE SOIL PROFILE

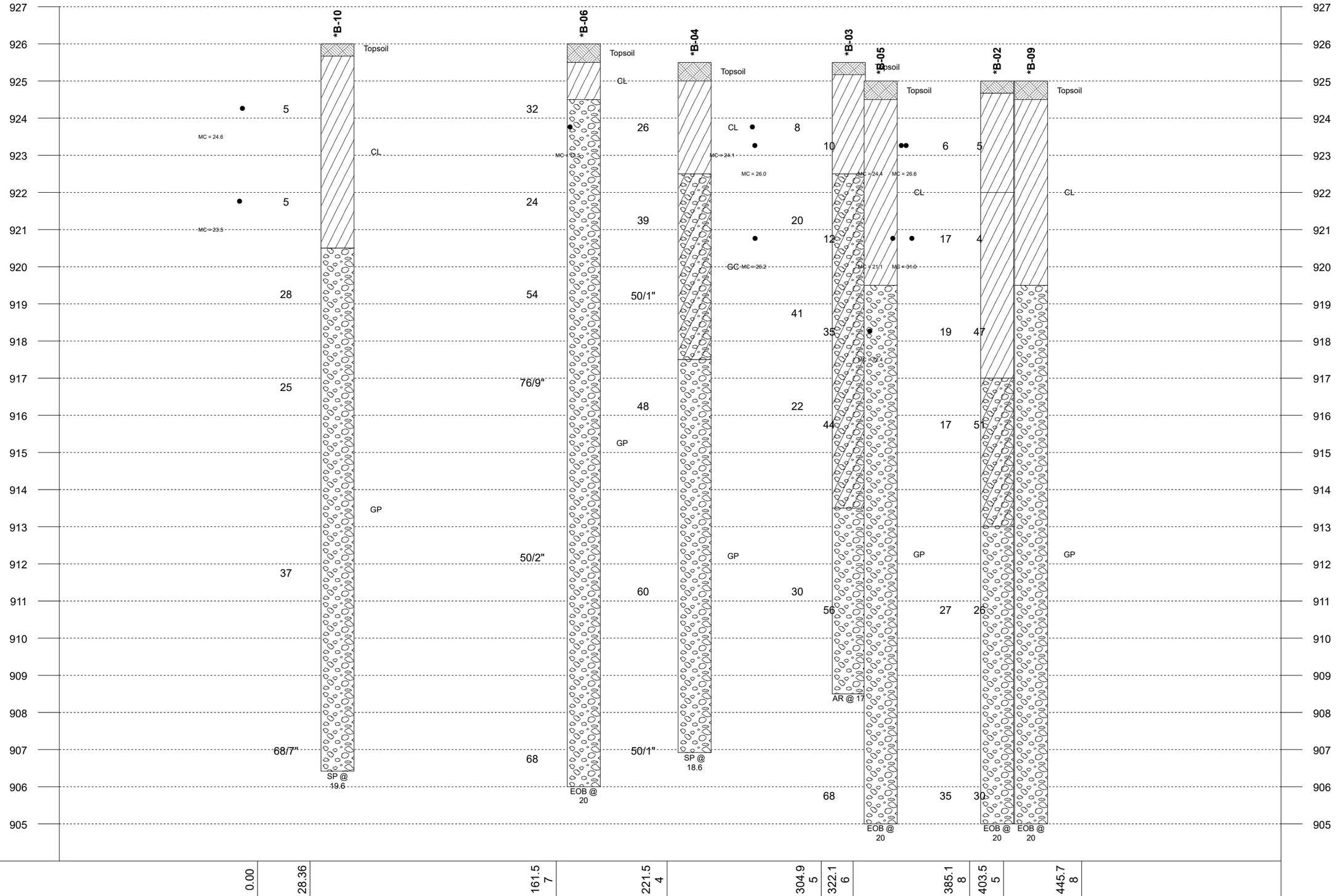
Section line 1

Lang Technovation Facility

Oliver Construction Co.

1025 Walnut Ridge Drive, Hartland, Wisconsin, 53029

Project No: 42:2601 Date: 06/17/2024



Legend Key

- Topsoil
- Lean CLAY
- Poorly Graded GRAVEL
- CLAYEY GRAVEL

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit (X—●—△)	WL (First Encountered)
[FINES CONTENT %]	WL (Completion)
BOTTOM OF CASING	WL (Estimated Seasonal High Water)
LOSS OF CIRCULATION	WL (Stabilized)
CALIBRATED PENETROMETER	

Fill	
Possible Fill	
Probable Fill	
Rock	

GENERALIZED SUBSURFACE SOIL PROFILE

Section line 2

Lang Technovation Facility

Oliver Construction Co.

1025 Walnut Ridge Drive, Hartland, Wisconsin, 53029

Project No: 42:2601 Date: 06/17/2024



SOIL SURVEY MAPPING
LANG TECHNOVATION FACILITY

1025 WALNUT RIDGE DRIVE, HARTLAND, WISCONSIN
OLIVER CONSTRUTION CO.

Engineer	DM
Scale	AS SHOWN
Project No.	42:2601
Figure	1 of 1
Date	6/14/2024

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Oliver Construction Co.	**42:2601**	**B-09**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Lang Technovation Facility	**Professional Testing Service**

SITE LOCATION: **1025 Walnut Ridge Drive, Hartland, Wisconsin, 53029**

LOSS OF CIRCULATION

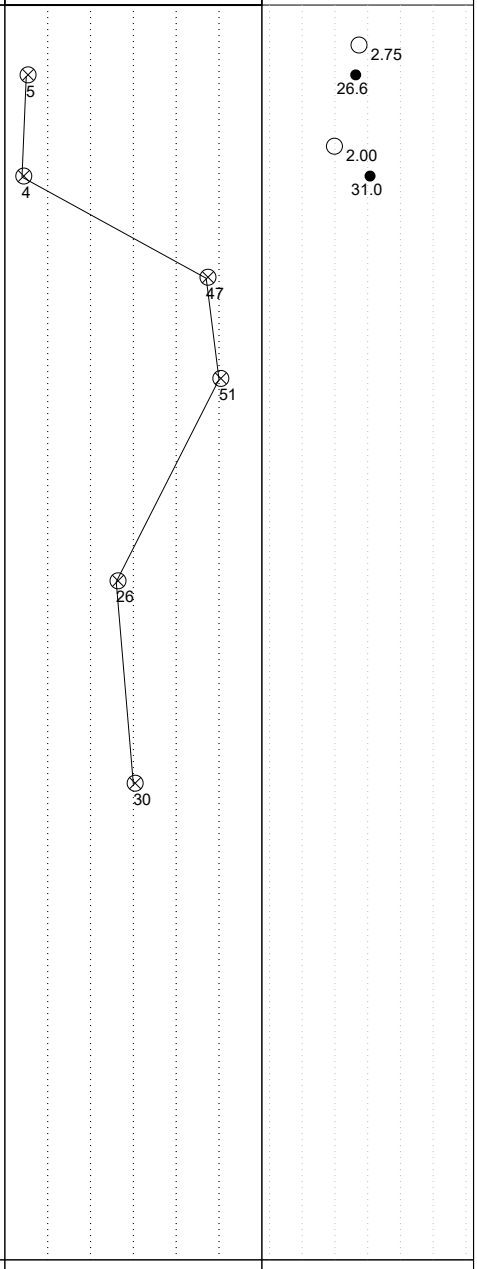
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
43.084314	**-88.355362**		**925.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Topsoil Thickness[6"]			
	S-1	SS	18	16	(CL) LEAN CLAY, trace sand, dark yellowish brown, moist, very stiff			2-2-3 (5)
	S-2	SS	18	16				1-2-2 (4)
5							920	
	S-3	SS	18	8	(GP) GRAVEL WITH SAND, trace silt, brown, moist, medium dense to very dense, contains cobbles			15-20-27 (47)
	S-4	SS	18	6				12-22-29 (51)
10							915	
	S-5	SS	18	16				9-11-15 (26)
15							910	
	S-6	SS	18	2				11-13-17 (30)
20					**END OF BORING AT 20 FT**		905	
25							900	
30							895	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50; 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**none**	BORING STARTED: **Jun 12 2024**	CAVE IN DEPTH:
▼ WL (Completion)	**Dry**	BORING COMPLETED: **Jun 12 2024**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Geoprobe 7822DT** / LOGGED BY: **DM1**	DRILLING METHOD: **Hollow Stem Auger**
▽ WL (Stabilized)			

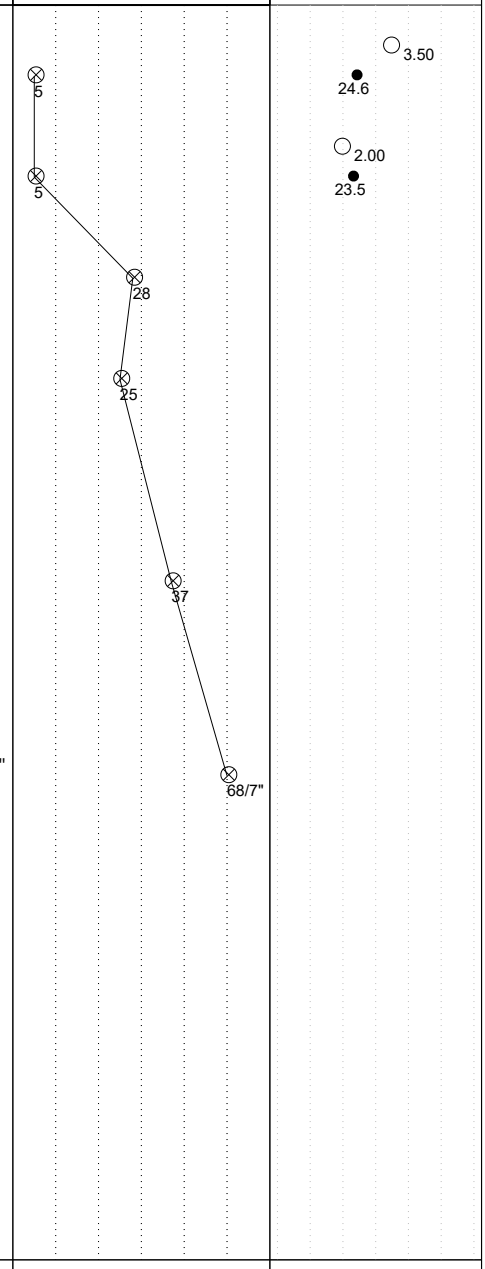
GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Oliver Construction Co.	**42:2601**	**B-10**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Lang Technovation Facility	**Professional Testing Service**		
SITE LOCATION: **1025 Walnut Ridge Drive, Hartland, Wisconsin, 53029**			LOSS OF CIRCULATION
LATITUDE: **43.083688**	LONGITUDE: **-88.356487**	STATION:	SURFACE ELEVATION: **926.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
0					Topsoil Thickness[4"]		
	S-1	SS	18	18	(CL) LEAN CLAY, trace sand, dark yellowish brown, moist, very stiff		3-2-3 (5)
	S-2	SS	18	18			2-2-3 (5)
5						921	
	S-3	SS	18	10	(GP) GRAVEL WITH SAND, trace silt, brown, moist, medium dense to very dense, contains cobbles		10-13-15 (28)
	S-4	SS	18	4			8-11-14 (25)
10						916	
	S-5	SS	18	4			12-16-21 (37)
15						911	
	S-6	SS	13	1			12-18-50/1" (68/7")
20					**SPOON REFUSAL AT 19.6 FT**	906	
25						901	
30						896	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50 / 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)



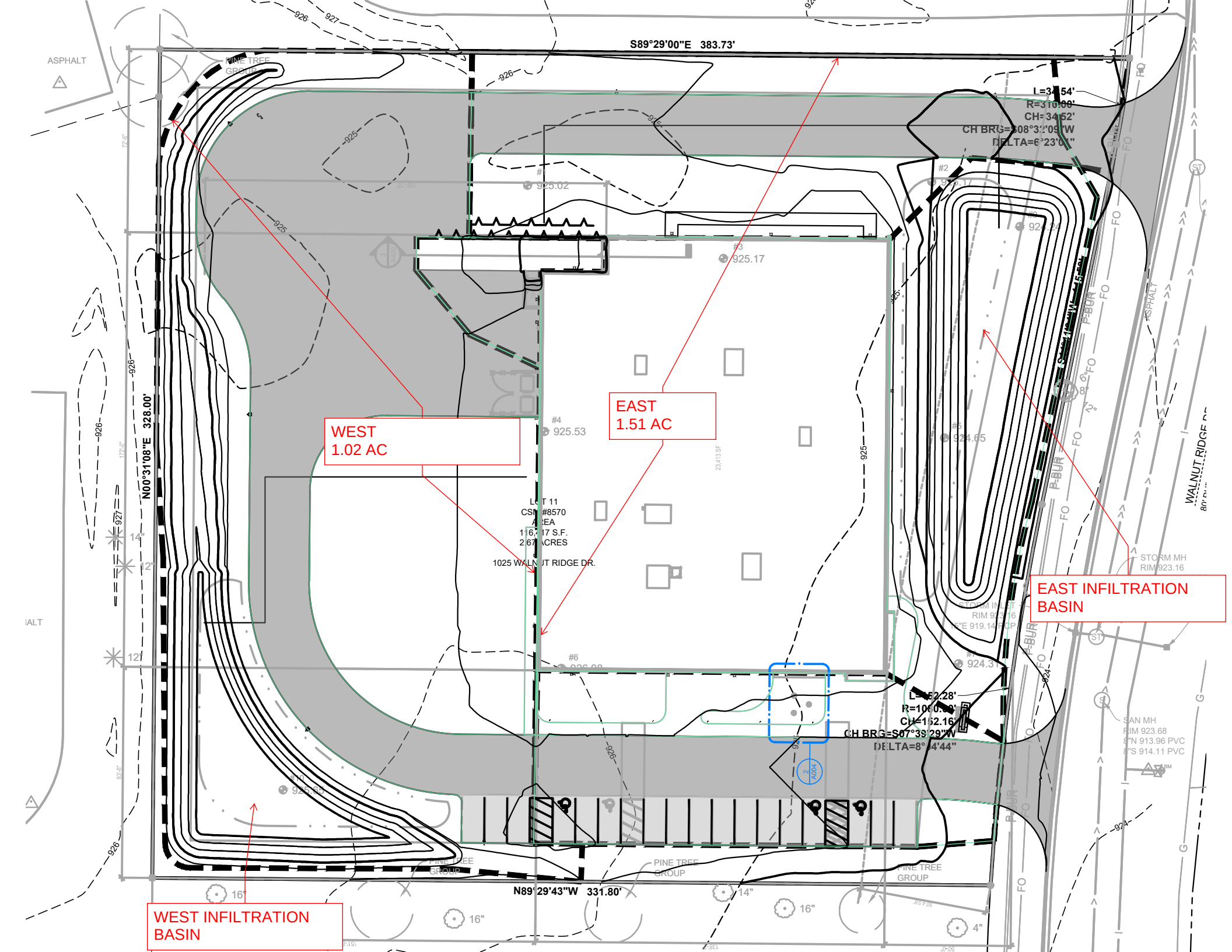
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**none**	BORING STARTED: **Jun 12 2024**	CAVE IN DEPTH:
▼ WL (Completion)	**Dry**	BORING COMPLETED: **Jun 12 2024**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Geoprobe 7822DT** / LOGGED BY: **DM1**	DRILLING METHOD: **Hollow Stem Auger**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

Appendix F

Watershed Map


S89°29'00"E 383.73'
N00°31'08"E 328.00'
N89°29'43"W 331.80'
WEST
1.02 AC
EAST
1.51 AC
WEST INFILTRATION BASIN
EAST INFILTRATION BASIN
LOT 11
CSM #8570
AREA
116,217 S.F.
2.67 ACRES
1025 WALNUT RIDGE DR.
WALNUT RIDGE DR
ASPHALT
PINE TREE GROUP
STORM MH
RIM 923.16
SAN MH
RIM 923.68
8"N 913.96 PVC
8"S 914.11 PVC
STORM INLET
RIM 923.16
P-BUR
FO
ST
SAN
925.02
925.17
925.53
924.65
924.37
925.85



Building a Better World for All of Us®

Sustainable buildings, sound infrastructure, safe transportation systems, clean water, renewable energy and a balanced environment. Building a Better World for All of Us communicates a companywide commitment to act in the best interests of our clients and the world around us.

We're confident in our ability to balance these requirements.

SEH

AGREEMENT TO MAINTAIN
STORMWATER FACILITIES
BY AND BETWEEN
THE VILLAGE OF HARTLAND AND
_____, AND
ITS HEIRS, SUCCESSORS, OR ASSIGNS

The upkeep and maintenance of stormwater facilities and the implementation of pollution source control best management practices (BMPs) is essential to the protection of water resources in the Village of Hartland. All property owners are expected to conduct business in a manner that minimizes impacts of stormwater runoff. This Agreement contains specific provisions with respect to maintenance of stormwater facilities. The authority to require maintenance and pollution source control is provided in the Village of Hartland Stormwater Management Zoning Ordinance.

FACILITY LOCATION AND AREA SERVED (Attach Map if Necessary):

1025 Walnut Ridge Drive

This space reserved for recording data

Return To:

Parcel Identification No./Tax Key No.

Tax Key: HAV 0758999039

Whereas, Owner has constructed improvements, including but not limited to, buildings, pavement, and stormwater facilities on the property described above. In order to further the goals of the stormwater management goals of the Village of Hartland, the City and Owner hereby enter into this Agreement. The responsibilities of each party to this Agreement are identified below.

OWNER SHALL:

(1) Implement the stormwater facility maintenance plan included herein as Attachment A.

(2) Implement the stormwater management plan included herein as Attachment B.

(3) Allow the Director of Public Works or designee to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.

(4) Undertake corrective actions required by Village within a reasonable time frame as set by the Director of Public Works.

(5) Maintain a record of steps taken to implement the programs referenced in (1) and (2) above. Record shall be available for inspection by Village staff at Owners business during normal business hours. The record shall catalog the action taken, who took it, when it was done, how it was done, and any problems encountered or follow-on actions recommended.

THE VILLAGE OF HARTLAND SHALL:

(1) Provide technical assistance to Owner in support of its operation and maintenance activities conducted pursuant to its maintenance and source control programs. Said assistance shall be provided upon request, and as Village time and resources permit.

(2) Maintain public records of the results of the site inspections, inform the party responsible for maintenance of the inspection results, and specifically indicate any corrective actions required to bring the storm water management practice into proper working condition.

(3) Notify the Owner of maintenance problems that require correction.

REMEDIES:

(1) If corrective actions required by the Village are not completed within the time set by the Director of Public Works, written notice will be sent to the persons who were given notice stating the Village intention to perform such maintenance and bill the owner for all incurred expenses.

(2) If at any time the Village determines that the existing system creates any imminent threat to public health or welfare, the Director of Public Works may take immediate measures to remedy said threat. No notice to the persons listed in (1), above, shall be required under such circumstances.

(3) The owner grants unrestricted authority to the Village for access to any and all stormwater system features for the purpose of performing maintenance or repair as may become necessary under Remedies (1) and/or (2).

(4) The persons listed in (1), above, shall assume all responsibility for the cost of any maintenance and for repairs to the stormwater facility. Such responsibility shall include reimbursement to the Village within 30 days of the receipt of the invoice for any such work performed. Overdue payments will require payment of interest at the current legal rate for liquidated judgments. If legal action ensues, any costs or fees incurred by the Village will be borne by the parties responsible for said reimbursements.

(5) The owner hereby grants to the Village a lien against the above-described property in an amount equal to the cost incurred by the Village to perform the maintenance or repair work described herein.

This Agreement is intended to protect the value and desirability of the real property described

above and to benefit all the citizens of the Village. It shall run with the land and be binding on all parties having or acquiring from Owner or their successors any right, title, or interest in the property or any part thereof, as well as their title, or interest in the property or any part thereof, as well as their heirs, successors, and assigns. They shall inure to the benefit of each present or future successor in interest of said property or any part thereof, or interest therein, and to the benefit of all citizens of the Village.

_____

_____

STATE OF WISCONSIN)
) ss
COUNTY OF _____)

On this day and year above personally appeared before me, a Notary Public in and for the State of Wisconsin duly commissioned and sworn, personally appeared _____, to me known to be the _____ of _____ and acknowledge the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that _____ is authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal the day and year first above written.

_____

Notary Public in and for the State of
Wisconsin, residing in _____

My Commission Expires: _____

Dated at Hartland, Wisconsin, this _____ day of _____, _____.

VILLAGE OF HARTLAND

By:_____
Authorized Agent for the Village of Hartland

ATTACHMENT A

STORMWATER FACILITY MAINTENANCE PLAN

Infiltration Basin

To ensure the proper function of storm water infiltration basin, the following list of maintenance activities are recommended:

1. A minimum of 70% soil cover made up of native grasses must be maintained on the basin bottom to ensure infiltration rates. Periodic burning or mowing is recommended to enhance establishment of the prairie grasses (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
    - For the first year, cut to a 6" height three times – once each in June, July and early August. To prevent damage to the native grasses, do not mow below a 6" height. Remove excessive accumulation of clippings to avoid smothering next year's seedlings.
    - After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12" to avoid damage to the warm season plants.
    - Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (mid-late May) provide maximum stimulus to warm season grasses and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.

   Any major bare areas or areas taken over by nonnative species must be reseeded. To clear area of weeds and cool season grasses, treat with an herbicide that contains glysophosphate in accordance with manufacture's instructions. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. Seed with Big Bluestem, Indian Grass, Little Blue Stem or Switchgrass (preferably an equal mix of all four types). A companion crop of oats is recommended. Seed must be placed at a depth of 1/4 – 1/2" and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of mulch and staked erosion control netting to hold it in place until germination. For other planting details, see NRCS standard 342 (Critical Area Planting).
2. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
3. The basin and all components (grass swales, forebay, inlets, outlets, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the basin is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
    - If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed. Deep tillage will cut through the underlying soils at a 2-3 foot depth, loosening the soil and improving infiltration rates, with minimal disturbance of the surface vegetation. Types of tillage equipment that can be used include a subsoiler or straight, narrow-shanked chisel plow.
    - If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area reseeded in accordance with the notes above.
4. All outlet pipes, stone trenches and other flow control devices must be kept free of debris. Any blockage must be removed immediately.
5. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
6. Heavy equipment and vehicles must be kept off of the bottom and side slopes of infiltration basins to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the basin, resulting in ponding and possible growth of wetland plants.
7. No trees are to be planted or allowed to grow on the earthen berms of the bottom of the basin. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the basin bottom, trees may shade out the native grasses. The basin must be inspected annually and any woody vegetation removed.
8. Grass swales leading to the basin shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.

If floating algae or weed growth becomes a nuisance in the forebay (decay odors, etc.), it must be removed and deposited where it cannot drain back into the basin or forebay. Removal of the vegetation from the water reduces regrowth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.

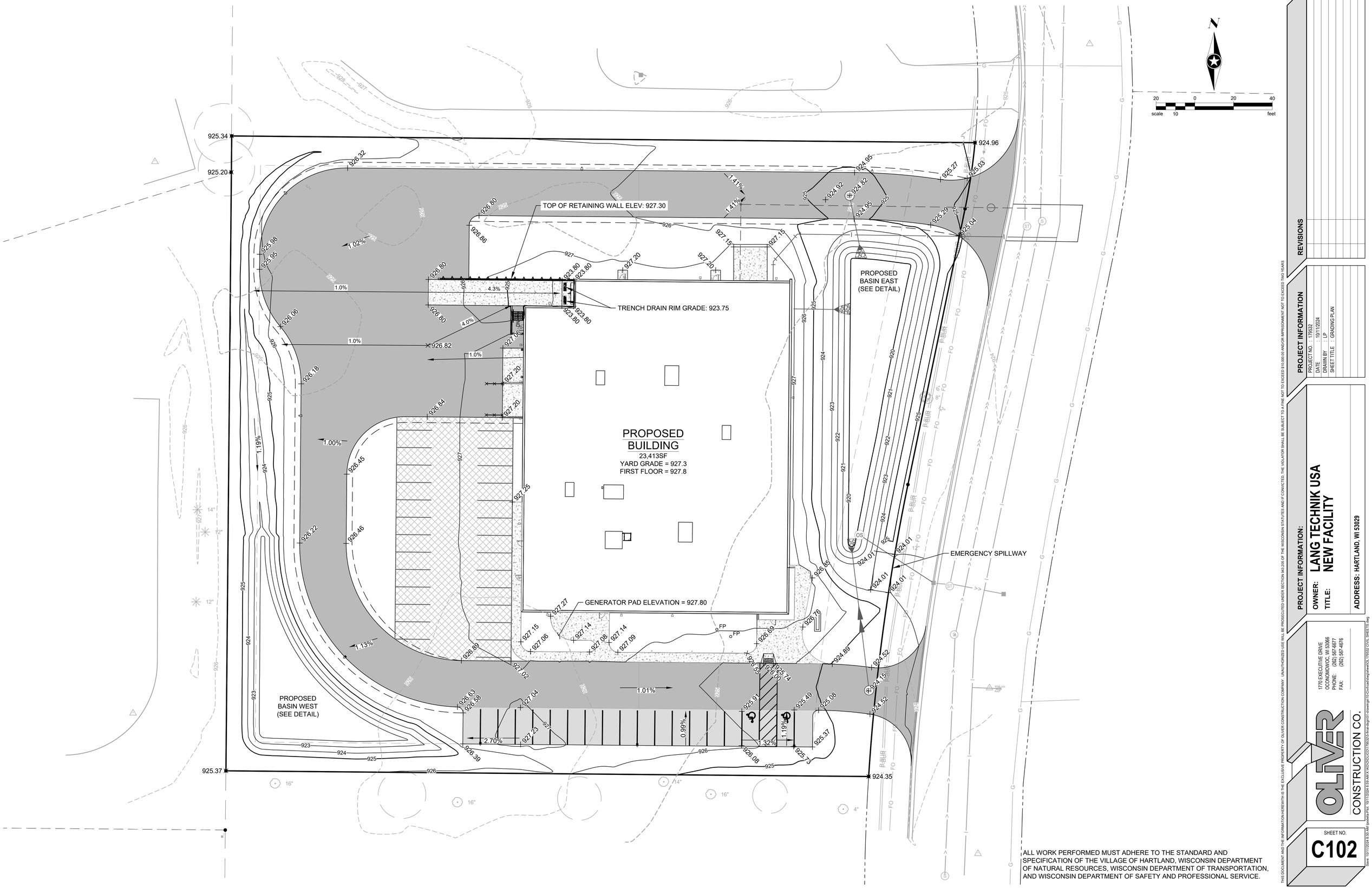
9. When sediment in the upstream wet ponds has accumulated to an elevation of three feet below the outlet elevation, it must be removed. All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the basin. Failure to remove sediment may cause resuspension of previously trapped sediments and increase deposition in the infiltration basin.
10. No grading or filling of the basin or berms other than for sediment removal is allowed.
11. Periodic mowing of the grass swales will encourage rigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife.
12. Any other repair or maintenance needed to ensure the continued function of the infiltration basin as ordered by the Village of Sussex under the provisions listed on page 1 & 2 of this Agreement

Open Space Prairie/Grass Swales

To ensure the proper function of grass swales, the following list of maintenance activities are recommended:

1. It is desired to maintain a sufficient amount of native grasses soil cover in the grass swale areas in the open space Outlots. Periodic mowing is recommended to enhance establishment of the prairie grasses (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
    - For the first year, cut to a 6" height three times – once each in June, July and early August. To prevent damage to the native grasses, do not mow below a 6" height. Remove excessive accumulation of clippings to avoid smothering next year's seedlings.
    - After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12" to avoid damage to the warm season plants.
    - Burning may also be used to manage weeds in 2-5 years intervals, if/as permitted by the Village. Late spring burns (mid-late May) provide maximum stimulus to warm season grasses and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.
    - Any major bare areas or areas taken over by nonnative species are recommended to be reseeded. To clear area of weeds and cool season grasses, treat with an herbicide that contains glysophosphate in accordance with manufacturer's instructions. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. Seed with Big Bluestem, Indian Grass, Little Blue Stem or Switchgrass (preferably an equal mix of all four types). A companion crop of oats is recommended. Seed must be placed at a depth of 1/4 – 1/2" and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of mulch and staked erosion control netting to hold it in place until germination. For other planting details, see NRCS standard 342 (Critical Area Planting).
2. The grass swales should be inspected after each heavy rain, but at a minimum of once per year
3. All drainage swales should be kept free of debris. Any blockage must be removed immediately.
4. Grass swales leading to the storm water ponds shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans.

ATTACHMENT B: STORMWATER MANAGEMENT PLAN



ALL WORK PERFORMED MUST ADHERE TO THE STANDARD AND SPECIFICATION OF THE VILLAGE OF HARTLAND, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, WISCONSIN DEPARTMENT OF TRANSPORTATION, AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICE.

REVISIONS

PROJECT INFORMATION
PROJECT NO. : 179322
DATE : 10/11/2024
DRAWN BY : LP
SHEET TITLE : GRADING PLAN

PROJECT INFORMATION:
OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY
ADDRESS: HARTLAND, WI 53029

OLVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-5577
FAX: (262) 567-4016

SHEET NO.
C102

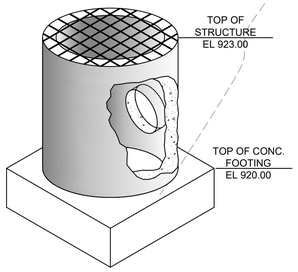
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BASIN WEST DETAIL

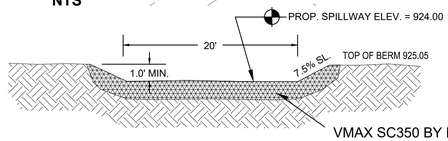
NTS



STRUCTURE CONSTRUCTION NOTES:
1. INSTALL RISER VERTICALLY ON TOP OF GRAVEL BASE
2. POUR FOOTING AROUND BASE OF STRUCTURE (EXTEND 4" BEYOND PIPE EDGE)
3. FILL RISER WITH CONCRETE TO SUMP ELEVATION

BASIN EAST OUTLET STRUCTURE (OS-1) DETAIL

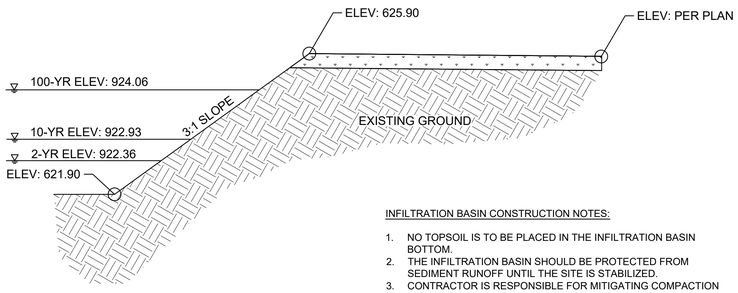
NTS



VMAX SC350 BY NAG (OR EQUAL)
INSTALL MATTING FROM 100 YR W.S. ELEV.
INSIDE BASIN TO TOE OF SLOPE OUTSIDE BASIN
TRM SHALL BE FILLED WITH TOPSOIL AND
OVER-MATTED WITH CLASS II - TYPE 'B' ECRM

BASIN EAST EMERGENCY SPILLWAY DETAIL

NTS

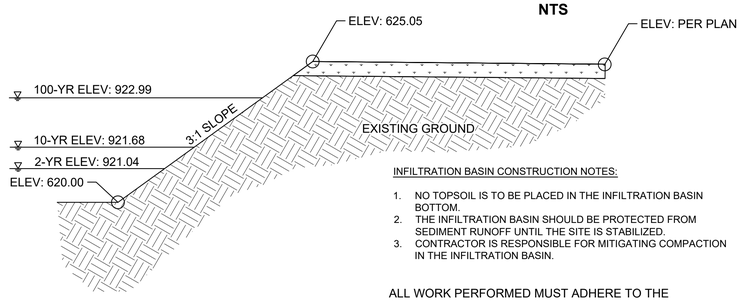


INFILTRATION BASIN CONSTRUCTION NOTES:

1. NO TOPSOIL IS TO BE PLACED IN THE INFILTRATION BASIN BOTTOM.
2. THE INFILTRATION BASIN SHOULD BE PROTECTED FROM SEDIMENT RUNOFF UNTIL THE SITE IS STABILIZED.
3. CONTRACTOR IS RESPONSIBLE FOR MITIGATING COMPACTION IN THE INFILTRATION BASIN.

BASIN WEST CROSS SECTION

NTS



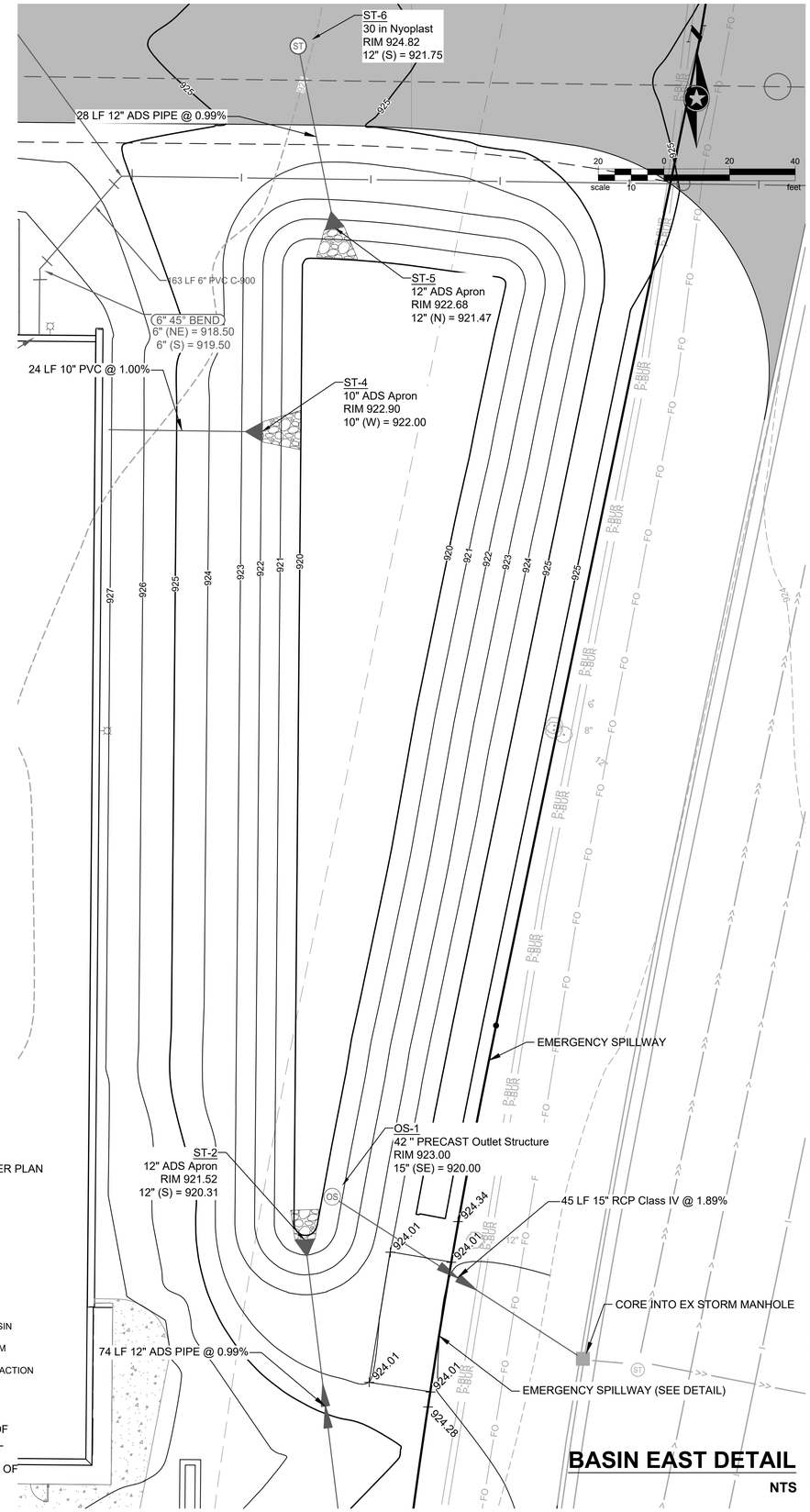
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BASIN EAST CROSS SECTION

NTS

ALL WORK PERFORMED MUST ADHERE TO THE STANDARD AND SPECIFICATION OF THE VILLAGE OF HARTLAND, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, WISCONSIN DEPARTMENT OF TRANSPORTATION, AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICE.



BASIN EAST DETAIL

NTS

REVISIONS

PROJECT INFORMATION

PROJECT NO. : 179322
DATE : 10/11/2024
DRAWN BY : LP
SHEET TITLE : BASIN DETAIL

PROJECT INFORMATION:

OWNER: LANG TECHNIK USA
TITLE: NEW FACILITY

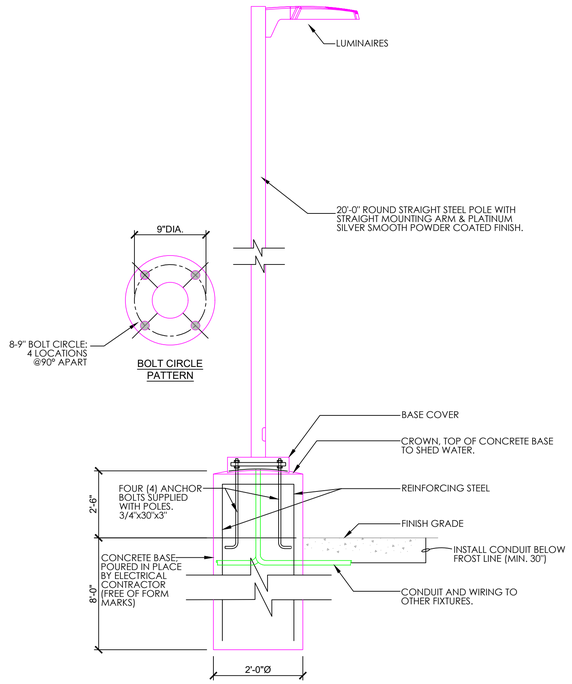
ADDRESS: HARTLAND, WI 53029

OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066
PHONE: (262) 567-6677
FAX: (262) 567-4676

SHEET NO.
C103

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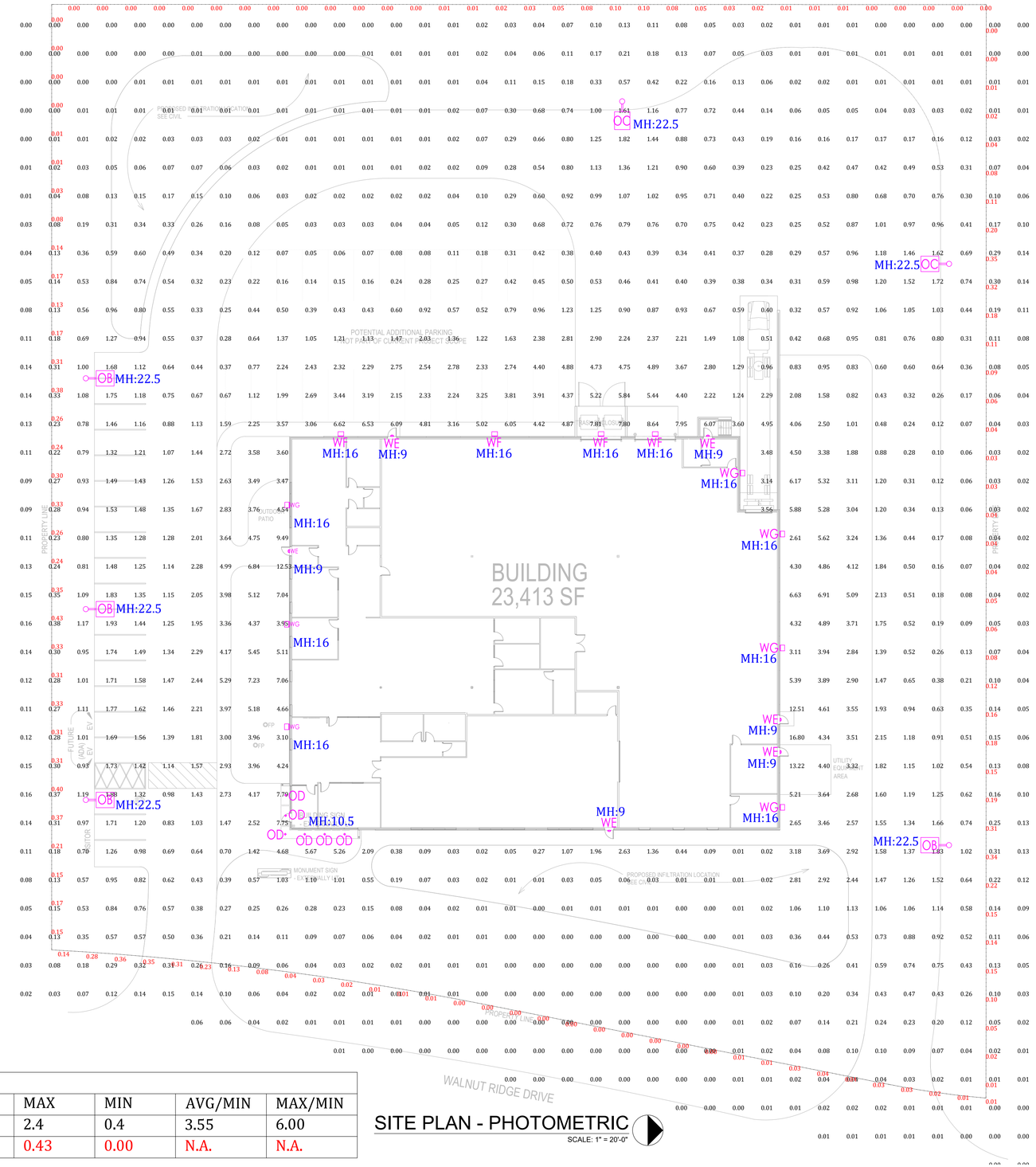
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LIGHTING STANDARD ELEVATION

1

NO SCALE



SITE PLAN - PHOTOMETRIC

SCALE: 1" = 20'-0"

Calculation Summary					
AREA	AVG	MAX	MIN	AVG/MIN	MAX/MIN
Parking Lot, West	1.42	2.4	0.4	3.55	6.00
Property Line	0.10	0.43	0.00	N.A.	N.A.

SITE EXTERIOR LIGHTING FIXTURE SCHEDULE

QTY	TYPE	LAMP DATA TYPE	DESCRIPTION	LIGHTING FIXTURE MAKE	LIGHTING FIXTURE CATALOG NO.	MOUNTING	CEILING TYPE	DIMMING	DRIVER LOCATION	VOLT	SEE NOTE
4	OB	115W LED 15000L 40K	SINGLE LED POLE AREA LIGHT FIXTURE WITH TYPE 3 DISTRIBUTION ON 20' ROUND STRAIGHT STEEL POLE WITH SILVER FINISH	CURRENT LIGHTING	VP-1-160L-115-4K7-3-UNV-A3-PSS + RSSB20-40A-1-B3-PSS	CONC BASE		0-10V	FIXTURE	277	
2	OC	115W LED 15000L 40K	SINGLE LED POLE AREA LIGHT FIXTURE WITH TYPE 4F DISTRIBUTION ON 20' ROUND STRAIGHT STEEL POLE WITH SILVER FINISH	CURRENT LIGHTING	VP-1-160L-115-4K7-4F-UNV-A3-PSS + RSSB20-40A-1-B3-PSS	CONC BASE		0-10V	FIXTURE	277	
6	OD	15W LED 1271L 40K	6" LED ROUND SURFACE MOUNT DOWNLIGHT WITH PAINTABLE TRIM TO MATCH BLUE SOFFIT COLOR	HALO	SMD6R129SWHE + SMD6RTRMWH (PAINTABLE TRIM - CUSTOM BLUE TO MATCH SOFFIT)	SURFACE	CANOPY	ELV	FIXTURE	277	
6	WE	17W LED 1600L 40K	LED WALL SECURITY LIGHT FIXTURE WITH PHOTOCELL/EM BACKUP/INTERNAL HEATER & SILVER FINISH	MULE LIGHTING	MERU-LED-ACEM-NK-IH	WALL @ 9' AFG	-	0-10V	FIXTURE	277	
4	WF	65W LED 8002L 40K	LED WALLPACK AREA LIGHT FIXTURE WITH TYPE 4F DISTRIBUTION & SILVER FINISH	CURRENT LIGHTING	VPW2-80L-65-47K-4F-UNV-PSS	WALL @ 16' AFG	-	0-10V	FIXTURE	277	
7	WG	65W LED 8002L 40K	LED WALLPACK AREA LIGHT FIXTURE WITH TYPE 4F DISTRIBUTION & SILVER FINISH	CURRENT LIGHTING	VPW2-80L-65-47K-4W-UNV-PSS	WALL @ 16' AFG	-	0-10V	FIXTURE	277	

EDGE ELECTRIC

FIRM ADDRESS AND CONTACT:
N29 W23810 WOODGATE CT W - SUITE 100
PEWAUKEE, WI 53072

CONTACT: JAY HUMBERT
TEL: 800.364.3343
EMAIL: JAY@EDGEELECTRICWI.COM

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PROJECT NAME:

LANG TECHNIK

1025 WALNUT RIDGE DRIVE
HARTLAND, WISCONSIN 53029

Revisions

Description	Date

SHEET TITLE:

Site Plan - Photometric

DRAWN BY:

RC

DATE:

10/11/2024

SHEET:

E0P

SITE LIGHTING CUT SHEETS

1025 WALNUT RIDGE DRIVE
HARTLAND, WI 53029

GENERAL CONTRACTOR
OLIVER CONSTRUCTION CO.
1770 EXECUTIVE DRIVE
OCONOMOWOC, WI 53066

BEACON
design . performance . technology

DATE: | LOCATION:

TYPE: OB | PROJECT:

CATALOG #: VP-1-160L-115-4K7-3-UNV-A3-PSS

VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE

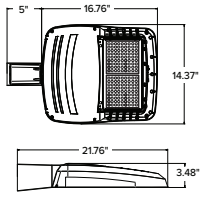


FEATURES

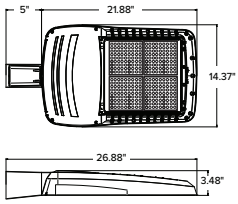
- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65 | DLC LISTED | DLC LISTED PREMIUM | ida DARK SKY APPROVED 2016 | BAA | TAA

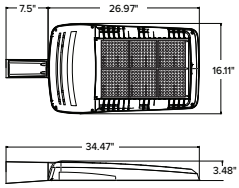
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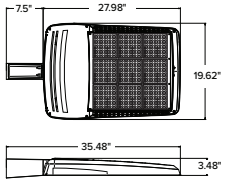
SIZE 2



SIZE 3



SIZE 4



CONTROL TECHNOLOGY

NX CONNECT | NX WIRED | NX WIRELESS | LIGHTGRID+

SERVICE PROGRAMS

STOCK | QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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DATE: | LOCATION:

TYPE: OB | PROJECT:

CATALOG #: VP-1-160L-115-4K7-3-UNV-A3-PSS

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG # VP-1-160L-115-4K7-2-UNV-A3-DBT

VP – [ ] – 1 – 160L-115 – 4K7 – 3 – [ ] – UNV –

Series	
VP	Viper

Optic Platform	
Micro Strike	

Size	
1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine	
160L-35 [6]	5500 lumens
160L-50 [6]	7500 lumens
160L-75	10000 lumens
160L-100	12500 lumens
160L-115	15000 lumens
160L-135	18000 lumens
160L-160	21000 lumens
320L-145	21000 lumens
320L-170	24000 lumens
320L-185	27000 lumens
320L-210	30000 lumens
320L-235	33000 lumens
320L-255	36000 lumens
320L-315 [6]	40000 lumens
480L-285	40000 lumens
480L-320	44000 lumens
480L-340	48000 lumens
480L-390	52000 lumens
480L-425	55000 lumens
480L-470	60000 lumens
720L-435	60000 lumens
720L-475	65000 lumens
720L-515	70000 lumens
720L-565 [6]	75000 lumens
720L-600 [6]	80000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI	
AP	AP-Amber Phosphor Converted
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
3K9	3000K, 90 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution	
2	Type 2
3	Type 3
4F	Type 4 Forward
4W	Type 4 Wide
5QW	Type 5 Square Wide

Optic Rotation	
BLANK	No Rotation
L	Optic rotation left
R	Optic rotation right

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

A3 – PSS – [ ] –

Mounting	
A	Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter)
A_	Arm mount for round pole [2]
ASQU	Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern
A_U	Universal arm mount for round pole [2]
AAU	Adjustable arm for pole mounting (universal drill pattern)
AA_U	Adjustable arm mount for round pole [2]
ADU	Decorative upswept Arm (universal drill pattern)
AD_U	Decorative upswept arm mount for round pole [2]
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle
T	Trunnion
WB	Wall Bracket, horizontal tenon with MAF
WM	Wall mount bracket with decorative upswept arm
WA	Wall mount bracket with adjustable arm

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

Options	
F	Fusing
2PF	Dual Power Feed
2DR	Dual Driver
TE	Tooless Entry
BC	Backlight Control [8]
TB	Terminal Block

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	LightGRID+ In-Fixture Module [3,4]
WIRSC	LightGRID+ Module and Occupancy Sensor [3,4]

Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]

Programmed Controls	
SCP-_F	Sensor Control Programmable, 8F or 40F [9]
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]

Photocontrols	
PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information

2 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole

3 – Networked Controls cannot be combined with other control options

4 – Not available with 2PF option

5 – Not available with Dual Driver option

6 – Some voltage restrictions may apply when combined with controls

7 – Not available with 480V

8 – BC not available on 4F and type 5 distributions

9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

TYPE: OB | PROJECT:

CATALOG #: VP-1-160L-115-4K7-3-UNV-A3-PSS

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

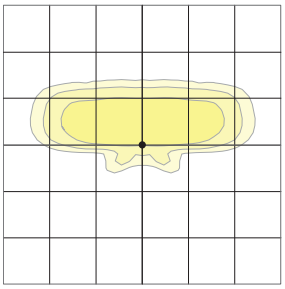
TYPE: OB | PROJECT:

CATALOG #: VP-1-160L-115-4K7-3-UNV-A3-PSS

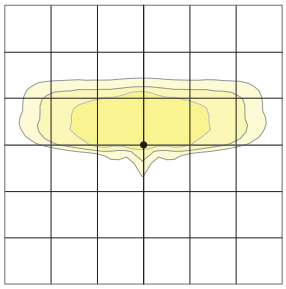
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

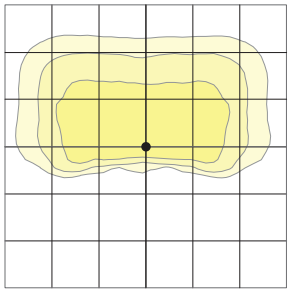
Type 2



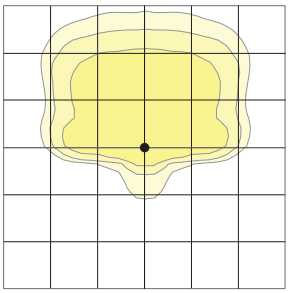
Type 3



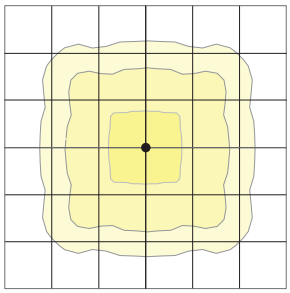
Type 4 Wide



Type 4F



Type 5QW



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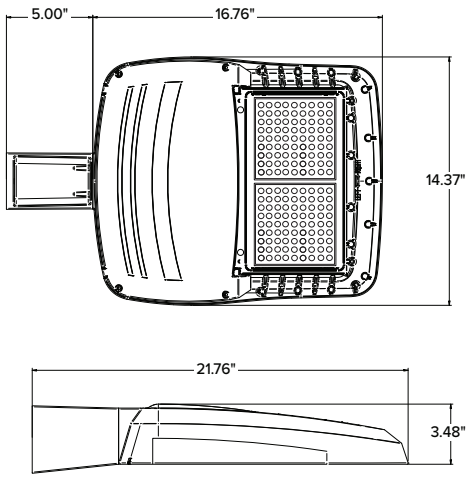
CATALOG #: VP-1-160L-115-4K7-3-UNV-A3-PSS

VIPER Area/Site

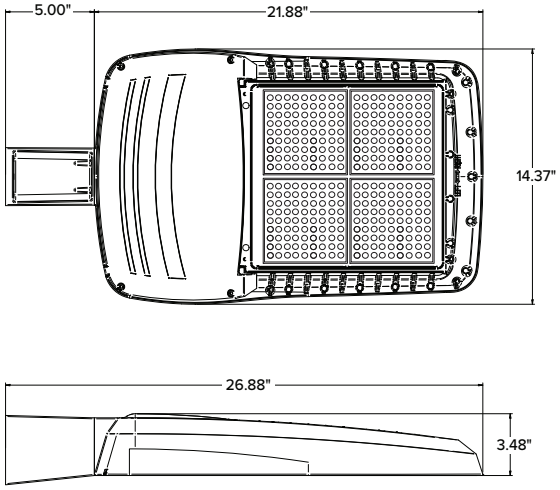
VIPER LUMINAIRE

DIMENSIONS

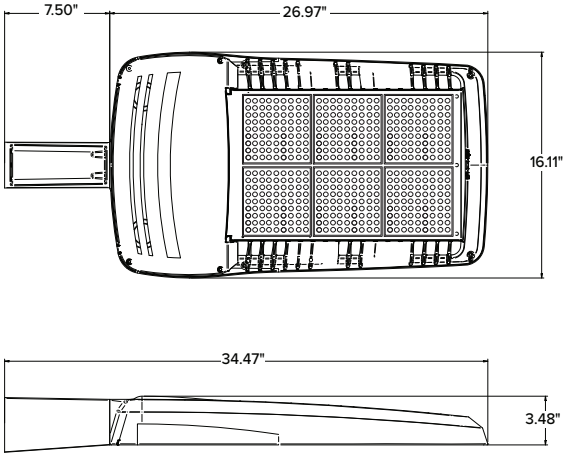
SIZE 1



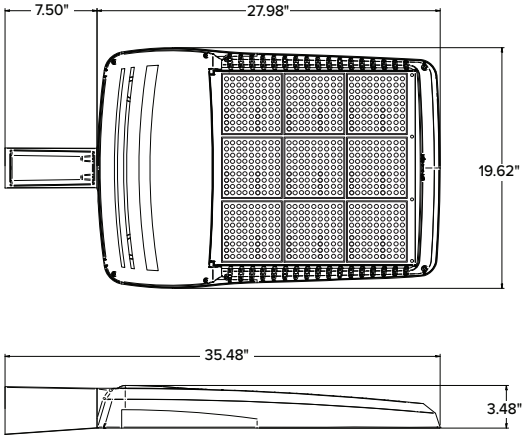
SIZE 2



SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

TYPE: OB | PROJECT:

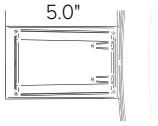
CATALOG #: VP-1-160L-115-4K7-3-UNV-A3-PSS

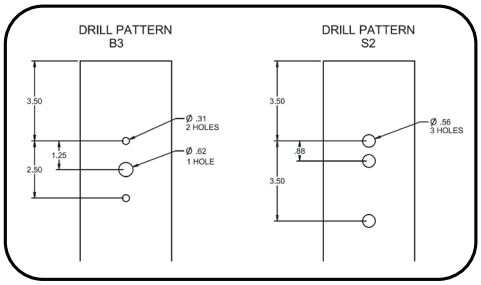
MOUNTING

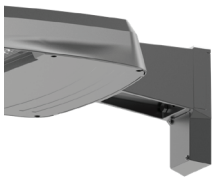


A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

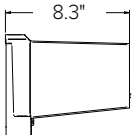


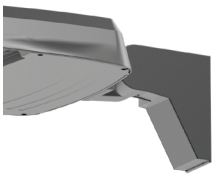




ASQU–UNIVERSAL ARM MOUNT

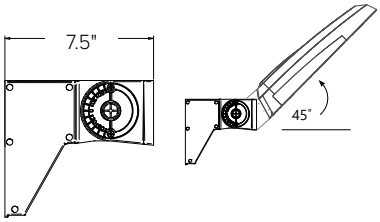
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

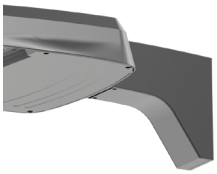




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

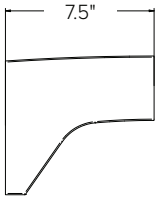
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 5˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

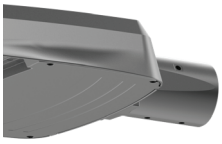




ADU–DECORATIVE UPSWEPT ARM

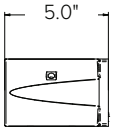
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

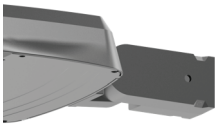




MAF–MAST ARM FITTER

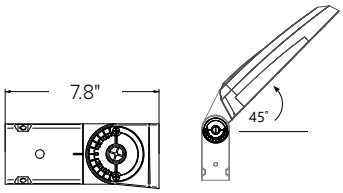
Fits 2-3/8" OD horizontal tenons.

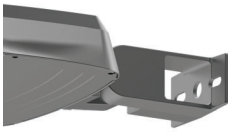




K–KNUCKLE

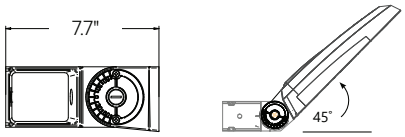
Rotatable in 5-degree aiming angle increments, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





T–TRUNNION

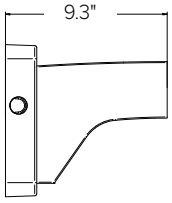
Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



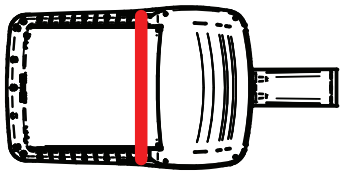
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ADDITIONAL INFORMATION (CONTINUED)

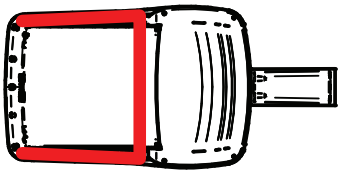
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

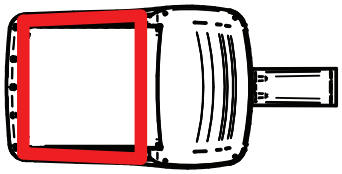
VPR2x HSS-90-B-xx



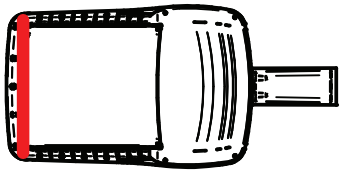
VPR2x HSS-270-BSS-xx



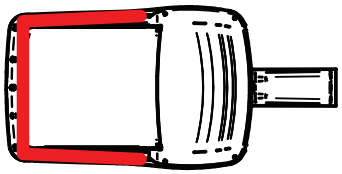
VPR2x HSS-360-xx



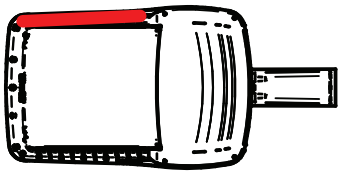
VPR2x HSS-90-F-xx



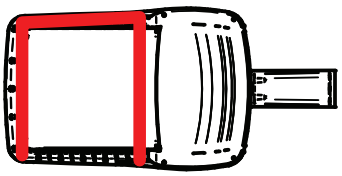
VPR2x HSS-270-FSS-xx



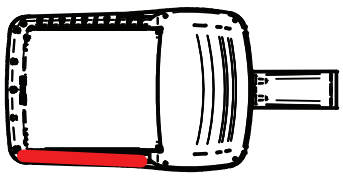
VPR2x HSS-90-S-xx



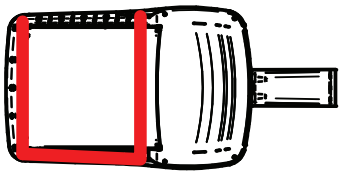
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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DATE: | LOCATION:

TYPE: OC | PROJECT:

CATALOG #: VP-1-160L-115-4K7-4F-UNV-A3-PSS

VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE

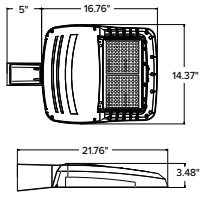


FEATURES

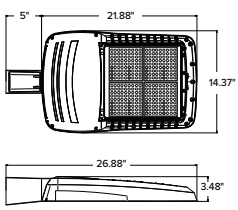
- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65 | DLC LISTED | DLC LISTED PREMIUM | ida DARK SKY APPROVED 2016 | BAA | TAA

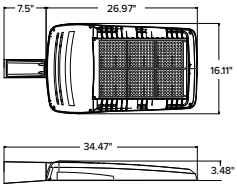
SIZE 1



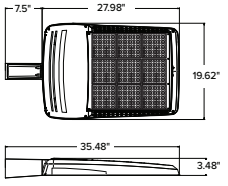
SIZE 2



SIZE 3



SIZE 4



CONTROL TECHNOLOGY

NX CONNECT | NX WIRED | NX WIRELESS | LIGHTGRID+

SERVICE PROGRAMS

STOCK | QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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DATE: | LOCATION:

TYPE: OC | PROJECT:

CATALOG #: VP-1-160L-115-4K7-4F-UNV-A3-PSS

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG # VP-1-160L-115-4K7-2-UNV-A3-DBT

VP – | – 1 – 160L-115 – 4K7 – 3 – | – UNV –

Series	Optic Platform
VP Viper	Micro Strike

Size
1 Size 1
2 Size 2
3 Size 3
4 Size 4

Light Engine	
160L-35 [6]	5500 lumens
160L-50 [6]	7500 lumens
160L-75	10000 lumens
160L-100	12500 lumens
160L-115	15000 lumens
160L-135	18000 lumens
160L-160	21000 lumens
320L-145	21000 lumens
320L-170	24000 lumens
320L-185	27000 lumens
320L-210	30000 lumens
320L-235	33000 lumens
320L-255	36000 lumens
320L-315 [6]	40000 lumens
480L-285	40000 lumens
480L-320	44000 lumens
480L-340	48000 lumens
480L-390	52000 lumens
480L-425	55000 lumens
480L-470	60000 lumens
720L-435	60000 lumens
720L-475	65000 lumens
720L-515	70000 lumens
720L-565 [6]	75000 lumens
720L-600 [6]	80000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI	
AP	AP-Amber Phosphor Converted
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
3K9	3000K, 90 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution	
2	Type 2
3	Type 3
4F	Type 4 Forward
4W	Type 4 Wide
5QW	Type 5 Square Wide

Optic Rotation	
BLANK	No Rotation
L	Optic rotation left
R	Optic rotation right

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

A3 – | – PSS – | – | –

Mounting	
A	Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter)
A_	Arm mount for round pole [2]
ASQU	Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern
A_U	Universal arm mount for round pole [2]
AAU	Adjustable arm for pole mounting (universal drill pattern)
AA_U	Adjustable arm mount for round pole [2]
ADU	Decorative upswept Arm (universal drill pattern)
AD_U	Decorative upswept arm mount for round pole [2]
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle
T	Trunnion
WB	Wall Bracket, horizontal tenon with MAF
WM	Wall mount bracket with decorative upswept arm
WA	Wall mount bracket with adjustable arm

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
Color Option	
CC	Custom Color

Options	
F	Fusing
2PF	Dual Power Feed
2DR	Dual Driver
TE	Tooless Entry
BC	Backlight Control [8]
TB	Terminal Block

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	LightGRID+ In-Fixture Module [3,4]
WIRSC	LightGRID+ Module and Occupancy Sensor [3,4]
Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]
Programmed Controls	
SCP-_F	Sensor Control Programmable, 8F or 40F [9]
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]
Photocontrols	
PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
3 – Networked Controls cannot be combined with other control options
4 – Not available with 2PF option
5 – Not available with Dual Driver option
6 – Some voltage restrictions may apply when combined with controls
7 – Not available with 480V
8 – BC not available on 4F and type 5 distributions
9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

TYPE: OC | PROJECT:

CATALOG #: VP-1-160L-115-4K7-4F-UNV-A3-PSS

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

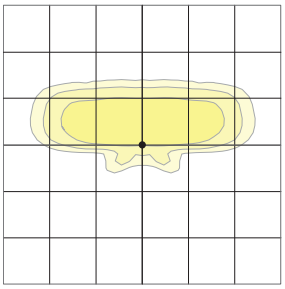
TYPE: OC | PROJECT:

CATALOG #: VP-1-160L-115-4K7-4F-UNV-A3-PSS

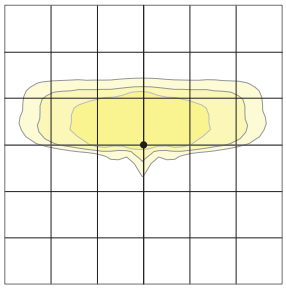
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

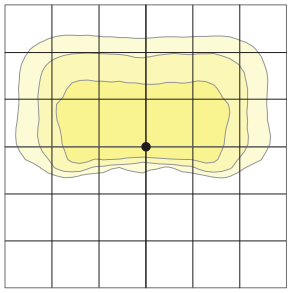
Type 2



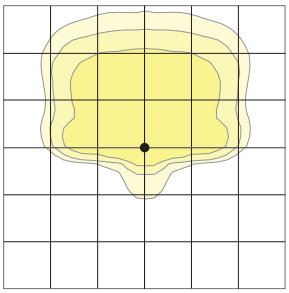
Type 3



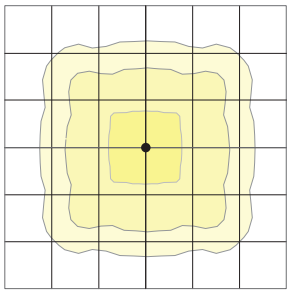
Type 4 Wide



Type 4F



Type 5QW



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VIPER Area/Site

VIPER LUMINAIRE

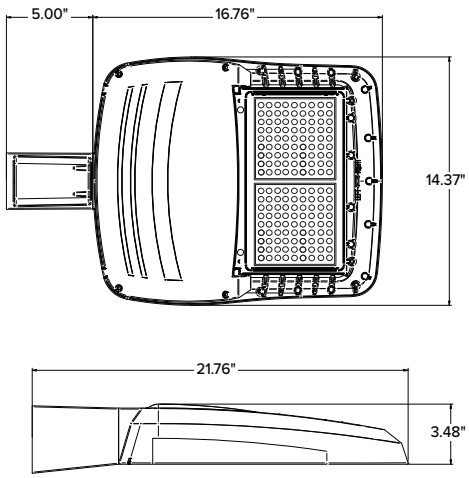
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TYPE: OC | PROJECT:

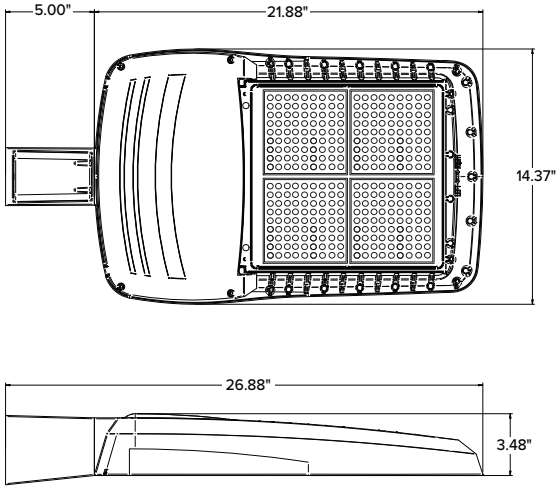
CATALOG #: VP-1-160L-115-4K7-4F-UNV-A3-PSS

DIMENSIONS

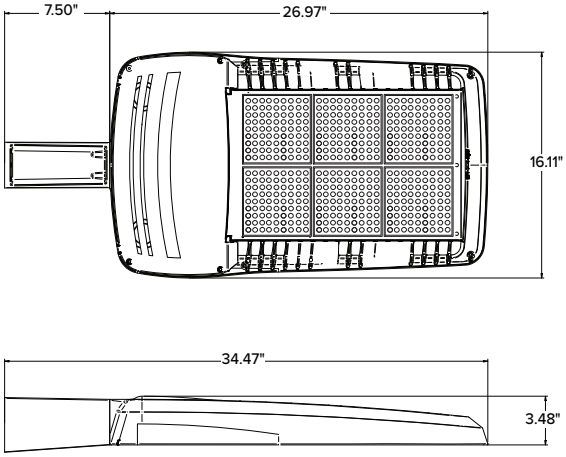
SIZE 1



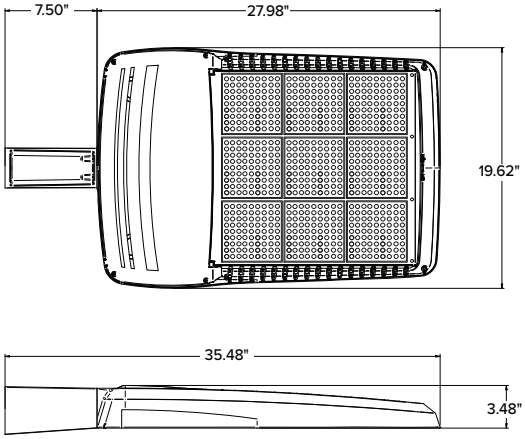
SIZE 2



SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

TYPE: OC | PROJECT:

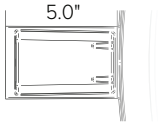
CATALOG #: VP-1-160L-115-4K7-4F-UNV-A3-PSS

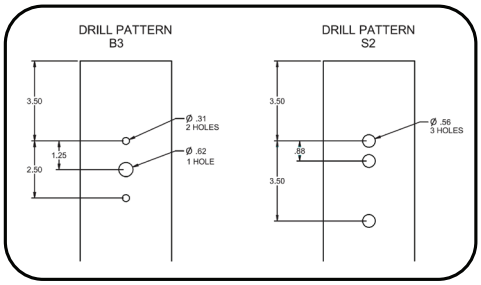
MOUNTING

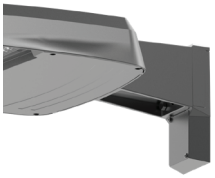


A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

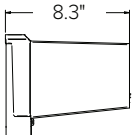


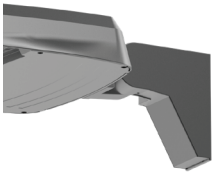




ASQU–UNIVERSAL ARM MOUNT

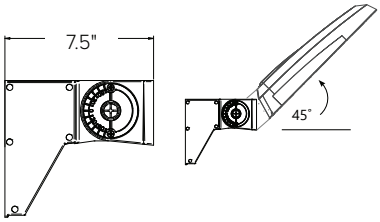
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

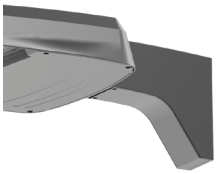




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

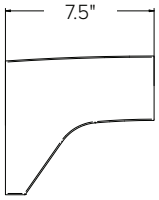
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 5˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

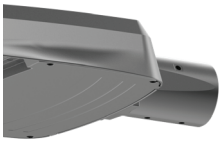




ADU–DECORATIVE UPSWEPT ARM

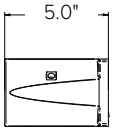
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

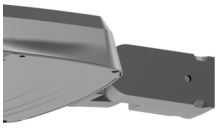




MAF–MAST ARM FITTER

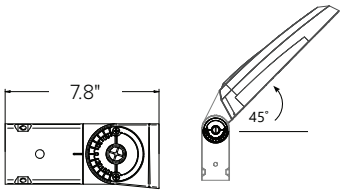
Fits 2-3/8" OD horizontal tenons.

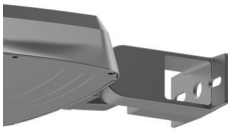




K–KNUCKLE

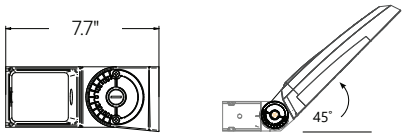
Rotatable in 5-degree aiming angle increments, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





T–TRUNNION

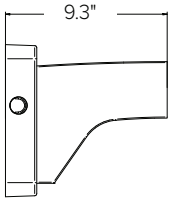
Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



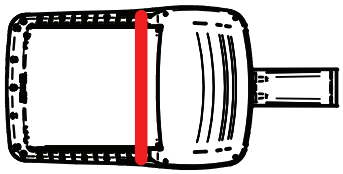
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ADDITIONAL INFORMATION (CONTINUED)

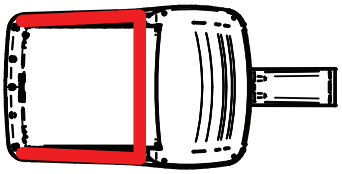
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

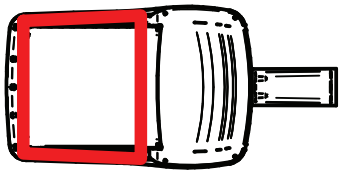
VPR2x HSS-90-B-xx



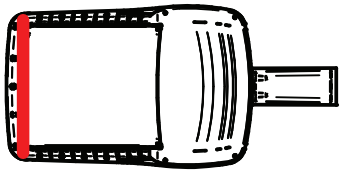
VPR2x HSS-270-BSS-xx



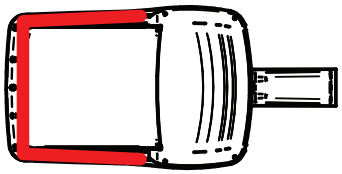
VPR2x HSS-360-xx



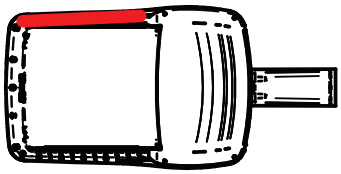
VPR2x HSS-90-F-xx



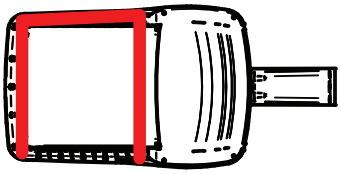
VPR2x HSS-270-FSS-xx



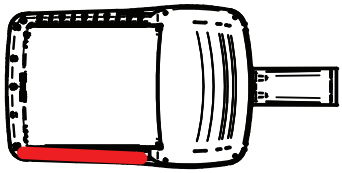
VPR2x HSS-90-S-xx



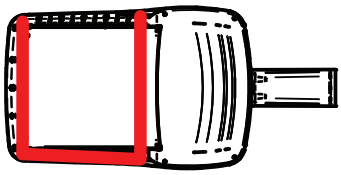
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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RSS-B Series Poles

ROUND STRAIGHT STEEL

DATE:	LOCATION:
TYPE: POLES	PROJECT:
CATALOG #: RSSB20-40A-1-B3-PSS	

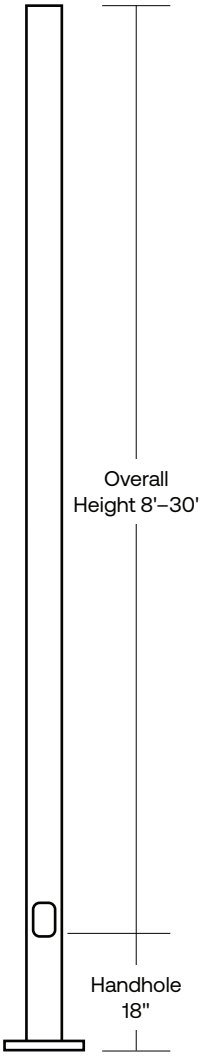
SPECIFICATIONS

CONSTRUCTION

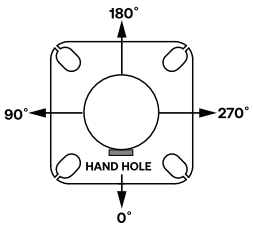
- Shaft: One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- Base cover: Two-piece square aluminum base cover included standard
- Pole cap: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- Hand hole: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- Anchor bolts: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling
  - Anchor bolt part numbers: 3/4 x 30 x 3 — TAB-30-M38
1 x 36 x 4 — TAB-36-M38
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over “white metal” steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

INSTALLATION

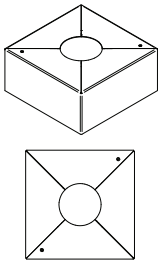
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location



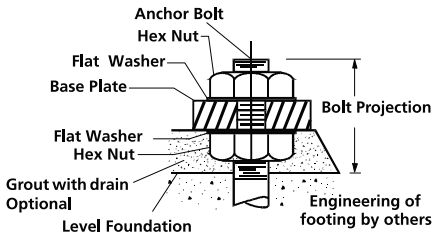
BASE



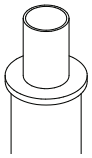
BASE COVER



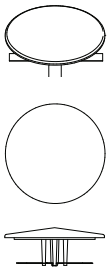
BASE DETAIL



TENON



POLE CAP



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RSS-B Series Poles

ROUND STRAIGHT STEEL

DATE: | LOCATION:

TYPE: POLES | PROJECT:

CATALOG #: RSSB20-40A-1-B3-PSS

ORDERING INFORMATION

Example: RSS-B–25–50–B–2L–S2–DBT–UL

RSS-B	–	20	–	40	–	A	–	1	–	B3	–	PSS	–	
Series		Height		Shaft		Thickness		Mounting		Drill Pattern		Finish		Options

Series
- RSS-B Round Straight Steel Pole Beacon

Height
- Reference page 3 Ordering matrix

Shaft
- Reference page 3 Ordering matrix

Thickness
- Reference page 3 Ordering matrix
- A - .125" Wall
- B - .188" Wall
- C - .250" Wall

Mounting
- 1 Single arm mount
- 2 Two fixtures at 180°
- 2L Two fixtures at 90°
- 3T Three fixtures at 90°
- 3Y Three fixtures at 120°
- 4 Four fixtures at 90°
- TA Tenon (2.375" OD)
- TB Tenon (2.875" OD)
- TC Tenon (3.5" OD)
- OT Open Top (includes pole cap)

Drill Pattern
- B1 Cruzer, "AM" arm
- B3 2 bolt (2-1/2" spacing), Viper "A" arm
- S2 2 bolt (3-1/2" spacing), Viper "AD" arm
- UDP Universal Drill Pattern

Finish
- BLT Black Matte Textured
- BLS Black Gloss Smooth
- DBT Dark Bronze Matte Textured
- DBS Dark Bronze Gloss Smooth
- GTT Graphite Matte Textured
- LGT Light Grey Matte Textured
- LGS Light Grey Gloss Smooth
- PSS Platinum Silver Smooth
- WHT White Matte Textured
- WHS White Gloss Smooth
- VGT Verde Green Textured

Color Option
- CC Custom Color[1]

Options
- GFI[2] 20 Amp GFCI Receptacle and Cover
- EHH[2] Extra Handhole
- C05[2] .5" Coupling
- C07[2] .75" Coupling
- C20[2] 2" Coupling
- MPB[2] Mid-pole Luminaire Bracket
- VM2[3] 2nd mode vibration dampener
- LAB Less Anchor Bolts
- UL UL Certified
- RBC Round Base Cover

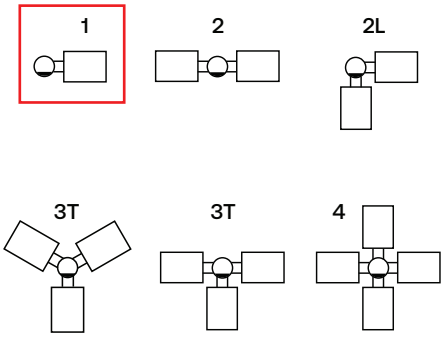
Accessories (Order Separately)

- ☐ VM2S08 Field-installed 2nd mode vibration dampener - 8 ft
- ☐ VM2S12 Field-installed 2nd mode vibration dampener - 12 ft
- ☐ VM2S16 Field-installed 2nd mode vibration dampener - 16 ft
- ☐ VM2S20 Field-installed 2nd mode vibration dampener - 20 ft
- ☐ VM2S25 Field-installed 2nd mode vibration dampener - 25 ft

1 Custom colors available; RAL number preferable
2 Specify option location using logic found on page 3 (Option Orientation)
3 There will be a weld witness mark on the side of the pole with the Factory installed VM2

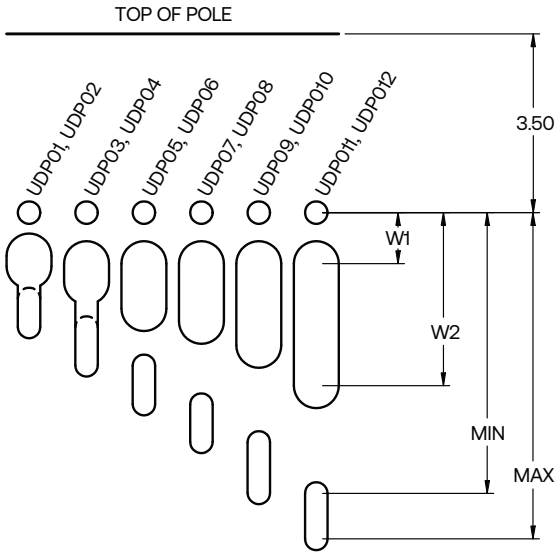
MOUNTING ORIENTATION

Denotes handhole location



DRILL PATTERNS

UNIVERSAL DRILL PATTERN (UDP)



Two Bolt Mounting with Center Wireway						
Mounting Hardware	Universal Mounting Patterns					
⅜" or less	UDP01	UDP03	UDP05	UDP07	UDP09	UDP011
7⁄16" to ½"	UDP02	UDP04	UDP06	UDP08	UDP010	UDP012
"Min" Attachment Dimension	1.69	2.25	3.00	3.76	4.50	5.50
"Max" Attachment Dimension	2.24	2.99	3.75	4.49	5.49	6.00
W1 (Wireway min)	0.85	1.00	1.00	1.00	1.00	1.00
W2 (Wireway max)	1.05	1.36	1.88	2.13	2.60	3.00

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RSS-B Series Poles

ROUND STRAIGHT STEEL

DATE:	LOCATION:
TYPE: POLES	PROJECT:
CATALOG #: RSSB20-40A-1-B3-PSS	

ORDERING INFORMATION (CONTINUED)

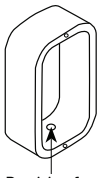
CATALOG NUMBER	HEIGHT		NOMINAL SHAFT DIMENSIONS	WALL THICKNESS	BOLT CIRCLE (SUGGESTED)	BOLT CIRCLE (RANGE)	BASE PLATE SQUARE	BASE PLATE THICKNESS	ANCHOR BOLT SIZE	BOLT PROJECTION	POLE WEIGHT
	FEET	METERS									
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	10"	8.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	10"	9.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	10"	9.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	10"	9.0" - 11"	10.25	1.0	1" x 36" x 4"	4.5	461

Notes:

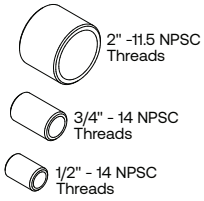
- Factory supplied template must be used when setting anchor bolts. Current will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.
- For more information about pole vibration and vibration dampeners, please consult factory.
- Unwrap poles immediately upon receipt to avoid condensation build up and possible corrosion.

[1] There will be a weld witness mark on the side of the pole with the Factory installed VM2.

EHH
Extra handhole



C05 / C07 / C20
Coupling



VM2 [1]
2nd mode vibration dampener



Factory installed, internal dampener designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

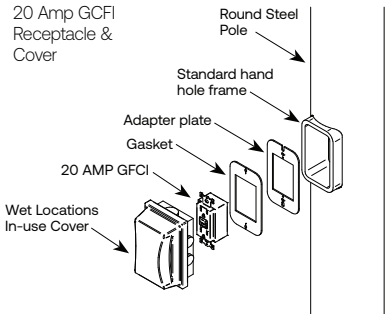
VM2SXX
Field-installed 2nd mode vibration dampener



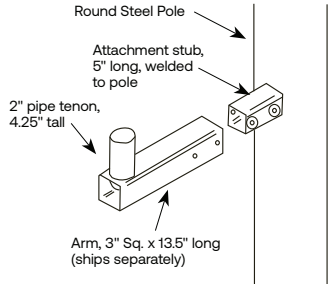
VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

Field installed, internal dampener designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI
20 Amp GCFI Receptacle & Cover



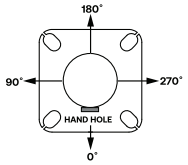
MPB
Mid Pole Bracket

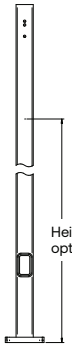


Option Orientation

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet).

Example: Option C05 should be ordered as: RSS-B-20-40-A-TA-DBT-C05-0-15 (.5" coupling on the handhole/arm side of pole, 15' up from the pole base) 1' spacing required between option. Consult factory for other configurations.





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BEACON
design . performance . technology

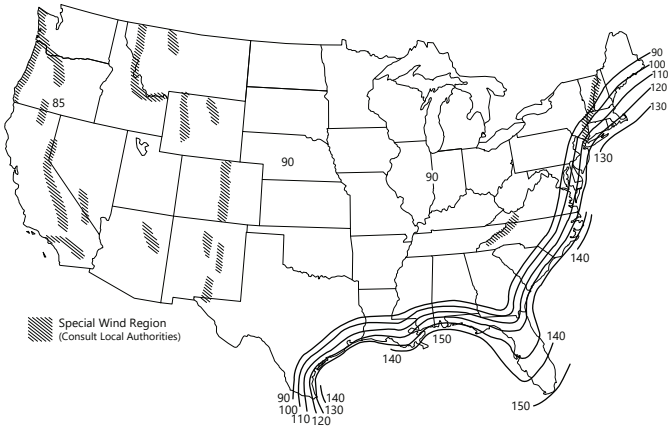
RSS-B Series Poles

ROUND STRAIGHT STEEL

DATE:	LOCATION:
TYPE: POLES	PROJECT:
CATALOG #: RSSB20-40A-1-B3-PSS	

WIND MAPS

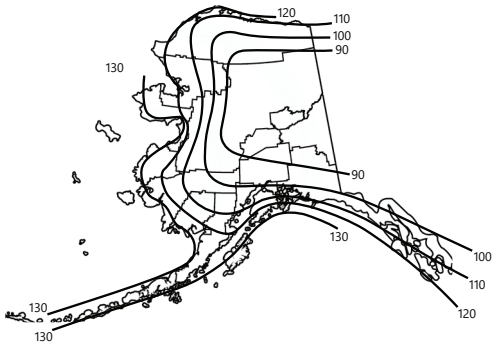
ASCE7-05 WIND MAP



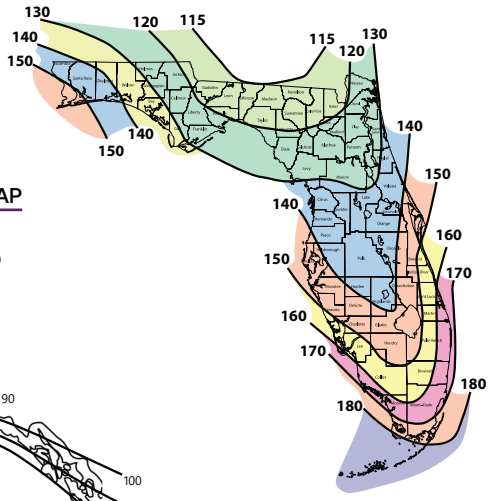
HAWAII – 105 mph
PUERTO RICO – 145 mph

*Printed with permission from ASCE

ALASKA REGION WIND MAP



FLORIDA REGION WIND MAP



Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code.

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)

Catalog Number	85	90	100	110	120	105	145
RSS-B-10-40-A	21.0	18.7	15.0	12.2	10.1	13.5	6.8
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1
RSS-B-14-40-A	13.6	12.0	9.4	7.4	5.9	8.3	3.9
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.6	2.9
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2.0
RSS-B-20-40-A	7.2	6.2	4.5	3.1	2.2	3.8	1.2
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13.0	6.4
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9
RSS-B-20-40-B	11.8	10.3	7.9	6.0	4.7	6.9	2.9
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.8	25.0	14.3
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5
RSS-B-25-50-B	13.6	11.7	9.1	7.3	6.0	8.1	3.8
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)

Catalog Number	115	120	130	140	150	160	170	180
RSS-B-10-40-A	25.0	23.5	20.0	17.0	14.5	12.5	11.0	10.0
RSS-B-12-40-A	21.0	19.0	16.0	13.5	11.5	9.5	9.0	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	7.0	6.5
RSS-B-16-40-A	14.2	13.0	10.5	8.5	7.0	5.8	5.0	4.5
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	4.0	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.0	2.8	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	15.2	13.4
RSS-B-12-40-B	25.0	25.0	20.8	17.6	15.1	13.0	12.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	10.0	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5	7.0
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0	5.7
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0	3.5
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	23.6	20.8	18.4
RSS-B-12-50-B	25.0	25.0	25.0	25.0	22.2	19.3	16.8	14.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	13.8	12.1
RSS-B-16-50-B	25.0	23.8	19.6	18.0	15.4	13.2	11.4	9.9
RSS-B-18-50-B	21.8	19.6	16.1	15.1	12.8	10.8	9.3	8.0
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7	6.5
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5	3.7
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9	12.0
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1	7.6
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7	4.5

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All values are design or typical values when measured under laboratory conditions.

RSS-B Series Poles

ROUND STRAIGHT STEEL

DATE:	LOCATION:
TYPE: POLES	PROJECT:
CATALOG #: RSSB20-40A-1-B3-PSS	

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current Lighting's Pole Vibration Application Guide for environmental risk factors and design considerations.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

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BEACON
COLOR TABLE

COLOR SELECTIONS

Due to printing process, color variation between color swatch and actual finish is possible.

STANDARD COLORS



BLT
Black Matte
Textured



BLS
Black Gloss
Smooth



DBT
Dark Bronze
Matte Textured



DBS
Dark Bronze
Gloss Smooth



GTT
Graphite Matte
Textured

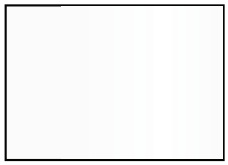


PSS
Platinum Silver
Smooth

LGS
Light Grey
Gloss Smooth



WHT
White Matte
Textured



WHS
White Gloss
Smooth



VGT
Verde Green
Textured



CC
Custom
Color

Project		**Catalog #**	SMD6R129SWHE + SMD6RTRMWH	**Type**	OD
Prepared by		**Notes**	SET TO 4000K INSTALL ON 4" SQUARE DEEP J-BOX (1200L SURF. DOWNLIGHT WITH WHITE PAINTABLE TRIM)		ENTRY CANOPY



HALO

SMD6 Series

6" Round and Square Surface Mount Downlight

SMD6R & SMD6S

Typical Applications

Residential

Interactive Menu

- Order Information page 2
- Product Specifications page 4
- Photometric Data page 5
- Product Warranty

Product Certification

Refer to ENERGY STAR® Certified Products List.
Can be used to comply with California Title 24 High Efficacy requirements.
Certified to California Appliance Efficiency Database under JA8.

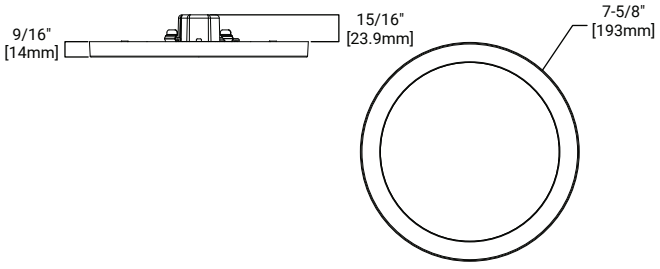
Product Features

Top Product Features

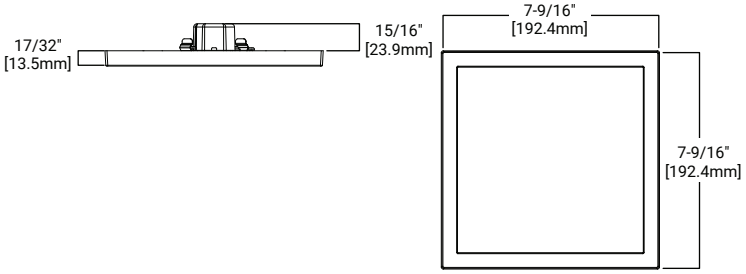
- Ultra-low profile surface luminaire with wide distribution
- Ceiling or wall mounting in compatible junction boxes
- 600 & 1200 lumen; 2700K, 3000K, 3500K, 4000K or 5000K field selectable CCT; 90 CRI
- 120V only and Universal Voltage 120V – 277V options
- Dimmable with 120V dimmers

Dimensional and Mounting Details

SMD6R69SWH



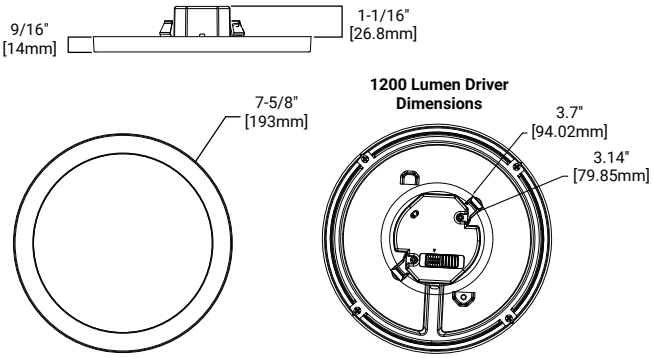
SMD6S69SWH



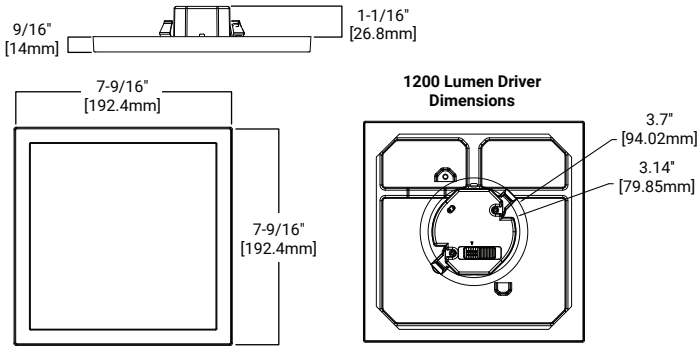
additional product diagrams

Dimensional and Mounting Details (continued)

SMD6R129SWH
SMD6R129SWHE



SMD6S129SWH
SMD6S129SWHE



Note: Ensure junction box (provided by others) internal dimension supports driver dimension.

Ordering Information

SAMPLE NUMBER: **SMD6R69SWH** = 6" Round Surface Mount Downlight, 600 lumen, 90CRI, Selectable CCT, White, 120V
Junction Box Installation: Order junction box separately, as supplied by others, to complete installation.
Recessed Installation: Order HALO recessed housing and SMD6ACCKIT separately to complete installation.

SMD6R	12	9S	WH	E
Models	Lumens	CRI/CCT	Finish	Voltage

Models	Lumens	CRI/CCT	Finish	Voltage
SMD6R = 6" Round Surface Mount Downlight **SMD6S** = 6" Square Surface Mount Downlight	**6** = 600 lumen series (120V only) **12** = 1200 lumen series (1)	**9S** = 90CRI, 2700K - 5000K Field Selectable CCT	**WH** = Matte White	**Blank** = 120V standard **E** = UNV Universal 120-277V (2)
Notes	**Notes** (1) 1200 lumen series requires use of 4" square DEEP junction box or similar to support driver.	**Notes**	**Notes**	**Notes** (2) UNV voltage configuration is offered only in the 1200 lumen series

SMD6RTRMWH

Accessories

Accessories
Designer Trims **SMD6RTRMSN** = 6" Round SMD Satin Nickel **SMD6RTRMTBZ** = 6" Round SMD Tuscan Bronze **SMD6RTRMWH** = 6" Round SMD White (paintable) **SMD6RTRMMB** = 6" Round SMD Matte Black **SMD6STRMSN** = 6" Square SMD Satin Nickel **SMD6STRMTBZ** = 6" Square SMD Tuscan Bronze **SMD6STRMWH** = 6" Square SMD White (paintable) **SMD6STRMMB** = 6" Square SMD Matte Black **T24HWKIT** = Title 24 Cable harness kit used to convert incandescent and low voltage housings to LED **SMD6ACCKIT =** SMD6 accessory kit includes friction clips, torsion sprigs and a Edison screwbase adapter for recessed housing installation.
Notes

Accessories

PAINT WHITE TRIM TO MATCH BLUE SOFFIT FINISH

Designer Trims



SMD6RTRMWH
round, white (paintable)



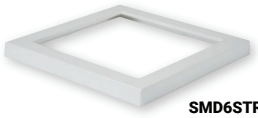
SMD6RTRMSN
round, satin nickel



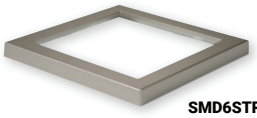
SMD6RTRMTBZ
round, tuscan bronze



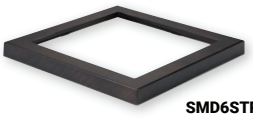
SMD6RTRMMB
round, matte black



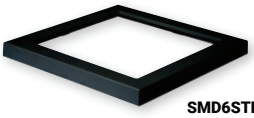
SMD6STRMWH
square, white (paintable)



SMD6STRMSN
square, satin nickel



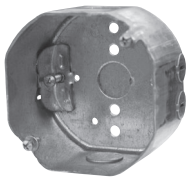
SMD6STRMTBZ
square, tuscan bronze



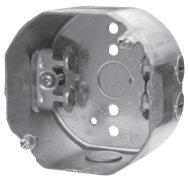
SMD6STRMMB
square, matte black

JUNCTION BOX COMPATIBILITY

***Note:** SMD 1200 lumen 120V configuration is only compatible with junction boxes 4” x 2-1/8” deep. Square junction box is required for 1200 lumen version.



TP316*
for non-metallic cable
4” x 4” x 2-1/8”
(102mm x 102mm x 54mm)



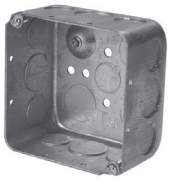
TP317*
for metal clad cable
4” x 4” x 2-1/8”
(102mm x 102mm x 54mm)



4" octagon light fixture/fan steel box*
4" x 4" x 2-1/8"
(102mm x 102mm x 54mm)



4" octagon steel box
4" x 4" x 1-1/2"
(102mm x 102mm x 38mm)



4" square deep steel box*
4" x 4" x 2-1/8"
(102mm x 102mm x 54mm)



4" square standard steel box
4" x 4" x 1-1/2"
(102mm x 102mm x 38mm)



4" round new work non-metallic light fixture/fan box
4" diameter x 2-3/16"
(102mm x 56mm)



3-1/2" round new work non-metallic ceiling box
3-1/2" diameter x 2-3/4"
(89mm x 70mm)



4” round surface mount box
4" diameter x 1-1/2”
(102mm x 38mm)
Requires SLD6RAD adapter



4" round new work non-metallic box with hanger bar assembly
4" diameter x 2-3/16" (102mm x 56mm)

This is a representative list of compatible junction boxes only. Information contained in this literature about other manufacturers’ products is from published information made available by the manufacturer and is deemed to be reliable, but has not been verified. Cooper Lighting Solutions makes no specific recommendation on product selection and there are no warranties of performance or compatibility implied. Installer must determine that site conditions are suitable to allow proper installation of the mounting bracket in the box.

Product Specifications

Housing
- Non-electrically conductive polycarbonate frame.
- High impact diffuse polystyrene lens provides shielding to the light guide with no pixilation
- Stamped aluminum housing provides thermal cooling achieving L70 at 50,000 hours in IC and non-IC applications

Gaskets
- Closed cell gasket achieves restrictive airflow and wet location requirements without additional caulking

Optics
- Precision acrylic light guide organizes source flux into wide distribution with 1.2 – 1.4 spacing criteria useful for general area illumination

LED
- Mid power LED array provide a uniform source with high efficiency and long life
- Available in 90 CRI minimum, R9 greater than 50 and color accuracy within 3 SDCM provide color accuracy and uniformity

Driver
SMD 120V
- Integral 120V 50/60Hz constant current driver provides noise free operation
- Continuous, flicker-free dimming from 100% to 5% with select leading or trailing edge 120V phase cut dimmers
- Dimming to 5% is best assured using dimmers with low end trim adjustment. Consult dimmer manufacturer for compatibility and conditions of use. (Note some dimmers require a neutral in the wallbox.)
- Inline electrical quick connect and E26 adapter (provided) provides mains connections

SMD 120-277V
- Integrated 120-277V 60Hz constant current driver provides noise free operation
- SMD Universal Voltage (120-277V) configurations are recommended for use with compatible 0-10V DC
- low voltage dimmers only

Mounting/Retention
- Adjustable spider plate allows for quick installation into both junction boxes and recessed housings
- Torsion springs and friction blades included

Electrical Junction Box Mounting
- The SMD may be used in compatible electrical junction boxes in direct contact with insulation including spray foam insulation
- Suitable for installation in many 3-1/2" and 4" square, octagon, and round electrical junction boxes **Note:** SMD120-277V UNV is only compatible with junction boxes that provide minimum depth of 2-1/8"
- Installer must ensure compatibility of fit, wiring and proper mounting in the electrical junction box. This includes all applicable national and local electrical and building coded

Recessed Housing Mounting
Note: Use the SMDACCKIT which includes torsion springs and Edison base adapter. (SOLD SEPERATELY)
- May be installed in IC recessed housings in direct contact with insulation
  Note: Not for use in recessed housing in direct contact with spray foam insulation. Refer to NEMA LSD 57-2013

Designer Skins (Sold Separately)
- SMD skins are accessory rings in both round and square. These skins attach to the SMD for a permanent finish. Refer to the SMD accessories specification sheet for details
  - Matte White (Paintable)
  - Satin Nickel
  - Tuscan Bronze

Compliance
- cULus Certified for use with Halo housings and for use with other's housings, , when used with SMDACCKIT (Sold Seperately) see instruction sheet for conditions of acceptability
- Wet and Damp Location listed, airtight per ASTM-E283
- Suitable for use in closets, compliant with NFPA® 70, NEC® Section 410.16 (A)(3) and 410.16 (C)(5)
- EMI/RFI emissions per FCC 47CFR Part 15B
- Contains no mercury or lead and RoHS compliant.
- Photometric testing in accordance with IES LM-79-08
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11
- Can be used for State of California Title 24 high efficacy luminaire compliance, reference the California Energy Commission Title 20 Appliance Efficiency Database for current listings
- Can be used for International Energy Conservation Code (IECC) and high efficiency luminaire compliance
- ENERGY STAR® listed, reference database for current listings

Warranty
- Five year limited warranty, consult website for details. www.cooperlighting.com/warranty

Energy Data

SMD6R6 / SMD6S6

	Round	Square
Lumens (5000K models)	777	800
Input Power	9 W	9 W
Input Current	0.085 A	0.085 A
Efficiency	86 lm/W	85 lm/W
THDi	8	8
Input Voltage	120V	
Frequency	60 Hz	
CRI	90 CRI	
Power Factor	0.98	
T Ambient	-30 - +40°C	
Sound Rating	Class A	

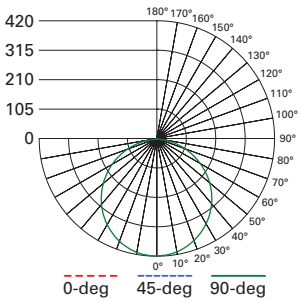
SMD6R12 / SMD6S12

	Round	Square
Lumens (5000K models)	1271	1345
Input Power	15	15
Input Current	0.129 A	0.129 A
Efficiency	85 lm/W	88 lm/W
THDi	12.6	12.6
Input Voltage	120V	
Frequency	60 Hz	
CRI	90 CRI	
Power Factor	0.98	
T Ambient	-30 - +40°C	
Sound Rating	Class A	

SMD6R12-E / SMD6S12-E

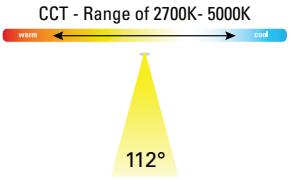
	Round	Square
Lumens (5000K models)	1357	1364
Input Power	14.5	14.5
Input Current	0.125 A (120V) 0.058 A (277V)	0.125 A (120V) 0.058 A (277V)
Efficiency	94 lm/W	94 lm/W
THDi	12.8	12.8
Input Voltage	120 - 277V	
Frequency	60 Hz	
CRI	90 CRI	
Power Factor	0.99 (120V) 0.94 (277V)	
T Ambient	-30 - +40°C	
Sound Rating	Class A	

Photometric Data

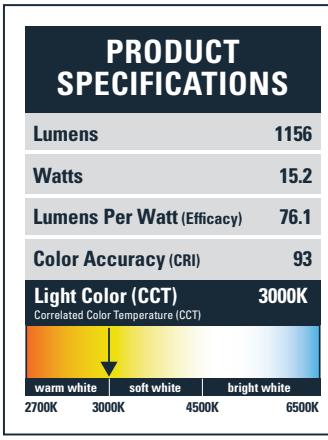


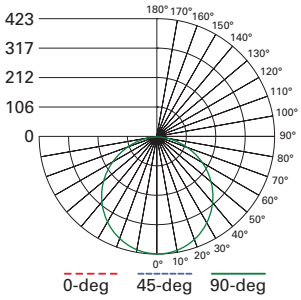
SMD6R129SWH - 3000K.IES
Spacing criterion: (0-180) 1.26
(90-270) 1.26
(Diagonal) 1.38
Beam Angle: 112°
Lumens: 1221
Input Watts: 14.9 W
Efficacy: 82 LPW
Test Report:
SMD6R129SWH - 3000K.IES

Zonal Lumen	Lumens	% Lumens
0-30	325	26.6
0-40	533	43.6
0-60	945	77.4
0-90	1215	99.5



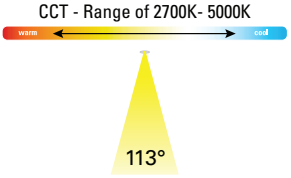
SMD6R129SWH	CCT	Watts	Lumens	LPW	CRI
1200 Lumen 6" Round Selectable CCT	2700K	15.2	1135	74.7	92
	3000K	15.2	1156	76.1	93
	3500K	15.2	1178	77.5	94
	4000K	15.2	1198	78.8	95
	5000K	15.2	1226	80.7	93



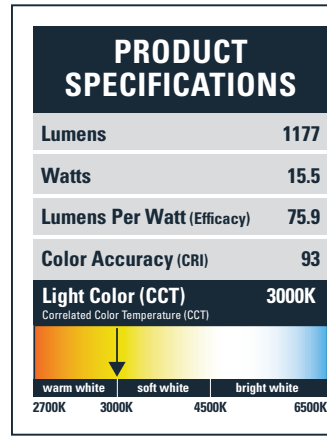


SMD6S129SWH - 3000K.IES
Spacing criterion: (0-180) 1.26
(90-270) 1.26
(Diagonal) 1.40
Beam Angle: 113°
Lumens: 1241
Input Watts: 14.9 W
Efficacy: 83 LPW
Test Report:
SMD6S129SWH - 3000K.IES

Zonal Lumen	Lumens	% Lumens
0-30	329	26.5
0-40	539	43.5
0-60	960	77.3
0-90	1237	99.6



SMD6S129SWH	CCT	Watts	Lumens	LPW	CRI
1200 Lumen 6" Square Selectable CCT	2700K	15.5	1153	74.4	92
	3000K	15.5	1177	75.9	93
	3500K	15.5	1206	77.8	95
	4000K	15.5	1224	79.0	95
	5000K	15.4	1256	81.6	93



MERU Series

LED GENERAL & EMERGENCY LIGHTING

TYPE WE
#MERU-LED-ACEM-NK-IH
DOOR SECURITY WALLPACK WITH
INTEGRAL EM/PHOTOCELL
SILVER NICKEL FINISH

PRODUCT DESCRIPTION

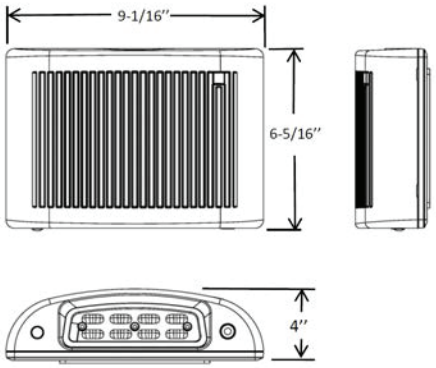
The MERU Series is an architectural, low-profile outdoor light, offering "normally On" AC and emergency lighting with powerful LED illumination. The housing is fully sealed and gasketed, and has an IP65 rating. Designed for wall mounting with universal K/O pattern in back-plate for easy installation to most standard size junction boxes. Includes a single ½" NPT conduit entry in the top, center of the housing. Illumination provided by 8 high power LEDs which achieve 1,600 lumens in AC and 600 lumens in emergency. LED color at 4000K.



PRODUCT SPECIFICATIONS

CONSTRUCTION

Die cast aluminum housing with superior heat sink • Scratch resistant Polyester powder coat finish • UV resistant polycarbonate lens • Snap-fit housing and mounting plate are held together by four stainless steel clips • Universal mounting pattern molded into the back plate • 1/2" threaded top access for surface conduit installation • Silicone rubber seal with hollow center, shape adaptive design protects the electrical components • Junction box neoprene seal is attached to the back plate for a weather proof installation • Dark Bronze or White textured finish.



ELECTRICAL

Dual voltage 120/277VAC 60Hz input • Solid state charging and switching • Battery low voltage disconnect • AC power indicator and test switch at the bottom of the unit • Standard with Self Diagnostics to monitor proper operation.

LAMPS

Supplied with eight (8) LG SMD 4000K LED'S • L70 > 72,000hours • 17 Watts total (32 Watts with IH option) • 1600 Lumens in AC mode, 600 Lumens in Emergency mode • Full cut-off optics for Dark Sky compliance

BATTERY

Maintenance-free, long-life rechargeable NiCad battery will operate fixture for a minimum of 90 minutes in the event of a power outage • 24 hour recharge after 90 minute discharge.

ACEM Model (NiCad Battery Backup)

Integral photocell: Unit operates as a dusk to dawn luminaire and in the event of a power failure as an emergency light.
Remote Switched: The integral photocell can be defeated to allow remote switching for normal operation. In the event of a power failure unit operates as an emergency light.

CODE COMPLIANCE

UL924 • Listed for wet location applications (0˚C-50˚C) • Optional "IH" cold weather package for (-40˚C-50˚C) • IP65 Rated • NFPA 101 Life Safety Code compliant • NEC and OSHA compliant • DLC Listed • RoHS Compliant

WARRANTY

5-year warranty. Product specifications subject to change without notice.

INSTALLATION

MOUNTING

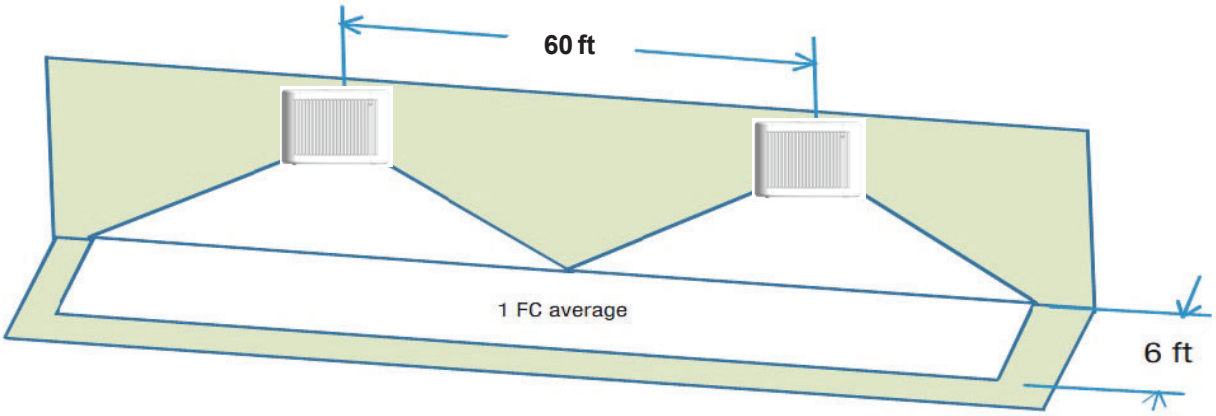
Suitable for indoor or outdoor wall mounting on junction box, or with surface conduit using the supplied 1/2" threaded top access • Mounting plate has molded universal mounting pattern for simple mounting over junction box.

ORDERING INFORMATION

model	operation mode	housing color	options
MERU-LED	ACEM = General & Emergency Lighting	DB = Dark Bronze	*Self-Diagnostics & Photocell* *(Included Standard)*
	AC = General Lighting	WH = White	IH = Internal Heater
		BK = Black	PIR = Passive Infra-Red Motion Sensor
Ordering Example: MERU-ACEM-DB		NK = Nickel	

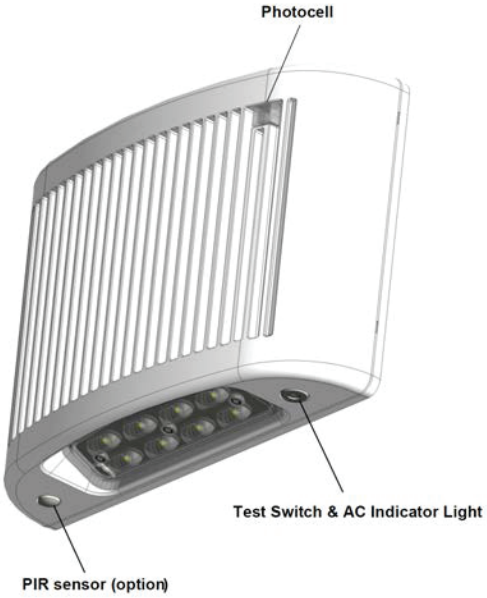
Mule Lighting , Inc. 46 Baker Street Providence, RI 02905 800 556-7690 P 401 941-2929 F www.mulelighting.com

PHOTOMETRICS



Note: Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC.
Illustration shown is a guideline for corridor center-to-center with 9 ft mounting height and Minimum 80-50-20 reflectance values.

Mounting Height	Center to center distance
7.2ft	45ft
9ft	60ft
10ft	65ft



SELF DIAGNOSTICS

Included Self Diagnostic

Diagnostic Indicator / Test Switch

- Ready
- In Test
- Battery Circuit Fault
- Battery Capacity Failure
- Charger Failure
- Transformer Fault
- Lamp Failure

Manual Testing

Press button once - 1 minute test
Press button twice - 5 minute test
Press button 3 times - 30 minute test
Press button 4 times - 90 minute test

Full self-test, self-diagnostic system is standard in every unit, performs a monthly, test as well as continuously monitoring all functions to ensure reliability, a manual test may be initiated at any time

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

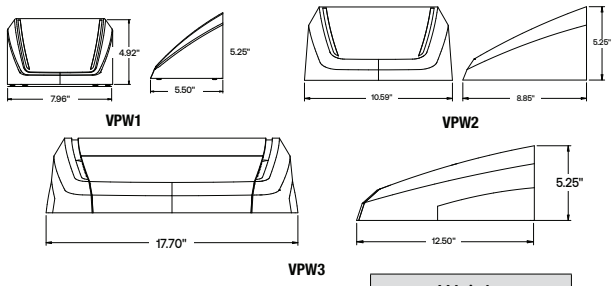
DATE:	LOCATION:
TYPE: WF	PROJECT:
CATALOG #: VPW2-80L-65-4K7-4F-UNV-PSS	

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Strike and Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual Comfort - Option for Size 2 and Size 3
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, and LightGRID+.
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada

MICRO STRIKE | OPTICS STRIKE





	Weight
VPW1	4.1 lbs / 1.86 kg
VPW2	7.15 lbs / 3.24 kg
VPW3	17.1 lbs / 7.80 kg

CONTROL TECHNOLOGY

NX CONNECT | NX WIRED | NX WIRELESS | LIGHTGRID+

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 2700K, 3000K, 3500K, 4000K and 5000K CCTs
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V input is available in most wattage, 480V is available for 55W and above.
- Ambient operating temperature -40˚C to 40˚C
- Driver RoHS and IP66
- 10kV Surge Protector optional
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one same fixture.
- Dimming drivers are standard. Select CD (Customer Dimming) for the dimming wires to be extended outside the fixture.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CONTROLS CONTINUED

- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -20˚C to 40˚C.
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor.

CERTIFICATIONS

- Certified to UL 1598 and CSA 22.2#250.0-24
- IP65 rated housing
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225- 11). See Buy America(n) Solutions (link to https://http://www.currentlighting.com/resources/americasolutions).

WARRANTY

- 5 year limited warranty

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4F-UNV-PSS

ORDERING GUIDE

Example: VPW1–24L-10–3K7–2–UNV–BLS

CATALOG # VPW2-80L-65-4K7-3-UNV-DBT

WPW2	–	80L-65	–	4K7	–	4F	–	UNV	–	DBT	–

Series

VPW1	Viper Wall 1
VPW2	Viper Wall 2
VPW3	Viper Wall 3

LEDs - Wattage

24L-10	1,000 Lumens
24L-15	2,000 Lumens
24L-25	3,000 Lumens
48L-15	2,000 Lumens
48L-20	3,000 Lumens
48L-30	4,000 Lumens
48L-35	5,000 Lumens
48L-45	6,000 Lumens
80L-20	3,000 Lumens
80L-25	4,000 Lumens
80L-35	5,000 Lumens
80L-45	6,000 Lumens
80L-55	7,000 Lumens
80L-65	8,000 Lumens
80L-70	8,500 Lumens
18L-25	3,000 Lumens, Strike Optics
18L-30	4,000 Lumens, Strike Optics
18L-39	4,750 Lumens, Strike Optics
18L-50	6,000 Lumens, Strike Optics
18L-60	6,500 Lumens, Strike Optics
160L-45	7,000 Lumens
160L-70	10,000 Lumens
160L-95	12,500 Lumens
160L-105	15,000 Lumens
160L-135	17,500 Lumens
160L-155	20,000 Lumens
36L-55	7,000 Lumens, Strike Optics
36L-80	9,500 Lumens, Strike Optics
36L-100	11,500 Lumens, Strike Optics
36L-120	13,000 Lumens, Strike Optics

CCT/CRI

27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
4K7	4000K, 70 CRI
5K7	5000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
4K8	4000K, 80 CRI
5K8	5000K, 80 CRI
AP	Phosphor Converted Amber[1]

Distribution

FR	Auto Front Row[7]
2	IES TYPE 2
3	IES TYPE 3
4F	IES TYPE 4 Forward
4W	IES TYPE 4W

Voltage

UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Color

BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Matte Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option

CC	Custom Color

–

Control Options Network[3,7,11,13]

NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[14]
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS24F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-HM PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor
WIR	LightGRID+ In-Fixture Module[9]
WIRSC	LightGRID+ In-Fixture Moduel with BTS occupancy[9]

Stand Alone Sensors[7,11,13]

BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height[14]

Photocontrol[13]

PC	Button Photocontrol 120-277V

Options

F	Fusing[5,7]
E	Battery[6,7,8]
EH	Battery with Heater[6,7,8]
CS	Comfort Shield[7,10]
SP	10kA Surge Protector
2PF	Dual Power Feed[2,7,8]
2DR	Dual Driver[2,7,8]
CD	Customer Dimming[12]
DTS	Dimming Transfer Switch[7]

Notes:

1 Available with Micro Strike Optics only
2 Not available with 480V in Size 1 and Size 2
3 Networked controls cannot be combined with other control options
4 Not available with VPW1 or with 2PF or 2DR options
5 Must specify voltage (VPW1 & VPW2: 120V, 277V or 347V; VPW3: 120V, 208V, 240V, 277V, 347V or 480V)
6 See page 10 for detail Battery configurations
7 Not available in VPW1
8 2PF can't be combined with E or EH; 2DR can't be combined with E or EH in VPW2
9 Not avialable in VPW1 and VPW2
10 Not available with Micro Strike 24L and 48L. Not available with Strike 18L and 36L
11 Not available with 2PF
12 Not available with Network Control options or Stand Alone Sensors. Can be ordered with PC
13 Not available in 480V in VPW2; Only available in 480V in VPW3 in 80W, 100W, 120W, 135W and 155W
14 NXWS12F and BTSO-12F are the only sensors available in VPW2

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4F-UNV-DBT

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

NX LIGHTING CONTROLS

Apple App

Google Play

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

	OPERATING HOURS		
Ambient Temp.	0	25,000	TM-21-22 60,000
25°C / 77°F	1.00	0.91	0.83
40°C / 104°F	0.99	0.90	0.82

Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

MULTIPLIER

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

PERFORMANCE DATA: MICROSTRIKE

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW1	24L	10	6.6	2	888	134	0	0	0	883	134	0	0	0	850	129	0	0	0
				3	829	126	0	0	0	825	125	0	0	0	794	120	0	0	0
				4W	867	131	0	0	1	863	131	0	0	1	830	126	0	0	1
		15	14	2	1883	134	1	0	1	1873	134	1	0	1	1802	129	1	0	1
				3	1759	126	1	0	1	1750	125	1	0	1	1683	120	0	0	1
				4W	1839	131	0	0	1	1830	131	0	0	1	1761	126	0	0	1
		25	23.0	2	3116	135	1	0	1	3100	135	1	0	1	2982	130	1	0	1
				3	2910	127	1	0	1	2896	126	1	0	1	2785	121	1	0	1
				4W	3044	132	1	0	1	3029	132	1	0	1	2914	127	1	0	1

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4F-UNV-DBT

PERFORMANCE DATA: MICROSTRIKE CONT'D

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW2	48L	15	13.1	2	1866	142	1	0	1	1857	142	1	0	1	1786	136	1	0	1
				3	1743	133	1	0	1	1734	132	1	0	1	1668	127	0	0	1
				4F	1832	140	0	0	1	1823	139	0	0	1	1754	134	0	0	1
				4W	1823	139	0	0	1	1814	138	0	0	1	1745	133	0	0	1
		20	20.5	2	2791	136	1	0	1	2777	135	1	0	1	2671	130	1	0	1
				3	2606	127	1	0	1	2593	127	1	0	1	2495	122	1	0	1
				4F	2740	134	1	0	1	2726	133	1	0	1	2622	128	1	0	1
				4W	2726	133	1	0	1	2713	132	1	0	1	2610	127	1	0	1
		30	28.8	2	3766	131	1	0	1	3747	130	1	0	1	3605	125	1	0	1
				3	3517	122	1	0	1	3500	122	1	0	1	3367	117	1	0	1
				4F	3697	128	1	0	1	3678	128	1	0	1	3539	123	1	0	1
				4W	3679	128	1	0	1	3661	127	1	0	1	3522	122	1	0	1
		35	37.3	2	4707	126	1	0	1	4684	126	1	0	1	4506	121	1	0	1
				3	4396	118	1	0	1	4375	117	1	0	1	4208	113	1	0	1
				4F	4621	124	1	0	1	4598	123	1	0	1	4423	119	1	0	1
				4W	4599	123	1	0	2	4576	123	1	0	2	4402	118	1	0	2
		45	45.9	2	5604	121	1	0	1	5576	121	1	0	1	5364	116	1	0	1
				3	5234	114	1	0	2	5208	113	1	0	2	5010	109	1	0	2
				4F	5501	119	1	0	2	5474	118	1	0	2	5266	114	1	0	2
				4W	5475	116	1	0	2	5447	115	1	0	2	5240	111	1	0	2
	80L	20	19.4	2	2978	154	1	0	1	2963	153	1	0	1	2851	147	1	0	1
				3	3028	156	1	0	1	3013	155	1	0	1	2898	149	1	0	1
				4F	3039	157	1	0	1	3024	156	1	0	1	2909	150	1	0	1
				4W	2968	153	1	0	1	2953	152	1	0	1	2841	146	1	0	1
		25	26.7	2	3723	139	1	0	1	3704	139	1	0	1	3563	133	1	0	1
				3	3785	142	1	0	1	3766	141	1	0	1	3623	136	1	0	1
				4F	3799	142	1	0	1	3780	142	1	0	1	3636	136	1	0	1
				4W	3710	139	1	0	1	3692	138	1	0	1	3551	133	1	0	1
		35	34.2	2	4775	140	1	0	1	4751	139	1	0	1	4571	134	1	0	1
				3	4855	142	1	0	1	4831	141	1	0	1	4647	136	1	0	1
				4F	4872	142	1	0	1	4848	142	1	0	1	4664	136	1	0	1
				4W	4759	139	1	0	1	4735	138	1	0	1	4555	133	1	0	1
		45	41.7	2	6032	145	1	0	2	6002	144	1	0	2	5774	138	1	0	1
				3	6133	147	1	0	2	6102	146	1	0	2	5870	141	1	0	2
				4F	6155	148	1	0	2	6124	147	1	0	2	5891	141	1	0	2
				4W	6012	144	1	0	2	5982	143	1	0	2	5754	138	1	0	2
		55	50.6	2	6999	138	1	0	2	6964	138	1	0	2	6700	132	1	0	2
				3	7116	141	1	0	2	7081	140	1	0	2	6812	135	1	0	2
				4F	7142	141	1	0	2	7106	140	1	0	2	6836	135	1	0	2
				4W	6976	138	1	0	2	6941	137	1	0	2	6677	132	1	0	2
		65	58.3	2	7910	136	2	0	2	7871	135	2	0	2	7572	130	1	0	2
				3	8042	138	1	0	2	8002	137	1	0	2	7698	132	1	0	2
				4F	8071	138	2	0	2	8031	138	2	0	2	7726	133	1	0	2
				4W	7884	135	1	0	2	7844	135	1	0	2	7546	129	1	0	2
		70	63.5	2	8506	134	2	0	2	8463	133	2	0	2	8142	128	2	0	2
				3	8648	136	1	0	2	8605	136	1	0	2	8278	130	1	0	2
				4F	8679	137	2	0	2	8636	136	2	0	2	8308	131	2	0	2
				4W	8477	133	1	0	2	8435	133	1	0	2	8114	128	1	0	2

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DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4F-UNV-DBT

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

ELECTRICAL DATA: MICROSTRIKE

# OF LEDS	24L		
NOMINAL WATTAGE	10	15	25
SYSTEM POWER (W)	6.6	14.0	23.0
INPUT VOLTAGE (V)	CURRENT (Amps)		
120	0.06	0.12	0.19
208	0.03	0.07	0.11
240	0.03	0.06	0.10
277	0.02	0.05	0.08
347	0.02	0.04	0.07
480	0.01	0.03	0.05

# OF LEDS	48L				
NOMINAL WATTAGE	15	20	30	35	45
SYSTEM POWER (W)	13.1	20.5	28.8	37.3	45.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.11	0.17	0.24	0.31	0.38
208	0.06	0.10	0.14	0.18	0.22
240	0.05	0.09	0.12	0.16	0.19
277	0.05	0.07	0.10	0.13	0.17
347	0.04	0.06	0.08	0.11	0.13
480	0.03	0.04	0.06	0.08	0.10

# OF LEDS	80L						
NOMINAL WATTAGE	20	25	35	45	55	65	70
SYSTEM POWER (W)	19.4	26.7	34.2	41.7	50.6	58.3	63.5
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.16	0.22	0.29	0.35	0.42	0.49	0.53
208	0.10	0.13	0.18	0.22	0.27	0.28	0.31
240	0.08	0.12	0.15	0.19	0.24	0.24	0.26
277	0.07	0.10	0.13	0.17	0.21	0.21	0.23
347	0.06	0.08	0.11	0.13	0.16	0.17	0.18
480	0.04	0.06	0.08	0.10	0.12	0.12	0.13

# OF LEDS	160L					
NOMINAL WATTAGE	45	70	95	105	135	155
SYSTEM POWER (W)	46.2	68.3	91	106.3	134.8	158.3
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	0.39	0.57	0.76	0.89	1.12	1.32
208	0.22	0.33	0.44	0.51	0.65	0.76
240	0.19	0.28	0.38	0.44	0.56	0.66
277	0.17	0.25	0.33	0.38	0.49	0.57
347	0.13	0.20	0.26	0.31	0.39	0.46
480	0.10	0.14	0.19	0.22	0.28	0.33

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VIPER Wall

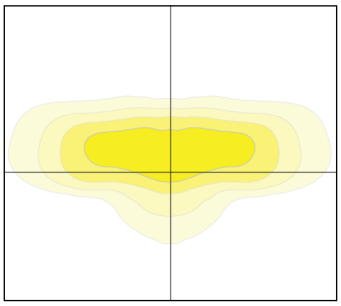
VPW1/VPW2/VPW3 LED WALLPACK

DATE:	LOCATION:
TYPE: WF	PROJECT:
CATALOG #: VPW2-80L-65-4K7-4F-UNV-DBT	

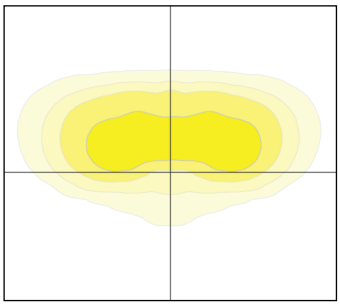
PHOTOMETRY

Mounting Height: 10ft

Type 2



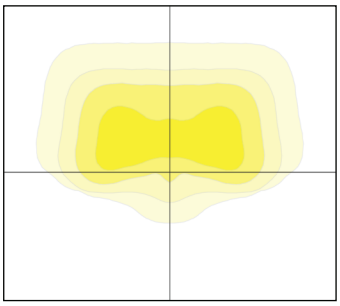
Type 3



Type 4F

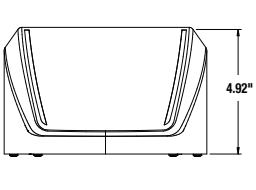


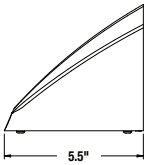
Type 4W

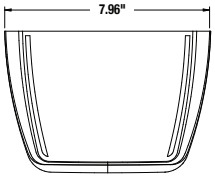


DIMENSIONS

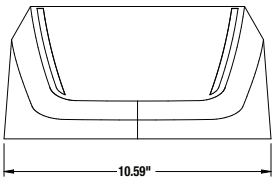
VPW1

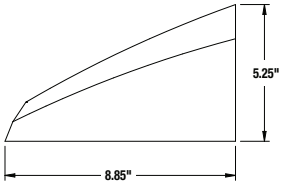




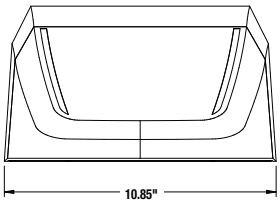


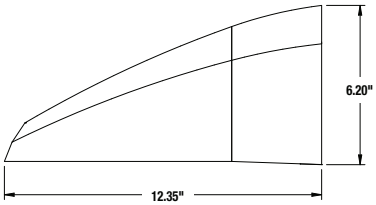
VPW2



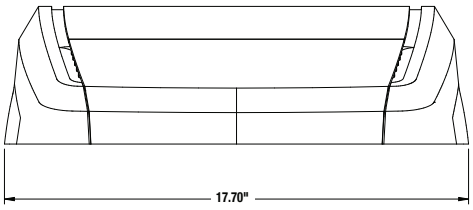


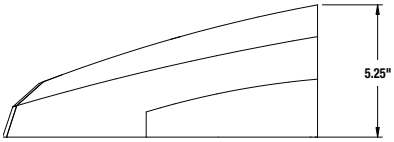
VPW2 with Back Box

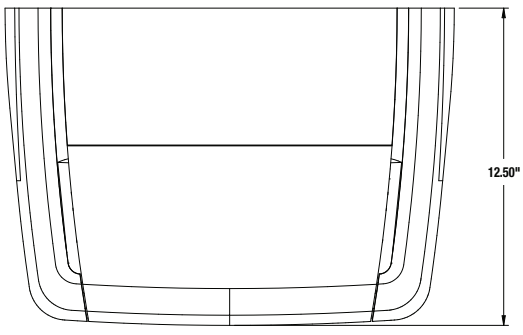




VPW3







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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE:	LOCATION:
TYPE: WG	PROJECT:
CATALOG #: VPW2-80L-65-4K7-4W-UNV-PSS	

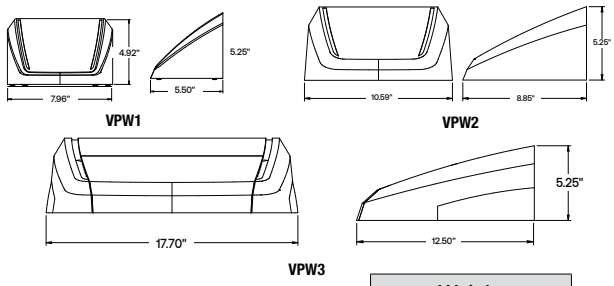
FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Strike and Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual Comfort - Option for Size 2 and Size 3
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, and LightGRID+.
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada

C US BAA TAA

MICRO STRIKE | OPTICS STRIKE





	Weight
VPW1	4.1 lbs / 1.86 kg
VPW2	7.15 lbs / 3.24 kg
VPW3	17.1 lbs / 7.80 kg

CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID+

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 2700K, 3000K, 3500K, 4000K and 5000K CCTs
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V input is available in most wattage, 480V is available for 55W and above.
- Ambient operating temperature -40˚C to 40˚C
- Driver RoHS and IP66
- 10kV Surge Protector optional
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one same fixture.
- Dimming drivers are standard. Select CD (Customer Dimming) for the dimming wires to be extended outside the fixture.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CONTROLS CONTINUED

- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -20˚C to 40˚C.
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor.

CERTIFICATIONS

- Certified to UL 1598 and CSA 22.2#250.0-24
- IP65 rated housing
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225- 11). See Buy America(n) Solutions (link to https://http://www.currentlighting.com/resources/americasolutions).

WARRANTY

- 5 year limited warranty

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

TYPE: WG | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4W-UNV-PSS

ORDERING GUIDE

Example: VPW1–24L-10–3K7–2–UNV–BLS

CATALOG # VPW2-80L-65-4K7-3-UNV-DBT

WPW2 – 80L-65 – 4K7 – 4W – UNV – DBT –

Series	
VPW1	Viper Wall 1
VPW2	Viper Wall 2
VPW3	Viper Wall 3

# LEDs - Wattage	
24L-10	1,000 Lumens
24L-15	2,000 Lumens
24L-25	3,000 Lumens
48L-15	2,000 Lumens
48L-20	3,000 Lumens
48L-30	4,000 Lumens
48L-35	5,000 Lumens
48L-45	6,000 Lumens
80L-20	3,000 Lumens
80L-25	4,000 Lumens
80L-35	5,000 Lumens
80L-45	6,000 Lumens
80L-55	7,000 Lumens
80L-65	8,000 Lumens
80L-70	8,500 Lumens
18L-25	3,000 Lumens, Strike Optics
18L-30	4,000 Lumens, Strike Optics
18L-39	4,750 Lumens, Strike Optics
18L-50	6,000 Lumens, Strike Optics
18L-60	6,500 Lumens, Strike Optics
160L-45	7,000 Lumens
160L-70	10,000 Lumens
160L-95	12,500 Lumens
160L-105	15,000 Lumens
160L-135	17,500 Lumens
160L-155	20,000 Lumens
36L-55	7,000 Lumens, Strike Optics
36L-80	9,500 Lumens, Strike Optics
36L-100	11,500 Lumens, Strike Optics
36L-120	13,000 Lumens, Strike Optics

CCT/CRI	
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
4K7	4000K, 70 CRI
5K7	5000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
4K8	4000K, 80 CRI
5K8	5000K, 80 CRI
AP	Phosphor Converted Amber[1]

Distribution	
FR	Auto Front Row[7]
2	IES TYPE 2
3	IES TYPE 3
4F	IES TYPE 4 Forward
4W	IES TYPE 4W

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Matte Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

–

Control Options Network[3,7,11,13]	
NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[14]
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS24F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-HM PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor
WIR	LightGRID+ In-Fixture Module[9]
WIRSC	LightGRID+ In-Fixture Moduel with BTS occupancy[9]

Stand Alone Sensors[7,11,13]	
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height[14]

Photocontrol[13]	
PC	Button Photocontrol 120-277V

Options	
F	Fusing[5,7]
E	Battery[6,7,8]
EH	Battery with Heater[6,7,8]
CS	Comfort Shield[7,10]
SP	10kA Surge Protector
2PF	Dual Power Feed[2,7,8]
2DR	Dual Driver[2,7,8]
CD	Customer Dimming[12]
DTS	Dimming Transfer Switch[7]

Notes:

1 Available with Micro Strike Optics only
2 Not available with 480V in Size 1 and Size 2
3 Networked controls cannot be combined with other control options
4 Not available with VPW1 or with 2PF or 2DR options
5 Must specify voltage (VPW1 & VPW2: 120V, 277V or 347V; VPW3: 120V, 208V, 240V, 277V, 347V or 480V)
6 See page 10 for detail Battery configurations
7 Not available in VPW1
8 2PF can't be combined with E or EH; 2DR can't be combined with E or EH in VPW2
9 Not avialable in VPW1 and VPW2
10 Not available with Micro Strike 24L and 48L. Not available with Strike 18L and 36L
11 Not available with 2PF
12 Not available with Network Control options or Stand Alone Sensors. Can be ordered with PC
13 Not available in 480V in VPW2; Only available in 480V in VPW3 in 80W, 100W, 120W, 135W and 155W
14 NXWS12F and BTSO-12F are the only sensors available in VPW2

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4W-UNV-DBT

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

NX LIGHTING CONTROLS

Apple App

Google Play

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

	OPERATING HOURS		
Ambient Temp.	0	25,000	TM-21-22 60,000
25°C / 77°F	1.00	0.91	0.83
40°C / 104°F	0.99	0.90	0.82

Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

MULTIPLIER

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

PERFORMANCE DATA: MICROSTRIKE

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW1	24L	10	6.6	2	888	134	0	0	0	883	134	0	0	0	850	129	0	0	0
				3	829	126	0	0	0	825	125	0	0	0	794	120	0	0	0
				4W	867	131	0	0	1	863	131	0	0	1	830	126	0	0	1
		15	14	2	1883	134	1	0	1	1873	134	1	0	1	1802	129	1	0	1
				3	1759	126	1	0	1	1750	125	1	0	1	1683	120	0	0	1
				4W	1839	131	0	0	1	1830	131	0	0	1	1761	126	0	0	1
		25	23.0	2	3116	135	1	0	1	3100	135	1	0	1	2982	130	1	0	1
				3	2910	127	1	0	1	2896	126	1	0	1	2785	121	1	0	1
				4W	3044	132	1	0	1	3029	132	1	0	1	2914	127	1	0	1

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4W-UNV-DBT

PERFORMANCE DATA: MICROSTRIKE CONT'D

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW2	48L	15	13.1	2	1866	142	1	0	1	1857	142	1	0	1	1786	136	1	0	1
				3	1743	133	1	0	1	1734	132	1	0	1	1668	127	0	0	1
				4F	1832	140	0	0	1	1823	139	0	0	1	1754	134	0	0	1
				4W	1823	139	0	0	1	1814	138	0	0	1	1745	133	0	0	1
		20	20.5	2	2791	136	1	0	1	2777	135	1	0	1	2671	130	1	0	1
				3	2606	127	1	0	1	2593	127	1	0	1	2495	122	1	0	1
				4F	2740	134	1	0	1	2726	133	1	0	1	2622	128	1	0	1
				4W	2726	133	1	0	1	2713	132	1	0	1	2610	127	1	0	1
		30	28.8	2	3766	131	1	0	1	3747	130	1	0	1	3605	125	1	0	1
				3	3517	122	1	0	1	3500	122	1	0	1	3367	117	1	0	1
				4F	3697	128	1	0	1	3678	128	1	0	1	3539	123	1	0	1
				4W	3679	128	1	0	1	3661	127	1	0	1	3522	122	1	0	1
		35	37.3	2	4707	126	1	0	1	4684	126	1	0	1	4506	121	1	0	1
				3	4396	118	1	0	1	4375	117	1	0	1	4208	113	1	0	1
				4F	4621	124	1	0	1	4598	123	1	0	1	4423	119	1	0	1
				4W	4599	123	1	0	2	4576	123	1	0	2	4402	118	1	0	2
		45	45.9	2	5604	121	1	0	1	5576	121	1	0	1	5364	116	1	0	1
				3	5234	114	1	0	2	5208	113	1	0	2	5010	109	1	0	2
				4F	5501	119	1	0	2	5474	118	1	0	2	5266	114	1	0	2
				4W	5475	116	1	0	2	5447	115	1	0	2	5240	111	1	0	2
	80L	20	19.4	2	2978	154	1	0	1	2963	153	1	0	1	2851	147	1	0	1
				3	3028	156	1	0	1	3013	155	1	0	1	2898	149	1	0	1
				4F	3039	157	1	0	1	3024	156	1	0	1	2909	150	1	0	1
				4W	2968	153	1	0	1	2953	152	1	0	1	2841	146	1	0	1
		25	26.7	2	3723	139	1	0	1	3704	139	1	0	1	3563	133	1	0	1
				3	3785	142	1	0	1	3766	141	1	0	1	3623	136	1	0	1
				4F	3799	142	1	0	1	3780	142	1	0	1	3636	136	1	0	1
				4W	3710	139	1	0	1	3692	138	1	0	1	3551	133	1	0	1
		35	34.2	2	4775	140	1	0	1	4751	139	1	0	1	4571	134	1	0	1
				3	4855	142	1	0	1	4831	141	1	0	1	4647	136	1	0	1
				4F	4872	142	1	0	1	4848	142	1	0	1	4664	136	1	0	1
				4W	4759	139	1	0	1	4735	138	1	0	1	4555	133	1	0	1
		45	41.7	2	6032	145	1	0	2	6002	144	1	0	2	5774	138	1	0	1
				3	6133	147	1	0	2	6102	146	1	0	2	5870	141	1	0	2
				4F	6155	148	1	0	2	6124	147	1	0	2	5891	141	1	0	2
				4W	6012	144	1	0	2	5982	143	1	0	2	5754	138	1	0	2
		55	50.6	2	6999	138	1	0	2	6964	138	1	0	2	6700	132	1	0	2
				3	7116	141	1	0	2	7081	140	1	0	2	6812	135	1	0	2
				4F	7142	141	1	0	2	7106	140	1	0	2	6836	135	1	0	2
				4W	6976	138	1	0	2	6941	137	1	0	2	6677	132	1	0	2
		65	58.3	2	7910	136	2	0	2	7871	135	2	0	2	7572	130	1	0	2
				3	8042	138	1	0	2	8002	137	1	0	2	7698	132	1	0	2
				4F	8071	138	2	0	2	8031	138	2	0	2	7726	133	1	0	2
				4W	7884	135	1	0	2	7844	135	1	0	2	7546	129	1	0	2
		70	63.5	2	8506	134	2	0	2	8463	133	2	0	2	8142	128	2	0	2
				3	8648	136	1	0	2	8605	136	1	0	2	8278	130	1	0	2
				4F	8679	137	2	0	2	8636	136	2	0	2	8308	131	2	0	2
				4W	8477	133	1	0	2	8435	133	1	0	2	8114	128	1	0	2

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DATE: | LOCATION:

TYPE: WF | PROJECT:

CATALOG #: VPW2-80L-65-4K7-4W-UNV-DBT

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

ELECTRICAL DATA: MICROSTRIKE

# OF LEDS	24L		
NOMINAL WATTAGE	10	15	25
SYSTEM POWER (W)	6.6	14.0	23.0
INPUT VOLTAGE (V)	CURRENT (Amps)		
120	0.06	0.12	0.19
208	0.03	0.07	0.11
240	0.03	0.06	0.10
277	0.02	0.05	0.08
347	0.02	0.04	0.07
480	0.01	0.03	0.05

# OF LEDS	48L				
NOMINAL WATTAGE	15	20	30	35	45
SYSTEM POWER (W)	13.1	20.5	28.8	37.3	45.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.11	0.17	0.24	0.31	0.38
208	0.06	0.10	0.14	0.18	0.22
240	0.05	0.09	0.12	0.16	0.19
277	0.05	0.07	0.10	0.13	0.17
347	0.04	0.06	0.08	0.11	0.13
480	0.03	0.04	0.06	0.08	0.10

# OF LEDS	80L						
NOMINAL WATTAGE	20	25	35	45	55	65	70
SYSTEM POWER (W)	19.4	26.7	34.2	41.7	50.6	58.3	63.5
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.16	0.22	0.29	0.35	0.42	0.49	0.53
208	0.10	0.13	0.18	0.22	0.27	0.28	0.31
240	0.08	0.12	0.15	0.19	0.24	0.24	0.26
277	0.07	0.10	0.13	0.17	0.21	0.21	0.23
347	0.06	0.08	0.11	0.13	0.16	0.17	0.18
480	0.04	0.06	0.08	0.10	0.12	0.12	0.13

# OF LEDS	160L					
NOMINAL WATTAGE	45	70	95	105	135	155
SYSTEM POWER (W)	46.2	68.3	91	106.3	134.8	158.3
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	0.39	0.57	0.76	0.89	1.12	1.32
208	0.22	0.33	0.44	0.51	0.65	0.76
240	0.19	0.28	0.38	0.44	0.56	0.66
277	0.17	0.25	0.33	0.38	0.49	0.57
347	0.13	0.20	0.26	0.31	0.39	0.46
480	0.10	0.14	0.19	0.22	0.28	0.33

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VIPER Wall

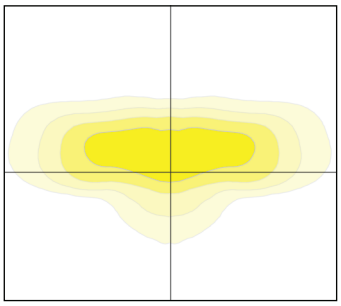
VPW1/VPW2/VPW3 LED WALLPACK

DATE:	LOCATION:
TYPE: WF	PROJECT:
CATALOG #: VPW2-80L-65-4K7-3-UNV-DBT	

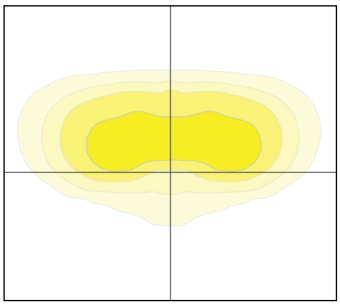
PHOTOMETRY

Mounting Height: 10ft

Type 2



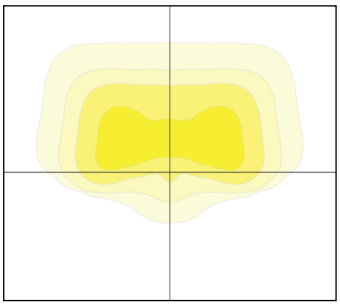
Type 3



Type 4F

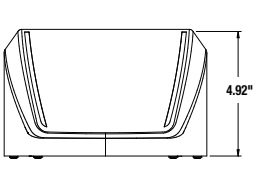


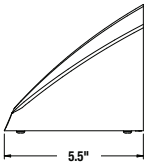
Type 4W

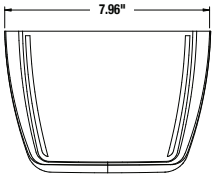


DIMENSIONS

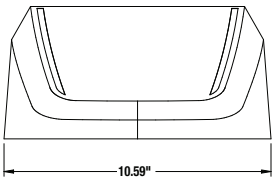
VPW1

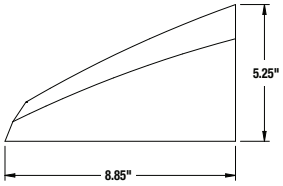




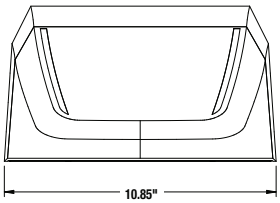


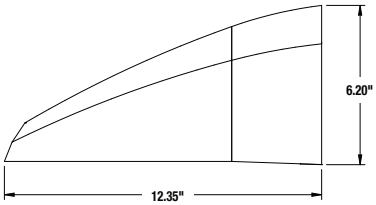
VPW2



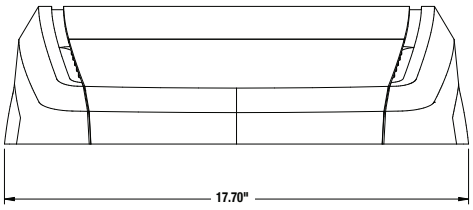


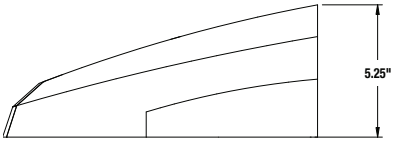
VPW2 with Back Box

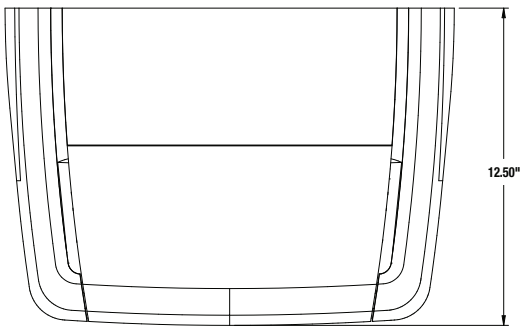




VPW3







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EALON LLC
1009 ADMIRALTY PARADE
NAPLES, FL 34102-7856

EALON LLC
1009 ADMIRALTY PARADE
NAPLES, FL 34102-7856

ENVIRONMENTAL INVESTMENT GROUP LLC
950 WALNUT RIDGE DR
HARTLAND, WI 53029

JC MITCHELL REAL ESTATE LLC
955 WALNUT RIDGE DR STE B
HARTLAND, WI 53029-8352

LANG TECHNOVATION CO
1020 JAMES DR STE 1 PO BOX 1428
HARTLAND, WI 53029-8325

LMRK DI PROPCO LLC
C/O LANDMARK DIVIDEND LLC DC186845
400 CONTINENTAL BLVD STE 500
EL SEGUNDO, CA 90245-5078

M5 INVESTMENTS LLC
W304S8266 OAK RIDGE DR
MUKWONAGO, WI 53149-8882

OLSON REALTY GROUP II LLC
1110 RICHARDS RD
HARTLAND, WI 53029-8356

OLSON REALTY GROUP LLC
1110 RICHARDS RD
HARTLAND, WI 53029-8356

PUD DEVELOPMENT AGREEMENT

BETWEEN THE

VILLAGE OF HARTLAND

AND

3LP HARTLAND SENIOR LLC

EFFECTIVE DATE:

[_____], 2024

INDEX

[TO BE ADDED ONCE COMPLETE]

EXHIBIT LIST

Exhibit 1	Property Legal Description
Exhibit 2	CSM
Exhibit 3	Senior Living Parcel Legal Description
Exhibit 4	Architectural Plans and Specifications
Exhibit 5	Dedicated Improvements
Exhibit 6	Civil Engineering Plans
Exhibit 7	[Intentionally Omitted]
Exhibit 8	[Intentionally Omitted]
Exhibit 9	Private Hydrant Maintenance Agreement
Exhibit 10	Storm Water Management, Facility Maintenance and Easement Agreement
Exhibit 11	Landscape Plans and Specifications
Exhibit 12	Property Declaration
Exhibit 13	Lighting Plan
Exhibit 14	Walking Path and Fire Access Road
Exhibit 15	Walking Path Easement Agreement

PUD DEVELOPMENT AGREEMENT

THIS PUD DEVELOPMENT AGREEMENT ("Agreement") is made, effective as of the date of the recording of this Agreement (as provided in Section XVI.A. below) (the "Effective Date"), by and between the VILLAGE OF HARTLAND, a Wisconsin Municipality ("Village"), and 3LP HARTLAND SENIOR LLC, a Wisconsin limited liability company ("Developer" and, collectively, with the Village, the "Parties" and each a "Party").

RECITALS

WHEREAS, Developer intends to acquire approximately 3.76 acres of land in the Village that is a portion of Lot 2 of CSM 12091 on Campus Drive, which full Lot 2 is more fully identified in the attached Exhibit 1, which is hereby incorporated by reference (the "Property"); and

WHEREAS, in order to proceed with the planned development described herein, Developer and the owner of the Property need to obtain approval from the Village to divide the Property by a recorded certified survey map (the "CSM" Exhibit 2) to be recorded by Developer and the owner of the Property prior to the recording of this Agreement and which CSM will divide the Property to create Lot 2 (the "Senior Living Parcel") and Outlot 1 ("Outlot 1"); and

WHEREAS, Developer seeks to develop the Senior Living Parcel by constructing a senior housing continuum of care facility, comprised of not more than 120 senior housing units (the "Senior Living Project") to be located on the Senior Living Parcel legally described in Exhibit 3 attached hereto; and

WHEREAS, Developer requested that the Senior Living Parcel be rezoned as a Planned Development Overlay with underlying zoning of RM-1 under of the Village Code of Ordinances; and

WHEREAS, the Village conducted a public hearing concerning the work to be done with respect to the Senior Living Parcel, and the rezoning of the Senior Living Parcel on [October 14, 2024]; and

WHEREAS, the Senior Living Parcel was approved for rezoning subject to recordation on [October 28, 2024] as RM-1 with PUD overlay; and

WHEREAS, Developer has provided plans and specifications for the Senior Living Project (attached hereto and incorporated by reference as Exhibit 4) and such plans and specifications as approved by the Architectural Board and Plan Commission are hereafter generally referred to as the "Plans and Specifications" but are more specifically listed and indexed on Exhibit 4; and

WHEREAS, the Architectural Board and Plan Commission, at its meetings dated [October 21, 2024], recommended approval of Developer's Plans and Specifications, the CSM, and regrading and rezoning of the Senior Living Parcel; and

WHEREAS, the Architectural Board and Plan Commission has further recommended approval of the Senior Living Project conditioned upon entry by the Village and Developer into a

Development Agreement and its approved recording as required by this contract as allowed by Section 46-809(c) of the Village Code of Ordinances; and

WHEREAS, the Village is requiring that, as conditions of development approval, that Developer install certain improvements listed in the attached Exhibit 5 that are to be provided by Developer and dedicated to the Village upon completion as listed on Exhibit 5 (the "Dedicated Improvements"); and

WHEREAS, on [October 28, 2024], the Village Board approved the CSM and conditionally approved Developer's Plans and Specifications on the Senior Living Parcel, grading and installation of permanent comprehensive storm water improvements, the private roads, internal private water and private sanitary sewer systems, and Storm/Surface Water System all as more particularly described in Exhibit 4 to this Agreement, contingent on Developer and the Village entering into this Agreement and further subject to the terms, conditions, and provisions of this Agreement, all subject to the CSM being recorded and Developer obtaining title to the Senior Living Parcel in fee simple as an absolute contractual preconditions before the recording of this Agreement against the Senior Living Parcel.

AGREEMENT

NOW, THEREFORE, the Village and Developer acknowledge and agree that, in consideration of the granting of approval of the Senior Living Project by the Village Board, for One Dollar ($1), and the representations by Developer, the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

ARTICLE I
RECITALS

The recitals set forth above are hereby incorporated and fully made part of this Agreement.

ARTICLE II
REMOVAL OF EXISTING STRUCTURES/EROSION CONTROL

A. Erosion Control. Developer shall install and maintain Wisconsin Department of Natural Resources ("WDNR") approved erosion control methods in accordance with its WDNR Notice of Intent permit as well as Village issued erosion control permit during any ground disturbing activities on the Property. Developer and all of its successors in interest or assigns shall thereafter provide and maintain erosion control in accordance with the SWM Agreement in perpetuity.

B. Authorizations. Developer shall acquire all necessary permits and authorizations, including but not limited to Village sewer and water lateral disturbance permits, to accomplish any work requiring such authorizations and permits, at Developer's sole cost and expense. Further, Developer shall comply in all material respects with the approved Plans and Specifications, including, but not limited to, those attached hereto as Exhibits 4 thru 15 for the Project.

C. Utility Readiness. All earthwork activities with respect to applicable underground utilities on the Senior Living Parcel and Outlot 1 shall be completed to subgrade in manner commensurate with beginning any utility construction work, such that the earthwork will commence at the entry point to Outlot 1 and must have installed control and hydrant valves sufficient the Project prior to Developer proceeding with vertical construction.

D. Restoration. All areas of the Property on which construction is not actively ongoing that have been disturbed by Developer's construction activities shall be restored to a grade compatible with the overall SWM Plan (as hereinafter defined) and vegetated within thirty (30) days of the cessation of any grading on such parcel, weather permitting.

ARTICLE III
IMPROVEMENTS

Developer hereby agrees that, upon undertaking any land disturbing activities for the Senior Living Project on the Property, Developer shall construct the following improvements in substantial accordance with the Plans and Specifications as follows:

A. Buildings. Developer shall build a four (4) story continuum of care senior living facility in one phase. Construction by Developer shall be in substantial accordance with the Plans and Specifications set forth in Exhibit 4 to be completed within twenty-four (24) months from the first issuance of the building permit for the Senior Living Project improvements. For purposes of calculating permissible unit density for the Senior Living Project, the aggregate square footage of Outlot 1 and the Senior Living Parcel shall be taken into account; provided, however, that prior to conveyance of the Senior Living Parcel to Developer and recordation of this Agreement, the owner of the Property shall record against the entire Property a declaration in the form attached as Exhibit 12 (the "Property Declaration"). The Property Declaration shall prohibit development of additional improvements on Outlot 1 to the extent such improvements would, when combined with the improvements on the Senior Living Parcel, violate Village restrictions on the density of Outlot 1 and the Senior Living Parcel in the aggregate.

B. Sanitary Sewer.

1. Developer shall construct, install, and furnish a completed private sanitary sewer system for the Senior Living Project in substantial accordance with the Plans and Specifications set forth in Exhibit 6. The Senior Living Project sanitary sewer improvements located on the Property shall be private improvements and may be connected to the Village sanitary sewer system subject to testing/inspection and the dedication of connecting components, if any, to the Village's sewer system, at the sole discretion of the Village and at the sole expense of Developer.

2. As a condition of obtaining any plumbing permit(s) pertaining to the Senior Living Project, Developer shall acquire for the Senior Living Project and submit to the Village evidence of Wisconsin Department of Safety and Professional Services approval and submit a copy of documents evidencing same to the Village Engineer prior to commencing the installation of the private sanitary sewer system.

3. As a condition of obtaining any plumbing permit(s) pertaining to the Senior Living Project, Developer shall obtain prior approval for the Senior Living Project from the Del-Hart Sewerage District ("D-H SD") and submit a copy of such documents evidencing same acceptable to the Village Engineer and the Village Public Works Director.

4. All work on any private sanitary sewer/plumbing shall be in accordance with "Standard Specifications for Sewer and Water Construction in Wisconsin" and the applicable specifications and standards required by D-H SD.

5. Developer shall be responsible for payment of the connection and permit charges associated with said private sanitary sewer system for the Senior Living Project.

6. Developer shall, at its sole expense, furnish one set of "as-built" plans for all installed private sanitary sewer system elements; including location and elevation of laterals at the connection points together with an electronic file copy of said plans compatible with the Village's GIS software. Developer shall be responsible for any costs of integrating said GIS data into the Village's GIS database, not to exceed $2,500 in the aggregate for all GIS integration under this Agreement.

C. Water Service.

1. Developer shall be solely responsible to provide sufficient water service from the Village of Hartland Water Utility to the Senior Living Project in accordance with all applicable provisions of law and the applicable Wisconsin Administrative Code provisions, regulations and Hartland ordinances and Hartland Water Utility requirements. The Parties acknowledge and agree that the above-described water service is subject to approval by the Village of Hartland Water Utility. Developer shall be responsible for the installation of all internal private water lines within the Senior Living Project and for connecting to any main that may proceed within any Village of Hartland right of way. The plans for all water mains intended to provide water to any portion of the Property shall be approved by the Village of Hartland and the proposed main locations are contemplated to be as shown on Exhibit 6 attached hereto. Developer shall dedicate to the Village connecting components, if any, at the sole discretion of the Village, at the sole expense of Developer.

2. The primary connection point to the Village Water Utility water main shall be as depicted on Exhibit 6. The primary connection point will have a master meter pit. The public water main shall extend to the gate valves on the public side of the meter pit at the sole expense of the Developer. The water lateral connected to the water main, meter pit, valves and hydrants on the private side of said gate valve will all be privately owned. The meter in the meter pit will be provided by and owned by the Village of Hartland and shall be paid for by the Village.

3. Developer shall, at its sole expense, furnish one set of "as-built" plans of the water system provided by Developer under this Agreement together with survey coordinate locations for bend, valves, meter pits, fire hydrants, and other structures and components provided by Developer under this Agreement, both on and off the Property, together with an electronic data file for integration into the Village's GIS database.

Developer shall be responsible for the actual costs of integration of said data into the Village's GIS database, not to exceed $2,500 in the aggregate for all GIS integration under this Agreement.

4. As a condition of the issuance of the occupancy permit, Developer shall construct, install, furnish, and provide fire suppression systems for the Senior Living Project to the extent required by and in accordance with plans and specifications approved by the State of Wisconsin as provided in the Plans and Specifications attached as Exhibit 4.

D. The occupancy permit shall not be processed or issued unless a Private Hydrant Maintenance Agreement has been executed and recorded in the form attached hereto as Exhibit 9, and until the water distribution system servicing the Senior Living Project improvements have been satisfactorily connected to the Village system as determined by the Village Engineer.

E. Storm/Surface Water System.

1. Developer shall construct, install, furnish, and provide facilities for storm and surface water drainage management for the Senior Living Parcel and Outlot 1 (the "SWM System") in substantial accordance with the Plans and Specifications set forth in Exhibit 6 or as may need to be modified to be in accordance with all applicable State, Federal, and Village statutes, regulations, ordinances, and D-H SD regulations and the Storm Water Management Plan agreed to by Developer and the Village (the "SWM Plan") and incorporated into a Storm Water Management, Facility Maintenance and Easement Agreement in the form attached hereto as Exhibit 10 (the "SWM Agreement") to be entered into by Developer prior to commencement of construction of the Senior Living Project.

2. The SWM System shall be a private improvement and will not be dedicated to the Village.

3. The Village shall have no obligation to issue any occupancy permits until the SWM System has been inspected by the Village Engineer and deemed to have been installed in substantial accordance with the Plans and Specifications or any needed modifications/amendments of same in the opinion of the Village Engineer to address any deficiency of the storm and surface drainage system to perform in accordance with the design criteria in the SWM Agreement approved by the Village Engineer.

4. Developer shall, at its sole expense, furnish one set of "as-built" plans of the SWM System provided by Developer under this Agreement together with survey coordinate locations for manholes, inlets, and other structures and components provided by Developer under this Agreement, both on and off the Senior Living Parcel, together with an electronic data file for integration into the Village's GIS database. Developer shall be responsible for the actual costs of integration of said data into the Village's GIS database, not to exceed $2,500 in the aggregate for all GIS integration under this Agreement.

5. Developer, together with its successors and assigns shall be responsible for the inspection on not less than an annual basis, perpetual maintenance, operation, and replacement of all storm/surface water facilities or components as required under the SWM

Agreement WHICH CAN BE ENFORCED BY THE VILLAGE ENGINEER, PUBLIC WORKS DIRECTOR OR BUILDING INSPECTOR INDEPENDENTLY.

F. Landscaping.

1. Developer shall seed and otherwise landscape the Senior Living Parcel and Outlot 1 in substantial accordance and pursuant to Developer's Plans and Specifications set forth in Exhibit 11.

2. Developer shall provide and plant on the Senior Living Parcel and Outlot 1 all trees/shrub plantings of the size and species, and at the locations, identified in Developer's Plans and Specifications set forth in Exhibit 11, provided, however, that Developer may substitute larger size plantings of the same species. Following the planting of said trees and shrubs, Developer shall water and maintain said trees and shrubs on the Senior Living Parcel and Outlot 1 to ensure their survival for not less than twelve (12) months from the date of substantial completion of the Senior Living Project. In the event any tree(s) or shrub(s) fails to survive twelve (12) months following its planting, Developer shall replace said tree(s) or shrub(s) with substantially like kind of species and size that said trees or shrubs should have been at the time of replacement at its sole expense.

G. Roads and Parking.

1. Developer shall grade, construct, and surface private roads, driveways, and parking areas for the Senior Living Project on the Senior Living Parcel and Outlot 1 as shown on, and in substantial accordance with the Plans and Specifications set forth in Exhibit 6.

2. Direct vehicular access to the Senior Living Parcel from public streets shall be only via Campus Drive and over and through Outlot 1 as shown on, and in substantial accordance with, the Plans and Specifications set forth on Exhibit 6. The Senior Living Parcel shall be the beneficiary of a cross access, parking and maintenance, and utilities easement pursuant to the Property Declaration.

3. Exterior Lighting and Signage. Developer shall provide and install exterior lighting and signage for the Senior Living Parcel and Outlot 1 in substantial accordance with the Plans and Specifications set forth in Exhibit 13. Developer, together with its successors and assigns shall bear all electrical and operational expenses for all lighting on the Senior Living Parcel.

H. Permits. The Village is prepared to grant Developer the permits and authorizations required to complete the Senior Living Project, provided Developer complies with all the requirements for the issuance of such permits and authorizations.

I. Pathways/Fire Access Lane.

1. Developer agrees that the Village is requiring the installation and maintenance of an asphalt walking path for the Senior Living Project in substantial accordance with the Plans and Specifications set forth in Exhibit 14 (the "Walking Path").

2. Developer shall grant an easement to the public and enforceable by the Village on, over and across the Walking Path in substantially the form as set forth on Exhibit 15 which shall be recorded prior to beginning construction of the Senior Living Project.

3. Developer may promulgate reasonable rules and regulations for the use of the Walking Path, including, without limitation, restricting or prohibiting night time usage and prohibiting littering, blocking or obstructing the Walking Path.

4. The Village shall have no responsibility to enforce any promulgated rules and regulations pertaining to the Walking Paths within the Senior Living Project, but shall be required to enforce any trespassing or other behavior related Village ordinance(s) that it would enforce or otherwise address on any other owner's private property in the Village.

5. Developer agrees that the Village is requiring the installation and maintenance of a fire access road for the Senior Living Project in substantial accordance with the Plans and Specifications set forth in Exhibit 14 (the "Fire Access Road").

6. Developer, together with its successors and assigns shall maintain, repair and replace the Walking Path and the Fire Access Road, including snow and ice removal, so they are useable and can, in the sole judgment of the Village Fire Chief, fully sustain the weight of multiple fire vehicles in the event of a call for services during all seasons.

ARTICLE IV
DEDICATION AND TRANSFER OF OFF-SITE DEDICATED IMPROVEMENTS

A. Transfer to Village. Subject to all of the other provisions of this Agreement and the Exhibits attached, Developer shall, without charge to the Village, upon completion of any Dedicated Improvements, which term expressly excludes any utility distribution components situated on or off the Property, unconditionally give, grant, convey and fully dedicate the same to the Village, its successors and assigns, forever, free and clear of all encumbrances whatsoever, together with, including without limitation, all structures, mains, conduits, pipes, lines, machinery, equipment and appurtenances which may in any way be a part of such Dedicated Improvements and *together with any and all necessary easements for access thereto.*

At the time of recording of this Agreement, Developer shall provide the Village with a title commitment and a deed as satisfactory evidence of the commitment to issue title insurance reflecting Developer's full ownership of the Senior Living Parcel. To the extent not paid by the seller from whom Developer acquires the Senior Living Parcel, Developer shall also pay, or cause to be paid when due, any transfer taxes that arise as a result from said dedication(s).

B. Notice and Acceptance. Developer shall notify the Village in writing of the completion of the Dedicated Improvements described on Exhibit 5. Within thirty (30) days of the date of such notice, the Village shall inspect and/or re-inspect as necessary any Dedicated Improvement described in Developer's notice and prepare and deliver to Developer a written punch list of repairs necessary to bring such improvements into substantial conformance with the Plans and Specifications. Upon Developer's written notice to the Village that all punch list repairs for all such Dedicated Improvements are complete, and following satisfactory completion of any

applicable re-inspection, the Village shall within fifteen (15) days following the date of such notice and subject to inspection and approval of the Village, by resolution, accept the dedication of all completed Dedicated Improvements. Simultaneous with the acceptance by the Village of any public sanitary sewer or public water improvement on the Property, Developer shall, at its sole expense, furnish to the Village one set of "as built" plans for the applicable sanitary sewer improvement in an electronic format acceptable to the Village.

C. Construction Warranty for Dedicated Improvements. Developer warrants that all materials and workmanship furnished by Developer for the Dedicated Improvements shall remain in good and sound condition for and during a period of twelve (12) months from the date after final acceptance by the Village of each Dedicated Improvement.

D. Obligation to Repair. Developer shall make or cause to be made, at its own expense, any and all repairs which may become necessary under and by virtue of Developer's warranty and leave the Dedicated Improvements in good and sound condition, except to the extent intentionally or negligently caused by the Village, its agents, employees, or third-party contractors.

E. Notice of Repair. If during a warranty period, the Dedicated Improvements shall, in the reasonable and professional opinion of the Village Engineer in his/her discretion, require any repairs or replacements which in his/her reasonable judgment are necessitated by reason of settlement of foundation, structure or backfill, or other defective workmanship and/or materials, Developer shall, upon written notification by the Village Engineer of the necessity for such repairs, make such repairs, at its own cost and expense. In the event Developer fails to make such repairs within a reasonable time after written notice has been sent as provided herein, or fails to start work within thirty (30) days, except in an emergency, after such written notice, weather permitting, the Village may cause such work to be done, but has no obligation to do so, either by contract or otherwise. Developer shall, within thirty (30) days of being invoiced by the Village, pay any excess cost or expense actually incurred in the correction process. If Developer fails to make payment within said thirty (30) days, the Village may impose a special charge against the Property pursuant to Wis. Stat. § 66.0627, as subsequently amended from time-to-time.

F. Maintenance Prior to Acceptance.

1. Developer shall maintain the Dedicated Improvements until such time as they are accepted by the Village. This maintenance shall include routine maintenance, such as dust suppression, crack filling, and the like.

2. In cases where emergency maintenance is required, such as sewer blockages within the boundaries of the Property or on Dedicated Improvements, the Village retains the right, after first attempting to work directly with Developer and Developer's contractors and agents, to complete the required emergency maintenance in a timely fashion and shall have authority to impose a special charge against the Property pursuant to Wis. Stat.§66.0627.

3. All improvements to be dedicated to the Village under this Agreement shall be maintained by Developer until they are accepted so they substantially conform to the applicable Plans and Specifications attached as exhibits to this Agreement at the time of their acceptance by the Village.

ARTICLE V
MISCELLANEOUS REQUIREMENTS

A. Facilities to Be Placed Underground. All newly installed facilities associated with the transmission/delivery of electrical, telephone, gas, water and communications services shall be underground. Normal and customary above-ground facility components such as transformers, service pedestals, gas vents and the like approved in writing by the Village Engineer in his reasonable discretion are permissible. Coordination of installation as shown on the Plans and Specifications shall be the responsibility of Developer.

B. Manner of Performance. Developer shall cause all construction called for by this Agreement to be carried out and performed in a good and workmanlike manner consistent with current best practices in the construction of senior housing facilities in the southeastern Wisconsin area.

C. Authorizations. Developer hereby agrees to obtain all necessary authorizations and approvals from all governmental authorities, including but not limited to the Village and State of Wisconsin, prior to the start of construction, demolition, and/or regulated abatement. Developer shall be solely responsible for payment of all applicable authorization fees and costs.

D. Locations/Existing Public Utilities. Developer agrees that the locations of existing Village sanitary sewer, water main, and storm water facilities as indicated on the approved Plans and Specifications and any other Village records are approximate locations only. Each party is solely responsible for definitively locating the other parties' existing facilities in the field, and no party hereto shall bear any liability if any of said facilities are not located as may be contained in the approved Plans and Specifications and any other Village records. The Parties hereto shall take commercially reasonable steps so as to not interfere with the existing facilities of any other party.

E. Pre-Demolition, Pre-Construction and Construction Meetings. Developer and its general contractor(s) shall attend pre-demolition and pre-construction meetings and construction meetings not more than once weekly as requested by Village staff prior to conducting demolition and construction and during construction of the Senior Living Project.

ARTICLE VI
TIME

A. Commencement and Completion. Developer shall complete, or cause the completion of, the following aspects of the improvements of the Senior Living Parcel, all in compliance with the requirements of this Agreement, and in accordance with the following Senior Living Project schedules:

1. Commencement of Senior Living Project. Developer shall commence demolition and construction of the Senior Living Project no later than twelve (12) months after the Effective Date.

2. Completion of SWM System. Except for punch list items relating to such improvements which shall be diligently pursued to completion thereafter by Developer, not

later than substantial completion of the Senior Living Project improvements and prior to any occupancy permit being issued for the Senior Living Project.

3. Completion of Senior Living Project landscaping. Developer shall complete all Senior Living Project landscaping, in accordance with the Plans and Specifications, within four (4) months of certificate of occupancy of the Senior Living Project improvements; provided that such period will be extended if completion is delayed due to inadvisability of landscaping due to the typical seasonal weather during any of such four (4) month period.

4. Completion of Senior Living Project Improvements. Developer shall complete all Senior Living Project improvements within twenty-four (24) months of the issuance of a building permit for the Senior Living Project improvements.

B. Improvements. Time is of the essence as to all timelines set forth in this Agreement. Subject to Section VI.D. of this Agreement, upon the failure of Developer to meet one or more deadlines specified in this Agreement, in the event Developer has commenced the Senior Living Project, the Village may (but is not required to) restore the Property to grade and stabilize the Property to achieve a dust-free, erosion proof condition. This Section shall be construed to preclude the Village's authority to remove any building constructed by Developer on the Property solely due to Developer's failure to meet one or more timelines specified in this Agreement unless Developer has substantially ceased construction activity on the Senior Living Project for more than twelve (12) calendar months. In the event the Village performs work on the Property under this Section, the Village may charge Developer one hundred and seven and one-half (107.5%) of the actual costs incurred by Village in restoring the Property to grade and stabilizing the Property to a dust-free, erosion-proof condition. If Developer or its successor in interest fails to pay such invoice, the Village shall have the right to assess a special charge against the Property, or any portion thereof, under Wis. Stat. § 66.0627 as subsequently amended from time-to-time.

C. Solely at the discretion of the Village, Developer may be deemed to have forfeited its rights under this Agreement to construct the improvements set forth in the Plans and Specifications upon occurrence of any one or more of the following events:

1. Developer fails to commence construction within the times permitted under of this Agreement, as applicable; or

2. Developer fails to obtain all required building permit(s) following the recording date of this Agreement with the Waukesha County Register of Deeds Office (the "Recording Date") on or before twelve (12) months after the Effective Date.

D. Cause of Delay and Notice of Default.

1. If delay in completion of any improvements on the Property described in this Agreement is caused or contributed to by labor disputes, casualties, acts of God or the public enemy, governmental embargo restrictions, shortages of fuel, labor or materials, pandemics, epidemics, public health related issues, riots, public insurrection, action or non-action of public utilities or of local, state or federal governments, agencies or departments affecting the work or other causes beyond Developer's reasonable control, then the time of

completion of such improvement shall be extended for the additional time caused by such delay.

2. Developer shall give written notice to the Village Engineer within thirty (30) calendar days of the first occurrence and each subsequent occurrence of each claimed delaying event together with full substantiation that the event qualifies for the granting of additional time under this Section. Failure by Developer to provide written notice within the time provided hereunder shall constitute a waiver by Developer of any right or entitlement to any extension under the terms of this Section.

ARTICLE VII
PAYMENT OF VILLAGE FEES

A. Reimbursement. Developer agrees to reimburse the Village for its planning, engineering, and inspection of the Senior Living Project and for its legal work negotiating and enforcing this Agreement and the other agreements associated with this Agreement. Village shall keep a detailed accounting of such costs and bill Developer at the rates contracted by the Village for such services.

B. Upfront Fees. Developer shall pay to the Village within thirty (30) days after a receipt of an invoice and reasonable supporting documentation therefore:

1. The Village's reasonable engineering and legal expenses incurred with respect to this Agreement in an aggregate amount not to exceed $30,000 (the "Cap"). THE VILLAGE SHALL ALSO BE ENTITLED TO BILL FOR ALL SERVICES WITH RESPECT TO THE MONITORING OR ENFORCEMENT OF THIS AGREEMENT, AND THE CAP SHALL NOT APPLY TO SUCH SERVICES.

2. The Developer hereby acknowledges and agrees that there are municipal sanitary sewer, water connection and other impact, reserve capacity, or similar municipal impact fees due or owing as a result of the Senior Living Project (collectively "Fees"), all of which shall be paid prior to the issuance of the building permit for the Senior Living Project.

3. Developer acknowledges that it shall be responsible for the full payment of all applicable building permit fees and all applicable D-H SD fees prior to the issuance of the building permit for the Senior Living Project.

C. Permit Fees. Developer shall be responsible for payment of all applicable municipal permit or related fees set forth in the Village Code of Ordinances or any fee schedule adopted and used by the Village and the costs of all inspections of the Senior Living Project.

ARTICLE VIII
INDEMNIFICATION AND INSURANCE

A. Indemnification. In addition to, and not to the exclusion or prejudice of, any provisions of this Agreement or documents incorporated herein by reference, Developer, or its successors in interest, shall INDEMNIFY AND SAVE HARMLESS the Village, its officers,

agents and employees, and shall defend the same from and against any and all liability, claims, loss, damages, interest, actions, suits, judgments, costs, expenses, attorneys' fees, and the like, which result from or arise in the course of, out of, or as a result of the performance, mis-performance, or nonperformance of Developer's obligations under this Agreement or Developer's negligent construction of improvements covered thereby until the granting of the occupancy permit pertaining to the Senior Living Project. The language of this Article VIII notwithstanding, Developer shall have no obligation to indemnify, save harmless or defend the Village to the extent of liability, claims, loss, damages, interest, actions, suits, judgments, costs, expenses, attorneys' fees, and the like resulting from negligent or intentional acts of the Village, its officers, agents, or employees. In every case where Developer is obligated to indemnify and save harmless the Village, its officers, agents and employees, if judgment is rendered against the Village, its officers, agents, or employees and notice and opportunity to defend was given to Developer of the pendency of the suit within ten (10) days after service of the summons and complaint on the Village, such judgment shall be conclusive upon Developer not only as to the amount of damages, but also as to its liability to the Village and/or its officers, agents, and employees.

B. Insurance. Developer shall maintain and cause its general contractor(s) and all subcontractors to maintain at all times and naming the Village, its officers, employee and agents as additional insureds, until one year following the granting by the Village of the final occupancy permit for the Senior Living Project, insurance with minimum limits and coverage as shown below:

1. Worker's Compensation, including Occupational Disease, Insurance meeting the statutory requirements of the State of Wisconsin, and Employer's Liability insurance in an amount of at least One Million Dollars ($1,000,000).

2. Comprehensive Liability Insurance providing limits for bodily injury and personal injury of One Million Dollars ($1,000,000) per occurrence with an aggregate of Two Million Dollars ($2,000,000). The policy must include the Village and its agents, officers and employees as "additional insureds" and provide premises, operations, elevators, damage, blanket contractual covering indemnities within contract documents, products and completed operations coverage and be endorsed as "primary and non- contributory" to any insurance of the additional insured, except from their negligence.

3. Comprehensive Automobile Liability Insurance, on occurrence basis, covering all owned, non-owned, and hired vehicles with limits of liability equal to those set forth in Section VIII.B.2. above.

4. Developer shall furnish the Village policy declarations and endorsements evidencing additional insureds to policies covering the above-recited insurance requirements. All policy endorsements must state that notice of any material change in coverage, non-renewal, or cancellation will be provided to the Village thirty (30) days prior to the effective date of any such change, non-renewal, or cancellation. The form of the policy endorsements will be subject to the approval of the Village Manager or his designee. The policy endorsements shall be delivered prior to the commencement of any ground disturbing construction pursuant to this Agreement. PRESENTMENT OF PROOF OF THE COMPLETE PROCUREMENT OF THE COVERAGE INDICATED IN THIS ARTICLE VIII IN THE FORM OF DECLARATIONS AND ENDORSEMENTS SHALL BE A

PRECONDITION TO THE ISSUANANCE OF ANY PERMITS. AN ACORD 25 SHALL NOT BE DEEMED ACCEPTABLE PROOF. PROOF OF THE RENEWAL OF SUCH COVERAGE SHALL BE PRESENTED AS SOON AS AVAILABLE AND PRIOR TO THE EXPIRATION OF ANY PERIOD OF COVERAGE FOR ANY TYPE OF INSURANCE.

5. It is understood and agreed that the insurance coverage and limits required above shall not limit the extent of Developer's responsibilities and liabilities pursuant to this Agreement or imposed by law.

ARTICLE IX
GENERAL CONDITIONS AND REGULATIONS

All the provisions of the Village Code of Ordinances relating to use and development of land, as amended from time-to-time, are incorporated herein by reference to the extent then applicable, and all such provisions shall bind the parties hereto and be a part of this Agreement as fully as if set forth at length herein. This Agreement and all work and improvements required hereunder shall be performed and carried out in accordance with the customary or better practices in the construction industry for Class A senior living facilities in southeastern Wisconsin subject to and in accordance with said ordinances and this Agreement.

ARTICLE X
AMENDMENTS

The Village Board and Developer, by mutual consent, may amend this Agreement only upon entry into a subsequent written agreement approved at a meeting of the Village Board of Trustees for the Village of Hartland. The Village Board shall not, however, consent to an amendment until after first having received a recommendation from the Village Plan Commission in accordance with applicable Village ordinances.

ARTICLE XI
NOTICE

Any notice given hereunder shall be in writing and personally delivered, mailed by registered or certified mail, return receipt requested, or delivered via overnight courier: To the Village: Village Clerk, Sandy Policello, Wisconsin 210 Cottonwood Avenue, Hartland, Wisconsin 53029, and to Developer: 3LP Hartland Senior LLC, c/o Three Leaf Partners LLC, 504 W. Juneau Avenue, Milwaukee, Wisconsin 53203, Attention: Matt Burow and John Ford, with a copy to Derek Taylor at the same address. Any party may, by notice as provided above, designate a different address from time to time. Any such notice shall be effective on the date of receipt.

ARTICLE XII
DEFAULT BY DEVELOPER

A. The failure of the Village to insist in any one or more instances upon performance of, or compliance with any term or condition of this Agreement shall not be construed as a waiver of future performance. The obligations of Developer with respect to such term, covenant, or condition shall continue in full force and effect.

B. In addition to any other remedies otherwise provided under this Agreement or the Village Code of Ordinances, the Village shall have the right to withhold inspections and/or permits for the Senior Living Project and/or to bring an action in the Circuit Court for Waukesha County for violation(s) of this Agreement and shall be entitled to recover reasonable attorneys' fees from the defaulting Developer and any contractor in violation of any Village ordinance or this Agreement.

ARTICLE XIII
TRANSFER OF OWNERSHIP AND PAYMENT IN LIEU OF TAXES

Under no circumstance may the Senior Living Parcel become exempt from general property taxes, including a change in the taxable status of the Developer, without the owner entity having first entered into an agreement with the Village to make an annual payment in lieu of taxes ("PILOT Agreement") for an amount not less than the assessed tax value of the Senior Living Parcel times the annually approved Village mill rate for each year with the additional condition that no portion of the Senior Living Project may be conveyed to any other subsequent tax exempt owner at any time without a similar PILOT Agreement being executed. **The limitation of this Section XIII shall be a covenant running with the land and shall survive in perpetuity so long as the building constructed for the Senior Living facility exists.**

ARTICLE XIV
MISCELLANEOUS PROVISIONS

A. The Parties acknowledge and represent that this Agreement is the subject of negotiation by all parties and that both parties together shall be construed to be the drafter hereof and this Agreement shall not be construed against any party individually as drafter.

B. Nothing in this Agreement shall be construed to create an employer/employee relationship, joint employer, a joint venture or partnership relationship, or a principal/agent relationship between the Village and Developer.

C. This Agreement shall not be construed to abridge or waive the Village's authority under Wis. Stats. §§ 61.35 and 62.23.

D. Developer shall be solely financial responsible for all trash, garbage and waste hauling from all of the units, buildings and grounds of the Senior Living Project and shall contract directly for such services. Developer warrants that all of its private streets and access areas to the waste/garbage collection points within the Senior Living Project have been designed to adequately support the weight of heavy vehicles and equipment such as waste collection trucks and all likely firefighting vehicles.

E. The parties hereby acknowledge that this Agreement imposes on them, and their respective officers, agents, and employees, and successors and assigns a duty of good faith and fair dealing.

F. Except as otherwise expressly provided in this Agreement, all guarantees, agreements, representations, and warranties made herein shall survive the execution of this Agreement and as applicable, the completion of the Senior Living Project. This Agreement shall

be binding upon and inure to the benefit of the Parties their respective heirs, personal representatives, executors, or successors and assigns.

G. Developer represents and warrants that it is a duly organized and validly existing limited liability company under the laws of the State of Wisconsin and that the execution and performance of this Agreement has been duly authorized by resolution or other required action.

H. This Agreement shall be recorded in accordance with Article XVI, hereafter, with the Register of Deeds for Waukesha County.

I. All time periods referred to in this Agreement shall be calculated on the basis of consecutive calendar days.

J. Developer and any successor owners of the Senior Living Parcel may collaterally assign the rights and obligations provided in this Agreement to any construction lender or to other lenders with respect to the Senior Living Project and/or the Senior Living Parcel. Any such lender shall have the right to cure any default by Developer hereunder within forty-five (45) days of delivery of notice of such default from the Village to such lender or, if such default cannot reasonably be cured within that time frame, such longer period as may be reasonably necessary to accomplish such cure so long as such lender begins such cure within the forty-five (45) day period and diligently pursues it to completion.

K. Within ten (10) days after request therefor, the Village agrees to provide an estoppel certificate to Developer, its lenders, or any proposed purchaser of all or any part of the Property, or its lenders, stating that Developer is not in default hereunder or if Developer is in default hereunder setting forth any such defaults.

L. In the event that any term or provision of this Agreement is determined to be invalid or unenforceable for any reason, then the other terms and provisions of this Agreement shall not be affected thereby and said terms and provisions shall remain in full force and effect, unless to do so would be inequitable to either party hereto.

M. THE TERMS AND CONDITIONS CONTAINED HEREIN ARE INTENDED BY THE DEVELOPER AND THE VILLAGE TO CONSTITUTE A COVENANT RUNNING WITH THE LAND AND SHALL BE ENFORCIBLE AGAINST THE DEVELOPER, OR AFTER THE TRANSFER OF OWNERSHIP OF THE SENIOR LIVING PARCEL TO DEVELOPER'S SUCCESSORS OR ASSIGNS. IT IS NOT THE INTENT OF THE VILLAGE OR DEVELOPER THAT THERE BE A LEGAL TERMINATION OF THIS CONTRACT BECAUSE ONCE THE OBLIGATIONS TO CONSTRUCT THE SENIOR LIVING PROJECT, IN STRICT CONFORMITY WITH THE APPROVED PLANS AND SPECIFICTIONS AS CONTAINED IN THIS AGREEMENT, HAVE BEEN ACHIEVED, NEW OBLIGATIONS ON THE PART OF THE DEVELOPER OR ITS SUCCESSOR(S) OR ASSIGN(S) ARISE, FIRST WITH RESPECT TO DEDICATIONS AND THEN WARRANTY OBLIGATIONS AND THEN FOLLOWED BY ONGOING MAINTENANCE AND REPAIR OBLIGATIONS REQUIRING REGULAR PERFORMANCE OF OBLIGATIONS WITH RESPECT TO INSPECTION AND MAINTENANCE TASKS WHICH NEED TO BE PERFORMED SO LONG AS THE SENIOR LIVING PROJECT BUILDING EXISTS. BY WAY OF EXAMPLE, BUT NOT BY WAY OF

LIMITATION, THERE WILL ALWAYS BE ONGOING OBLIGATIONS TO INSPECT AND MAINTAIN THE STORM WATER SYSTEM, THE PUBLIC PEDESTRIAN PATHWAY SYSTEM, AND THE FIRE ACCESS ROAD.

ARTICLE XV
EXCULPATION OF VILLAGE ELECTED OFFICIALS IN PERSONAL CAPACITY

The parties mutually agree that the President and Village Clerk of the Village of Hartland, entered into and are signatory to this Agreement solely in their official capacity and not individually, and shall have no personal liability or responsibility hereunder; and personal liability as may otherwise exist, being expressly released and/or waived.

ARTICLE XVI
RECORDATION AND TERMINATION

A. Recordation. This Agreement shall only be effective as of the Effective Date upon the execution of this Agreement **and its recordation** with the Register of Deeds for Waukesha County by the Parties; provided, however, that the Exhibits to this Agreement shall not be recorded but rather shall be maintained on file with the Village. Upon its execution, the original of this Agreement and all of its Exhibits shall be held by the Village in trust until its recordation and return to the Village for its retention.

B. Termination. This Agreement shall not terminate for the reasons stated in Article XIV.M. If Developer has not acquired title to the Senior Living Parcel by June 1, 2025, this Agreement shall automatically terminate and the parties shall have no rights or obligations hereunder, except Developer's obligation to reimburse any fees then owed to the Village pursuant to Article VII, which obligation shall survive any such termination.

[*Signatures on Following Pages*]

IN WITNESS WHEREOF, Developer and Village have caused this Agreement to be signed by their appropriate officers to be hereunto affixed in either one original or by original counterparts the day and year first above written.

VILLAGE:

VILLAGE OF HARTLAND

By: _____
Jeff Pfannerstill, Village President

ATTEST:

_____
Sandee Policello, Village Clerk

STATE OF WISCONSIN)
) ss.
COUNTY OF WAUKESHA)

Personally, came before me this _____ day of _____, 2024, the above-named Jeff Pfannerstill, Village President, to me known to be the person and officer who executed the foregoing instrument and acknowledged that he executed the same as such officer by the Village of Hartland.

_____
NOTARY PUBLIC, State of Wisconsin
Print Name:_____
My Commission:_____

STATE OF WISCONSIN)
) ss.
COUNTY OF WAUKESHA)

Personally, came before me this _____ day of _____, 2024, the above-named Sandee Policello, Village Clerk, to me known to be the person and officer who executed the foregoing instrument and acknowledged that she executed the same as such officer by the Village of Hartland.

_____
NOTARY PUBLIC, State of Wisconsin
Print Name:_____
My Commission:_____

DEVELOPER:

3LP HARTLAND SENIOR LLC

By: _____
Matthew M. Burow, Manager

STATE OF WISCONSIN)
) ss.
COUNTY OF _____)

Personally, came before me this _____ day of _____, 2024, the above-named Matthew M. Burow, as Manager of 3LP Hartland Senior LLC, to me known to be the person who executed the foregoing.

_____
NOTARY PUBLIC, State of Wisconsin
Print Name:_____
My Commission:_____

EXHIBIT 1
PROPERTY LEGAL DESCRIPTION

[To be provided]

TAX KEY NO: HAV 0423981056

EXHIBIT 2
CERTIFIED SURVEY MAP (CSM)

[See attached]

EXHIBIT 3
SENIOR LIVING PARCEL LEGAL DESCRIPTION

EXHIBIT 4
ARCHITECTURAL PLANS & SPECIFICATIONS

[See attached]

EXHIBIT 5
DEDICATED IMPROVEMENTS

1. The water main from and including each gate valve on the Village side of the meter pit.

2. The section of the water main within the public right of way.

3. Cross walk and sidewalk curb ramps within the public right of way.

4. Driveway apron within the public right of way.

EXHIBIT 6
CIVIL ENGINEERING PLANS

[See attached]

EXHIBIT 7
[INTENTIONALLY OMITTED]

EXHIBIT 8
[INTENTIONALLY OMITTED]

EXHIBIT 9
PRIVATE HYDRANT MAINTENANCE AGREEMENT

[See attached]

EXHIBIT 10
STORM WATER MANAGEMENT, FACILITY MAINTENANCE AND EASEMENT AGREEMENT

[See attached]

EXHIBIT 11
LANDSCAPE PLANS AND SPECIFICATIONS

[See attached]

EXHIBIT 12
PROPERTY DECLARATION

[See attached]

EXHIBIT 13
LIGHTING PLAN

[See attached]

EXHIBIT 14
WALKING PATH AND FIRE ACCESS ROAD

[See attached]

EXHIBIT 15
WALKING PATH EASEMENT AGREEMENT

[See attached]

.



1 1ST FLOOR PLAN
1" = 40'-0"



2 2ND FLOOR PLAN
1" = 40'-0"

BUILDING MATRIX

FIRST FLOOR 1:	13,300 SF
SECOND FLOOR 2:	12,300 SF
TOTAL AREA	**25,600 SF**
PARKING	**52 SPOTS**
GUEST PARKING	**7 SPOTS**

UNIT MIX

1-BEDROOM (~650 SF)	13 UNITS
2-BEDROOM (~950 SF)	13 UNITS
TOTAL	**26 UNITS**

ZONING INFO

MINIMUM LOT AREA:	(1) BEDROOM = 2,500 SF PER UNIT (2) BEDROOM = 3,000 SF PER UNIT
PARKING REQ:	(2) SPACES PER UNIT
GUEST PARKING REQ:	(0.25) SPACES PER DWELLING

Engberg Anderson

701 W. CAPITOL DRIVE, HARTLAND, WI

SITE & BUILDING PLANS SINGLE BUILDING - 2 STORY
Scale: 1" = 40'-0"
Date: 10/09/24
Engberg Anderson Project No.: 2437XX.00

0 20' 40'

TRUE NORTH



1 1ST FLOOR PLAN
1" = 40'-0"

BUILDING AREA	**22, 400 SF**
PARKING	**52 SPOTS**
GUEST PARKING	**7 SPOTS**

UNIT MIX

1-BEDROOM (~650 SF)	13 UNITS
2-BEDROOM (~950 SF)	13 UNITS
TOTAL	**26 UNITS**

ZONING INFO

MINIMUM LOT AREA:	(1) BEDROOM = 2,500 SF PER UNIT (2) BEDROOM = 3,000 SF PER UNIT
PARKING REQ:	(2) SPACES PER UNIT
GUEST PARKING REQ:	(0.25) SPACES PER DWELLING

Engberg Anderson

701 W. CAPITOL DRIVE, HARTLAND, WI

SITE & BUILDING PLANS SINGLE BUILDING - 1 STORY
Scale: 1" = 40'-0"
Date: 10/09/24
Engberg Anderson Project No.: 2437XX.00

0 20' 40'

TRUE NORTH