ADDENDUM #1

FOR

Village of Riverwoods

Federal Life Site Improvements

Date of Addendum: September 30, 2026
Date of Bid Opening: October 13, 2026 at 10:00 AM

General Questions/Clarification

1. Plan set have been added to the bidding package and is now available.

Encl.: 9770.016 Federal Life Site Improvement Plans

Bidders are asked to acknowledge receipt of Addendum #1 by email to csmith@gha-engineers.com

Also, include and note this addendum in your bid proposal.

PLAN HOLDER:
COMPANY NAME: _____

AUTHORIZED SIGNATURE: _____

DATE: _____

End of Addendum #1

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENTS - VILLAGE OF RIVERWOODS
3750 W DEERFIELD ROAD

SECTION 26 TOWNSHIP 43 NORTH RANGE 11 EAST
RIVERWOODS, ILLINOIS
LAKE COUNTY

DEVELOPER:

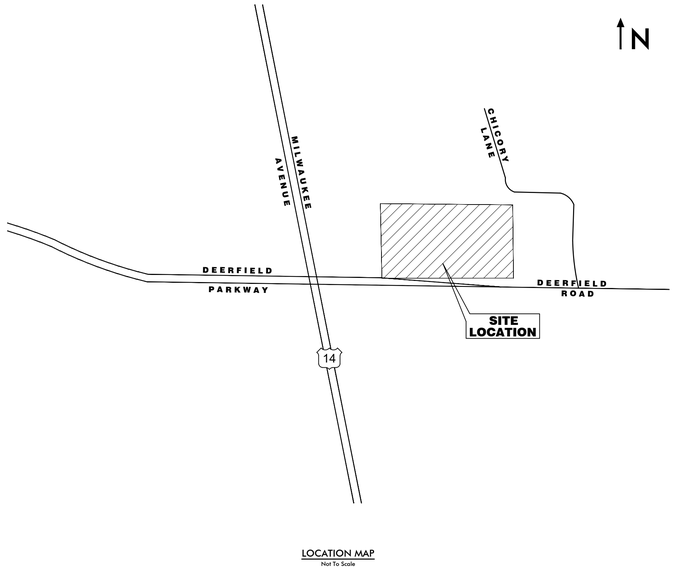
Village of Riverwoods
300 Portwine Road
Riverwoods, IL 60015
Tel: 847-945-3990
Fax: 847-945-4059

PREPARED BY:

Haeger Engineering LLC
Illinois Prof. Design Firm #184-003152
100 E. State Parkway
Schaumburg, IL 60173
Tel: 847-394-6600
Fax: 847-394-6608
www.haegerengineering.com

VILLAGE OF RIVERWOODS

300 Portwine Road
Riverwoods, IL 60015
Tel: 847-945-3990
Fax: 847-945-4059



LOCATION MAP
Not To Scale

Benchmark

County / Village Benchmarks

Benchmark 5-45BR
CP #4269
Description: Notch Top of Wall NW Corner Bridge
Elevation: 649.42 NAVD 88 (Geoid 12A)

RW 2
Description: Cross cut in east rim of valve vault at east side of east drive into Federal Life building, 3750 Deerfield Road
Elevation: 644.55 NGVD 29

Site Benchmarks

CP # 601 (See Survey)
Description: Cross Notch
Elevation: 644.24 NAVD 88 (Geoid 12A)

CP # 603 (See Survey)
Description: Cross Notch
Elevation: 644.98 NAVD 88 (Geoid 12A)

CP #606 (See Survey)
Description: PK Nail
Elevation: 643.95 NAVD 88 (Geoid 12A)

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

Note:
Call 811 at least 48 hours, excluding weekends and holidays, before you dig.

INDEX TO SHEETS

NO.	DESCRIPTION
C1.0	TITLE SHEET
C2.0	GENERAL NOTES & SPECIFICATIONS
C2.1	GENERAL NOTES & SPECIFICATIONS
C3.0	EXISTING CONDITIONS PLAN
C4.0	DEMOLITION PLAN
C5.0	GEOMETRY PLAN
C6.0	UTILITY PLAN
C7.0	GRADING PLAN
C7.1	PLANTING PLAN
C7.2	ACCESS DRIVE PLAN & PROFILE
C7.3	TYPICAL SECTIONS
C8.0	IDOT DETAILS
C8.1	IDOT DETAILS
C8.2	IDOT DETAILS
C8.3	TYPICAL DETAILS

INDEX TO STORM WATER POLLUTION PREVENTION PLAN SHEETS

NO.	DESCRIPTION
EC1.0	SWPPP TITLE SHEET
EC2.0	SWPPP GENERAL NOTES & SPECIFICATIONS
EC3.0	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
EC4.0	SWPPP TYPICAL DETAILS

Floodplain Note:

The floodplain elevations used for the stormwater analysis & compensatory storage calculations for the site were conservatively calculated using the higher floodplain elevations along the north property line.
10-Year Floodplain Elevation = 642.35
100-Year Floodplain Elevation = 645.30

Stormwater Summary:

Description	Required Volume (Ac-ft)	Provided Volume (Ac-ft)	Surplus Volume (Ac-ft)
Runoff Volume Reduction (RVR)	0.119	0.317	0.198
Existing Storage to Remain (100-Year)	5.726		
LRFPD Site Total Detention	2.858		
LRFPD Comp. Storage (0-10)	0.320	11.633	0.179
LCDOT Detention	1.400		
LCDOT Comp. Storage (0-10)	1.150		
Total (Elev. 638.00 - 643.50)	11.454		
LRFPD Comp. Storage (10-100)	1.013		
LCDOT Comp. Storage (10-100)	2.300	5.109	1.796
Total (Elev. 643.50 - 645.30)	3.313		
LRFPD Comp. Storage > 1:1	0.267		
LCDOT Comp. Storage > 1:1	0.850	1.975	
Comp. Storage > 1:1 Subtotal	1.117		
Total (Elev. 638.00 - 645.30)	15.884	16.742	--

LEGEND

Existing Symbol	Description	Proposed Symbol
	Storm Sewer Manhole	
	Catch Basin	
	Inlet	
	Flared End Section	
	Headwall	
	Area Drain	
	Sanitary Sewer Manhole	
C.O.	Clean Out	C.O.
	Storm Sewer	
	Storm Sewer Service	
	Perforated Underdrain	
	Sanitary Sewer	
	Sanitary Sewer Service	
	Combined Sewer	
FM	Force Main	FM
W	Water Main	W
	Water Main Service	
	Fire Hydrant	
	Valve Vault	
	Valve Box	
B	B-Box	B
	Well Head	
	Light Pole	
	Hand Hole	
	Fence	
	Pipe Bollard	
	Sign	
G	Gas Valve	G
G	Gas Line	G
E	Electric Line	E
OHW	Overhead Utility Line	OHW
FO	Fiber Optic Line	FO
E	Electrical Pedestal	E
E	Electric Manhole	E
	Guy Wire	
	Utility Pole	
T	Telephone Pedestal	T
T	Telephone Manhole	T
T	Telephone Line	T
CATV	Cable TV Line	CATV
	Cable TV Pedestal	
	Flagpole	
M	Mailbox	M
	Handicapped Parking Stall	
X	Number of Parking Stalls	X
	Curb & Gutter	
	Depressed Curb	
	Retaining Wall	
C XXX.XX	Curb Elevation and	C XXX.XX
G/P XXX.XX	Gutter/Pavement Elevation	G XXX.XX
XXX.XX	Pavement Elevation	P XXX.XX
XXX.XX	Sidewalk Elevation	W XXX.XX
XXX.X +	Ground Elevation	XXX.X
T/W XXX.XX	Top of Wall Elevation	T/W XXX.XX
B/W XXX.XX	Bottom of Wall Elevation	B/W XXX.XX
Gr XXX.XX	Open Lid Frame & Grate	Gr XXX.XX
Rim XXX.XX	Closed Lid Frame & Lid	Rim XXX.XX
FG XXX.XX	Finish Grade	FG XXX.XX
GF XXX.XX	Garage Floor	GF XXX.XX
TF XXX.XX	Top of Foundation	TF XXX.XX
	Swale	
	Hardscape Flow	
	Softscape Flow	
XXX	Contour Line	XXX
	Wetland	
	Wetland Buffer	
	Normal Water Level	
	High Water Level	
	Flood Plain	
	Flood Way	
	Deciduous Tree	
	Coniferous Tree	
	Bush	
	Brushline	
B-1	Soil Boring	B-1
	Over Land Flow Route	

PHILIP A. CARLSON
062-070701
LICENSED PROFESSIONAL ENGINEER
STATE OF ILLINOIS
EXPIRES 11-30-27

No.	Revision	Date

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No.: 184.003152
www.haegerengineering.com

TITLE SHEET

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager:	P A C
Engineer:	J N
Date:	06/30/2026
Project No.	20-147
Sheet	C1.0 / C8

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Plot Date: Jul 06, 2026 - 10:06am Plotted By: phil-c
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C1-TITLE AND NOTES.dwg

GENERAL NOTES

1. Definition of Terms:
   a. “Owner” shall mean the person or entity with which Haeger Engineering, LLC has been contracted with to prepare the Plans and Specifications.
   b. “Engineer” shall mean Haeger Engineering, LLC.
   c. “Contractor” shall mean the persons or entities responsible for performing and constructing the work described in the Plans, Specifications and other Construction Documents including but not limited to furnishing all labor, materials, tools, equipments, and other incidentals necessary.
   d. “Plans and Specifications” shall mean the Engineering Drawings and any Specifications prepared by Haeger Engineering, LLC, the Engineer.
   e. “Jurisdictional Agency” shall mean any local, municipal, county, township, state or federal entity of government or other entity having jurisdiction of some aspect of the project from whom approval, permit and/or review and approval was required.
2. The Specifications governing this project are as follows:
   a. All applicable Village/City and other applicable Jurisdictional Agency Ordinances, Codes, Regulations, Requirements, Policies, Specifications, Standards, etc.
   b. Roadway and Earthwork construction shall conform to the Illinois Department of Transportation (IDOT) “Standard Specifications for Road and Bridge Construction”, latest edition and any subsequent “Supplemental Specifications and Recurring Special Provisions” as well as any applicable IDOT Highway Standards. Hereafter these items shall be collectively be referred to as the IDOT Standard Specifications.
   c. Water Main, Storm Sewer, and Sanitary Sewer construction shall conform to the “Standard Specifications for Water and Sewer Construction in Illinois”, latest edition.
   d. Soil Erosion and Sedimentation Control shall conform to the Illinois Environmental Protection Agency (IEPA) “Illinois Urban Manual” (IUM), latest edition and “Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control”, latest edition.
   e. Traffic Control shall conform to the “Manual of Uniform Traffic Control Devices” (MUTCD), latest edition, as well as the latest edition of the “Illinois Supplement to the MUTCD”, and IDOT “Quality Standard for Work Zone Traffic Control Devices”, latest edition.
   f. All handicap accessibility items shall conform to the Illinois Accessibility Code (IAC), latest edition.
   g. General Notes and Specifications contained herein or elsewhere as a separate document.

   If a conflict, contradiction, or discrepancy occurs between any of the above Specifications the more stringent requirement shall apply, unless directed otherwise by the applicable Jurisdictional Agency.
3. Contract Documents:
   a. The Engineer's Plans and Specifications shall be included as part of the Contract Documents.
   b. All Contractors shall carefully examine the Plans and Specifications, and other Contract Documents prepared for the work. They shall visit the site of the work and acquaint themselves with all local conditions, codes, and requirements affecting the contract. If awarded the contract, they shall not be allowed extra compensation by reason of any unforeseen difficulties or obstacles which the Contractor could have discovered or reasonably anticipated or inferred prior to bidding or start of construction.
   c. Should it appear that the work covered by the Plans and Specifications or other Contract Documents is not sufficiently detailed or explained, a Request For Information (RFI) Form shall be submitted to the Engineer for further explanations and drawings as may be necessary to clarify the point in question prior to the contract award. It is the intention of the Contract Documents to provide a job complete in every respect. Incidental items or accessories necessary to complete the work may not be specifically noted or shown but that are necessary to complete the project shall be considered incidental to the Contract. The Contractor is responsible for this result and to turn over the project in complete operating condition, irrespective of whether the contract documents cover every individual item in minute detail.
   d. The Contractor shall review the subsurface exploration and geotechnical report (a.k.a. soil boring report) prepared by Report of Soils Exploration dated August 11, 2021, to become familiar with the subsurface soil conditions for the site. Copies of all such soil boring reports for the property can be obtained from the Owner. If any additional soils data is needed to confirm the Contractor's opinions of the subsurface conditions, this shall be done at the Contractor's expense. The Contractor shall obtain the Owner's written authorization to access the site to conduct a supplemental soils investigation. The Owner and Engineer make no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof. Furthermore, the Owner and Engineer assume no responsibility for the possibility that during construction, the soil and groundwater conditions may vary between borings or are different than previously indicated. Any bracing, sheeting, dewatering or special construction methods deemed necessary by the Contractor in order to install the proposed improvements shall be considered incidental to the Contract and no additional compensation will be allowed.
4. Should any apparent errors, omissions, discrepancies or conflicts be discovered on the Plans, Specifications, Quantities or other Contract Documents by the Contractor, whether prior to or after the award of the contract, the Engineer's attention shall be called to the same before work is begun thereon, so that proper clarification can be provided or revision made. If any work is done without contacting the Engineer, it shall be considered that the Contractor has proceeded at their own risk and expense.
5. Whenever the performance of work is indicated on the Plans, and no specific item is included in the Contract for payment, the work shall be considered incidental to the Contract and no additional compensation will be allowed. The Contractor shall provide all necessary labor, material, equipment, etc. necessary to perform all the work required for construction of the proposed improvements.
6. The base plan/drawing for the Engineering Plans (existing conditions, site topography, utilities, rights-of-way, etc.) was obtained from the topographic survey prepared by:

   HAEGER ENGINEERING
   100 E STATE PARKWAY
   847-394-6600
   20-147
   11/03/2025

7. The Owner shall obtain the necessary approvals from the following Jurisdictional Agencies:
   A. Village of Riverwoods
   B. Illinois Environmental Protection Agency (IEPA) - Notice of Intent (NOI) General Permit to Discharge Storm Water from Construction Site Activities
   C. Lake County WDP
8. The Contractor, unless otherwise agreed upon in writing with the Owner prior to the start of Construction, shall at his own expense, obtain all other approvals including permits, licenses, etc., as may be required for the execution of this work as well as provide all necessary notices, pay all fees required, post bonds, obtain all necessary insurance, and comply with all laws, ordinances, rules, and regulations relating to the work and to the preservation of public health and safety. The Contractor shall also provide all required insurance and/or bonds as may be required by the Jurisdictional Agencies. In addition, the Contractor shall meet all of the requirements of any permits as might be issued for this work by other Agencies, and shall pay for at their sole expense any surety, insurance or bonds as may be required by the Jurisdictional Agencies.
9. No work shall proceed until the appropriate permit or permits have been obtained for the item or items to be constructed. If any work does proceed without the appropriate permits or approvals, it is being done without the permission or consent of the Engineer. The Contractor and Party authorizing the work to proceed shall be assumed to be proceeding at their own risk and the Engineer shall not be held liable or responsible for any work being performed without a permit.
10. The Contractor shall indemnify and hold harmless the Owner, Engineer, Village/City, and other Jurisdictional Agencies as well as all of their respective officers, employees, agents, and Engineers from and against all losses, claims, demands, payments, suits, actions, recoveries, and judgment of every nature and description brought or recovered against them, by reason of any act, error or omission of said Contractor, their agents or employees in the execution of the work or in the guarding of it.
11. The construction shall be under the general inspection and observation of the designated individual authorized by the Village/City or other applicable Jurisdictional Agencies. The Village/City, Jurisdictional Agencies, Owner, and Engineer shall be notified at least two working days prior to the commencement of work.
12. The location of existing underground utilities such as water mains, sewers, gas lines, electric lines, cable TV lines, fiber optic lines, etc., as shown on the Plans, has been determined from the best available information and has been provided for the convenience of the Contractor. However, the Owner and Engineer do not assume responsibility in the event that during construction, utilities other than those shown may be encountered and that the actual location of those which are shown may be different from the location as shown on the Plans. The Contractor is to verify the location of all utilities prior to the start of work and is responsible for damage to the same. The Contractor shall contact J.U.L.I.E. or Digger by dialing 811 (Outside the City of Chicago - J.U.L.I.E.: 1-800-892-0123 or within the City of Chicago - Digger: 312-744-7000) and the Village/City Public Works Department for utility locates at least 48 hours, excluding weekends and holidays, before digging. For any utility companies which are not members of JULIE or DIGGER, the Contractor shall contact the Owners of each respective utility directly for utility locates at least 48 hours, excluding weekends and holidays, before digging.
13. In some instances, the existing utilities are shown on the Plans according to information obtained from the utility companies (atlas information) and/or surveys performed By Others. The Owner and Engineer do not guarantee the accuracy or completeness of this information. The Contractor shall be aware of potential conflicts with existing or other proposed utilities as indicated on the Plans or that become apparent as the result of field locates By Others. The Contractor shall make their own investigations as necessary to determine the existence, nature, and location of all utility lines and related appurtenances within the limits or adjacent to the proposed improvements. The Contractor shall locate all utilities far enough in advance to avoid all conflicts between existing utilities and proposed improvements and make the Engineer aware of any such conflicts. If the Contractor encounters a conflict between the proposed improvements and existing utility that was not located in advance by the Contractor, then the Contractor shall at no cost to Owner, relocate the proposed improvements and/or utility to avoid the conflict.
14. The Contractor will be required to cooperate with all utility companies involved in connection with the removal, temporary relocation, construction, reconstruction or abandonment by these companies of any and all services or facilities owned or operated by them within the limits or general vicinity of the proposed improvements. Further, at the direction of the Owner and Utility Companies the Contractor shall coordinate the location and install PVC sleeves as necessary under the proposed pavement, curbs, walks, etc. for utility companies to run their proposed utility lines.
15. Before doing any work which will damage, disturb or leave unsupported, or unprotected any utility lines or related appurtenances encountered, the Contractor shall notify the respective Owner thereof, who will make all arrangements for relocating, adjusting, bracing, or otherwise maintaining or abandoning service on lines that fall within the limits of the proposed construction without cost to the Contractor, including the removal of all cables, manhole covers and other related appurtenances which the Owner desires to salvage. After such arrangements have been made, the Contractor will proceed with the work as directed by the Engineer. All utility lines and related appurtenances which are abandoned shall be removed if necessary and legally disposed of legally off-site by the Contractor.
16. No extra compensation will be allowed by the Contractor for any expense incurred for complying with all of these aforementioned utility coordination and cooperation requirements, or because of delays, inconvenience or interruptions in their work resulting from the failure of any utility company to remove, relocate, construct, reconstruct or abandon their services. The responsibility for prompt and timely removal, relocation, reconstruction or abandonment of their facilities by all utility companies involved, and the coordination of their own work with that of these companies to the end that work on this improvement is not delayed because of the necessary changes in the existing utilities, public or private, shall rest upon the Contractor.
17. Prior to commencing work, the Contractor is to field check and verify all critical locations, elevations, materials, sizes, dimensions, and conditions affecting the work, and notify the Engineer immediately if there are any suspected discrepancies. No work shall be performed until the suspected discrepancy has been resolved. The Contractor shall also call to the attention of the Engineer any errors or discrepancies which may be suspected in the lines and grades which are established by the Surveyor, and shall not proceed with the work until any lines and grades which are to believed to be in error have been verified or corrected by the Engineer.
18. The Contactor shall maintain positive drainage at all times during construction. Construction shall not block off-site drainage and the flow from any drainage ways, field tiles, storm sewers or similar draining off-site properties. All on-site existing field tiles, storm sewers, drainage ways or similar encountered or damaged during construction shall be maintained, restored to their original pre-construction condition or better, properly re-routed, and/or connected to the proposed stormwater drainage system. If this can't be accomplished then the field tile should be repaired or re-routed with new pipe of similar diameter to the original line and put back in service. The Contractor shall notify the Engineer if any such field tiles are encountered. Whenever during any construction activities any loose material is deposited in the flow line of gutters, ditches, drainage structures, etc. such that the natural flow of water is obstructed, this material shall be removed by the responsible party.
19. Prior to commencement of construction, on sites that will ultimately result in the disturbance of one (1) acre or more, the Contractor shall be responsible for obtaining a copy of the notice of coverage letter and the IEPA National Pollutant Discharge Elimination System (NPDES) General Permit ILR10 from the Owner. The Owner together along with the Contractor and/or other entities if so designated by the Owner, shall be responsible for ensuring that all the requirements of the General Permit and the Storm Water Pollution Prevention Plan (SWPPP) including but not limited to the installation, maintenance as well as the installation of any additional measures necessary that may be required, and inspections of the soil erosion and sediment control measures as well as completing all of the necessary applicable certifications, reports, logs, etc. Inspections are required to be performed at least once every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches of rain (or equivalent snowfall) or greater. The SWPPP and all the required paperwork shall be kept on-site and be organized and ready for viewing.
20. No construction activities, disturbance or fill shall occur within the limits of natural resources such as wetlands, floodplains, creeks, streams, ponds, lakes, basins, reservoirs, etc. or their respective buffers unless specifically specified on the Plans and further that the work has been permitted. The Contactor shall take sufficient precautions to protect these natural resources that are to remain, whether on-site or on adjacent property, to protect them from sediment, fuels, oils, bitumens, calcium chloride, or other harmful materials that may be a detriment. The Contractor shall conduct and schedule their Construction so as to avoid siltation, or other disturbance or impact to these natural resource areas. The Contractor shall not disturb or otherwise impact these designated natural resource areas, or areas that have been designated to be protected or as essential habitat for State or Federal listed endangered or threatened species, or Prairie or Savannah areas where the Owner has made commitments for protection of these areas. Also, if previously unidentified natural resource areas, prairies, savannahs, or areas or locations suspected of containing protected species are identified during construction, the Contractor shall not disturb them unless written permission to do so is granted by the Owner or applicable Jurisdictional Agency. If the Owner, Engineer, or applicable Jurisdictional Agency determines that additional measures are necessary to prevent or mitigate project effects on natural resource areas, prairies, savannahs, protected species, or essential habitat the Contractor shall cooperate in accomplishing these measures.
21. The Contractor shall confine their activities to within the project boundaries, work areas, or easements specified. No work shall be performed on adjacent private property or outside the project work areas without the written permission of each respective Owner. The Contractor shall be liable for damage caused to existing or newly installed improvements as well as any damage on adjacent property or areas outside designated work areas, provided damage us a result of Contractor action, or lack thereof.
22. The Contractor is responsible for returning all areas affected by equipment, materials and/or laborers to pre-construction condition or better. All existing utilities or improvements, including but not limited to pavements, curbs, drives, trees, and parkways damaged or removed during construction shall be promptly restored to their respective original pre-construction condition or better. The Contractor is also responsible for protecting all newly constructed work from damage until the project has been completed and has been approved and accepted by the Owner.
23. Clean-up and final restoration shall be performed immediately upon completion of each phase of the work or when directed to do so by the Owner, so that these areas will be restored as nearly as possible to their original pre-construction condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, landscaping, fences, mailboxes, storm sewers, drain tiles, sanitary sewers, water mains, etc. It shall also be the responsibility of the Contractor to remove from the site any and all materials and debris which results from their construction operations at no additional expense to the Owner.
24. All proposed grades shown on the Plans shall be considered to be finished grade surface elevations unless noted otherwise.
25. Construction staking/layout shall be provided by the Contractor and shall be included in the Contract Price unless otherwise agreed upon in writing with the Owner prior to the start of Construction.
26. All Construction means and methods, techniques, procedures, scheduling, sequencing, and job site safety is the sole responsibility of the Contractor.
27. The Contractor shall observe and comply with all the Occupational Safety and Health Administration (OSHA) standards, rules and regulations, as well as any other applicable local, state and federal safety requirements.
28. All trenching, shoring, bracing and construction work performed shall be in accordance with the Occupational Safety and Health Administration (OSHA) standards.
29. The Contractor shall take whatever steps necessary to protect the public from open trenches, excavations, and other site obstructions or hazards. No trenches, excavations or holes in the pavement or parkway are to be left open over a holiday, weekend, or after 3 p.m. on the day preceding a holiday or weekend.
30. During construction the Contractor and their Sub-Contractors shall keep the premises clean by removing all rubbish, debris, waste material and other accumulations as necessary. The Contractor shall clean the premises to the satisfaction of the Village/City and Owner.
31. The Contractor shall have appropriate equipment and material including street sweepers and end loaders available on-site at all times when equipment or vehicles are using existing public or private roads and/or pavement. The Contractor shall immediately remove any sediment or debris including but not limited to dirt, mud, clay, sediment, concrete, gravel, sand, stones, plant material, refuse, garbage, oil, grease, etc. deposited on any roadway, street, walk, alley or other pavement by any equipment, vehicles or personnel associated with this project. This work shall be considered incidental to the Contract.
32. The Contractor shall at all times maintain proper dust control at the site and shall have a watering truck readily available during all working hours. The Contractor shall water the entire site whenever the site conditions become unhealthy due to blowing soil or dust. The site shall be watered as many times per day as necessary to maintain a healthy work site as determined by the Owner or Engineer. Water for non-emergency use shall not be obtained from any fire hydrant, unless the fire hydrant is metered with a proper backflow preventer in accordance with Village/City or Jurisdictional Agency requirements. The cost to furnish dust control shall be incidental to the cost of Construction.
33. Trees not marked for removal shall be protected as necessary by the Contractor. In the event that a tree is damaged by the Contractor during construction, the Contractor shall replace such tree with a tree or trees in accordance with Village/City requirements. If the Village/City does not have specific tree replacement requirements, the damaged existing or newly planted tree shall be replaced in accordance with the procedures outlined in Section 201 of the IDOT Standard Specifications. The Contractor shall ensure that they are familiar with the applicable tree preservation requirements and shall be held responsible for the replacement of all damaged trees not designed for removal, and any penalties associated with the unapproved removal of trees.
34. Where overhanging branches, limbs, or roots interfere with the required construction activities, said branches, limbs, or roots shall be trimmed or pruned as necessary in accordance with Section 201 of the IDOT Standard Specifications. This work shall be performed under the supervision of an approved arborist or landscape architect.
35. The Contractor is responsible for the installation and maintenance of adequate signs, traffic control devices, and warning devices, in accordance with the Plans, applicable IDOT Standard Specifications and the MUTCD Standards to inform and protect the public during all phases of construction. The Contractor shall provide all signage, barricades, devices, equipment, personnel, etc. necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. Roadways shall remain open to a degree satisfactory to the Owner or applicable Jurisdictional Agency which at their discretion may require the Contractor to furnish traffic control under these or other circumstances where in their opinion it is necessary for the protection of life and property. Emergency vehicle access along with access to fire hydrants shall be maintained at all times. Further, unless authorized by the Owner, all existing access points shall be maintained at all times by the Contractor.
36. Where noted in the Plans, the Contractor shall have Shop Drawings and any other required supporting documentation or calculations prepared and submitted for review and approval prior to any fabrication, placement, or construction. If structural elements such as retaining walls are required, the drawings and any required supporting design calculations must be prepared, and signed and sealed by an Illinois licensed Structural Engineer.
37. The Contractor is responsible for having a set of approved Plans and Specifications with the latest revision date on the job site at all times during the construction period.
38. The Contractor shall maintain a clean, legible, undamaged set of Field Marked Construction Plans. These Field Marked Construction Plans shall show the location of the actual installed location of all underground utilities including related appurtenances (sanitary, storm, water, service stubs, gas, telephone, electric, cable TV, etc.) giving particular attention to concealed elements that would be difficult to measure and record at a later date. Any approved modifications, deviations, or alterations from the approved Plans should also be noted and shown on these Field Marked Construction Plans. These Field Marked Construction Plans shall be provided to the Owner/Engineer at the completion of construction.
39. All work that is performed that is not in conformity with the Plans, Specifications or other Contract Documents or that is defective shall be removed and replaced, or otherwise corrected or remedied by and at the sole expense of the Contractor. Any unauthorized work or work performed beyond the limits or in excess of that shown on the Plans will not be measured or paid for.
40. All work performed under the Plans, Specifications or other Contract Documents shall be guaranteed against all defects in materials and workmanship of whatever nature by the Contractor and his surety for a minimum period of 12 months from the date of final acceptance of the work by the Village/City, other applicable Jurisdictional Agencies, and the Owner, unless otherwise agreed upon in writing with the Owner prior to the start of construction,.
41. Before acceptance by the Owner and prior to final payment all work shall be inspected and approved by the Owner or designated representative. Final payment will be made after the Contractor's work has been approved and accepted or as required by the Contract Documents.
42. If required, the Owner shall have As-built or Record Drawings prepared and submitted to the Village/City and all other applicable Jurisdictional Agencies for approval after the completion of construction. These drawings shall be prepared in accordance with the Village/City and other applicable Jurisdictional Agency requirements. The As-built or Record Drawings must be prepared, and signed and sealed by a registered professional Engineer in Illinois.

DEMOLITION AND CLEARING

1. The Contractor shall perform all demolition, clearing, grubbing, and tree removal and protection work in accordance with all applicable Federal, State, County and Local requirements or as noted in the Plans.
2. Prior to the commencement of any demolition or clearing activities, the Owner or Contractor shall obtain all applicable permits to disconnect the existing utility services to each building proposed for demolition.
3. The Contractor shall coordinate all demolition work with the Village/City, utility companies, and other Jurisdictional Agencies, so as to ensure the protection of all existing sewer, water main, and other utilities, and further to ensure that proper stormwater conveyance is attained until the proposed improvements can be installed and placed into operation.
4. Clearing shall consist of the removal and legal disposal of all obstructions such as trees, hedges, fences, walls, accumulations of rubbish of whatever nature, and all logs, shrubs, brush, grass, weeds, and other vegetation and stumps. These items shall be removed whenever they are found within the street right-of-ways or within the limits of construction. Trees to be saved or protected shall be identified by the Engineer on the Plans or in the field. All trees except those designated to be saved or protected, as well as all stumps and hedges within the limits of construction, shall be removed completely and legally disposed of off-site or as otherwise designated on the Plans or authorized by the Owner. Trees designated to be saved or protected as indicated on the Plans or as directed by the Engineer, shall be protected from damage in accordance with the procedures outlined in Section 201 of the IDOT Standard Specifications.
5. All items shown to be removed on the Plans including items not specifically noted but necessary to be removed to construct the proposed improvements shall be demolished or removed as necessary and disposed of legally off-site or as approved by the Owner.
6. Existing utilities to be disconnected shall be done so at the main or as directed by the applicable Jurisdictional Agency or as noted on the Plans.
7. Utilities marked to be abandoned shall be abandoned as required by the applicable Jurisdictional Agency or as noted on the Plans.
8. All existing pavement or concrete to be removed shall be saw-cut along the limits of the proposed removal to provide a clean vertical edge. The cost of saw-cutting shall be considered incidental to the removal of each item.
9. All voids left by any item removed under any proposed building, pavement walk or other structural areas or within zones of influence thereof shall be properly backfilled with suitable backfill material and/or compacted as necessary by the Contractor.
10. The Contractor shall implement a daily program for dust control as it relates to the demolition and clearing activities. This program is to be approved by the Village/City prior to the start of any demolition or clearing work.
11. All existing building services serving buildings that are to be removed shall be disconnected and removed as required by the applicable Jurisdictional Agency.
12. All existing wells shown on the Plans to be abandoned or that are discovered during the course of construction shall be exposed and cut-off three (3) feet below the proposed finished grade and sealed by the Contractor in accordance with Section 920 of the “Illinois Water Well Construction Code”, latest edition, or as required by the Health Department or by any other Local, County, State or Federal rules and regulations.
13. All existing septic tanks, grease traps or similar shown on the Plans to be abandoned or that are discovered during the course of construction shall have all liquids and solids removed and disposed of legally off-site by a licensed commercial waste hauler in accordance with the requirements of the Health Department or as required by any Local, County, State or Federal rules and regulations. The structures shall then be removed and disposed legally off-site or broken in-place, so as not to hold liquid, and back-filled with suitable materials by the Contractor or as required by the Health Department or by any other Local, County, State or Federal rules and regulations.
14. Any material containing asbestos or other hazardous materials found within existing structures or other items shown to be removed in order to construct the proposed improvements shall be removed from the site and legally disposed of off-site by the Contractor in accordance with applicable County, State or Federal rules or regulations.
15. All fire access lanes or routes located within the existing project area shall remain in service, clean of debris, and accessible for use by emergency vehicles at all times while demolition and clearing work is being performed.
16. It shall be the responsibility of the Contractor to legally remove from the site any and all materials and debris which results from their demolition or clearing operations at no additional expense to the Owner. Burning or incineration on the site is not permitted.

EARTHWORK AND GRADING

1. All earthwork and grading activities shall be performed in accordance with the IDOT Standard Specifications or as noted in the Plans. Included in this work, but not necessarily limited to the following are: stripping and stockpiling of topsoil, mass grading and fine grading of the site and roadways, excavation of unsuitable materials and adequate disposal of unsuitable materials and their replacement with suitable materials where required, construction of detention ponds, berm construction, and miscellaneous topsoil respread and seeding.
2. Any earthwork quantities, calculations, summaries that have been furnished by the Engineer are for information purposes only and are provided without any guarantee by the Owner or Engineer whatsoever as to their sufficiency or accuracy. They are intended to be used solely as a guide for the Contractor in determining the scope of the completed project. It is the responsibility of the Contractor to determine all material quantities and apprise themselves of all site conditions. The Contractor warrants that he has performed his own investigations as necessary and his own calculations to determine site soil conditions and earthwork quantities. The Engineer makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction tolerances and construction methods that are beyond the control of the Engineer. In the event that the Earthwork is indicated to be Lump Sum then the Contract Price submitted by the Contractor shall be considered as Lump Sum and shall include all items necessary for the complete project and no claims for extra work will be recognized unless authorized in writing by the Owner.
3. The soil boring reports for the subject property can be obtained from the Owner. The information presented in these reports is solely for the guidance of the Contractor. The Owner and the Engineer make no representation or warranty regarding the information contained in the boring logs or soils report. The Contractor shall make their own investigations and shall plan their work accordingly. Arrangements to enter the property during the bidding phase may be made upon request of the Owner. There will be no additional payment for expenses incurred by the Contractor resulting from adverse soil or ground water conditions.
4. The initial establishment of soil erosion and sediment control measures such as the placement of erosion control silt fence, stabilized construction entrance, inlet protection, etc. shall be installed by the Contractor prior to the start of demolition, clearing and mass grading.
5. All earthwork and grading operations are to be supervised and inspected by a qualified Geotechnical/Soils Engineer or their designated representative. All testing, inspection, observation, and supervision of soil quality, unsuitable soil removal and its replacement, compaction testing, ensuring ponds and retention areas hold/retain water and other soils related operations shall be entirely the responsibility of the Geotechnical/Soils Engineer. Furthermore, no undercut or other recommended remediation work shall be performed without authorization by the Owner and documentation of extent by the Geotechnical/Soils Engineer.
6. A qualified Geotechnical/Soils Engineer or their designated representative shall observe the construction of the retention and detention areas including berming to ensure the areas will be capable of holding the designated normal and high water levels. Gravel or sand seams, or other conditions which may be encountered and which might tend to dewater the area shall be remedied as directed by the Geotechnical/Soils Engineer.
7. Topsoil stripping or excavation shall initially consist of the removal of the uppermost layers of organic soil and stockpiling at a location shown on the Plans, in another area deemed appropriate by the Contractor and approved by the Owner, or at a location specified by the Owner or Engineer. No stockpile location shall be finalized without the explicit approval from the Owner. Further, stockpiles shall not be located within flood prone areas or within designated buffer areas.
8. Stripping of vegetation or ground cover, grading, or other soil disturbance activities shall be done in a manner which will minimize soil erosion. Further, the disturbance shall be kept to a minimum and all disturbed areas shall be stabilized with temporary or permanent measures within fourteen (14) days of active hydrologic disturbance or re-disturbance.
9. The Contractor shall take precautionary measures to minimize earthwork and other activities in the areas where trees are to be saved or protected as to not cause injury to roots or trunks.
10. Embankment placement including preparation of existing ground surface prior to embankment placement and compaction shall be in accordance with Section 205 of the IDOT Standard Specifications. All embankments located within structural fill areas or zones of influence thereof shall be constructed to a minimum 95% of the modified proctor density in accordance with ASTM D1557. Embankments located in non-structural fill areas shall be constructed to a minimum of 90% of the modified proctor density in accordance with ASTM D1557.
11. Topsoil respread shall consist of placing a minimum of a four (4) inch layer of topsoil or depth indicated on the Plans over the disturbed unpaved areas within the construction limits. These areas shall then be seeded, sodded, landscaped, stabilized, etc. as indicated on the Plans.
12. Sod shall be placed on all disturbed areas within the right-of-way and at other locations indicated on the Plans.
13. Refer to the Landscape Plans prepared By Others for additional information on the landscaping and ground cover requirements.
14. Completed subgrade grading and final finished grading for all proposed improvements shall be within a tolerance of plus or minus one-tenth (0.1) foot of the design elevation.
15. Contractor shall provide uniform slopes between proposed grades and smooth vertical curves/transitions through all high and low points. Smooth transitions shall be provided where any proposed improvements match into or abut existing improvements.
16. The subgrade for the proposed streets and other pavement areas shall be proof-rolled by the Contractor in the presence of the Village/City Engineer or applicable Jurisdictional Agency and the Geotechnical/Soils Engineer. Any unstable areas or failures encountered shall be removed and replaced or remediated as directed by the Village/City Engineer or applicable Jurisdictional Agency and Geotechnical/Soils Engineer. Any unstable areas or failures encountered and remediation method including approximate size, quantity, etc. shall be documented by the Geotechnical/Soils Engineer.
17. It shall be the responsibility of the Contractor to legally remove from the site any and all materials and debris which results from their construction operations at no additional expense to the Owner. Burning or incineration on the site is not permitted.

SEWER AND WATER MAIN GENERAL NOTES

1. All sanitary sewers, storm sewers and water mains as well as their services and other related appurtenances shall be constructed and tested in accordance with the “Standard Specifications for Water and Sewer Construction in Illinois”, latest edition, the requirements of the applicable Jurisdictional Agency, and the applicable Typical Details.
2. Rough grading shall be within one (1) foot of finished subgrade elevation shall be completed prior to the commencement of the underground utility construction.
3. Trench excavation, bedding and backfill, and compaction for sanitary sewers, storm sewers, water mains as well as their services and other related appurtenances shall be in accordance with applicable Trench Section Details.
4. When in the opinion of the Geotechnical/Soils Engineer, unsuitable soil conditions are encountered within utility trenches which require the removal of unsuitable materials below the depth of the bedding specified, the Contractor shall remove the unsuitable soils and replace the material with granular compacted bedding material as directed by the Geotechnical/Soils Engineer, Village/City or other applicable Jurisdictional Agency. The depth of the required removal and replacement shall be documented by the Geotechnical/Soils Engineer and witnessed by the Contractor. This work, when approved by the Owner and Geotechnical/Soils Engineer, will be measured and paid for at the contract unit price per cubic yard in place for unsuitable soil which price shall include the removal and off-site disposal of unsuitable soil, the additional bedding material, and all labor, materials and equipment required to perform the work as specified.
5. All utility trenches for the proposed sanitary sewer, storm sewer, water main and services lying under or where the inner edge of the trench is within two (2) feet of any pavement area, curb, curb and gutter, stabilized shoulder, sidewalk, building, utility crossing or other structural area shall be backfilled with select granular backfill material and compacted as noted on the Plans.
6. The Contractor shall be responsible for dewatering any excavation for the installation of sanitary sewers, storm sewers, water mains as well as their services and other related appurtenances. Any dewatering required to construct the proposed underground improvements shall be considered incidental to the respective underground improvement.
7. Connections to an existing sewer main shall be to an existing service stub, wye, tee, or manhole where possible. Sewer connections to existing sanitary manholes shall be machine cored. All pipe connections to sanitary structures shall be made with flexible waterstop gasket/boot (resilient connector) conforming to ASTM C923.
8. When connecting to an existing sewer main by means other than an existing service stub, wye, tee, or manhole, one of the following methods shall be used:
   a. Circular saw-cut of sewer main by proper tools (“shewer-tap” machine or similar) and proper installation of a suitable hub-wye saddle or hub-tee saddle.
   b. Remove the entire Section of pipe breaking only the top of one bell and replace with a wye or tee branch Section.
   c. With pipe cutter, neatly and accurately cut out the desired length of pipe for insertion of proper fittings, using “Band-Seal” or similar flexible type couplings to hold it firmly in place.
   d. Other method approved by Jurisdictional Agency.
9. “Band-Seal” or similar flexible type couplings shall be used in the connection of sewer pipe of dissimilar materials.
10. The Contractor shall mark the locations of the ends of the service stubs with 4”x4” wood posts extending a minimum of three (3) feet above the ground. The top twelve (12) inches of post shall be painted green for sanitary, white for storm, and blue for water. The Contractor shall keep accurate records of all service connection locations.
11. All structures including but not limited to frames and lids or grates, cleanouts, b-boxes, etc. shall be adjusted as necessary by the Contractor to final finished grade elevation.
12. All sanitary sewers, storm sewers, water mains as well as their services and other related appurtenances shall be thoroughly cleaned to the satisfaction of the Village/City, Owner, and Engineer as necessary during construction, prior to inspection and testing, and at the end of the project.
13. The Contractor shall coordinate the testing and televising so that it can be witnessed by the applicable Jurisdiction Agency.
14. The cost of the cleaning, televising, and testing shall be considered incidental to the Contract.
15. All deficiencies and defects observed as well as any necessary corrective work required as the result of testing or television inspection shall be performed by the Contractor at no additional cost to the Owner and without delay. All dips, cracks, leaks, improperly sealed joints and departures from the approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and/or re-televised and such further inspection made as may appear warranted by the Owner or as required by the Jurisdictional Agency.
16. Refer to Sanitary Sewer, Storm Sewer, Water Main and Water Main Protection Requirements for additional requirements.

SANITARY SEWER

1. Refer to Sewer and Water Main General Notes for additional requirements.
2. Gravity Sanitary Sewer Pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D3034 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3212 and F477.
   b. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
3. Where water main quality pipe and joints are required to meet the water main protection requirements the sanitary sewer pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D2241 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3139 and F477.
   b. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
4. All sanitary manholes shall be constructed of precast reinforced concrete sections with tongue and groove joints conforming to ASTM C478 and shall have a minimum inside diameter of 48-inches. If manhole diameter is not specified in the Plans the required manhole diameter shall be determined by size of pipes and their orientation. The precast reinforced concrete base and bottom section shall be monolithically cast. All pipe openings in the structure shall be precast into the structure walls at the proper invert elevation and orientation. Benches and defined channel invert flow lines shall be provided at bottom of structures to provide smooth defined flow path between all inlet and outlet pipe inverts. Sanitary manholes shall have eccentric offset cones, except where necessary due to height and opening restrictions, where a precast reinforced concrete flat top slab section shall be provided in-lieu of an eccentric cone section. Flat top slabs shall conform to IDOT Standard Detail 602601 as well as meet the H-20/HS-20 loading requirement. Concrete adjusting rings will be permitted where necessary and shall be limited to two (2) adjusting rings totaling not more than eight (8) inches in height or as permitted by the applicable Jurisdictional Agency. All joints between structure sections, adjusting rings and frames shall be securely sealed to one another using a resilient, flexible, non-hardening bituminous mastic or butyl sealing compound in accordance with ASTM C990, or flexible rubber gasket in accordance with ASTM C443 in order to provide a watertight joint. The Contractor shall remove all excess mastic on inside of structure and butter joints with mortar.
5. External chimney seals shall be provided on all sanitary manholes and all sanitary manholes shall be watertight.
6. Sanitary manhole frames and lids shall be Neenah R-1713 with Type B, self-sealing, watertight lids with concealed pick holes or approved equal, unless noted otherwise in the Plans. Sanitary manhole lids shall be imprinted with the word “SANITARY” cast into the lid.
7. Manhole steps shall be furnished and installed in all Sanitary and Storm structures in accordance with the “Standard Specifications for Water and Sewer Construction”, latest edition and as shown on the Plans. Steps shall be polypropylene coated steel core reinforced steps with slip, load, and pullout ratings in accordance with ASTM C478 and OSHA requirements. The steps shall be placed uniformly at twelve (12) to sixteen (16) inches on-center and shall be located directly below the manhole frame opening and shall not be located directly over a pipe opening with the alignment of the steps generally perpendicular to the pipe flow direction wherever possible.
8. An external drop manhole structure in accordance with Plans or other Jurisdictional Agency requirements shall be provided where the difference between inverts is greater than or equal to two (2) feet.
9. The minimum cover over sanitary sewer lines and services shall be three (3) feet.
10. The minimum sanitary service line size shall be 6-inch diameter pipe at a 1.0% minimum slope. All services stubs shall be capped with a watertight plug until connection is ready to be made. The plug shall be properly secured to withstand the required test pressures.
11. Sanitary sewer service risers shall be installed where the mainline sewer depth is greater than twelve (12) feet or in locations indicated on the Plans.
12. Cleanouts shall be provided in locations shown on the Plans or as required by the Jurisdictional Agency.
13. All floor drains shall discharge into the sanitary sewer.
14. External grease traps, if applicable, shall be provided in accordance with the Jurisdictional Agency requirements at the locations shown on Plans. Contractor shall submit shop drawings for review and approval prior to ordering or fabricating the grease trap.
15. Sanitary sewers and related appurtenances shall be tested and televised in accordance with the following:
   a. All sanitary sewers shall be tested for acceptability by either an air test, infiltration of water test, or exfiltration of water test or a combination thereof in accordance with the “Standard Specifications for Water and Sewer Construction”, latest edition or in accordance with the requirements of the Village/City or applicable Jurisdictional Agency, whichever is more restrictive. The maximum allowable rate of infiltration or exfiltration shall not exceed 200 gallons per inch diameter of pipe per mile of pipe per day.
   b. All flexible pipe sanitary sewers shall be deflection tested in accordance with the “Standard Specifications for Water and Sewer Construction”, latest edition or in accordance with the requirements of the Village/City or applicable Jurisdictional Agency, whichever is more restrictive. Deflection shall not exceed the manufacturer's recommended deflection limits or a maximum of 5% of the internal diameter of the pipe, whichever is more stringent.
   c. All sanitary manholes shall be tested for watertightness using a leakage test in accordance with ASTM C969 - “Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines” or ASTM C1244 - “Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test Prior to Backfill”.
   d. The Contractor shall televise all newly constructed sanitary sewers in accordance with applicable Jurisdictional Agency requirements prior to the completion of the project and final acceptance. A copy of the inspection video shall be provided to the applicable Jurisdictional Agency and the Engineer for review.

No.	Date	Revision

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 •Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No. 184-003152
www.haegerengineering.com

GENERAL NOTES & SPECIFICATIONS

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet C2.0 / C8

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STORM SEWER

1. Refer to Sewer and Water Main General Notes for additional requirements.
2. Storm Sewer Pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Reinforced Concrete Pipe (RCP) conforming to ASTM C76 with O-Ring gasket joints conforming to ASTM C443. Pipe class shall be per Section 550 of IDOT Standard Specifications, except that pipe shall be a minimum Class III in non-structural areas (i.e., grass, parkway, etc.) and a minimum of Class IV in or within zone of influence of all structural areas (i.e., roadways, parking lots, curbs, walks, etc.).
   b. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D3034 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3212.
   c. High Density Polyethylene (HDPE) Pipe with smooth wall interior conforming to ASTM D3350 with joints conforming to ASTM D3212 and ASTM D3350.
   d. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
3. Where water main quality pipe and joints are required to meet the water main protection requirements the storm sewer pipe shall be constructed from one or more of the following materials as specified on the:
   a. Reinforced Concrete Pipe (RCP) conforming to ASTM C361 with O-Ring gasket joints conforming to ASTM C443 and C361. Pipe class shall be per Section 550 of IDOT Standard Specifications, except that pipe shall be a minimum Class III in non-structural areas (i.e., grass, parkway, etc.) and a minimum of Class IV in or within zone of influence of all structural areas (i.e., roadways, parking lots, curbs, walks, etc.).
   b. Polyvinyl Chloride (PVC) Pipe conforming to ASTM D2241 with a Standard Dimension Ratio (SDR) of 26 unless noted otherwise on the Plans with elastomeric gasket joints conforming to ASTM D3139 and F477.
   c. High Density Polyethylene (HDPE) pressure pipe with smooth wall interior and joints conforming to AWWA C-906.
   d. Ductile Iron Pipe (DIP), Class 52, conforming to ANSI A21.51 and AWWA C151 with rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings.
4. Non-circular reinforced concrete pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Reinforced Concrete Arch Pipe in accordance with ASTM C506 and AASHTO M206.
   b. Reinforced Concrete Elliptical Pipe in accordance with ASTM C507 and AASHTO M207.
   c. Reinforced Concrete Box Culvert Sections in accordance with ASTM C1433.
5. All storm structures shall be constructed of precast reinforced concrete sections with tongue and groove joints conforming to ASTM C478. If the structure diameter is not specified in the Plans the required manhole diameter shall be determined by size of pipes and their orientation. The precast reinforced concrete base and bottom section shall be monolithically cast. All pipe openings in the structure shall be precast into the structure walls at the proper invert elevation and orientation. Benches and defined channel invert flow lines shall be provided at bottom of structures to provide smooth defined flow path between all inlet and outlet pipe inverts. Storm manholes and catch basins shall have eccentric offset cones, except where necessary due to height and opening restrictions, where a precast reinforced concrete flat top slab section shall be provided in-lieu of an eccentric cone section. Flat top slabs shall conform to IDOT Standard Detail 602601 as well as meet the H-20/HS-20 loading requirement. Catch Basins shall have the sump depth as specified in the Plans. Concrete adjusting rings will be permitted where necessary and shall be limited to two (2) adjusting rings totaling not more than eight (8) inches in height. All joints between structure sections, adjusting rings and frames shall be securely sealed to one another using a resilient, flexible, non-hardening bituminous mastic or butyl sealing compound in accordance with ASTM C990, or flexible rubber gasket in accordance with ASTM C443 in order to provide a watertight joint. The Contractor shall remove all excess mastic on inside of structure and butter joints with mortar. All water structures shall be watertight.
6. Manhole steps shall be furnished and installed in all Sanitary and Storm structures in accordance with the "Standard Specifications for Water and Sewer Construction", latest edition and as shown on the Plans. Steps shall be polypropylene coated steel core reinforced steps with slip, load, and pullout ratings in accordance with ASTM C478 and OSHA requirements. The steps shall be placed uniformly at twelve (12) to sixteen (16) inches on-center and shall be located directly below the manhole frame opening and shall not be located directly over a pipe opening with the alignment of the steps generally perpendicular to the pipe flow direction wherever possible.
7. Open lid storm structures are designated with "Gr" on the Plans and closed lid storm structures are designated with "Rim" on the Plans.
8. Closed lid storm structures frames and lids shall be Neenah R-1713 with Type B lid, or approved equal, unless noted otherwise in the Plans. Closed lid storm lids shall be imprinted with the word "STORM" cast into the lid.
9. Open lid storm structures frames and lids shall be Neenah R-2504-D, or approved equal, unless noted otherwise in the Plans.
10. Yard area drain structures shall be Nyloplast inline drains or drain basin structures, or approved equal, unless noted otherwise in the Plans.
11. Concrete flared end sections shall be precast reinforced concrete with an end block cast separate to anchor flared end section in place in accordance with IDOT Standard 542301 for circular concrete pipe and IDOT Standard 542306 for elliptical concrete pipe. Grating for flared end sections shall be in accordance with IDOT Standard 542311 and shall be provided at all flared end sections twelve (12) inches or greater.
12. Rip-Rap with filter fabric in accordance with Section 281 of the IDOT Standard Specifications shall be provided at locations shown on the Plans.
13. Cleanouts shall be provided in locations shown on the Plans or as required by the Jurisdictional Agency.
14. All downspouts, footing drains, and outside storm drains shall discharge to the storm sewer or discharge at grade. No stormwater shall be discharged into the sanitary sewer system.
15. Perforated pipe underdrains shall be corrugated flexible HDPE pipe conforming to AASHTO M252 or M294, perforated polyethylene pipe of diameter specified on the Plans with a smooth interior and wrapped in a soil filter fabric sock supplied and installed by the Contractor.
16. Elevations of structures located in curb and gutter are flow line elevations.
17. Elevations of flared end sections are provided at the extreme outer end of the flared end section.

WATER MAIN

1. Refer to Sewer and Water Main General Notes for additional requirements.
2. Water Main Pipe shall be constructed from one or more of the following materials as specified on the Plans:
   a. Ductile Iron Pipe (DIP), Class 52 conforming to ANSI A21.51 and AWWA C151 with a 150 psi working pressure, with push-on double sealing rubber gasket joints conforming to ANSI A21.11 and AWWA C111. The interior of the pipe and fittings shall be cement-mortar lined in accordance with ANSI A21.4 and AWWA C104. The exterior of all pipes and fittings shall be coated with an asphaltic coating per ANSI A21.51 and AWWA C151 for ductile iron pipe, and ANSI A21.10/A21.53 and AWWA C110/C153 for fittings. If specified, the ductile iron pipe and fittings shall be encased by a polyethylene encasement with an 8 mil thickness, Class C (Black) conforming to ANSI A21.5 and AWWA C105. Installation of DIP and fittings shall be in accordance with AWWA C600.
   b. Polyvinyl Chloride (PVC) Pipe, SDR 18 conforming to AWWA C900 (4"-12" diameters) and AWWA C905 (14"-48" diameters) with a pressure rating of 235 conforming to ASTM D2241 and joints in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477. Installation of PVC pipe and fittings shall be in accordance with AWWA C605.
   c. High Density Polyethylene (HDPE) pressure pipe and fittings for water main in accordance with AWWA C906, DR 11, 160 psi, with ductile iron pipe outside dimension.
3. Ductile iron fittings or cast iron fittings shall conform to ANSI A21.10 and AWWA C111; and compact ductile iron fittings shall conform to ANSI A21.53 and AWWA C153.
4. All water structures shall be constructed of precast reinforced concrete sections with tongue and groove joints conforming to ASTM C478 and shall have a minimum inside diameter of 48-inches. If structure diameter is not specified in the Plans the required structure diameter shall be determined by size of pipes and appurtenances that need to be located within said structure. The precast reinforced concrete base and bottom section shall be monolithically cast. All pipe openings in the structure shall be precast into the structure walls at the proper invert elevation and orientation. Water structures shall have concentric cones, except where necessary due to height and opening restrictions, where a precast reinforced concrete flat top slab section shall be provided in-lieu of an eccentric cone section. Flat top slabs shall conform to IDOT Standard Detail 602601 as well as meet the H-20/HS-20 loading requirement. Concrete adjusting rings will be permitted where necessary and shall be limited to two (2) adjusting rings totaling not more than eight (8) inches in height. All joints between structure sections, adjusting rings and frames shall be securely sealed to one another using a resilient, flexible, non-hardening bituminous mastic or butyl sealing compound in accordance with ASTM C990, or flexible rubber gasket in accordance with ASTM C443 in order to provide a watertight joint. The Contractor shall remove all excess mastic on inside of structure and butter joints with mortar. All water structures shall be watertight.
5. Valve vaults shall have minimum inside diameter of forty-eight (48) inches for eight (8) inch diameter and smaller valves, and have a minimum inside diameter of sixty (60) inches for ten (10) inch and larger valves.
6. Water services 2 ½ inches in diameter and smaller shall be Type K Copper for underground services conforming to ASTM B88 and ASTM B251. Larger diameter water services shall be of same pipe and joint materials as the mainline water main or as noted on the Plans.
7. The minimum cover from finished grade to the top of the water main and water services shall be 5.5 feet.
8. Water main fittings (i.e., bends, elbows, tees, reducers, etc.) may not be specifically referenced on the Plans and are to be considered incidental and included in the linear footage cost of the watermain.
9. The standards for maximum deflection at pipe joints and laying radius for the various pipe types and lengths shall be per the following:
   a. Ductile Iron Pipe (DIP) - AWWA C600.
   b. Polyvinyl Chloride (PVC) Pipe - AWWA C900.
   c. High Density Polyethylene (HDPE) - Per Manufacturer's requirements.
10. Thrust blocking shall be installed on water mains at all tees, elbows, plugs, and bends 11 ¼ degrees or greater etc. per the "Standard Specifications for Water and Sewer Construction", latest edition. Thrust blocking shall be poured in place Portland Cement Concrete.
11. All bends greater than 10 degrees, hydrants, tees, and fittings shall be mechanical joint with Mega-Lug retaining glands or Field Lok gasket in casings, between fittings and at grade changes.
12. All bolts and nuts shall be stainless steel.
13. A tracer wire shall be installed on all non-metallic water mains. The wire shall be continuous from valve vault to valve vault.
14. Frame and lids for water structures shall be Neenah R-1713 or approved equal and lids shall be imprinted with the word "WATER" cast into the lid.
15. All water valves, fire hydrants, boxes, corporation stops, curb stops, ground key stops, service boxes, tapping sleeves, and other water main related appurtenances shall conform to Village/City or applicable Jurisdictional Agency Requirements and shall furnish and install the same. Contractor shall verify exact model, style, type, and manufacturer required prior to ordering. All fire hydrants shall be painted in accordance with the applicable Jurisdictional Agency requirements.
16. Valves shall be non-rising stem type and shall close by turning clockwise. All valves shall be resilient wedge gate or ball valves, except that butterfly valves shall be installed on all water mains 16" diameter and larger, conforming to AWWA C500 with a minimum rated working pressure of 200 psi and in accordance with applicable Jurisdictional Agency requirements. Specialty valves and fittings such as cut-in-valves, tapping sleeves and valves, pressure reducing valves, insertion valves, and air release valves shall conform to the requirements of the applicable Jurisdictional Agency requirements and shall be installed at locations indicated on the Plans.
17. When making connections to existing water mains requires a shutdown that requires an interruption in service, the Contractor shall contact the Owner of the water main and they shall mutually agree upon a date and a time for connections which will allow ample time to perform the work required in order to make the required connection. Notifications of all users to be affected by the interruption shall be provided a minimum of twenty-four (24) hours prior to the service interruption. All water mains opened to atmosphere must be disinfected prior to returning the water main to service.
18. Water Main and related appurtenances shall be tested in accordance with the following:
   a. All water mains shall be tested by means of a pressure test and leakage test, in accordance with the "Standard Specifications for Water and Sewer Construction", latest edition, AWWA C600, and in accordance with applicable Jurisdictional Agency requirements.
   b. All water structures (i.e., valve vaults) shall be subject to a leakage test in accordance with IEPA guidelines and Jurisdictional Agency requirements.
19. After completion of the water main testing, the water mains and related appurtenances shall be flushed clean and disinfected (chlorinated) in accordance with the "Standard Specifications for Water and Sewer Construction", latest edition and in accordance with applicable Jurisdictional Agency requirements.

WATER MAIN PROTECTION REQUIREMENTS

Water mains, water services and related appurtenances shall be protected from any existing or proposed drains, sanitary sewers, storm sewers, combined sewers, force mains, and sewer services. All these previously mentioned items shall collectively be referred to as "sewer(s)" for the remainder of this section. Horizontal and vertical separation requirements between water mains and sewers as well as other water main protection requirements shall be in accordance with "Standard Specifications for Water and Sewer Construction in Illinois", latest edition and per the following:

1. Horizontal Separation:
   a. Whenever possible, an existing or proposed water main must be at least ten (10) feet horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service.
   b. Should local conditions exist which would prevent a lateral separation of ten (10) feet, an existing or proposed water main may be closer than ten (10) feet to a sewer provided that the water main invert is at least eighteen (18) inches above the crown of the sewer, and is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.
   c. If it is impossible to obtain proper horizontal and vertical separation as described in Items 1a and 1b above, both the water main and sewer must be constructed of pipe and joint material that conforms to water main quality pipe and joint standards, and be pressure tested to the maximum expected surcharge head to assure water tightness before backfilling.
2. Vertical Separation:
   a. Whenever water mains cross sewers, the water main shall be laid at such an elevation that the invert of the water main is at least eighteen (18) inches above the crown of the sewer. This vertical separation shall be maintained for that portion of the water main located within ten (10) feet horizontally of any sewer crossed. This must be measured as the perpendicular distance from the water main to the sewer. A length of water main pipe shall be centered over the sewer to be crossed with joints placed equidistant from the sewer.
   b. Where conditions exist that the minimum vertical separation set forth in Item 2a above cannot be maintained, or it is necessary for the water main to pass under a sewer, one of the following two measures must be taken:
      i. The water main shall be installed within a PVC casing pipe that conforms to water main quality pipe and joint standards and the casing pipe shall extend on each side of the crossing until the normal distance from the water main to the sewer is at least ten (10) feet.
      ii. The involved sewer shall be constructed of pipe and joint material which would conform to water main quality pipe and joint standards until the normal distance on either side of the crossing from the water main to the sewer is at least ten (10) feet.
   c. In making such crossings, a length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer. Where a water main must cross under a sewer, a vertical separation of eighteen (18) inches between the invert of the sewer and the crown of the water main shall be maintained, along with means to support the sewer to prevent their settling and breaking the water main.
3. The horizontal and vertical separation between water service lines and sewers or related service lines should be the same as for water mains, as detailed above, except that when minimum horizontal and vertical separation cannot be maintained, water main quality pipe and joints as described under Vertical Separation above, may be used for sewer or related service lines.
4. Water mains or services shall not be allowed to pass through or come into contact with sewer structures.
5. Water mains shall be separated from septic tanks, disposal fields, seepage beds, and sewage lift stations by a minimum of twenty-five (25) feet.
6. Water mains shall be separated from sanitary sewer force mains by a minimum of at least ten (10) feet horizontally and there shall be an eighteen (18) inch vertical separation at crossings.
7. The Contractor shall protect water mains and service lines from the entrance of hydrocarbons through diffusion through any material used in the construction of the line.
8. Casing pipe shall be installed in locations and of material specified on the Plans or where necessary to meet the water main protection requirements. The carrier pipe shall be securely blocked and banded with appropriately spaced spacers, and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the voids between the casing and carrier pipe shall be filled with sand, pea gravel or flowable fill and the ends shall be sealed.

PAVEMENT, CURB & GUTTER, AND WALKS

1. All work under this Section shall be performed in accordance the IDOT Standard Specifications or as specified in the Plans.
2. Concrete curb or curb and gutter shall be constructed in accordance with the Plans and Section 606 of the IDOT Standard Specifications. A ¾" pre-molded fiber joint filler along with two (2) 18" long x ½" (#4) epoxy coated smooth round dowel bars with greased end caps, centered on joint, shall be provided at expansion joints. Expansion joints shall be provided at a maximum of sixty (60) foot intervals and at all points of curvature and tangency, curb returns, five (5) feet either side of edge of structures, and at the end of each pour. Construction joints shall be provided at maximum twenty (20) foot intervals.
3. Where proposed curb or curb and gutter connects to an existing curb or curb and gutter, the existing curb or curb and gutter shall be saw-cut and then two 18" long x ½" (#4) epoxy coated smooth round dowel bars with greased end caps shall be drilled and installed nine (9) inches into the existing and proposed curb. Bars shall be installed in a location similar to that of the expansion joint in the curb or curb and gutter as applicable.
4. All curb and curb and gutter constructed over a utility trench shall be reinforced with two (2) #4 epoxy coated reinforcing bars for a length of ten (10) feet centered over the trench or as shown on the plans.
5. Reversed pitched curb and gutter shall be installed in areas where pavement slopes away from the curb.
6. Sidewalks and walks shall be constructed in accordance with the Plans and Section 424 of the IDOT Standard Specifications. Concrete sidewalks and walks shall be thickened to a minimum of 6" at all driveways. All sidewalks and walks shall be IDOT Portland Cement Concrete, Class SI, on compacted aggregate base course as shown on the Plans. Scored contraction joints shall be provided at five (5) foot intervals or as specified in the Plans. Expansion joints consisting of a ½" pre-molded fiber joint filler shall be provided at maximum fifty (50) foot intervals, and adjacent to concrete curbs, drives, foundations, ramps, etc. as well as when meeting existing concrete walks.
7. Sidewalks and walks constructed over a utility trench shall be reinforced with three (3) #4 round epoxy coated reinforcing bars for a length of ten (10) feet centered over the utility trench or as shown on the plans.
8. Curb ramps accessible to the disabled with raised truncated dome detectable warning surface of standard brick red color or other contrasting color shall be provided at all locations where sidewalk meets curb and at other locations shown on the Plans in accordance with the Illinois Accessibility Code (IAC), latest edition and IDOT Standard 424001, latest revision.
9. Curing and protection of all exposed concrete surfaces shall be in accordance with the IDOT Standard Specifications. No "honey-combing" or other similar failures of the concrete surfaces will be accepted.
10. Aggregate base course shall be in accordance with the Plans and Section 351 of the IDOT Standard Specifications. Aggregate base course material shall be CA-6, Type B, 100% crushed gravel conforming to Section 1004 of the IDOT Standard Specifications.
11. Bituminous binder and surface courses shall be Hot Mix Asphalt (HMA) of type and compacted thickness as specified in the Plans and shall be constructed in accordance with Section 406 of the IDOT Standard Specifications. The surface course shall be made with virgin materials; no recycled materials shall be allowed unless specified otherwise on the Plans. The Contractor shall provide and pay for the services of a competent paving laboratory to design and supervise the control of the paving mixture. All paving materials and mixes shall be IDOT certified.
12. Portland cement concrete (PCC) pavement shall be Class PV with reinforcement as specified on Plans and be constructed in accordance with Section 420 of the IDOT Standard Specifications.
13. All concrete work shall be finished with a broom finish unless specified otherwise in the Plans.
14. The Contractor shall saw-cut the exposed edges of all existing pavement adjacent to any proposed pavement, apron, sidewalk, curb and gutter or similar to provide a smooth, clean edge that is free of loose material. A proper transition butt joint and/or taper shall also be provided as necessary. Refer to butt joint detail for additional information.
15. The testing of the subgrade, aggregate base course, bituminous aggregate material, binder course, surface course, and concrete work shall be required and be performed in accordance with the IDOT Standard Specifications and requirements of the applicable Jurisdictional Agency. A qualified testing firm shall be employed to perform the required tests, ensure quality and conformance, and provide the results to the Engineer, Owner, and Jurisdictional Agency. The Contractor shall provide the Owner with a construction schedule and shall coordinate all required testing with the testing firm.
16. Prior to the commencement of any paving activities, a proof-roll must be performed by the Contractor and approved by the Village/City or applicable Jurisdictional Agency, and the Owner. All areas not passing the proof-roll shall be remediated as recommended by the Soils/Geotechnical Engineer and approved by the Owner. Any remediate areas shall be re-tested.
17. Prior to installation of the aggregate base course:
   a. The subgrade shall be prepared in accordance with Section 301 of the IDOT Standard Specifications.
   b. The Contractor shall be responsible for all subgrade compaction and preparation to within 0.1-ft of the proposed subgrade elevation. Subgrade shall be compacted to a minimum 95% of the modified proctor density in accordance with ASTM D1557.
   c. Sub-grade shall pass a proof-roll and any unsuitable areas in the subgrade shall be remediated as recommended by the Soils/Geotechnical Engineer and approved by the Owner.
18. Prior to the installation of the binder course:
   a. The aggregate base course shall be prepared in accordance with Section 351 of the IDOT Standard Specifications.
   b. The aggregate base course shall be clean and dry.
   c. The bituminous priming material shall be prepared and applied according to Section 403 of the IDOT Standard Specifications.
   d. The Contractor shall prime the aggregate base course at a rate of 0.25 gallons per square yard prior to the placement of the binder course.
   e. The binder course shall be placed only when the temperature in the shade is at least 40º F and the forecast is for rising temperatures.
19. Prior to the installation of the surface course:
   a. The binder course shall patch and repair all damaged and failed areas in the binder course to the satisfaction of the Village/City or applicable Jurisdictional Agency, and the Owner.
   b. The Contractor shall repair all damaged curb and gutter or other concrete pavement to the satisfaction of the Village/City or applicable Jurisdictional Agency, and the Owner.
   c. Structures within pavement shall be adjusted to final surface grade.
   d. The Contractor shall clean and prime the binder course at a rate of 0.05 gallons per square yard prior to the placement of the surface course.
   e. The surface course shall be placed only when the air temperature in the shade is at least 45º F and the forecast is for rising temperatures.
20. Pavement marking/striping:
   a. All Pavement markings shall be in accordance with Section 780 of the IDOT Standard Specifications and the MUTCD, and be of the material type, size and color specified on the Plans.
   b. Pavement marking on freeways shall be placed with truck-mounted equipment. Markings on roads other than freeways may be placed with either truck-mounted or hand-operated equipment.
   c. Before applying the pavement marking material, the pavement shall be clean, dry, and free of debris or any other material that would reduce the adhesion of the markings on the pavement.
   d. Pavement markings shall be applied in accordance with the manufacturer's recommended instructions.
   e. Pavement markings shall be uniform and have clean, straight edges.
   f. Pavement marking words and symbols shall conform closely to the dimensions and spacing specified in the MUTCD, IDOT Standard Details, and the Plans.
   g. Deviations from the required dimensions and spacing or other departures from reasonable standards of professionalism will be cause for rejection by the Engineer.
21. Handicapped stalls shall be striped and signed in accordance with the Illinois Accessibility Code (IAC), latest edition and any other applicable ADA guidelines. Handicapped stalls shall be a minimum of sixteen (16) feet wide and signage shall be affixed to a post permanently mounted in the ground or wall and located in the center of the space no further than five (5) feet from the front of the accessible space. The minimum height to the bottom of the fine sign shall be four (4) feet. Handicapped stall striping shall be yellow in color.
22. All signs shall be in accordance with Section 720 of the IDOT Standard Specifications and the MUTCD, and be of the material type, size, and color specified on the Plans.
23. Raised reflective pavement markers shall be in accordance with Section 781 of the IDOT Standard Specifications and be recessed into the pavement as required by the applicable Jurisdictional Agency.
24. Pavement marking and marker removal shall be in accordance with Section 783 of the IDOT Standard Specifications.
25. All pavements, curb, curb and gutters, walks, etc. shall be cleaned to the satisfaction of the Village/City or applicable Jurisdictional Agency, Owner, and Engineer as necessary during construction and at the end of the project prior to the final acceptance.

SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

1. All soil erosion and sedimentation control (SESC) measures shall be installed and properly maintained in accordance with the Illinois Environmental Protection Agency's (IEPA) "Illinois Urban Manual", latest edition and "Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control", latest edition, and shall be followed as directed by the Village/City and Engineer. In addition, on sites that will ultimately result in the disturbance of one (1) acre or more the provisions outlined in the General National Pollutant Discharge Elimination System (NPDES) General Permit No. ILR10, latest edition, shall also be followed.
2. Prior to commencement of construction, on sites that will ultimately result in the disturbance of one (1) acre or more, the Contractor shall be responsible for obtaining a copy of the notice of coverage letter and the IEPA National Pollutant Discharge Elimination System (NPDES) General Permit ILR10 from the Owner. The Owner together along with the Contractor and/or other entities if so designated by the Owner, shall be responsible for ensuring that all the requirements of the General Permit and the Storm Water Pollution Prevention Plan (SWPPP) including but not limited to the installation, maintenance as well as the installation of any additional measures necessary that may be required, and inspections of the soil erosion and sediment control measures as well as completing all of the necessary applicable certifications, reports, logs, etc. Inspections are required to be performed at least once every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches of rain (or equivalent snowfall) or greater. The SWPPP and all the required paperwork shall be kept on-site and be organized and ready for viewing.
3. All erosion control measures are to be installed prior to any demolition, earth moving activities or other disturbance.
4. Soil Erosion Control measures shall include the provision of an erosion control fence as required along the area of disturbance, a stabilized construction entrance, and sediment traps or other inlet protection method at each inlet or catch basin.
5. Contractor to establish a temporary stabilized construction entrance as well as install all perimeter silt fence prior to the start of any clearing or grading activities.
6. Temporary gravel stabilized construction entrance shall be maintained, adjusted, and/or relocated as necessary to prevent mud and other debris from being tracked onto adjacent public roadways. Any mud or other debris that is tracked onto a public road shall be properly removed as soon as practical, but before the end of each working day.
7. After the start of mass grading and before all storm water conveyance improvements are in place and functional, all on-site storm water shall be temporarily diverted into the detention basin or a properly constructed temporary sedimentation basin or collection device, as per local requirements, so as to prevent surface waters from flowing onto adjacent property.
8. Disturbed areas shall be stabilized by seeding within seven (7) calendar days of the completion of disturbance. If construction activity on a portion of the site is to resume within fourteen (14) calendar days of the end of the last disturbance, then stabilization measures do not have to be initiated on that portion of the site by the 7th day after the completion of said disturbance. Areas with slopes 3H:1V or greater shall be stabilized with erosion control blanket or mat in addition to seeding.
9. The Contractor shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
10. No sediment or debris shall be allowed to enter the existing storm sewer system or flow off-site.
11. All temporary and permanent erosion and sedimentation control measures shall be maintained, repaired and/or replaced as necessary to ensure effective performance. If required, a designated erosion control inspector shall inspect all measures every seven (7) calendar days, or within twenty-four (24) hours of a 0.5-inch rain event or equivalent snowfall, and report where items are in non-compliance. Otherwise, the Contractor shall be responsible for the inspection as well as maintenance of all measures and shall be subject to the terms of Federal, State, and local requirements.
12. All temporary erosion and sedimentation control measures are to remain in place and be functioning until final stabilization. After final stabilization, the Contractor is to remove and properly dispose of all erosion and sedimentation measures according to Jurisdictional Agency requirements within thirty (30) days. All disturbed areas or trapped sediment that accumulates from said measures shall be permanently stabilized.
13. Topsoil stockpiles shall not be located in flood prone areas or buffers protecting wetlands, or waters of the United States or County. Stockpiles shall be protected from erosion by installing silt fence around the perimeter of the stockpile(s). Stockpiles shall be seeded within seven (7) calendar days of completion.
14. If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion. Discharges shall be routed through an effective sediment control measure (i.e., sediment Trap, sediment Basin, or other appropriate measure).
15. All storm sewers, drainage structures, catch basin sumps and/or retention/detention/sedimentation basins provided within this project are to be cleaned at the end of construction and prior to final acceptance. Cleaning may also be required during the course of construction if it is determined that the structures are not properly functioning and their performance is impaired.
16. Storm water conveyance swales, channels, streams or similar, if disturbed, are to be stabilized within 48 hours after the end of active disturbance.
17. Extreme caution shall be taken by the Contractor to prevent erosion and siltation during construction. The Contractor shall inspect catch basins and clean out if necessary. The contractor shall use silt/erosion control fence staked in place to prevent siltation of all drainage structures.
18. The Contractor shall water the site, as required during dry weather to control dust.
19. Erosion Control Maintenance and Replacement Notes:
   a. Silt fences are to be cleaned as required during the course of the construction of the project or if the Engineer determines that they are not properly functioning and their performance is impaired.
   b. Sediment traps and basins shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
   c. Should the fabric decomposed or become ineffective prior to the end of the expected life and the barrier still be necessary, the fabric shall be replaced promptly.
   d. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.
   e. Mud or dust which is deposited on adjacent roadways shall be removed at the end of each day.
20. The sediment and erosion control measures indicated on the plans are the minimum requirements. Additional measures may be required, as directed by the Engineer or Jurisdictional Agency.
21. The Contractor shall assume responsibility for maintenance of all soil erosion and sedimentation control measures during and after construction. However, the Contractor shall not transfer these improvements for the purpose of maintenance until they have completed with the above and until they have received final inspection and approval from the Jurisdictional Agency or designated erosion control inspector and a Notice of Termination has been filed (NOT).
22. The work shall generally follow the following typical Construction Sequencing:
   a. Installation of them soil erosion and sediment control (SE/SC) measures:
      1. Selective vegetation removal for silt fence installation
      2. Silt fence installation
      3. Construction fencing around areas not to be disturbed
      4. Stabilized construction entrance
   b. Install tree protection fencing and tree removal where necessary (clear & grub)
   c. Construct sediment trapping devices (sediment traps, basins, etc.)
   d. Construct detention facilities and outlet control structure with restrictor.
   e. Strip and stockpile topsoil and mass grade the site
   f. Temporarily stabilize topsoil stockpiles (seed and silt fence around toe of slope)
   g. Install sanitary sewer, storm sewer, watermain and associated inlet & outlet protection
   h. Permanently stabilize detention basins with seed and erosion control blanket
   i. Temporarily stabilize all areas including lots that have reached temporary grade
   j. Install roadways, parking areas, etc.
   k. Final grade and permanently stabilize all outlot areas with topsoil and seed
   l. Install structures and grade individual lots
   m. Permanently stabilize site with topsoil and seed
   n. Remove all temporary SE/SC measures after the site is stabilized with vegetation

STANDARD SITE DEVELOPMENT PLAN NOTES

1. No excavation, tree removal, or underground utility work (including drainage tiles or buried utility service lines) not shown on this plan shall be allowed.
2. All proposed storm sewers, swales or other drainage improvements shall be constructed and in operation prior to vertical construction.
3. All landscaping shall conform to the grades shown hereon and shall be limited to the area within the construction limits shown. Any work outside the construction limits or requiring additional grading shall require submittal and Village approval of a separate Landscape Plan.
4. Topography was prepared by HAEGER ENGINEERING. Certification of the accuracy of this topography is expressly made a part of the design engineer's certification of this site plan.
5. All excess fill or spoil shall be removed from the site or stored in the location indicated on this plan.
6. In order to prevent Soil Erosion all areas disturbed during construction shall be seeded, sodded, or planted in some approved type of ground cover within thirty days after grading is completed (weather permitting).
7. Sump Pumps shall discharge to a road ditch, swale, or storm sewer.
8. Driveway culverts shall be a 12" diameter (unless requested to be larger by the Village Engineer) of Reinforced Concrete Pipe with flared end sections and shall extend a minimum of four (4) feet past the edge of the driveway for each one (1) foot of depth below the finished surface on each side.
9. Overhead sewers systems are required regardless of the sewer depth.
10. Sanitary sewer service shall be PVC SDR 26 conforming to ASTM D2241with joints conforming to ASTM D3139. The proposed sewer service may be connected to the existing sanitary sewer service if a current videotape is provided to the office of the Village Engineer for review and, in the sole opinion of the Village Engineer, the existing service is in sound condition. If the existing service is not sound, the new service must connect to the existing wye or tee at the main.
11. If, after construction is completed, the drainage on this site proves to be inadequate or flows onto adjacent property from impervious areas, in the opinion of the Village Engineer, a swale or storm drain shall be constructed by the Owner to the nearest feasible drainage outlet.
12. All vehicles, construction equipment, and material associated with this development shall be parked, operated and stored on the subject property only.
13. One copy of the approved site development plan shall be on site throughout construction operations.
14. Maximum vehicle weight limit on all streets in the Village is 6 tons per axle.

TREE PROTECTION NOTES

1. Existing vegetation which is to remain in place shall be protected against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering by stockpiling of construction materials or excavated materials within the drip line, excess foot or vehicular traffic or parking of vehicles within the drip line.
2. All trees to remain shall be protected with a fence.
3. Existing vegetation which is to remain in place shall be watered as required to maintain its health during the course of construction operations.
4. Protection shall be provided for roots over 1-1/2" in diameter which are cut during construction operations. Whenever such a root is cut, the cut faces shall be coated with an emulsified asphalt or other acceptable coating specially formulated for horticultural use on damaged or cut plant tissues. All exposed roots shall be temporarily covered with wet burlap to prevent the roots from drying out. Exposed roots shall be provided with earth cover as soon as possible.
5. Vegetation that becomes damaged by construction operations shall be repaired or replaced in a manner acceptable to the Village.
6. Damaged trees shall be repaired by a certified Arborist. Damaged trees which cannot be repaired and restored to full growth status, as determined by the Arborist, shall be replaced.
7. No construction equipment shall be operated or construction material or excavated material stored outside of the protective fencing or in areas of existing trees.
8. All tree and brush removal shall be done by hand, and all stumps are to be ground out, not bulldozed.

No.	Revision	Date

HAEGER ENGINEERING
consulting engineers • • land surveyors
100 East State Parkway, Schaumburg, IL 60173 Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No.: 184-003152
www.haegerengineering.com

GENERAL NOTES & SPECIFICATIONS

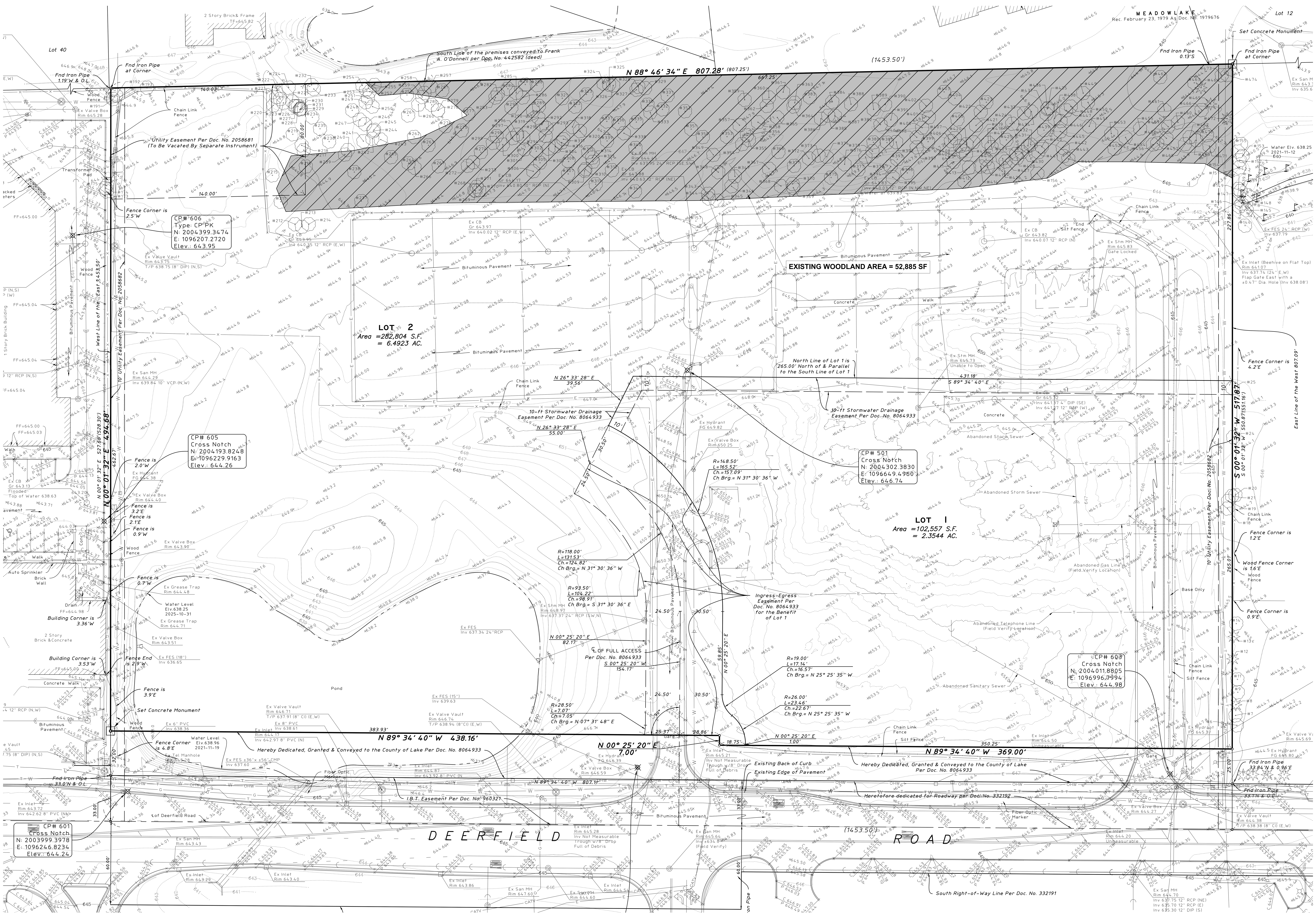
FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS

3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager:	P A C
Engineer:	J N
Date:	06/30/2026
Project No.	20-147
Sheet	C2.1 / C8

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Plot Date: Jul 06, 2026 - 2:41pm Plotted By: phil-c
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C1-TITLE AND NOTES.dwg



No. | Date | Revision

HAEGER ENGINEERING
consulting engineers · land surveyors
100 East State Parkway, Schaumburg, IL 60173 · Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No. 184-003152
www.haegerengineering.com

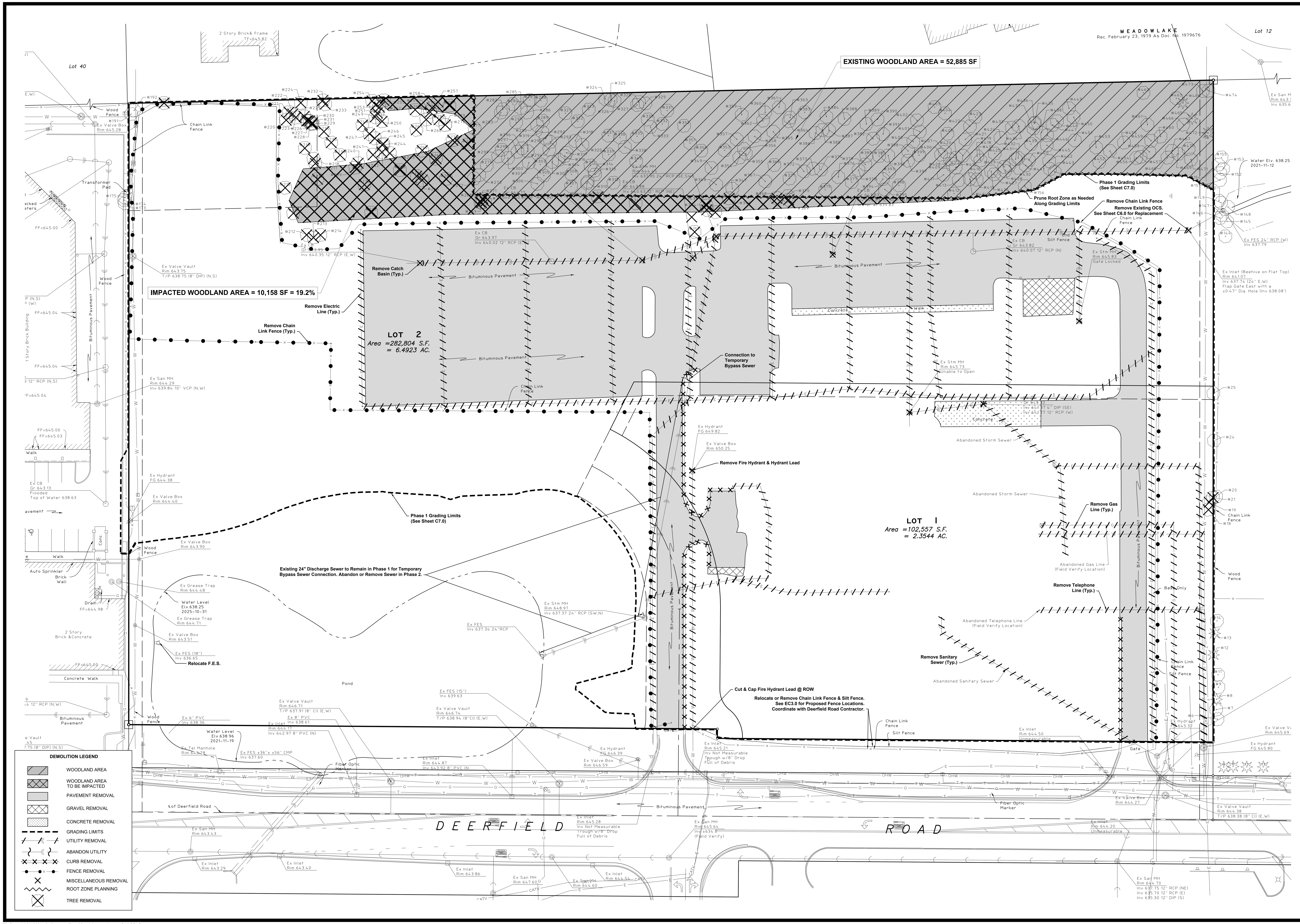
EXISTING CONDITIONS PLAN

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager:	PAC
Engineer:	JN
Date:	06/30/2026
Project No.	20-147
Sheet	C3.0 / C8

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Plot Date: Jul 06, 2026 - 2:42pm Plotted By: phil-c Layout: C3.0-EX COND
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C3-EX COND.dwg



Revision | Date | No.

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No. 184-003152
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DEMOLITION PLAN

FEDERAL LIFE SITE PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: PAC
Engineer: JN
Date: 06/30/2026
Project No. 20-147
Sheet C4.0 / C8

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Plot Date: Jul 06, 2026 - 2:42pm Plotted By: phil-c Layout: C4.0-DEMO
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C4-DEMO.dwg

NORTH

15 0 30

Scale: 1" = 30'

EXISTING WOODLAND AREA = 52,885 SF

IMPACTED WOODLAND AREA = 10,158 SF = 19.2%

Lot 40

Lot 12

MEADOWLAKE
Rec. February 23, 1979 As Doc. No. 1979676

South Line of the premises conveyed to Frank A. O'Donnell per Doc. No. 442582 (deed)

Utility Easement Per Doc. No. 2058681 (To Be Vacated By Separate Instrument)

LOT 5

LOT 4

LOT 2

LOT 3

LOT 1

R.O.W.

Temporary Grading & Construction Easement

West Line of the East 1,453.50'

10' Utility Easement Per Doc. No. 2058682

East Line of the West 807.09'

10' Utility Easement Per Doc. No. 2056682

40' Overflow Weir

Water Elv. 638.25 2021-11-12

Water Level Elv.638.25 2025-10-31

Water Level Elv.638.96 2021-11-19

Pond

Ingress-Egress Easement Per Doc. No. 8064933 for the Benefit of Lot 1

Hereby Dedicated, Granted & Conveyed to the County of Lake Per Doc. No. 8064933

Existing Back of Curb

Existing Edge of Pavement

Heretofore dedicated for Roadway per Doc. No. 332192

I.B.T. Easement Per Doc. No. 960321

South Right-of-Way Line Per Doc. No. 332191

DEERFIELD ROAD

12+00 13+00 14+00 15+00 16+00 17+00 11+00 10+00

39' B-B 36' E-E 65'

10'

Wood Fence
Chain Link Fence
Transformer Pad
Bituminous Pavement
Concrete
Walk
Concrete Walk
Base Only
Silt Fence
Gate
Fiber Optic Marker
Auto Sprinkler
Brick Wall
Drain
Conc.
2 Story Brick& Frame TF=645.82
2 Story Brick Building
2 Story Brick &Concrete
FF=645.00
FF=645.04
FF=645.03
FF=644.98
OHW
UHW

PAVING LEGEND

BITUMINOUS PAVEMENT - ROAD
- 2" Hot Mix Asphalt (HMA) Surface Course, Mix D, N50
- 4" Hot Mix Asphalt (HMA) Binder Course, IL-19, N50
- 8" Aggregate Base Course, CA-6, Crushed
- Compacted Sub-Grade

PHASE 1

CONCRETE SIDEWALK
- 5" PCC Walk (Class SI)
- 4" Aggregate Base Course, CA-6, Crushed
- Compacted Sub-Grade

LANDSCAPE RESTORATION
- 4" Topsoil
-IDOT Class 2A Seed

WET MESIC PRAIRIE PLANTINGS
- 4" Topsoil
-See Planting Plan C7.1

EMERGENT PLANTINGS
- 4" Topsoil
-See Planting Plan C7.1

IMPACTED WOODLANDS
- See Demolition Plan C4.0

EXISTING WOODLANDS

No.	Revision	Date

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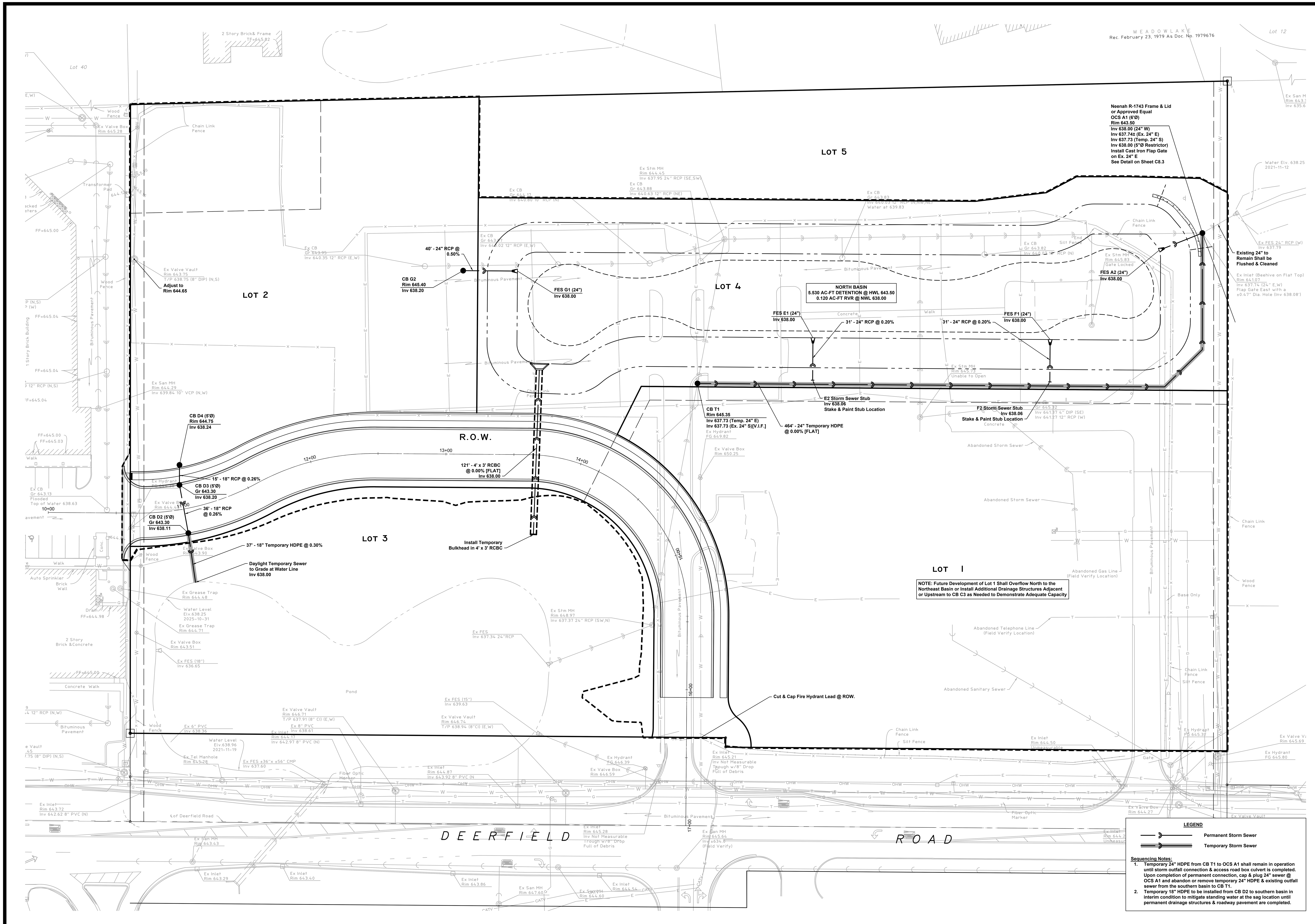
GEOMERTY PLAN

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: PAC
Engineer: JN
Date: 06/30/2026
Project No. 20-147
Sheet C5.0 / C8

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File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C5-GEOMETRY.dwg



LEGEND

Permanent Storm Sewer

Temporary Storm Sewer

Sequencing Notes:

1. Temporary 24" HDPE from CB T1 to OCS A1 shall remain in operation until storm outfall connection & access road box culvert is completed. Upon completion of permanent connection, cap & plug 24" sewer @ OCS A1 and abandon or remove temporary 24" HDPE & existing outfall sewer from the southern basin to CB T1.
2. Temporary 18" HDPE to be installed from CB D2 to southern basin in interim condition to mitigate standing water at the sag location until permanent drainage structures & roadway pavement are completed.

No.	Date	Revision

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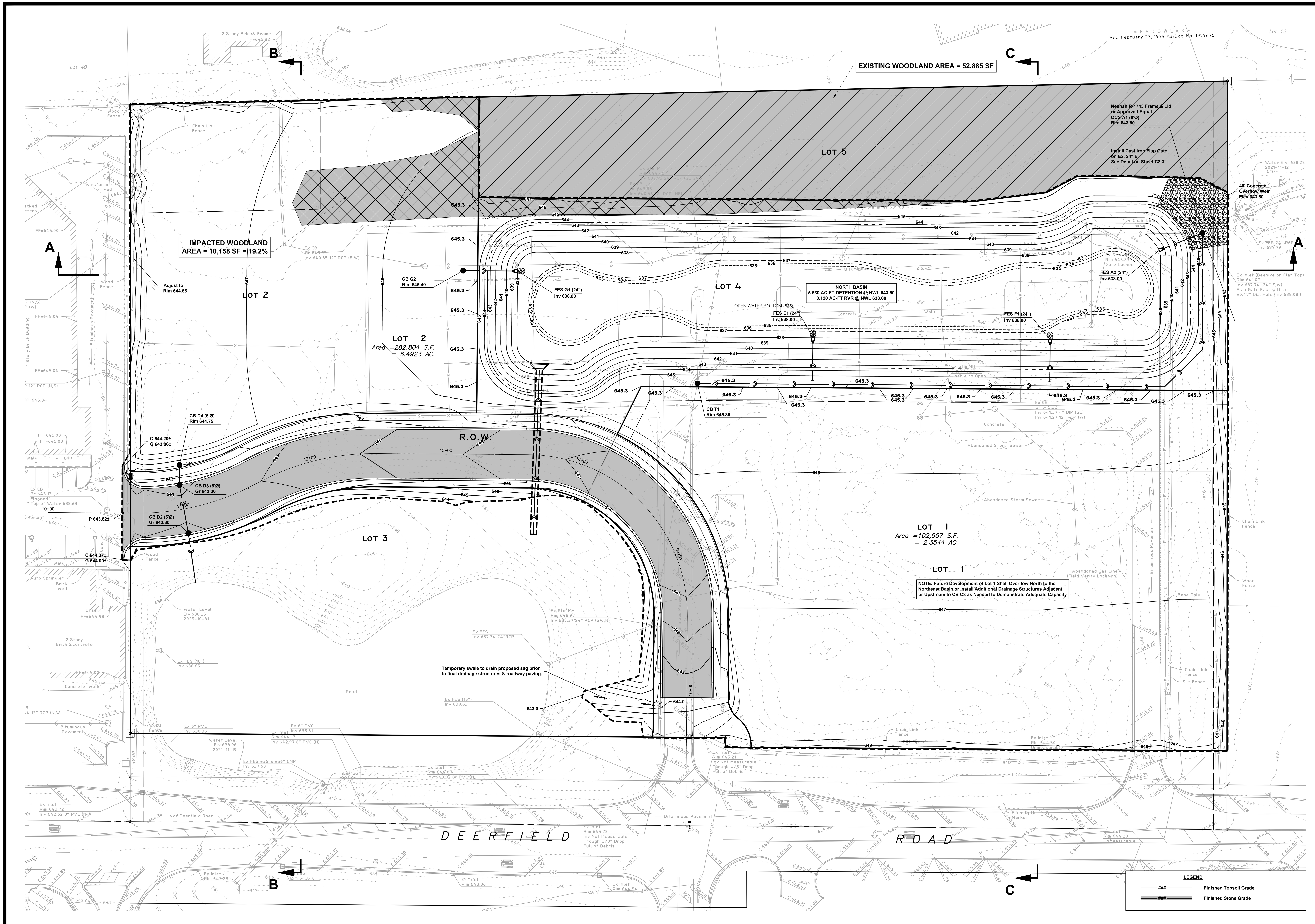
UTILITY PLAN

FEDERAL LIFE SITE PHASE 1 IMPROVEMENT PLANS

3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: PAC
Engineer: JN
Date: 06/30/2026
Project No. 20-147
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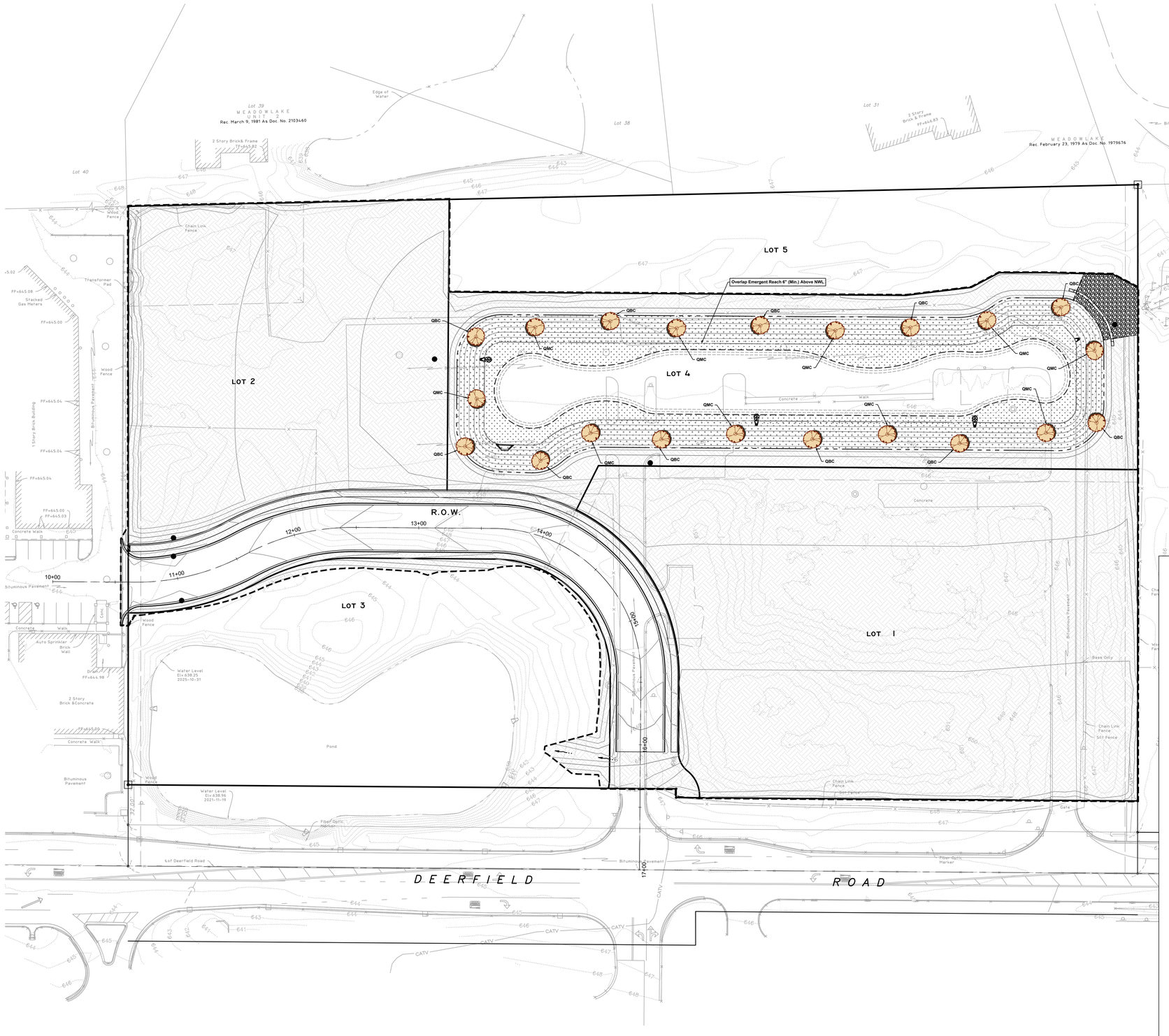
GRADING PLAN

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: PAC
Engineer: JN
Date: 06/30/2026
Project No. 20-147
Sheet C7.0 / C8

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Plot Date: Jul 06, 2026 - 2:43pm Plotted By: phil-c Layout: C7.0-GRADING
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C7-GRADING.dwg



NORTH

20 0 40

Scale: 1" = 40'

PLANTING LEGEND

WET MESIC PRAIRIE SEED MIXTURE

SCIENTIFIC NAME	COMMON NAME	OZ / ACRE	LBS / ACRE
Grasses & Sedges:			
Andropogon gerardii	Big bluestem	13.8	
Bouteloua curtipendula	Side oats grama	47.2	
Carex vulpinoidea	Brown fox sedge	0.9	
Panicum virgatum	Switch grass	15.7	
Schizachyrium scoparium	Little bluestem	200.0	
Total Grasses		**277.6**	**17.4**
Forbs:			
Asclepias tuberosa	Butterfly weed	16.2	
Asclepia incarnata	Swamp milkweed	12.5	
Echinacea pallida	Pale purple coneflower	17.0	
Echinacea purpurea	Purple coneflower	12.9	
Eryngium yuccifolium	Rattlesnake master	10.6	
Monarda fistulosa	Wild bergamot	0.7	
Penstemon digitalis	Foxglove beard tongue	0.6	
Petalostemum purpurea	Purple prairie clover	7.1	
Rudbeckia hirta	Black-eyed susan	1.0	
Ratibida pinnata	Yellow coneflower	2.2	
Rudbeckia subtomentosa	Sweet black-eyed Susan	1.9	
Symphoyotrichum nova-angliae	New England aster	1.5	
Tradescantia ohiensis	Spiderwort	10.8	
Total Forbs		**95.0**	**5.9**
Total All Species		**372.6**	**23.3**
Temporary Cover Crop:			
Elymus canadensis	Canada wild rye	8.0	
Avena sativa	Common oats	320.0	

EMERGENT PLANT PLUGS

SCIENTIFIC NAME	COMMON NAME	# OF PLUGS	SPACING	NOTES
Pontederia cordata	Pickerel Weed	**213**	Alt. 4.0' O.C.	12" below NWL to 8" below NWL
Sagittaria latifollia	Arrowhead	**193**	Alt. 3.0' O.C.	8" below NWL to 4" below NWL
Sparganium eurycarpum	Burreed	**193**	Alt. 3.0' O.C.	
Iris virginica	Blue flag iris	**321**	Alt. 3.0' O.C.	4" below NWL to 6" above NWL
Juncus effusus	Common Rush	**321**	Alt. 3.0' O.C.	

NATIVE TREES

CODE	SCIENTIFIC NAME	COMMON NAME	NUMBER	SIZE
QBC	*Quercus bicolor*	Swamp white oak	**11**	2.0' CALIPER
QMC	*Quercus macrocarpa*	Bur oak	**10**	2.0' CALIPER

No.	Revision	Date

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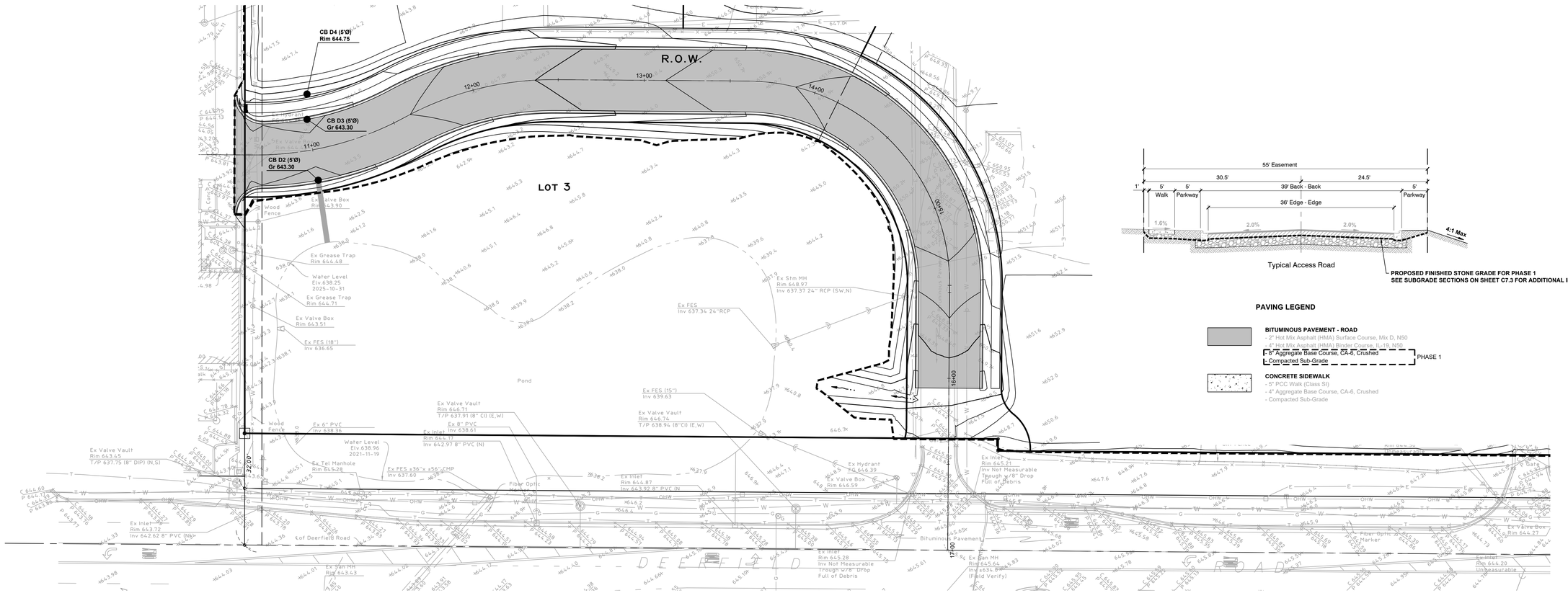
PLANTING PLAN

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet C7.1/C8

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Plot Date: Jul 06, 2026 - 2:44pm Plotted By: phil-c Layout: C7.1-PLANTING
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C7-GRADING.dwg



Typical Access Road

PROPOSED FINISHED STONE GRADE FOR PHASE 1
SEE SUBGRADE SECTIONS ON SHEET C7.3 FOR ADDITIONAL INFORMATION

PAVING LEGEND

BITUMINOUS PAVEMENT - ROAD
- 2" Hot Mix Asphalt (HMA) Surface Course, Mix D, N50
- 4" Hot Mix Asphalt (HMA) Binder Course, IL-19, N50
- 8" Aggregate Base Course, CA-6, Crushed
- Compacted Sub-Grade

PHASE 1

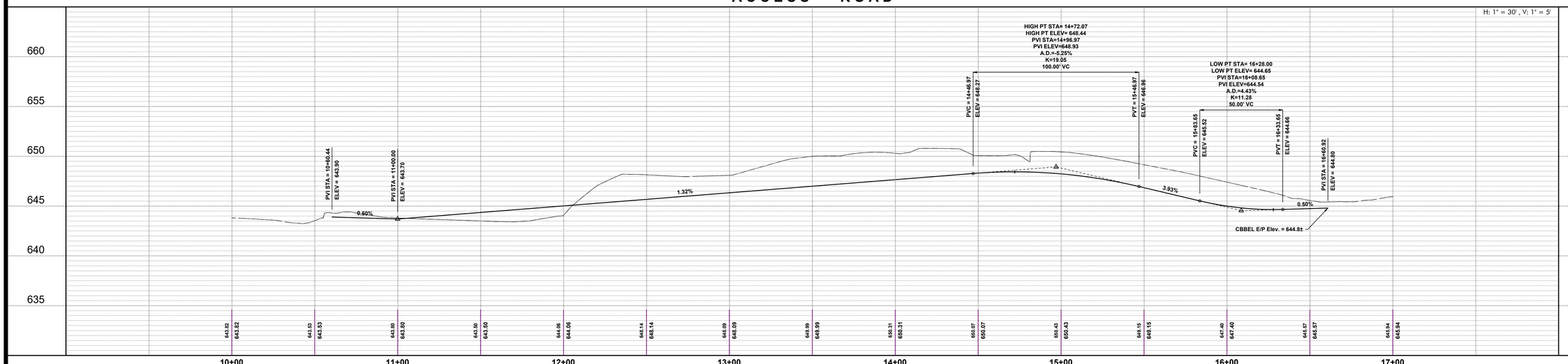
CONCRETE SIDEWALK
- 5" PCC Walk (Class SI)
- 4" Aggregate Base Course, CA-6, Crushed
- Compacted Sub-Grade

NORTH

15 0 30

Scale: 1" = 30'

ACCESS ROAD



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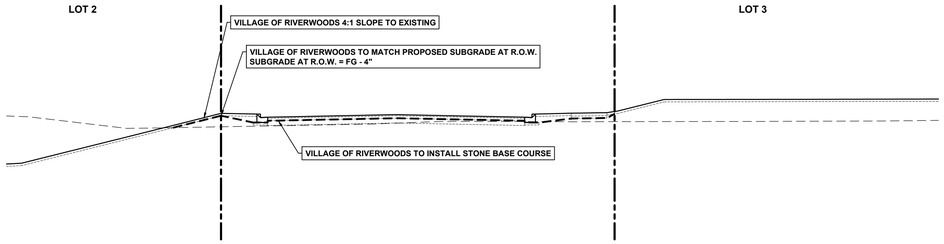
ACCESS ROAD PLAN & PROFILE

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

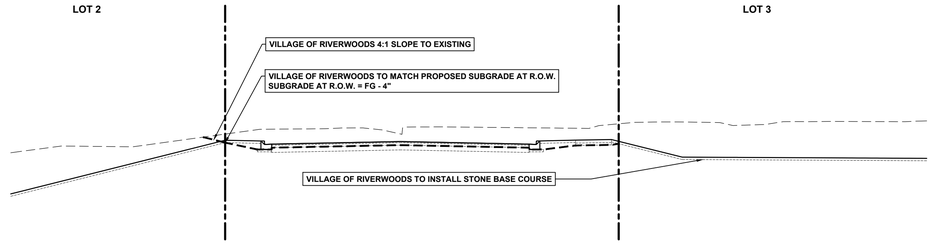
Project Manager:	P A C
Engineer:	J N
Date:	06/30/2026
Project No.	20-147
Sheet	C7.2 / C8

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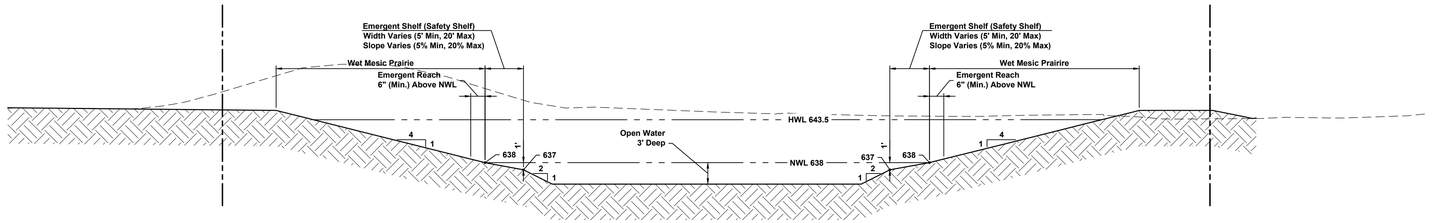
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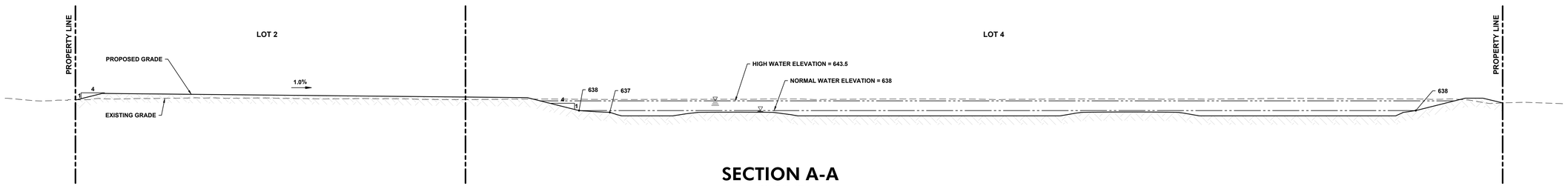
SUBGRADE ABOVE EXISTING GROUND
AT SHARED LCDOT / VILLAGE OF RIVERWOODS WORK LIMITS



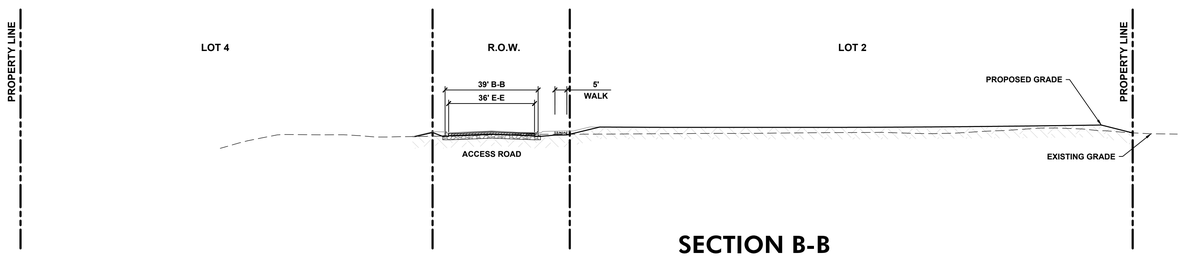
SUBGRADE BELOW EXISTING GROUND
AT SHARED LCDOT / VILLAGE OF RIVERWOODS WORK LIMITS



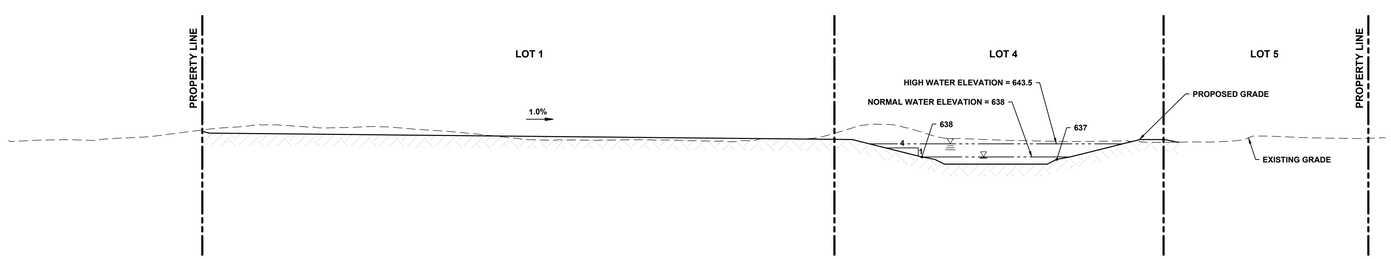
NORTHEAST BASIN TYPICAL SECTION



SECTION A-A
(SCALE 1" = 30')



SECTION B-B
(SCALE 1" = 30')



SECTION C-C
(SCALE 1" = 30')

No.	Revision	Date

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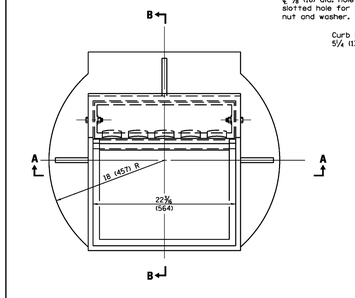
TYPICAL SECTIONS

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

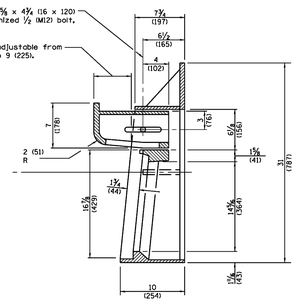
Project Manager:	P A C
Engineer:	J N
Date:	06/30/2026
Project No.	20-147
Sheet	C7.3 / C8

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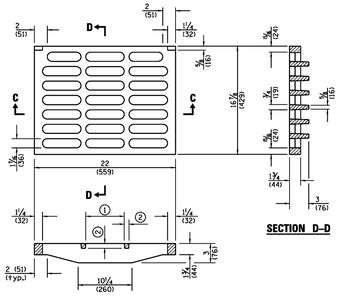
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CAST FRAME



SECTION B–B

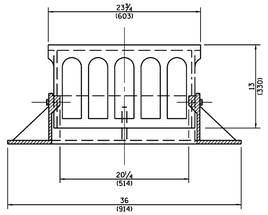


SECTION D–D

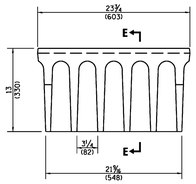
SECTION C–C

① = 6 (152) typ.

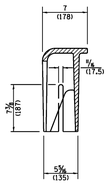
② = 3/4 (19) typ.



SECTION A–A



ALTERNATE CURB BOX



SECTION E–E

CAST GRATE

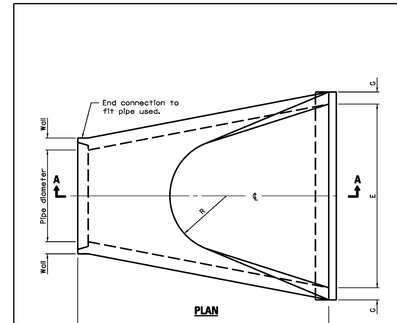
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

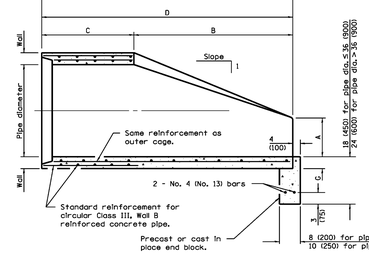
DATE	REVISIONS
1-1-15	Revised dimensions of frame and alternate curb box.
1-1-09	Switched units to English (metric).

FRAME AND GRATE TYPE 3

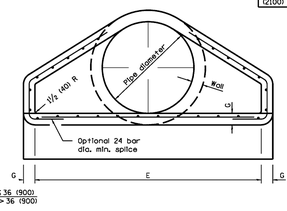
STANDARD 604006-05



PLAN



SECTION A–A



END VIEW

PIPE DIA.	APPROX. QTY. lbs. (kg)	WALL	A	B	C	D	E	G	R	APPROX. SLOPE
12 (300)	530 (240)	2 (51)	4 (102)	24 (610)	4'-0 5/8" (1,241 m)	6'-0 5/8" (1,851 m)	24 (610)	2 (51)	9 (229)	1:2.4
15 (375)	740 (335)	2 1/4 (57)	6 (152)	27 (686)	3'-10" (1,168 m)	6'-1" (1,854 m)	30 (762)	2 1/4 (57)	11 (280)	1:2.4
18 (450)	990 (450)	2 1/2 (64)	9 (229)	27 (686)	3'-10" (1,168 m)	6'-1" (1,854 m)	36 (914)	2 1/2 (64)	12 (305)	1:2.4
21 (525)	1280 (580)	2 3/4 (70)	9 (229)	35 (889)	3'-10" (1,168 m)	6'-1" (1,854 m)	39 (965)	2 3/4 (70)	13 (330)	1:2.4
24 (600)	1520 (690)	3 (76)	9 1/2 (241)	3'-7 1/2" (1,105 m)	30 (762)	6'-1 1/2" (1,867 m)	4'-0" (1,219 m)	3 (76)	14 (356)	1:2.5
27 (675)	1930 (875)	3 1/4 (83)	10 1/2 (267)	4'-0" (1,219 m)	25 1/2 (648)	6'-1 1/2" (1,867 m)	4'-6" (1,372 m)	3 1/4 (83)	14 1/2 (368)	1:2.4
30 (750)	2190 (995)	3 1/2 (89)	12 (305)	4'-6" (1,375 m)	29 1/2 (502)	6'-1 3/4" (1,874 m)	5'-0" (1,524 m)	3 1/2 (89)	15 (381)	1:2.5
33 (825)	3200 (1450)	3 3/4 (95)	13 1/2 (343)	4'-10 1/2" (1,486 m)	39 1/4 (997)	8'-1 3/4" (2,483 m)	5'-6" (1,676 m)	3 3/4 (95)	17 1/2 (445)	1:2.5
36 (900)	4100 (1860)	4 (102)	15 (381)	5'-3" (1,6 m)	34 3/4 (883)	8'-1 3/4" (2,483 m)	6'-0" (1,829 m)	4 (102)	20 (508)	1:2.5
42 (1050)	5380 (2440)	4 1/2 (114)	21 (533)	5'-3" (1,6 m)	35 (889)	8'-2" (2,489 m)	6'-6" (1,981 m)	4 1/2 (114)	22 (559)	1:2.5
48 (1200)	6550 (2970)	5 (127)	24 (610)	6'-0" (1,829 m)	26 (660)	8'-2" (2,489 m)	7'-0" (2,134 m)	5 (127)	22 (559)	1:2.5
54 (1350)	8240 (3740)	5 1/2 (140)	27 (686)	5'-5" (1,651 m)	35 (889)	8'-4" (2,54 m)	7'-6" (2,286 m)	5 1/2 (140)	24 (610)	1:2.0
60 (1500)	8730 (3960)	6 (152)	35 (889)	5'-0" (1,524 m)	39 (991)	8'-3" (2,515 m)	8'-0" (2,438 m)	5 (127)	•	1:1.9
66 (1650)	10710 (4860)	6 1/2 (165)	30 (762)	6'-0" (1,829 m)	27 (686)	8'-3" (2,515 m)	8'-6" (2,591 m)	5 1/2 (140)	•	1:1.7
72 (1800)	12520 (5680)	7 (178)	36 (914)	6'-6" (1,981 m)	21 (533)	8'-3" (2,514 m)	9'-0" (2,743 m)	6 (152)	•	1:1.8
78 (1950)	14770 (6700)	7 1/2 (191)	36 (914)	7'-6" (2,286 m)	21 (533)	9'-3" (2,819 m)	9'-6" (2,896 m)	6 1/2 (165)	•	1:1.8
84 (2100)	18160 (8240)	8 (203)	36 (914)	7'-6 1/2" (2,299 m)	21 (533)	9'-3 1/2" (2,832 m)	10'-0" (3,048 m)	6 1/2 (165)	•	1:1.6

• Radius as furnished by manufacturer

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

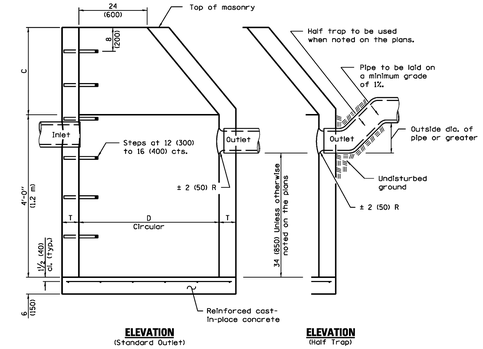
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
APPROVED January 1, 2011
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Clarified ref. to pipe dia. on Section A-A. Changed 'inner' to 'outer' cage ref.
1-1-09	Switched units to English (metric).

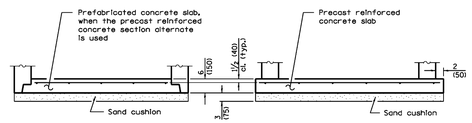
PRECAST REINFORCED CONCRETE FLARED END SECTION

STANDARD 542301-03



ELEVATION
(Standard Outlet)

ELEVATION
(Half Trap)



ALTERNATE BOTTOM SLAB

ALTERNATE MATERIALS FOR WALLS	D	C•	T (min.)
Concrete Masonry Unit	4'-0" (1,2 m) 5'-0" (1,5 m)	30 (750) 3'-9" (1,15 m)	5 (125) 5 (125)
Brick Masonry	4'-0" (1,2 m) 5'-0" (1,5 m)	30 (750) 3'-9" (1,15 m)	8 (200) 8 (200)
Precast Reinforced Concrete Section	4'-0" (1,2 m) 5'-0" (1,5 m)	30 (750) 3'-9" (1,15 m)	4 (100) 5 (125)
Cast-in-place Concrete	4'-0" (1,2 m) 5'-0" (1,5 m)	30 (750) 3'-9" (1,15 m)	6 (150) 6 (150)

• For precast reinforced concrete sections, dimension "C" may vary from the dimension given to plus 6 (150).

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.20 sq. in./ft (420 sq. mm/m) in both directions with a maximum spacing of 12 (300).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602601 for optional precast reinforced concrete flat slab top.

See Standard 602701 for details of steps.

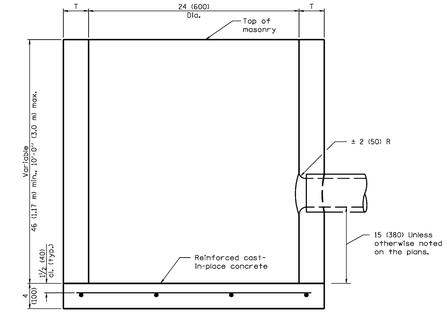
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2011
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Added 'Outside' to half trap note. Detail rein. in slabs.
	Revised general notes.
1-1-09	Switched units to English (metric).

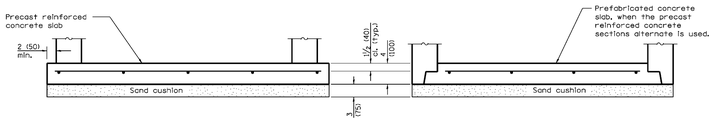
CATCH BASIN TYPE A

STANDARD 602001-02



ALTERNATE MATERIALS FOR WALLS	T (min)
Precast Reinforced Concrete Section	3 (75)
Concrete Masonry Unit	5 (125)
Cast-in-Place Concrete	6 (150)
Brick Masonry	8 (200)

ELEVATION



ALTERNATE BOTTOM SLAB

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.27 sq. in./ft. (570 sq. mm/m) in both directions with a maximum spacing of 9 (230).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2011
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Detailed rein. in slabs.
	Added max. limit to height.
	Added general notes.
1-1-09	Switched units to English (metric).

CATCH BASIN TYPE C

STANDARD 602011-02

No.	Revision	Date

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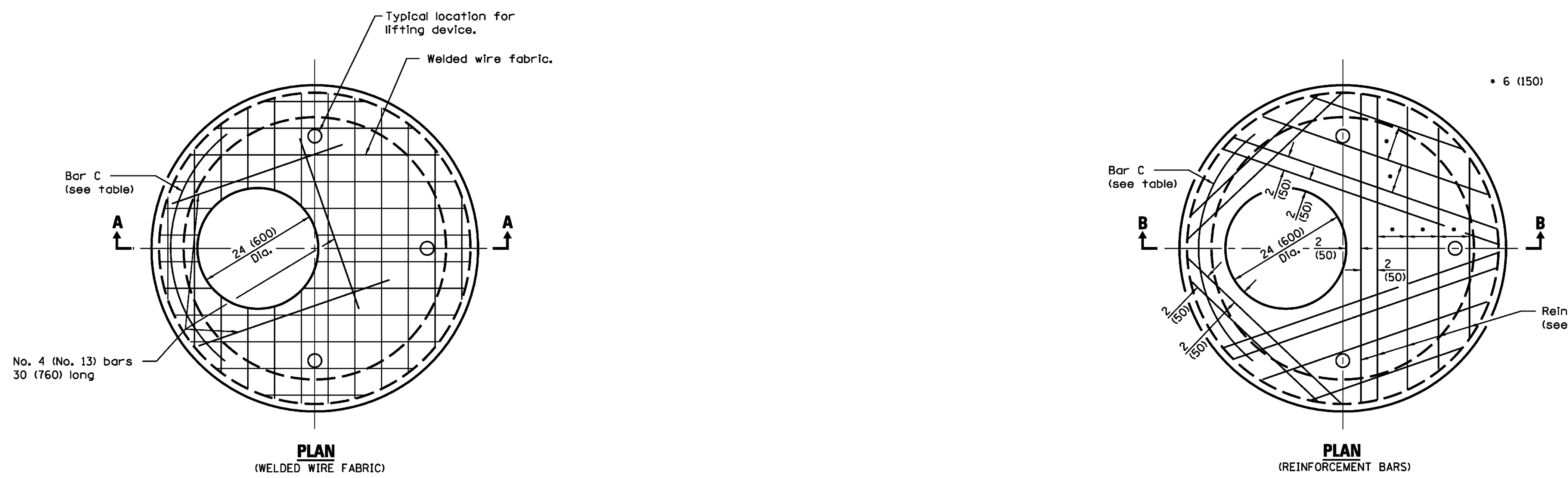
TYPICAL DETAILS

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet C8.0 / C8

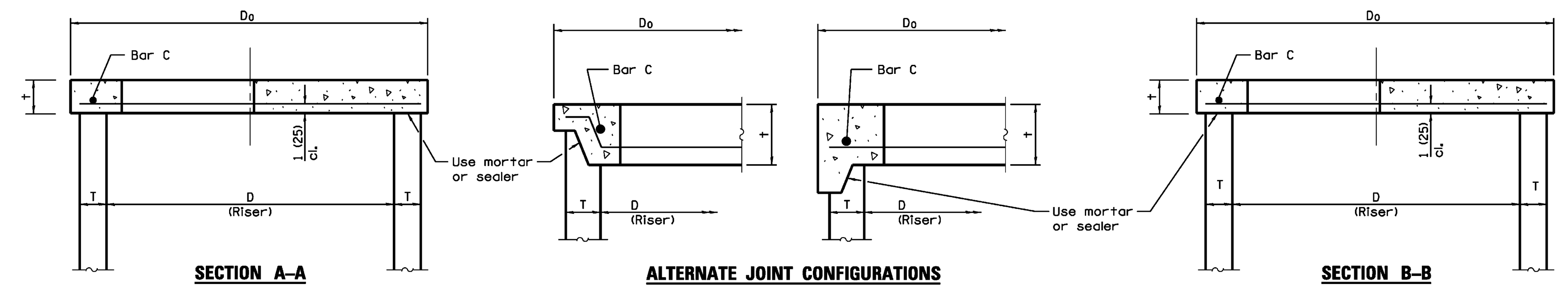
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Plot Date: Jul 06, 2026 - 2:45pm Plotted By: phil-c Layout: 8.0-IDOT
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C8-DETAILS.dwg



PLAN
(WELDED WIRE FABRIC)

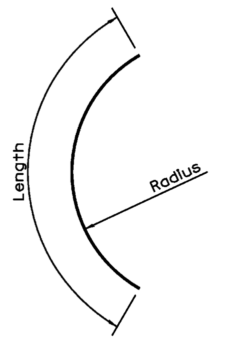
PLAN
(REINFORCEMENT BARS)



SECTION A–A

ALTERNATE JOINT CONFIGURATIONS

SECTION B–B



BAR C

GENERAL NOTES

The flat slab top may be used in lieu of the tapered tops shown on Standards 602001, 602011, 602016, 602306, 602401, or 602501 at the option of the Contractor or when field conditions prohibit the use of tapered tops.

All dimensions are in millimeters (inches) unless otherwise shown.

TABLE

D	T	Do (min.)	t	Reinforcement "As" W.W.F. each direction	OR Bar size	No. 4 (No. 13) Bar C Length	Radius
36 (900)	See applicable Standards	D + 2T	6 (150)	0.20 sq. in./ft. (425 sq. mm/m)	No. 4 (No. 13)	4'-0" (1.2 m)	19 (480)
4'-0" (1.2 m)			6 (150)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16)	4'-6" (1.35 m)	26 (660)
5'-0" (1.5 m)			8 (200)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16)	5'-0" (1.5 m)	32 (810)

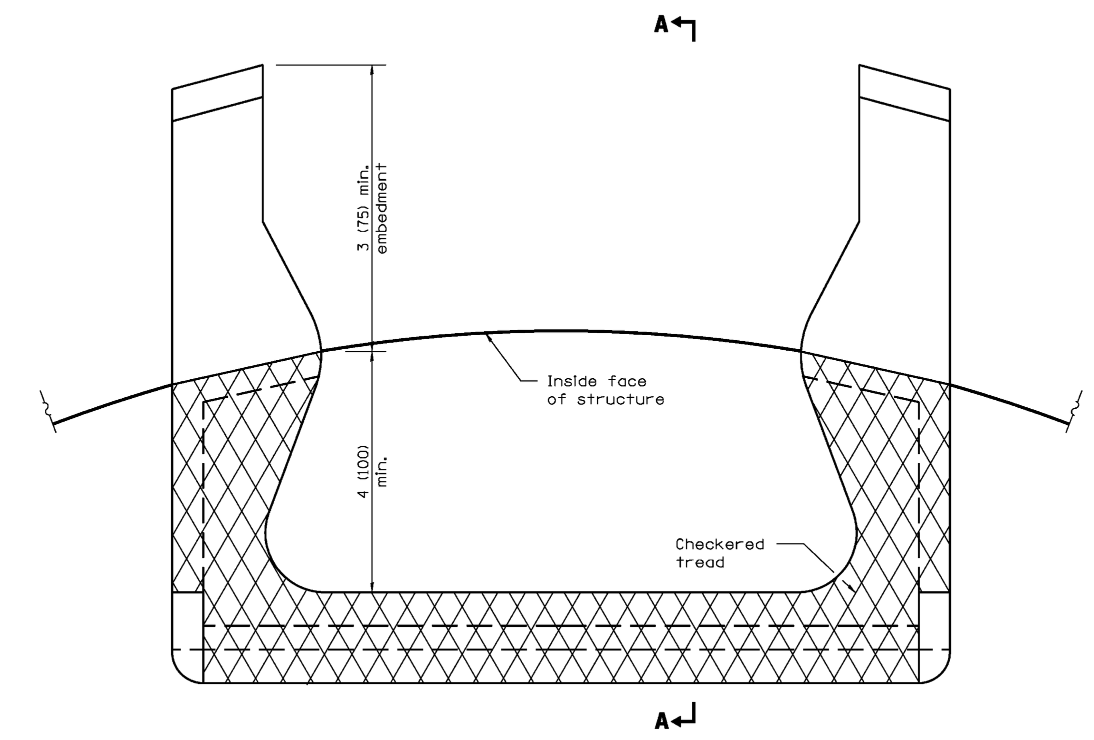
Illinois Department of Transportation
PASSED January 1, 2014
Michael Brand
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Omitted detail for lifting hole or lifting loop.
1-1-09	Switched units to English (metric).

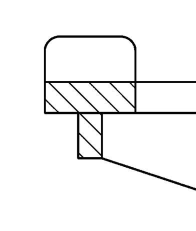
PRECAST REINFORCED CONCRETE FLAT SLAB TOP

STANDARD 602601–03

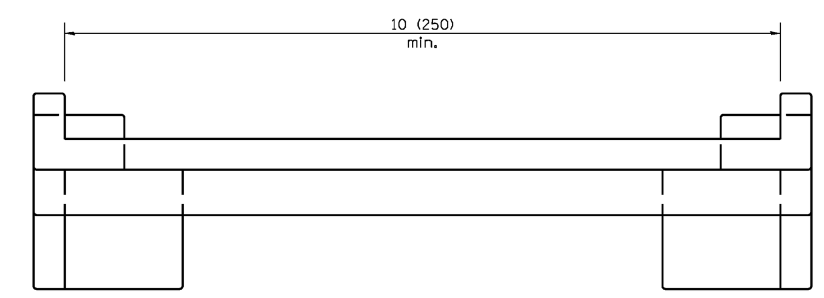
CAST IRON STEPS



PLAN VIEW



SECTION A–A



ELEVATION VIEW

All dimensions are in inches (millimeters) unless otherwise shown.

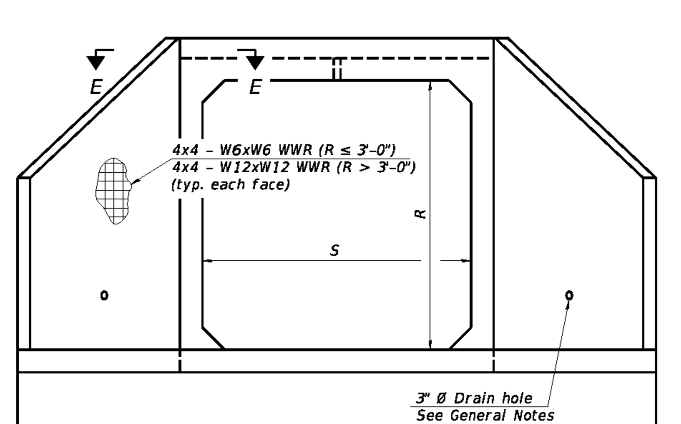
Illinois Department of Transportation
PASSED January 1, 2009
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
4-1-06	Revised title, drawings, and added plastic steps on sheet 2.

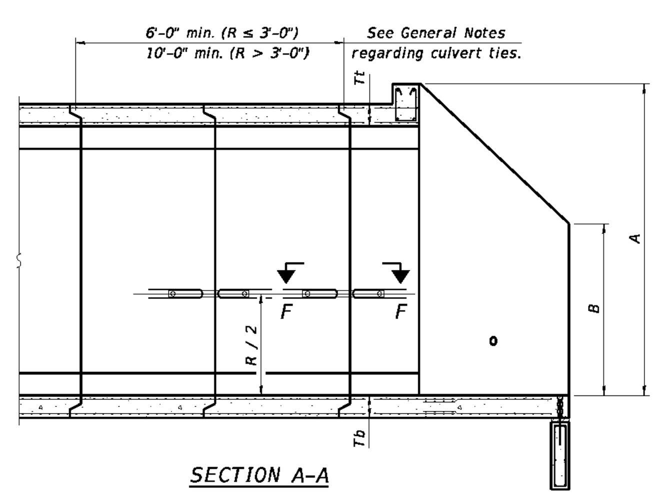
MANHOLE STEPS

(Sheet 1 of 2)

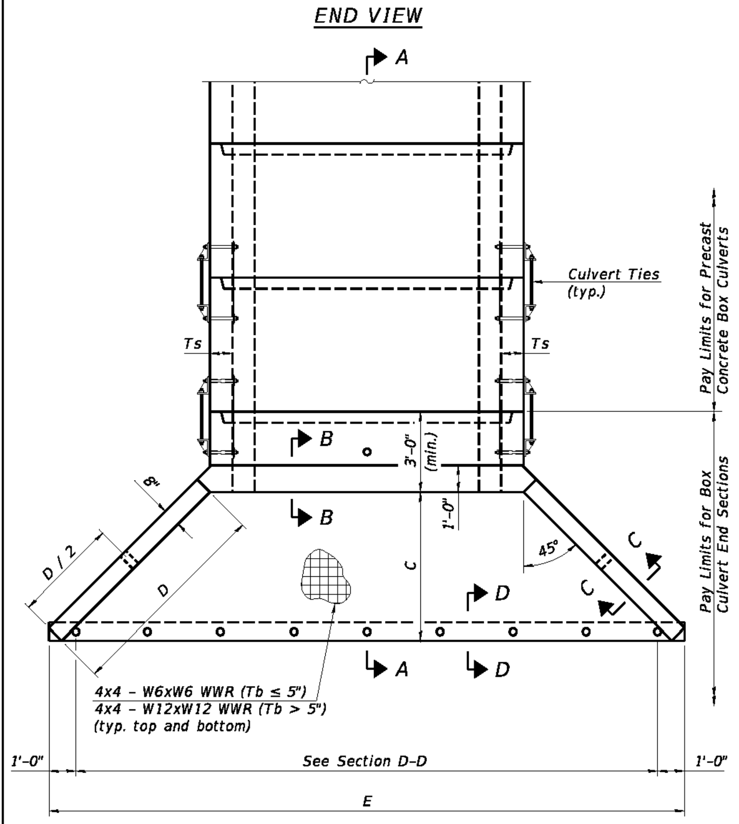
STANDARD 602701–02



END VIEW



SECTION A–A



PLAN

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be ncreased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than ½" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire reinforcement (WWR). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in an area of reinforcement equal to or greater than that provided by the WWR. Minimum lap lengths detailed herein are applicable to WWR and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	Tt	Tb	Ts	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10⅝"	4'-1"	10'-4⅝"	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7⅞"	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10⅝"	5'-6"	12-4⅝"	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7⅞"	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4½"	2'-2½"	2'-11⅜"	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8½"	3'-10"	11'-2⅜"	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4½"	2'-8½"	3'-11⅜"	5'-7"	13'-8⅛"	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8½"	5'-3"	13'-2⅜"	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4½"	3'-2½"	4'-11⅜"	7'-0"	15'-8⅛"	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-8⅝"	6'-8"	15'-2½"	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11⅜"	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7¼"	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11⅜	5'-7"	14'-10⅛"	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-7¼"	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11⅜"	7'-0"	16'-10⅛"	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9¼"	6'-9"	16'-5⅞"	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11⅜"	8'-5"	18'-10⅛"	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9¼"	8'-2"	18'-5⅞"	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11⅜"	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-10⅝"	4'-1"	13'-10⅝"	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11⅜"	5'-7"	16'-0⅛"	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10⅝"	5'-6"	15'-10⅜"	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11⅜"	7'-0"	18'-0⅛"	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10¾"	6'-11"	17'-10¾"	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11⅜"	8'-5"	20'-0⅛"	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10¾"	8'-4"	19'-10¾"	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11½"	9'-10"	22'-0⅛"	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10¾"	9'-9"	21'-10¾"	9.3	Yes
7'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11⅜"	4'-2"	15'-2"	4.9	Yes
7'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11⅜"	5'-7"	17'-2⅛"	6.1	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11⅜"	7'-0"	19'-2⅛"	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11⅜"	8'-5"	21'-2⅛"	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11½"	9'-10"	23'-2¼"	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11⅜"	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11⅜"	5'-7"	18'-2⅛"	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11⅜"	7'-0"	20'-2⅛"	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11⅜"	8'-5"	22'-2⅛"	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11½"	9'-10"	24'-2¼"	11.0	Yes
9'-0"	2'-0"	9"	9"	9"	3'-6"	2'-3"	3'-0¾"	4'-4"	17'-6⅞"	6.2	Yes
9'-0"	3'-0"	9"	9"	9"	4'-6"	2'-9"	4'-0¾"	5'-9"	19'-6⅞"	7.5	Yes
9'-0"	4'-0"	9'	9"	9"	5'-6"	3'-3"	5'-0¾"	7'-2"	21'-6⅞"	9.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0⅞"	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0⅛"	9'-11"	25'-5⅝"	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1½"	4'-5"	18'-10¼"	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1½"	5'-10"	20'-10¼"	8.6	No
10'-0"	4'-0"	10"	10"	10"	5'-7"	3'-4"	5'-1½"	7'-3"	22'-10⅜"	10.2	Yes
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-1½"	8'-8"	24'-10⅜"	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1½"	10'-1"	26'-10⅜"	13.9	Yes
11'-0"	2'-0"	11"	11"	11"	3'-8"	2'-4"	3'-2⅞"	4'-7"	20'-3⅛"	8.2	No
11'-0"	3'-0"	11"	11"	11"	4'-8"	2'-10"	4'-2⅞"	6'-0"	22'-3⅛"	9.8	No
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-2¼"	7'-4"	24'-1¾"	11.5	Yes
11'-0"	5'-0"	11"	11"	11"	6'-8"	3'-10"	6'-2¼"	8'-9"	26'-1¾"	13.3	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-2¼"	10'-2"	28'-1⅞"	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-3⅝"	4'-8"	21'-6½"	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3⅝"	6'-1"	23'-6½"	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3⅝"	7'-6"	25'-6⅝"	13.0	Yes
12'-0"	5'-0"	12"	12"	12"	6'-9"	3'-11"	6'-3⅜"	8'-11"	27'-6⅝"	14.1	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3⅜"	10'-4"	29'-6⅝"	17.4	Yes

Note:
Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.

(Sheet 1 of 2)

FILE NAME =	USER NAME = amissick	DESIGNED –	REVISED –
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Default	PLOT DATE = 4/12/2024	CHECKED –	REVISED –
		DATE –	REVISED –

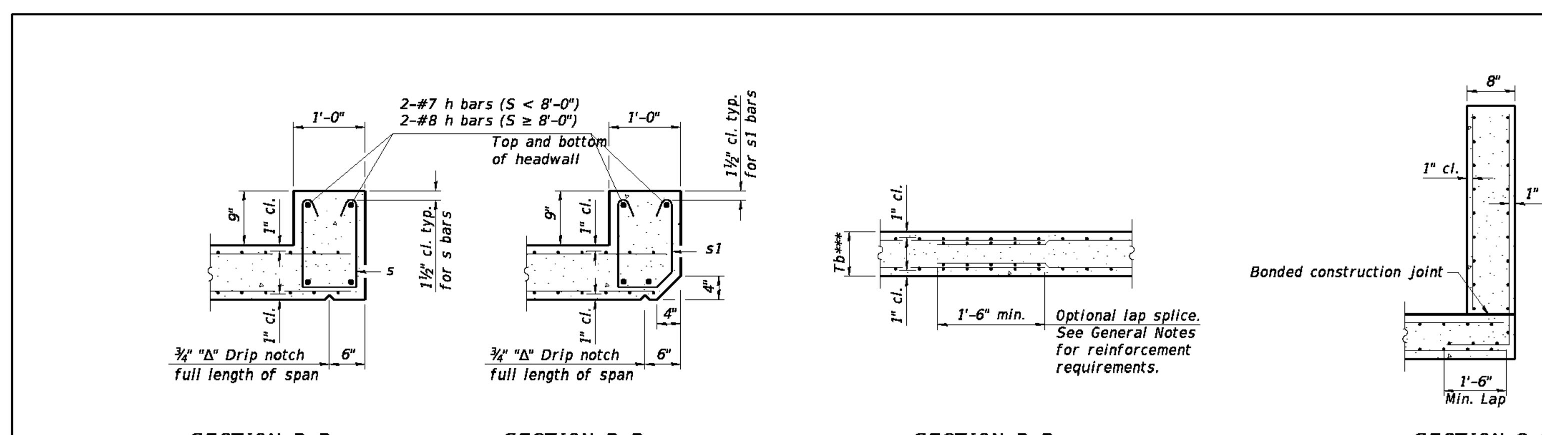
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
BOX CULVERT APRON END DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	646	527

CONTRACT NO.
ILLINOIS FED. AID PROJECT



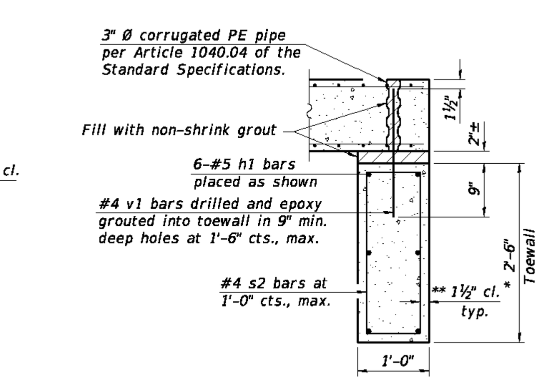
SECTION B-B
(Top slab at downstream end)

SECTION B-B
(Top slab at upstream end)

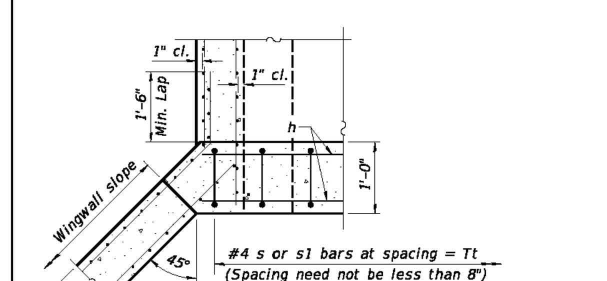
SECTION B-B
(Bottom Slab)

SECTION C-C

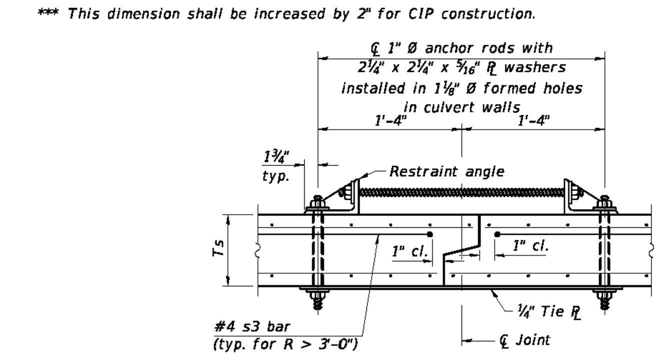
*** This dimension shall be increased by 2" for CIP construction.



SECTION D-D



SECTION E-E



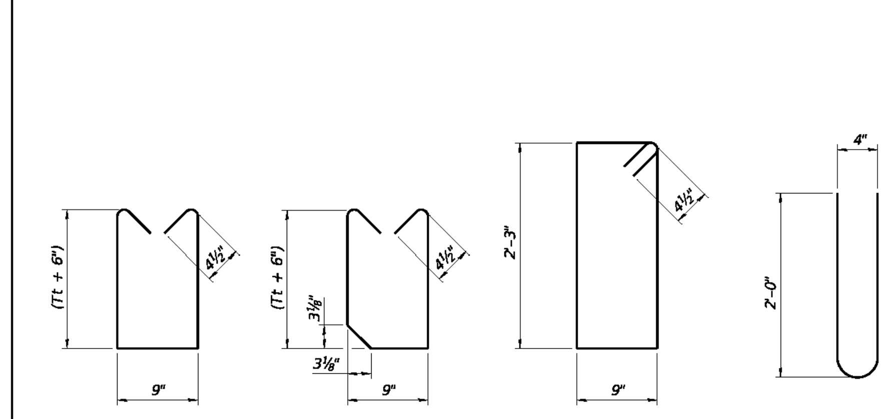
SECTION F-F
(Showing culvert tie details)

TOEWALL CONSTRUCTION SEQUENCE

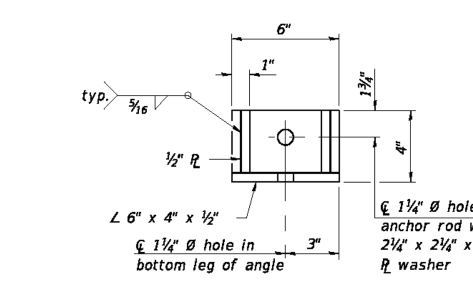
1. *Perform excavation and construct toewall.*
2. *Backfill accordingly and place bedding for precast box culvert end sections.*
3. *Set precast box culvert end section.*
4. *Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.*
5. *Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.*

* *The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.*

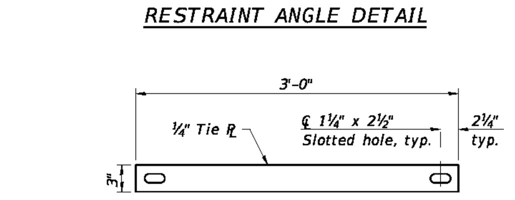
** *If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.*



BAR s *BAR s1* *BAR s2* *BAR s3*



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

Notes:
1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2¼"x2¼"x5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional ½ turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

FILE NAME =	USER NAME = amissick	DESIGNED –	REVISED –
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Default	PLOT DATE = 4/12/2024	CHECKED –	REVISED –
		DATE –	REVISED –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
BOX CULVERT APRON END DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	646	528

CONTRACT NO.
ILLINOIS FED. AID PROJECT

SHOP DRAWING NOTE:
DETAIL IS PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS FOR APPROVAL BY ENGINEER, INCLUDING GRADES AND INVERTS.

No.	Date	Revision

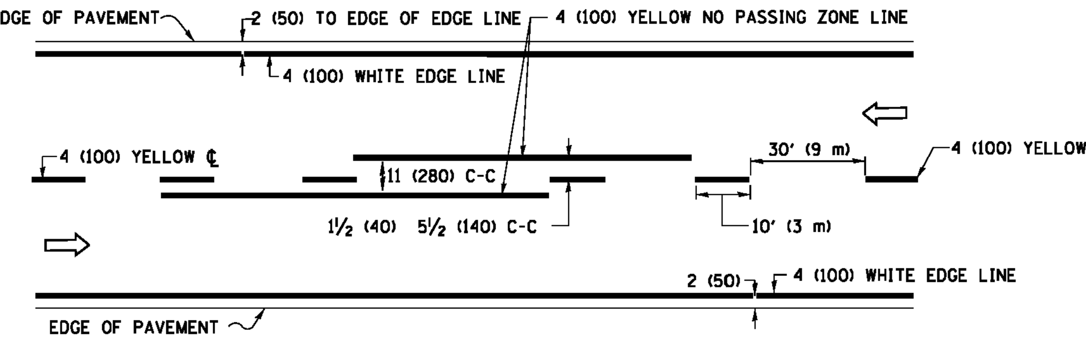
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TYPICAL DETAILS

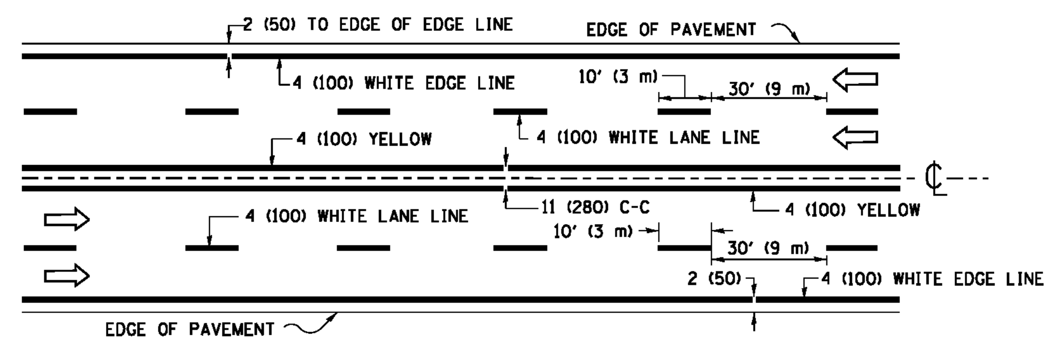
FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: PAC
Engineer: JN
Date: 06/30/2026
Project No. 20-147
Sheet **C8.1** / C8

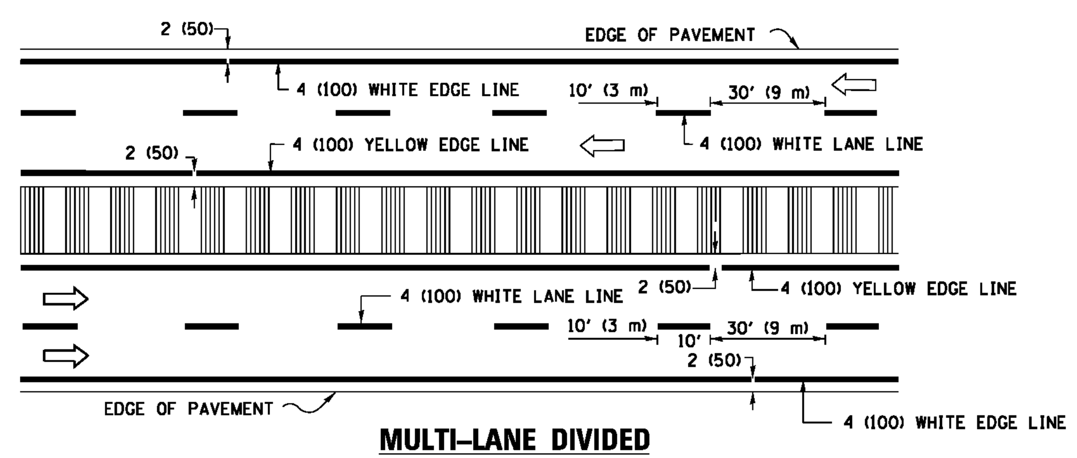
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2–LANE ROADWAY

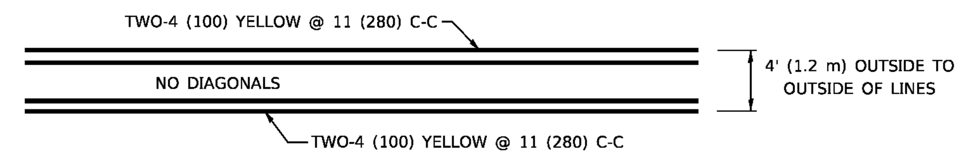


MULTI–LANE UNDIVIDED

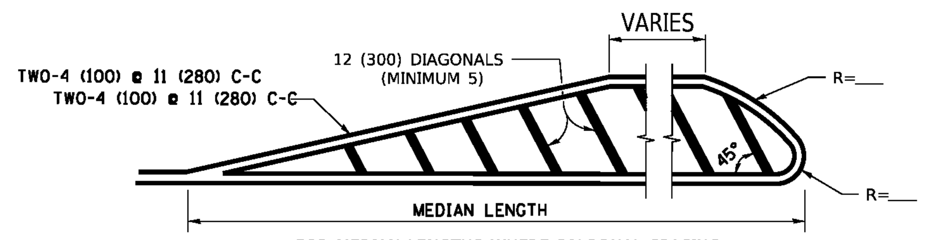


MULTI–LANE DIVIDED
WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING



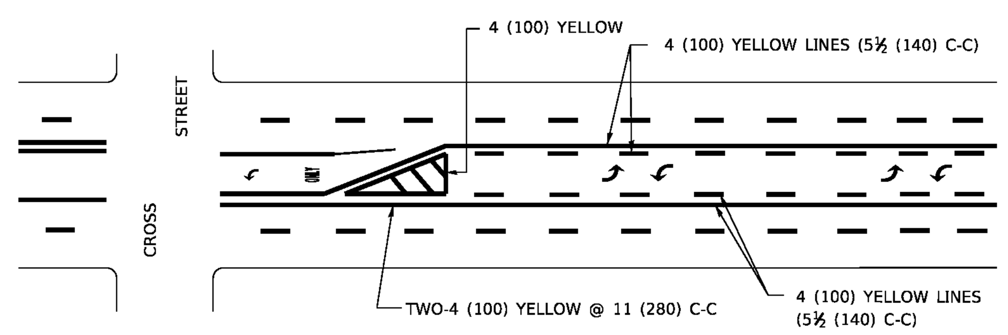
4' (1.2 m) WIDE MEDIANS ONLY



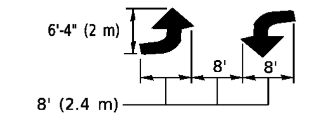
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

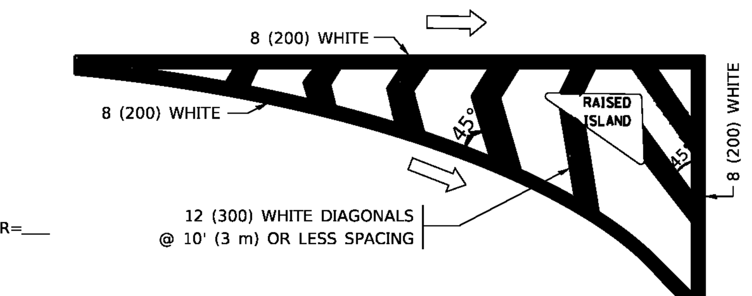


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.

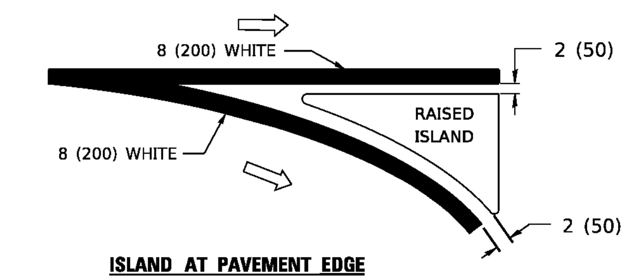


MEDIAN WITH TWO–WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

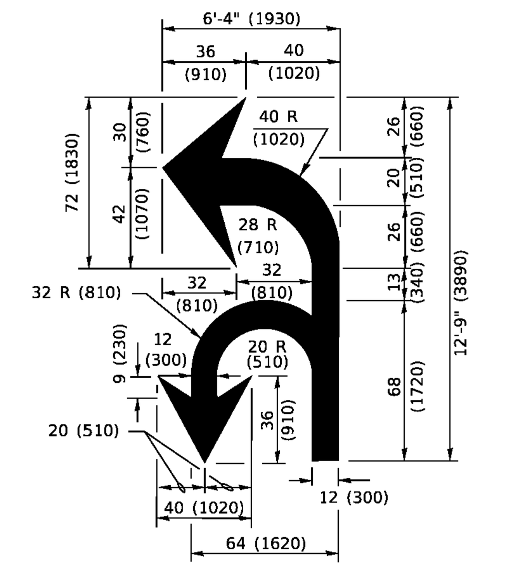


ISLAND OFFSET FROM PAVEMENT EDGE

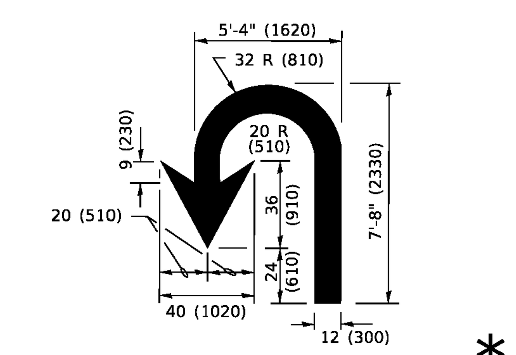


ISLAND AT PAVEMENT EDGE

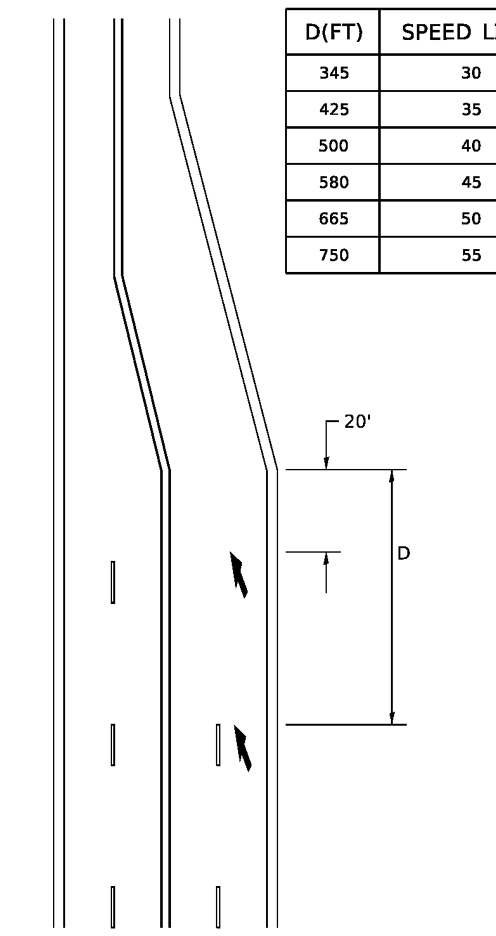
TYPICAL ISLAND MARKING



COMBINATION LEFT AND U–TURN



U–TURN



D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

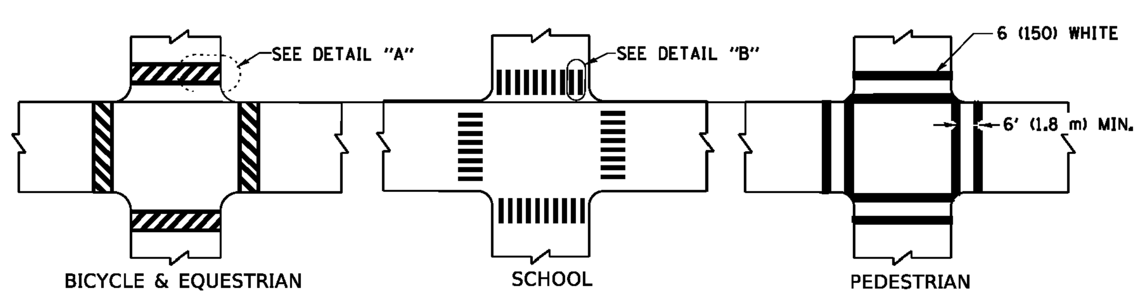
LANE REDUCTION TRANSITION

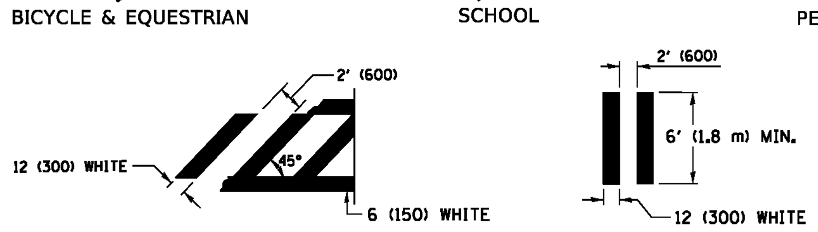
* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

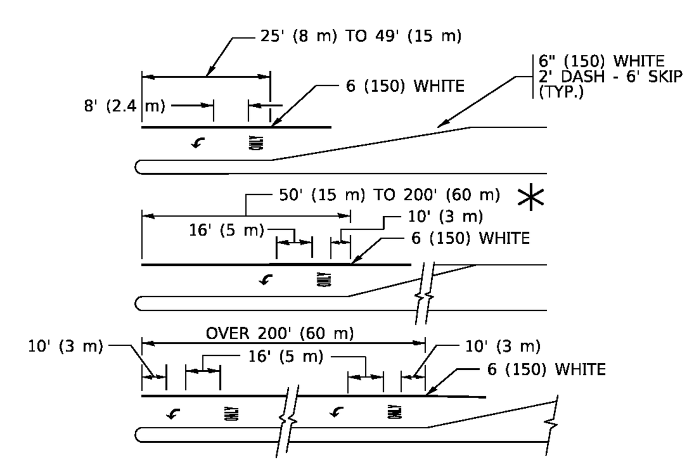




DETAIL "A" DETAIL "B"

TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

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USER NAME = footemj	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
	DRAWN -	REVISED - C. JUCIUS 07-01-13		
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 12-21-15		
PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16		SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC–13	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

tc13.dgn 3/4/2019 10:34:37 AM User=footemj

No.	Date	Revision

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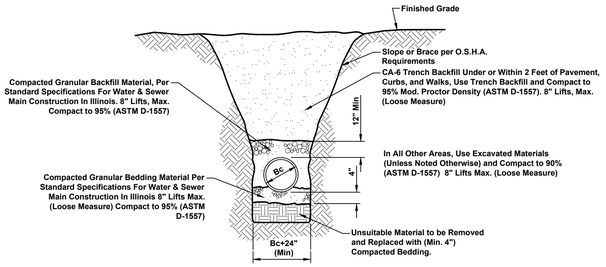
TYPICAL DETAILS

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

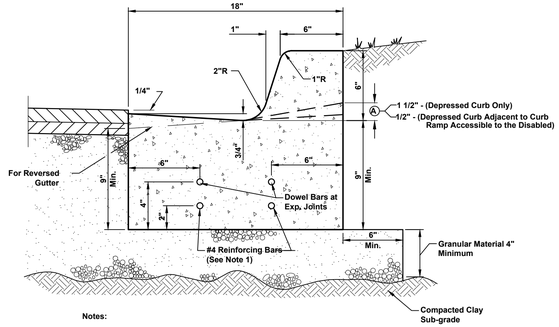
Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet C8.2 / C8

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Plot Date: Jul 06, 2026 - 2:45pm Plotted By: phil-c Layout: 8.2-IDOT
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C8-DETAILS.dwg



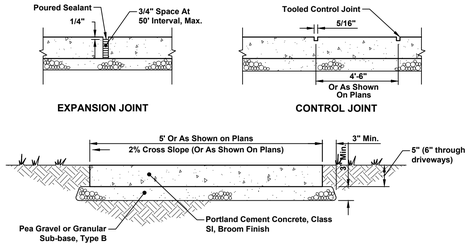
TRENCH SECTION - STORM SEWER



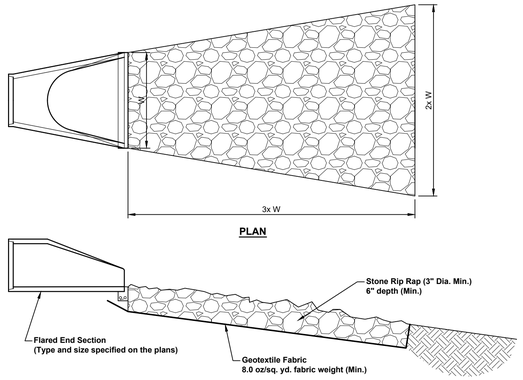
Notes:

1. Use two #4 rebars for 10 feet on either side of all utility trenches.
2. A 1" expansion joint shall be installed at all points of curvature for short radius (under 45°) curves. Maximum expansion joint spacing is 60'. Expansion joints shall be constructed with 1" thick preformed expansion joint filler conforming to the curb & gutter cross section and shall be provided with two, 1-1/4"Ø, 18" long coated smooth dowel bar. The dowel bar shall be fitted with a cap with a pinched stop which provides a minimum of 1" expansion.
3. Maximum contraction (control) joint spacing shall be 20'.
4. Flag thickness shall match proposed roadway, or 9" minimum.
5. See plan set to determine where Standard, Reverse, Depressed, or Depressed Adjacent to ADA Accessible Ramp Curbs are proposed.

B-6.12 CONCRETE CURB & GUTTER

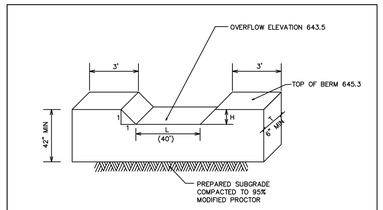


PORTLAND CEMENT CONC. SIDEWALK



LONGITUDINAL SECTION

RIP RAP OUTLET PROTECTION



FOR DESIGN OF RECTANGULAR WEIR:

USE $Q=CLH^{\frac{3}{2}}$

WHERE Q= RELEASE RATE
C= 3.0 FOR BROAD-CRESTED RECTANGULAR WEIRS
L= WEIR OPENING
T= WALL THICKNESS (6" MIN)
H= HEAD (6" MIN)

USE COMPARABLE RELATIONSHIPS FOR DESIGN OF OVERFLOW STRUCTURES.

NOTES:

1. STRUCTURE TO BE CONSTRUCTED OF REINFORCED CONCRETE, IDOT CLASS SI (6.1 BAG MIX) MIN 3500 PSI AT 14 DAYS, WITH 5-8% AIR ENTRAINMENT.
2. SMOOTH FINISH – 1" CHAMFER ON ALL EXPOSED EDGES.
3. PROVIDE MIN #4 REBARS IN FOOTING AND WEIR, 12" O.C.,E.W.
4. BACKFILL MATERIAL TO BE INORGANIC COHESIVE SOIL, COMPACTED IN MAXIMUM 12" (LOOSE) LIFTS TO AT LEAST 90% MODIFIED PROCTOR DENSITY (ASTM D-1557).
5. EROSION CONTROL MATERIAL TO BE PROVIDED IN FRONT AND REAR OF WEIR OPENING.

NOT TO SCALE

OVERFLOW (WEIR) STRUCTURE DETAIL

F-10 CAST IRON DRAINAGE GATE

CAST IRON • AUTOMATIC

- Flatback or Spigotback
- Cast Iron Frame and Cover
- Galvanized Steel Angle Links
- Bronze Bushings Standard
- Built-in "Safety Bar" Prevents Sticking
- 5° seat on 6° - 24" sizes
- 2½° seat on 30° - 72" sizes
- Steel Assembly Hardware



The Waterman Red Top Drainage Gate has been designed as a competitive flap gate for use with concrete pipe, headwalls, and corrugated metal pipe with up to a ten foot seating head. The frame and cover are of heavy duty cast iron. Steel angle links have been used to absorb unbalanced side shock, and are balance-pivoted on bronze bushings.

A 5°seat on sizes six inches to twenty-four inches and 2½° seat on sizes 30 inches to 72 inches eliminates the need for special pipe cuts or sections, and prevents the gate from standing open due to slight pipe sagging or settling. An innovation in the cover provides each gate with a safety to prevent jamming, without additional cost.

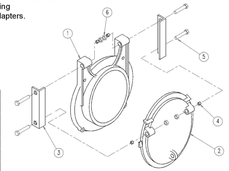
Gates are available with special stainless steel or brass links and bolts.

This gate has been extensively used on federal, state and municipal projects for drainage, waste line, sewage treatment, flood control and irrigation systems. A free outflow with practical sealing against back flow combine with maintenance-free operation to assure years of service.

This gate is not recommended for pump discharge or other applications where violent slamming may occur.

OPTIONAL ITEMS INCLUDE:

- Stainless Steel or bronze links, and bolts.
- Special heavy-duty links and bushings for severe service
- Special paint coatings or ASTM galvanizing
- Taper setting collars and special pipe adapters.



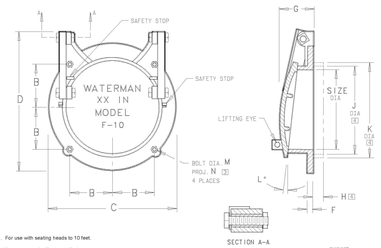
PARTS LIST		
No.	Name	Qty.
1	Frame	1
2	Cover	1
3	Hinge Link	2
4	Hinge Bushing	4
5	Bolt	4
6	Nut	4

Maximum 10 foot seating head

Waterman Industries

1

F-10 DRAINAGE GATE



1. For use with seating heads to 10 feet.
2. Not recommended for pump-discharge use.
3. Add grout pad thickness to anchor bolt projection.
4. Applies to spigotback gate only. Spigot, shown in phantom, is optional

GATE DIMENSIONS IN INCHES

SIZE DIA	B	C	D	F	G	H	J	K	L*	M	N
6	2⅞	6⅝	8½	⅞	4¾	2½	6½	5½	5	¾	1⅛
8	3⅝	8⅛	10	⅞	4¾	2½	7½	7⅝	5	¾	1⅛
10	3½	10	12	⅞	4¾	2⅝	9½	9⅝	5	¾	1⅛
12	4⅜	12⅛	14½	⅞	4¾	2½	11⅝	11⅝	5	¾	1⅛
15	5½	15	17½	⅞	4¾	2½	13⅝	13⅝	5	¾	1⅛
18	6⅞	16½	19½	⅞	4¾	2½	15⅝	15⅝	5	¾	1⅛
18	6½	18⅛	20	⅞	5	2½	16	16½	5	¾	1⅛
18	6⅝	19¾	21½	⅞	5	2½	17	17½	5	¾	1⅛
18	7⅛	21	24½	⅞	5½	2½	19	19½	5	¾	1⅛
24	8½	23⅝	26½	⅞	6	2½	21½	21½	5	¾	1⅛
24	8⅝	24⅝	27½	1	7	2½	22	22½	5	¾	1⅛
24	9⅛	27½	32	1	7⅞	2½	25	26½	5	¾	1⅛
30	12	34	39½	⅞	6½	2⅝	31	32	2½	¾	2
36	14⅜	40⅝	46	⅞	8	2½	37	38	2½	¾	2
42	16⅞	47⅛	55½	1	8	2½	43½	44½	2½	1	2
48	19⅛	54½	63½	1	9½	3	49½	50½	2½	1	2
54	22⅛	60⅞	71	1	9¾	3	55½	57	2½	1	2½
60	24⅝	72	80½	1	10½	3	61½	62½	2½	1	2½
72	29	83	95½	1	11½	3½	74½	76½	2½	1	2½

** Applies to spigotback gate only.

Flatback (Head Wall Mounting)

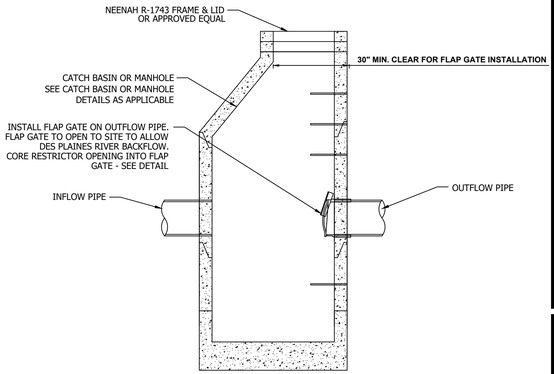
Spigotback (For Corrugated Metal Pipe)

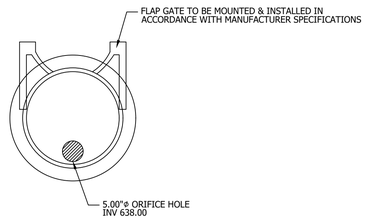
With Setting Collar (For Concrete Pipe)

Waterman Industries

2

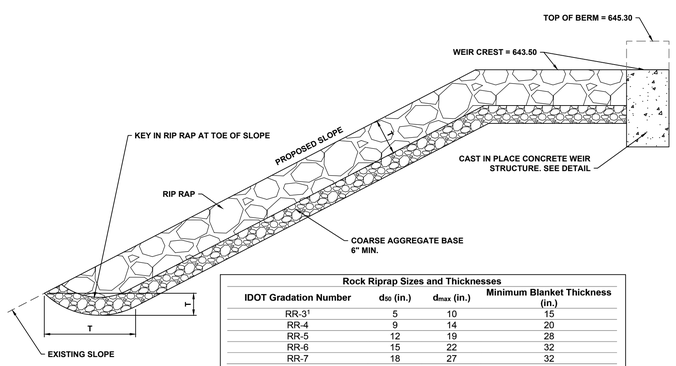
ALTERNATE PRODUCT NOTE:
DETAIL IS PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS FOR APPROVAL BY ENGINEER.





FLAP GATE W. RESTRICTOR DETAIL: ELEVATION

OUTLET CONTROL STRUCTURE DETAIL



Rock Riprap Sizes and Thicknesses

IDOT Gradation Number	d_{50} (in.)	d_{max} (in.)	Minimum Blanket Thickness (in.)
RR-3[1]	5	10	15
RR-4	9	14	20
RR-5	12	19	28
RR-6	15	22	32
RR-7	18	27	32

[1]Concrete block may be used to replace RR-3

RIP RAP SLOPE STABILIZATION DETAIL

No.	Revision	Date

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No.: 184.003152
www.haegerengineering.com

TYPICAL DETAILS

FEDERAL LIFE SITE
PHASE 1 IMPROVEMENT PLANS
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet C8.3/C8

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Plot Date: Jul 06, 2026 - 2:45pm Plotted By: phil-c Layout: 8.3-DETAILS
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-C8-DETAILS.dwg

FEDERAL LIFE SITE
PHASE 1 STORMWATER POLLUTION PREVENTION PLAN
3750 W DEERFIELD ROAD

SECTION 26 TOWNSHIP 43 NORTH RANGE 11 EAST
RIVERWOODS, ILLINOIS
LAKE COUNTY

DEVELOPER:

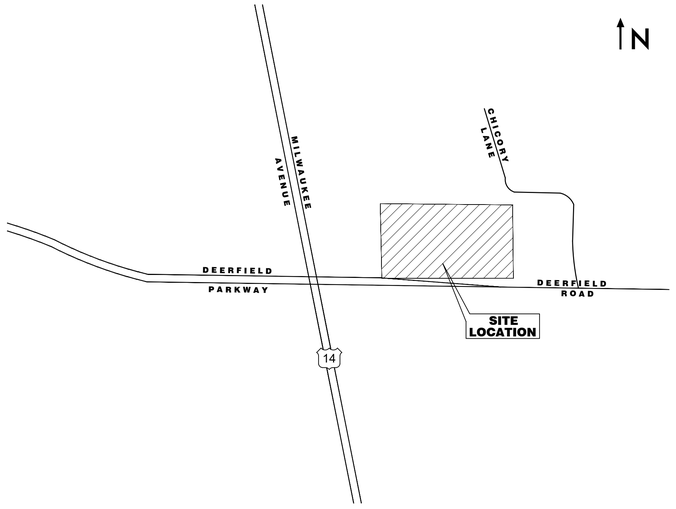
Village of Riverwoods
300 Portwine Road
Riverwoods, IL 60015
Tel: 847-945-3990
Fax: 847-945-4059

PREPARED BY:

Haeger Engineering LLC
Illinois Prof. Design Firm #184-003152
100 E. State Parkway
Schaumburg, IL 60173
Tel: 847-394-6600
Fax: 847-394-6608
www.haegerengineering.com

VILLAGE OF RIVERWOODS

300 Portwine Road
Riverwoods, IL 60015
Tel: 847-945-3990
Fax: 847-945-4059



LOCATION & SEWER ROUTING MAP
Not To Scale

Benchmark

Site Benchmarks

CP #4269 (County BM)
Description: Notch Top of Wall NW Corner Bridge
Elevation: 649.42 NAVD 88 (Geoid 12A)

CP # 601 (See Survey)
Description: Cross Notch
Elevation: 644.24 NAVD 88 (Geoid 12A)

CP # 603 (See Survey)
Description: Cross Notch
Elevation: 644.98 NAVD 88 (Geoid 12A)

CP #606 (See Survey)
Description: PK Nail
Elevation: 643.95 NAVD 88 (Geoid 12A)

INDEX TO STORM WATER POLLUTION PREVENTION PLAN SHEETS

NO.	DESCRIPTION
EC1.0	SWPPP TITLE SHEET
EC2.0	SWPPP GENERAL NOTES & SPECIFICATIONS
EC3.0	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
EC4.0	SWPPP TYPICAL DETAILS

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

Note:
Call 811 at least 48 hours, excluding weekends and holidays, before you dig.

LEGEND

Existing Symbol	Description	Proposed Symbol
	Storm Sewer Manhole	
	Catch Basin	
	Inlet	
	Flared End Section	
	Headwall	
	Area Drain	
	Sanitary Sewer Manhole	
C. O.	Clean Out	C.O.
	Storm Sewer	
	Storm Sewer Service	
	Perforated Underdrain	
	Sanitary Sewer	
	Sanitary Sewer Service	
	Combined Sewer	
FM	Force Main	FM
W	Water Main	W
	Water Main Service	
	Fire Hydrant	
	Valve Vault	
	Valve Box	
B	B-Box	B
	Well Head	
	Light Pole	
H	Hand Hole	H
	Fence	
	Pipe Bollard	
	Sign	
G	Gas Valve	G
G	Gas Line	G
E	Electric Line	E
OHW	Overhead Utility Line	OHW
FO	Fiber Optic Line	FO
E	Electrical Pedestal	E
E	Electric Manhole	E
	Guy Wire	
	Utility Pole	
T	Telephone Pedestal	T
T	Telephone Manhole	T
T	Telephone Line	T
CATV	Cable TV Line	CATV
	Cable TV Pedestal	
	Flagpole	
M	Mailbox	M
	Handicapped Parking Stall	
X	Number of Parking Stalls	X
	Curb & Gutter	
	Depressed Curb	
	Retaining Wall	
C XXX.XX	Curb Elevation and	C XXX.XX
G/P XXX.XX	Gutter/Pavement Elevation	G XXX.XX
XXX.XX	Pavement Elevation	P XXX.XX
XXX.XX	Sidewalk Elevation	W XXX.XX
XXX.X +	Ground Elevation	XXX.X
T/W XXX.XX	Top of Wall Elevation	T/W XXX.XX
B/W XXX.XX	Bottom of Wall Elevation	B/W XXX.XX
Gr XXX.XX	Open Lid Frame & Grate	Gr XXX.XX
Rim XXX.XX	Closed Lid Frame & Lid	Rim XXX.XX
FG XXX.XX	Finish Grade	FG XXX.XX
GF XXX.XX	Garage Floor	GF XXX.XX
TF XXX.XX	Top of Foundation	TF XXX.XX
	Swale	
	Hardscape Flow	
	Softscape Flow	
XXX	Contour Line	XXX
	Wetland	
	Wetland Buffer	
	Normal Water Level	
	High Water Level	
	Flood Plain	
	Flood Way	
	Deciduous Tree	
	Coniferous Tree	
	Bush	
	Brushline	
B-1	Soil Boring	B-1
	Over Land Flow Route	

062-055417
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Illinois Professional Design Firm License No. 184.003152
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No. | Revision | Date

SWPPP TITLE SHEET

FEDERAL LIFE SITE
PHASE 1 SWPP PLAN
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet **EC1.0** / EC4

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Plot Date: Jul 06, 2026 - 2:46pm Plotted By: phil-c Layout: EC1-TITLE
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-SWPPP.dwg

Stormwater Pollution Prevention Plan

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10____, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____
Owner's Name *Signature*

_____ _____
Title *Date*

_____
Name of Firm/Company

I. Site Description:

A. The following is a description of the project location:

The project is located at 3750 W Deerfield Road in Riverwoods, IL in Section 26, Township 42 North, Range 11 East all in Lake County Illinois (See Location Map on Title Sheet for additional information).

B. The following is a description of the construction activity which is the subject of this plan:

Redevelopment of the entire site to accommodate a residential development with drive aisles, amenity areas, and related improvements to utilities including storm sewer and stormwater management.

C. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site, such as grubbing, excavation and grading:

Exact phasing and sequencing has yet to be determined. Generally, trees will be removed as required, and then clearing and grubbing will occur. Next, mass grading will commence for the roadway construction. Then the underground utilities will be constructed. Finally, pavement, etc. will be constructed, followed by the installation of landscaping.

D. The total area of the construction site is estimated to be approximately ± 6.5 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

The weighted runoff coefficient after completion of all construction activities is approximately 0.69.

F. The following is a description of the soil types found at the project site followed by information regarding their erosivity:

The site consists of Dresden Silt Loam (325A and 325B).

G. The following is a description of potentially erosive areas associated with this project:

Areas with side slopes exceeding 3:1 slopes. Although slopes in excess of 3:1 are not proposed, the Contractor shall monitor the slopes and provide stabilization and/or protection as necessary.

H. The following is a description of soil disturbing activities, their locations, and their erosive factors (e.g. steepness of slopes, length of slopes, etc):

The soil disturbing activities consist of grading and general infrastructure improvements over the entire site. The Contractor shall be responsible for maintaining all disturbances within the site, and shall protect all off-site areas as needed.

I. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands) and locations where storm water is discharged to surface water including wetlands.

J. The following is a list of receiving water(s) and the ultimate receiving water(s), and aerial extent of wetland acreage at the site. The location of the receiving waters can be found on the erosion and sediment control plans:

The closest receiving water is Des Plaines River.

K. The following pollutants of concern will be associated with this construction project:

Soil sediment and dust, and construction of bituminous pavement.

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the contractor will be responsible for its implementation as indicated. The contractor shall provide to the resident engineer a plan for the implementation of the measures indicated. The contractor, and subcontractors, will notify the resident engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the permit. Each such contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. Erosion and Sediment Controls

1. **Stabilized Practices:** Provided below is a description of interim and permanent stabilization practices, including site specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(A)(1)(a) and II(A)(3), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of 14 or more calendar days.

   a. Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

      The following Stabilization Practices will be used for this project: Temporary blanket & seeding, permanent seeding,as shown on the Plans.

      Describe how the Stabilization Practices listed above will be utilized: Seed & blanket.

      See Storm Water Pollution Prevention (SWPP) Plan. SWPP Plan shall be modified as necessary by the Contractor during construction to prevent sediment from leaving the site or entering the offsite storm sewer.

2. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

   The following Structural Practices will be used for this project: Perimeter erosion control (silt) fence.

   Describe how the Structural Practices listed above will be utilized:

   See Storm Water Pollution Prevention (SWPP) Plan. SWPP Plan shall be modified as necessary by the Contractor during construction to prevent sediment from leaving the site or entering the offsite wetland.

3. **Storm Water Management:** Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

   a. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

      The practices selected for implementation were determined on the basis of the technical guidance in Section 59-8 (Erosion and Sediment Control) in Chapter 59 (Landscape Design and Erosion Control) of the Illinois Department of Transportation Bureau of Design and Environment Manual. If practices other than those discussed in Section 59-8 are selected for implementation or if practices are applied to situations different from those covered in Section 59-8, the technical basis for such decisions will be explained below.

   b. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of Storm Water Management Controls: Installation of a storm sewer system. All inlets will be protected with silt baskets.

4. Other Controls:

a. Vehicle Entrances and Exits - Stabilized construction entrances and exits must be constructed to prevent tracking of sediments onto roadways.

The contractor will provide the resident engineer with a written plan identifying the location of stabilized entrances and exits and the procedures (s)he will use to construct and maintain them.

b. Material Delivery, Storage, and Use - The following BMPs shall be implemented to help prevent discharges of construction materials during delivery, storage, and use:

- All products delivered to the project site must be properly labeled.
- Water tight shipping containers and/or semi trailers shall be used to store hand tools, small parts, and most construction materials that can be carried by hand, such as paint cans, solvents, and grease.
- A storage/containment facility should be chosen for larger items such as drums and items shipped or stored on pallets. Such material is to be covered by a tin roof or large sheets of plastic to prevent precipitation from coming in contact with the products being stored.
- Large items such as light stands, framing materials and lumber shall be stored in the open in a general storage area. Such material shall be elevated with wood blocks to minimize contact with storm water runoff.
- Spill clean-up materials, material safety data sheets, an inventory of materials, and emergency contact numbers shall be maintained and stored in one designated area and each Contractor is to inform his/her employees and the resident engineer of this location.

c. Stockpile Management - BMPs shall be implemented to reduce or eliminate pollution of storm water from stockpiles of soil and paving materials such as but not limited to portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate sub base, and pre-mixed aggregate. The following BMPs may be considered:

- Perimeter Erosion Barrier
- Temporary Seeding
- Temporary Mulch
- Plastic Covers
- Soil Binders
- Storm Drain Inlet Protection

The contractor will provide the resident engineer with a written plan of the procedures (s)he will use on the project and how they will be maintained.

d. Waste Disposal. No materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.

e. The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

f. The contractor shall provide a written and graphic plan to the resident engineer identifying where each of the above areas will be located and how they are to be managed.

5. Approved State or Local Laws

The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual, 1995. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

See Storm Water Pollution Prevention (SWPP) Plan. SWPP Plan shall be modified as necessary by the Contractor during construction to prevent sediment from leaving the site or entering the offsite storm sewer.

III. Maintenance:

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. The resident engineer will provide maintenance guides to the contractor for the practices associated with this project.

All disturbed areas shall be graded to keep runoff and sediment on-site to the greatest extent possible. Site shall be graded in such a matter to direct runoff to storm structures with catch-all inlet protection. Contractor shall maintain, replace, clean, and add additional measures as needed during the progression of construction to prevent sediment, debris, etc from leaving the site.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site. Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

A. Disturbed areas, use areas (storage of materials, stockpiles, machine maintenance, fueling, etc.), borrow sites, and waste sites shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Discharge locations or points that are accessible, shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off site sediment tracking.

B. Based on the results of the inspection, the description of potential pollutant sources identified in section I above and pollution prevention measures identified in section II above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within ½ hour to 1 week based on the urgency of the situation. The resident engineer will notify the contractor of the time required to implement such actions through the weekly inspection report.

C. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this storm water pollution prevention plan, and actions taken in accordance with section IV(B) shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI. G of the general permit.

D. If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the resident engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within 24 hours of the incident. The resident Engineer shall then complete and submit an "Incidence of Noncompliance" (ION) report for the identified violation within 5 days of the incident. The resident engineer shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Non-Storm Water Discharges:

Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in this plan must be described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge.

A. Spill Prevention and Control - BMPs shall be implemented to contain and clean-up spills and prevent material discharges to the storm drain system. The contractor shall produce a written plan stating how his/her company will prevent, report, and clean up spills and provide a copy to all of his/her employees and the resident engineer. The contractor shall notify all of his/her employees on the proper protocol for reporting spills. The contractor shall notify the resident engineer of any spills immediately.

B. Concrete Residuals and Washout Wastes - The following BMPs shall be implemented to control residual concrete, concrete sediments, and rinse water:

- Temporary Concrete Washout Facilities shall be constructed for rinsing out concrete trucks. Signs shall be installed directing concrete truck drivers where designated washout facilities are located.
- The contractor shall have the location of temporary concrete washout facilities approved by the resident engineer.
- All temporary concrete washout facilities are to be inspected by the contractor after each use and all spills must be reported to the resident engineer and cleaned up immediately.
- Concrete waste solids/liquids shall be disposed of properly.

C. Litter Management - A proper number of dumpsters shall be provided on site to handle debris and litter associated with the project. The Contractor is responsible for ensuring his/her employees place all litter including marking paint cans, soda cans, food wrappers, wood lathe, marking ribbon, construction string, and all other construction related litter in the proper dumpsters.

D. Vehicle and Equipment Cleaning - Vehicles and equipment are to be cleaned in designated areas only, preferably off site.

E. Vehicle and Equipment Fueling - A variety of BMPs can be implemented during fueling of vehicles and equipment to prevent pollution. The contractor shall inform the resident engineer as to which BMPs will be used on the project. The contractor shall inform the resident engineer how (s)he will be informing his/her employees of these BMPs (i.e. signs, training, etc.). Below are a few examples of these BMPs:

- Containment
- Spill Prevention and Control
- Use of Drip Pans and Absorbents
- Automatic Shut-Off Nozzles
- Topping Off Restrictions
- Leak Inspection and Repair

F. Vehicle and Equipment Maintenance - On site maintenance must be performed in accordance with all environmental laws such as proper storage and no dumping of old engine oil or other fluids on site.

VI. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of an Erosion and Sediment Control Deficiency Deduction against the contractor and/or penalties under the NPDES permit which could be passed onto the contractor.

LAKE COUNTY STORMWATER MANAGEMENT COMMISSION
SOIL EROSION AND SEDIMENT CONTROL CONSTRUCTION NOTES

A. SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.

B. FOR THOSE DEVELOPMENTS THAT REQUIRE A DESIGNATED EROSION CONTROL INSPECTOR (DECI), INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:

- UPON COMPLETION OF SEDIMENT AND RUNOFF CONTROL MEASURES (INCLUDING PERIMETER CONTROLS AND DIVERSIONS), PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
- AFTER EVERY SEVEN (7) CALENDAR DAYS OR STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.

C. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.

D. A STABILIZED MAT OF CRUSHED STONE MEETING IDOT GRADATION CA-1 UNDERLAIN WITH FILTER FABRIC AND IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL, OR OTHER APPROPRIATE MEASURE(S) AS APPROVED BY THE ENFORCEMENT OFFICER, SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

E. TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN.

F. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE END OF ACTIVE HYDROLOGIC DISTURBANCE OR REDISTURBANCE.

G. ALL STOCKPILES SHALL HAVE APPROPRIATE MEASURES TO PREVENT EROSION. STOCKPILES SHALL NOT BE PLACED IN FLOOD PRONE AREAS OR WETLANDS AND DESIGNATED BUFFERS.

H. SLOPES STEEPER THAN 3H:1V SHALL BE STABILIZED WITH APPROPRIATE MEASURESAS APPROVED BY THE ENFORCEMENT OFFICER.

I. APPROPRIATE EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL INTERIOR DETENTION BASIN SIDE SLOPES BETWEEN THE NORMAL WATER LEVEL AND HIGH WATER LEVEL.

J. STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.

K. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DISCHARGES SHALL BE ROUTED THROUGH AN APPROVED ANIONIC POLYMER DEWATERING SYSTEM OR A SIMILAR MEASURE AS APPROVED BY THE ENFORCEMENT OFFICER. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE ENFORCEMENT OFFICER, OR APPROVED REPRESENTATIVE, MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.

L. IF INSTALLED SOIL EROSION AND SEDIMENT CONTROL MEASURES DO NOT MINIMIZE SEDIMENT LEAVING THE DEVELOPMENT SITE, ADDITIONAL MEASURES SUCH AS ANIONIC POLYMERS OR FILTRATION SYSTEMS MAY BE REQUIRED BY THE ENFORCEMENT OFFICER.

M. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.

N. ALL TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.

O. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, ENFORCEMENT OFFICER, OR OTHER GOVERNING AGENCY.

U:\Regulatory Program\SESC handouts\SE-SC Notes 2013 TAC-approved.docx

LAKE COUNTY

STORMWATER MANAGEMENT COMMISSION

TYPICAL CONSTRUCTION SEQUENCING

1.) Installation of soil erosion and sediment control SE/SC measures
   a.) Selective vegetation removal for silt fence installation
   b.) Silt fence installation
   c.) Construction fencing around areas not to be disturbed
   d.) Stabilized construction entrance
2.) Tree removal where necessary (clear & grub)
3.) Construct sediment trapping devices (sediment traps, basins…)
4.) Construct detention facilities and outlet control structure with restrictor & temporary perforated riser
5.) Strip topsoil, stockpile topsoil and grade site
6.) Temporarily stabilize topsoil stockpiles (seed and silt fence around toe of slope)
7.) Install storm sewer, sanitary sewer, water and associated inlet & outlet protection
8.) Permanently stabilize detention basins with seed and erosion control blanket
9.) Temporarily stabilize all areas including lots that have reached temporary grade
10.) Install roadways
11.) Permanently stabilize all outlot areas
12.) Install structures and grade individual lots
13.) Permanently stabilize lots
14.) Remove all temporary SE/SC measures after the site is stabilized with vegetation

* Soil erosion and sediment control maintenance must occur every two weeks and after every ½ or greater rainfall event

Owner/Contractor Certification Statement

This certification statement is part of the Storm Water Pollution Prevention Plan for Federal Life Site project, in accordance with General NPDES Permit No. ILR10____ issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR 10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in the Storm Water Pollution Prevention Plan for the above mentioned project; I have provided all documentation required to be in compliance with the ILR10 and Storm Water Pollution Prevention Plan and will provide timely updates to these documents as necessary.

_____ _____
Name *Signature*

_____ _____
Title *Date*

_____ _____
Name of Firm/Company *Telephone*

_____ _____
Address *City/State/Zip*

The Owner, and all Contractor's and Sub-Contractor's performing work on this site are required to sign the above illustrated Certification Statement. The signed Certifications shall be maintained on the site with the SWPPP.

No.	Revision	Date

HAEGER ENGINEERING
consulting engineers • • land surveyors
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No.: 184.003152
www.haegerengineering.com

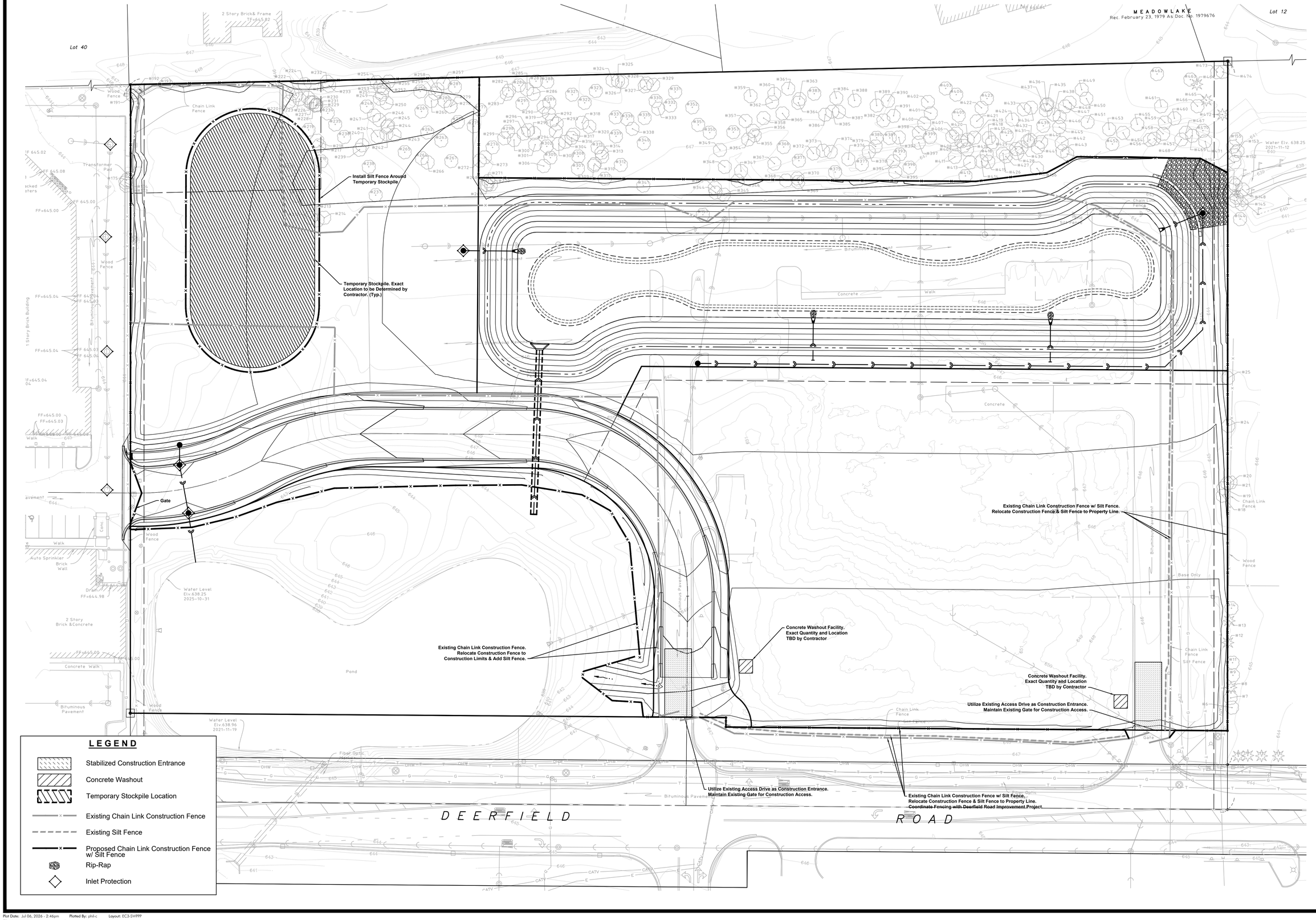
SWPPP GENERAL NOTES & SPECIFICATIONS

FEDERAL LIFE SITE
PHASE 1 SWPP PLAN
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: P A C
Engineer: J N
Date: 06/30/2026
Project No. 20-147
Sheet EC2.0 / EC4

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Plot Date: Jul 06, 2026 - 2:46pm Plotted By: phil-c Layout: EC2-NOTES
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-SWPPP.dwg



NORTH

15 0 30

Scale: 1" = 30'

No.	Revision	Date

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STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

FEDERAL LIFE SITE
PHASE 1 SWPP PLAN

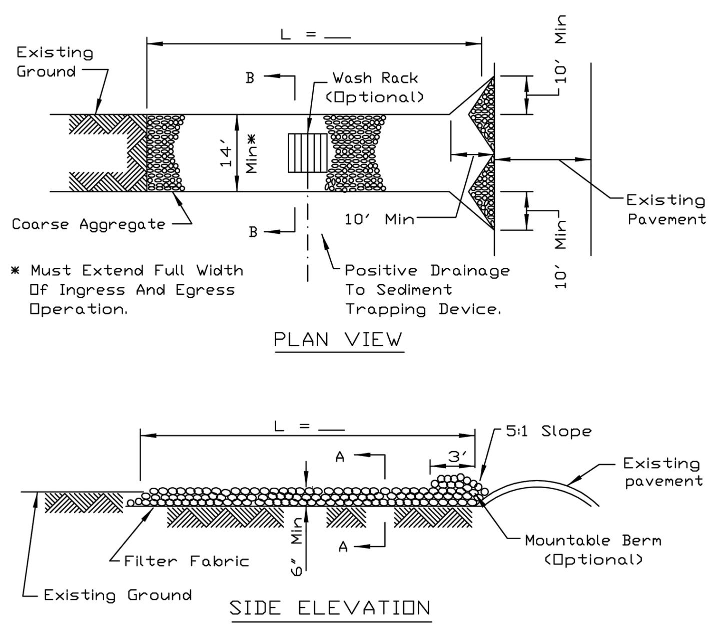
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager:	P A C
Engineer:	J N
Date:	06/30/2026
Project No.	20-147
Sheet	EC3.0 / EC4

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Plot Date: Jul 06, 2026 - 2:46pm Plotted By: phil-c Layout: EC3-SWPPP
File Name: P:\2020\20147\Village of Riverwoods\Drawings\Final Engineering\Phase 1 Plans\20147-SWPPP.dwg

STABILIZED CONSTRUCTION ENTRANCE PLAN



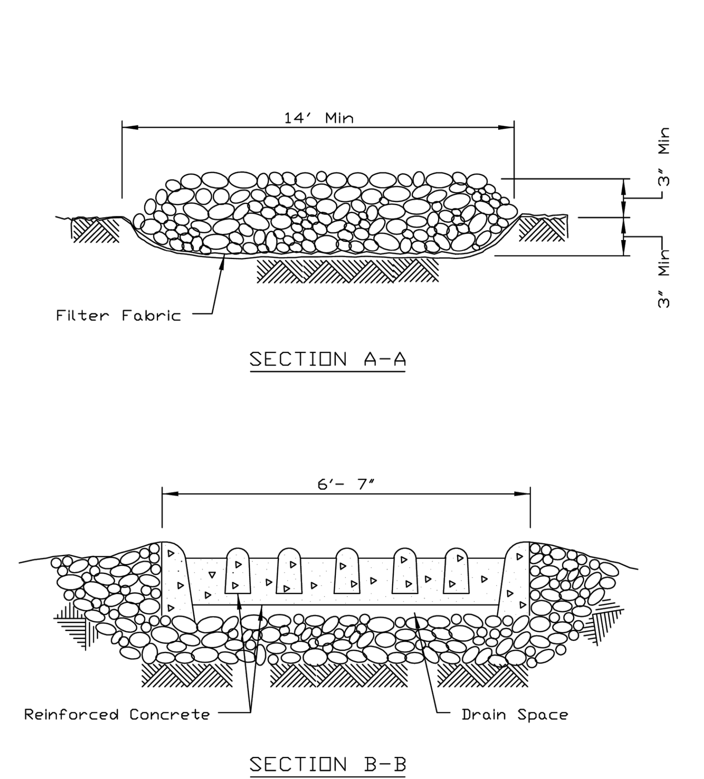
NOTES:
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
4. If wash racks are used they shall be installed according to the manufacturer's specifications.

REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

NRCS
Natural Resources Conservation Service

STANDARD DWG. NO. IL-630
SHEET 1 OF 2
DATE 8-18-94

STABILIZED CONSTRUCTION ENTRANCE PLAN

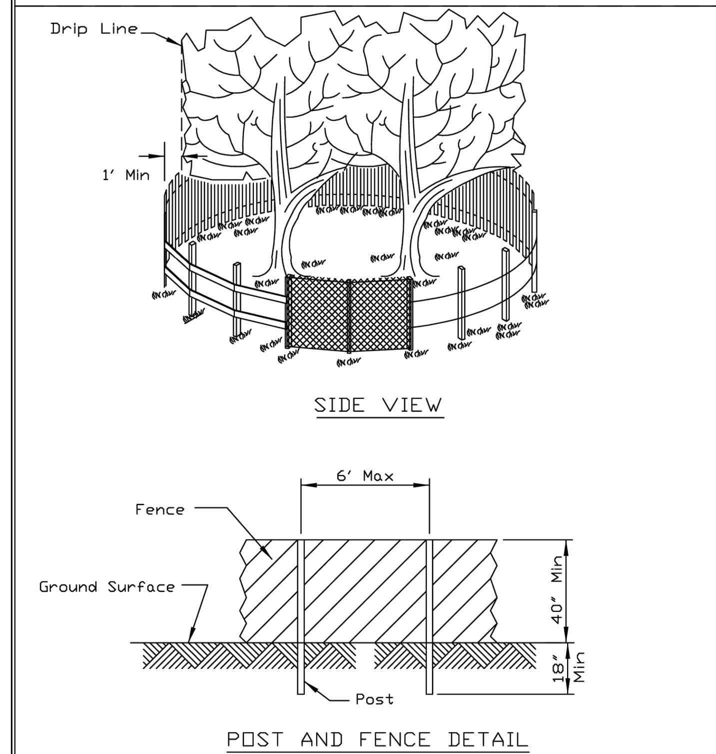


REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

NRCS
Natural Resources Conservation Service

STANDARD DWG. NO. IL-630
SHEET 2 OF 2
DATE 8-18-94

TREE PROTECTION - FENCING



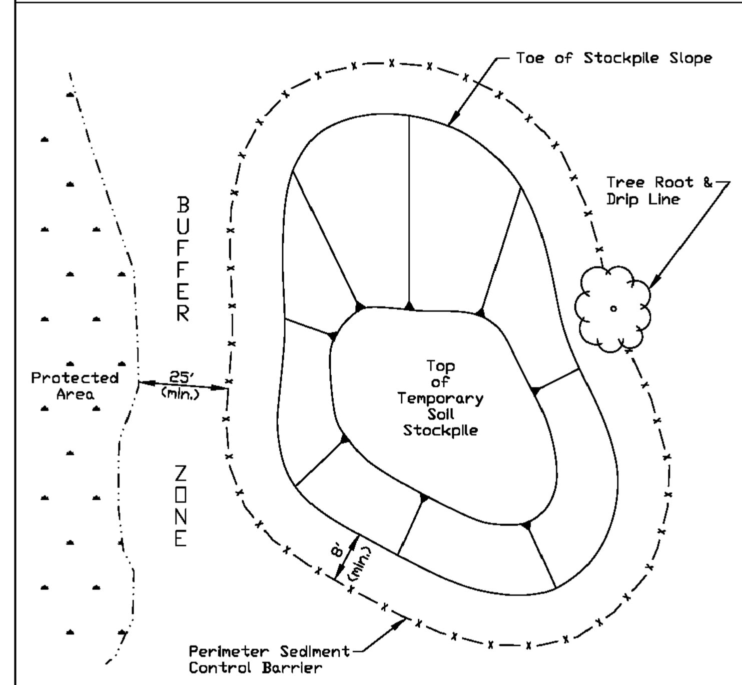
NOTES:
1. The fence shall be located a minimum of 1 foot outside the drip line of the tree to be saved and in no case closer than 5 feet to the trunk of any tree.
2. Fence posts shall be either standard steel posts or wood posts with a minumum cross sectional area of 3.0 sq. in.
3. The fence may be either 40" high snow fence, 40" plastic web fencing or any other material as approved by the engineer/inspector.

REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

NRCS
Natural Resources Conservation Service

STANDARD DWG. NO. IL-690
SHEET 1 OF 1
DATE 4-7-94

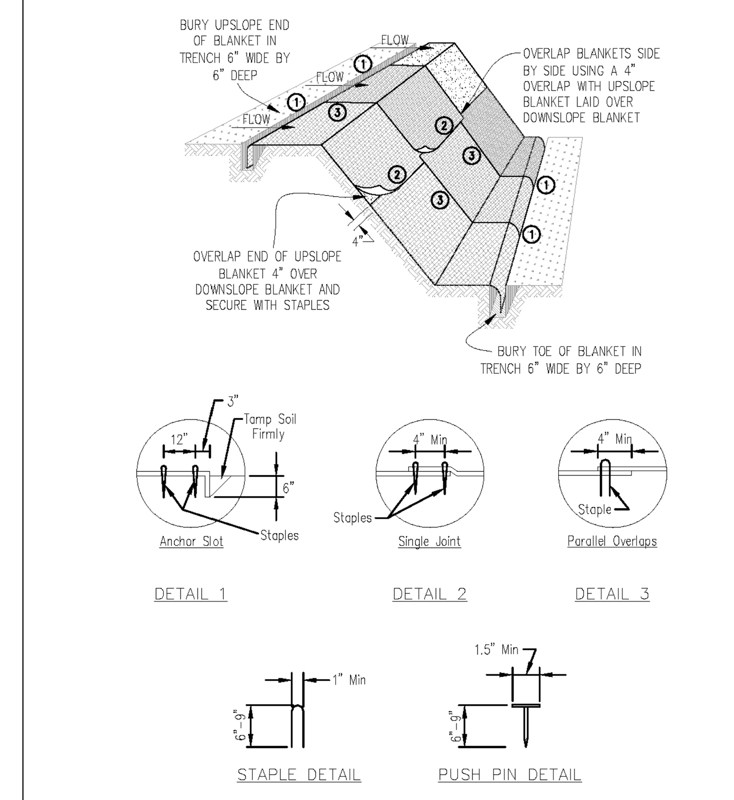
TEMPORARY SOIL STOCKPILE DETAIL



NOTES:
1. Stockpile slopes should be based on angle of repose of the soil material to avoid potential sloughing of the slope.
2. Soil stockpile to be stabilized in accordance with practical standards.
3. Do not locate stockpile within overland drainage flow path, designated floodways, drip line or over the root crown of adjacent trees.
4. Provisions for sediment control practices may be required along haul roads and entrance/exit locations for access the soil stockpile that can create flow path for stormwater runoff.
5. Installation of benches, terraces, or slope interrupters should be considered.
6. Avoid building soil stockpiles on impervious surfaces.
7. Linear sediment trap surrounding the stockpile base may be used to control sediment.

REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

STANDARD DWG. NO. IUM-627
SHEET 1 OF 1
DATE JANUARY 2017

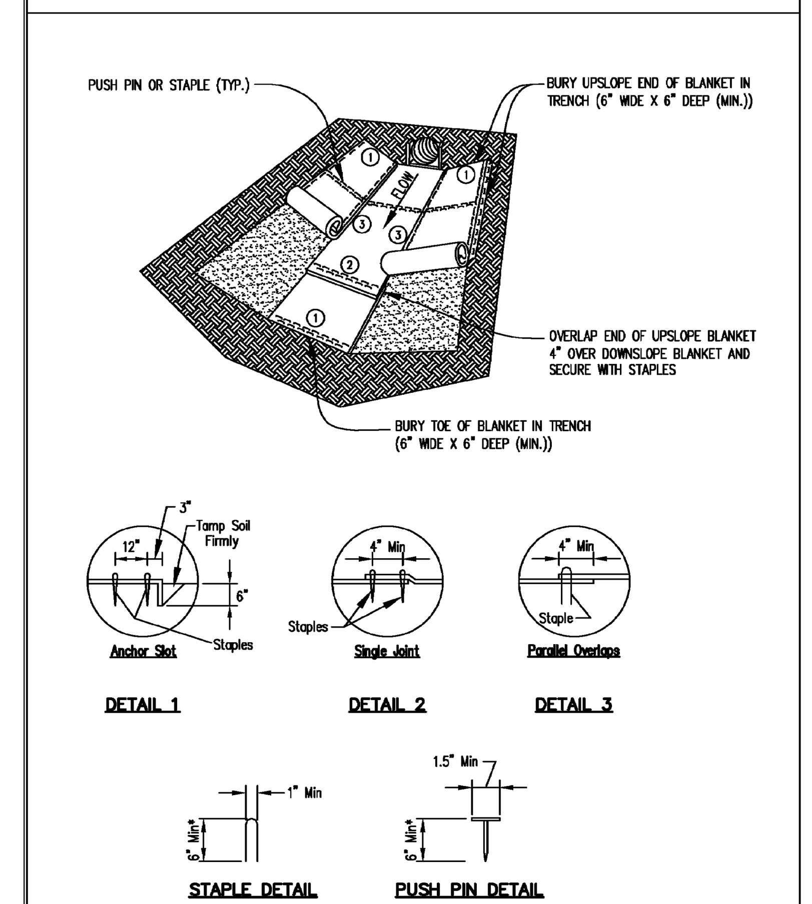


NOTES:
1. Staples shall be placed in a diamond pattern at 2 per s.y. for stiched blankets. Non-stiched shall use 4 staples per s.y. of material. This equates to 200 staples with stiched blanket and 400 stapels with non-stiched blanket per 100 s.y. of material.
2. Staple or push pin lengths shall be selected based on soil type and conditions. (minimum staple length is 6")
3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
4. All anchor slots shall be stapled at approximately 12" intervals.

EROSION CONTROL
BLANKET INSTALLATION DETAILS

File No. IUM-530
Sheet 1 of 1
Designed ______
Drawn B. JOHNSON 11/08
Checked ______
Approved ______

EROSION CONTROL BLANKET - TURF REINFORCEMENT MAT (TRM)

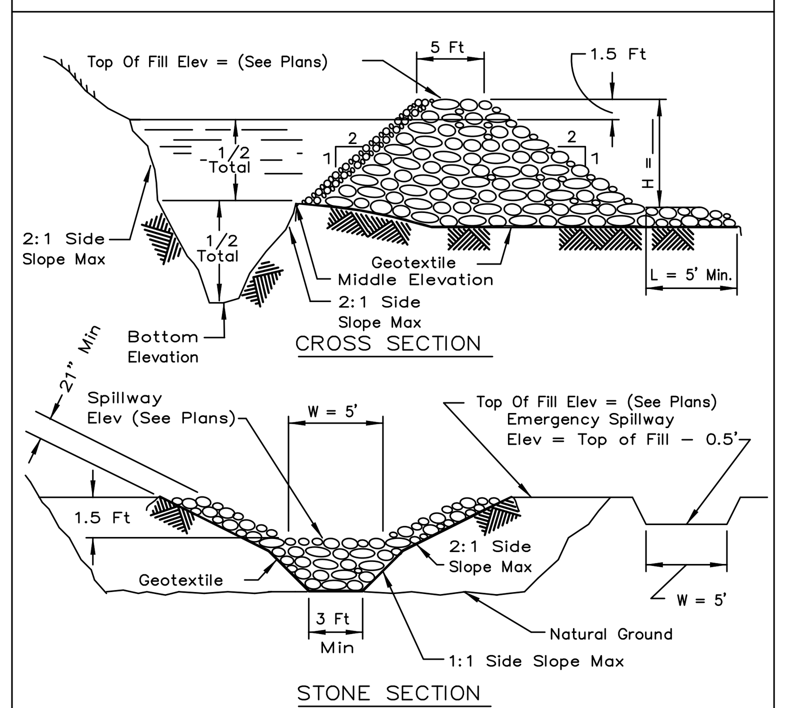


*Note:
1. For sandy soil conditions, staple or push pin shall be a minimum 8 inches.

REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

STANDARD DWG. NO. IUM-531
SHEET 1 OF 1
DATE 02-22-11

TEMPORARY SEDIMENT TRAP



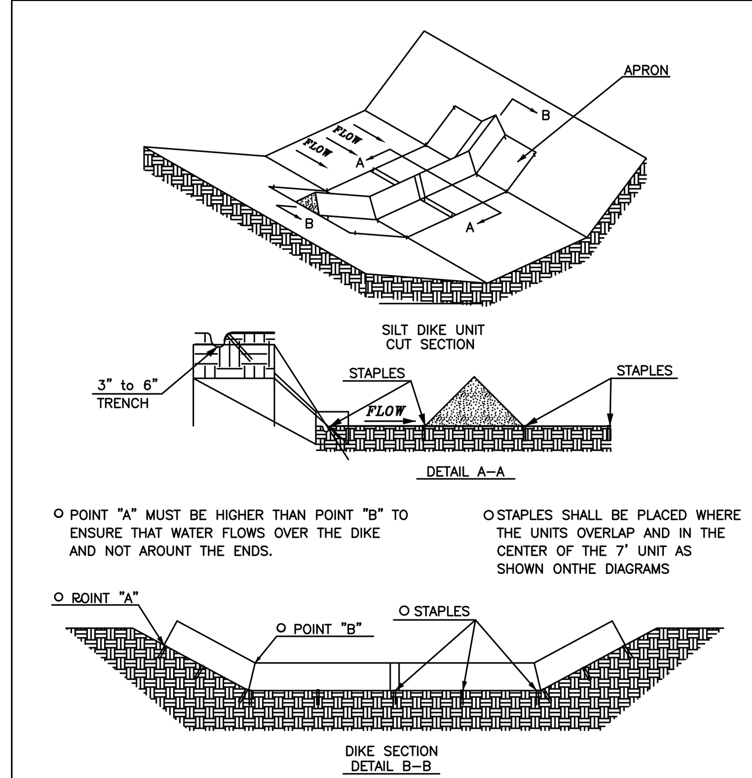
NOTES:
1. If the sediment pool is formed or enlarged the side slope will be 2:1 or flatter.
2. The fill shall be constructed using IDOT RR-4 stone size. A 1'layer of IDOT CA-2 should be placed on the inside face to reduce the flow rate.
3. The rock will be placed according to construction specification 25 ROCKFILL. Placement will be by Method 1 and compaction will be class III.
4. The geotextile shall meet the requirements in material specification 592 GEOTEXTILE table 1 or 2, class I, II or IV.

REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

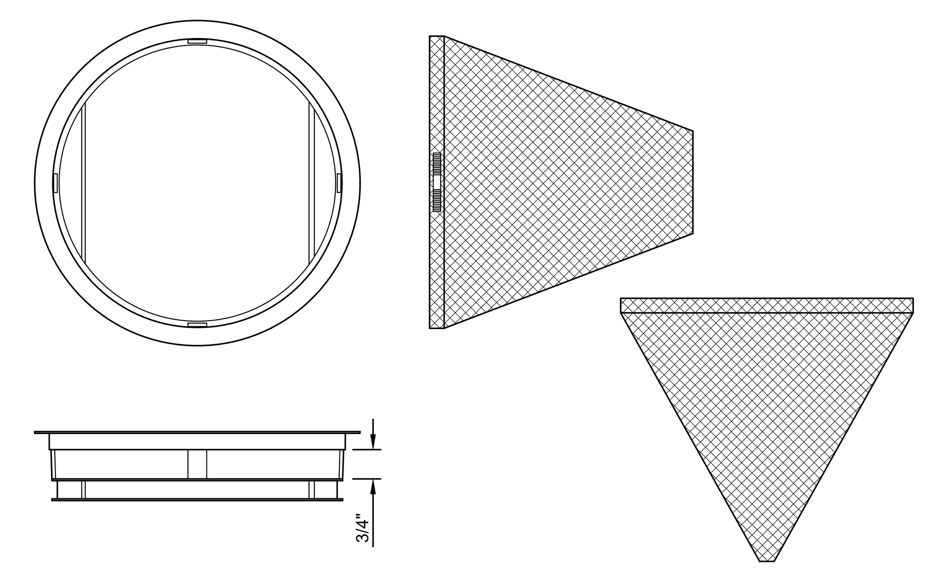
NRCS
Natural Resources Conservation Service

STANDARD DWG. NO. IL-660
SHEET 1 OF 1
DATE 11-20-01

TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH



DESCRIPTION: This work shall consist of furnishing, installing, maintaining, and, when required, removal of the TEMPORARY SILT DIKE. The dikes shall be used as a continuous line barrier at the toe of slope or R/W line to contain sediment or as a ditch barrier placed perpendicular to the flow of water in a defined drainage ditch to minimize erosion and contain sediment. These dikes shall be installed and located as soon as construction will allow or as directed by the Engineer.
MATERIALS: TEMPORARY SILT DIKES shall be triangular-shaped, having a height of at least eight to ten inches (8" - 10") in the center with equal sides and a sixteen- to twenty-inch (16" - 20") base. The triangular-shaped inner material shall be urethane foam. The outer cover shall be a woven geotextile fabric placed around the inner material and allowed to extend beyond both sides of the triangle two to three (2' - 3') feet. Standard length of each dike will be seven feet (7') unless otherwise indicated on the plans. The Dikes shall be attached to the ground with Wire Staples. The Staples shall be No. 11 gauge wire and be at least six to eight (6" - 8") inches long. Staples shall be placed as indicated on the installation detail.
The Contractor shall inspect all dikes after each rainfall event of at least 0.5 inches or greater. Any deficiencies or damage shall be repaired by the Contractor. Accumulated silt or debris shall be removed and relocated as directed by the Engineer. If the Dikes are damaged or inadvertently moved during the silt removal process, the contractor shall immediately replace Dikes after damage occurs.

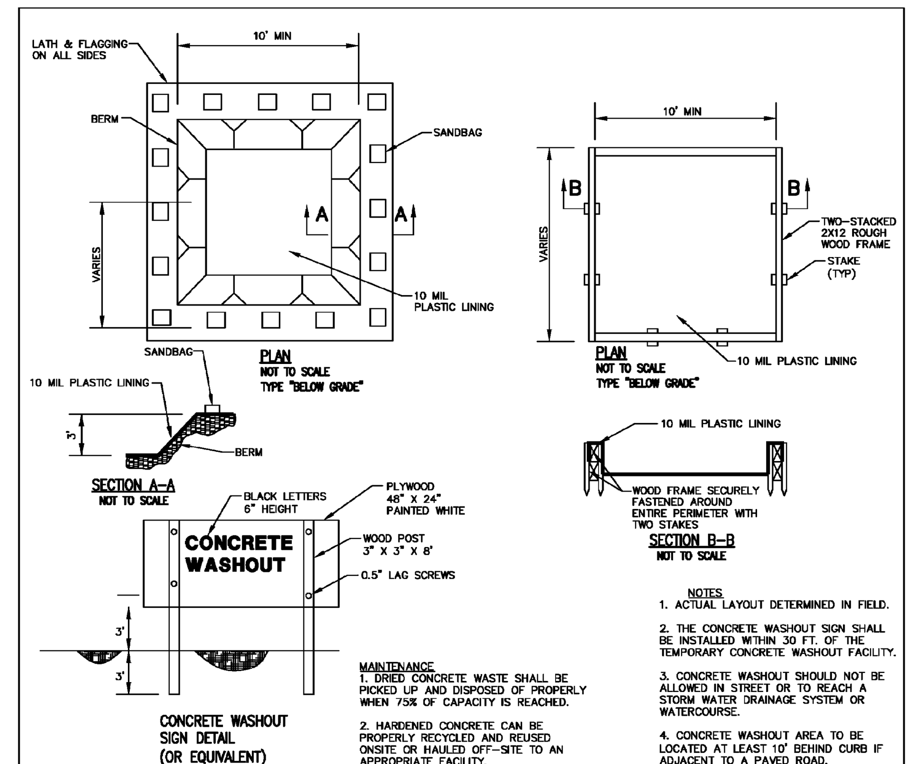


GENERAL NOTES:

FRAME: Top flange fabricated from 1-1/4"x1-1/4"x1/8" angle. Base rim fabricated from 1-1/2"x1/2"x1/8" channel. Handles and suspension brackets fabricated from 1-1/4"x1/4" flat stock. All domestic steel conforming to ASTM-A36.

SEDIMENT BAG: Bag fabricated from 4 oz./sq.yd. non-woven polypropylene geotextile reinforced with polyester mesh. Bag secured to base rim with a stainless steel strap and lock. All storm structures must have either a curb silt basket cath-all or an inlet silt basket cath-all inserted prior to construction.

INLET SILT BASKET CATCH-ALL



MAINTENANCE
1. DRIED CONCRETE WASTE SHALL BE PICKED UP AND DISPOSED OF PROPERLY WHEN 75% OF CAPACITY IS REACHED.
2. HARDENED CONCRETE CAN BE PROPERLY RECYCLED AND REUSED ONSITE OR HAULED OFF-SITE TO AN APPROPRIATE FACILITY.

NOTES
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. CONCRETE WASHOUT SHOULD NOT BE ALLOWED IN STREET OR TO REACH A STORM WATER DRAINAGE SYSTEM OR WATERCOURSE.
4. CONCRETE WASHOUT AREA TO BE LOCATED AT LEAST 10' BEHIND CURB IF ADJACENT TO A PAVED ROAD.

CONCRETE WASHOUT

SOIL PROTECTION CHART

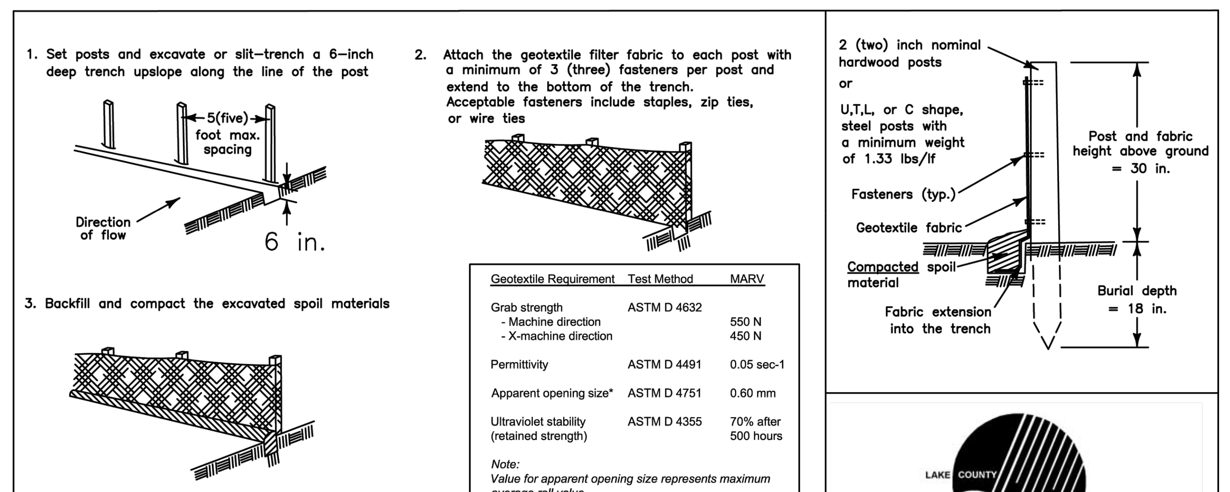
Soil Protection Chart

Stabilization Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Permanent Seeding			A			*	*		*			
Dormant Seeding	B										B	
Temporary Seeding			C			D						
Sodding			E**									
Mulching	F											

A KENTUCKY BLUEGRASS 90 LBS/AC MIXED WITH PERENNIAL RYE GRASS 30 LBS/AC
B KENTUCKY BLUEGRASS 135 LBS/AC MIXED WITH PERENNIAL RYE GRASS 45 LBS/AC + 2 TONS STRAW MULCH PER AC
C SPRING OATS 100 LBS/AC
D WHEAT OR CEREAL RYE 150 LBS/AC
E SOD
F STRAW MULCH 2 TONS/AC

* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER
** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING

1. Set posts and excavate or slit-trench a 6-inch deep trench upslope along the line of the post
2. Attach the geotextile filter fabric to each post with a minimum of 3 (three) fasteners per post and extend to the bottom of the trench. Acceptable fasteners include staples, zip ties, or wire ties
3. Backfill and compact the excavated spoil materials



Geotextile Requirement	Test Method	MARV
Grab strength	ASTM D 4632	
- Machine direction		550 N
- X-machine direction		450 N
Permittivity	ASTM D 4491	0.05 sec-1
Apparent opening size*	ASTM D 4751	0.60 mm
Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours

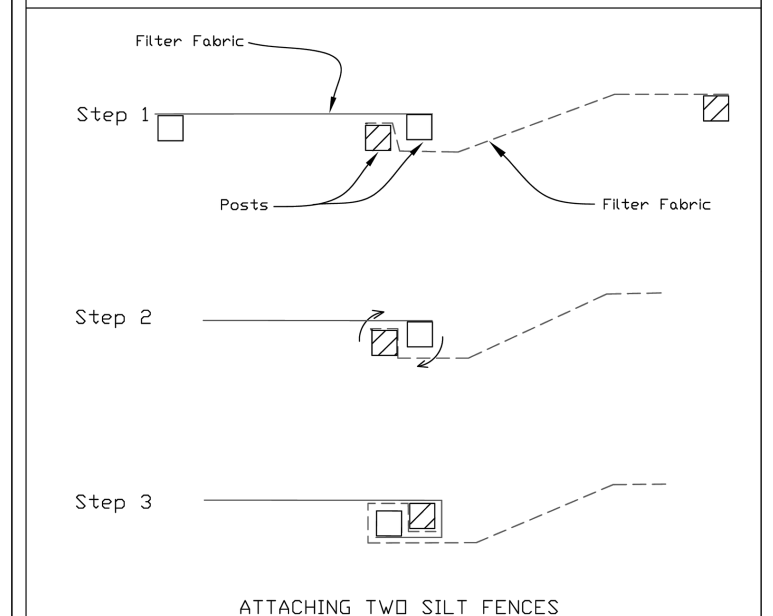
Note: Value for apparent opening size represents maximum average roll value.

LAKE COUNTY STORMWATER MANAGEMENT COMMISSION

SILT FENCE DETAIL

DATE: 4/21/08 BY: KAW
REVISED: ______ BY: ______

SILT FENCE - SPLICING TWO FENCES



1. Place the end post of the second fence inside the end post of the first fence.
2. Rotate both posts at least 180 degrees in a clockwise direction to create a tight seal with the fabric material.
3. Cut the fabric near the bottom of the stakes to accommodate the 6" flap.
4. Drive both posts a minimum of 18 inches into the ground and bury the flap.
5. Compact backfill (particularly at splices) completely to prevent stormwater piping.

REFERENCE
Project ______
Designed ______ Date ______
Checked ______ Date ______
Approved ______ Date ______

STANDARD DWG. NO. IUM-620B(W)
SHEET 1 OF 1
DATE 3-16-2012

No. | Date | Revision

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Illinois Professional Design Firm License No. 184-003152
www.haegerengineering.com

SWPPP
TYPICAL DETAILS

FEDERAL LIFE SITE
PHASE 1 SWPP PLAN
3750 W DEERFIELD ROAD, RIVERWOODS, IL

Project Manager: PAC
Engineer: JN
Date: 06/30/2026
Project No. 20-147
Sheet EC4.0 / EC4

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