Director's Report

Project Name: Ginko Storage

Description: Final site plan approval

Date on Agenda this packet pertains to: October 1, 2026

☐Public Hearing

☐Initial Submittal

☐Revised Plans

☐Preliminary Approval

☒Final Approval

☒Special Land Use

☐Rezoning

☐Other:

Contact	Consultants & Departments	Approval	Denial	Approved w/Conditions	Other	Comments
Sean O'Neil	Community Development Director	☐	☐	☐	☒	Based on comments from staff & consultants
Mike Leuffgen	DLZ	☒	☐	☒	☐	See letter dated 09/03/2026
Matteo Passalacqua	Carlisle Wortman Associates, Inc	☐	☐	☒	☐	See letter dated 08/11/2026

Connect. Build. Thrive.

September 3, 2026

Sean O' Neil, Director
Community Development Department
Charter Township of White Lake
7525 Highland Road
White Lake, Michigan 48383

RE: Ginko Self Storage -Final Site Plan/Final Engineering Plan Review-4th Review
~~Stormwater Maintenance Agreement Review-1st Review~~

DLZ # 2345-7567-04

Dear Mr. O' Neil,

This development was previously recommended for approval and a pre construction meeting was held on 9/30/2025. We understand that the applicant desires to make changes to the proposed site layout, grading, and drive configuration. The revised plans have been prepared by PEA Group and are dated August 11, 2026. These plans were reviewed for conformance with the Township Engineering Design Standards.

Carryover comments from our previous review letters are in *italics*. New comments resulting from the plan updates are in plain text. We offer the following comments for your consideration:

Sanitary Sewer

1. *Oakland County Health Department will need to approve and permit septic field for this property.* **Comment remains as a notation.**

Watermain

1. *We defer to the Township Fire Department with regard to fire suppression requirements.* **Comment remains as a notation.**
2. *Provide a fire truck turning plan for a 40 foot fire truck to demonstrate all proposed buildings are accessible by a fire truck.* **Comment addressed, a turning radius plan has been provided.**
3. *Oakland County will need to approve the well and permit for this property.* **Comment remains as a notation.**

General

1. *Sheets C-3.0,4.0,6.0, L-1.0, and A-1.0- Remove all references to 'Preliminary' in the title boxes on these sheets. In addition, we note that all sheets are marked as 'Not for Construction.' Comment partially addressed. All references to 'Preliminary' have been removed with the exception of Sheet 4.0. Please remove reference on this sheet.* **Comment partially addressed. All references to 'Preliminary' have now been removed. We note that in the sheet index of drawings on the cover sheet that Sheet A-1.0 is listed as 'preliminary.' Please remove the preliminary reference for this line item.**

Grading/Paving

1. Sheet C-3.0- Striped crosswalk at drive entrance has now been eliminated. Is this the intent or is this in error?
2. Sheet C-4.0- Provide ADA parking blowup for this area; this was shown on the previous submittal.
3. Sheet C-4.0- What is the top of rock wall grade on the east side toward Building #1? Previously, this was shown as 31.50'. Please clarify grade intent in this area as well as provide T/W and B/W elevations at regular intervals for wall.
4. Sheet C-4.0- SW corner of site- Drainage will collect in a hole (1028) in this area. Provide a positive outlet for drainage in this area.
5. Sheet C-4.0- Easternmost edge of sidewalk – Locations of grades 31.30 and 31.25 as well as drainage arrow seem reversed based on proposed contours to the east.
6. Sheet C-4.0-Proposed drainage swale in ROW and to the south of proposed sidewalk along White Lake Road- Drainage in this area will collect at the low point of 27.60 and will pond within the entire 1029 contour until drainage spills over at the existing 1029.64 ES invert. This will cause flooding of a portion of the proposed sidewalk (at 29.50/29.60) and could lead to spillover on the sidewalk into the 1028 on-site low point (see Comment 4 above) with additional drainage accumulating. Previous plan set showed a different grade for the existing culvert under Costal Parkway, did this change?
7. Sheet C-9.0-Deep Strength (or also called Heavy Duty) Asphalt Detail has been removed. This type of pavement is still proposed for the entrance within the ROW. Please re-add this detail to this sheet.
8. Sheet C-9.1-Shows modified 18"X6" concrete curb and gutter detail for the ADA areas. Please provide/correct sheet reference note on Sheet C-3.0 for this detail.

Stormwater Management

1. Sheet C-6.0- Provide storm outlet note that was on this previous plan sheet.
2. Sheet C-6.0-Provided pipe volume calculations- LF of pipe (1010') appears in error due to plan revisions. We calculate 1088' Please verify and revise calculations as necessary.

3. Sheet C-7.0- It appears that profiles were not updated based on revised storm sewer structure rim and invert elevations. We have attached a red lined copy of this sheet.

Stormwater Maintenance Agreement

We note that per our attached 12/09/2024 review letter, there were remaining comments relative to this agreement and associated exhibits which will need to be addressed. No revised documents have been received to date.

1. ~~Page 1 of the agreement is undated. Please complete.~~
2. ~~Exhibits A and B are missing from the submitted document. Exhibit B shall be a metes and bounds description of the storm sewer easements as well as a metes and bounds sketch of the easements. Both exhibits shall be signed and sealed by a registered Professional Surveyor.~~

Required Permits and Approvals-

The following permits and approvals will be required:

1. Permit from the Road Commission for all work within the White Lake Road right of way. Permit application review is in process. **RCOC will need to approve revised plans and permit will need to be provided.**
2. SESC permit from OCWRC. Permit application review is in process. **Per 09/30/2025 Preconstruction meeting minutes, this permit is still outstanding.**
3. Permit from Oakland County Health Department for the well. **Well permit application is in process.**
4. Permit from Oakland County Health Department for the septic tank and field. **Septic permit application is in process.**
5. Executed Stormwater Maintenance Agreement and exhibit. **See comments above.**
6. An easement for construction of the sidewalk located near Coastal Parkway may be required. **Per the design engineer, no easement is required.**

Recommendation

We are not recommending approval of the current plan. There have been modifications to the site layout, since the previously approved Final Site Plan/Final Engineering Plan, which have generated new comments that will need to be addressed.

<u>Please provide a response letter to the comments, including the 'Required Permits and Approvals' section of this letter.</u>

Please contact our office should you have any questions.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E.
Department Manager

Victoria Loemker, P.E.
Senior Engineer

Attachments: Sheet C-7.0- Red Lined
Storm Sewer Easement Exhibit and Stormwater Maintenance Agreement Review.02 dated December 9, 2024

cc: David Waligora, Community Development, *via email*
Matteo Passalacqua, Carlisle Wortman, *via email*
Hannah Kennedy- Galley, Community Development, *via email*
Paige Myers, Community Development, *via email*
Aaron Potter, DPS Director, White Lake Township, *via email*
Nick Spencer, Building Official, White Lake Township *via email*
Jason Hanifen, Fire Marshall, White Lake Township, *via email*

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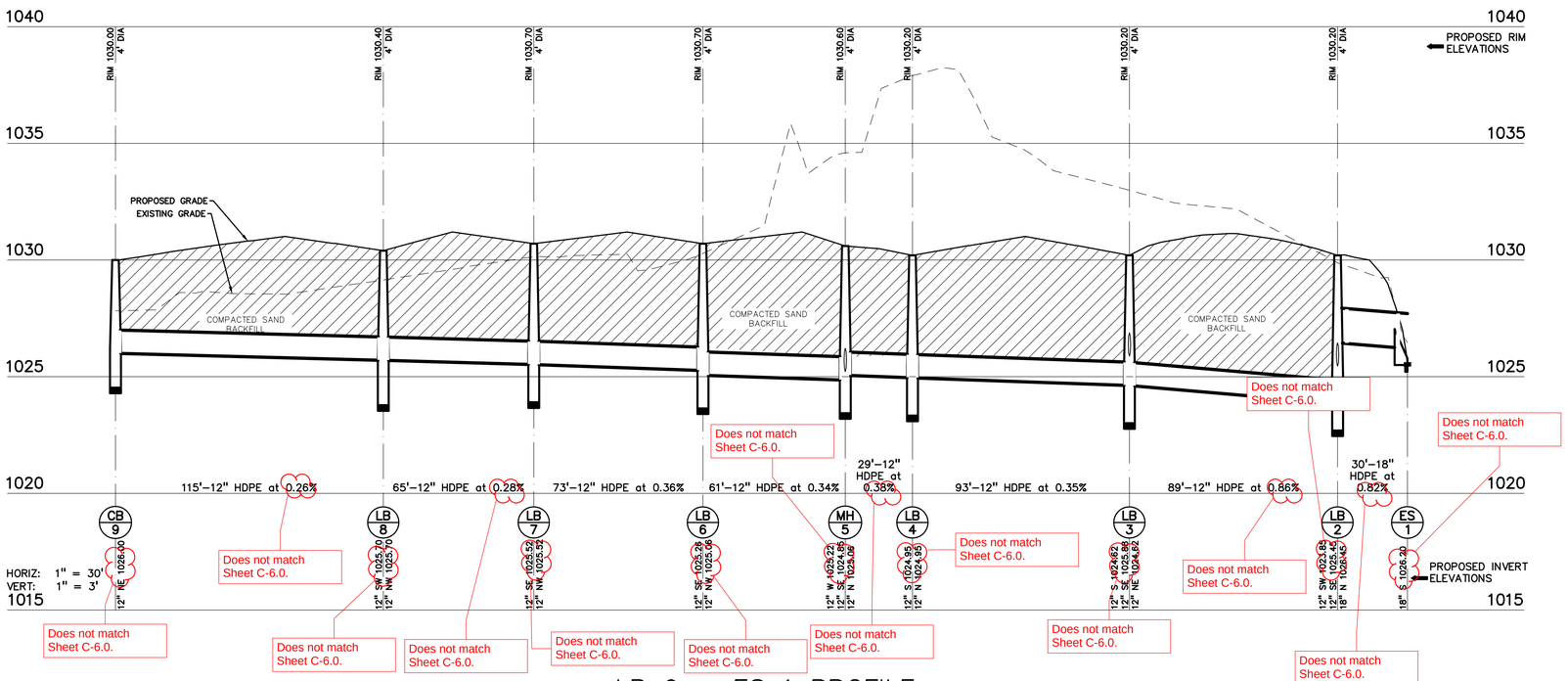
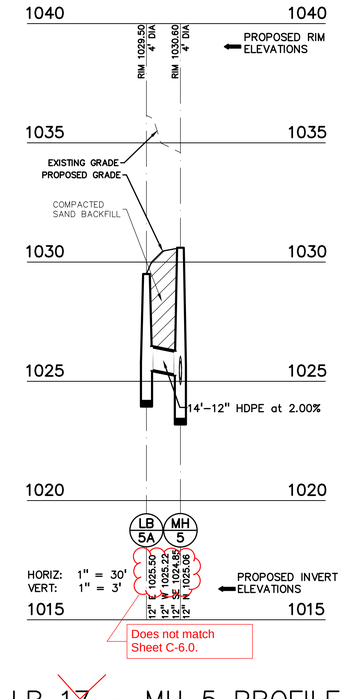
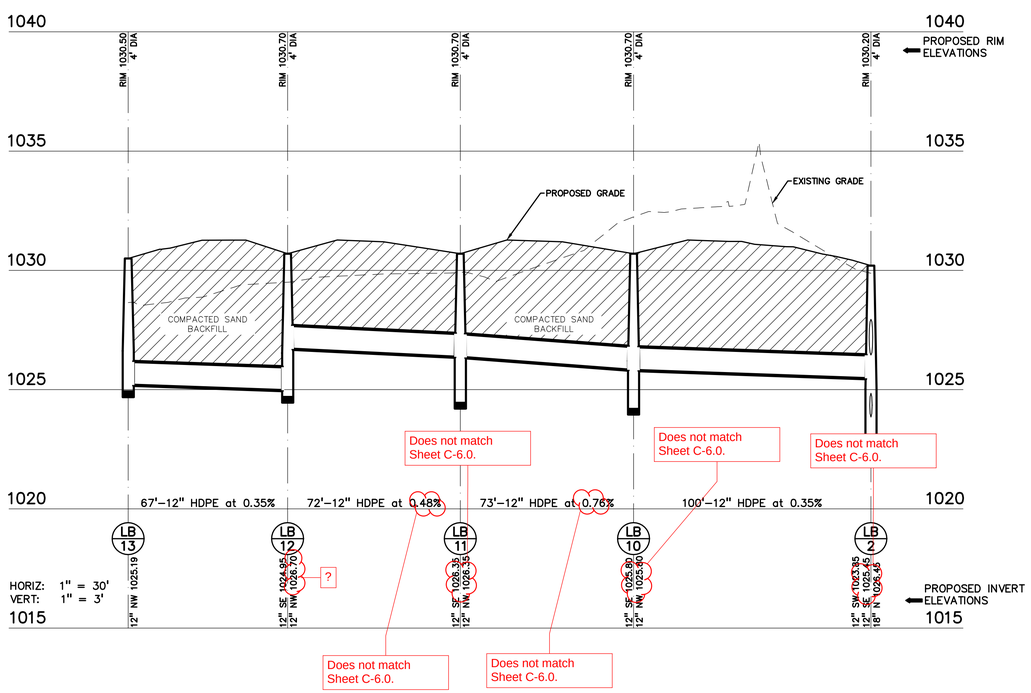
RED LINED PLAN SHEET TO ACCOMPANY REVIEW.04



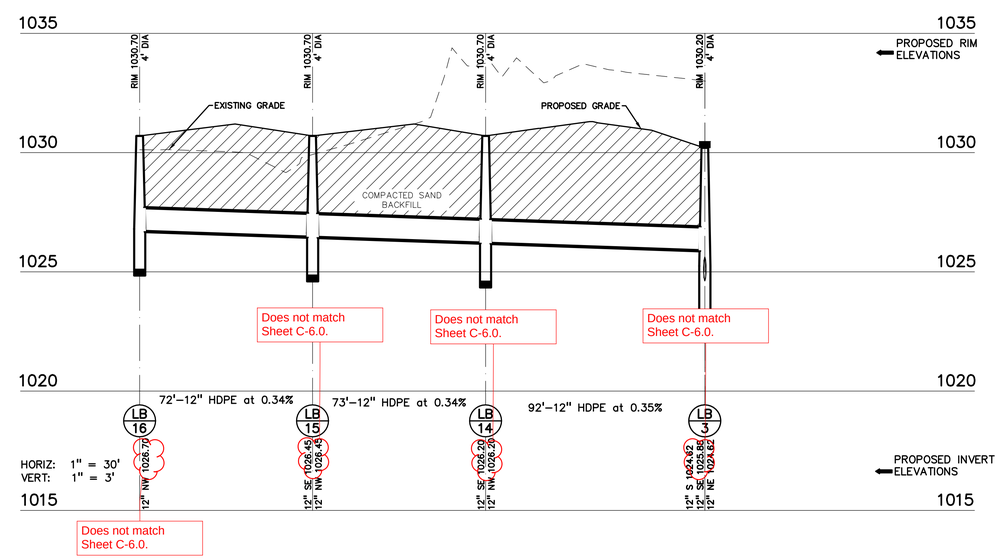
LB 9 – ES 1 PROFILE



LB ~~17~~ 5A – MH 5 PROFILE



LB 13 – LB 2 PROFILE



LB ~~15~~ 16 – LB 3 PROFILE

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN JAMES P. BOLTON License No. 039605 PROFESSIONAL ENGINEER

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

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO WARRANTY IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

1

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS	
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
PER AGENCIES COMMENTS	10/24/23
PER AGENCIES COMMENTS	04/26/24
PER AGENCIES COMMENTS	07/25/24
PER AGENCIES COMMENTS	09/06/24
UNIT LAYOUT CHANGE	11/18/24
GRADING/ENTRY CHANGES	04/30/26
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
UTILITY PROFILES

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-7.0

S:\PROJECTS\2002\2002248A\DWG\CONSTRUCTION-2026\C-7.0\PL-2002248A.dwg

December 9, 2024

Aaron Potter, Director
Department of Public Services
Charter Township of White Lake
7525 Highland Road
White Lake, Michigan 48383

RE: Ginko Self Storage- Storm Sewer Easement Exhibit Review –2nd Review

Ref: DLZ No. 2345-7567-04 Design Professional: PEA Group

Dear Mr. Potter,

Our office has performed a review of the revised storm sewer easement exhibit documents for the above mentioned project. The following documents were received as part of the current submittal:

- Exhibit A- Parent Parcel Legal Description-dated ~~November 6, 2024~~ November 14, 2024
- Exhibit B-Storm Sewer Easement-dated ~~November 6, 2024~~ November 14, 2024

We offer the following comments.

We note that comments from our previous review dated November 12, 2024 are in *italics*. Responses to those comments are in **bold**. New comments are in standard font.

Comments

1. *Exhibits shall be signed and sealed by a registered Professional Surveyor.* **Comment outstanding.**
2. *Call out the southeasterly corner of Unit No. 4.* **Comment outstanding. We recommend calling out this corner as 'POC Southeasterly Corner of Unit No.4.'**
3. *Resolve cut off text on right hand side of drawing.* **Comment addressed. Full text is now shown.**

4. *Should not use a 'centerline description' when the described line is not centered in the easement. Option is to call out more points "A-B, B-C" to clarify section of easement that is variable width in the easement description.* **Comment addressed. Variable width easement description – Centerline has been eliminated and metes and bounds description of the variable width easement has now been shown; we note that the entire storm sewer easement closes.**
5. *Consider calling it a 'Storm Sewer Easement Description' at the bottom of Page 2 instead of 'Legal Description.'* **Comment addressed. Title of easement description has been changed to 'Storm Sewer Easement Legal Description.'**
6. *The easement legal description calls it a 20-foot-wide easement but further down in the description it references 'this variable width easement for Sanitary Sewer.' This should say ' Storm Sewer" and it should be decided as to how to distinguish 20- foot wide versus variable width since it starts off with a '20 -foot wide easement for storm sewer located within Unit 4.'* **Comment addressed. Revisions have been made.**

We also note that the following comments remain outstanding relative to the Stormwater Management Agreement document which was previously reviewed by our office. The following comments regarding the Stormwater Management Agreement were included in our Final Site Plan and Final Engineering Plan review letter dated October 9, 2024.

Stormwater Maintenance Agreement

1. Page 1 of the agreement is undated. Please complete.
2. *Exhibits A and B are missing from the submitted document. Exhibit B shall be a metes and bounds description of the storm sewer easements as well as a metes and bounds sketch of the easements.* Both exhibits shall be signed and sealed by a registered Professional Surveyor. **Italicized portion of this comment has been addressed.**

Recommendation

The majority of our comments have been addressed; however, there are still a couple outstanding comments that will need to be addressed, and the document resubmitted for our review. It is recommended that the full document, both the Stormwater Maintenance Agreement and the associated exhibits, be submitted concurrently.

Please feel free to contact our office should you have any questions.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E.
Department Manager

Victoria Loemker, P.E.
Senior Engineer

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Carlisle | Wortman
ASSOCIATES, INC.
117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

August 24th, 2026

Revised Final Site Plan Review for Special Land Use for White Lake Charter Township, Michigan

Applicant:	Ginko Investment, LLC
Project Name:	Ginko Self Storage
Plan Date:	August 11th, 2026
Location:	Southwest of White Lake Road and Andersonville Road intersection Parcel ID: 12-01-127-004
Action Requested:	Review of revised final site plan and special land use (New Final Site Plan)

PROJECT NARRATIVE

The applicant is requesting combined preliminary and final site plan approval for a new self-storage facility, which is a special land use in the LM Light Manufacturing zoning district. Special land use approval was granted at the February 1st, 2024 Planning Commission meeting. Preliminary site plan approval was granted February 20th, 2024, however the site plan and special land use approval has since expired and therefore require Planning Commission and Township Board review and approval.

The Planning Commission is the review and approval authority for special land uses. Both preliminary and final site plans are reviewed by the Planning Commission with recommendations then provided to the Township Board for approval, approval with conditions or denial.

The primary modifications to the plan since the original site plan approval are recorded throughout our updated site plan review. This report will review these modifications in-depth however a list outlying the substantial changes is provided below for reference.

- Access drive moved east to the furthest extent of the property line.
- Building 3 is now proposed to be 12,850 sqft instead of 15,300 sqft. Storage units are now accessed exclusively from outside as opposed to an interior hallway.
- Maximum proposed building heights are now 16.5 feet instead of 18 feet.

SITE DESCRIPTION

Lot Area:	2.13 acres
Frontage:	375 feet along White Lake Road
Address:	TBD: Sheet A-1.0 indicates building address sign locations and letter height on all proposed buildings.
Current Use:	Vacant

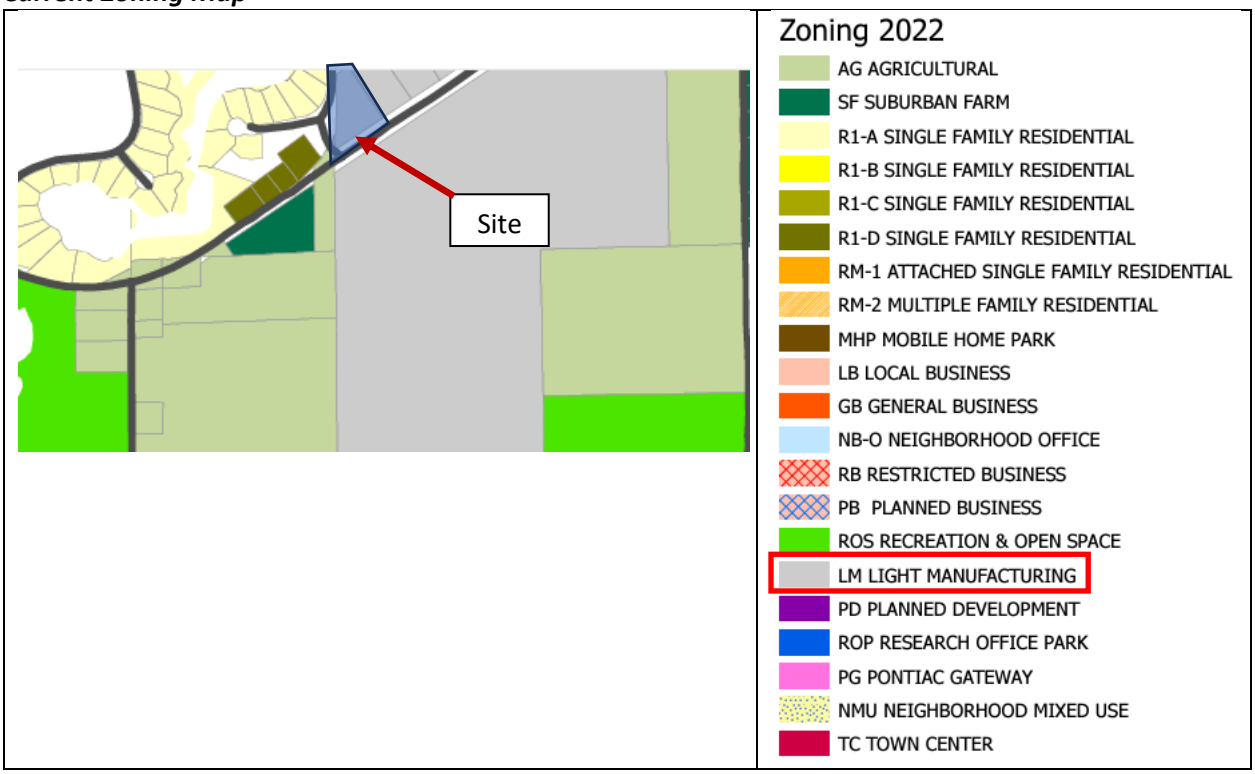
Aerial image of the site

Source: NearMap May 31, 2024

	North	East	South	West
Surrounding Zoning	*M-1, Light Industrial (Springfield Twp.)*	*LM, Light Manufacturing*	*LM, Light Manufacturing*	*R1-A, Single Family Residential*
Surrounding Land Uses	*Vacant (Springfield Twp.)*	*Vacant*	*Light Industrial*	*Single Family Homes*
Future Land-Use Map	*Limited Industrial (Springfield Twp.)*	*Production / Technology*	*Production / Technology*	*Agriculture / Rural Residential*

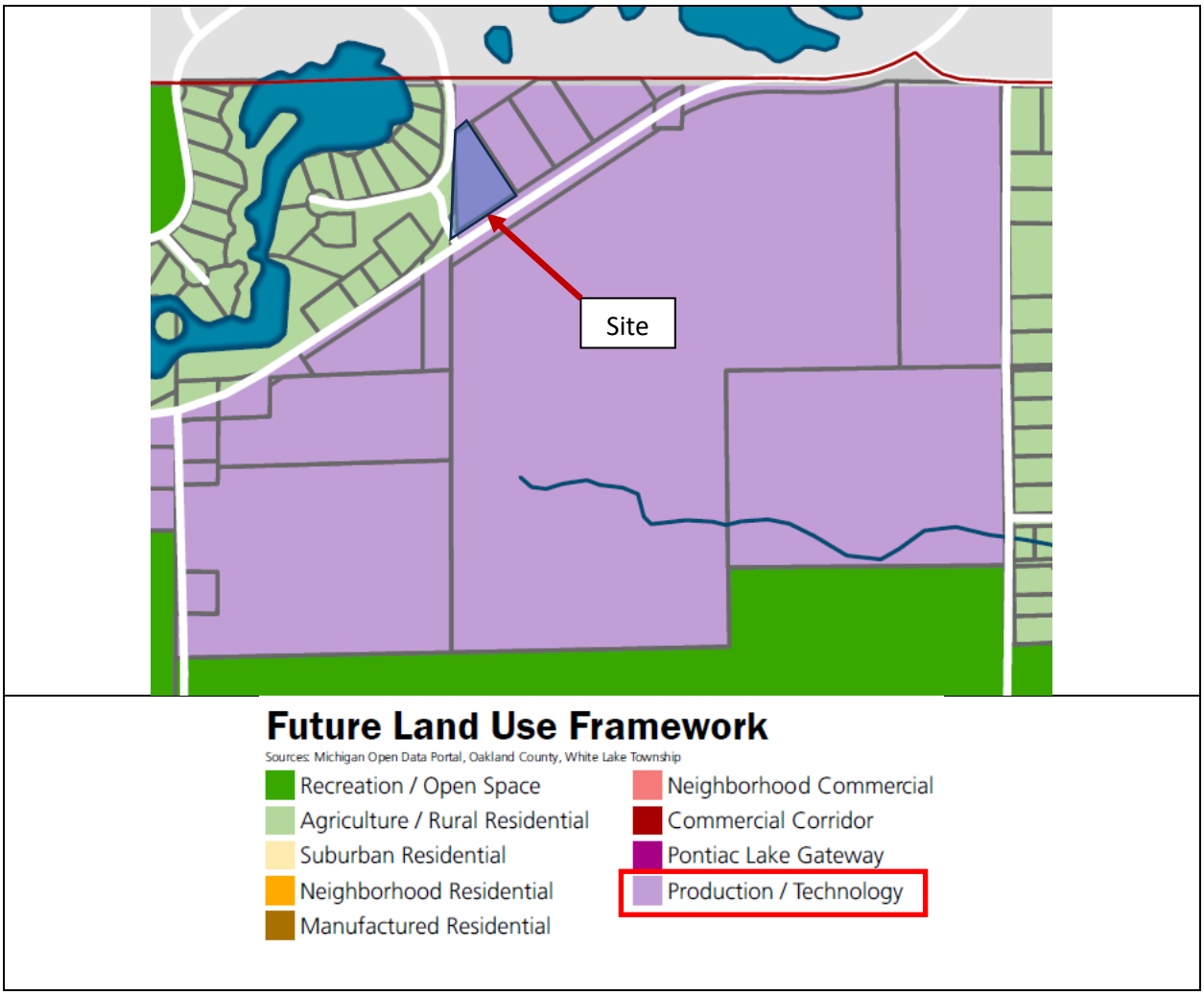
Current Zoning	**M-1 Light Industrial** *The LM, Light Manufacturing District is established as a district in which the principal uses allowed are light manufacturing, fabrication, processing, wholesale activities or warehousing activities. The intent of this article is to control nuisance effects of warehousing, wholesale activities, open storage, and light industry such as smoke, noise, odor, dust, dirt, glare, vibrations, and other adverse effects so that such uses could be compatible with other nearby land uses such as commercial or residential. The light manufacturing district encourages uses to locate on major highways so that traffic generated by these uses would not utilize local residential streets.*

Current Zoning Map



Future Land Use	**Production / Technology** *Serves community's need for research facilities and light industrial opportunities.*

Future Land Use Map



Items to be Addressed: *None*

AREA, WIDTH, HEIGHT, SETBACKS

Proposed building envelopes and setback standards are shown on Sheet C-3.0. Standard bulk and lot regulations for the LM zoning district are set forth in Section 3.1.20.

The development standards for the LM district require 70-foot front yard setbacks, and 50-foot side and rear yard setbacks. The maximum building height allowed is 40 feet or two stories, whichever is less. Prospectors Square condominium requires different minimum setbacks than the underlying zoning district. For Unit 4, the following setbacks are required:

- Front (south) setback: 30 feet
- Rear (north) setback: 40 feet
- East side setback: 20 feet
- West side setback: 38-foot greenbelt

LM Light Manufacturing Developmental Standards

Prospectors Square Unit 4	Required:	Proposed:	Complies
Building Setbacks			
Front	30 feet	50 feet	Yes
Side	20 feet on east side / 38-foot greenbelt	35 feet – east side / 38-foot greenbelt – west side	Yes
Rear	40 feet	85 feet	Yes
Wetland	25 feet	N/A	N/A

Building Height			
	35 feet or 2 stories (whichever is less)	16.5 feet / 1 story	Yes
Lot Standards			
Minimum Lot Area	1 acre	2.13 acres	Yes
Minimum Lot Width	175 feet	375 feet	Yes
Maximum Lot Coverage	30%	28.47%	Yes
Depth to Width	4 to 1	Approx. 1 to 1	Yes

Items to be Addressed: *None*

NATURAL RESOURCES

Topography: Sheet C-1.0 shows existing site topography. The southern portion of the lot is relatively flat. A steep ridge exists along the mid-western border of the site. Sheet C-4.0 outlines proposed site grading. Grading is proposed throughout the central portions of the site to accommodate level surfaces for asphalt and structures. Grading along the western edge is for the purpose of smoothing in preparation for onsite septic and proposed landscaping.

Wetlands: Wetlands are not present on the site.

Woodland: Woodlands clusters are scattered throughout the site along with various scrub vegetation.

Soils: Updipsamments soils are predominant on the site.

Water: The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicates no floodplain is present on the site. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map indicates a wetland is located offsite to the north.

Items to be Addressed: *Any concerns cited by Township Engineering.*

ACCESS & CIRCULATION

Sheet C-3.0 shows the proposed site will have exclusive access via White Lake Road. The proposed access point is an electronic gate system providing limited entry to the storage facilities via a card reader located on the western curb of the ingress/egress drive.

Gate and knox box details have been provided on Sheets C-9.0 and C-9.1. Gate construction approval is permitted administratively by the Township.

Sheet C-3.1 outlines maneuvering capabilities for fire trucks. We defer to Township Engineering to assess the conformance of lot design and Public Safety to assess the conformance of maneuverability and accessibility for the site.

We note the placement of the access drive has been relocated approximately 80 feet northeast along White Lake Road to the far east extent of the property line. The new access drive provides fifty (50) foot tapers on each side.

Section 6.4.C.i outlines standards for same-side-of-road driveway spacing. White Lake Road is 45 miles per hour in this area. Per the ordinance, the minimum distance for between drives should be 350 feet. The distance from center of Coral Parkway and center of the access drive is shown as 372 feet.

We also note an access drive located on the opposite side of the road. The distance shown between these 274 feet. This does not meet the requirement of a minimum of 350 foot distance and will require a waiver from the Planning Commission per Section 6.4.F. Final design of the access drive will require Oakland County Road Commission (RCOC) approval.

Items to be Addressed*:*

1) *Any cited concerns by Township Engineering.*
2) *Any cited concerns by Township Public Safety.*
3) *Planning Commission to consider waiver of opposite side driveway distances per Section 6.4.F.*

ESSENTIAL SERVICES & UTILITIES

Final site plan reviews require applicants to identify the location of all underground and aboveground storage tanks for such uses as fuel storage, waste old holding tanks, collection of contaminated stormwater, and similar uses. We do not anticipate the storage of hazardous or contaminated materials onsite. Methods for the storage and or management of water, sewer and storm runoff are provided below.

Sheet C-6.0 also provides septic calculations as well as shows the location of the septic field and well pump. A note indicates the site will connect to public water should it become available at the property.

Items to be Addressed: *Any concerns cited by Township Engineering.*

PARKING & LOADING

Section 5.11 outlines requirements for off-street parking. Sheet C-3.0 provides parking calculations for a for self-storage establishments. There is no office space provided within the buildings, nor is any information provided about employees. Five parking spaces, including one handicap space is provided and appear sufficient for operational needs given most vehicles will temporarily park alongside their respective storage units for loading/unloading purposes.

There will be one loading space at the northwest side of the lot that will be 10.5 feet wide and 100 feet long which is complaint with standards.

Per Section 5.11.Q.xi, parking spaces shall be delineated by duel stripes, two feet apart centered on the dividing lines and painted white.

Per Section 5.11.A.iv, parking may be in the front yard setback so long as a 20-foot landscaped buffer is provided. The closest parking space to the front lot line is 19.5 feet.

Items to be Addressed*: Parking space layout will need to be modified to maintain the 20-foot landscaped buffer setback or a variance will be required from the Zoning Board of Appeals.*

LANDSCAPING & SCREENING

Due to existing topographic features on the site as well as established mature woodlands along the western side of the proposed development, the applicant sought variances from specific screening and buffer landscape requirements in-lieu of retaining much of the western boarder's natural features as buffers from the adjacent residential development. The motion approved by the ZBA during its March 24th, 2026 meeting is stated below:

> *MOTION by Member Seiber, seconded by Member Aseltyne, to approve the variances requested by Ginko Investment, LLC (John Sutphin) from Article 5.19.D.i of the Zoning Ordinance for Parcel Number 12-01- 127-004 in order to modify the landscape and screening requirements associated with the construction of a self-storage facility. This approval will have the following conditions:*
>
> *- The variances shall become effective if and when the final site plan for the development is approved by the Planning Commission.*
>
> *- Approval is in accordance with the preliminary landscape plan prepared by PEA Group dated February 2, 2023 (revision date October 24, 2023).*
>
> *- The westerly fence will be shortened to allow saving the two evergreen trees.*

- The tree spacing along the White Lake Road right-of-way shall be reduced from 30 feet to 20 feet.

Sheet L-1.0 shows a dense array of new and existing deciduous and evergreen trees as well as numerous shrubs along the western property line. Protective fencing is shown encompassing existing trees during construction. A 19.5 foot wide buffer is shown along White Lake Road and meets the requirements of landscape screening by plant count but not by depth. The buffer should be increased to 20 feet or a variance from the Zoning Board of Appeals will be required.

Sheet L-1.0 indicates the two evergreen trees to be saved by the modified fence design.

Sheet L-1.0 provides planting materials and sizes as well as indicates the construction of a rock retaining wall used to protect an existing mature oak tree. Based on landscaping standards for the LM district and the variances granted by the Zoning Board of Appeals, the site meets or exceeds the required plantings.

Items to be Addressed:

1.) *As noted in the Parking and Loading section of the review, a 19.5 foot wide buffer is shown along White Lake Road and meets the requirements of landscape screening by plant count but not by depth. The buffer should be increased to 20 feet or a variance will be required from the Zoning Board of Appeals.*
2.) *The Planning Commission will need to determine if the non-obscuring fencing is acceptable.*

PERFORMANCE STANDARDS

Lighting Requirements

Sheet #24-29620 V3 provides proposed pole and building mounted lighting fixtures as well as a photometric layout for the site.

The distance of the light pole adjacent to the access drive should be added to the plan to ensure it is at least five feet from the property line.

Table on Sheet #24-29620 V3 shows the varying footcandle averages over specific areas of the site. The average footcandles standard for the entire site is .5 footcandles which is the maximum permissible for LM zones. The site's overall projected average is .6 footcandles. The average footcandle at the drive lanes and parking area is 1.6 footcandles. These exceed the one footcandle maximum requirement. Site lighting should be reduced, or a modification will be needed by the Planning Commission.

Items to be Addressed:

1) *The distance of the light pole adjacent to the access drive should be added to the plan to ensure it is at least five feet from the property line.*
2) *Site lighting should be reduced, or a modification will be needed by the Planning Commission.*

SIGNAGE

Sheet C-3.0 shows the proposed location of a four (4) foot by five (5) foot ground sign. A basic elevation of the sign is shown on Sheet C-9.1. Signs are reviewed and permitted administratively by the Township however applications may be presented to the Planning Commission for review.

Items to be Addressed: *Proposed monument sign will require separate permitting per Township review standards.*

ARCHITECTURE & LAYOUT

Architectural information required at final site plan review includes the types of facing materials to be used on structures. Sheet A-1.0 indicates all elevations will be faced with metal panels, steel roll up doors, and common brick with limestone caps. The sheet also provides floorplans for all three buildings. Buildings 1 and 2 remain the same, however building 3's size and layout have been modified. The building is now 12,850 sqft, down from the originally approved 15,300 sqft. All storage units are proposed to be accessed from the exterior as opposed to an interior hallway.

Items to be Addressed: *Exterior construction material sample boards and colored elevations shall be provided for Building Official and Planning Commission review.*

SPECIAL LAND USE

Section 6.10 provides for general standards applicable to all special land uses. The applicant was granted special land use approval February 1st, 2024 by the Planning Commission. A recommended condition of that approval was that 24-hour self-storage shall be prohibited; the self-storage facility shall be closed daily between 10:00PM and 6:00AM. This note has been added to Sheet C-3.0 in the general notes section.

While approval has already been granted, a review the ordinance criteria, most recent application materials, and ZBA approvals indicate the proposal conforms to the requirements and intent of the special land use general standards.

Items to be Addressed: *None*

SUMMARY

The revised final site plan is substantially complete, except as otherwise noted in this report. Potential conditions are provided below should the Planning Commission approve the site plan. Waivers, modifications, and determinations for the Planning Commission to consider are listed below.

Waivers / Modifications / Determinations

1. *Planning Commission to consider waiver of opposite side driveway distances per Section 6.4.F.*
2. *The Planning Commission will need to determine if the non-obscuring fencing is acceptable.*

Recommended Conditions

1. *Any cited concerns from Township Engineering are addressed.*
2. *Any cited concerns from Township Public Safety are addressed.*
3. *Parking space layout will need to be modified to maintain the 20-foot landscaped buffer setback or a variance will be required from the Zoning Board of Appeals.*
4. *The distance of the light pole adjacent to the access drive should be added to the plan to ensure it is at least five feet from the property line.*
5. *Site lighting should be reduced, or a modification will be needed by the Planning Commission.*
6. *Exterior construction material sample boards and colored elevations shall be provided for Building Official and Planning Commission review.*

Respectfully,

CARLISLE/WORTMAN ASSOC., INC.
Matteo Passalacqua
Community Planner

FINAL SITE PLAN / ENGINEERING APPROVAL

GINKO SELF STORAGE

WHITE LAKE ROAD

WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN

PERMIT / APPROVAL SUMMARY

DATE SUBMITTED	DATE APPROVED	PERMIT / APPROVAL
2/2/2023		SPA AND SLU APPROVAL
6/1/2026		ENGINEERING APPROVAL
8/11/2026		FINAL SITE PLANS

R.C.O.C. NOTE:

1. CALL INSPECTOR OR PERMIT SUPERVISOR BEFORE BEGINNING ANY WORK IN THE R.O.W.
2. "PROPER SIGNING" IS REQUIRED BEFORE ANY WORK IN THE R.O.W. IS STARTED.
3. LANE CLOSURES RESTRICTED TO 9AM–3PM (MONDAY–FRIDAY)
4. FLAG PERSON REQUIRED FOR TEMPORARY ONE LANE ROADS.
5. MAINTAIN TWO–WAY TRAFFIC AT ALL TIMES.
6. HAND DIG AROUND ALL UTILITIES.
7. KEEP ROADS CLEAN OF DIRT AND DEBRIS.
8. REMOVE OR RELOCATE FIXED OBJECTS PRIOR TO EXCAVATION.
9. FIXED OBJECTS TO BE A MINIMUM 6 FEET OF BACK OF CURB OR 12 FEET OF EDGE OF PAVEMENT.
10. PROJECTS EXCEEDING 3–DAYS REQUIRE GROUND MOUNTED SIGNS PER MDOT SSC/SEC 812.03

WHITE LAKE TOWNSHIP STANDARD SITE CONSTRUCTION NOTES

1. All construction shall be in accordance with the current standards and specifications of White Lake Charter Township.
2. The developer shall contact the Township Planning Department at (248) 698-3300 to schedule a pre-construction meeting. The developer's prime site contractor shall attend. A copy of all permits must be submitted to the Planning Department prior to scheduling the meeting.
3. The contractor shall contact the Township Engineer at (248) 681-7800 48 hours prior to the beginning of construction. The contractor shall keep the inspector appraised of the need for inspection an a day by day basis. Lacking specific scheduling with the inspector, the contractor shall give 48 hours notice to the Township Engineer prior to re-commencing work requiring inspection. Failure to inform the inspector or the Township Engineer of a work cancellation may result in a one half day inspection charge to the developer. The contractor shall call (248)844-5400 to schedule sanitary sewer main line inspection.
4. All watermain or sanitary sewer work will require full time inspection. Full time inspection will generally be required for underground storm sewer construction, concrete curbing and paving operations. Site grading and detention basin construction will generally be inspected on an intermittent basis.
5. The contractor shall contact MISS DIG at (800) 482-7171 72 hours in advance of construction to have existing underground facilities located. Contractor shall contact the White Lake Township Water Department at (248) 698-3300 ext 165 separately 72 hours in advance of construction to have water utilities located.

DESIGN TEAM

OWNER

GINKO INVESTMENT COMPANY, LLC
2438 NORTH ROCHESTER ROAD
OAKLAND TOWNSHIP , MICHIGAN 48363
CONTACT: JOHN SUTPHIN
PHONE: (248) 880-8093
EMAIL: JSUTPHIN@USA.NET

CIVIL ENGINEER

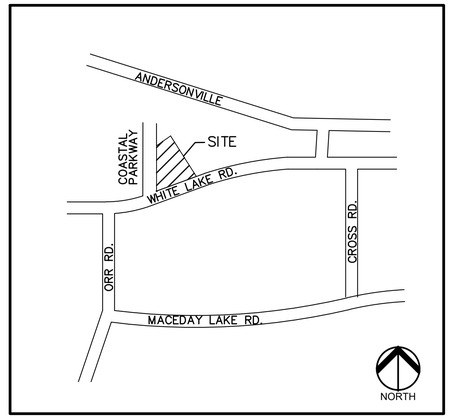
PEA GROUP
1849 POND RUN
AUBURN HILLS, MICHIGAN 48326
CONTACT: JAMES P. BUTLER, PE
PHONE: 844.813.2949
EMAIL: JBUTLER@PEAGROUP.COM

DEVELOPER

MICHAEL GRASSER
2276 GARLAND AVENUE
SYLVAN LAKE, MICHIGAN 48320
PHONE: (248) 505-4744
EMAIL: BOCCEMG@ICLOUD.COM

LANDSCAPE ARCHITECT

PEA GROUP
7927 NEMCO WAY, STE. 115
BRIGHTON, MI 48116
CONTACT: JANET EVANS
PHONE: 844.813.2949
EMAIL: JEVANS@PEAGROUP.COM



LOCATION MAP
NO SCALE

PEA GROUP

INDEX OF DRAWINGS

REVISIONS

DESCRIPTION	DATE
PER AGENCIES COMMENTS	5/30/2023
PER AGENCIES COMMENTS	6/29/2023
PER AGENCIES COMMENTS	8/4/2023
PER AGENCIES COMMENTS	9/22/2023
PER AGENCIES COMMENTS	10/24/2023
PER AGENCIES COMMENTS	4/26/2024
PER AGENCIES COMMENTS	7/25/2024
PER AGENCIES COMMENTS	9/6/2024
UNIT LAYOUT CHANGE	11/18/2024
GRADING/ENTRY CHANGES	4/30/2026
UNIT & STORM LAYOUT CHANGES	6/12/2026
FINAL SITE PLAN	8/11/2026

LEGAL DESCRIPTION:

PART OF THE NORTH 1/2 OF SECTION 1, T.3N. R.8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

UNIT NO. 4 OF "PROSPECTORS SQUARE" CONDOMINIUM AS RECORDED IN LIBER 22118, PAGE 870, OAKLAND COUNTY RECORDS.

BENCHMARKS
(N.A.V.D. 88 DATUM)

SITE B.M. #1: STEEL GEAR-PIN IN S.W. FACE OF UTILITY POLE 60'± NORTH OF N 1/4 CORNER SEC. 1. UTILITY POLE HAS OH TO NORTH AND WSW ALONG WHITE LAKE RD. ELEV. 1031.58

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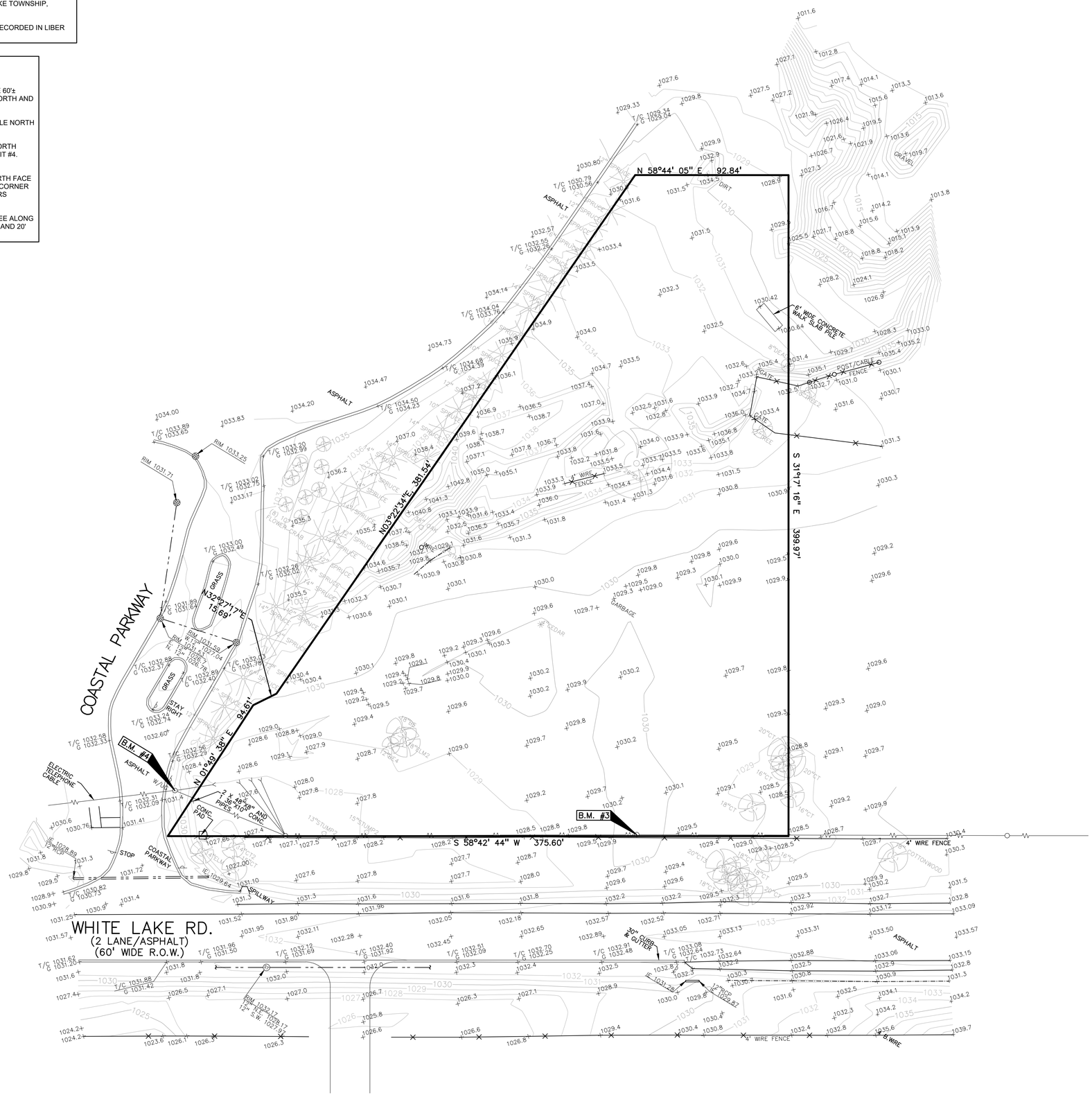
REF. B.M.: (JOB # 97626) R.R. SPIKE IN N. FACE OF 36" OAK TREE ALONG S. PARENT PARCEL LINE (ACS SITE), 225' E. OF SECTION LINE AND 20' N. OF S. PARCEL LINE. ELEV. 1017.78



LEGEND:

–OH–ELEC–\/\/–O–<	EX. OH. ELEC, POLE & GUY WIRE
–UG–CATV––TV––O	EX. U.G. CABLE TV & PEDESTAL
–UG–COMM––CO––(T)–	EX. U.G. COMMUNICATION LINE, PEDESTAL & MANHOLE
–UG–ELEC–(E)(E)(H)–	EX. U.G. ELEC,MANHOLE, METER & HANDHOLE
— - — - —	EX. GAS LINE
(G) GAS	EX. GAS VALVE & GAS LINE MARKER
(T) (T)	EX. TRANSFORMER & IRRIGATION VALVE
— — — —	EX. WATER MAIN
(V) (W)	EX. HYDRANT, GATE VALVE & POST INDICATOR VALVE
(V)	EX. WATER VALVE BOX & SHUTOFF
———	EX. SANITARY SEWER
(S) (S)	EX. SANITARY CLEANOUT & MANHOLE
(C)	EX. COMBINED SEWER MANHOLE
— - - —	EX. STORM SEWER
(D) (D)	EX. CLEANOUT & MANHOLE
(D)	EX. SQUARE, ROUND, & BEEHIVE CATCH BASIN
(D)	EX. YARD DRAIN & ROOF DRAIN
(?)	EX. UNIDENTIFIED STRUCTURE
(M)	EX. MAILBOX, SIGN & LIGHTPOLE
—X—	EX. FENCE
	EX. GUARD RAIL
+898.91	EX. SPOT ELEVATION
898.91	EX. CONTOUR
	EX. WETLAND
	IRON FOUND / SET
	NAIL FOUND / NAIL & CAP SET
	BRASS PLUG SET
	MONUMENT FOUND / SET
	SECTION CORNER FOUND
R M C	RECORDED / MEASURED / CALCULATED

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN
TODD D. SHELLY
PROFESSIONAL SURVEYOR
NO. 4001041111
LICENSED PROFESSIONAL SURVEYOR

NORTH

0 15 30 60
SCALE: 1" = 30'

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CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

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FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
TOPOGRAPHIC SURVEY

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-1.0

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LEGAL DESCRIPTION:

PART OF THE NORTH 1/2 OF SECTION 1, T.3N. R.8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

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(N.A.V.D. 88 DATUM)

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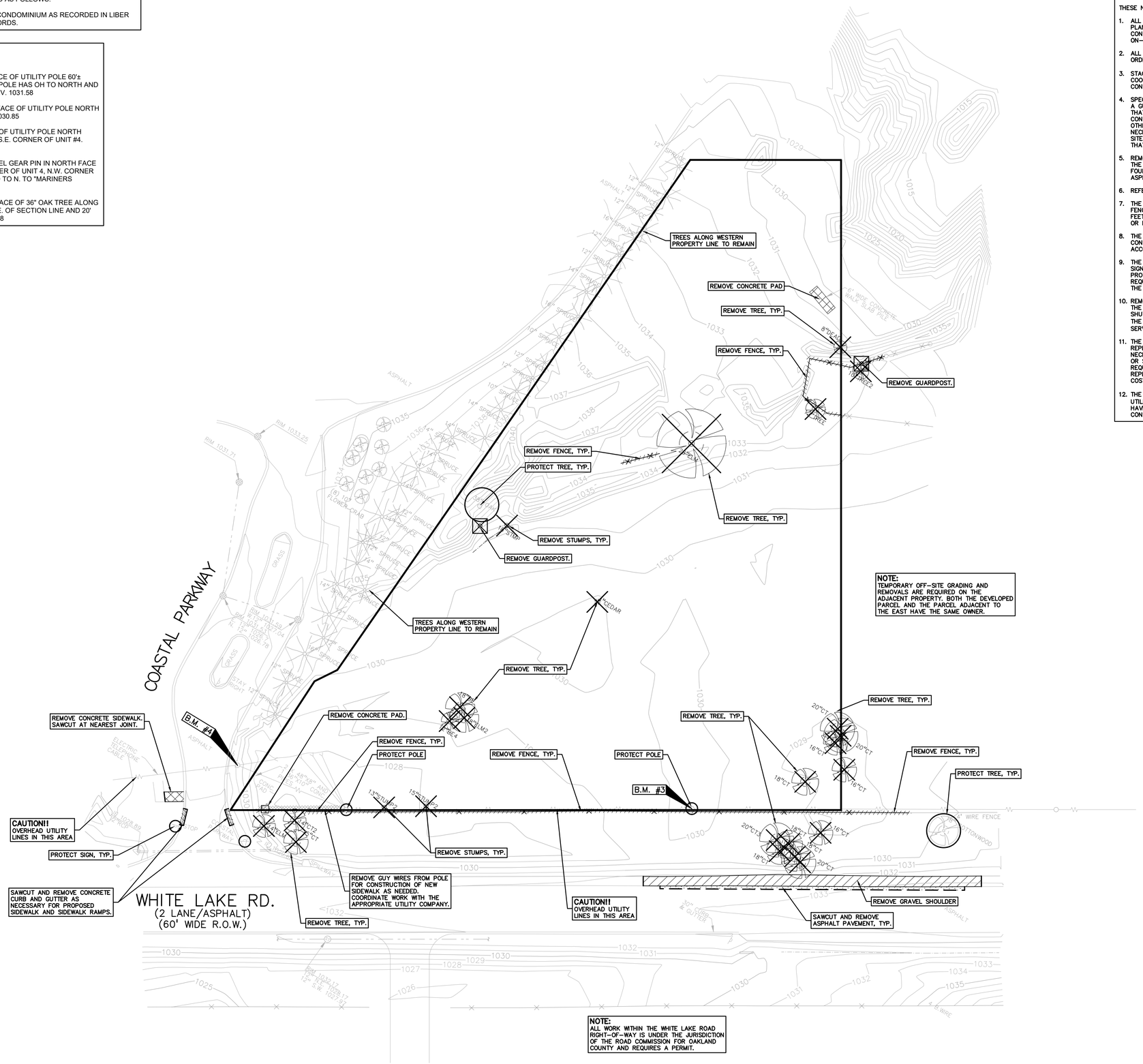

NOTE:
TEMPORARY OFF-SITE GRADING AND REMOVALS ARE REQUIRED ON THE ADJACENT PROPERTY. BOTH THE DEVELOPED PARCEL AND THE PARCEL ADJACENT TO THE EAST HAVE THE SAME OWNER.

NOTE:
ALL WORK WITHIN THE WHITE LAKE ROAD RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE ROAD COMMISSION FOR OAKLAND COUNTY AND REQUIRES A PERMIT.

GENERAL DEMOLITION NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT:

1. ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
2. ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES.
3. STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
4. SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
5. REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, FLOOR SLABS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, TREES, ETC.
6. REFER TO SHEET L-1.1 FOR TREE PROTECTION DETAILS.
7. THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15 FEET OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
10. REMOVE ALL OVERHEAD AND UNDERGROUND ELECTRICAL LINES WITHIN THE AREA OF CONSTRUCTION AS SHOWN ON THE PLANS. COORDINATE SHUTDOWNS AND REMOVALS WITH ELECTRICAL SERVICE PROVIDER OR THE APPROPRIATE UTILITY COMPANY. (NOTE: PHONE AND CABLE T.V. SERVICES MAY ALSO BE LOCATED ON OVERHEAD LINES.)
11. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS WITHIN THE WORK AREA, AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PROTECTED OR STOCKPILED FOR REUSE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.
12. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

DEMOLITION LEGEND:

- ITEM TO BE PROTECTED
- ITEM TO BE REMOVED
- CURB/FENCE REMOVAL
- CONCRETE PAVEMENT AND SIDEWALK REMOVAL
- AREA OR ITEMS TO BE REMOVED
- GUY WIRE REMOVAL
- ASPHALT REMOVAL
- TREE REMOVAL
- SAWCUT LINE

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN — JAMES P. BAUER — License No. 039605 — PROFESSIONAL ENGINEER

NORTH

0 15 30 60
SCALE: 1" = 30'

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CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

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FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
DEMOLITION PLAN

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-2.0

S:\PROJECTS\2002\2002248A\DWG\CONSTRUCTION-2026\C-2.0(DEMO-2002248A.dwg

LEGAL DESCRIPTION:

PART OF THE NORTH 1/2 OF SECTION 1, T.3N. R.8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

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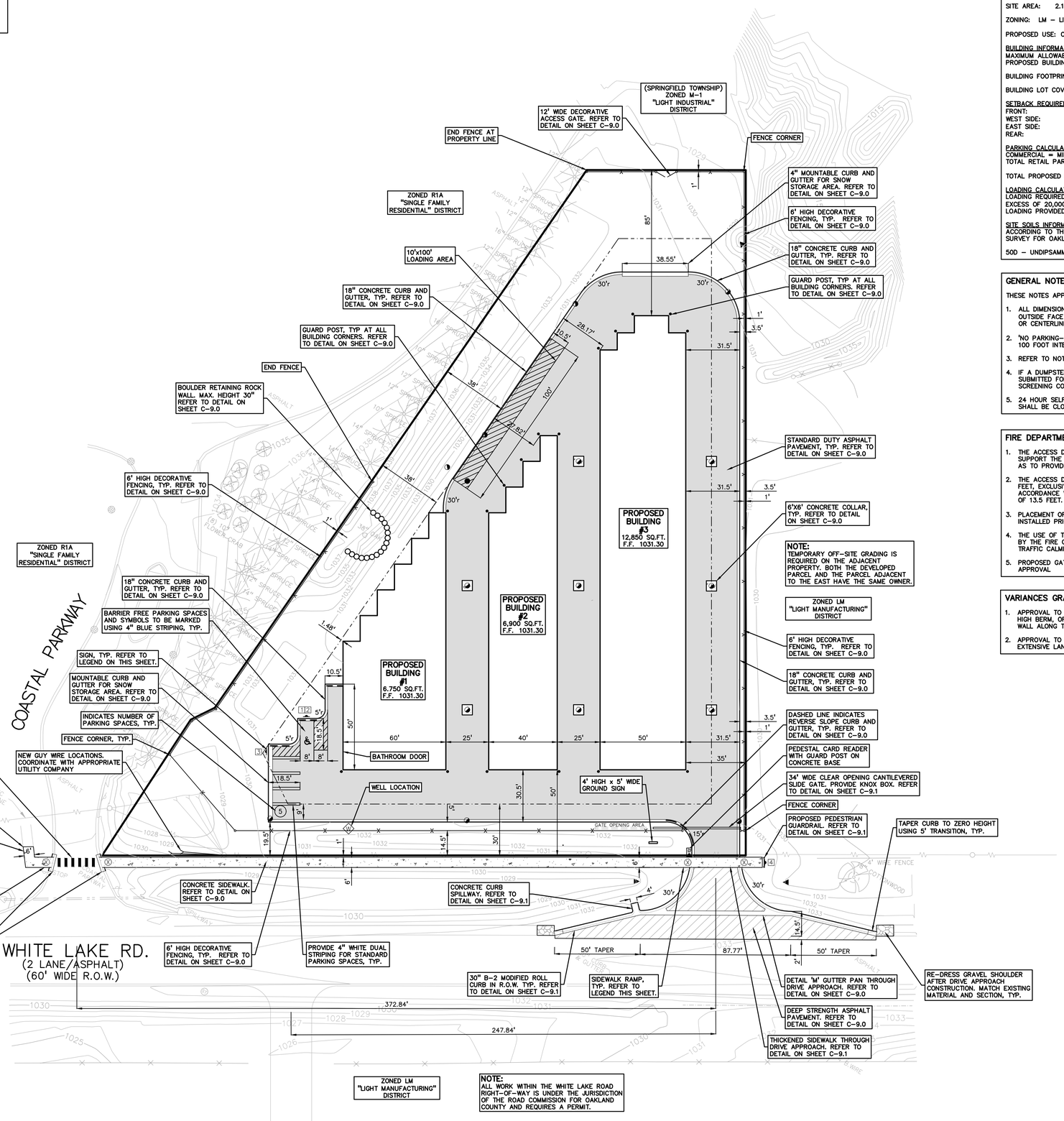

SITE DATA TABLE:

PARCEL NUMBER: 12-01-127-004

SITE AREA: 2.14 ACRES (93,090 SQ.FT.) NET AND GROSS

ZONING: LM – LIGHT MANUFACTURING

PROPOSED USE: COMMERCIAL (26,500 SF)

BUILDING INFORMATION:
MAXIMUM ALLOWABLE BUILDING HEIGHT = 40 FEET (2 STORIES)
PROPOSED BUILDING HEIGHT = 1 STORY

BUILDING FOOTPRINT AREA = 26,500 SQ.FT.

BUILDING LOT COVERAGE = 28.47%

SETBACK REQUIREMENTS:	REQUIRED:	PROPOSED:
FRONT:	30'	50'
WEST SIDE:	20'	38'
EAST SIDE:	20'	35'
REAR:	40'	85'

PARKING CALCULATIONS:
COMMERCIAL = MINIMUM 4 PER 1000 SF OF OFFICE + ONE PER EMPLOYEE.
TOTAL RETAIL PARKING REQUIRED = 5 SPACES

TOTAL PROPOSED PARKING SPACES = 5 SPACES INC. 1 H/C SPACES

LOADING CALCULATIONS:
LOADING REQUIRED = 0 TO 20,000 SQ.FT. + 1 SPACE FOR EACH 20,000 SQ.FT. IN EXCESS OF 20,000 SQ.FT. = 2 SPACES (10' x 50') OR 1000 SQ.FT.
LOADING PROVIDED = 1,000 SQ.FT.

SITE SOILS INFORMATION:
 according to the USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY FOR OAKLAND COUNTY, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:

50D – UNDIPSAMMENTS ROLLING TO STEEP

GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO FACE OF GUTTER PAN, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. 'NO PARKING-FIRE LANE' SIGNS SHALL BE POSTED ALONG ALL FIRE LANES AT 100 FOOT INTERVALS OR AS DIRECTED BY THE FIRE OFFICIAL.
3. REFER TO NOTES AND DETAILS SHEET FOR ON-SITE PAVING DETAILS.
4. IF A DUMPSTER IS PROPOSED IN THE FUTURE, AN AMENDED SITE PLAN SHALL BE SUBMITTED FOR ADMINISTRATIVE REVIEW TO ENSURE THE LOCATION AND SCREENING COMPLY WITH THE ZONING ORDINANCE STANDARDS.
5. 24 HOUR SELF STORAGE SHALL BE PROHIBITED; THE SELF STORAGE FACILITY SHALL BE CLOSED DAILY BETWEEN 10:00 P.M. AND 6:00 A.M..

FIRE DEPARTMENT NOTES:

1. THE ACCESS DRIVE AND PARKING LOT SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS AND SHALL BE SURFACES SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES.
2. THE ACCESS DRIVE SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAT 20 FEET, EXCLUSIVE OF SHOULDERS, EXCEPT FOR APPROVED SECURITY GATES IN ACCORDANCE WITH SECTION 503.6, AND AN UNOBSTRUCTED VERTICAL CLEARANCE OF 13.5 FEET.
3. PLACEMENT OF "NO PARKING FIRE LANE" SIGNS WILL BE EVALUATED AND INSTALLED PRIOR TO CERTIFICATED OF OCCUPANCY BEING ISSUED.
4. THE USE OF TRAFFIC CALMING DEVICES SHALL BE PROHIBITED UNLESS APPROVED BY THE FIRE CODE OFFICIAL. PLANS MUST BE SUBMITTED FOR APPROVAL IF TRAFFIC CALMING DEVICES ARE BEING CONSIDERED FOR USE.
5. PROPOSED GATE PLANS MUST BE SUBMITTED TO THE FIRE CODE OFFICIAL FOR APPROVAL

VARIANCES GRANTED BY ZBA ON 03-28-2024

1. APPROVAL TO ELIMINATE THE REQUIREMENT FOR THE INSTALLATION OF A 6 FOOT HIGH BERM, OR A 3 FOOT HIGH BERM AND A 6 FOOT HIGH MASONRY SCREEN WALL ALONG THE WEST PROPERTY LINE.
2. APPROVAL TO INSTALL A 20 FOOT GREENBELT IN LIEU OF A 38 FOOT WIDE EXTENSIVE LAND FORM BUFFER ALONG THE WHITE LAKE ROAD RIGHT-OF-WAY.

LEGEND:

- CONCRETE PAVEMENT (WALK, HEAVY DUTY)
- ASPHALT PAVEMENT (STD DUTY, DEEP STRENGTH)
- GRAVEL
- CONCRETE CURB AND GUTTER
- REVERSE GUTTER PAN
- SETBACK LINE
- SIGN
- LIGHTPOLE
- FENCE
- GUARD RAIL

SIGN LEGEND:

"BARRIER FREE" SIGN	1
"VAN ACCESSIBLE" SIGN	2
"NO PARKING" SIGN	3
"SIDEWALK ENDS" SIGN	4

REFER TO SHEET C-9.0 FOR SIGN DETAILS

SIDEWALK RAMP LEGEND:

SIDEWALK RAMP 'TYPE X' CURB DROP ONLY

REFER TO LATEST MDOT R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN · JASON P. BOWER · License No. 039605 · PROFESSIONAL ENGINEER

NORTH

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DRAWING TITLE
SITE PLAN

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-3.0

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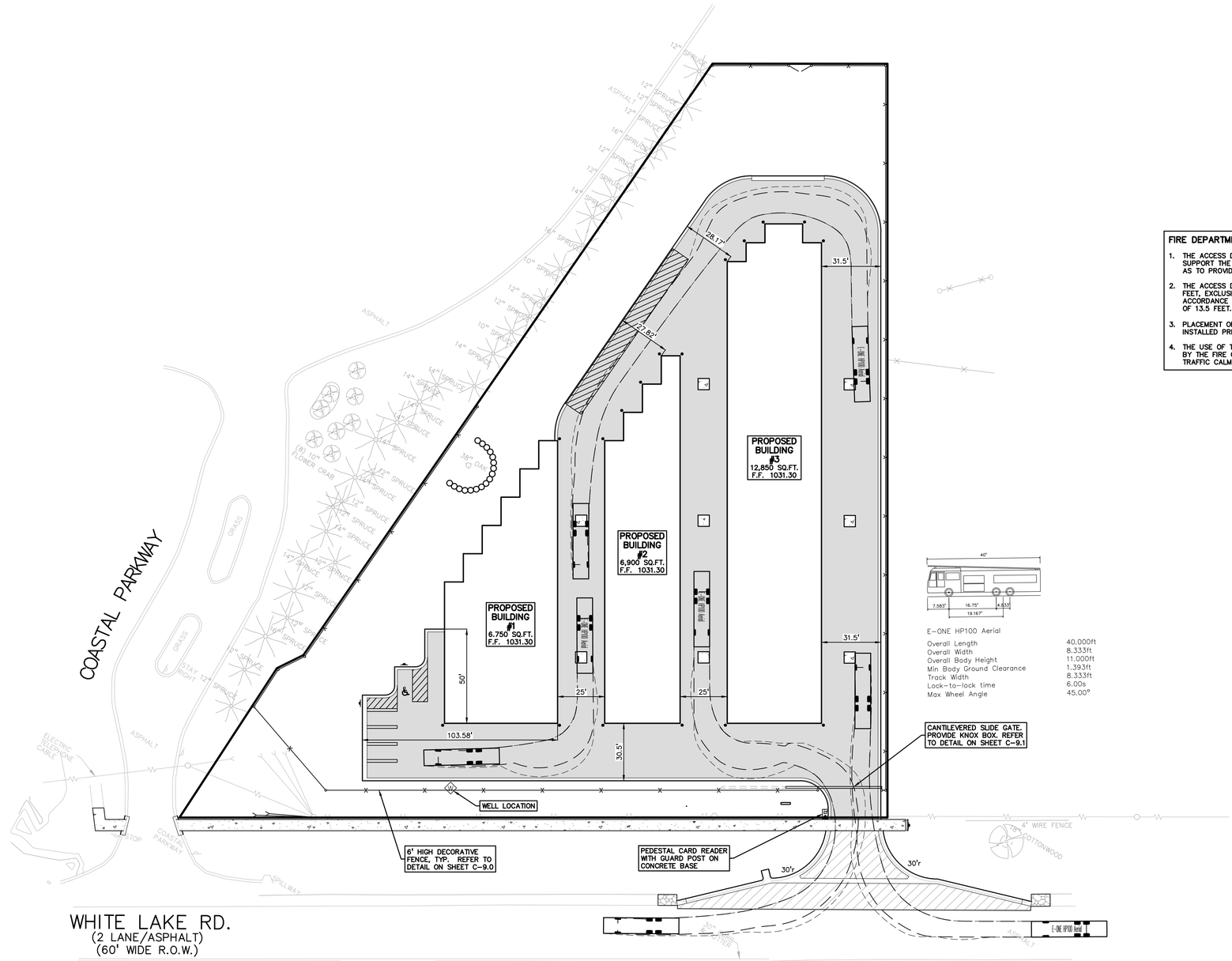
PART OF THE NORTH 1/2 OF SECTION 1, T.3N. R.8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

UNIT NO. 4 OF "PROSPECTORS SQUARE" CONDOMINIUM AS RECORDED IN LIBER 22118, PAGE 870, OAKLAND COUNTY RECORDS.



NOTE:
ALL WORK WITHIN THE WHITE LAKE ROAD RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE ROAD COMMISSION FOR OAKLAND COUNTY AND REQUIRES A PERMIT.

FIRE DEPARTMENT NOTES:

1. THE ACCESS DRIVE AND PARKING LOT SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS AND SHALL BE SURFACES SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES.
2. THE ACCESS DRIVE SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAT 20 FEET, EXCLUSIVE OF SHOULDERS, EXCEPT FOR APPROVED SECURITY GATES IN ACCORDANCE WITH SECTION 503.6, AND AN UNOBSTRUCTED VERTICAL CLEARANCE OF 13.5 FEET..
3. PLACEMENT OF "NO PARKING FIRE LANE" SIGNS WILL BE EVALUATED AND INSTALLED PRIOR TO CERTIFICATED OF OCCUPANCY BEING ISSUED.
4. THE USE OF TRAFFIC CALMING DEVICES SHALL BE PROHIBITED UNLESS APPROVED BY THE FIRE CODE OFFICIAL. PLANS MUST BE SUBMITTED FOR APPROVAL IF TRAFFIC CALMING DEVICES ARE BEING CONSIDERED FOR USE.

PEA GROUP
t: 844.813.2949
www.peagroup.com

NORTH

0 15 30 60
SCALE: 1" = 30'

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

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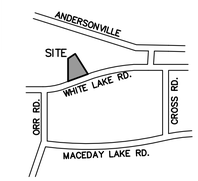

CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS	
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
PER AGENCIES COMMENTS	10/24/23
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PER AGENCIES COMMENTS	09/06/24
UNIT LAYOUT CHANGE	11/18/24
GRADING/ENTRY CHANGES	04/30/26
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
FIRE TRUCK TURNING MOVEMENTS

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-3.1

S:\PROJECTS\2002\2002248A\DWG\CONSTRUCTION-2026\C-3.1FIRE-2002248A.dwg

LEGAL DESCRIPTION:

PART OF THE NORTH 1/2 OF SECTION 1, T.3N. R.8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

UNIT NO. 4 OF "PROSPECTORS SQUARE" CONDOMINIUM AS RECORDED IN LIBER 22118, PAGE 870, OAKLAND COUNTY RECORDS.

BENCHMARKS
(N.A.V.D. 88 DATUM)

SITE B.M. #1: STEEL GEAR-PIN IN S.W. FACE OF UTILITY POLE 60'± NORTH OF N 1/4 CORNER SEC. 1. UTILITY POLE HAS OH TO NORTH AND WSW ALONG WHITE LAKE RD. ELEV. 1031.58

SITE B.M. #2: STEEL GEAR-PIN IN NORTH FACE OF UTILITY POLE NORTH SIDE OF WHITE LAKE RD. ELEV. 1030.85

SITE B.M. #3: STEEL GEAR PIN IN N. FACE OF UTILITY POLE NORTH SIDE OF WHITE LAKE RD., 100'± WEST OF S.E. CORNER OF UNIT #4. ELEV. 1031.65

SITE B.M. #4: (AT CONDO RD, GRADE) STEEL GEAR PIN IN NORTH FACE OF UTILITY POLE, 40'± N.W. OF S.W. CORNER OF UNIT 4, N.W. CORNER OF WHITE LAKE ROAD AND GRAVEL ROAD TO N. TO "MARINERS CAVE CONDO" SITE. ELEV. 1031.88

REF. B.M.: (JOB # 97626) R.R. SPIKE IN N. FACE OF 36" OAK TREE ALONG S. PARENT PARCEL LINE (ACS SITE), 225' E. OF SECTION LINE AND 20' N. OF S. PARCEL LINE. ELEV. 1017.78

EARTHWORK BALANCING NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

SIDEWALK RAMP LEGEND:

CURB DROP ONLY 'TYPE X' (X)

REFER TO LATEST MDOT R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

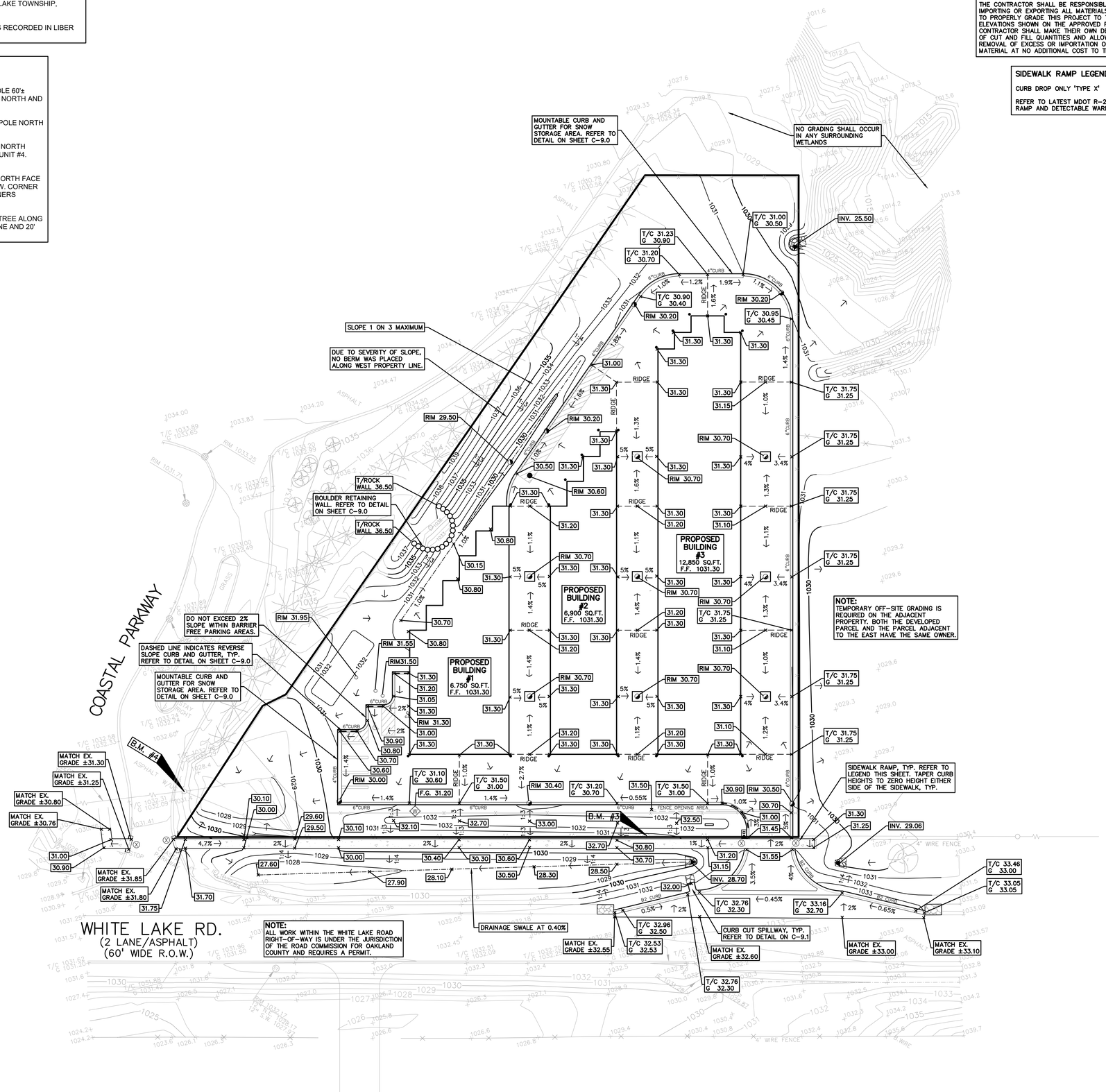
GRADING LEGEND:

- 4:936.91 — EXISTING SPOT ELEVATION
- 622.50 — PROPOSED SPOT ELEVATION: TYPICALLY TOP OF PAVEMENT IN PAVED AREAS, GUTTER GRADE IN CURB LINES.
- 670 — EXISTING CONTOUR
- 922 — PROPOSED CONTOUR
- PROPOSED REVERSE GUTTER PAN
- PROPOSED RIDGE LINE
- PROPOSED SWALE/DITCH

ABBREVIATIONS

T/C = TOP OF CURB	G = GUTTER GRADE
T/P = TOP OF PAVEMENT	FG = FINISH GRADE
T/S = TOP OF SIDEWALK	RIM = RIM ELEVATION
T/W = TOP OF WALL	B/W = BOTTOM OF WALL

REFER TO GRADING NOTES ON SHEET C-9.0



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STATE OF MICHIGAN — JAMES P. BOGER — License No. 39605 — PROFESSIONAL ENGINEER

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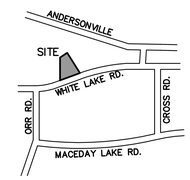

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2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

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FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
GRADING PLAN

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-4.0

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LEGAL DESCRIPTION:

PART OF THE NORTH 1/2 OF SECTION 1, T.3N. R.8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

UNIT NO. 4 OF "PROSPECTORS SQUARE" CONDOMINIUM AS RECORDED IN LIBER 22118, PAGE 870, OAKLAND COUNTY RECORDS.

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(N.A.V.D. 88 DATUM)

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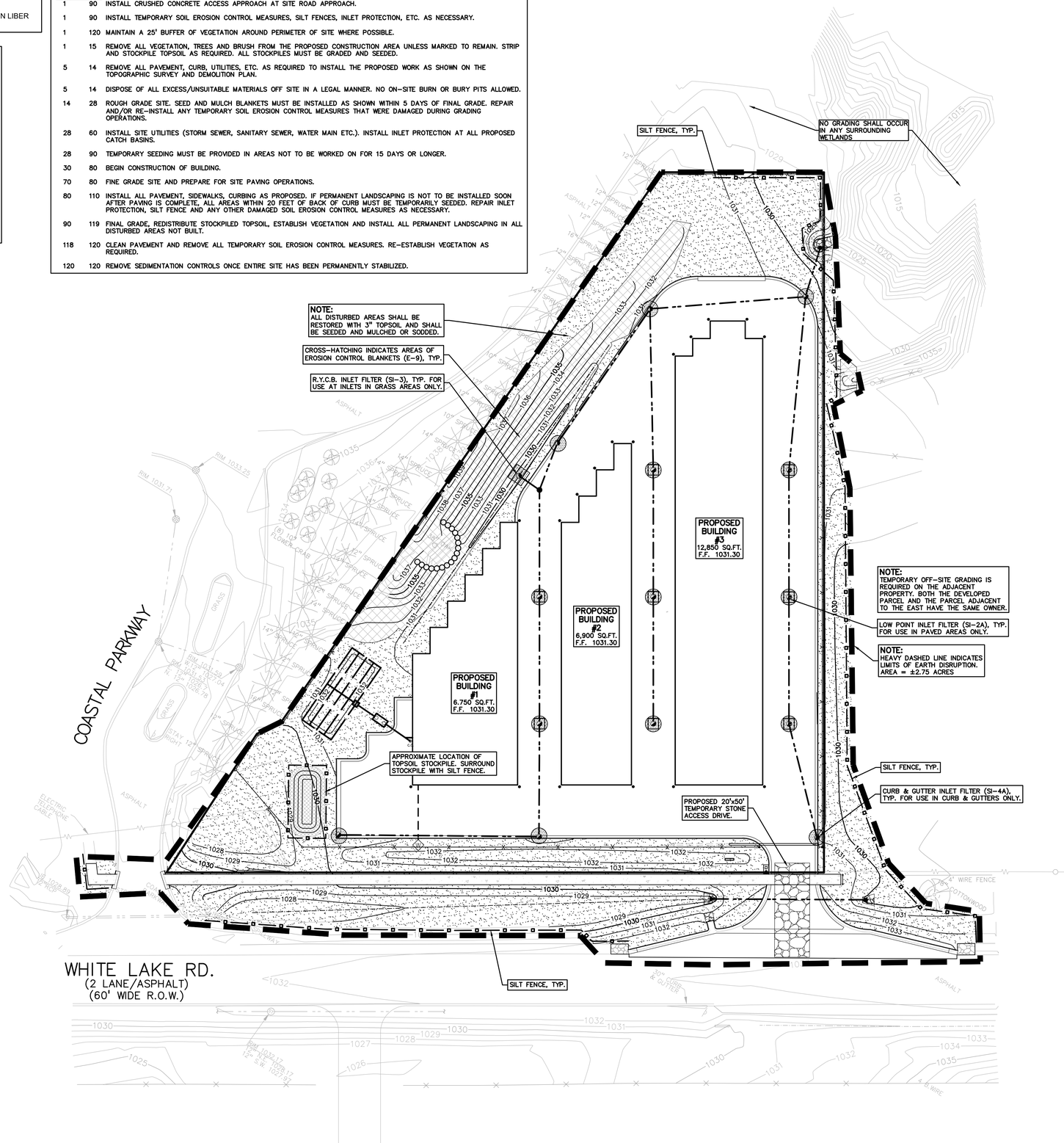
REF. B.M.: (JOB # 97626) R.R. SPIKE IN N. FACE OF 36" OAK TREE ALONG S. PARENT PARCEL LINE (ACS SITE), 225' E. OF SECTION LINE AND 20' N. OF S. PARCEL LINE. ELEV. 1017.78

SEQUENCE OF CONSTRUCTION:

START DAY	END DAY	
1	90	INSTALL CRUSHED CONCRETE ACCESS APPROACH AT SITE ROAD APPROACH.
1	90	INSTALL TEMPORARY SOIL EROSION CONTROL MEASURES, SILT FENCES, INLET PROTECTION, ETC. AS NECESSARY.
1	120	MAINTAIN A 25' BUFFER OF VEGETATION AROUND PERIMETER OF SITE WHERE POSSIBLE.
1	15	REMOVE ALL VEGETATION, TREES AND BRUSH FROM THE PROPOSED CONSTRUCTION AREA UNLESS MARKED TO REMAIN. STRIP AND STOCKPILE TOPSOIL AS REQUIRED. ALL STOCKPILES MUST BE GRADED AND SEEDED.
5	14	REMOVE ALL PAVEMENT, CURB, UTILITIES, ETC. AS REQUIRED TO INSTALL THE PROPOSED WORK AS SHOWN ON THE TOPOGRAPHIC SURVEY AND DEMOLITION PLAN.
5	14	DISPOSE OF ALL EXCESS/UNSUITABLE MATERIALS OFF SITE IN A LEGAL MANNER. NO ON-SITE BURN OR BURY PITS ALLOWED.
14	28	ROUGH GRADE SITE. SEED AND MULCH BLANKETS MUST BE INSTALLED AS SHOWN WITHIN 5 DAYS OF FINAL GRADE. REPAIR AND/OR RE-INSTALL ANY TEMPORARY SOIL EROSION CONTROL MEASURES THAT WERE DAMAGED DURING GRADING OPERATIONS.
28	60	INSTALL SITE UTILITIES (STORM SEWER, SANITARY SEWER, WATER MAIN ETC.). INSTALL INLET PROTECTION AT ALL PROPOSED CATCH BASINS.
28	90	TEMPORARY SEEDING MUST BE PROVIDED IN AREAS NOT TO BE WORKED ON FOR 15 DAYS OR LONGER.
30	80	BEGIN CONSTRUCTION OF BUILDING.
70	80	FINE GRADE SITE AND PREPARE FOR SITE PAVING OPERATIONS.
80	110	INSTALL ALL PAVEMENT, SIDEWALKS, CURBING AS PROPOSED. IF PERMANENT LANDSCAPING IS NOT TO BE INSTALLED SOON AFTER PAVING IS COMPLETE, ALL AREAS WITHIN 20 FEET OF BACK OF CURB MUST BE TEMPORARILY SEEDED. REPAIR INLET PROTECTION, SILT FENCE AND ANY OTHER DAMAGED SOIL EROSION CONTROL MEASURES AS NECESSARY.
90	119	FINAL GRADE, REDISTRIBUTE STOCKPILED TOPSOIL, ESTABLISH VEGETATION AND INSTALL ALL PERMANENT LANDSCAPING IN ALL DISTURBED AREAS NOT BUILT.
118	120	CLEAN PAVEMENT AND REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES. RE-ESTABLISH VEGETATION AS REQUIRED.
120	120	REMOVE SEDIMENTATION CONTROLS ONCE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED.



SYMBOLS: EROSION CONTROL:

- (SP-2) SILT FENCE
- (SI-2A) LOW POINT INLET FILTER
- (SP-9) TEMPORARY STONE ACCESS DRIVE
- (E-9) EROSION CONTROL BLANKET
- TEMPORARY SEED AND MULCH

REFER TO O.C.W.R.C. SOIL EROSION AND SEDIMENTATION CONTROL DETAILS SHEET FOR ALL DEVICE DETAILS.

EROSION CONTROL QUANTITIES:

SILT FENCE	960 LF
R.Y.C.B. INLET FILTER	1 EA.
LOW POINT INLET FILTER	14 EA.
TEMPORARY CONSTRUCTION ACCESS DRIVE	1 EA.
EROSION CONTROL BLANKETS	990 S.Y.
TEMPORARY SEEDING	4,376 S.Y.

SOIL EROSION AND SEDIMENTATION CONTROL SEQUENCE OF CONSTRUCTION

1. SEE OAKLAND COUNTY W.R.C. SOIL EROSION AND SEDIMENTATION CONTROL DETAILS SHEET FOR ALL SOIL EROSION CONTROL RELATED DETAILS.
2. PLACE SILT FENCE & INSTALL INLET FILTERS ON EXISTING STORM SEWER STRUCTURES, ACCORDING TO PLANS.
3. INSTALL TEMPORARY CRUSHED CONCRETE ACCESS DRIVE AT ALL CONSTRUCTION ENTRANCES. (20'x80'x8" W/MINIMUM OF 1"-3" CRUSHED CONCRETE – NO FINES).
4. REMOVE CURB, PAVEMENT, TREES, ETC. AS DIRECTED ON THE DEMOLITION PLAN.
5. STRIP AND STOCKPILE TOPSOIL FOR RESTORATION REQUIREMENTS.
6. DISPOSE OF ALL EXCESS, UNSUITABLE MATERIALS OFF SITE IN A LEGAL MANNER. NO BURN OR BURY PITS ALLOWED.
7. UNSUITABLE MATERIALS CONSIST OF, BUT ARE NOT NECESSARILY LIMITED TO THE FOLLOWING: CONCRETE, ASPHALT, TREES, BRUSH, STUMPS, ROOTS, OR OTHER MISCELLANEOUS DEBRIS OR TRASH.
8. MASS GRADE THE SITE IN ACCORDANCE WITH THE PLANS.
9. INSTALL SEED, MULCH AND EROSION CONTROL BLANKETS AS SHOWN ON THE PLAN WITHIN 5 DAYS OF COMPLETION OF MASS GRADING OR WHENEVER DISTURBED AREAS WILL REMAIN UNCHANGED FOR 30 DAYS OR GREATER. 3-4" TOPSOIL WILL BE USED WHERE VEGETATION IS REQUIRED.
10. COMPLETE ROUGH GRADING OF SITE AND INSTALL UTILITIES. PLACE INLET FILTERS AT ALL INLETS AND CATCH BASINS, AS SHOWN.
11. FINISH GRADE AND PAVE SITE AS PROPOSED TO DRAIN TO STORM SEWER SYSTEM. REPAIR INLET FILTERS AS REQUIRED.
12. APPLY TOPSOIL, SEED AND MULCH/SOD TO ALL DISTURBED AREAS UPON COMPLETION OF GRADING. THE CONTRACTOR SHALL STAGE CONSTRUCTION ACTIVITIES IN ORDER TO MINIMIZE THE EXPOSURE OF UNSTABILIZED AREAS.
13. CLEAN PAVEMENT AND STORM SEWERS. REMOVE SILT FENCE, AND INLET FILTERS ONCE VEGETATION HAS BEEN ESTABLISHED.
14. ALL DIRT AND MUD TRACKED ONTO PUBLIC ROADS SHALL BE REMOVED DAILY.
15. STREET CATCH BASINS TO BE PERIODICALLY CLEANED AND FILTER CLOTH CHANGED AND MAINTAINED.

SOIL EROSION MAINTENANCE SCHEDULE AND NOTES:

1. THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY:

   TBD

2. IF ANY DAMAGE HAS OCCURRED AS A RESULT OF STORM WATER DISCHARGE FROM THE SITE, THE FOLLOWING STEPS SHALL BE IMPLEMENTED.

3. ANY DEBRIS OR DIRT ON ANY PAVED AREA RESULTING FROM CONSTRUCTION TRAFFIC SHALL BE CLEANED IN A PROMPT MANNER BY THE CONTRACTOR. THE CONSTRUCTION DRIVE SHALL BE CLEANED AT THE END OF EACH DAY.

4. ALL DIRT AND MUD TRACKED ONTO PAVED AREAS SHALL BE REMOVED BY THE CONTRACTOR DAILY BY SCRAPING. STREET SWEEPING IS REQUIRED WEEKLY.

5. SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RETRENCH OR REBACKFILL THE SILTATION FENCE SHOULD IT FALL OR BE DAMAGED DURING CONSTRUCTION.

6. INLET FILTER MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY ACCUMULATED SILT OR OTHER DEBRIS. THE REMOVAL OF SILT SHOULD BE WITH THE USE OF A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTERS CAN NOT BE CLEANED OR ARE DAMAGED, THEN THE FABRIC MUST BE REPLACED.

7. CONTRACTOR SHALL PROVIDE WATER TRUCK TO WATER DOWN THE SITE ON A DAILY BASIS AS REQUIRED TO MAINTAIN DUST CONTROL.

8. IF HIGH GROUNDWATER IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION A DEWATERING PLAN MUST BE SUBMITTED TO THE CITY ENGINEERING DIVISION FOR REVIEW.

GENERAL SITE CONDITIONS:

1. ACCORDING TO THE USDA WEB SOIL SURVEY DATED APRIL 24, 2024, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:

   UDIPSAMMENTS & URBAN LAND

2. TOTAL DISTURBED AREA = ±2.75 ACRES
3. N.P.D.E.S. NOTICE OF COVERAGE IS NOT REQUIRED

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t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN — JAMES P. BOHNER — License No. 039605 — PROFESSIONAL ENGINEER

NORTH

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2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

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ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
SESC PLAN

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-5.0

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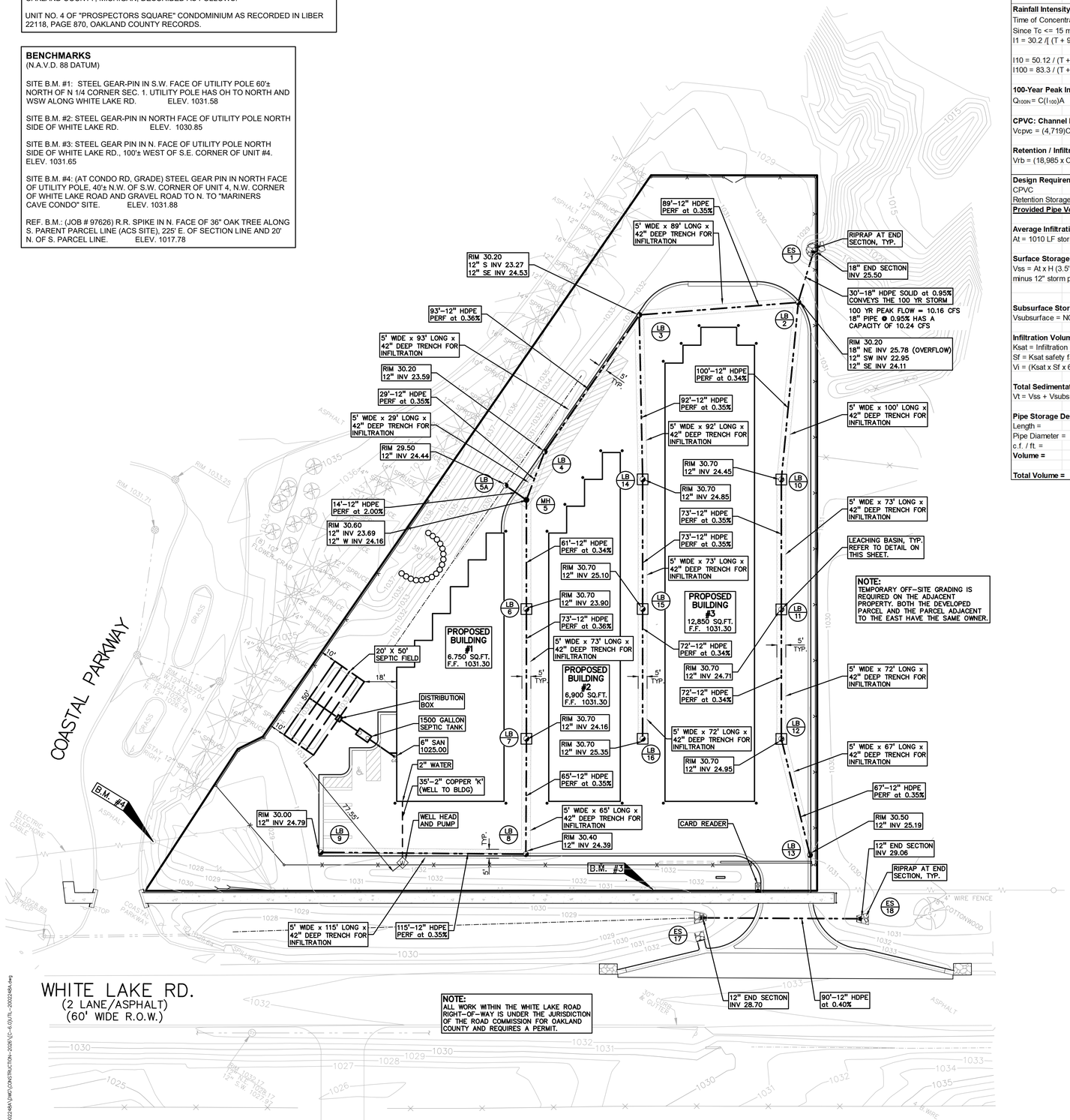
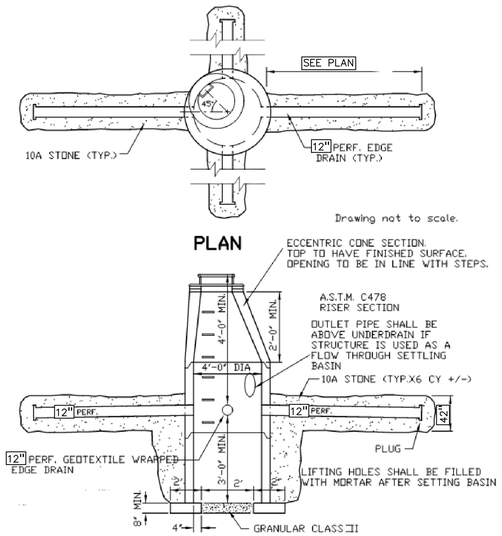


Site Drainage Data			
Total Area (A):	2.15	acre	
Weighted Coefficient of Runoff (C):	0.62		
Rainfall Intensity			
Time of Concentration (T_C)	10.00	min	
Since Tc <= 15 min, I1 = 2.0 in/hr			
I1 = 30.2 /[(T + 9.17)^.81]	2.00	in/hr	
I10 = 50.12 / (T + 9.17)^.81	4.58	in/hr	
I100 = 83.3 / (T + 9.17)^.81	7.62	in/hr	
100-Year Peak Inflow	10.16	cfs	
$Q_{100Y} = C(I_{100})A$			
CPVC: Channel Protection Volume			
Vcpvc = (4,719)CA	6,290	cf	
Retention / Infiltration Storage Volume (Vrb)			
Vrb = (18,985 x C x A) - Vcpvc	19,017	cf	
Design Requirements	**Volume**		
CPVC	6,290	cf	
Retention Storage Volume	19,017	cf	
Provided Pipe Volume:			
Average Infiltration Area (At)			
At = 1010 LF storm pipe x 5' wide	5,050	sf	
Surface Storage Volume (Vss)			
Vss = At x H (3.5' high) x .40	7,070	cf	
minus 12" storm pipe void x .40	316	cf	
	6,754	cf	
Subsurface Storage Volume (Vsubsurface)			
Vsubsurface = NO Engineered Sub Soils	0	cf	
Infiltration Volume (Vi) (based on 6 Hr period)			
Ksat = Infiltration Rate per "A" soil group	4.58	in/hr	
Sf = Ksat safety factor	1		
Vi = (Ksat x Sf x 6 x At) / 12 in	11,565	cf	
Total Sedimentation Storage Volume (Vt)			
Vt = Vss + Vsubsurface + Vi	**18,319**	**cf**	
Pipe Storage Design			
Length =	1010.00	ft.	
Pipe Diameter =	12.00	in.	
c.f. / ft. =	0.7850	cf/ft	
Volume =	**792.85**	cf	
Total Volume =	**19111.35**	cf	ok

UTILITY LEGEND:

- EX. OH, ELEC, POLE & GUY WIRE
- EX. U.G. CABLE TV & PEDESTAL
- EX. U.G. COMMUNICATION LINE, PEDESTAL & MANHOLE
- EX. U.G. ELEC,MANHOLE, METER & HANDHOLE
- EX. GAS LINE
- EX. GAS VALVE & GAS LINE MARKER
- EX. TRANSFORMER & IRRIGATION VALVE
- EX. WATER MAIN
- EX. HYDRANT, GATE VALVE & POST INDICATOR VALVE
- EX. WATER VALVE BOX & SHUTOFF
- EX. SANITARY SEWER
- EX. SANITARY CLEANOUT & MANHOLE
- EX. COMBINED SEWER MANHOLE
- EX. STORM SEWER
- EX. CLEANOUT & MANHOLE
- EX. SQUARE, ROUND, & BEEHIVE CATCH BASIN
- EX. YARD DRAIN & ROOF DRAIN
- EX. UNIDENTIFIED STRUCTURE
- PROPOSED WATER MAIN
- PROPOSED HYDRANT AND GATE VALVE
- PROPOSED TAPPING SLEEVE, VALVE & WELL
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY CLEANOUT & MANHOLE
- PROPOSED STORM SEWER
- PROPOSED STORM SEWER CLEANOUT & MANHOLE
- PROPOSED CATCH BASIN, INLET & YARD DRAIN



DETAIL
STANDARD LEACHING BASIN

SEPTIC CALCULATIONS

Project:	Ginko Self Storage	
Location:	White Lake Township, Michigan	
Project No:	2002-248A	
Design per the USEPA Onsite Wastewater Treatment System Manual, dated February, 2002 as well as the amount of customers serviced with the Average Tank Size		
Building Usage:		
Office/Sales		
Current Building Space:	50	SF
Total Number of Employees	1	Employees
Office or Industiral (Flow per Employee): Table 3-4 USEPA 7-16 gal	16	gallons/person/day
Employee Design Flow (Daily Peak Flow):	16	gallons/day
Number of Customer/day	2	Customers
Public Lavatory (Table 3-4 USEPA) per user 3-6 gallons	6	gal./customer/day
Customer Daily Design Usage	12	gallons/day
Peak Facllity Design Flow	28	gallons/day
Hydraulic Loading Rate: (for a bed system)	0.40	gpd/ft^2
	Per Table under C.5 of MCSSD	
Septic Field Area Requirement (Soil Dispersal Area):	70	sft
Proposed Septic Field Calculations		
PRIMARY Septic Field Width:	20	ft
PRIMARY Septic Field Length:	50	ft
PRIMARY Septic Field Area:	1,000	sft
Septic Tank Calculations		
Required Septic Tank Capacity Per Oakland County for Commercial Site for flows under 1000 gal/day is 1500 gallons		
Proposed Septic Tank Capacity:	1,500	gallons

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN JAMES P. BOHNER License No. 039605 PROFESSIONAL ENGINEER

NORTH

0 15 30 60
SCALE: 1" = 30'

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

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO WARRANTIES EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS	
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
PER AGENCIES COMMENTS	10/24/23
PER AGENCIES COMMENTS	04/26/24
PER AGENCIES COMMENTS	07/25/24
PER AGENCIES COMMENTS	09/06/24
UNIT LAYOUT CHANGE	11/18/24
GRADING/ENTRY CHANGES	04/30/26
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
UTILITY PLAN

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-6.0

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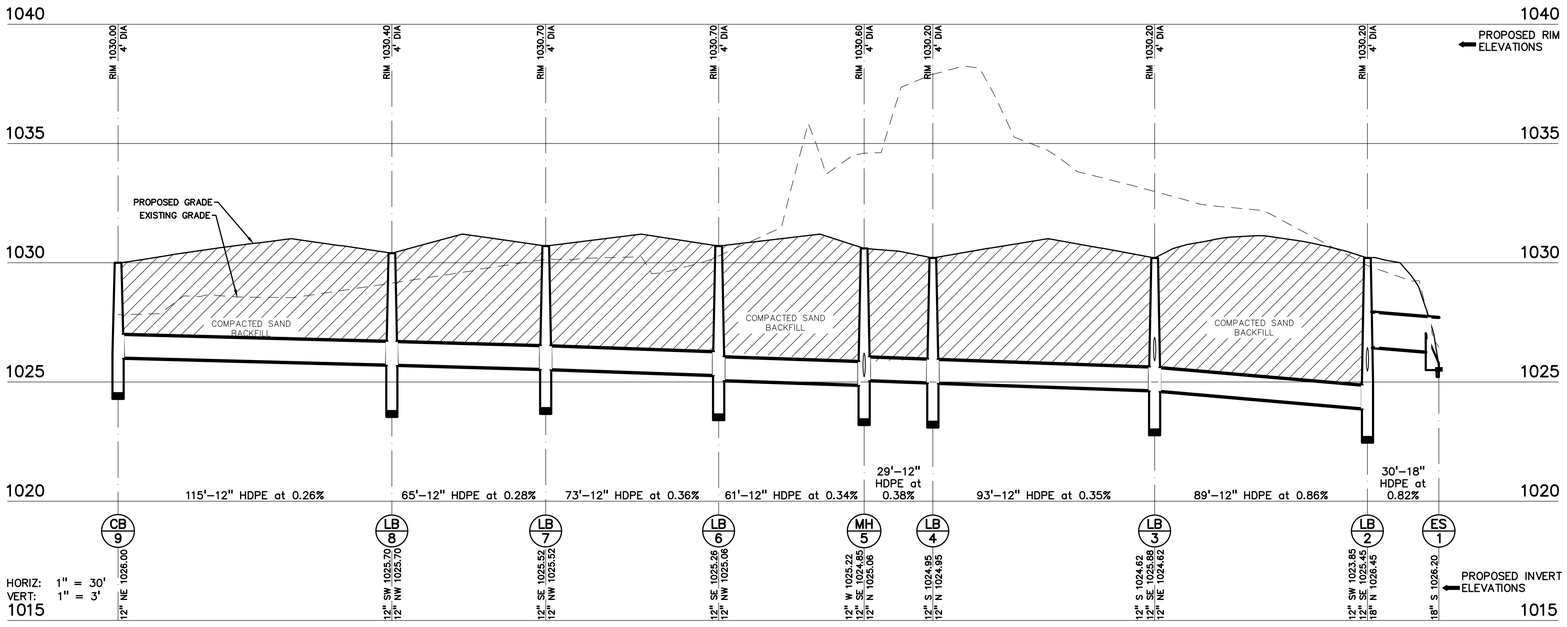
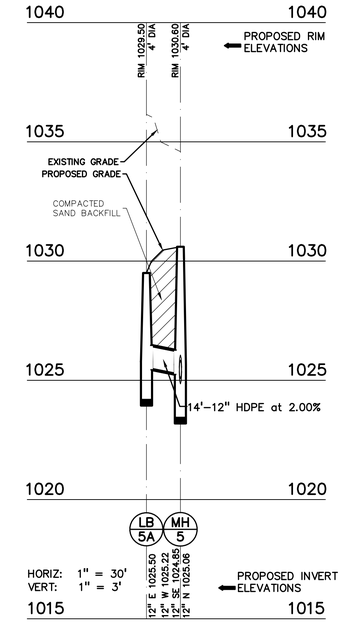
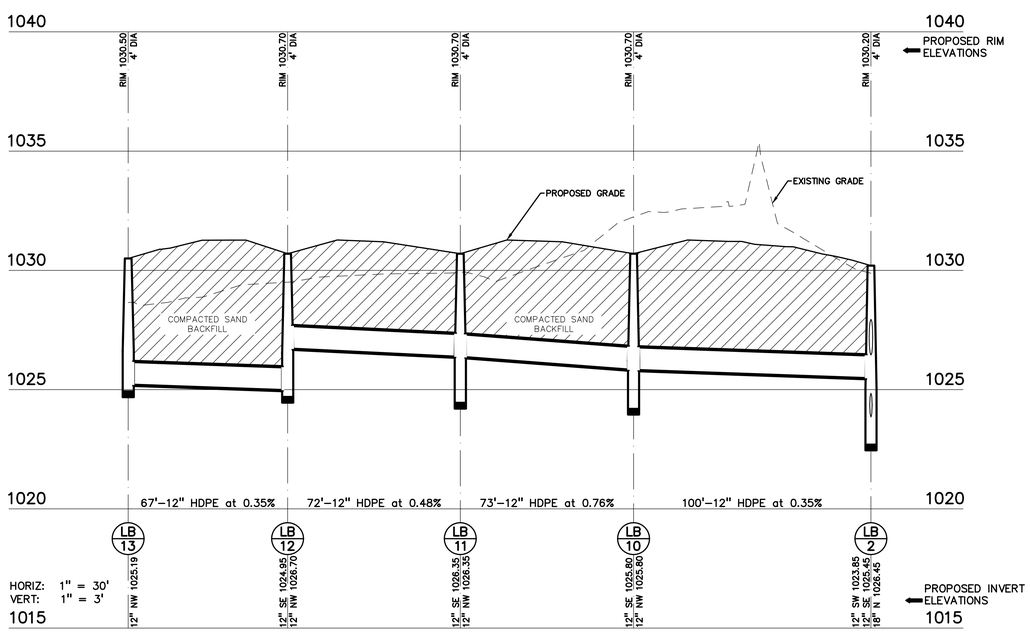


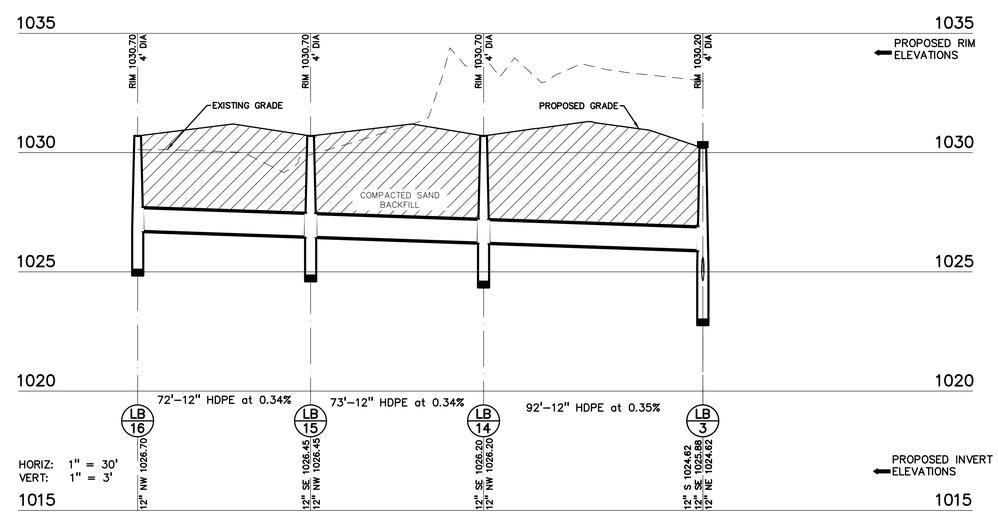
LB 9 – ES 1 PROFILE



LB 17 – MH 5 PROFILE



LB 13 – LB 2 PROFILE



LB 15 – LB 3 PROFILE

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STATE OF MICHIGAN
JAMES P. BOHNSACK
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PROFESSIONAL ENGINEER

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CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS	
PER AGENCIES COMMENTS	05/30/23
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FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE
UTILITY PROFILES

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-7.0

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GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT OSHA, MDOT AND MUNICIPALITY STANDARDS AND REGULATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. THE CONTRACTOR SHALL CONTACT THE ENGINEER SHOULD THEY ENCOUNTER ANY DESIGN ISSUES DURING CONSTRUCTION. IF THE CONTRACTOR MAKES DESIGN MODIFICATIONS WITHOUT THE WRITTEN DIRECTION OF THE DESIGN ENGINEER, THE CONTRACTOR DOES SO AT HIS OWN RISK.
4. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL TOWNSHIP INSPECTION FEES.
5. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. IF NO NOTIFICATION IS GIVEN AND DAMAGE RESULTS, SAID DAMAGE WILL BE REPAIRED AT SOLE EXPENSE OF THE CONTRACTOR. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
6. CONTRACTOR SHALL VERIFY THAT THE PLANS AND SPECIFICATIONS ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHERMORE, VERIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING FINAL APPROVAL, HAVING TO BE ADJUSTED OR RE-DONE, SHALL BE AT THE CONTRACTORS EXPENSE. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND/OR SPECIFICATIONS, THEY SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADING, SIGNAGE, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION). THE DESIGN ENGINEER, OWNER, TOWNSHIP AND STATE SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
10. THE USE OF CRUSHED CONCRETE IS PROHIBITED ON THE PROJECT WITHIN 100 FEET OF ANY WATER COURSE (STREAM, RIVER, COUNTY DRAIN, ETC.) AND LAKE, REGARDLESS OF THE APPLICATION OR LOCATION OF THE WATER COURSE OR LAKE RELATIVE TO THE PROJECT LIMITS.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

PAVING NOTES:

1. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
2. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF FROST SLAB AT EXTERIOR BUILDING DOORS.
3. CONSTRUCTION TRAFFIC SHOULD BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE INITIAL LIFT THICKNESS COULD BE INCREASED AND PLACEMENT OF THE FINAL LIFT COULD BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM.
4. ALL EXPANSION JOINTS AND CONCRETE PAVEMENT JOINTS TO BE SEALED.
5. CONCRETE CURBING JOINTING – UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION
   - 5.1. JOINTS WHEN ADJACENT TO ASPHALT PAVEMENT
     - 5.1.1. PLACE CONTRACTION JOINTS AT 10' INTERVALS
     - 5.1.2. PLACE 1/2" EXPANSION JOINT AT CATCH BASINS, EXISTING AND PROPOSED SIDEWALK OR EXISTING CURBING.
     - 5.1.3. PLACE 1" EXPANSION JOINT:
       - 5.1.3.1. AT SPRING POINTS OF INTERSECTIONS OR ONE OF THE END OF RADIUS LOCATIONS IN A CURVE
       - 5.1.3.2. AT 400' MAXIMUM INTERVALS ON STRAIGHT RUNS
       - 5.1.3.3. AT THE END OF RADIUS AT OPPOSITE ENDS IN A CURBED LANDSCAPE ISLAND
   - 5.2. JOINTS WHEN TIED TO CONCRETE PAVEMENT
     - 5.2.1. PLACE CONTRACTION JOINTS OPPOSITE ALL TRANSVERSE CONTRACTION JOINTS IN PAVEMENT
     - 5.2.2. PLACE 1/2" EXPANSION JOINT AT CATCH BASINS, EXISTING AND PROPOSED SIDEWALK OR EXISTING CURBING.
     - 5.2.3. PLACE 1" EXPANSION JOINT OPPOSITE ALL TRANSVERSE EXPANSION JOINTS IN PAVEMENT
     - 5.2.4. CURB AND GUTTER AND CONCRETE SHALL BE TIED TOGETHER SIMILAR TO A LONGITUDINAL LANE TIE JOINT (MDOT B1 JOINT)
   - 5.3. IN BETWEEN POURS OF PROPOSED CONCRETE CURBING (CONSTRUCTION JOINT):
     - 5.3.1. CARRY THE REBAR CONTINUOUSLY BETWEEN POURS
     - 5.3.2. IF THE REBAR IS NOT LONG ENOUGH TO CARRY CONTINUOUSLY, THEN TIE TWO PIECES OF REBAR PER THE LATEST MDOT SPECIFICATIONS
6. CONCRETE SIDEWALK JOINTING – UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION
   - 6.1. PLACE TRANSVERSE CONTRACTION JOINTS EQUAL TO THE WIDTH OF THE WALK WHEN WIDTH IS LESS THAN 8'
   - 6.2. PLACE TRANSVERSE AND LONGITUDINAL CONTRACTION JOINTS EQUAL TO 1/2 THE WIDTH OF THE WALK WHEN WIDTH IS EQUAL TO OR GREATER THAN 8'
   - 6.3. PLACE 1" EXPANSION JOINT WHERE ABUTTING SIDEWALK RAMP AND/OR RADIUS IN INTERSECTION
   - 6.4. PLACE TRANSVERSE 1/2" EXPANSION JOINT AT MAXIMUM OF 100' SPACING
   - 6.5. PLACE 1/2" EXPANSION JOINT WHEN ABUTTING A FIXED STRUCTURE, OTHER PAVEMENT (CONCRETE PAVEMENT AND DRIVE APPROACHES), UTILITY STRUCTURES, LIGHT POLE BASES AND COLUMNS

GENERAL GRADING AND EARTHWORK NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
2. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
3. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE AUTHORIZED PUBLIC AGENCY OF JURISDICTION. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE COUNTY PRIOR TO CONSTRUCTION.
5. ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT.
6. REFER TO SOIL EROSION CONTROL PLAN FOR ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
7. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE THIRD PARTY TESTING COMPANY, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.
9. ON-SITE FILL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON-SITE SOIL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
10. THE FINAL SUBGRADE/EXISTING AGGREGATE BASE SHOULD BE THOROUGHLY PROOFROLLED USING A FULLY LOADED TANDEM AXLE TRUCK OR FRONT END LOADER UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REINFORCED USING GEOGRIDS OR REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
11. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL AREAS OR BELOW PROPOSED SUBGRADE IN CUT AREAS WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
12. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED AS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING REPORT FOR THE PROJECT.
13. ANY SUBGRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.

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GENERAL UTILITY NOTES:

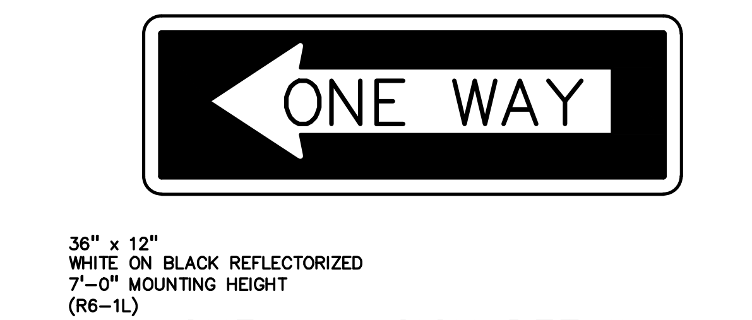
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP.
2. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
3. WHERE EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BREAKING SECTION OUT.
4. THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING UTILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE DESIGN ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY UTILITIES.
5. THE CONTRACTOR SHALL COORDINATE TO ENSURE ALL REQUIRED PIPES, CONDUITS, CABLES AND SLEEVES ARE PROPERLY PLACED FOR THE INSTALLATION OF GAS, ELECTRIC, PHONE, CABLE, IRRIGATION, ETC. IN SUCH A MANNER THAT WILL FACILITATE THEIR PROPER INSTALLATION PRIOR TO THE PLACEMENT OF THE PROPOSED PAVEMENT AND LANDSCAPING.
6. PIPE LENGTHS INDICATED ARE FROM CENTER OF STRUCTURE AND TO END OF FLARED END SECTION UNLESS NOTED OTHERWISE.
7. CONTRACTOR SHALL INSPECT ALL EXISTING PUBLIC STORM SEWER, SANITARY SEWER AND WATER MAIN STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION AND WITH THE GOVERNING AGENCY INSPECTOR PRIOR TO ESTABLISHING FINAL GRADE. NOTIFY THE ENGINEER, OWNER/DEVELOPER, AND GOVERNING AGENCY IF STRUCTURE IS DEEMED TO BE STRUCTURALLY UNSOUND AND/OR IN NEED OF REPAIR.

WATER MAIN NOTES:

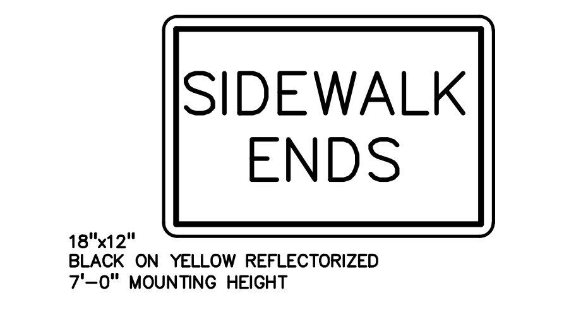
1. ALL WATER MAIN SHALL BE INSTALLED WITH A MINIMUM COVER OF 6.0' BELOW FINISH GRADE.
2. ALL TEES, BENDS, CONNECTIONS, ETC. ARE CONSIDERED INCIDENTAL TO THE JOB.
3. MAINTAIN 10' HORIZONTAL CLEARANCE BETWEEN OUTER EDGE OF WATERMAIN AND ANY SANITARY/STORM SEWER OR STRUCTURE.
4. ALL NEW WATER MAIN MUST PASS PRESSURE AND BACTERIOLOGICAL TESTS TO THE SATISFACTION OF THE TOWNSHIP.
5. WATER MAIN SERVICE LEADS SHALL BE TYPE 'K' ANNEALED SEAMLESS COPPER WITH FLARED FITTINGS, UNLESS OTHERWISE NOTED.
6. ALL NECESSARY FITTINGS, THRUST BLOCKS, RESTRAINING GLANDS, BLOW OFFS, ETC. FOR WATER MAIN ARE CONSIDERED INCIDENTAL TO THIS PROJECT. THE CONTRACTOR SHALL INSTALL THESE ITEMS AS NECESSARY AND AS REQUIRED BY THE TOWNSHIP.
7. THE WATER MAIN CONTRACTOR SHALL NOTIFY THE INSPECTION DEPARTMENT AT LEAST THREE WORKING DAYS IN ADVANCE OF STARTING CONSTRUCTION.

SANITARY SEWER NOTES:

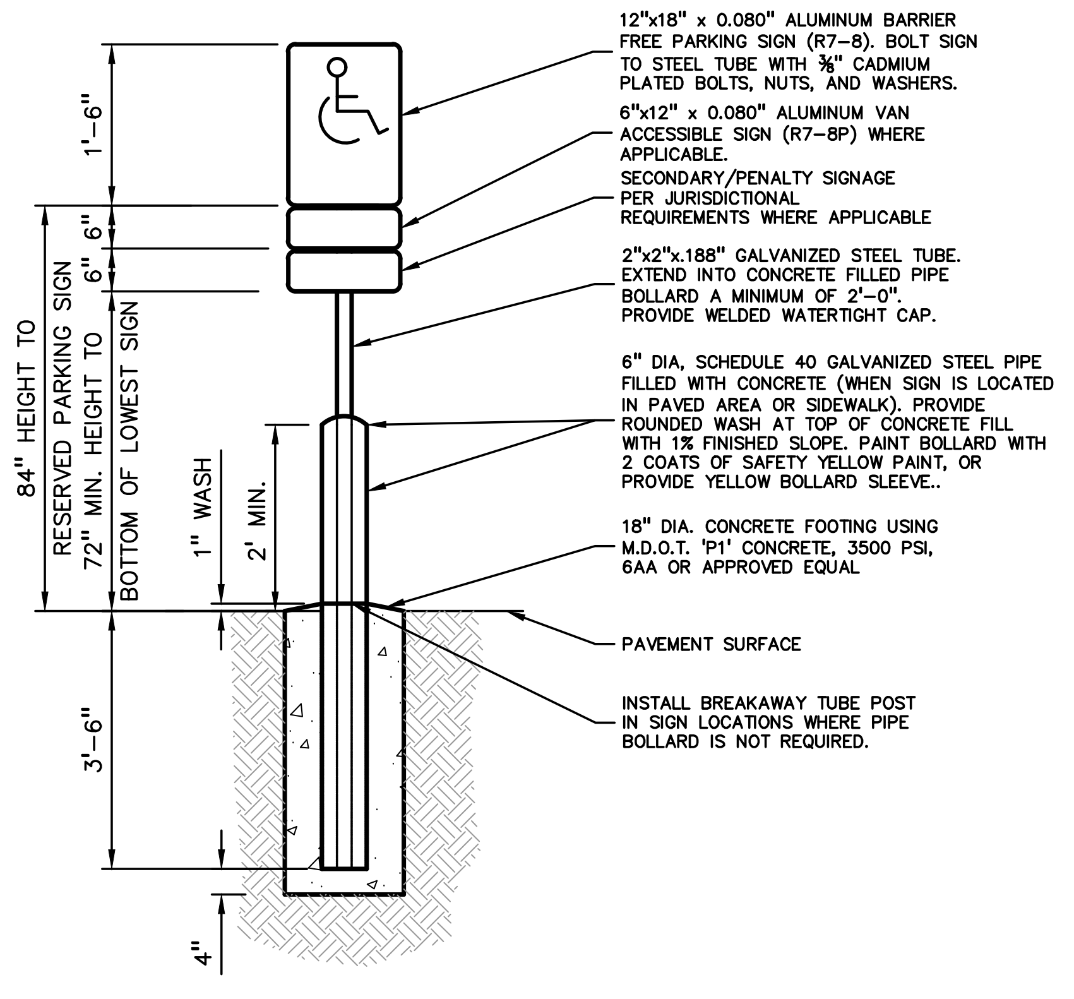
1. DOWNSPOUTS, WEEP TILE, FOOTING DRAINS OR ANY CONDUIT THAT CARRIES STORM OR GROUND WATER SHALL NOT BE ALLOWED TO DISCHARGE INTO A SANITARY SEWER.
2. ALL SANITARY LEADS SHALL BE CONSTRUCTED AT 1.00% MINIMUM SLOPE.
3. ALL SANITARY SEWER LEADS SHALL BE POLYVINYL CHLORIDE (PVC) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
4. SANITARY LEADS SHALL BE PROVIDED WITH CLEANOUTS EVERY 75 FEET AND AT EVERY BEND AS SHOWN. ALL CLEANOUTS TO BE PROVIDED WITH E.J.I.W. #1565 BOX OR EQUAL.



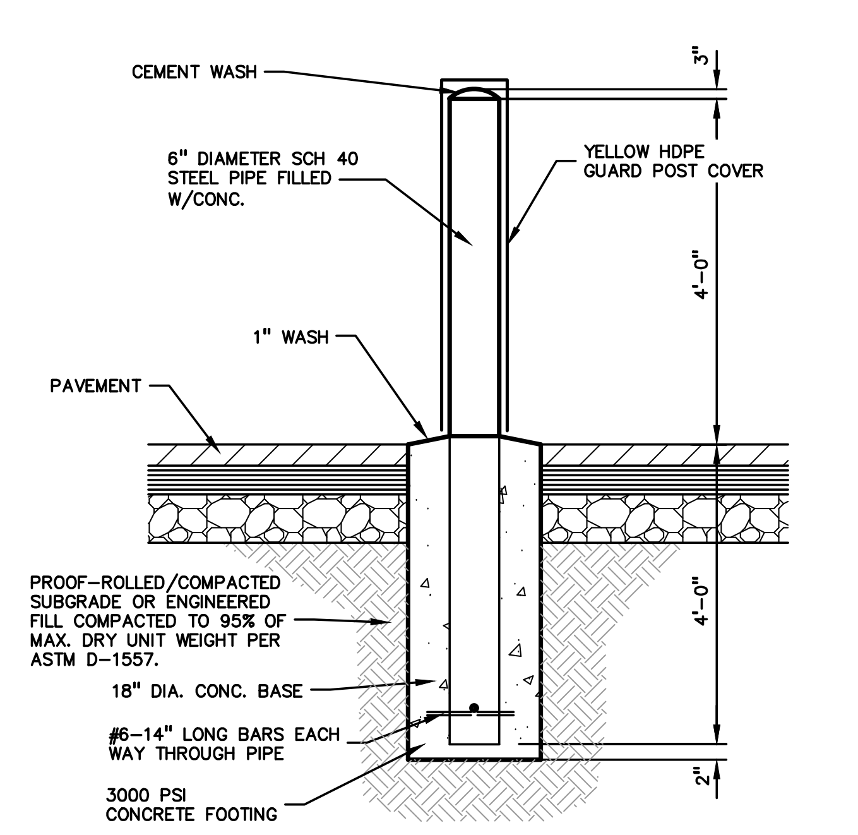
ONE WAY SIGN DETAIL
NOT TO SCALE



SIDEWALK ENDS SIGN DETAIL
NOT TO SCALE

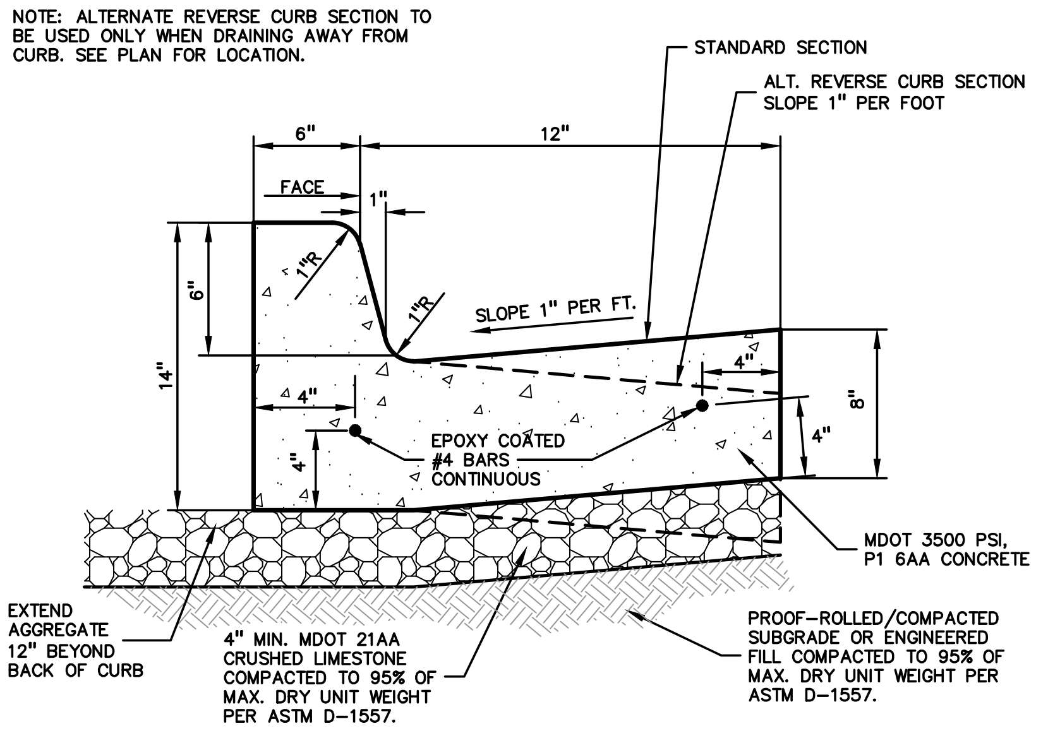


BARRIER FREE SIGN AND POST DETAIL
NOT TO SCALE



6" DIA. GUARD POST DETAIL
NOT TO SCALE

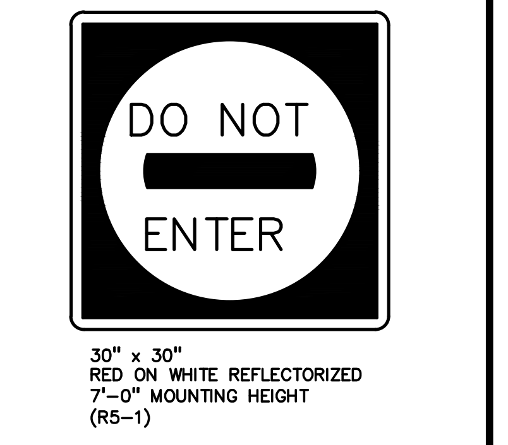
VAN ACCESSIBLE PARKING SIGN DETAIL
NOT TO SCALE



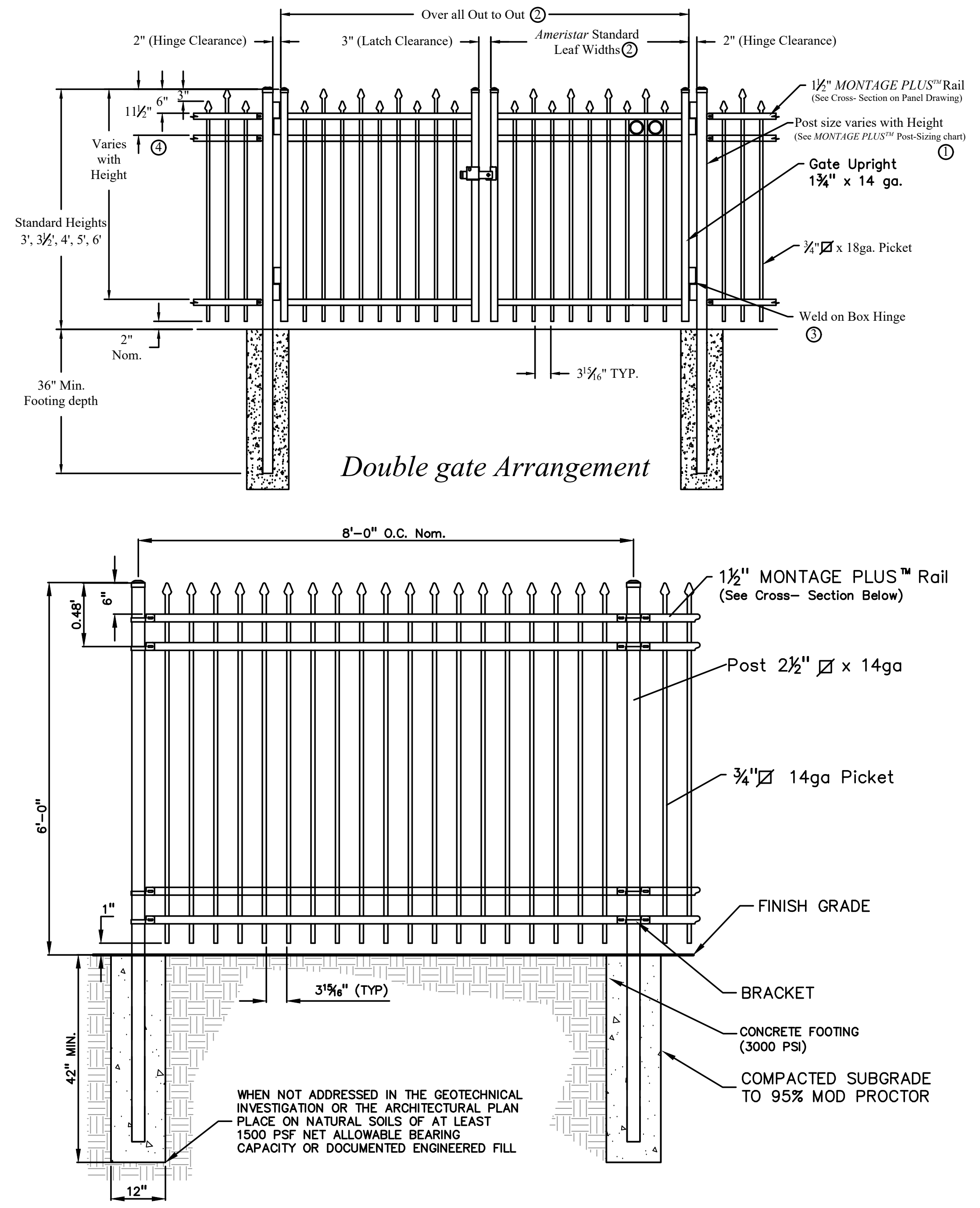
NOTE:
PROVIDE CONTROL JOINTS IN CURB AT 10' O.C. PROVIDE EXPANSION JOINT AND JOINT SEALANT AT END OF RADIUS RETURNS PER MDOT AND ACA STANDARDS. PROVIDE EXPANSION JOINTS AND JOINT SEALANT WHERE CURBS ABUT STRUCTURES.

18"x6" STANDARD CONCRETE CURB AND GUTTER
NOT TO SCALE

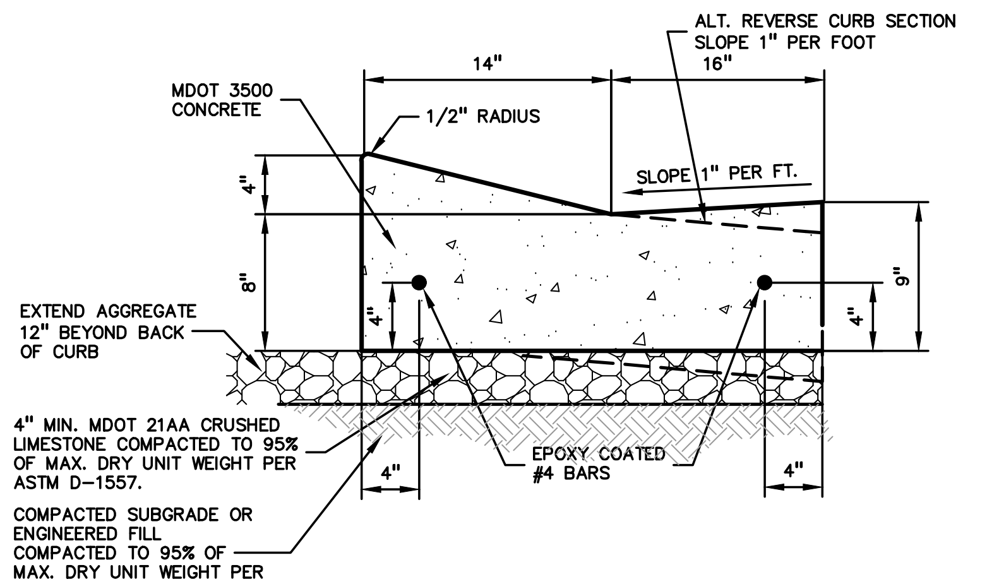
NO PARKING SIGN DETAIL
NOT TO SCALE



DO NOT ENTER SIGN DETAIL
NOT TO SCALE

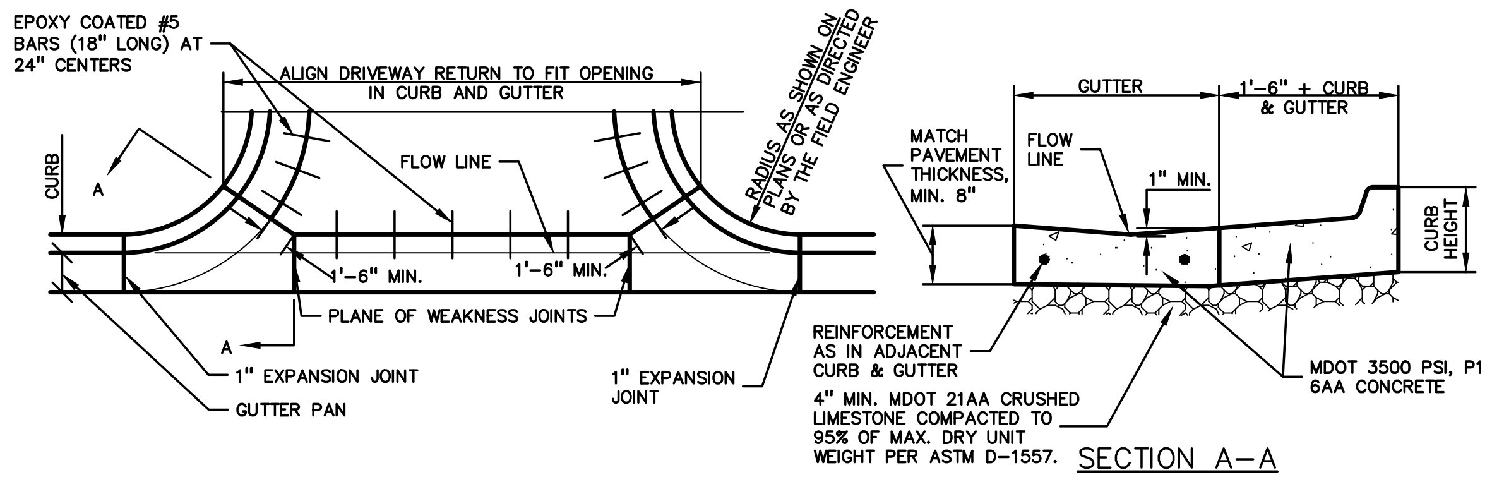


DECORATIVE FENCE AND GATE DETAIL
NOT TO SCALE

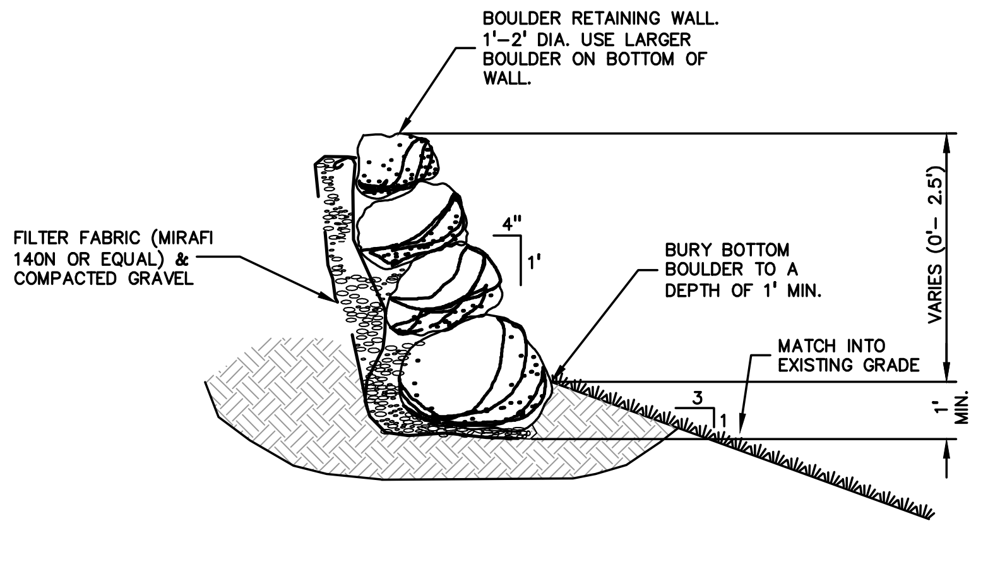


NOTE:
PROVIDE CONTROL JOINTS IN CURB AT 10' O.C. PROVIDE EXPANSION JOINT AND JOINT SEALANT AT END OF RADIUS RETURNS PER MDOT AND ACA STANDARDS. PROVIDE EXPANSION JOINTS AND JOINT SEALANT WHERE CURBS ABUT STRUCTURES.

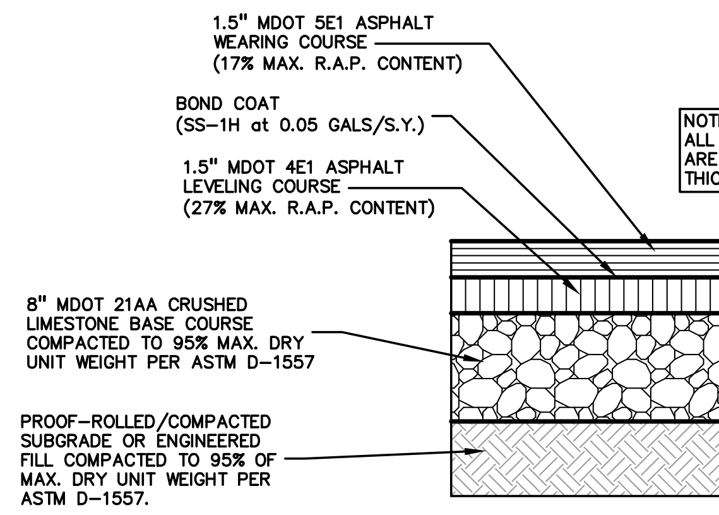
4" MOUNTABLE CURB AND GUTTER DETAIL
NOT TO SCALE



MDOT DRIVEWAY OPENING-DETAIL 'M'
NOT TO SCALE



BOULDER RETAINING WALL DETAIL
NOT TO SCALE

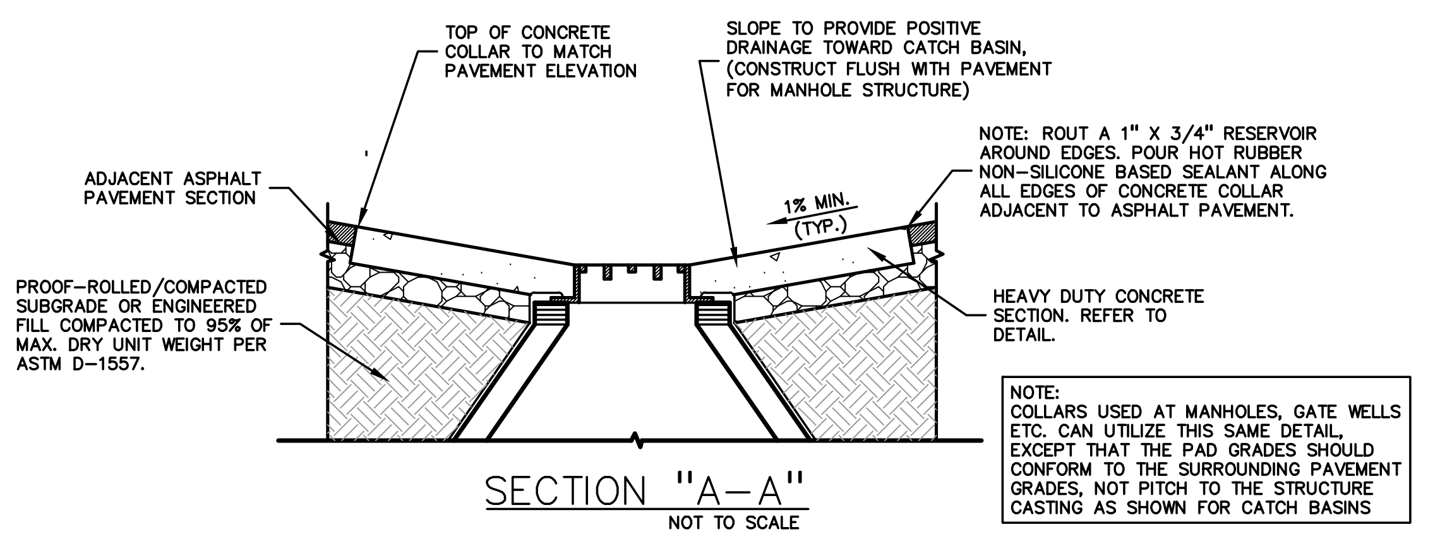


NOTE:
ALL SPECIFIED THICKNESSES ARE FINAL COMPACTED THICKNESSES, TYP.

STANDARD DUTY ASPHALT DETAIL
(NOT FOR USE IN THE RIGHT-OF-WAY)
NOT TO SCALE

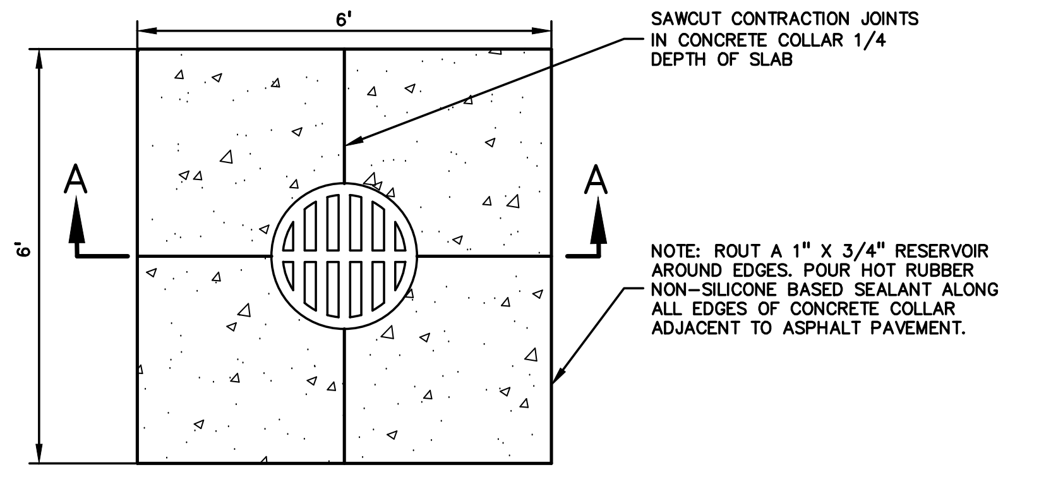
AGGREGATE BASE NOTE:
THIS PAVEMENT SECTION DESIGN ASSUMES THE USE OF MDOT 21AA CRUSHED LIMESTONE BASE MATERIAL THAT MEETS THE REQUIREMENTS OF MDOT STANDARD SPECIFICATION SECTION 902 FOR AGGREGATES. IF CRUSHED CONCRETE AGGREGATE BASE IS PROPOSED IN LIEU OF THE SPECIFIED CRUSHED LIMESTONE MATERIAL, PEA GROUP WILL REQUIRE A MINIMUM 25% INCREASE IN BASE THICKNESS. HOWEVER, IF TESTING DOCUMENTATION IS PROVIDED TO PEA GROUP THAT SHOWS THAT THE CRUSHED CONCRETE MATERIAL MEETS ALL REQUIREMENTS OF MDOT SPECIFICATION SECTION 902, THEN THE 25% INCREASE IN THICKNESS MAY BE REEVALUATED.

ASPHALT MATERIAL NOTES:
HOT-MIX ASPHALT MIXTURES UTILIZING RECYCLED ASPHALT PAVEMENT (RAP) MUST MEET MDOT SPECIAL PROVISION 12SP501(E). THE BINDER GRADE FOR THIS WORK IS PG64-28. IF ASPHALT MIXES CONTAINING RAP ARE TO BE SUPPLIED FOR THIS PROJECT, THE ASPHALT BINDER MUST BE REVISED PER MDOT 'TIER 1' OR 'TIER 2' REQUIREMENTS (RAP CONTENT UP TO 27% MAXIMUM). TIER 3 MIXES ARE NOT ACCEPTABLE ON THIS PROJECT. AN ASPHALT MIX DESIGN FOR ALL SPECIFIED MIXES SHOULD BE FORWARDED TO PEA GROUP FOR REVIEW PRIOR TO CONSTRUCTION

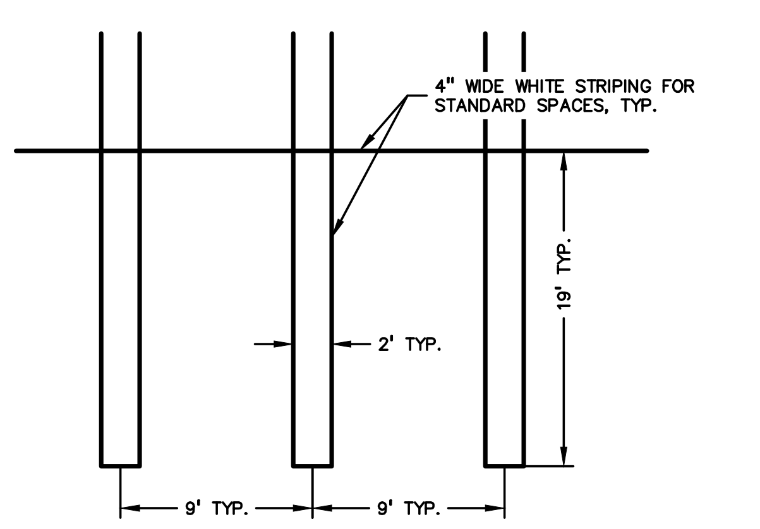


NOTE:
COLLARS USED AT MANHOLES, GATE WELLS ETC. CAN UTILIZE THIS SAME DETAIL, EXCEPT THAT THE PAD GRADES SHOULD CONFORM TO THE SURROUNDING PAVEMENT GRADES, NOT PITCH TO THE STRUCTURE CASTING AS SHOWN FOR CATCH BASINS

SECTION "A-A"
NOT TO SCALE

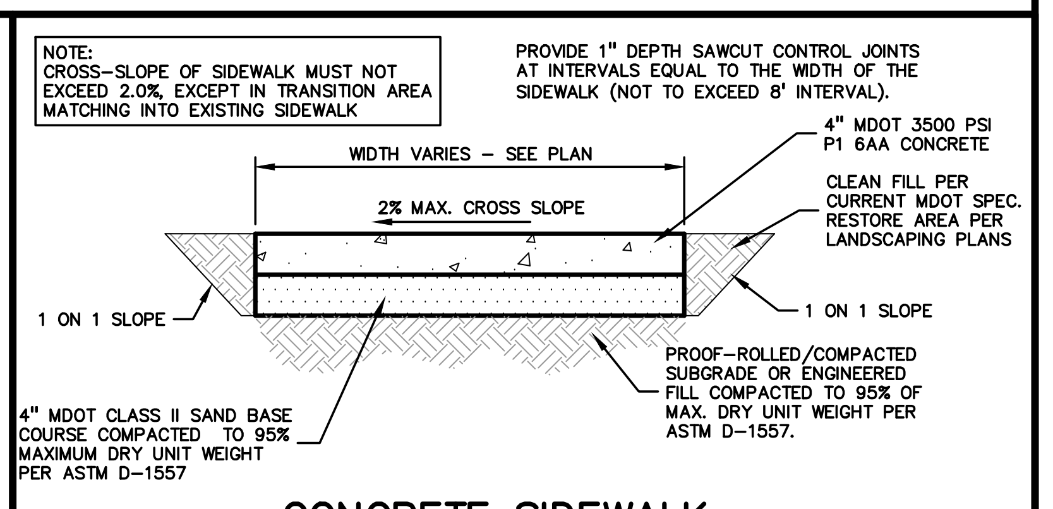


CONCRETE COLLAR DETAIL
NOT TO SCALE

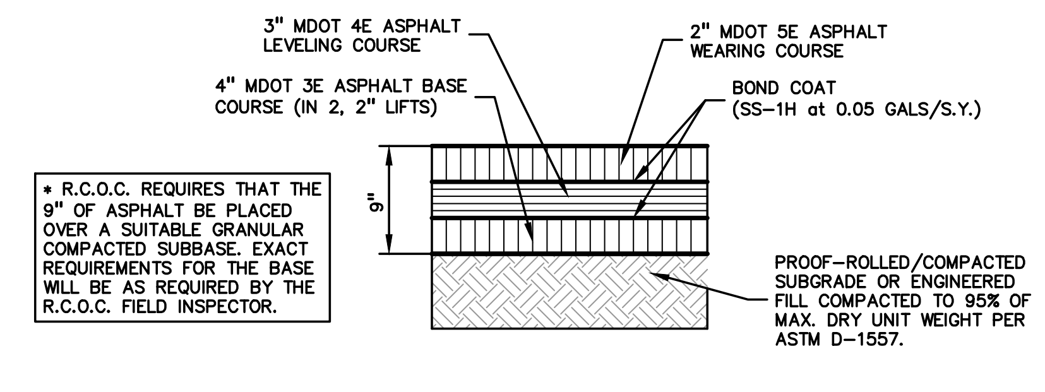


DOUBLE STRIPING DETAIL
NOT TO SCALE

NOTE:
CROSS-SLOPE OF SIDEWALK MUST NOT EXCEED 2.0%, EXCEPT IN TRANSITION AREA MATCHING INTO EXISTING SIDEWALK



CONCRETE SIDEWALK
NOT TO SCALE



9" DEEP STRENGTH ASPHALT DETAIL (R.C.O.C.)
NOT TO SCALE

PEA GROUP
t: 844.813.2949
www.peagroup.com

JAMES P. BUTLER
License No. 6201039605

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

CAUTION!!
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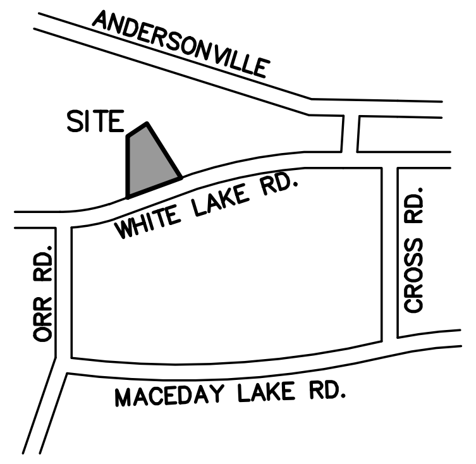

CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS	
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
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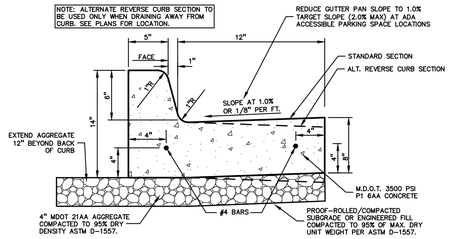
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

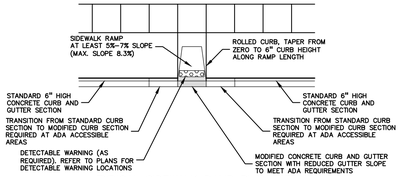
DRAWING TITLE
NOTES AND DETAILS

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

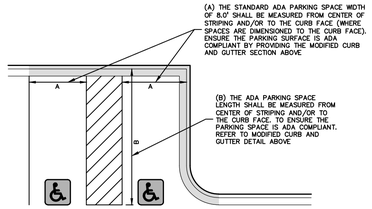
DRAWING NUMBER:
C-9.0



MODIFIED CURB AND GUTTER SECTION FOR ADA ACCESSIBLE PARKING AREAS



TYPICAL SIDEWALK RAMP PLAN VIEW



TYPICAL ADA ACCESSIBLE PARKING SPACES

MODIFIED 18"x6" CONCRETE CURB AND GUTTER DETAIL TO BE USED IN ADA ACCESSIBLE AREAS

NOT TO SCALE

SCHLAGE

650 Series

Keyswitches

Overview

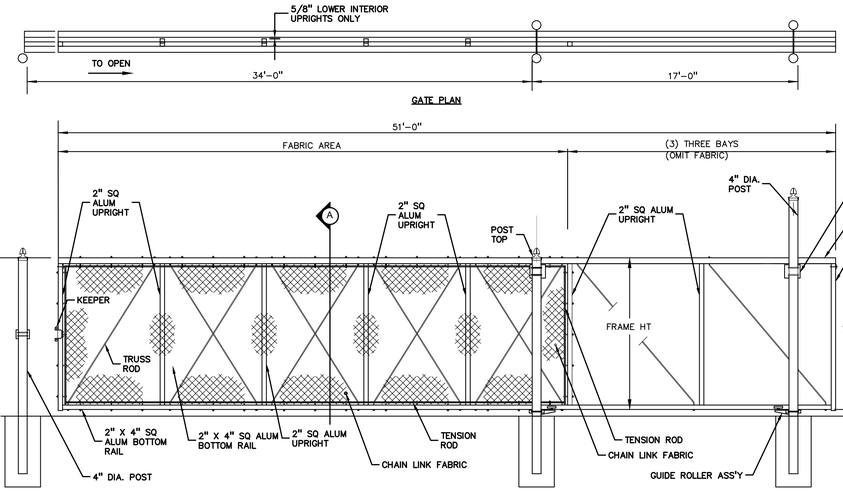
Schlage 650 Series keyswitches utilize an innovative magnetic spring design which allows installers to configure both clockwise and counterclockwise key turn direction as well as momentary or maintained action in seconds. Single gang and narrow stiles are available with numerous options which include heavy-duty plate, weather resistant cover (single gang size only), 2 LED lights – greenred, anti-tamper switch and Schlage Everest cylinder. In addition to the standard (626) satin stainless steel finish, there are five additional architectural finishes to choose from.

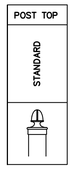
Features and benefits

- Easy to install and maintain
- Single gang and narrow stile offer ultimate flexibility
- Multiple options
- Patented magnetic spring design allows installers to configure momentary to maintained action in seconds
- Available options include red/green LED lights, anti-tamper switch and Schlage Everest cylinder
- Available water-resistant cover
- Single pole, double throw or double pole, double throw in both maintained and momentary action with a variety of combinations
- Standard 630 satin stainless steel plate with 5 additional finish options on heavy-duty zinc plate
- Standard or narrow stile cover options

KNOX BOX

NOT TO SCALE





GATE ELEVATION – (5) BAYS SHOWN

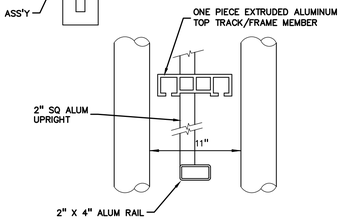
NOTES:
1. FOOTING WIDTH TO BE (4)X POST WIDTH. MIN DEPTH TO BE 36".
2. GATE TO BE MANUALLY OPERATED.
3. PROVIDE SHOP DRAWINGS.
4. BARBED WIRE NOT SHOWN FOR CLARITY. INSTALL BARBED WIRE PER STANDARD FENCE DETAILS.

GATE OPERATION – OBSTRUCTION SENSING SYSTEM:

TYPE A – INHERENT ENTRAPMENT PROTECTION SYSTEM.
THIS SYSTEM MUST SENSE AND INITIATE THE REVERSE OF THE GATE WITHIN 2 SECONDS OF CONTACT WITH A SOLID OBJECT.

UL 325 CLASS TYPE – CLASS 2 (GENERAL PUBLIC ACCESS)

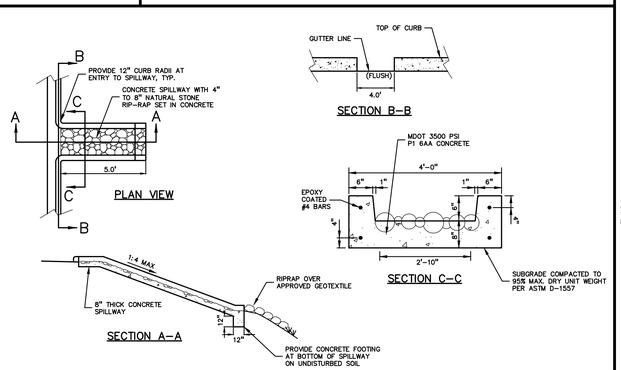
GATE OPERATOR TO HAVE A MANUAL RELEASE LEVER IN CASE OF POWER OUTAGE



SECTION A

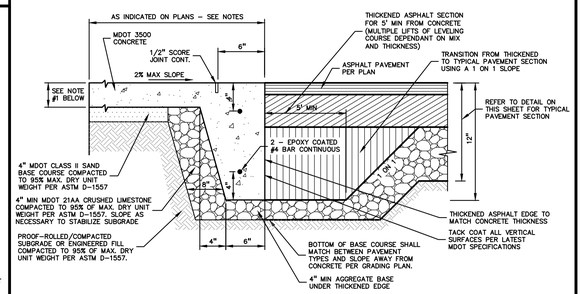
CANTILEVERED SLIDING GATE WITH ROUND POST

NOT TO SCALE



CONCRETE CURB SPILLWAY DETAIL

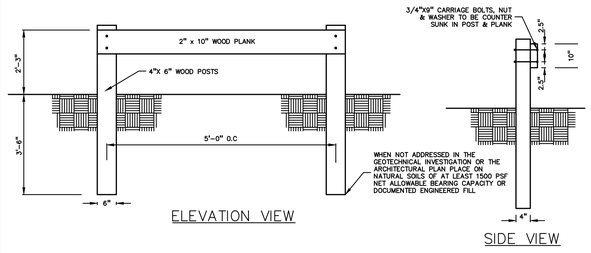
NOT TO SCALE



NOTES:
1. REFER TO THE PLANS AND CONCRETE SIDEWALK DETAIL FOR THICKNESS OF WALK.
2. REFER TO PAVING NOTES FOR SIDEWALK JOINTING.
3. WHERE CALLED FOR ON THE PLANS, THIS DETAIL CAN BE USED WHERE STOOPS/FROST SLABS ABUT FLUSH ASPHALT PAVEMENT. REFER TO THE ARCHITECT PLANS FOR THE STOOP/FROST SLAB DETAIL AND ANY ADDITIONAL INFORMATION FOR THE JOINTING WITH THE ASPHALT PAVEMENT.

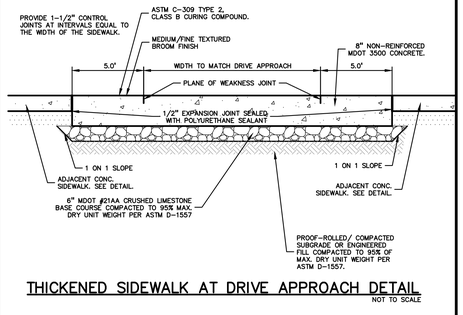
THICKENED EDGE SIDEWALK TO FLUSH ASPHALT DETAIL

NOT TO SCALE



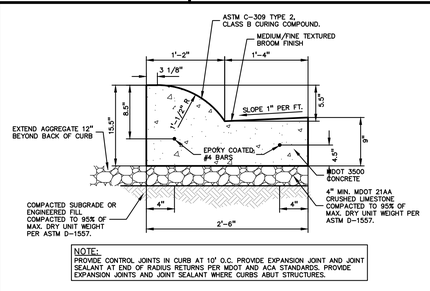
PEDESTRIAN GUARD RAIL

NOT TO SCALE



THICKENED SIDEWALK AT DRIVE APPROACH DETAIL

NOT TO SCALE



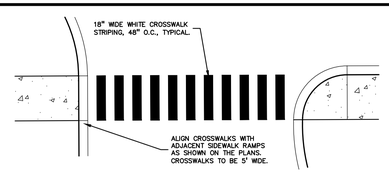
NOTE:
PROVIDE CONTROL JOINTS IN CURB AT 10' O.C. PROVIDE EXPANSION JOINT AND JOINT SEALANT AT END OF RADIUS RETURNS PER MDOT AND ACA STANDARDS. PROVIDE EXPANSION JOINTS AND JOINT SEALANT WHERE CURBS ABUT STRUCTURES.

MDOT CURB DETAIL "B-2" (MODIFIED)

NOT TO SCALE

PROPOSED GROUND SIGN

NOT TO SCALE



STRIPED CROSSWALK DETAIL

NOT TO SCALE

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DRAWING TITLE
DETAILS

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SWS
DES.	SWS

DRAWING NUMBER:
C-9.1

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INTERIOR LANDSCAPING PLANT LIST

DECIDUOUS TREE PLANT LIST:

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
4	AC8	Shadblow Serviceberry	*Amelanchier canadensis*	8-10' Ht.	B&B
2	AT2.5	Paw Paw Tree	Asimina triloba	2.5" cal.	B&B
2	CA8	Alternate Leaved Dogwood	Cornus alternifolia	8' Ht.	B&B
5	CC8	Redbud	Cercis canadensis	8' Ht.	B&B
1	QA3	White Oak	Quercus alba	3" cal.	SPADE MOVED
14	TOTAL DECIDUOUS TREES				

EVERGREEN TREE PLANT LIST:

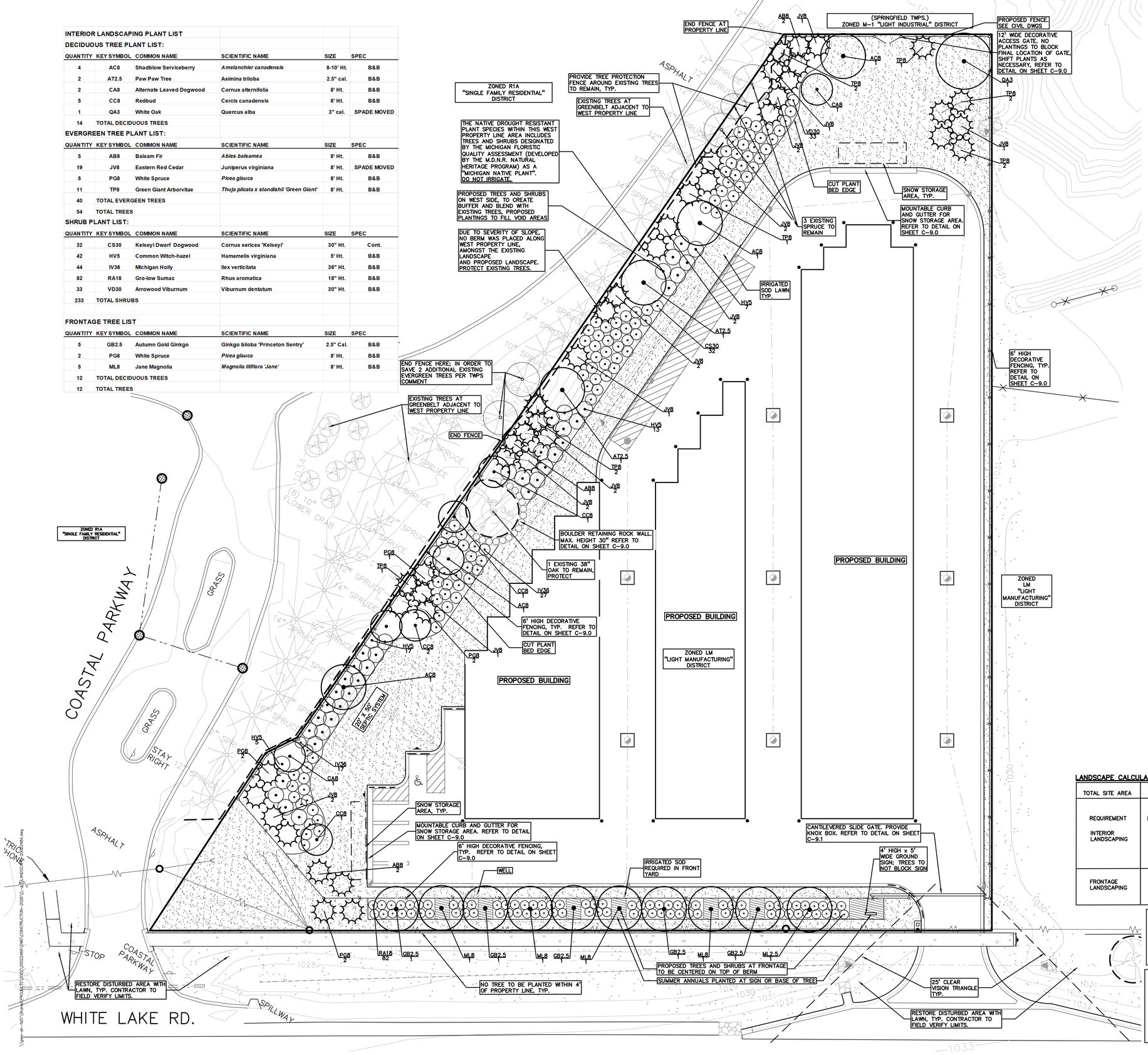
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
5	AB8	Balsam Fir	*Abies balsamea*	8' Ht.	B&B
19	JV8	Eastern Red Cedar	Juniperus virginiana	8' Ht.	SPADE MOVED
5	PG8	White Spruce	*Picea glauca*	8' Ht.	B&B
11	TP8	Green Giant Arborvitae	*Thuja plicata x standishii 'Green Giant'*	8' Ht.	B&B
40	TOTAL EVERGEEN TREES				
54	TOTAL TREES				

SHRUB PLANT LIST:

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
32	CS30	Kelseyi Dwarf Dogwood	Cornus sericea 'Kelseyi'	30" Ht.	Cont.
42	HV5	Common Witch-hazel	Hamamelis virginiana	5' Ht.	B&B
44	IV36	Michigan Holly	Ilex verticilata	36" Ht.	B&B
82	RA18	Gro-low Sumac	Rhus aromatica	18" Ht.	B&B
33	VD30	Arrowood Viburnum	Viburnum dentatum	30" Ht.	B&B
233	TOTAL SHRUBS				

FRONTAGE TREE LIST

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
5	GB2.5	Autumn Gold Ginkgo	Ginkgo biloba 'Princeton Sentry'	2.5" Cal.	B&B
2	PG8	White Spruce	*Picea glauca*	8' Ht.	B&B
5	ML8	Jane Magnolia	*Magnolia lilliflora 'Jane'*	8' Ht.	B&B
12	TOTAL DECIDUOUS TREES				
12	TOTAL TREES				



KEY:

- = DECIDUOUS TREES
- = EVERGREEN TREES
- = SHRUBS
- = IRRIGATED SOD LAWN SOD IN FRONT YARD AS REQUIRED
- = RESTORED SEED LAWN AT LAWN AREAS DISTURBED IN R.O.W. OR ADJACENT PROPERTIES
- = ANNUALS AT SIGN & FRONTAGE TREE SEE PLAN, BY OWNER
- = SNOW STORAGE AREA AT LOCATIONS OF MOUNTABLE CURBS
- = EXISTING TREE TO REMAIN, PROTECT WITH TREE FENCE

NO CONSTRUCTION SHALL OCCUR UNTIL TREE PROTECTION HAS BEEN INSTALLED AND APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR.

SEE L-1.1 FOR LANDSCAPE DETAILS

IRRIGATION PLANS (WITH RAIN SENSOR) PROVIDED FOR CONSTRUCTION DWGS.

GENERAL PLANTING NOTES:

1. LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
3. ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1. GRADE.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
5. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
6. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
7. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
8. ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
9. ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
10. ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
11. NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES; HAND GRADE ALL LAWN AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
12. ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
13. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
14. ALL PLANTING BEDS SHALL RECEIVE 4" DOUBLE SHREDDED HARDWOOD BARK MULCH WITH PRE EMERGENT, SEE SPECIFICATIONS. SHREDDED PALETTE AND DYED MULCH WILL NOT BE ACCEPTED.
15. ALL LANDSCAPED AREAS SHALL RECEIVE 4" COMPACTED TOPSOIL.
16. SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS. PLANT REPLACEMENT SHALL BE DONE WITHIN 30 DAYS.
17. CONTRACTOR SHALL NOT INSTALL PLANTS UNDER BUILDING OVERHANG AND SHALL NOTIFY LANDSCAPE ARCHITECT IF DRAWINGS CONFLICT WITH BUILDING OVERHANGS.
19. TREES SHALL NOT CONFLICT/ BLOCK PROPOSED REGULATORY/ DIRECTION SIGNAGE, MONUMENT SIGNS, ADDRESS OR LIGHT POLES. SHIFT TREES AS NECESSARY TYP.
20. ALL LANDSCAPE AREAS SHALL BE PROVIDED WITH A READILY AVAILABLE WATER SUPPLY. NEWLY PLANTED MATERIALS SHALL BE REGULARLY WATERED UNTIL ESTABLISHED, ANY PROPOSED IRRIGATION SYSTEMS SHALL NOT BE LOCATED WITHIN THE RIGHT-OF-WAY.
21. RECOMMENDED PLANTING DATES ARE MARCH 1 TO MAY 15 FOR ALL MATERIALS AND OCTOBER 15 TO DECEMBER 15 FOR DECIDUOUS MATERIALS PLANTINGS OUTSIDE THESE DATES SHALL HAVE PRIOR TOWNSHIP APPROVAL, AND MAY REQUIRE SPECIAL TREATMENT, SUCH AS EXTRA WATERING OR MULCHING, TO INCREASE SURVIVAL POTENTIAL.
22. IRRIGATION PLANS PROVIDED FORI CONSTRUCTION DWGS. A RAIN SENSOR OR SIMILAR MEASURE SHALL BE PROVIDED TO ENSURE IRRIGATION DOES NOT OCCUR DURING OR SHORTLY AFTER PRECIPITATION.
23. NO TREE TO BE PLANTED WITHIN 4' OF PROPERTY LINE.
24. NO WHITE PINE TO BE PROPOSED AND NO MORE THAN TWO PLANTED TREES IN A ROW SHALL BE OF THE SAME SPECIES, PER TWPS. ORDINANCE
25. NO CONSTRUCTION SHALL OCCUR UNTIL TREE PROTECTION HAS BEEN INSTALLED AND APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR.

LANDSCAPE CALCULATIONS PER WHITE LAKE TWP.: ZONED LM LIGHT MANUFACTURING DISTRICT

TOTAL SITE AREA		1.37 ACRES (59,526 SF) NET AND GROSS
REQUIREMENT	REQUIRED	PROVIDED
INTERIOR LANDSCAPING	15% OF TOTAL LOT AREA 93,090 SQ FT. X .15 = 13,963 SQ FT. REQ. 13,963 SQ FT / 300 = 46.5 46.5 • 1 = 47 DEC./EVG. TREES 46.5 • 5 = 233 SHRUBS	31,529 SF LANDSCAPE AREA (33.9 %) 54 PROPOSED TREES, 233 PROPOSED SHRUBS,
FRONTAGE LANDSCAPING	1 TREE PER 20 LF; LESS DRIVE ACCESS APPROX 237 LF / 20 = 12 TREES	12 PROPOSED TREES AT WHITE LAKE RD. (10 DEC TREES AND 2 EVERGREEN)

VARIANCES GRANTED BY ZBA ON 03-28-2024; AS NOTED ON SHT. C-3.0

1. APPROVAL TO ELIMINATE THE REQUIREMENT FOR THE INSTALLATION OF A 6 FOOT HIGH BERM, OR A 3 FOOT HIGH BERM AND A 6 FOOT HIGH MASONRY SCREEN WALL ALONG THE WEST PROPERTY LINE.
2. APPROVAL TO INSTALL A 20 FOOT GREENBELT IN LIEU OF A 38 FOOT WIDE EXTENSIVE LAND FORM BUFFER ALONG THE WHITE LAKE ROAD RIGHT-OF-WAY.

LANDSCAPE VARIANCES GRANTED BY ZBA ON 03-28-2024

3. APPROVAL TO END THE FENCE MIDWAY ON THE SOUTHWEST SIDE OF THE SITE, IN ORDER TO SAVE 2 ADDITIONAL EXISTING EVERGREEN TREES AND OTHER EXISTING EVERGREENS.
4. APPROVAL TO NOT PROVIDE THE DECORATIVE FENCE TO ENCOMPASS THE ENTIRE SITE, SO AS TO PRESERVE AND PROTECT ADDITIONAL EXISTING TREES ON THE WEST BORDER. CLIENT DOES NOT FEEL THE FENCE IS NECESSARY AROUND THE ENTIRE SITE FOR SECURITY DUE TO PRESERVING THE EXISTING VEGETATION.

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN PATRICK S. CONROY LANDSCAPE ARCHITECT NO. 662 LICENSED LANDSCAPE ARCHITECT

NORTH

0 10 20 40
SCALE: 1" = 20'

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

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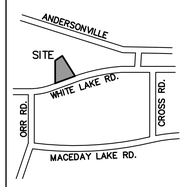


CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS

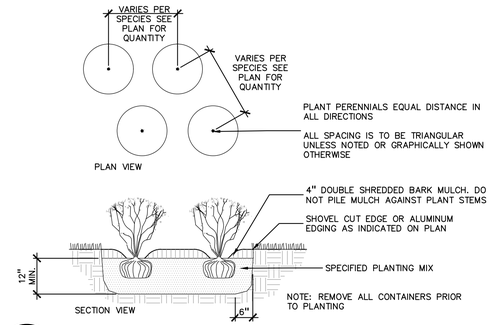
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
PER AGENCIES COMMENTS	10/24/23
PER AGENCIES COMMENTS	04/26/24
PER AGENCIES COMMENTS	07/25/24
PER AGENCIES COMMENTS	09/06/24
UNIT LAYOUT CHANGE	11/18/24
GRADING/ENTRY CHANGES	04/30/26
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE: FEBRUARY 2, 2023

DRAWING TITLE
LANDSCAPE PLAN

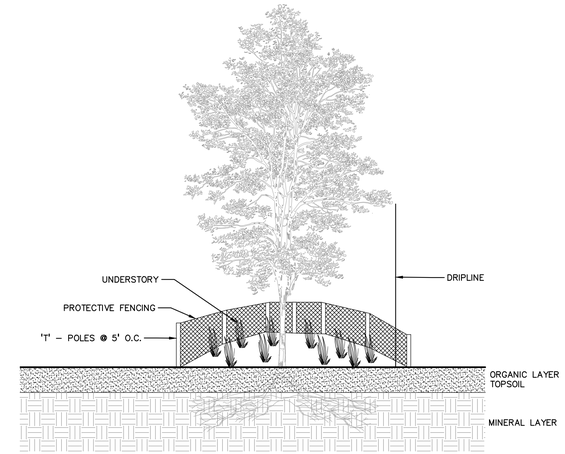
PEA JOB NO.	2002-248A
P.M.	JPB
DN.	JLE
DES.	JLE

DRAWING NUMBER:
L-1.0



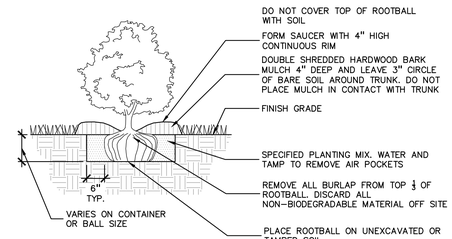
6 PERENNIAL PLANTING DETAIL

SCALE: 1" = 2'-0"



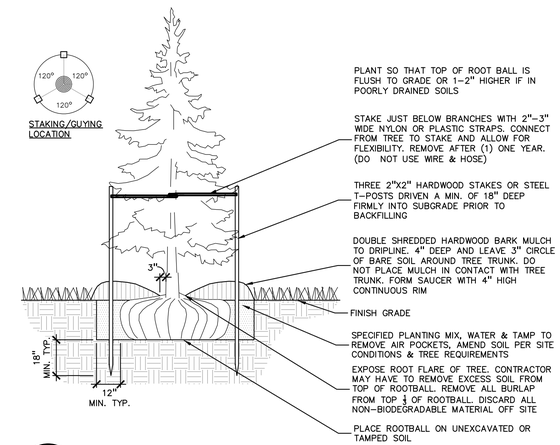
3 TREE PROTECTION DETAIL

SCALE: 1" = 3'-0"



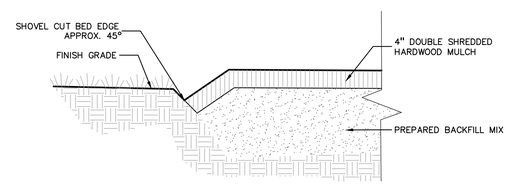
5 SHRUB PLANTING DETAIL

SCALE: 1" = 2'-0"



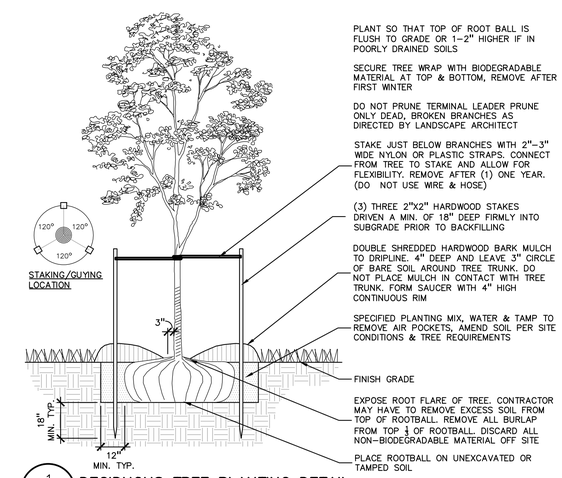
2 EVERGREEN TREE PLANTING DETAIL

SCALE: 1" = 3'-0"



4 CUT BED EDGE DETAIL

SCALE: 1" = 1'-0"



1 DECIDUOUS TREE PLANTING DETAIL

SCALE: 1" = 3'-0"

PEA GROUP

t: 844.813.2949

www.peagroup.com

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

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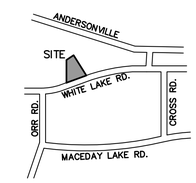

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DRAWING TITLE

LANDSCAPE DETAILS

PEA JOB NO.	2002-248A
P.M.	JPB
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DES.	JLE

DRAWING NUMBER:

L-1.1

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GENERAL LANDSCAPING REQUIREMENTS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. General procedures and requirements for Site Work.

2.0 PRODUCTS - Not Used

3.0 EXECUTION

3.1 PREPARATION

3.1.1 Protection

1. Spillage:

A. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.

B. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.

2. Erosion Control:

A. Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent properties, and into on-site or off-site drainage systems.

B. Develop, install, and maintain an erosion control plan if required by law.

C. Repair and correct damage caused by erosion.

3. Existing Plants And Features:

A. Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain.

B. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Landscape Architect.

C. Do not damage other plants and features which are to remain.

3.1.2 If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the Work.

END OF SECTION

LANDSCAPING PREPARATION

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. General landscape work requirements.

1.2 QUALITY ASSURANCE

1.2.1 Comply with all applicable local, state and federal requirements, regarding materials, methods of work, and disposal of excess and waste materials.

1.2.2 Obtain and pay for all required inspections, permits, and fees.

1.2.3 Provide notices required by governmental authorities.

1.3 PROJECT CONDITIONS

1.3.1 Locate and identify existing underground and overhead services and utilities within contract limit work areas. (Call Miss Dig: 1-800-482-7171 in Michigan).

1.3.2 Provide adequate means to protect utilities and services designated to remain.

1.3.3 Repair utilities damaged during site work operations at Subcontractor's expense.

1.3.4 When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

1.3.5 Locate, protect, and maintain benchmarks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Subcontractor's expense.

1.3.6 Perform landscape work operations and the removal of debris and materials to assure minimum interference with streets, walks, and other adjacent facilities.

1.3.7 Obtain governing authorities' written permission when required to close or obstruct streets, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.

1.3.8 Protect and maintain street lights, utility poles and services, traffic signal control boxes, curb boxes, valves and other services, except items designated for removal.

1.3.9 The General Contractor will occupy the premises and adjacent facilities during the entire period of construction. Perform landscape work operations to minimize conflicts and to facilitate General Contractor's use of the premises and conduct of his normal operations.

1.3.10 Perform landscape preparation work before commencing landscape construction.

1.3.11 Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain.

1.3.12 Protect existing trees scheduled to remain against injury or damage including cutting, breaking or skinning of roots, trunks or branches, smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.

2.0 PRODUCTS

2.1 MATERIALS/EQUIPMENT

2.1.1 As selected by the General Contractor, except as indicated.

1. Tree protection:

A. Wood fencing - Snow fencing 4' height.

B. Posts - Steel fence post.

C. Herbicide for lawn restoration - "Round-up" by Monsanto.

3.0 EXECUTION

3.1 EXISTING UTILITIES

3.1.1 Call "MISS DIG" 811 before construction begins. Information on the drawings related to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities.

3.2 CLEARING

3.2.1 Locate and suitably identify trees and improvements indicated to remain.

3.2.2 Fencing/soil erosion fence is to be installed.

3.2.3 Any equipment that compacts the soil in the areas of existing trees is not allowed.

3.2.4 Protect trees scheduled to remain with 4' high snow fence per plans.

3.2.5 No vehicular traffic is permitted beneath drip line at any time. All lawn areas are to be worked by hand.

3.2.6 Clear and grub areas within contract limits as required for site access and execution of the work.

3.2.7 Remove trees, plants, undergrowth, other vegetation and debris, except items indicated to remain.

3.2.8 Treat planting and lawn areas as required with herbicide per manufacturer recommendations to kill existing vegetation prior to planting, seeding and sodding.

3.2.9 Remove stumps and roots to a clear depth of 36" below subgrades. Remove stumps and roots to their full depth within 5'0" of underground structures, utility lines, footings, and paved areas.

3.3 DISPOSAL OF WASTE MATERIALS

3.3.1 Stockpile, haul from site and legally dispose of waste materials and debris. Accumulation is not permitted.

3.3.2 Maintain disposal routes, clear, clean and free of debris.

3.3.3 On site burning of combustible cleared materials is not permitted.

3.3.4 Upon completion of landscape preparation work, clean areas within contract limits, remove tools and equipment. Site to be clear, clean and free of materials and debris and suitable for site work operations.

3.3.5 Materials, items and equipment not scheduled for reinstallation or salvaged for the General Contractor are the property of the Landscape Contractor. Remove cleared materials from the site as the work progresses. Storage and sale of Landscape Contractors salvage items on site is not permitted.

END OF SECTION

FINISH GRADING AND TOPSOIL PLACEMENT

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Perform finish grading and topsoil placement required to prepare site for installation of landscaping as described in Contract Documents.

1.2 SUBMITTALS

1.2.1 Quality Assurance

1. Submit test on imported topsoil and on site stockpiled topsoil by independent licensed testing laboratory prior to use. Imported topsoil shall meet minimum specified requirements and be approved by Landscape Architect prior to use.

2. Provide and pay for testing and inspection during topsoil operations. Laboratory, inspection services, and Soils Engineer shall be acceptable to the Landscape Architect.

3. Submit report stating location of source of imported topsoil and account of recent use.

4. Test for pH factor, mechanical analysis, and percentage of organic content.

5. Submit test reports to General Contractor.

6. Sub-Contractor, or testing agency to make recommendations on type of quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting.

1.3 QUALITY ASSURANCE

1.3.1 Participate in pre-installation meeting with Landscape Architect.

1.4 PROJECT CONDITIONS

1.4.1 Also see Landscape Preparation Section.

1.4.2 Protect existing trees, plants, lawns, and other features designated to remain as part of the landscaping work.

1.4.3 Promptly repair damage to adjacent facilities caused by topsoil operations. Cost of repair at Subcontractor's expense.

1.4.4 Promptly notify the General Contractor and Landscape Architect of unexpected subsurface conditions.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Topsoil: supplied and stockpiled topsoil proposed for use must meet the testing criteria results specified. Topsoil must conform to adjustments and recommendations from the soil test and by the Landscape Architect.

2.1.2 Existing topsoil: existing topsoil from on-site stockpile shall be utilized. All processing, cleaning, and preparation of this stored topsoil to render it acceptable for use is the responsibility of the Subcontractor.

2.1.3 Provide additional topsoil as required to complete the job. Topsoil must meet testing criteria results specified.

2.1.4 All processing, cleaning, and preparation of this supplied topsoil to render it acceptable for use is the responsibility of the Subcontractor.

2.1.5 Supplied and stockpiled topsoil, shall be fertile, friable, dark in color and representative of local productive soil, capable of sustaining vigorous plant growth and free of clay lumps, subsoil, noxious weeds or other foreign matter such as stones of 1" in any dimension, roots, sticks, and other extraneous material: not frozen or muddy. PH of soil range between 5.0 and 7.5

2.1.6 Soil shall not contain more than 2 percent of particles measuring over 2.0 mm in largest size

2.1.7 Prepared topsoil shall be used in planting mixtures as specified in Trees, Plants, and Ground Cover; all beds prepared as specified.

3.0 EXECUTION

3.1 EXAMINATION

3.1.1 Do not commence work of this Section until grading tolerances specified are met.

3.2 PREPARATION

3.2.2 Prior to grading, dig out weeds from planting areas by their roots and remove from site. Before placing top soil inlandscape areas, remove rocks larger than 1 inch in any dimension and foreign matter such as building rubble, wire, cans, sticks, concrete, etc.

3.2.3 Prior to placing topsoil, remove any imported base material present in planting areas down to natural subgrade or other material acceptable to Landscape Architect.

3.3 PERFORMANCE

3.3.1 Site Tolerances

1. Total Topsoil Depth -

A. Lawn And Groundcover Planting Areas - 3 inches minimum compacted.

B. Shrub Planting Areas - 12 inches minimum throughout entire shrub bed area.

2. Elevation of topsoil relative to walks or curbs -

A. Seeded Lawn Areas - 1/4 inch below

B. Sodded Lawn Areas - 1 1/2 inches below

C. Shrub And Ground Cover Areas - 3 inches below

3.3.2 Do not expose or damage existing shrub or tree roots.

3.3.3 Redistribute approved existing top soil stored on site as a result of rough grading. Remove organic material, rocks and clods greater than 1 inch in any dimension, and other objectionable materials. Provide additional approved imported topsoil required for specified topsoil depth and bring surface to specified elevation relative to walk or curb.

3.3.4 For trees, shrubs, ground cover beds and plant mix for beds see Exterior Plants section.

3.3.5 Provide earth berming where indicated on Plans.

3.3.6 Berming to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that the toe of slope is not readily visible. Landscape Architect or General Contractor's representative to verify final contouring before planting.

3.3.7 Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water away from buildings will occur and that no low areas are created to allow ponding. Subcontractor to consult the General Contractor and Landscape Architect regarding variations in grade elevations before rough grading is completed.

3.3.8 Slope grade away from building for 12 feet minimum from walls at slope of 1/2 inch per ft minimum unless otherwise noted. High point of finish grade at building foundation shall be 6 inches minimum below finish floor level. Direct surface drainage in manner indicated on Drawings by molding surface to facilitate natural run-off of water. Fill low spots and pockets with top soil and grade to drain properly.

3.3.9 Rake all topsoil to remove clods, rocks, weeds, and debris.

3.3.10 Grade and shape area to bring surface to true uniform planes free from irregularities and to provide proper drainage and slopes per plans.

3.4 CLEANING

3.4.1 Upon completion of topsoil operations, clean areas within contract limits, remove tools, equipment, and haul all excess topsoil off-site. Site shall be clear, clean, free of debris, and suitable for site work operations.

END OF SECTION

LAWN SEEDING

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Furnish and install seeded lawn as described in Contract Documents.

1.2 SUBMITTALS

1.2.1 Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species.

1.3 DELIVERY AND STORAGE

1.3.1 Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.

1.4 PROJECT CONDITIONS

1.4.1 See landscape preparation section.

1.4.2 Work notification: Notify Landscape Architect of General Contractor's representative at least seven (7) working days prior to start of seeding operation.

1.4.3 Protect existing utilities, paving, and other facilities from damage caused by seeding operations.

1.4.4 Perform seeding work only after planting and other work affecting ground surface has been completed.

1.4.5 Provide hose and lawn watering equipment as required.

1.4.6 The irrigation system will be installed prior to seeding. Locate, protect, and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Sub-Contractor's expense.

1.5 WARRANTY

1.5.1 See Landscape Maintenance and Warranty Section

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Topsoil for Seeded Areas: See Topsoil Placement and Drawings.

2.1.2 Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.

2.1.3 Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.

2.1.4 Irrigated Lawn Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Kentucky Bluegrass	50%	90%	75%
Penn Lawn Fescue	30%	95%	80%
Annual Ryegrass	20%	95%	80%

2.1.5 Non-Irrigated Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Penn Lawn Fescue	60%	90%	85%
Kentucky 28# Common Bluegrass	20%	90%	90%
Pennfine Perennial Rye	20%	90%	90%

2.1.6 Fertilizer: granular, non burning product composed of not less that 50% organic slow acting, guaranteed analysis professional fertilizer.

2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20% mesh sieve.

2.1.8 Straw Mulch: Used in crimping process only. Clean oat or wheat straw well seasoned before bailing, free from mature seed-bearing status, or roots of prohibited or noxious weeds.

2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start seeding work until unsatisfactory conditions are corrected.

3.2 PREPARATION

3.2.1 SURFACE PREPARATION

1. Seven days maximum prior to seeding, -

A. Treat Lawn areas if required with "Round-Up" by Monsanto, per label direction to kill existing vegetation prior to seeding.

B. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.

C. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.

D. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.

E. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more that 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.

F. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of actual nitrogen 1,000 sq. ft. (43 lbs / acre).

G. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.

H. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.

I. After preparation of lawn areas and with topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs according to soil type.

J. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.

K. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to seeding.

3.3 INSTALLATION

3.3.1 SEEDING

1. Seed lawns only between April 1, and June 1, and fall seeding between August 15, and October 15, or at such other times acceptable to Landscape Architect.

2. Seed immediately after preparation of bed. Seed indicated areas within contract Limits and areas adjoining contract limits disturbed as a result of construction operations.

3. Perform seeding operations when the soil is dry and when the winds do not exceed five(5) miles per hour velocity.

4. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in two (2) directions, at right angles to each other.

5. Sow seed at a rate of 300 lbs./acre.

6. After seeding, rake or drag surface of soil lightly to incorporate seed into top 1/8" of soil. Roll with light lawn roller.

7. Provide soil erosion planting mat where grade conditions required to stabilize the planting area.

3.3.2 HYDRO-SEEDING

1. Hydro-seeding: The application of grass seed and a wood cellulose fiber mulch tinted green shall be accomplished in one operation by use of an approved spraying machine.

A. Mix seed, fertilizer, and wood cellulose fiber in required amount of water to produce a homogeneous slurry. Add wood cellulous fiber after seed, water, and fertilizer have been thoroughly mixed and apply at the rate of 200 pounds per acre dry weight.

B. For hydro-seeding, wood cellulose fiber shall be used. Silva-Fiber Mulch by Weyerhaeuer Company, Tacoma, WA (800-443-9179).

C. Hydraulically spray material on ground to form a uniform cover impregnated with grass seed.

D. Immediately following application of slurry mix, make separate application of wood cellulose mulch at the rate of 1,000 pounds, dry weight, per acre.

E. Apply cover so that rainfall or applied water will percolate to underlying soil.

3.3.3 MULCHING

1. Place straw mulch on seeded areas within 24-hours after seeding.

2. Place straw mulch uniformly in a continuous blanket at a rate of 2-1/2 tons per acre, or two (2) 50 lb. bales per 1,000 sq. ft. of area. A mechanical blower may be used for straw mulch application when acceptable to the Landscape Architect.

3. Crimp straw into soil by use of a "crimper". Two passes in alternate direction required. Alternative methods on areas too small for crimper must be approved by the Landscape Architect or Owner's Representative.

3.3.3 ESTABLISH LAWN

1. Establish dense lawn of permanent grasses, free from lumps and depressions. Any area failing to show uniform germination to be reseeded; continue until dense lawn established.

2. Damage to seeded area resulting from erosion to be repaired by Sub Contractor.

3. In event Sub Contractor does not establish dense lawn during first germination period, return to project to refertilize and reseed to establish dense lawn.

4. Should the seeded lawn become largely weeds after germination, Sub Contractor is responsible to kill the weeds and reseed the proposed lawn areas to produce a dense turf, as specified.

3.4 CLEANING

3.4.1 Perform Cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from seeding operations.

3.5 MAINTENANCE

3.5.1 See Landscape Maintenance and Warranty Section.

3.6 ACCEPTANCE

3.6.1 See Landscape Maintenance and Warranty Section.

END OF SECTION

LAWN SODDING

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Furnish and install sodded lawn as described in Contract Documents.

1.2 QUALITY ASSURANCE

1.2.1 Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials.

1.3 SUBMITTALS

1.3.1 Submit sod growers certification of grass species. Identify source location.

1.3.2 Submit manufacturer's certification of fertilizer.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Cut, deliver, and install sod within 24 hour period.

1.4.2 Do not harvest or transport sod when moisture content may adversely affect sod survival.

1.4.3 Protect sod from sun, wind, and dehydration prior to installation. Do not tear, stretch, or drop sod during handling and installation.

1.4.4 Sod which dries out before installation will be rejected.

1.5 PROJECT CONDITIONS

1.5.1 See Landscape Preparation section.

1.5.2 Work notification: Notify Landscape Architect or General Contractor's representative at least seven (7) working days prior to start of sodding operation.

1.5.3 Protect existing utilities, paving, and other facilities from damage caused by sodding operations.

1.5.4 Perform sodding work only after planting and other work affecting ground surface has been completed.

1.5.5 Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.

1.5.6 Provide hose and lawn watering equipment as required.

1.5.7 The irrigation system will be installed prior to sodding. Locate, protect, and maintain the irrigation system during sodding operations. Repair irrigation system components damaged during sodding operations at the Subcontractor's expense.

1.6 WARRANTY

1.6.1 See Landscape Maintenance and Warranty Section.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Sod: An "approved" nursery grown blend of improved Kentucky Bluegrass varieties.

2.1.2 Sod containing Common Bermudagrass, Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimblewill, Canada Thistle, Timothy, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorrel, or Bramegrass weeds will not be acceptable.

2.1.3 Provide well rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous material; viable and capable of growth and development when planted.

2.1.4 Furnish sod, machine stripped in square pads or strips not more than 3'-0" long; uniformly 1" to 1-1/2" thick with clean cut edges. Mow sod before stripping.

2.1.5 Fertilizer: granular, non burning product composed of not less that 50% organic slow acting, guaranteed analysis professional fertilizer.

2.1.6 Type A: starter fertilizer containing 20% nitrogen, 12% phosphoric acid, and 8% potash by by weight or similar approved composition.

2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20% mesh sieve.

2.1.8 Stakes: softwood, 3/4" x 8" long.

2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.

2.1.10 Topsoil: see Topsoil Placement section.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start sodding work until unsatisfactory conditions are corrected.

3.2 PREPARATION

3.2.1 Surface Preparation:

1. Seven days maximum prior to sodding, -

a. Treat Lawn areas if required with herbicide per manufacturer recommendations to kill existing vegetation prior to sodding.

b. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.

c. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.

d. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.

e. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more that 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.

f. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of actual nitrogen 1,000 sq. ft. (43 lbs / acre).

g. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.

h. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.

i. After preparation of lawn areas and with topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs.

j. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.

k. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to sodding.

l. Dampen dry soil prior to sodding.

3.3 INSTALLATION

3.3.1 Sodding:

1. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent course. Remove excess sod to avoid othering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.

2. Do not lay dormant sod or install sod on saturated, frozen soil.

3. Install initial row of sod in a straight line, beginning at the bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly against previously installed row.

4. Peg sod on slopes greater than 3 to 1 or in centerline of swales to prevent slippage at a rate of 2 stakes per yard of sod.

5. Water sod thoroughly with a fine spray immediately after laying to obtain moisture penetration through sod into top 4 inches of topsoil.

6. Roll with light lawn roller in two directions perpendicular to each other to ensure contact with sub grade.

7. Install sod at indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.

8. Damage to sodded area resulting from erosion to be repaired by Subcontractor.

3.4 CLEANING

3.4.1 Perform Cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from sodding operations.

3.5 MAINTENANCE

3.5.1 See Landscape Maintenance and Warranty Section.

3.6 ACCEPTANCE

3.6.1 See Landscape Maintenance and Warranty Section.

END OF SECTION

PEA GROUP

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STATE OF MICHIGAN
JANET L. EVANS
LANDSCAPE ARCHITECT
NO. 1390
REGISTERED LANDSCAPE ARCHITECT

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

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO REPRESENTATION IS MADE OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT

GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE

GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS	
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
PER AGENCIES COMMENTS	10/24/23
PER AGENCIES COMMENTS	04/26/24
PER AGENCIES COMMENTS	07/25/24
PER AGENCIES COMMENTS	09/06/24
UNIT LAYOUT CHANGE	11/18/24
GRADING/ENTRY CHANGES	04/30/26
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

DRAWING TITLE

LANDSCAPE SPECIFICATIONS

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	JLE
DES.	JLE

DRAWING NUMBER:

L-2.1

Xref ,\X-TBLK-25-0885.dwg

EXTERIOR PLANTS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Furnish and install landscaping plants as described in Contract Documents.

1.2 QUALITY ASSURANCE

1.2.1 Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.

1.2.2 Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.

1.2.3 All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years.

1.2.4 Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional charge. Larger plants shall not be cut back to size indicated.

1.2.5 Provide "specimen" plants with a special height, shape, or character of growth. Landscape Subcontractor is to tag specimen trees or shrubs at the source of supply. The Landscape Subcontractor shall inspect all plant material at source prior to Landscape Architect's approval. Landscape Subcontractor shall accompany Landscape Architect on final selection trip. The Landscape Architect will inspect specimen selections for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.

1.2.6 Plants may be inspected and approved at the place of growth for compliance with specification requirements for quality, size, and variety.

1.2.7 Approval of plant selection at the place of growth shall not impair the right of inspection and rejection upon delivery at the site or during progress of the work.

1.2.8 Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.

1.2.9 Before proceeding with work, check and verify dimensions and quantities. Report variations between Drawings and site to Landscape Architect before proceeding with work of this section.

1.2.10 Plant totals are for convenience only and are not guaranteed. Verify amounts shown on Drawings. All plantings indicated on Drawings are required unless indicated otherwise.

1.3 SUBMITTALS

1.3.1 Provide and pay for material testing. Testing agency shall be acceptable to the Landscape Architect. Provide the following data:

1. The loss of weight by ignition and moisture absorption capacity shall be tested for peat moss.

1.3.2 Submit the following material samples to Landscape Architect:

1. Peat moss, shredded hardwood bark mulch, planting accessories, pre-emergent herbicides, and plant fertilizers.

1.3.3 Submit the following materials certification to Landscape Architect:

1. Topsoil source and ph value, peat moss, and plant fertilizer.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Deliver fertilizer materials in original, unopened and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.

1.4.2 Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected.

1.4.3 Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration.

1.4.4 Dig, pack, transport, and handle plants with care to ensure protection against injury.

1.4.5 Inspection certificates required by law shall accompany each shipment invoice or order to stock on arrival. The certificate shall be filed with the General Contractor's representative.

1.4.6 Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, shredded hardwood bark mulch, or in a manner acceptable to the General Contractor's representative.

1.4.7 Water heeled in plantings daily.

1.4.8 No plant shall be bound with rope or wire in a manner that could damage or break the branches.

1.4.9 Cover plants transported on open vehicles with a protective covering to prevent wind burn.

1.4.10 Frozen or muddy topsoil is not acceptable.

1.5 PROJECT CONDITIONS

1.5.1 See Landscape Preparation Section.

1.5.2 Work notification: notify Landscape Architect at least seven working days prior to installation of plant material.

1.5.3 Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.

1.5.4 A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the proposal form. In the event that quantity discrepancies or material omissions occur in the proposal form, Subcontractor shall notify the Landscape Architect during the proposal bidding process.

1.5.5 An irrigation system will be installed prior to planting. Locate, protect, and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operations, at the Landscape Subcontractor's expense.

1.5.6 The Landscape Subcontractor shall inspect existing soil conditions in all areas of the site where his operations will take place, prior to the beginning of work. It is the responsibility of the Landscape Subcontractor to notify the General Contractor's representative and the Landscape Architect in writing of any conditions which could affect the survivability of plant material to be installed.

1.6 WARRANTY

1.6.1 See Landscape Maintenance and Warranty Standards.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Plants: Provide plants typical of their species or variety; with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces.

1. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.

2. All trees shall have clay or clay loam balls. Trees with sand balls will be rejected.

3. Provide tree species that mature at heights over 25'-0" with a single, main trunk. Trees that have the main trunk forming a "Y" shape are not acceptable.

4. Plants planted in rows shall be matched in form, (see specimen stock).

5. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.

6. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.

7. Evergreen trees shall be unsheared and branched to the ground.

8. Shrubs and small plants shall meet the requirements for spread and height indicated on the drawings.

9. Plant materials shall be subject to approval by the Landscape Architect as to size, health, quality, and character.

10. Bare root trees are not acceptable.

11. Provide plant materials from licensed nursery or grower.

2.1.2 Bare root plants: dug with adequate fibrous roots, to be covered with a uniformly thick coating of mud by being puddled immediately after they are dug or packed in moist straw or peat moss.

2.1.3 Container grown stock: grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm, and whole.

1. No plants shall be loose in the container.

2. Container stock shall not be root bound.

3. Single stemmed or thin plants will not be accepted.

4. Side branches shall be generous, well twigged, and the plant as a whole well bushed to the ground.

5. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

2.1.4 Collected stock consists of plants growing under natural conditions in soils and climate as exist at location to be planted, in locations lending themselves to proper collecting practices. Root system (balls) to be at least twenty-five (25%) percent larger than specified for nursery grown material.

2.1.5 Specimen stock: all specimen designated plantings are to be nursery grown, fully developed, excellent quality, and typical example of the species. Plants designated to be planted in rows must be matched, symmetrical, and uniform in height, spread, caliper, and branching density.

1. Matched plantings should be obtained from the same nursery and, preferably, from the same row or line. All specimen material will be approved by the Landscape Architect at nursery.

2.1.6 Topsoil for planting mix: fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials with acidity range of between ph 6.0-6.8 for ericaceous plants.

2.1.7 Peat moss: brown to black in color, weed and seed free granulated raw peat.

1. Provide ASTM D2607 sphagnum peat moss with a ph below 6.0 for ericaceous plants.

2.1.8 Planting mixture Type A - trees: standard planting backfill shall be a mixture of ½ native soil (excavated from plant pits), ¼ topsoil, and ¼ sand. Add fertilizer Type "A" and "B" to planting mixture per manufacturer's requirements. Follow planting details.

2.1.9 Planting mixture Type B for perennial flowers, groundcover beds, and ericaceous plants: planting backfill shall be a mixture of 1/3 screened topsoil, 1/3 sand and 1/3 peat. All existing soil shall be excavated and removed. Adding fertilizer types "A" and "B" to mixture per manufacturer's requirements. Follow planting details.

2.1.10 Planting mixture Type C for annual flower beds: same as Type "B". Submit a sample to the Landscape Architect for approval prior to installation.

2.1.11 Planting mixture Type D for Bioretention Soil Mix, for use with shrubs and perennials in a bioswale/ rain garden or bioretention area. Planting backfill shall be a mixture of 50%-60% coarse sand, 25%–35% screened topsoil, and 10-15% Compost by volume. The following criteria for bioretention soil mix shall be provided:

1. Maximum clay content: 15%
2. Clay and silt content: 25%-40%
3. Nutrient content: 15-30 mg/kg
4. Hydraulic Conductivity: 1-4 inches per hour
5. Organic Matter Content: 2%-5%

Adding fertilizer to mixture per manufacturer's requirements and soil testing recommendations. Follow detail for installation. Submit a sample and testing results to the Landscape Architect for approval prior to installation.

2.1.12 Planting mixture Type E for Planter Soil Mix, Metro Mix 900 in 3 cubic foot bags or approved equal.

2.1.13 Plant fertilizer Type A to be "Drimanure" applied per manufacturer recommendations.

2.1.14 Plant fertilizer Type B to be "14-14-14". Apply per manufacturer recommendations.

2.1.15 Bone Meal - 5 lbs. per cubic yard of soil mixes.

2.1.16 Lime to be ground dolomitic limestone, ninety-five percent (95%) passing through #100 mesh screen. Use to adjust soil pH only, under direction of Landscape Architect.

2.1.17 Sand to be clean, coarse, ungraded conforming to ASTM-C-3 for fine aggregates.

2.1.18 Anti-Desiccant: protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration. Mixed and applied in accordance with Manufacturer's instructions.

2.1.19 Shredded bark mulch shall be double processed, dark shredded hardwood bark that is clean, free of debris and sticks. Materials shall be uniform in size, shape, and texture. Submit samples to Landscape Architect for approval prior to installation. Install mulch to finish grade, level smooth, without ridges, humps, or depressions.

2.1.20 Water: free of substances harmful to plant growth. Hoses or other methods of transportation shall be furnished by Sub Contractor.

2.1.21 Stakes for staking :(3) Three Hardwood, 2" x 2" x 8'-0" long. Driven a min. of 18" deep firmly into subgrade prior to backfilling. Stakes for guying: Hardwood, 2" x 2" x 36" long.

2.1.22 Guying/staking material:With 2"-3" wide fabric straps, connect from tree to stake. Remove after (1) year, allow for flexibility (do not use wire & hose).

2.1.23 Tree wrap: standard waterproofed tree wrapping paper, 2-1/2" wide, made of 2 layers of crepe kraft paper weighing not less than 30 lbs. per ream, cemented together with asphalt. Secure tree wrap with biodegradable material at top and bottom. Remove after first winter.

2.1.21 Twine: two-ply jute material.

2.2 MEASUREMENTS

2.2.1 Measure height and spread of specimen plant materials with branches in their normal positions as indicated on Drawings or Plant List.

2.2.2 The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.

2.2.3 Measurement should be average of plant, not greatest diameter. For example, plant measuring 15 inches in widest direction and 9 inches in narrowest direction would be classified as 12 inch stock.

2.2.4 Plants properly trimmed and transplanted should measure same in every direction.

2.2.5 Measure caliper of trees 6 inches above surface of ground.

2.2.6 Where caliper or other dimensions of plant materials are omitted from Plant List, plant materials shall be normal stock for type listed.

2.2.7 Plant materials larger than those specified may be supplied, with prior written approval of Landscape Architect, and:

1. If complying with Contract Document requirements in all other respects.

2. If at no additional cost to Owner.

3. If sizes of roots or balls are increased proportionately.

2.2.8 The height of the trees, specified by height, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated on the drawings.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3.1.2 Individual plant locations shall be staked on the project site by the Landscape Contractor and approved by the Landscape Architect before any planting pits are dug. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additional cost to the General Contractor / Owner.

3.1.3 Accurately stake plant material according to the Drawings. Stakes shall be above grade, painted a bright color, and labeled with the name of the plant material to be installed at that location.

3.2 TIME OF PLANTING

3.2.1 Evergreen material: Plant Evergreen materials between September 1 and October 15 or in spring before new growth begins. If project requirements require planting at other times, plants shall be sprayed with anti-desiccant prior to planting operations.

3.2.2 Deciduous material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in leaf, they shall be sprayed with anti-desiccant prior to planting operation.

3.2.3 Planting times other than those indicated must be acceptable to the Landscape Architect.

3.3 PREPARATION

3.3.1 General: See Landscape Preparation Section

3.3.2 Vegetation Removal

1. Strip existing grass and weeds, including roots from all bed areas leaving the soil surface one (1") inch below finish grade.

2. Herbicide: as required to prepare area for new planting applied to all ground cover, evergreen and shrubbery beds and all mulch areas before application of preemergence herbicide, per manufacture's recommendations. Clean area of all dead material after five (5) days.

3. Pre-Emergence Herbicide: applied per manufacturer recommendations to same area where "Herbicide" has been applied and to planting bed areas, after area is cleared of dead vegetation.

4. Herbicides to be applied by licensed applicator as required by the State.

5. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide plant pits per planting details. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 6".

6. Roughen sides of excavations.

7. Provide premixed planting mixture Type "A" for use around the balls and roots of all deciduous and evergreen tree plantings.

3.3.3 Percolation Testing of Plant Beds

Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.

1. Dig a hole at least 12" in diameter by 12" in depth, with straight sides, In excavated plant beds.
2. Fill hole with water and let it sit overnight.
3. Refill hole the next day.
4. Measure the water level by laying a straight edge across the top of the hole, then use a tape measure or yardstick to determine the water level. Continue to measure the water level every hour until the hole is empty, noting the number of inches the water level drops per hour.

Any test holes with a rate of 1" or less an hour is considered to slow and recommendations to remedy issue shall be provide to Architect and Owner.

3.3.4 Ground Cover Beds, Perennial Flower Beds, and Ericaceous Plant Beds

1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Plant ground cover through mulch and into plant mix.

3.3.5 Mass Shrub Beds / Hedge Beds:

1. Excavate existing soil to 18" depth over entire bed area and remove soil from site. Scarify bottom of the bed to a 4" depth. Set plants according to drawings and Specifications. Backfill entire bed with (premixed) specified planting mixture Type "A".

3.3.6 Annual Flower Beds:

1. Excavate existing soil to 8" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Backfill entire bed to an 8" depth with premixed planting mixture "Type B".

3.4 INSTALLATION

3.4.1 Planting shall be performed only by experienced workman familiar with planting procedures under the supervision of a qualified supervisor.

3.4.2 Planting pits shall be round, with vertical sides and flat bottoms, and sized in accordance with outlines and dimensions shown on the planting details.

3.4.3 See drawings for planting details.

3.4.4 If obstructions are encountered that are not indicated, do not proceed with planting operations until alternative plant locations have been selected and approved in writing by the Landscape Architect. Where location or spacing dimensions are not clearly shown, request clarification by the Landscape Architect.

3.4.5 Set plant material in the planting pit to proper grade and alignment.

1. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure.

2. Set plant material so it is flush to finish grade after settling, or 1-2" higher in poorly drained soil, or as directed by Landscape Architect.

3. No filling will be permitted around the trunks or stems.

4. Do not cover top of root ball with soil.

5. Backfill pit with planting mixture. Do not use frozen or muddy mixtures for backfilling.

6. Form a ring of soil around the edge of the planting pit to retain water.

3.4.6 After balled and burlapped plants are set, tamp planting mixture around of balls and fill all voids and remove air pockets.

3.4.7 Remove all burlap, ropes, and wires from top 1/3 of balls.

3.4.8 Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of trunks and shrubs and to within 6" of planting bed.

3.4.9 Spread and arrange roots of bare rooted plants in their natural position. Work in planting mixture. Do not mat roots together. Cut all broken and frayed roots before installing planting mixture.

3.4.10 Water immediately after planting.

3.4.11 Apply pre-emergent herbicide to bed areas per manufacturer's recommendations before mulching.

3.5 MULCHING

3.5.1 Mulch trees and shrub planting pits and shrub beds with shredded hardwood bark mulch 3" deep to dripline immediately after planting. Leave 3" circle of bare soil around tree trunk. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

3.5.2 Mulch shall not be placed in contact with trunks or stems.

3.5.3 Mulch ground cover beds with shredded bark mulch 2" to 3" deep prior to planting.

3.5.4 Plant ground cover through mulch.

3.6 WRAPPING, GUYING, AND STAKING

3.6.1 Inspect trees for injury to trunks, evidence of insect infestation and improper pruning before wrapping.

3.6.2 Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place.

3.6.3 Stake deciduous trees under 4" caliper. Stake evergreen trees under 6'-0" tall and over with metal fence post, three (3)per tree.

3.6.4 Stake/guy all trees immediately after installation. When high winds or other conditions which may effect tree survival or appearance occur during the warranty period, the Sub-Contractor shall immediately repair the staking/guying.

3.6.5 Guy deciduous trees 4" caliper and over. Stake evergreen trees 6'-0" tall and over with metal fence post, three (3) per tree.

3.6.6 All work shall be acceptable to the Landscape Architect/Owner's representative.

3.7 PRUNING

3.7.1 Remove or cut back broken, damaged, and unsymmetrical growth of new wood.

3.7.2 Multiple leader plants: preserve the leader which will best promote the symmetry of the plant. Do not prune terminal leader.
Cut branches flush with the trunk of the main branch, at a point beyond a lateral shoot or bud a distance of not less than ½ the diameter of the supporting branch. Make cut on an angle.

3.7.3 Prune evergreens only to remove broken or damaged branches.

3.8 MAINTENANCE

3.8.1 See Landscape Maintenance and Warranty Standards.

3.9 CLEANING

3.9.1 Perform cleaning during installation of the work and upon completion of the work. Remove from all site excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.

END OF SECTION

LANDSCAPE MAINTENANCE AND WARRANTY STANDARDS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Provide maintenance for new landscaping as described in Contract Documents.

2. The requirements of the Section include a one (1) year warranty period from date of acceptance of installation performed by the General Contractor's Representative and Landscape Architect.

2.0 PRODUCTS - Not Used

3.0 EXECUTION

3.1 PERFORMANCE

3.1.1 Acceptance of Installation

1. At the completion of all landscape installation, or pre-approved portions thereof, the Landscape Subcontractor shall request in writing an inspection for Acceptance of Installation in which the Landscape Subcontractor, Landscape Architect, and General Contractor's Representative shall be present.

a. Following the acceptance inspection a punch list will be issued by the Landscape Architect.

b. Upon completion of all punch list items, the Landscape Architect and/or General Contractor's Representative shall reinspect the project and issue a written statement of Acceptance of Installation and establish the beginning of the Project Warranty Period.

c. At the time of acceptance all plant material shall be of vigorous health and planting bed and mulch rings are weed free.

d. It is the responsibility of the Landscape Subcontractor to make the written request for inspection of installation in a timely fashion.

e. If there is plant material loss prior to the Landscape Subcontractor's written request for inspection of installation, the Landscape Contractor shall make all replacements of this dead material at no additional cost These replacements are not considered to be the required one (1) replacement of dead plant material by the Landscape Subcontractor during the one (1) year project warranty period, as outlined below.

2. Landscape work may be inspected for acceptance in parts agreeable to the General Contractor's Representative and Landscape Architect provided work offered for Inspection is complete, including maintenance as required.

3. For work to be inspected for partial acceptance, the Landscape Subcontractor shall provide a drawing outlining work completed and supply a written statement requesting acceptance of this work completed to date.

3.1.2 Project Warranty

1. The Project Warranty Period begins upon written preliminary acceptance of the project installation by the Landscape Architect and General Contractor's representative.

2. The Landscape Subcontractor shall guarantee trees, shrubs, ground cover beds and seeded or sodded areas through construction and for a period of one (1) year after date of Acceptance of Installation against defects including death and unsatisfactory growth, except for defects resulting from neglect, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Subcontractor's control.

3.1.3 Maintenance During One (1) Year Project Warranty

1. To insure guarantee standards, the following maintenance procedures for trees, shrubs, and ground covers shall be executed during construction and for the full Project Warranty Periods.

a. Landscape Subcontractor shall be responsible for only one (1) replacement of any plant materials during the one (1) year Project Warranty Period. These include those which are dead or in the opinion of the Landscape Architect are in an unhealthy or unsightly condition, or having lost natural shape, resulting from dieback, excessive pruning, or inadequate or improper maintenance as part of the guarantee.

b. Prior to any replacements, Landscape Subcontractor shall review individual plants in question with Landscape Architect to determine reason for plant demise.

c. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.

d. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

e. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

f. The contractor will be responsible for irrigation system operation, watering schedules, watering amounts and general monitoring of irrigation system throughout construction, maintenance, and warranty period. Over watering or lack of water from the irrigation system is the responsibility of the landscape contractor and any required replacements at the cost of the contractor and not part of the warranty replacement.

2. Replacements must meet the standards specified on the Landscape plans and in the specifications, i.e. quality, species of plant material and planting procedures to receive approval of replacement materials by Landscape Architect.

3. Costs for replacements are assumed part of bid quotations and therefore will not result in an additional cost to General Contractor or Landscape Architect.

4. Areas damaged as a result of replacement operation are to be restored by Landscape Subcontractor at no cost to the General Contractor or Landscape Architect.

5. The Landscape Subcontractor shall be responsible for watering all plantings through the warranty period and shall keep guy wires taut, raise tree balls which settle, furnish and apply sprays as necessary to keep the plantings free of disease and insects until the end of the warranty period.

6. The Landscape Subcontractor shall remove and replace trees, shrubs or other plants found to be dead or in unhealthy condition.

a. Rejected plants and materials shall be removed promptly.

b. Replacements shall be made during the following normal planting schedule.

c. Trees and shrubs which are in doubt shall be replaced, unless, in the opinion of the Landscape Architect, it is advisable to extend Project Warranty Period for full growing Season.

7. The Landscape Contractor shall apply anti-desiccants on evergreen trees and evergreen shrub beds within 150' of major streets and drives, no later than December 1, during the one (1) year project warranty.

8. The first spring after plant installation the contractor shall check all trees to insure twine has rotted from around the trunk. If twine is still present, it shall be removed and disposed of off-site.

9. All stakes, guy wires, tree wrap paper, dead twigs and branches shall be removed from tree and plant materials at the end of this warranty period.

3.1.4 Maintenance of Seeded Lawn Areas

1. The Landscape Subcontractor shall maintain seeded lawn areas.

a. Water, fertilize, weed, and apply chemicals until a dense lawn of permanent grasses, free from lumps and depressions or any bare spots, none of which is larger than one (1) foot of area up to a maximum of 3% of the total seeded lawn area is established.

b. Seeded lawn that fails to show a uniform growth and/or germination shall be reseeded until a dense cover is established, regardless of what season the seed was installed.

2. The Landscape Subcontractor shall maintain and mow all lawn areas for until acceptance of installation (typically 3 mows) . When lawn reaches 3" in height it shall be cut to 2" in height.

3. The Owner assumes cutting responsibilities following the Acceptance of Installation of the seeded lawn.

4. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all seeded lawn maintenance responsibilities.

3.1.5 Maintenance of Sodded Lawn Areas

1. The Landscape Subcontractor shall maintain sodded lawn areas.

a. Water, fertilize, spot weed, apply herbicides, fungicides, insecticides and resod until a full uniform, smooth stand of sod is knitted to topsoil, and accepted by the Landscape Architect or his or her representative.

2. Water sod thoroughly, as required to establish proper rooting.

3. Repair, rework, and resod all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.

4. Mow lawn areas once as soon as sod has rooted sufficiently and knitted to the topsoil. Cut back to 2" height. Not more than 40% of grass leaf shall be removed at any single mowing. Excess clipping to be removed by the Landscape Subcontractor. The Landscape Subcontractor shall be responsible for lawn mowing until acceptance of installation (typically 3-mows).

5. The Owner assumes mowing responsibilities following the Acceptance of Installation of the sodded lawn.

6. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all sodded lawn maintenance responsibilities.

3.1.6 Final Acceptance Upon Conclusion of the Warranty Period

1. At the conclusion of the Project Warranty Period the Landscape Subcontractor shall request a project inspection for final acceptance in which the Landscape Contractor, Landscape Architect and Owner's Representative shall be present.

2. After the inspection for final acceptance, a punch list will be issued by the Landscape Architect. Upon completion of all punch list items, the Landscape Architect and the Owner's Representative shall reinspect the project and issue a Written Statement of Final Acceptance.

END OF SECTION

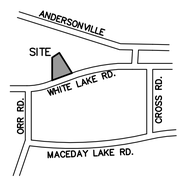
NOTE: The Owners may at their option elect to utilize a Construction Manager in lieu of a General Contractor for all matters pertaining to these specifications and the site work.

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN
JANET L. EVANS
LANDSCAPE ARCHITECT
NO. 1390
REGISTERED LANDSCAPE ARCHITECT

Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO COMPUTATION IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.



CLIENT
GINKO INVESTMENT COMPANY, LLC
2438 ROCHESTER ROAD
OAKLAND TOWNSHIP, MICHIGAN 48363

PROJECT TITLE
GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

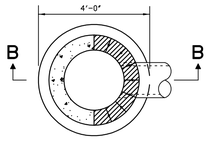
REVISIONS	
PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	08/04/23
PER AGENCIES COMMENTS	09/22/23
PER AGENCIES COMMENTS	10/24/23
PER AGENCIES COMMENTS	04/26/24
PER AGENCIES COMMENTS	07/25/24
PER AGENCIES COMMENTS	09/06/24
UNIT LAYOUT CHANGE	11/18/24
GRADING/ENTRY CHANGES	04/30/26
UNIT & STORM CHANGES	06/12/26
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
FEBRUARY 2, 2023

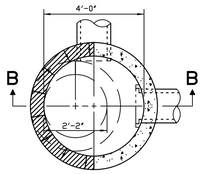
DRAWING TITLE
LANDSCAPE SPECIFICATIONS

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	JLE
DES.	JLE

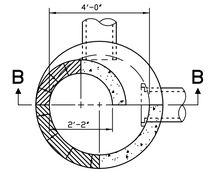
DRAWING NUMBER:
L-2.2



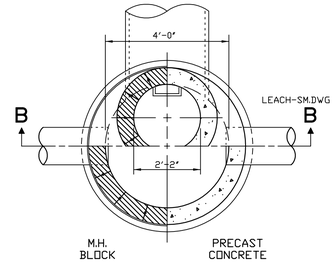
SECTION A-A



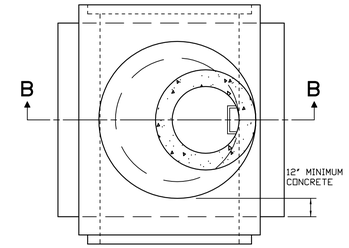
SECTION A-A



SECTION A-A

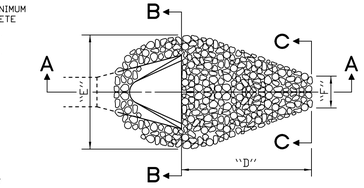


SECTION A-A

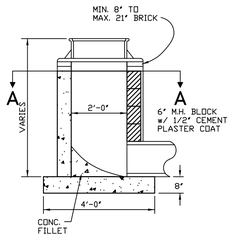


SECTION A-A

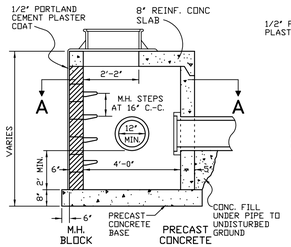
PIPE DIA.	"D"	"E"	"F"	S.Y.
12"	5'-0"	6'-6"	3'-0"	4
15"	5'-0"	7'-0"	3'-0"	4
18"	5'-0"	7'-6"	3'-6"	4
21"	5'-6"	8'-0"	4'-0"	5
24"	6'-0"	8'-6"	4'-6"	6
27"	6'-6"	9'-0"	5'-0"	7
30"	7'-0"	9'-9"	5'-6"	8
33"	7'-6"	10'-3"	5'-6"	9
36"	8'-0"	10'-9"	6'-0"	10
42"	9'-0"	11'-9"	6'-6"	12
48"	10'-0"	13'-0"	7'-0"	14



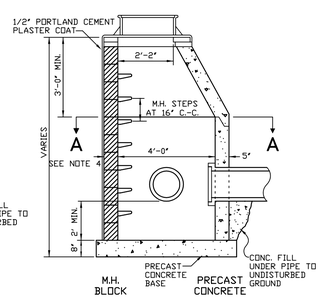
PLAN VIEW



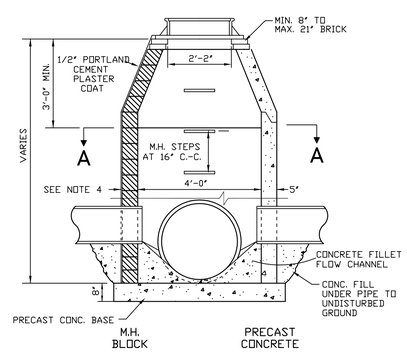
SECTION B-B
24" INLET



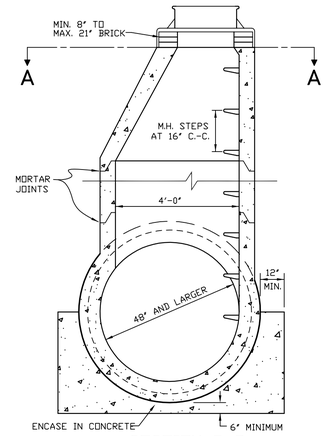
SECTION B-B
STRUCTURE WITH SLAB COVER
(CATCH BASIN SHOWN)



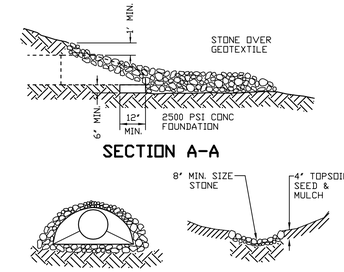
SECTION B-B
STANDARD CATCH BASIN



SECTION B-B
STANDARD STORM MANHOLE



SECTION B-B
STANDARD PRECAST CONCRETE MANHOLE TEE



SECTION A-A

SECTION B-B SECTION C-C

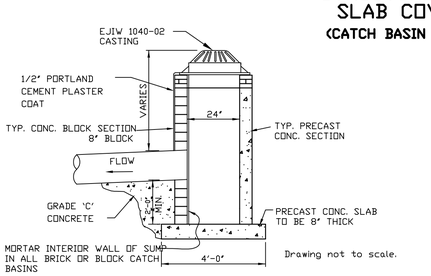
PLAIN STONE RIP-RAP

STORM SEWER NOTES

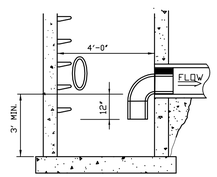
1. PRECAST CONC. RISERS SHALL MEET A.S.T.M. C478
2. DIAMETER OF CONC. BASE: I.D. + 2(WALL) + 8"
3. MANHOLE STEP SPACING SHALL MEET MIOSHA REQUIREMENTS. NO MORE THAN 21" FROM RIM TO FIRST STEP. MAX. 6" O.C. STEPS SHALL BE CAST POLYPROPYLENE REINFORCED WITH A 1/2" STEEL ROD.
4. WALL THICKNESS OF BLOCK STRUCTURES SHALL BE:

DEPTH	THICKNESS
0-8'	6"
8-15'	8"
OVER 15'	12"

5. MINIMUM I.D. OF STRUCTURE FOR: 36"to 42" = 5'-0"
   48"to 54" = 6'-0"
   LARGER DIAMETER STRUCTURES MAY BE REQUIRED DEPENDING ON PIPING CONFIGURATION.
6. ALL LIFTING HOLES AND VOIDS IN INTERIOR JOINTS SHALL BE FILLED BY MORTAR.
7. THE FINGER DRAIN DETAIL SHALL BE USED AT ALL LOW POINT CATCH BASINS IN PAVEMENT AREAS. THE DETAIL MAY BE OMITTED WITH THE APPROVAL OF THE TOWNSHIP ENGINEER IN AREAS WITH VERY POROUS SOILS AND NO GROUNDWATER PROBLEMS.
8. PRECAST ONE PIECE BASES AND RISERS ARE ACCEPTABLE FOR INLETS, CATCH BASINS AND MANHOLES
9. FRAMES & COVERS WITH INLET CAPACITY (1.0 CFS/90 SQ IN)
   -TRAFFIC AND PARKING AREAS: MDOT "D" (EJIW 5105) 1.9 CFS*
   -REAR YARD AND DITCH INLETS: (EJIW 1040-02) 2.1 CFS*
   -MANHOLES: MDOT "A" (EJIW 1060)
   -CURB AND GUTTER INLETS: MDOT "K" (EJIW 7045) 1.8 CFS*
   -MOUNTABLE CURB & GUTTER: (EJIW 7065) 2.2 CFS*
   -*MAY VARY DUE TO MANUFACTURER CHANGES
10. CONTACT THE TOWNSHIP ENGINEER 48 HOURS PRIOR TO CONSTRUCTION TO SCHEDULE INSPECTION. FULL TIME INSPECTION WILL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION. PHONE (248) 334-9901
11. THE CONTRACTOR SHALL CONTACT MISS DIG 72 HOURS BEFORE CONSTRUCTION AT (800) 482-7171 TO LOCATE EXISTING UNDERGROUND UTILITIES.
12. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY WHITE LAKE TOWNSHIP.
13. A 2' DEEP SUMP SHALL BE USED IN ANY STRUCTURE SUBJECT TO A WATER DROP GREATER THAN 2.0' FROM AN INLET PIPE.
14. ALLOWABLE STORM SEWER PIPE TYPES:
   -12" AND UP: RCP ASTM C-76 MIN. CLASS 3, MIN CLASS 4 UNDER TRAFFIC AREAS, RUBBER JOINT
   -6" TO 15": SCH 40 PVC OR SDR 23.5 PVC WITH RUBBER OR GLUE JOINT
   -6" TO 48": SMOOTH BORE CORRUGATED HIGH DENSITY POLYETHYLENE WITH NEOPRENE LINED JOINTS OR BETTER
15. THE MINIMUM PIPE SIZE IN PUBLIC RIGHT-OF-WAY OR EASEMENTS AND FOR PIPES CARRYING OFF-SITE STORM WATER SHALL BE 12"
16. ALL PIPE ENDS NOT WITHIN A STRUCTURE SHALL HAVE A CONCRETE OR METAL FLARE END SECTION (FES) WITH A BAR SCREEN ON PIPES 18" AND LARGER EXCEPT THOSE WITHIN A SECURE FENCED AREA(ED) NO BAR SCREEN.
17. ALL DRAINAGE STRUCTURES WITHIN THE ROAD SHALL BE SEALED WITH WRAPPED GEOTEXTILE PER RCOC STANDARDS



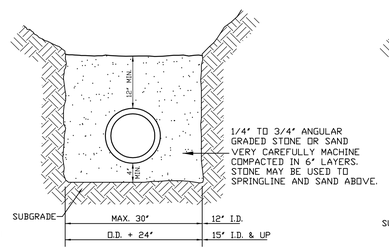
STANDARD REAR YARD CATCH BASIN



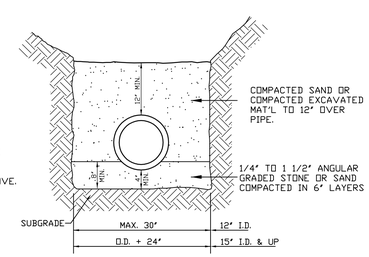
TRAP SHALL BE BULKHEADED IN OUTLET PIPE AND SHALL BE A SCH 40 PVC ASSY WITH A PIPE AREA NO LESS THAN 50% OF THE OUTLET PIPE.

ALTERNATE: USE "THE SNOUT" BASIN TRAP SYSTEM

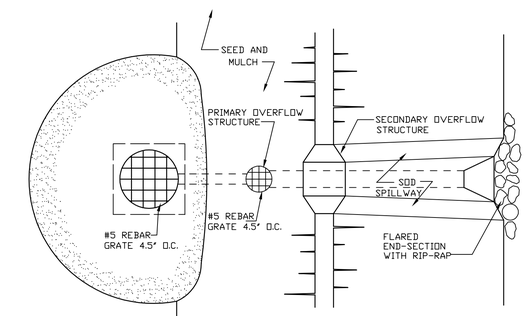
TRAPPED CATCH BASIN



PIPE BEDDING
FOR PLASTIC PIPE

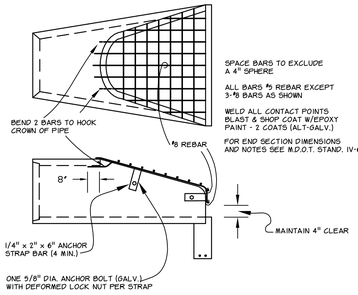


CLASS "B" BEDDING
FOR SEWER PIPE
LESS THAN 48"

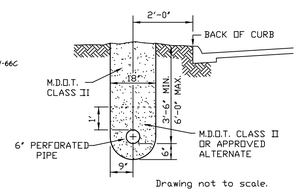


PLAN VIEW

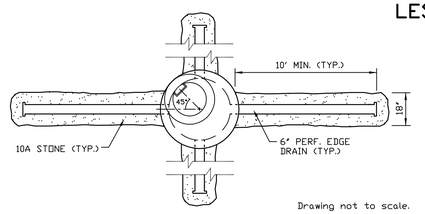
NOTE: EXTREME CARE MUST BE EXERCISED TO INSURE THAT THE OUTLET HOLES IN THE STANDPIPE, DO NOT BECOME CLOGGED WITH SEDIMENT.



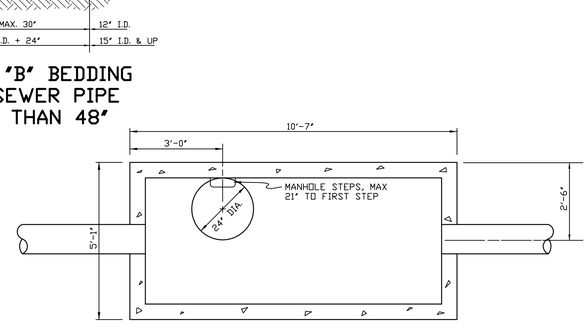
BAR SCREEN DETAIL

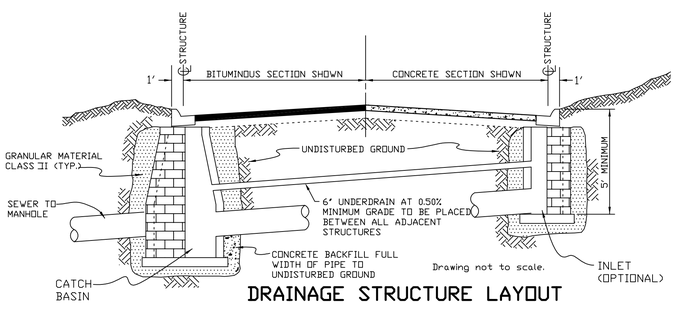


EDGE DRAIN DETAIL

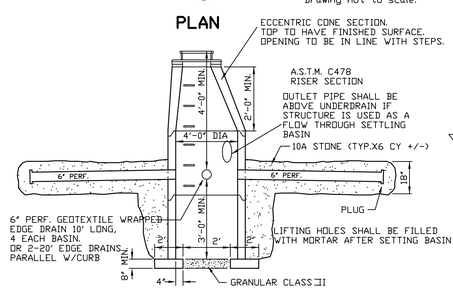


PLAN

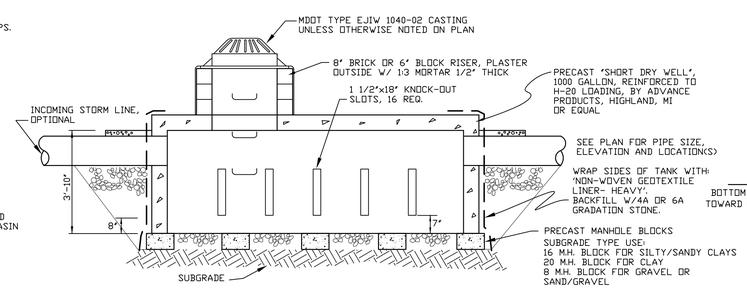




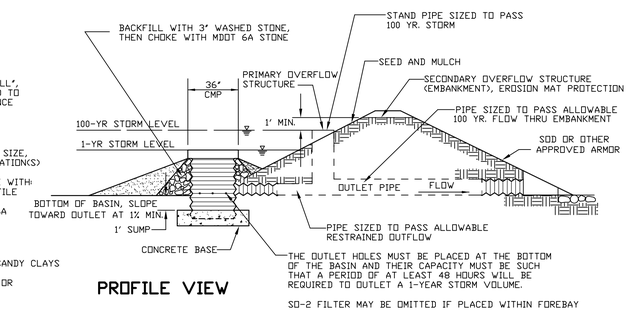
DRAINAGE STRUCTURE LAYOUT



DETAIL
STANDARD LEACHING BASIN



1000 GALLON LEACHING/SETTLING BASIN



PROFILE VIEW

SD-2 DETENTION BASIN OUTLET FILTER (CMP)
(SEE OCDC STANDARD DETAILS FOR SEDIMENT BASIN OR FOREBAY OUTLET STRUCTURE)

BRD24X36

DRAWN: CAD
DESIGN: OA
CHECKED:

SCALE: VERT. HORZ. AS NOTED

REVISIONS	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE
		FIRST ISSUE	8-16-95		REVISE	10-3-02		REVISE	6-1-07
		ADD SD-1	6-17-96		REVISE	12-17-03			
		NEW BAR GRATE	11-3-97		SEC REFERENCE	5-17-05			

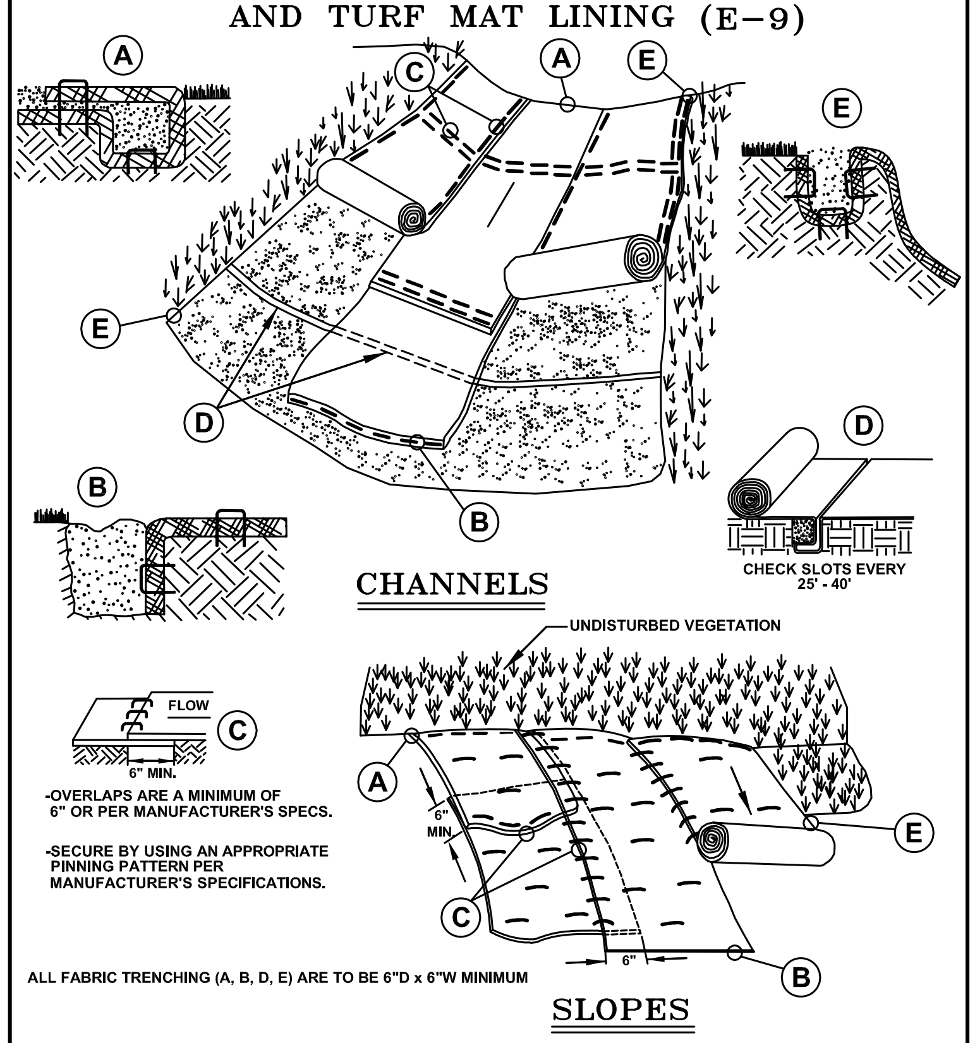
Johnson & Anderson, Inc.
CONSULTING ENGINEERS
4494 ELIZABETH LAKE ROAD
WATERFORD, MICHIGAN 48328
(248) 681-7800 (248) 681-2660 (FAX)

White Lake Charter Township
7525 Highland Road, White Lake, Michigan 48383-2900
(248) 698-3300

STORM SEWER
STANDARD DETAILS

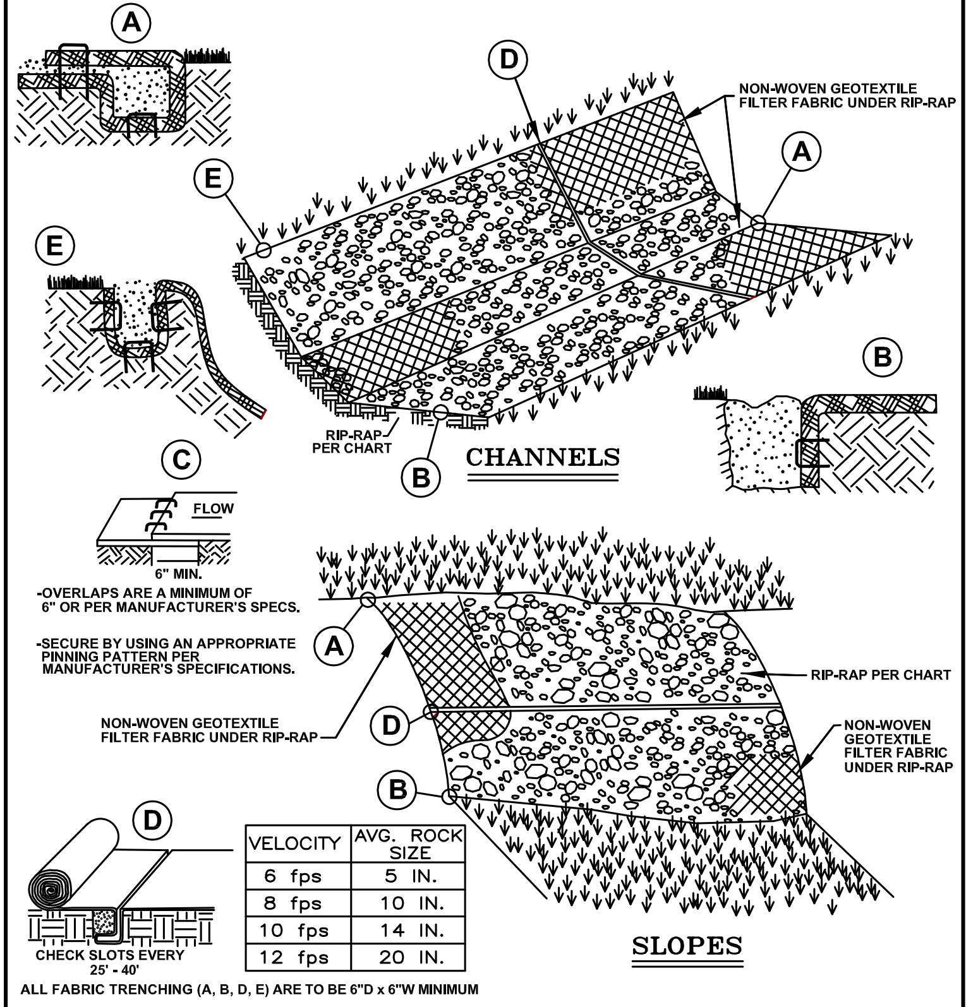
JOB NO.
DATE ISSUED
SHEET NO.

EROSION CONTROL BLANKETS AND TURF MAT LINING (E-9)



DEPENDING ON THE VELOCITY, SLOPE, SOILS, USE PROPER BLANKET OR TURF MAT LINING PER MANUFACTURER'S SPECIFICATIONS TO HANDLE THE SHEER STRESSES OF THE SLOPE/CHANNEL.

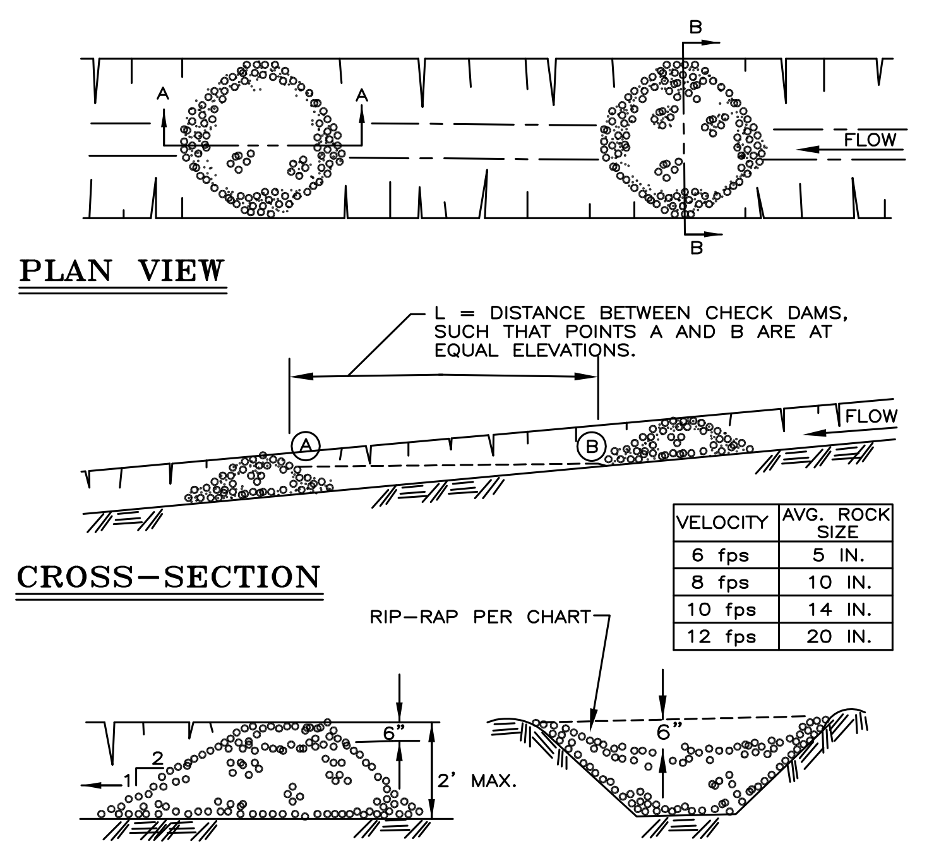
RIP-RAP: CHANNELS AND SLOPES (E-10)



VELOCITY	AVG. ROCK SIZE
6 fps	5 IN.
8 fps	10 IN.
10 fps	14 IN.
12 fps	20 IN.

DEPENDING ON THE VELOCITY, SLOPE AND SOILS, USE THE PROPER SIZED RIP-RAP AND NON-WOVEN GEOTEXTILE FABRIC TO HANDLE THE SHEER STRESS OF THE SLOPE/CHANNEL.

CHECK DAMS (E-3)



VELOCITY	AVG. ROCK SIZE
6 fps	5 IN.
8 fps	10 IN.
10 fps	14 IN.
12 fps	20 IN.

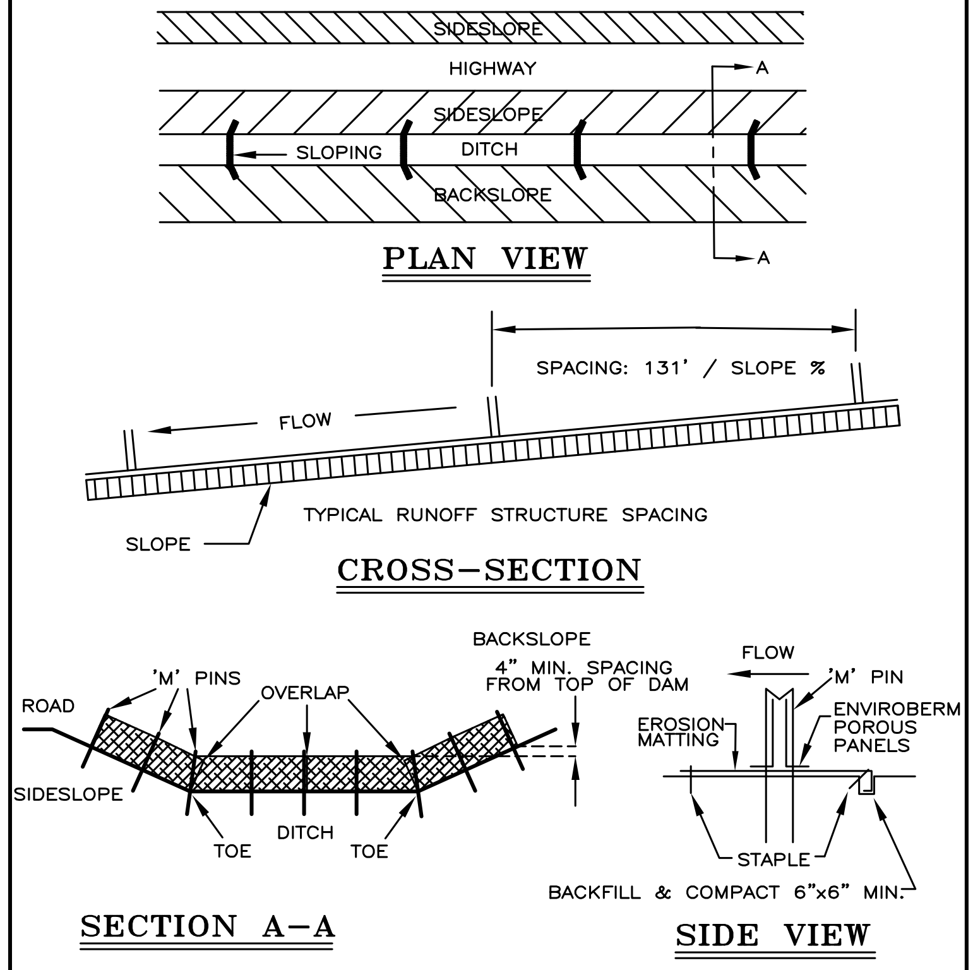
NOTE: CHECK DAMS GREATER THAN TWO FEET IN DEPTH MAY SERIOUSLY IMPACT THE FLOW CHARACTERISTICS OF THE DITCH.

-DEPENDING ON THE VELOCITY, SLOPE AND SOILS, USE THE PROPER SIZED RIP-RAP TO HANDLE THE SHEER STRESS OF THE SLOPE/CHANNEL.

-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

CHECK DAMS ALTERNATIVE "A" (E-3A)

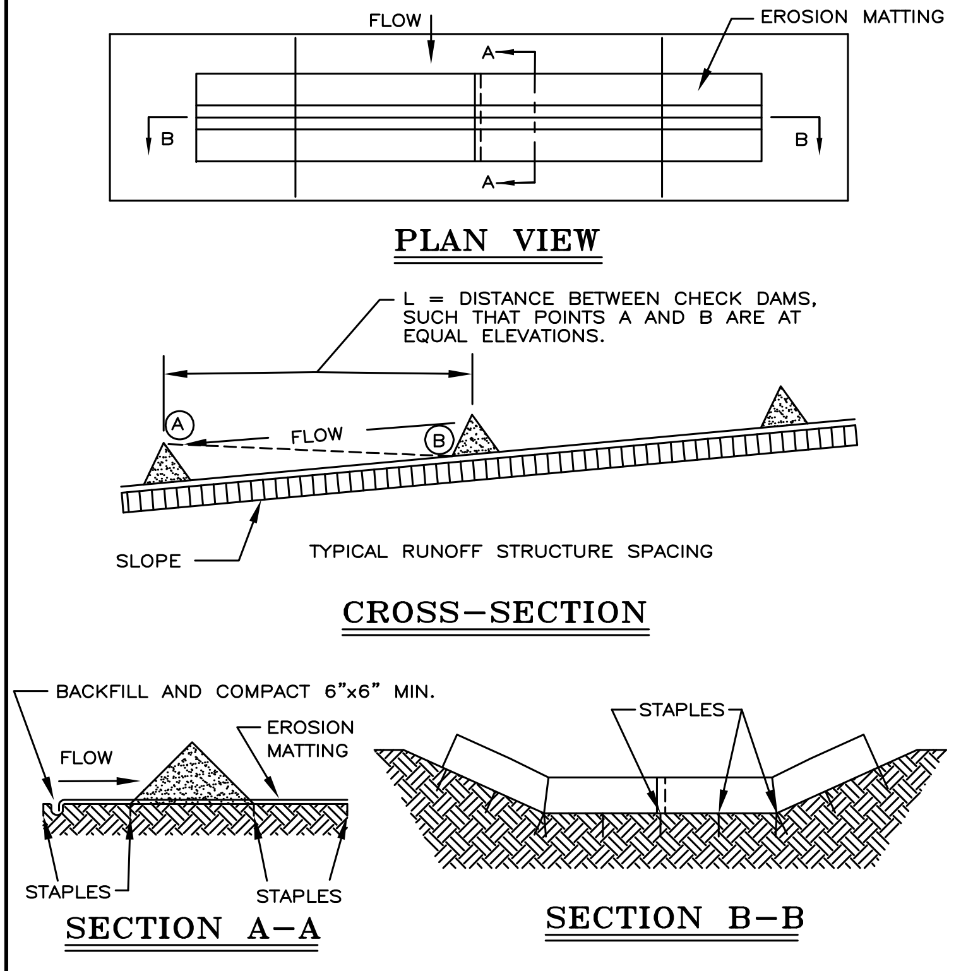
MATERIAL: ENVIROBERM OR APPROVED ALTERNATIVE



-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

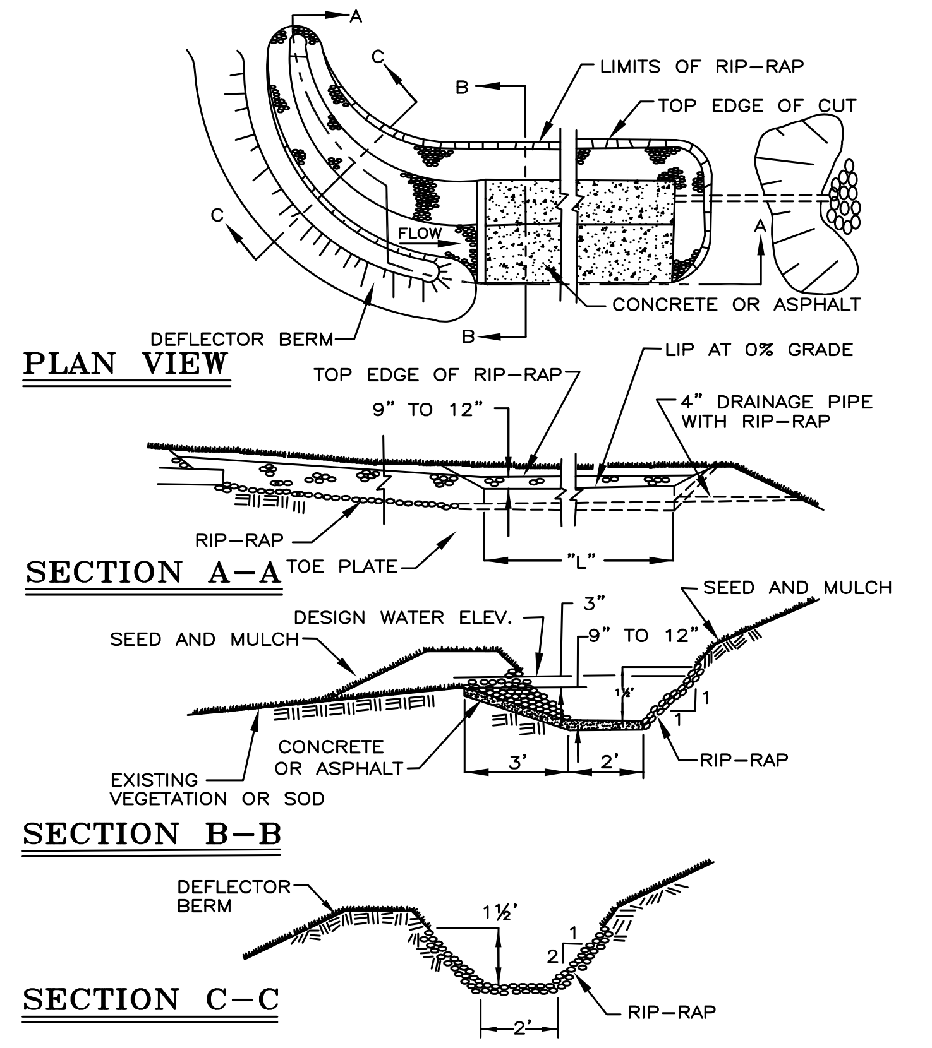
CHECK DAMS ALTERNATIVE "B" (E-3B)

MATERIAL: NILEX GEORIDGE OR TRIANGULAR SILT DIKE OR APPROVED ALTERNATIVE

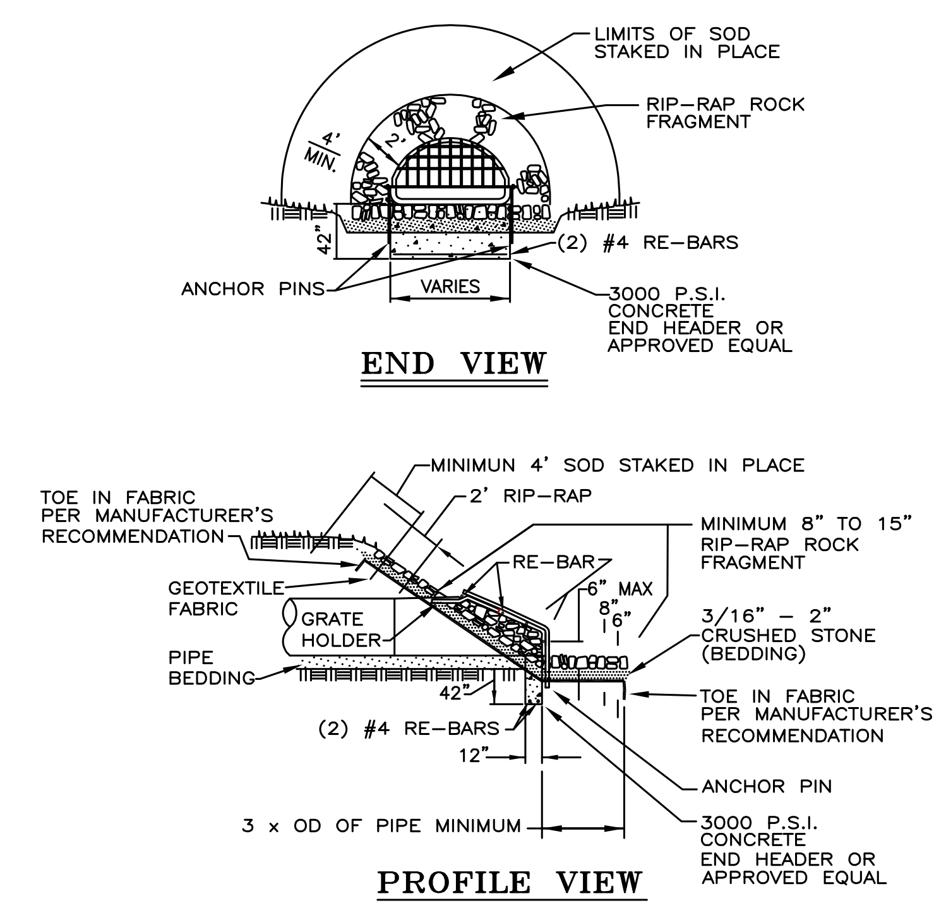


-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

LEVEL SPREADER (E-4)



RIP-RAP, END SECTION AND BAR SCREEN DETAIL (E-7)

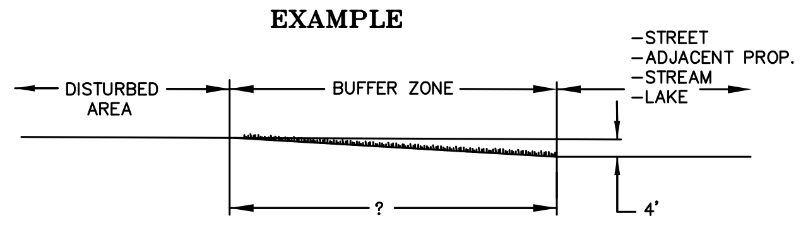


NOTE:
-BAR SCREEN DETAILS PER MDOT ROAD & BRIDGE STANDARD PLANS, STEEL GRATES FOR END SECTIONS. BARS ARE TO BE CUT OFF AT EDGE OF END SECTION.
-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

VEGETATIVE BUFFER ZONE (SP-1)

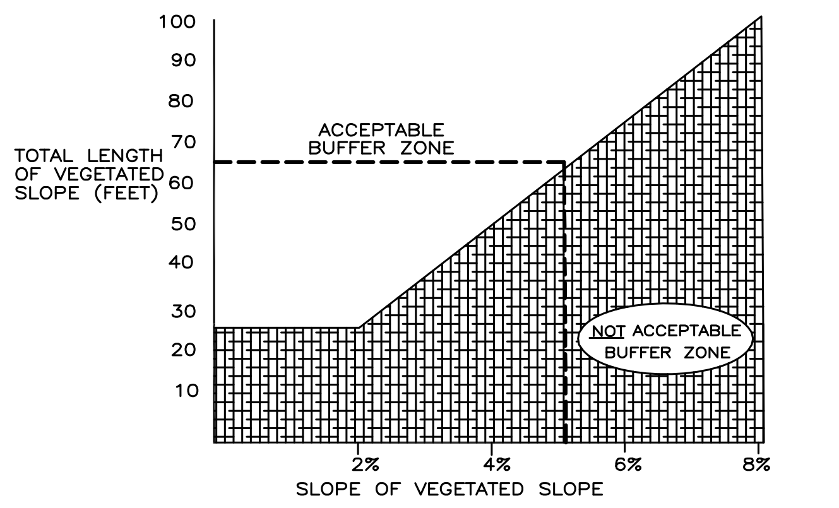
THE GRAPH SHOWN BELOW IS USED TO DETERMINE THE ADEQUACY OF AN EXISTING VEGETATIVE BUFFER ZONE FOR USE AS A SEDIMENT FILTER. THIS GRAPH IS ONLY APPLICABLE IF THE VEGETATION IS 90% DENSE AND AT LEAST 1" IN LENGTH OVER EVERY SQUARE FOOT OF DISTURBED SOIL. AN AREA COVERED WITH WEEDS, OR BUSHES AND TREES WITHOUT A GOOD GROUND COVER IS NOT ACCEPTABLE.

EXAMPLE



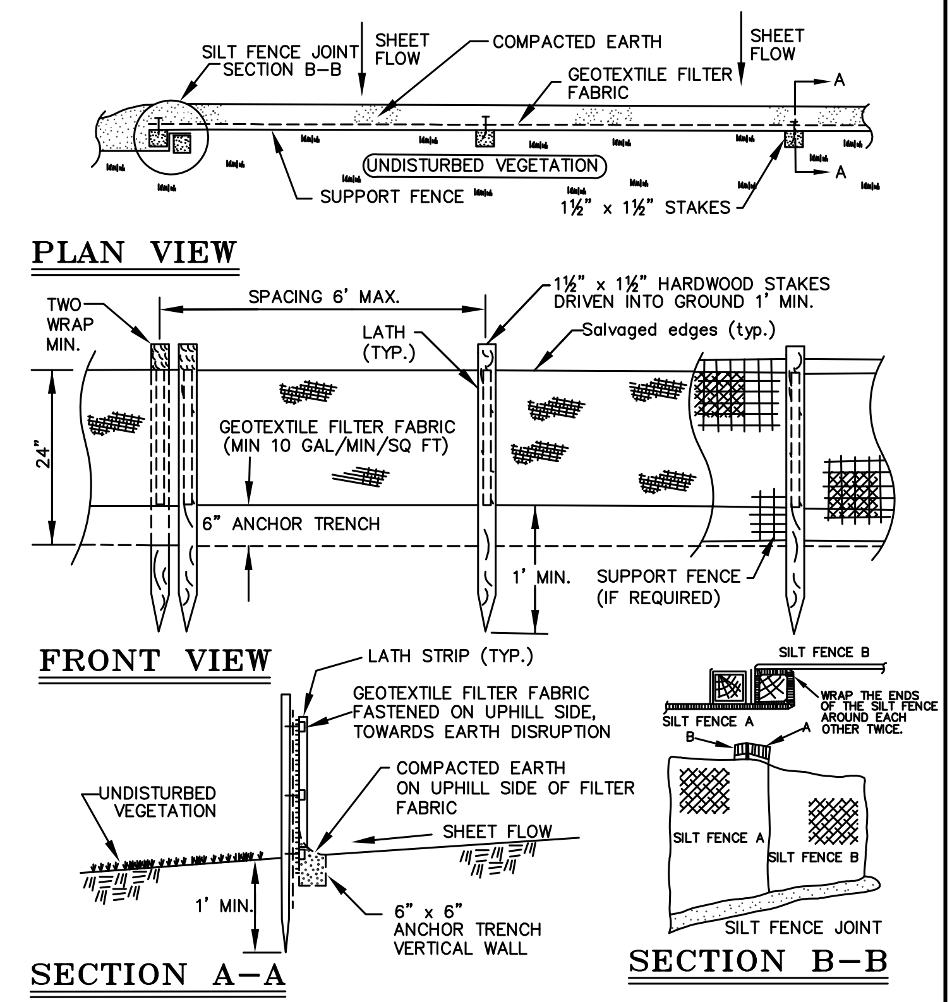
LENGTH OF BUFFER ZONE = ?
% OF SLOPE OF BUFFER ZONE = 5%
WHAT IS THE ACCEPTABLE LENGTH OF THE BUFFER ZONE?

PLOT IN GRAPH BELOW
BUFFER ZONE IS ACCEPTABLE AT 65'



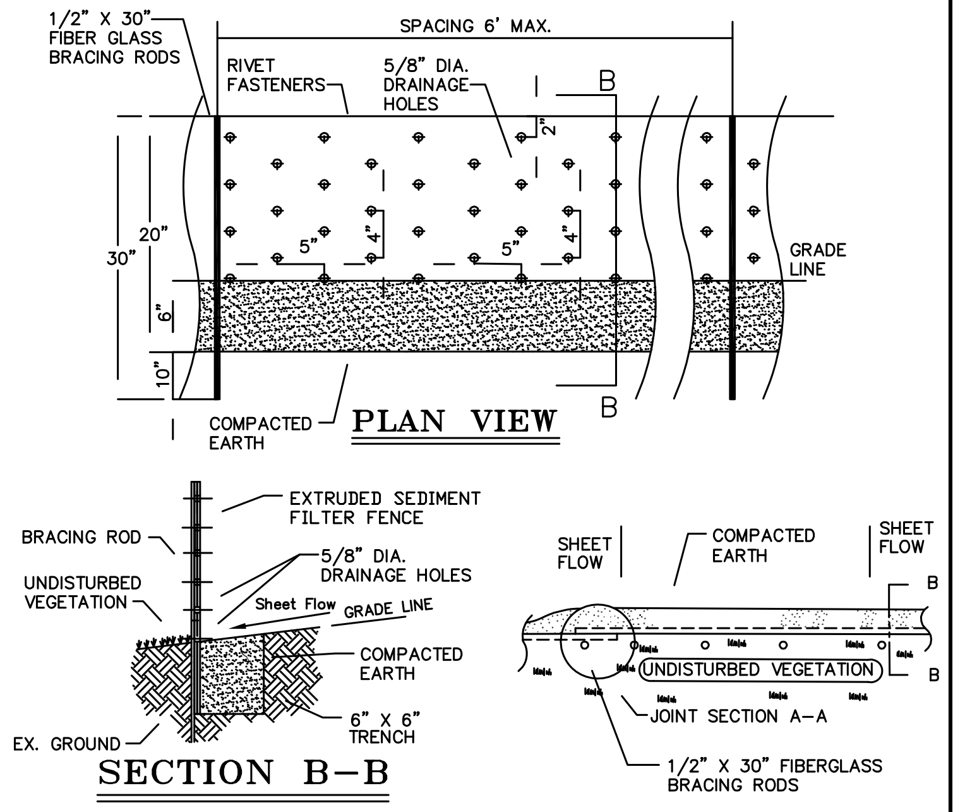
SILT FENCE (SP-2)

(MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)

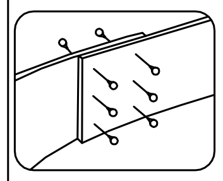


SILT FENCE ALTERNATIVE "A" (SP-2A)

(MATERIAL: SILT SHIELD OR APPROVED EQUIVALENT)



2% GRADE MAXIMUM SLOPE

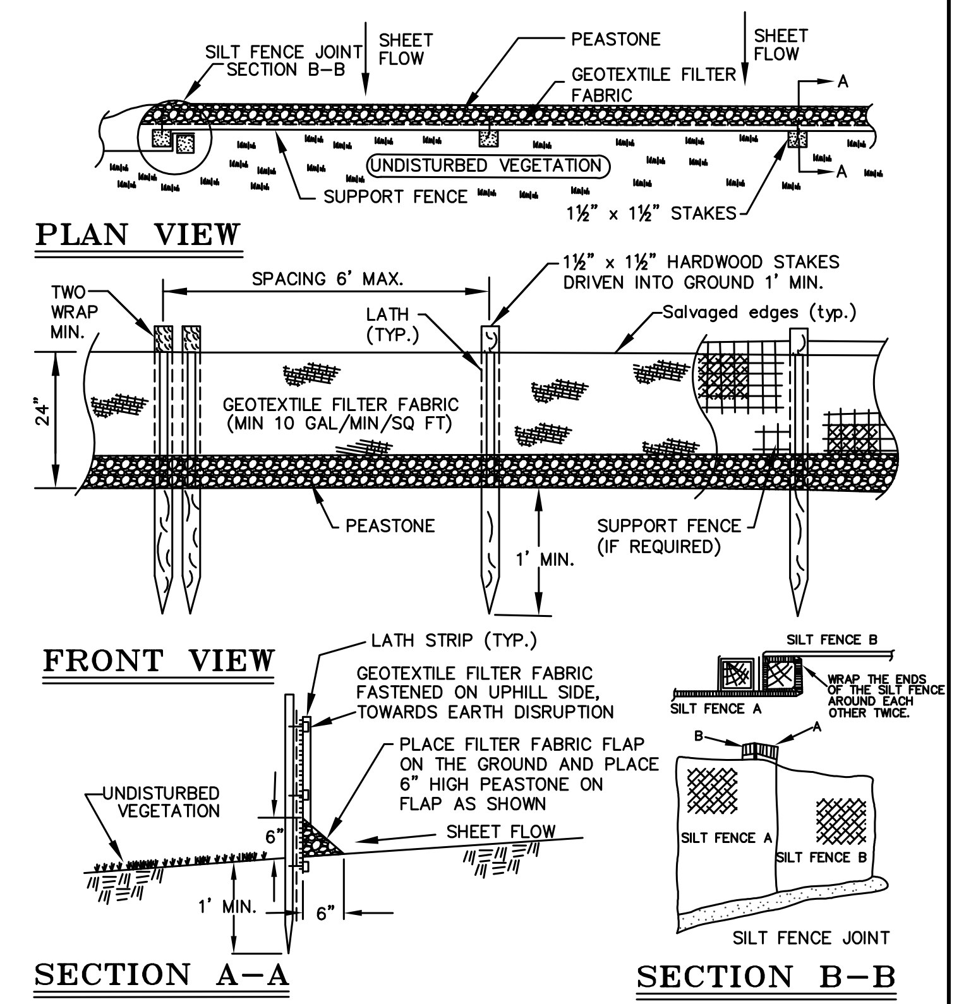


Splicing Procedure:
Splicing EXTRUDED SEDIMENT FILTER FENCE is achieved beginning with an overlap of a min. of 8" of the EXTRUDED SEDIMENT FILTER FENCE ends secured with six of our plastic retchet rivet push-in fasteners. Locate three, evenly spaced, vertically, at least 2" from each edge of the splice.

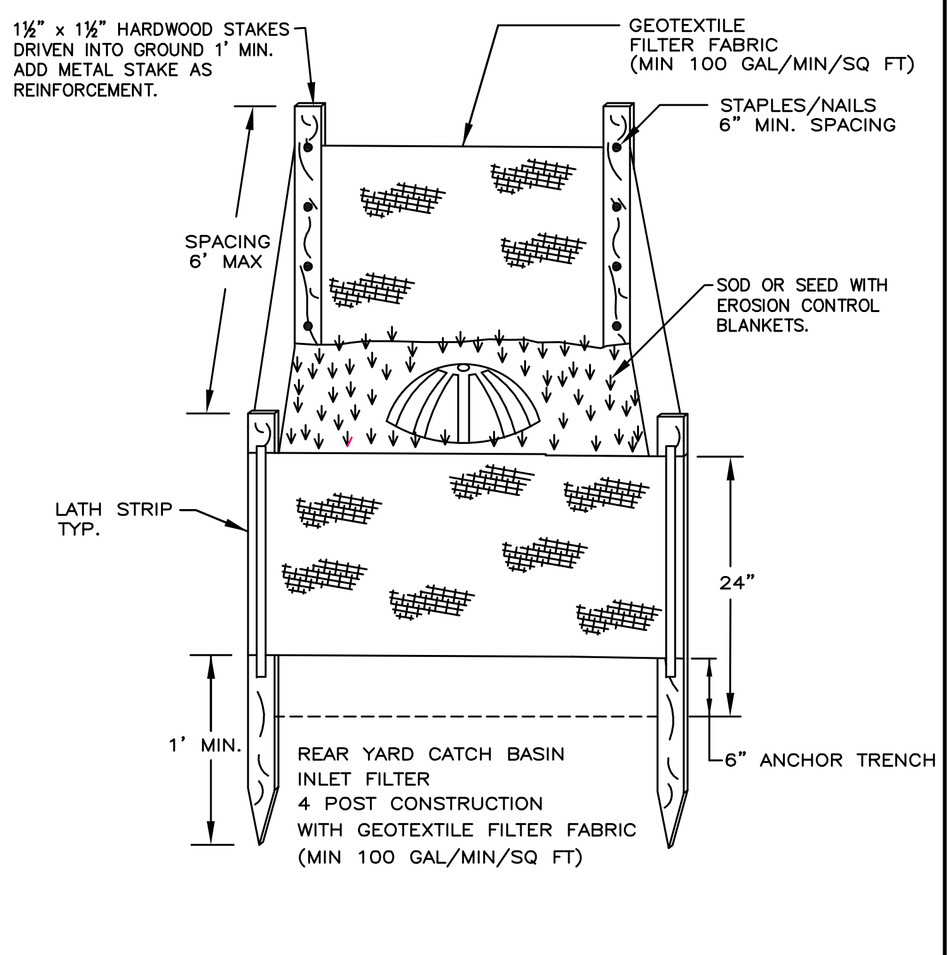
Optional Heat Splicing:
Overlap a minimum of eight inches. Melt a thin layer of EXTRUDED SEDIMENT FILTER FENCE with torch from top to bottom. Immediately press both layers together for a minimum of 5 second. Check for total lamination from top to bottom of material. (Do not apply heat to filter)

WINTER/FROZEN GROUND SILT FENCE (SP-2W)

(MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)

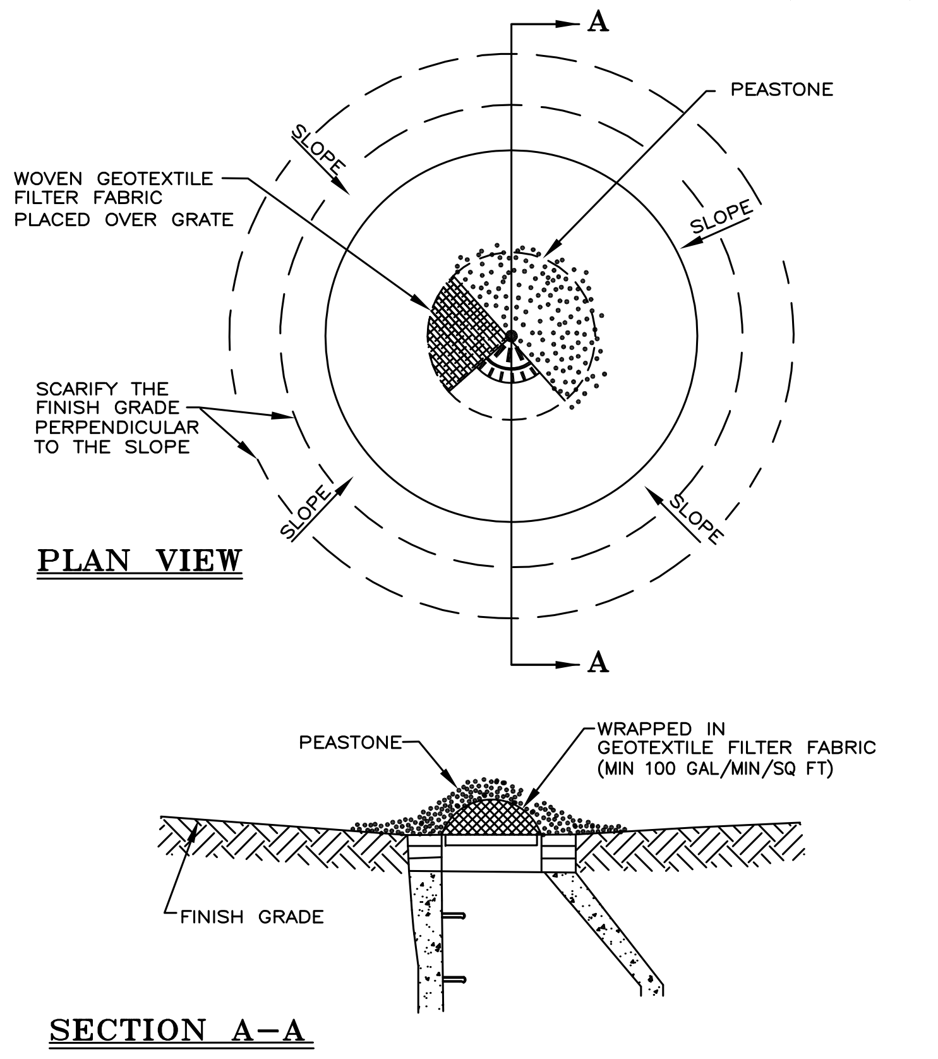


RYCB INLET FILTER (SI-3)



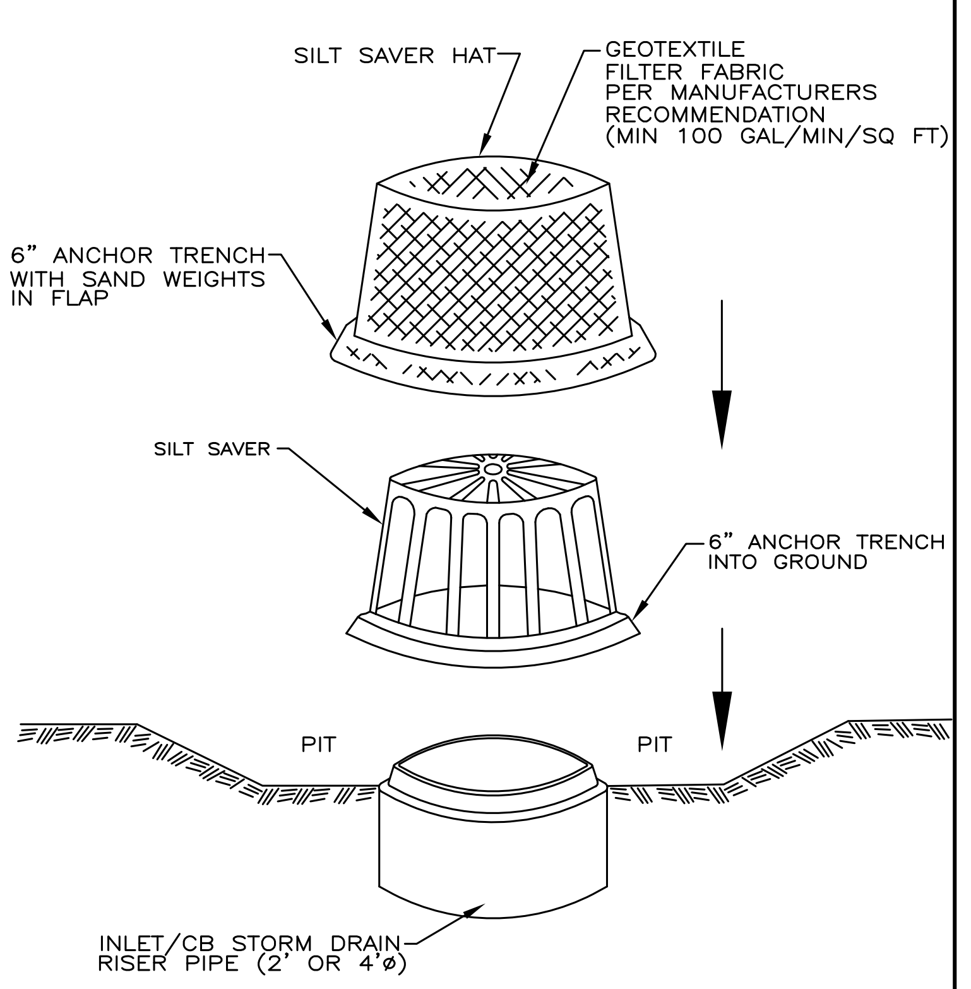
NOTE: MATERIAL IS NOT SILT FENCE MATERIAL

RYCB INLET FILTER ALTERNATIVE "A" (SI-3A)



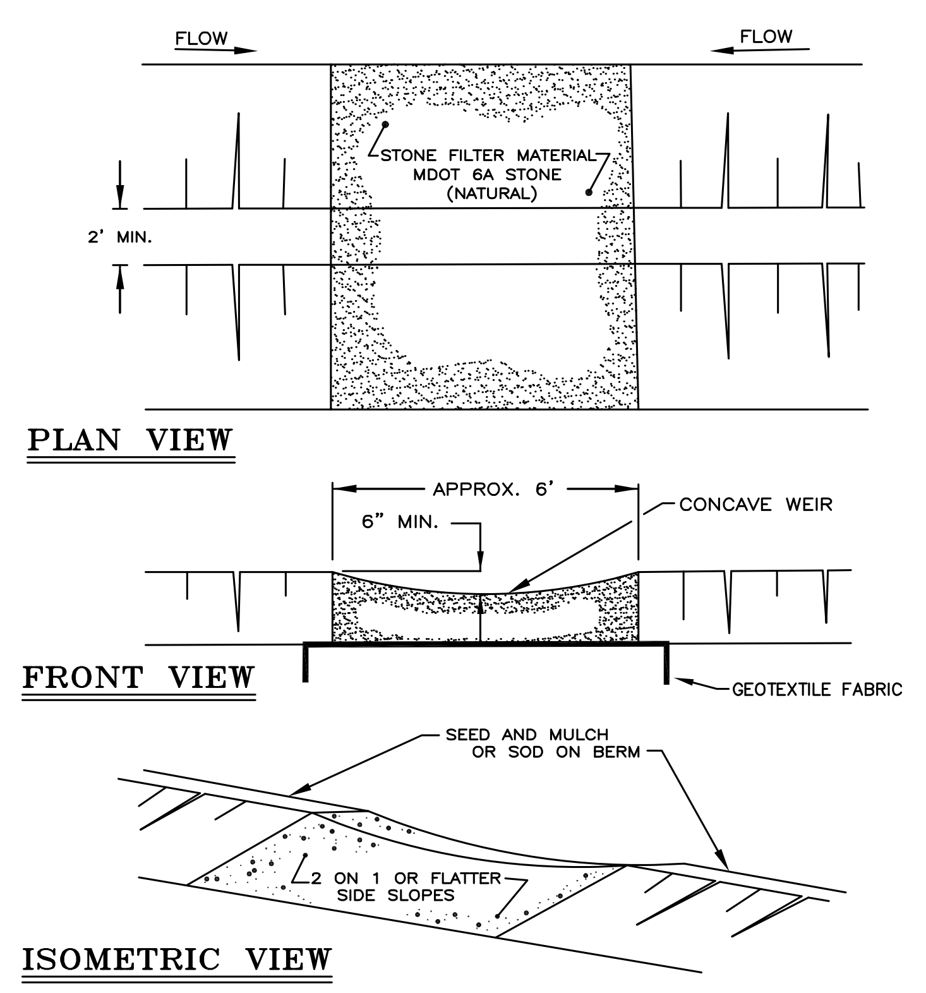
RYCB INLET FILTER ALTERNATIVE "B" (SI-3B)

MATERIAL: SILT SAVER OR APPROVED ALTERNATIVE



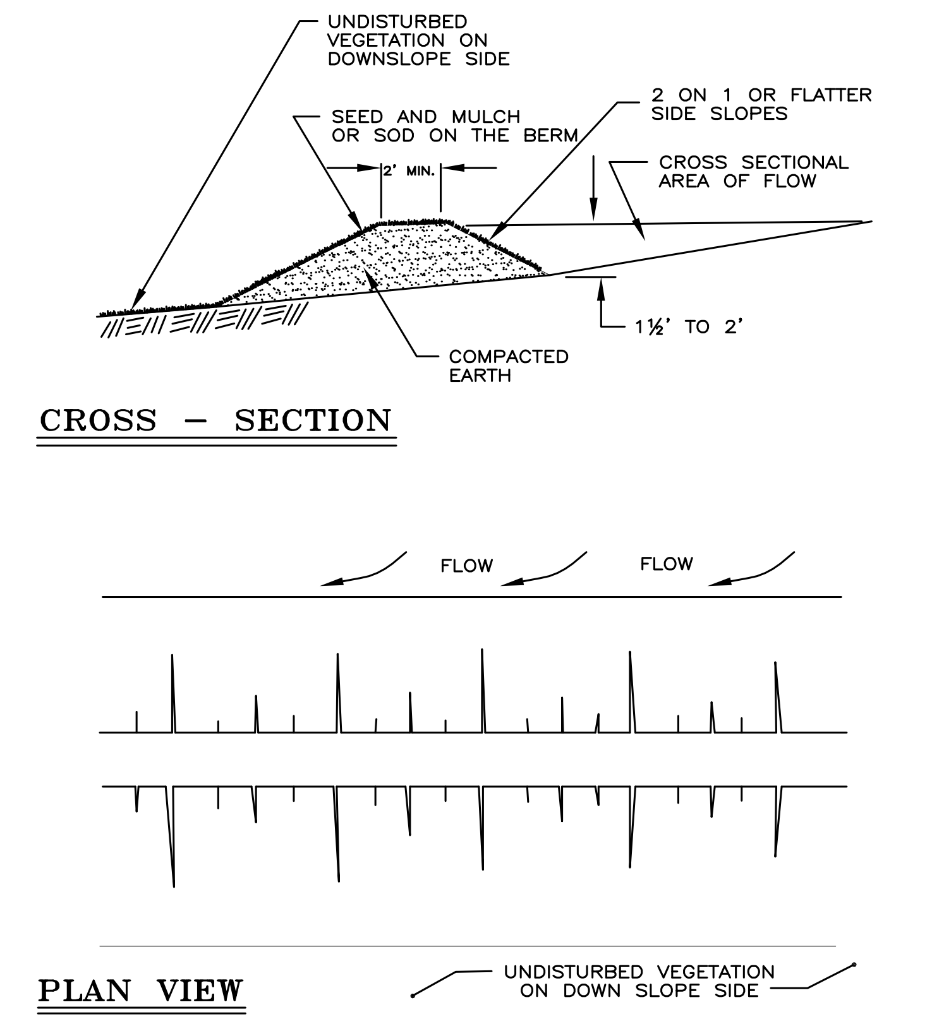
(NOTE: NO PIT REQUIRED WHEN FRAME AND COVER OR GRATE AND COVER ARE IN PLACE.)

EARTH DIVERSION BERM WITH STONE OUTLET FILTER (SP-4)

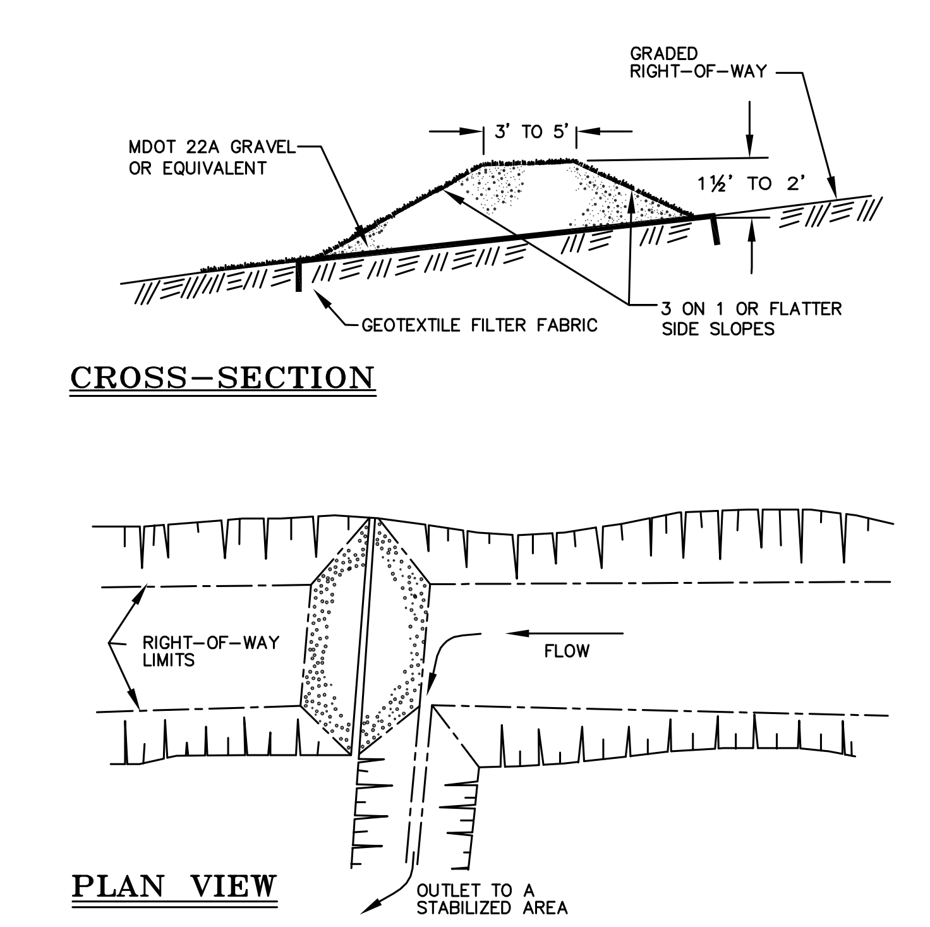


-PLACE GEOTEXTILE FABRIC UNDER STONE WITH 6 INCH MIN. OVERLAP AND TRENCHED IN 6 INCH MIN.

EARTH DIVERSION BERM (E-2)



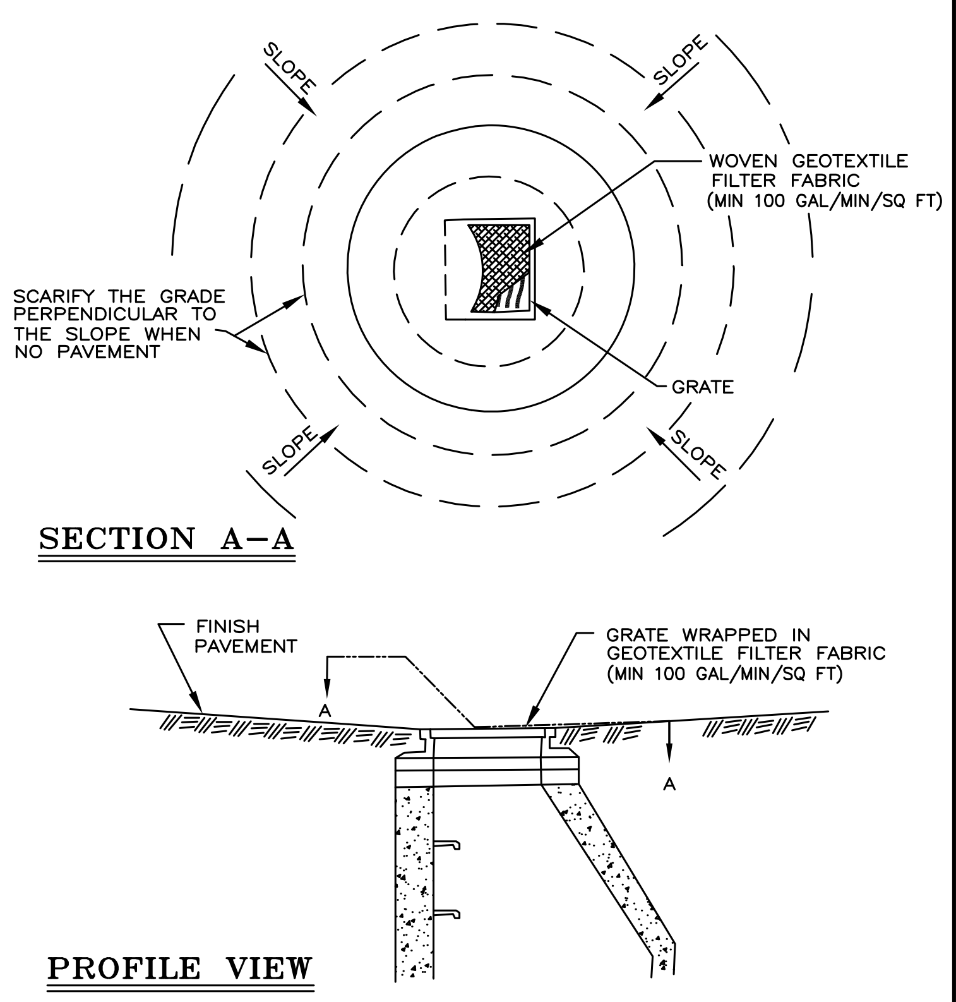
GRAVEL INTERCEPTOR DIKE (SP-6)



-PLACE GEOTEXTILE FABRIC UNDER STONE WITH 6 INCH MIN. OVERLAP AND TRENCHED IN 6 INCH MIN.
-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

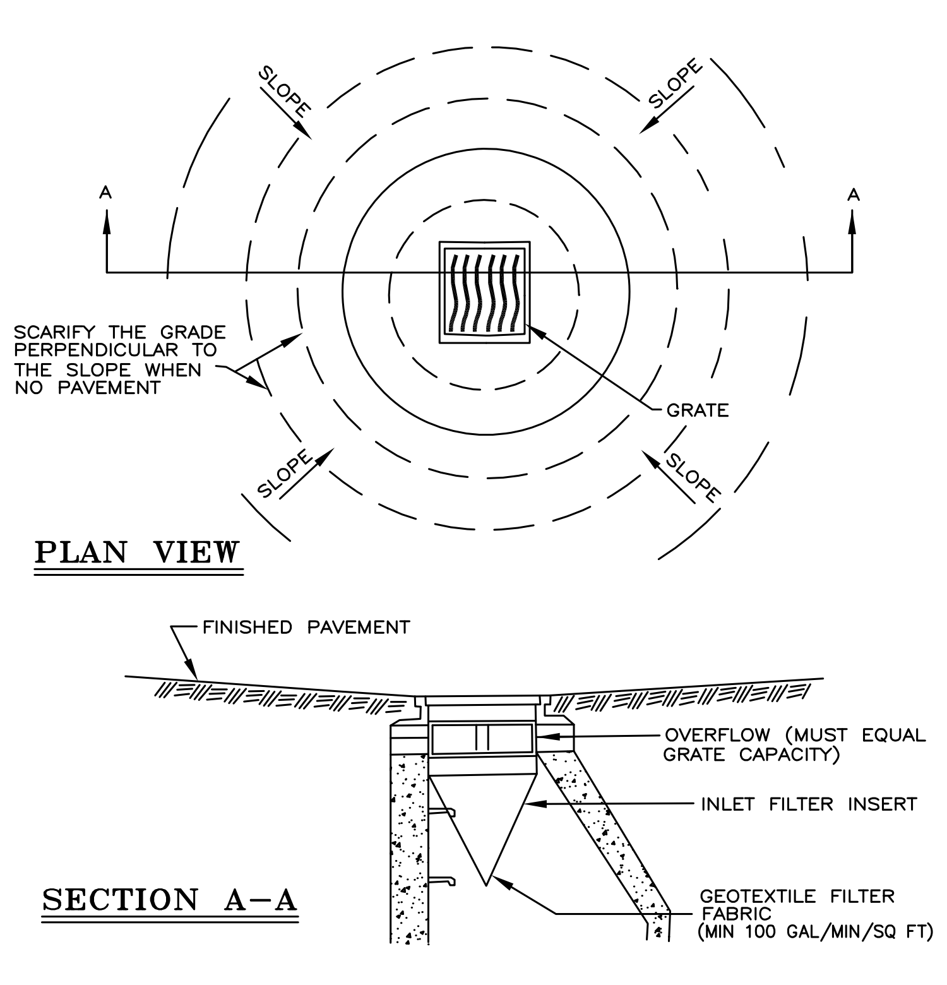
LOW POINT INLET FILTER (SI-2)

ALTERNATIVE INLET FILTER MUST BE USED IN AREAS THAT MAY BECOME A SAFETY HAZARD DUE TO FLOODING OR FREEZING.

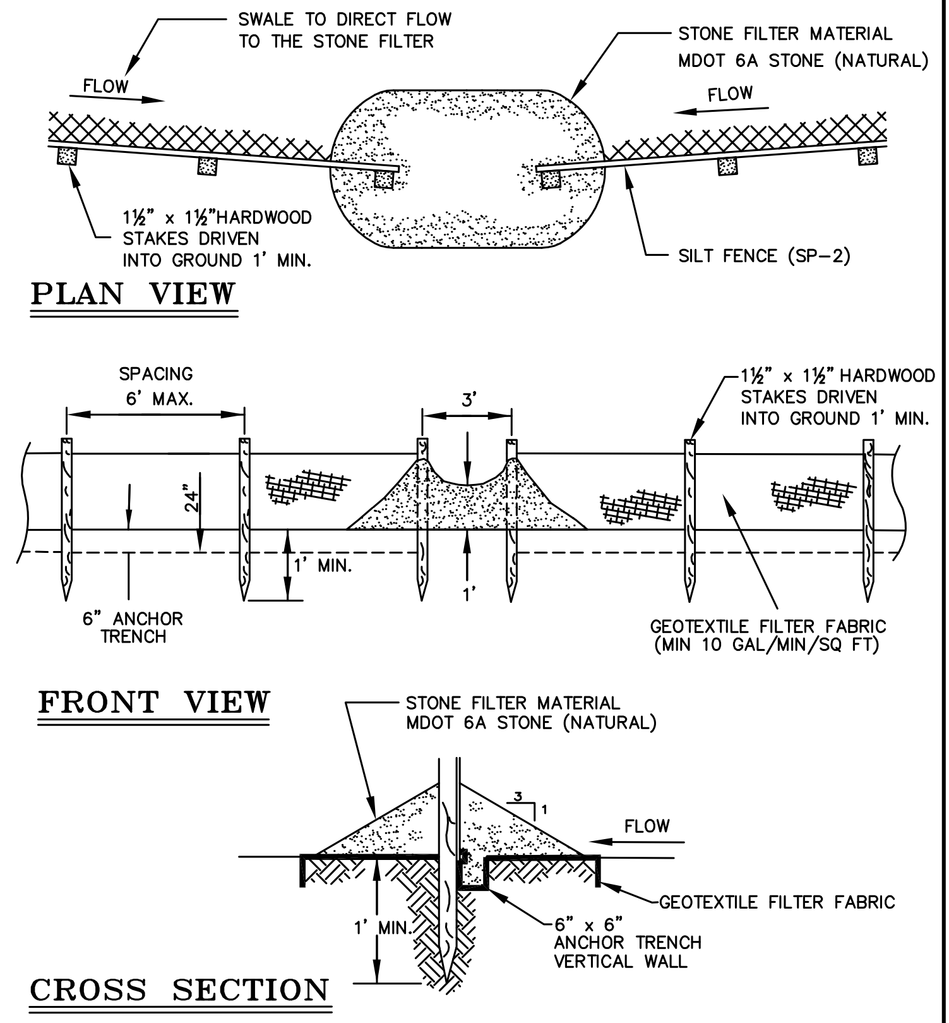


LOW POINT INLET FILTER ALT. "A" (SI-2A)

MATERIAL: CATCH-ALL, ULTRA-URBAN FILTERS, FLOGARD +PLUS OR APPROVED ALTERNATIVE

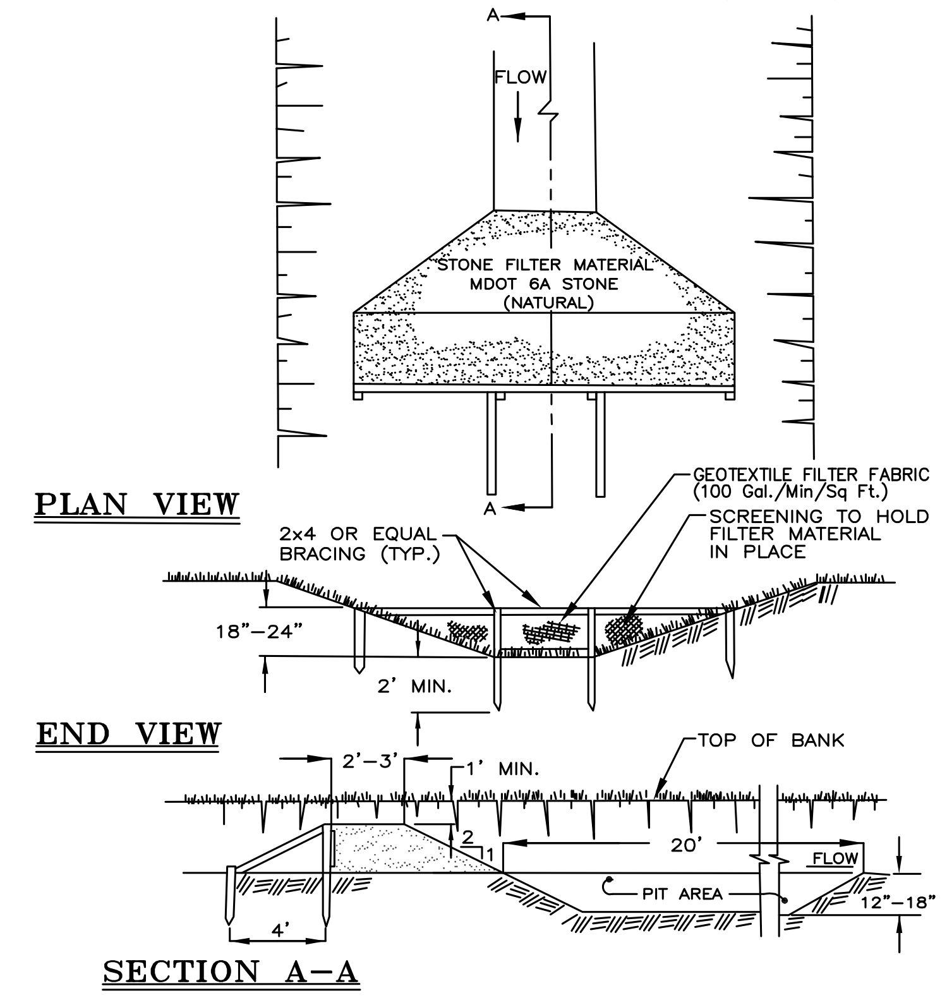


SILT FENCE GRAVEL FILTER (SP-3)



-PLACE GEOTEXTILE FABRIC UNDER STONE WITH 6 INCH MIN. OVERLAP AND TRENCHED IN 6 INCH MIN.

DITCH SEDIMENT TRAP (SO-4)

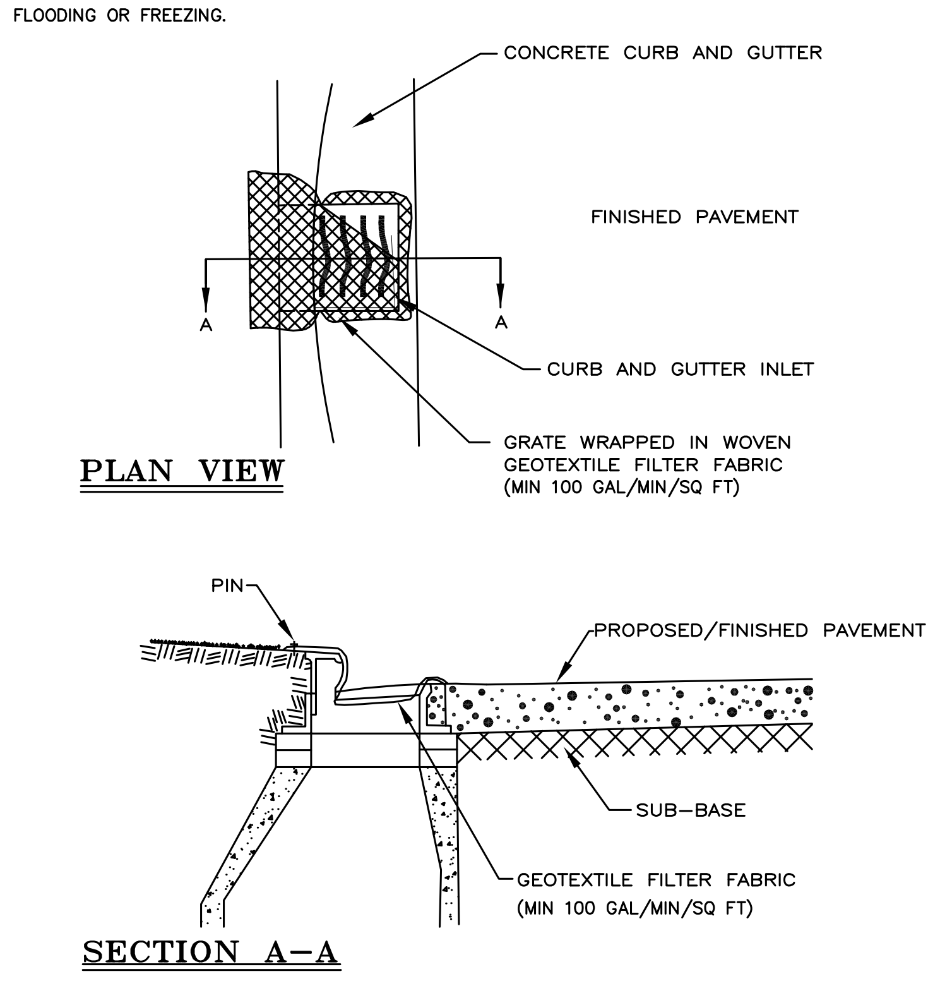


NOTE:
FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THE SHEET OR IN THE WRC SOIL EROSION MANUAL.

CURB AND GUTTER INLET FILTER (SI-4)

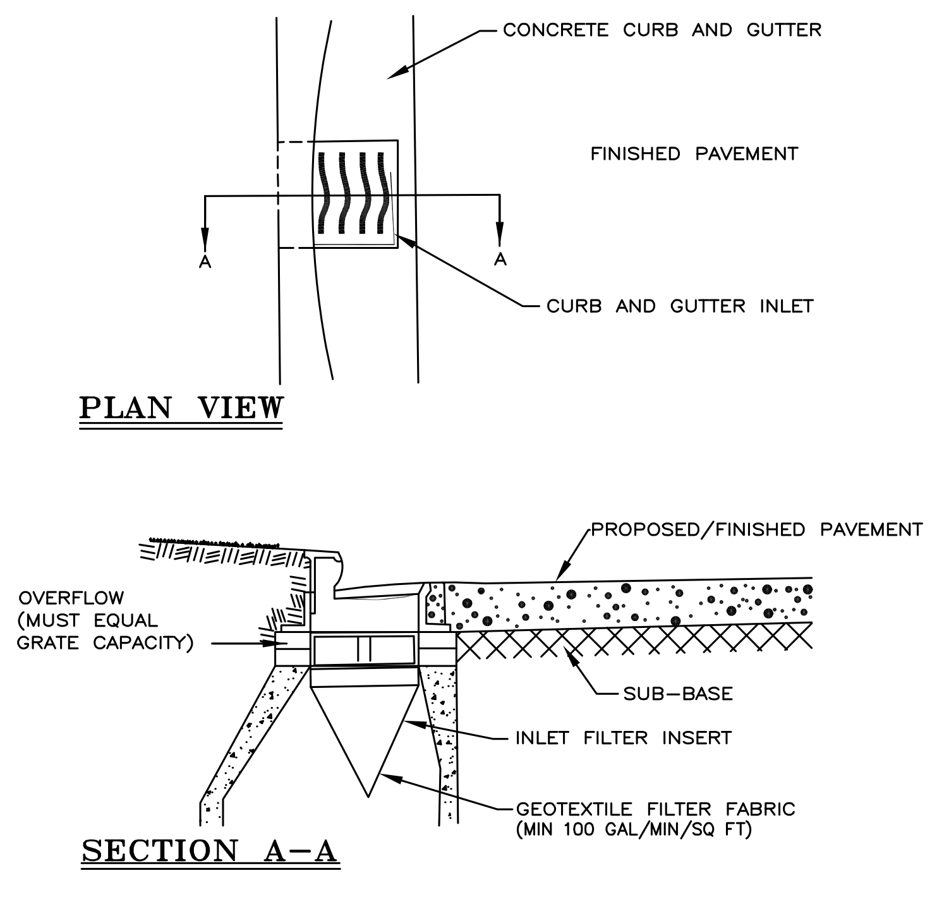
(BEFORE AND AFTER PAVING)

ALTERNATIVE INLET FILTER MUST BE USED IN AREAS THAT MAY BECOME A SAFETY HAZARD DUE TO FLOODING OR FREEZING.



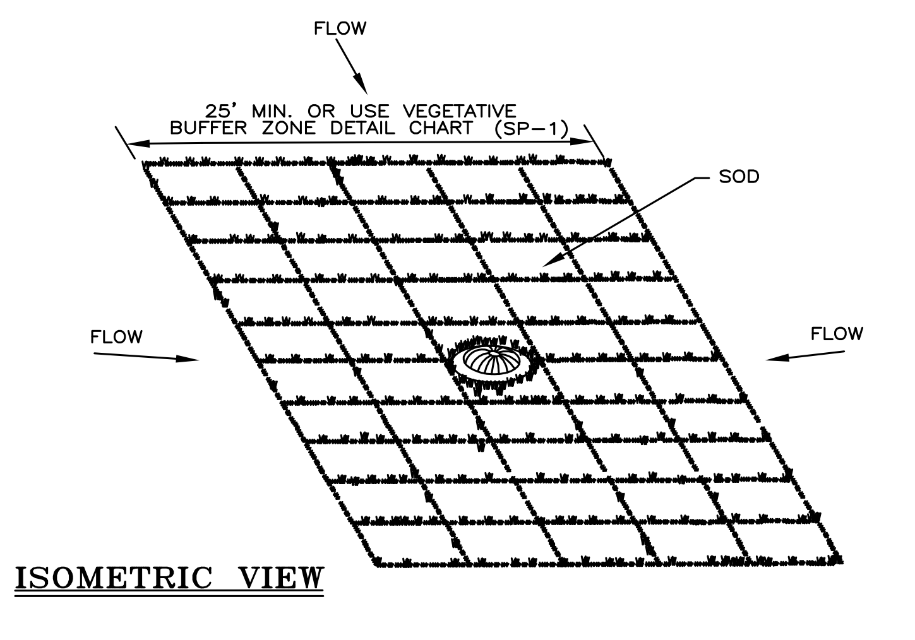
CURB AND GUTTER INLET FILTER ALTERNATIVE "A" (SI-4A)

(BEFORE AND AFTER PAVING)
MATERIAL: CATCH-ALL, ULTRA-URBAN FILTERS, FLOGARD +PLUS OR APPROVED ALTERNATIVE

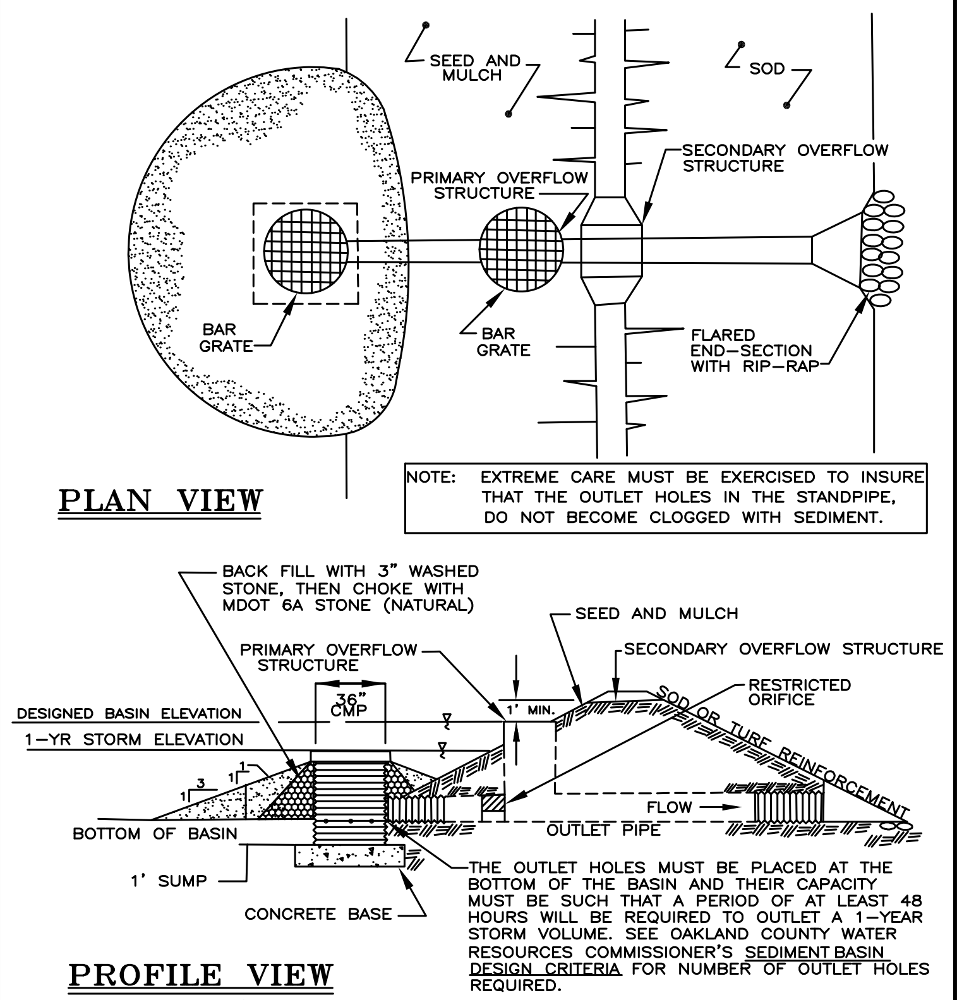


SOD INLET FILTER (SI-1)

DEFINITION	SOD INLET FILTERS ARE PADS OF SOD PLACED AROUND A STORM DRAIN INLET OR CATCH BASIN.
PURPOSE	SOD INLET FILTERS ARE INSTALLED TO SLOW THE FLOW OF WATER INTO AN INLET OR CATCH BASIN AND TO FILTER OUT SEDIMENT IN THE PROCESS.
WHERE APPLICABLE	SOD INLET FILTERS SHOULD ONLY BE USED TO HANDLE LIGHT CONCENTRATIONS OF SEDIMENT. THEY ARE BEST USED AFTER FINAL GRADING IS COMPLETE AND DURING THE ESTABLISHMENT OF A VEGETATIVE COVER.



TEMPORARY DETENTION BASIN OUTLET STONE FILTER (SO-2)

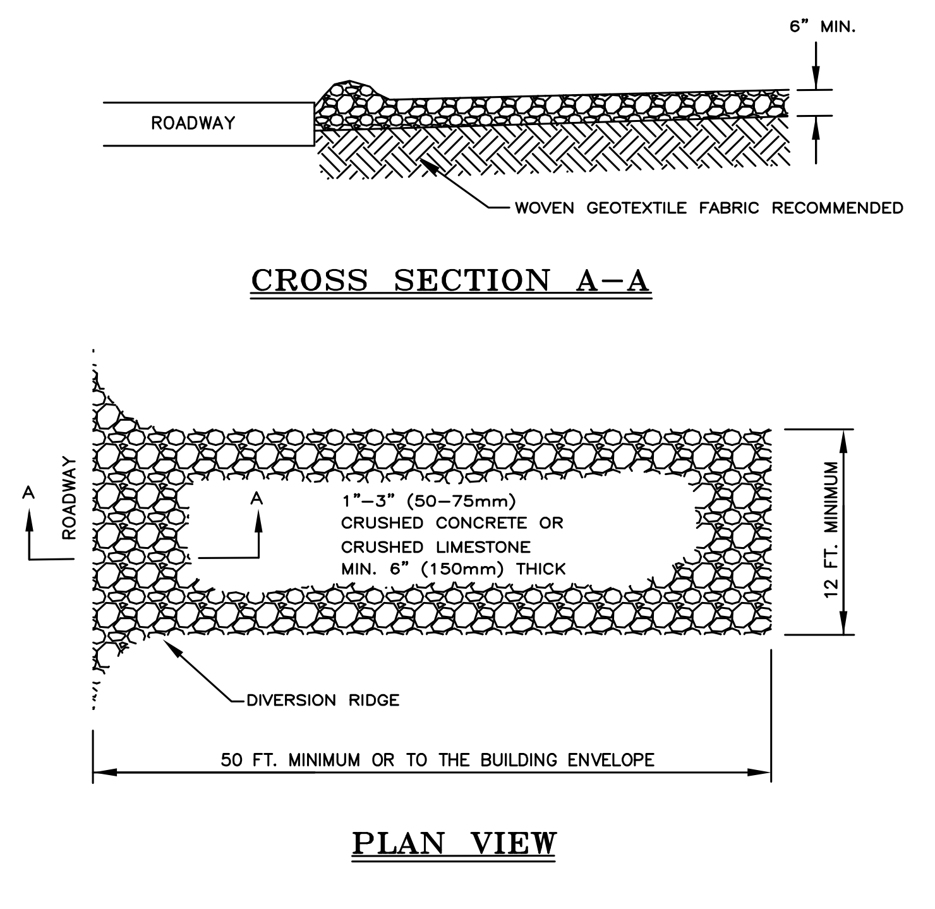


NOTE: EXTREME CARE MUST BE EXERCISED TO INSURE THAT THE OUTLET HOLES IN THE STANDPIPE, DO NOT BECOME CLOGGED WITH SEDIMENT.

THE OUTLET HOLES MUST BE PLACED AT THE BOTTOM OF THE BASIN AND THEIR CAPACITY MUST BE SUCH THAT A PERIOD OF AT LEAST 48 HOURS WILL BE REQUIRED TO OUTLET A 1-YEAR STORM VOLUME. SEE OAKLAND COUNTY WATER RESOURCES COMMISSIONER'S SEDIMENT BASIN DESIGN CRITERIA FOR NUMBER OF OUTLET HOLES REQUIRED.

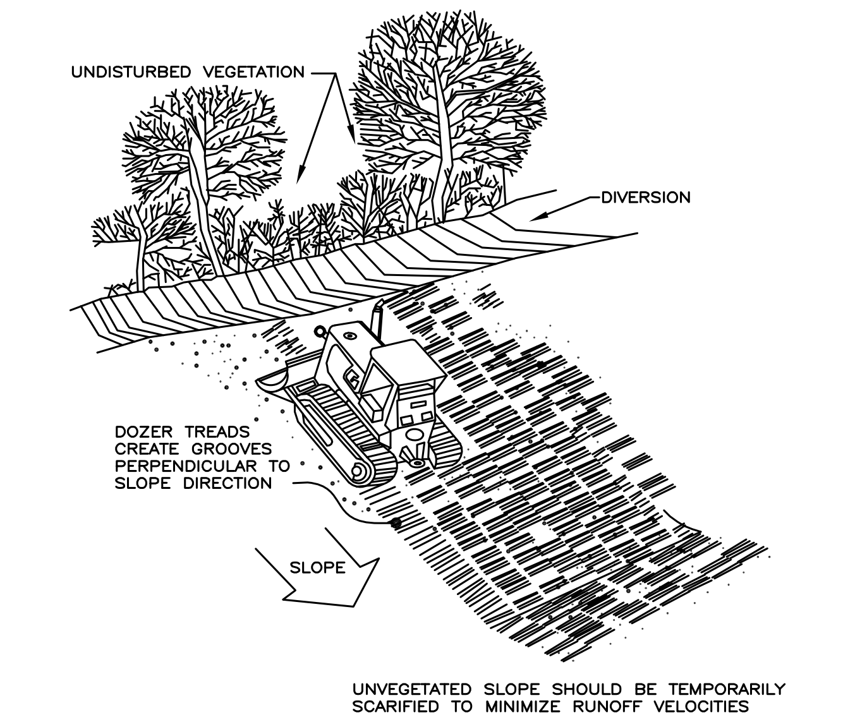
NOTE: NOT TO SCALE

TEMPORARY STONE ACCESS DRIVE (SP-9)



SURFACE ROUGHENING AND SCARIFICATION (E-8)

THIS IS AN EASY AND ECONOMICAL WAY TO REDUCE SOIL EROSION. IT IS SIMPLY THE PLACING OF HORIZONTAL GROOVES IN A SLOPE PERPENDICULAR TO THE FLOW OF RUNOFF. THIS CAN BE DONE BY EITHER DISC HARROWING, BACK BLADING OR JUST RUNNING THE TREADS OF A CRAWLER TRACTOR PERPENDICULAR TO THE SLOPE AS SHOWN BELOW.



UNVEGETATED SLOPE SHOULD BE TEMPORARILY SCARIFIED TO MINIMIZE RUNOFF VELOCITIES

NOTE:

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPS), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPS SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

Plotfile Name: GISQtrs.ctb
File Location: J:\Drain\Mapping Unit\Standard Details\AppProduction\Standard\STD-SErs1of1.dwg

SOIL EROSION
AND
SEDIMENTATION CONTROL
DETAILS

REVISION BLOCK
Data Source / Source Date: N/A

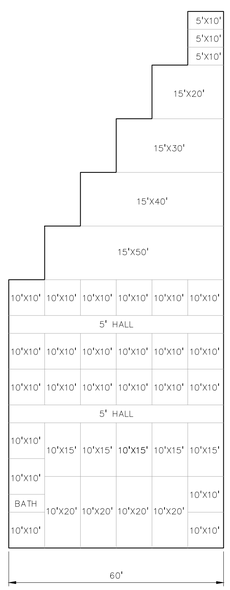
Rev. No.:	Rev. By:	Rev. Date:	Description:
1	lz	3-22-07	PROPOSED DETAIL EDITS
2	lz	2-26-09	STANDARDS COMMITTEE APPROVAL / NAME CHANGES
3	DS	3-25-11	SILT FENCE ALTERNATIVE "A" DETAIL (SP-2A) ADDED
4	DS	4-16-13	STANDARDS COMMITTEE APPROVAL / NOTE CHANGES

ORIG. DATE:	01/01/01
SCALE:	NONE
DESIGNED BY:	WRC
DRAWN BY:	Mapping

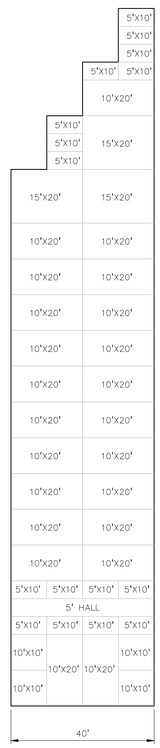
WRC
WATER RESOURCES COMMISSIONER
Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.: 1 of 1



BUILDING #1 FLOOR PLAN (6,750 SF)
SCALE : 1" = 20'

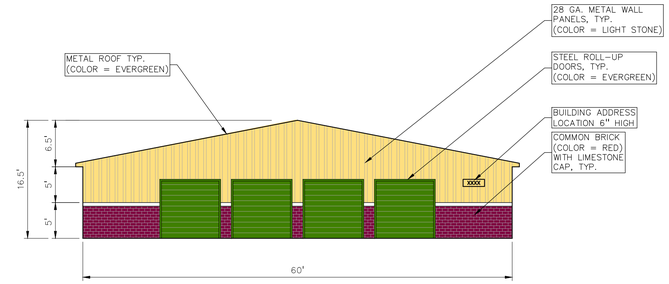


BUILDING #2 FLOOR PLAN (6,900 SF)
SCALE : 1" = 20'

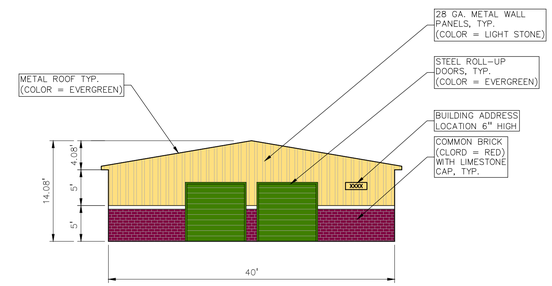
BUILDING #3 FLOOR PLAN (12,850 SF)
SCALE : 1" = 20'

BUILDING #1 – #3
UNIT TABLUATION

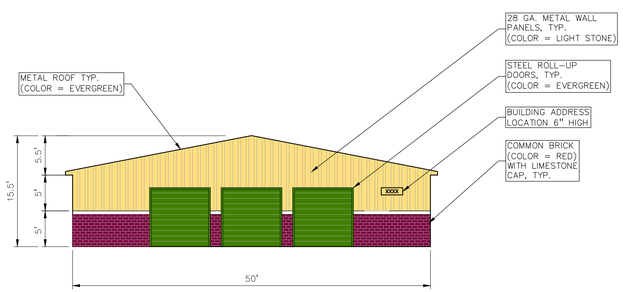
SIZE	UNITS	SQ. FT.
5'X10'	19	950
10'X10'	34	3400
10'X15'	5	750
10'X20'	52	10400
10'X30'	23	600
15'X20'	4	1200
15'X30'	1	450
15'X40'	1	600
15'X50'	1	750
BATH	1	50
TOTAL	120	19150



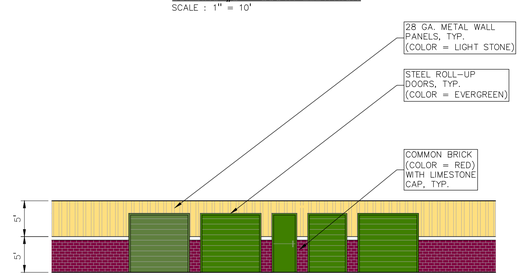
BUILDING #1 – SOUTH ELEVATION
SCALE : 1" = 10'



BUILDING #2 – SOUTH ELEVATION
SCALE : 1" = 10'



BUILDING #3 – SOUTH ELEVATION
SCALE : 1" = 10'



TYPICAL BUILDING EAST/WEST ELEVATIONS
SCALE : 1" = 10'

NOTES:

1. A MATERIAL SAMPLE BOARD SHALL BE PROVIDED FOR THE PLANNING COMMISSION REVIEW. STREET ADDRESS TO BE BUILDING MOUNTED.
2. SIX (6) INCH TALL NUMBERS SHALL BE BUILDING MOUNTED. ADDRESS LOCATIONS ARE SUBJECT TO THE APPROVAL OF THE FIRE MARSHAL.

Michael B. Grasser & Associates
2276 Garland Boulevard
Sylvan Lake, Michigan, USA 48320
Ph. 248-505-4744
e-mail bocesmg@msn.com
Landscape Architecture, Site Planning,
Architectural & Interior Layout and Design

NORTH

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

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO WARRANTIES IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT

GINKO INVESTMENT COMPANY, LLC
2276 GARLAND BOULEVARD
SYLVAN LAKE, MICHIGAN 48320

PROJECT TITLE

GINKO SELF STORAGE
WHITE LAKE TOWNSHIP, MICHIGAN

REVISIONS

PER AGENCIES COMMENTS	05/30/23
PER AGENCIES COMMENTS	06/29/23
PER AGENCIES COMMENTS	10/20/23
UNIT LAYOUT CHANGE	11/18/24
FINAL SITE PLAN	08/11/26

ORIGINAL ISSUE DATE:
DECEMBER 15, 2022

DRAWING TITLE

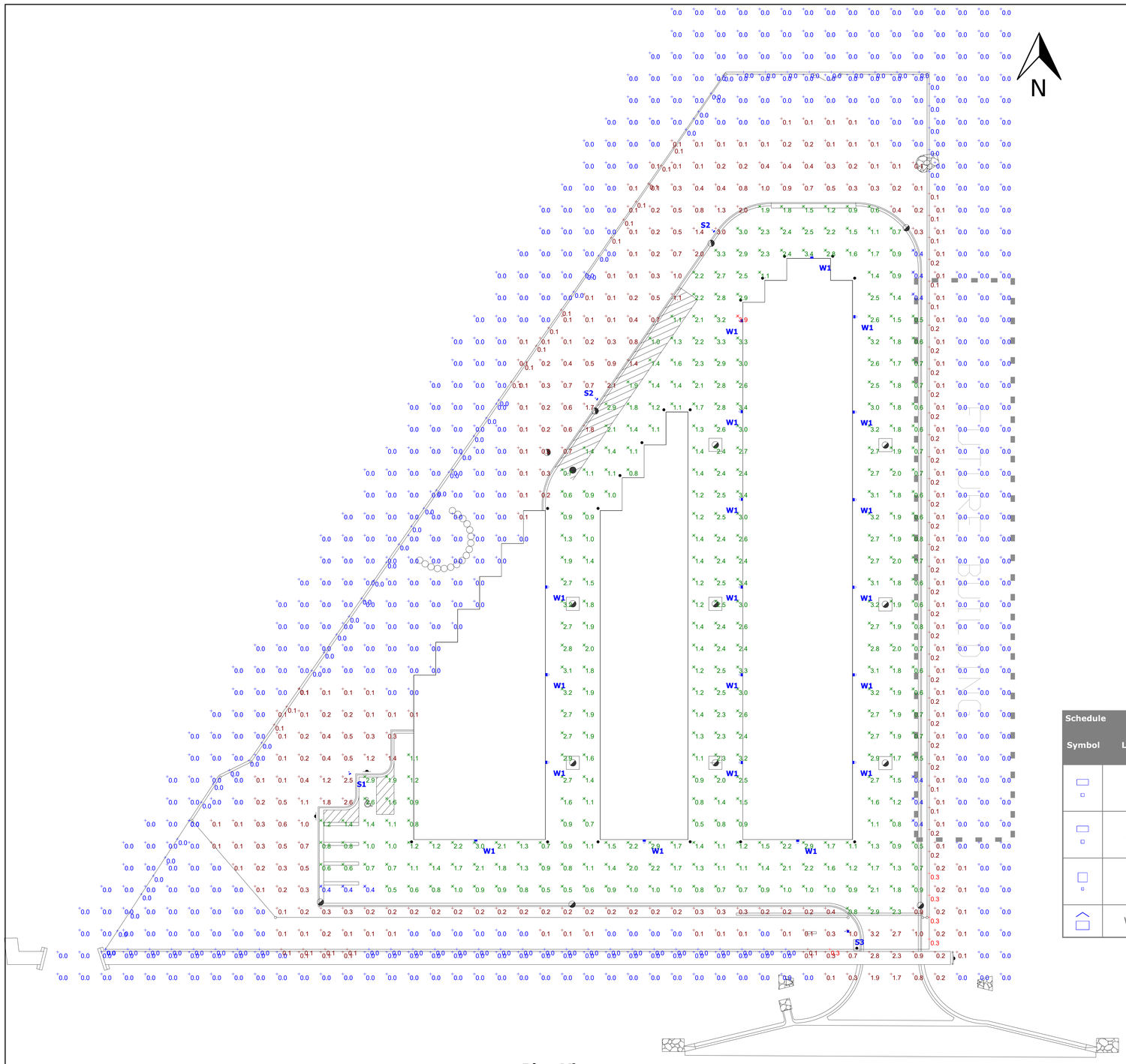
FLOOR PLAN AND BUILDING ELEVATIONS

PEA JOB NO.	2002-248A
P.M.	JPB
DN.	SS
DES.	SS

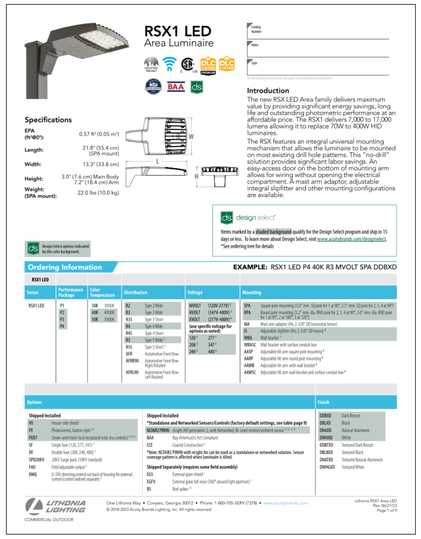
DRAWING NUMBER:

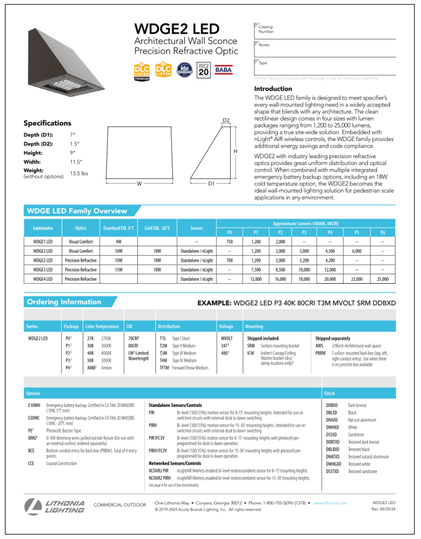
A-1.0

S:\PROJECTS\2002\2002248A\DWG\CONSTRUCTION-2026\(A-1.0)AROH-20022485A.dwg



Plan View
Scale - 1" = 20ft



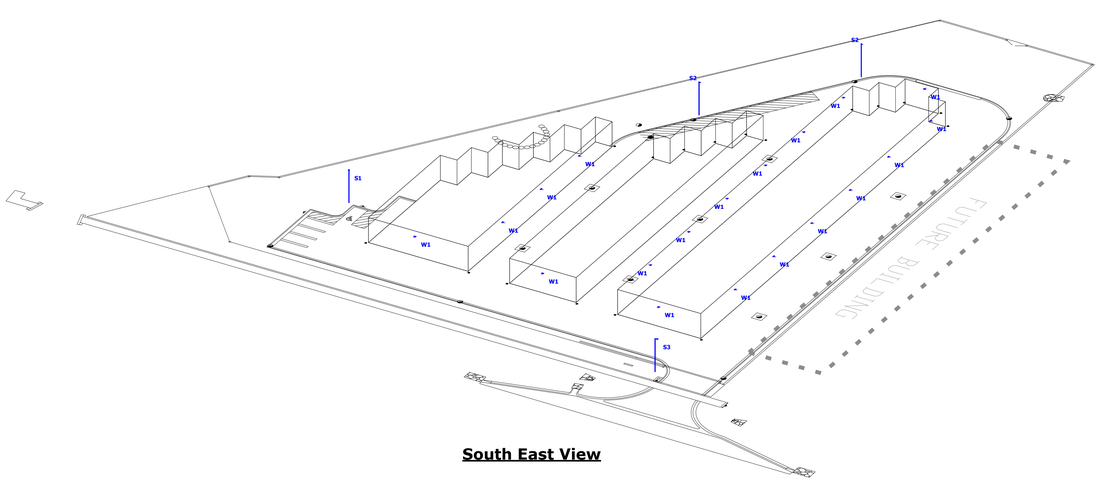


Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Drive Lanes & Parking	✳	1.7 fc	3.9 fc	0.4 fc	9.8:1	4.3:1
Overall	+	0.6 fc	3.9 fc	0.0 fc	N/A	N/A
Property Line	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	LLF	Wattage	Mounting Height
	S1	1	Lithonia Lighting	RSX1 LED P1 40K R4	RSX Area Fixture Size 1 P1 Lumen Package 4000K CCT Type R4 Distribution	7189	0.9	51.34	20'0"
	S2	2	Lithonia Lighting	RSX1 LED P1 40K R3	RSX Area Fixture Size 1 P1 Lumen Package 4000K CCT Type R3 Distribution	7096	0.9	51.34	20'0"
	S3	1	Lithonia Lighting	RSX1 LED P1 40K R3S HS	RSX LED Area Luminaire Size 1 P1 Lumen Package 4000K CCT Type R3S Distribution with HS shield	5102	0.9	51.34	20'0"
	W1	19	Lithonia Lighting	WDGE2 LED 40K 80CRI	WDGE2 LED PERFORMANCE PACKAGE, 4000K, 80CRI	3629	0.9	32.1375	12'0"



South East View

Note

All site lighting will be stationary and will not flicker, flash, or oscillate.

General Note
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2019. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

Alternates Note
THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

Ordering Note
FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

Drawing Note
THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

Mounting Height Note
MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

GINKO SELF STORAGE
PHOTOMETRIC LAYOUT
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
KS
Date
08/06/2026
Scale
Not to Scale
Drawing No.
#24-29620_V3

CHARTER TOWNSHIP OF WHITE LAKE

SITE PLAN REVIEW APPLICATION

Community Development Department, 7525 Highland Road, White Lake, Michigan 48383
(248) 698-3300 x5

APPLICANT AND PROPERTY INFORMATION

Applicant: Ginko Investment Company, LLC (Michael Grasser)

Phone: 248-505-4744 Email Address: boccemg@icloud.com

Address: 2276 Garland Avenue (Street) Sylvan Lake (City) Michigan (State) 48320 (Zip)

Applicant's Legal Interest in Property: Developer

Property Owner: Ginko Investment Company, LLC Phone: 248-505-4744

Address: 2438 North Rochester Road (Street) Oakland Twp. (City) Michigan (State) 48363 (Zip)

PROJECT INFORMATION

Project Name: Ginko Self Storage Parcel I.D. No.: 12-01-127-004

Proposed Use: Self Storage Current Zoning: LM

Existing Use: Vacant Parcel Size: 2.14 Acres Floor Area / No. of Units 26,500

TYPE OF DEVELOPMENT

- [ ] Subdivision
- [ ] Site Condominium
- [x] Commercial
- [ ] Multiple Family
- [x] Special Land Use
- [ ] Industrial
- [ ] Adult Entertainment

SITE PLAN SUBMITTAL CHECKLIST

- [ ] PDF File **and** One Paper Copy (sealed and no larger than 24x36)
- [ ] Application Review Fees (to be calculated by the Community Development Department)

*** PLANS WILL NOT BE ACCEPTED UNLESS FOLDED ***

REQUIRED SIGNATURES

(Signature of Property Owner) 8/3/2026 (Date)

(Signature of Applicant) 8/3/2026 (Date)

SIGNATURES TO BE VERIFIED BY THE TOWNSHIP

This checklist, based on the Engineering Design Standards, is provided to the design engineer for reference during plan preparation.

CHARTER TOWNSHIP OF WHITE LAKE
Engineering Design Standards
Preliminary Plan Checklist

Project Name Ginko Self Storage Location

WLT File No. _____ J&A File No. _____ Date of Plans reviewed

Review by Johnson & Anderson, Inc. By _____ Date _____

Deficient	Acceptable	Authority	Item
			GENERAL
	✓	A.1.	Sealed by Licensed Michigan Design Professional
	✓	2.	Sheet size 24" x 36"
	✓		Scale 1" =50' or better
	✓	3.	Elevations on USGS Datum, no assumed datum Bench mark(s) shown
	✓	4.	Existing and proposed storm sewers, sanitary sewers and watermains shown. Proposed easements by note. Proposed pipe diameters and lengths.
	✓	5.	Adequate dimensioning of drives, parking, utilities
	✓	6.	Streets per RCOC, or Pvt. Road Ordinance
	✓	7.	General indication of proposed grading
			GRADING/PAVING
	✓	B.2.	Enough control elevations shown to verify: Max/Min. Grades Grass Areas
	✓		Max/Min. Grades Asphalt Areas
	✓		Max/Min. Grades Concrete Areas
		7.	Fill or structure in flood plain or wetland? Show limits.
		8.	Road centerline radii if streets are shown (min 230' per RCOC)
			STORM DRAINAGE
		C.1.a.	Easement for drainage across other's property
		f.	10' separation from buildings
	✓	i.	Provide treatment to eliminate sedimentation into wetland or natural drainage course
	✓	j.	Minimum pipe size 8" (PVC), 12" if public
			Show preliminary pipe size
			DETENTION/RETENTION BASINS
		C.4.b.	Maximum release rate generally 0.2 Cfs per acre
	✓	c.	Detention by OCDC method unless MDOT jurisdiction, preliminary calculations shown
	✓	g.	Side slopes max 1 on 3 with fence 1 on 6 unfenced 8', gate required if fenced
		j.	Proper SO-2 Outlet noted
		k.	12' Access Easements noted
		m.	Basin volume calculated above exist or proposed water level
		n.	No outlet retention basin V= 33,000AC (2-100 yr storms) provide SCS soil type
	✓	o.	No retention in parking areas
	✓	l.	Limits of detention show
	✓	s.	Maximum depth of parking lot detention 9"

Deficient	Acceptable	Authority	Item
			LEACHING BASINS
	✓	5.a.	Demonstrate that no other storm outlet is available
	✓	b.	Adequate soils exist in area, show SCS soil type
	✓	c.	Drainage area to each basin is acceptable
			WATERMAIN
		2.	Watermains to be on north and east side of street
		6.	No dead ends longer than 600 feet
		8.	Easements noted, 20 feet wide, 60 feet wide in private roads.
		9.	Designed to deliver 1000 GPM at 20 psi residual pressure per hydrant
		11.	Domestic services may tap into fire line with separate shut offs within easement
		14.	Gate valve with hydrant or blow off at dead end lines
		15.	Extend WM across frontage. Use master plan size if larger than 8".
		17.	Min. diameter for public WM - 8"
		21.	Hydrant spacing 500 feet along roads and streets in residential areas, 300' comm areas
		22.	Hydrant spacing around commercial buildings and manufacturing establishments variable determined on case by case basis and per Fire Department
		23.	Double hydrant coverage in high density residential developments
		24.	Hydrants to be at least 50 feet from buildings or trash enclosures
		25.	Hydrants located at street intersections where practical.
		27.	Hydrants and valves readily accessible.
		30.	WM to circle cul-de-sac to last lot w/hydrant in island.
		31.	10' separation from buildings or structures required.
			SANITARY SEWER
		E.1.	Min depth below road 8', min cover 4'
		5.	Sanitary sewers to be on south and west side of street
		7.	20' wide easements required
		8.	Min dia. for HL 6". Max length 150'
		10.	Sewers serving multiple buildings 8" dia. min. If buildings are on more than 1 property sewer must be public
		11.	10' separation from buildings or structures required
		14.	1000 gal grease trap required for food service uses or as required by OCDC
		15.	No ground water or surface water connections to sanitary sewer
		16.	Sanitary sewer extended across frontage. Use master plan size if larger than 8"
		20.	Show pipe size
			Sampling manhole provided commercial/industrial uses

Ginko Investments, LLC (Michael Grasser) Parcel I.D. No.: 12-01-127-004

Supplement to White Lake Township Special Land Use Application

Per Section 6.10A GENERAL STANDARDS FOR ALL SPECIAL LAND USES - GENERAL REQUIREMENTS

i. **The proposed special land use shall be of such location, size, and character that it will be in harmony with the appropriate and orderly development of the surrounding neighborhood and/ or vicinity and applicable regulations of the zoning district in which it is to be located.**

The proposed self-storage development developed with a series of single-story building that is approximately 15 feet in height. These buildings will be significantly lower than the maximum height 40 feet as permitted in the LM Zoning District. The proposed development is proposing the installation of additional landscaping along with westerly boundary of the development to reinforce the existing vegetative screen currently provided.

ii. **The proposed use shall be of a nature that will make vehicular and pedestrian traffic no more hazardous than is normal for the district involved, taking into consideration vehicular turning movements in relation to routes of traffic flow, proximity and relation to intersections, adequacy of sight distances, location and access of off-street parking and provisions for pedestrian traffic, with particular attention to minimizing child-vehicle interfacing.**

The buildings to be constructed are intended used for self-storage. Based upon the proposed use of the site as a self-storage facility, traffic generation is anticipated to be very minimal. If the parcel was developed per the permitted uses noted in the LM Zoning District, traffic generation would be significantly increased. Drive approach and traffic patterns are being designed to provide safe traffic flow.

The proposed use shall be designed as to the location, size, intensity, site layout and periods of operation of any such proposed use to eliminate any possible nuisance emanating therefrom which might be noxious to the occupants of any other nearby permitted uses, whether by reason of dust, noise, fumes, vibration, smoke, or lights.

The proposed use is a low impact type of development. The proposed use is a "clean" operation that does not produce noise, fumes, vibration, or smoke. The impacts, if any, are no greater than the uses otherwise allowed in the underlying zoning district. The additional landscape buffering and berms will further buffer the adjacent residential development from any adverse impacts.

iii. **The proposed use shall be such that the proposed location and height of buildings or structures and location, nature and height of walls, fences and landscaping will not interfere with or discourage the appropriate development and use of adjacent land and buildings or unreasonably affect their value.**

As stated in "I" above, the building height is lower than what is permitting in the LM Zoning District. Additional buffering, including a berm with landscaping along the westerly property line, will minimize any off-site impacts.

v. **The proposed use shall relate harmoniously with the physical and economic aspects of adjacent land uses as regards prevailing shopping habits, convenience of access by prospective patrons, continuity of development, and need for particular services and facilities in specific areas of the Township.**

The proposed development will not have direct impact on prevailing shopping habits. Based upon a review of the existing

vi. **The standards of density and required open spaces for the proposed special land use shall be at least equal to those required by this Ordinance in the Zoning District in which the proposed special land use is to be located.**

The amount of open space provided within the proposed development will equal to the requirement of the LM Zoning District.

vii. **The public services and facilities affected by a proposed special land use or activity shall be capable of accommodating increased service and facility loads caused by the land use or activity.**

The Property is not currently served by public sanitary sewer and water main. Police and fire protection services are convenient and available. The project will not in itself have any direct impact on the schools.

viii. **Protection of the natural environment and conservation of natural resources and energy.**

There will be no adverse impact on the quality of the natural environment or resources. The land is slightly sloped from the northeast corner to the southwest corner. The parcel does not contain any existing significant natural features.

ix. **The proposed use is necessary for the public convenience at the proposed location.**

The proposed use is conveniently located near businesses and residential uses.

x. **The proposed use is so designed, located, planned and to be operated that the public health, safety, and welfare will be protected.**

The proposed use has been designed to be operated to protect public health, safety and welfare.

xi. **The proposed use shall not cause substantial injury to the value of other property in the neighborhood in which it is to be located and will not be detrimental to existing and/or other permitted land uses in the zoning district.**

Based upon the site design and low impact use, the proposed development will not cause a reduction is value of other properties in the area and will not be detrimental to existing and/or other permitted uses in the zoning district.

PEA GROUP

1849 Pond Run
Auburn Hills, MI 48326

844.813.2949
peagroup.com

LETTER OF TRANSMITTAL

TO	DATE 8/3/26	PROJECT NO. 2002-248A
		PHASE 99
Community Development Dept. White Lake Charter Township 7525 Highland Road White Lake, Michigan 48383 Attention: Paige Myers	PROJECT NAME | DESCRIPTION Ginko Self Storage, White Lake, Michigan CLIENT REFERENCE NO. # 12-01-127-004	

WE ARE SENDING YOU THE FOLLOWING:					
			■ Attached	☐ Under separate cover via:	
■ Plans	☐ Reports	☐ Specifications	☐ Digital Media	☐ Other	

COPIES	DRAWING | LETTER | FORM REFERENCE NO.	DATE	DESCRIPTION
1			Final Site Plans
1			Application with Narrative
1			Thumb Drive

TRANSMITTED AS CHECKED BELOW:			
■ For Approval	☐ For Review and Comment	☐ Return	___ Corrected prints
☐ For Your Use	☐ For Release to Bidders	☐ Resubmit	___ Copies for approval
☐ As Requested		☐ Submit	___ Copies for distribution

REMARKS:

PREPARED BY: James P. Butler

COPY TO: