

# VILLAGE OF WHEELING COOK COUNTY STATE OF ILLINOIS INDUSTRIAL LANE IMPROVEMENT PLANS



EXPIRES 11-30-19

**CONTACTS:**  
VILLAGE OF WHEELING: JON TACK, VILLAGE ENGINEER

**VILLAGE OF WHEELING - VILLAGE HALL:**  
2 Community Boulevard  
Wheeling, IL 60090  
Tel: 847-459-2600  
Fax: 847-459-9692

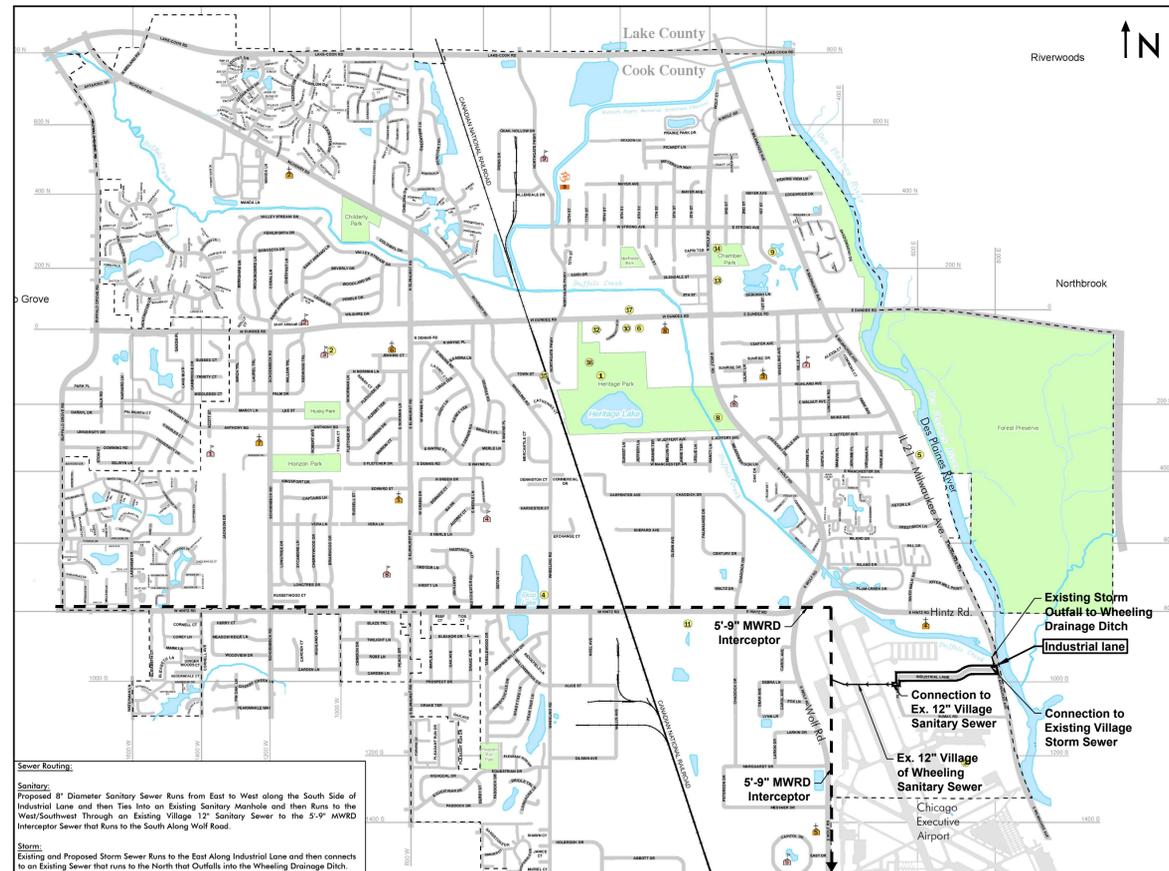
**VILLAGE OF WHEELING - PUBLIC WORKS:**  
77 W. Hintz Road  
Wheeling, IL 60090  
Tel: 847-279-6900  
Fax: 847-279-6420

**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

**BENCHMARKS:**  
**VILLAGE OF WHEELING BM-20**  
2.5" Aluminum Disk Stamped 'Village of Wheeling - Survey Marker' at South of Hintz Rd. Bridge, West of Buffalo Creek, ~1000' East of Wolf Rd.  
Elevation = 638.395 (NAVD 88)

**VILLAGE OF WHEELING BM-21**  
2.5" Aluminum Disk stamped 'Village of Wheeling - Survey Marker' on SE Corner of Milwaukee Ave. Bridge, ~115' North of Industrial Lane.  
Elevation = 644.908 (NAVD 88)

See Sheets C4.0 - C4.3 for Site Benchmarks



**Sewer Routing:**  
**Sanitary:**  
Proposed 8" Diameter Sanitary Sewer Runs from East to West along the South Side of Industrial Lane and then Ties into an Existing Sanitary Manhole and then Runs to the West/Southwest Through an Existing Village 12" Sanitary Sewer to the 5'-9" MWRD Interceptor Sewer that Runs to the South Along Wolf Road.  
**Storm:**  
Existing and Proposed Storm Sewer Runs to the East Along Industrial Lane and then connects to an Existing Sewer that runs to the North that Outfalls into the Wheeling Drainage Ditch.

**LOCATION MAP**  
Not To Scale

INDEX TO SHEETS	
NO.	DESCRIPTION
C1.0	TITLE SHEET
C2.0	GENERAL NOTES AND SPECIFICATIONS
C3.0	SCHEDULE OF QUANTITIES, TYPICAL SECTIONS AND DETAILS
C4.0	EXISTING CONDITIONS AND DEMOLITION PLAN
C4.1	EXISTING CONDITIONS AND DEMOLITION PLAN
C4.2	EXISTING CONDITIONS AND DEMOLITION PLAN
C4.3	EXISTING CONDITIONS AND DEMOLITION PLAN
C5.0	GEOMETRIC AND PAVING PLAN
C5.1	GEOMETRIC AND PAVING PLAN
C6.0	GRADING PLAN AND PROFILE
C6.1	GRADING PLAN AND PROFILE
C6.2	GRADING PLAN AND PROFILE
C6.3	GRADING PLAN AND PROFILE
C7.0	UTILITY PLAN AND PROFILE
C7.1	UTILITY PLAN AND PROFILE
C7.2	UTILITY PLAN AND PROFILE
C7.3	UTILITY PLAN AND PROFILE
C7.4	UTILITY PLAN AND PROFILE
C8.0	STANDARD DETAILS
C8.1	STANDARD DETAILS
C8.2	STANDARD DETAILS
C9.0	CROSS SECTIONS
C9.1	CROSS SECTIONS
C9.2	CROSS SECTIONS

INDEX TO STORM WATER POLLUTION PREVENTION PLAN SHEETS	
NO.	DESCRIPTION
EC-1.0	SWPPP TITLE SHEET
EC-2.0	SWPPP NOTES AND DETAILS
EC-3.0	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
EC-3.1	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Existing Symbol	DESCRIPTION	Proposed Symbol
	Storm Sewer Manhole	
	Catch Basin	
	Inlet	
	Flared End Section	
	Headwall	
	Area Drain	
	Sanitary Sewer Manhole	
	Clean Out	
	Storm Sewer	
	Storm Sewer Service	
	Perforated Underdrain	
	Sanitary Sewer	
	Sanitary Sewer Service	
	Combined Sewer	
	Force Main	
	Water Main	
	Water Main Service	
	Fire Hydrant	
	Valve Vault	
	Valve Box	
	B-Box	
	Well Head	
	Light Pole	
	Light Pole With Mast Arm	
	Traffic Signal	
	Traffic Signal With Mast Arm	
	Hand Hole	
	Fence	
	Guardrail	
	Pipe Bollard	
	Sign	
	Gas Valve	
	Gas Line	
	Electric Line	
	Overhead Utility Line	
	Fiber Optic Line	
	Electrical Pedestal	
	Electric Manhole	
	Guy Wire	
	Utility Pole	
	Telephone Pedestal	
	Telephone Manhole	
	Telephone Line	
	Cable TV Line	
	Cable TV Pedestal	
	Flagpole	
	Mailbox	
	Handicapped Parking Stall	
	Number of Parking Stalls	
	Curb & Gutter	
	Reverse Pitch Curb & Gutter	
	Depressed Curb	
	Retaining Wall	
	Curb Elevation and Gutter/Pavement Elevation	
	Pavement Elevation	
	Sidewalk Elevation	
	Ground Elevation	
	Top of Wall Elevation	
	Bottom of Wall Elevation	
	Open Lid Frame & Grate	
	Closed Lid Frame & Lid	
	Swale	
	Hardscape Flow	
	Softscape Flow	
	Contour Line	
	Floodplain	
	Floodway	
	Deciduous Tree	
	Coniferous Tree	
	Bush	
	Brushline	
	Pavement Core	
	Over Land Flow Route	

**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**  
**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C1.0** / C9



Know what's below.  
Call before you dig.

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

# VILLAGE OF WHEELING NOTES

## GENERAL NOTES

- Underground construction shall comply with the applicable ordinances and requirements of the Village of Wheeling and the Illinois Department of Transportation ("Specifications for Road and Bridge Construction", latest edition, and the Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition, published by the Illinois Environmental Protection Agency (I.E.P.A.) except for conflicts with the Metropolitan Water Reclamation District of Greater Chicago (M.W.R.D.G.C.) Sewer Permit and Manual of Construction and the Illinois Department of Transportation ("Specifications for Road and Bridge Construction", latest edition, published by the Illinois Environmental Protection Agency (I.E.P.A.) except for conflicts with the Metropolitan Water Reclamation District of Greater Chicago (M.W.R.D.G.C.) Sewer Permit and Manual of Construction).
- All paving and excavation work shall comply with the applicable ordinances of the Village of Wheeling and the Illinois Department of Transportation ("Specifications for Road and Bridge Construction", latest edition. In case of a conflict, the Village standards and requirements shall govern.
- The contractor shall verify all utility locations, dimensions, and elevations in the field prior to the commencement of construction of the improvements or proposed work. All existing utility locations on the plans have been shown based on best available information. Notify the engineer immediately if discrepancies are found.
- All elevations are based upon NAVD 88 Datum.
- The contractor shall notify the Village Engineering (847) 229-4800 and Plumbing Inspector (847) 459-2620 two (2) business days prior to the start of construction. The Contractor shall also contact J.U.L.I.E. (800) 892-0123 at least 48 hours prior to starting work. All other agencies shall also be notified as required.
- The contractor shall restore all disturbed areas to at least a condition that existed prior to construction.
- All existing field drainage lines encountered or damaged during construction are to be restored to their original condition, properly rerouted, and/or connected to the storm sewer system.
- The contractor and engineer shall maintain records for "as built" drawings which shall be submitted to the Village Engineer at the completion of this project.
- The contractor shall provide video tape(s) or still pictures as required by the Village Engineer prior to beginning work.
- One set of stamped approved plans shall be on site at all times during construction of the project.
- It shall be the responsibility of the Contractor to call at least 48 hours in advance and set up the necessary and proper inspection of the work to be performed.
- All unpaved areas of right-of-way are to be sodded. Restore right-of-way with six (6) inches of topsoil and sod.
- Storm and sanitary sewer lines shall be cleaned of all construction debris and silt prior to Village inspection.
- The contractor shall maintain and keep on the job site a copy of the "Record Drawings" showing all changes from the original plans. The location of all service connections for sanitary sewer, storm sewer and water shall be shown from the closest manhole or valve vault. All B-boxes and cleanouts must be shown with tied dimensions. The elevation of all rims and inverts shall be verified by the contractor and shown on the "Record Drawings" and the contractor shall adhere to the Village Engineer at the completion of the project, prior to any final inspections. The Engineer will transfer the information to the original plans by incorporating the Village of Wheeling As-Built requirement list and furnish the Village three (3) sets of complete "Record Drawings," and, if required, one (1) set of reproducible mylars.
- The contractor shall be responsible for the construction of all structures, to include, but not limited to, and perform all work in accordance with the requirements, specifications, standards, practices, policies, and codes of the Village of Wheeling, which includes but is not limited to labor, materials, procedures, and safety.
- Any changes, revisions, or substitutions to the plans, specifications, materials, requirements, or work shall be submitted to the Village Engineer, in writing, with written approval by the Village Engineer received prior to beginning construction. All materials and construction methods shall be approved by the Village Engineer. The requirements, codes, or specifications, shall be approved by the Village Engineer. Prior to commencing the installation and construction.
- All obstructions that are not approved by the Village and which currently exist in the right-of-way shall be removed, and the contractor shall be responsible for the removal of all obstructions.
- OSHA rules, regulations, and requirements shall be strictly adhered to during the execution of all work to be performed under the approved drawings.
- Contractor shall pay special attention to the existing street light electrical conduit. If electrical conduit is damaged, repaired or replaced, the electrical conduit is not allowed, the entire section of electrical conduit between the nearest poles shall be replaced.

## GENERAL UNDERGROUND UTILITIES

- Trench backfill shall be provided under and within two feet (2') of all existing and proposed pavement.
- All manholes and similar structures must be a minimum of 48" diameter, and valve vaults must be a minimum of 60" diameter, unless approved otherwise.
- For modification or repair of all sewers and addition of or repair of sewer clean outs; non-shear couplings shall be used in connection of sewer pipes with prior approval from Village Engineering Department.
- A minimum ten feet (10') horizontal separation shall be maintained between watermain and sewer or drain lines unless precluded by local conditions. When the watermain is located less than ten feet (10') horizontally or the invert of the watermain is located closer than eighteen inches (18") vertically above the crown of any sewer or drain line, then: The sewer or drain line shall be constructed of pipe equivalent to watermain standards and shall be pressure tested to assure water tightness in accordance with the Illinois Environmental Protection Agency (I.E.P.A.) requirements.
- When the watermain is located closer than eighteen inches (18") vertically above the crown of that sewer or drain line, then that sewer or drain line shall be constructed according to the requirements listed in Item 4) above.
- If the watermain passes under a sewer or drain line, the following conditions shall be met: a vertical separation shall be maintained between the invert of the sewer or drain line and the crown of the watermain shall be maintained with support provided for the sewer or drain line(s) to prevent any moving or settling, rupture or breaking, and sewer or drain line shall be constructed as described in Item 4) above.
- The cost of all required testing of underground utilities shall be incidental to the construction cost of the same.
- Fire sprinkler and water supply lines shall be installed at least 48 hours prior to the start of construction. A 4" x 4" wood posts extending a minimum of three (3) feet out of the ground and painted red, blue, and green respectively, with appropriate signs attached stating "Caution: No Excavate until landscaping is complete".
- When working on an existing sewer main by means other than an existing valve, tee, or an existing manhole, the sewer shall be circular saw-cut by proper tools ("sewer-tap" machine or similar) with proper installation of hub-wye saddle or hubtee saddle.
- Sewer connections to an existing structure shall be machine cored.
- Electric conduit shall be installed at all sanitary sewer manhole penetration connections.
- Electric conduit sections shall be used on all manholes, catch basins, vaults, etc. unless approved otherwise by the Village Engineer.
- All sewer construction requires stone bedding 1/4" to 1" in size, (I.D.O.T. equivalent CA-11, CA-13) with a minimum thickness equal to 1/4 the outside diameter of the sewer pipe, but not less than four (4) inches, nor greater than eight (8) inches, and shall be applied to the base material as well as the subgrade.
- All sewer construction shall conform to the approved permit plans unless revisions have been approved by the Village, as well as any and all other necessary agencies.
- Structures shall have a maximum of twelve inches (12") of adjustment with any combination up to a maximum of three (3) rings.
- Protect and/or cover all pipes and underground structures until final grading, paving, and landscaping are complete.
- Trench Backfill material for both paved areas and roadways shall be CA-6, Grade B. For detail, see Trench Backfill on Sheet 13. Density Test shall be performed by a consultant obtained by the contractor. If the density requirement (95% modified proctor density) is not met, further trench backfilling will not be allowed until CA-6 is compacted to Village requirements. Contractor is responsible for providing modified proctor density data of CA-6 and the cost of this work shall be included in the cost of water main.
- Throughout all phases of construction, including suspension of work, and until the final acceptance, the contractor shall keep the site clean and free from rubbish and debris. The contractor shall also abate dust resulting by cleaning, sweeping and sprinkling with water or other means as necessary. Whenever requirements for cleaning or dust control are not met, the contractor shall be responsible for providing spray nozzles at least once every working day for the purpose of keeping paved areas acceptably clean wherever construction, including restoration, is incomplete unless directed by the Engineer otherwise.
- Curb and Gutter, Sidewalk, Driveway and Sodding Shall be restored within four weeks after all service lines are made to each street. If temperature is above 80 degrees Fahrenheit, sodding should be delayed until temperature is below 80 degrees Fahrenheit. Sodding shall be performed per IDOT standard specifications for Road and Bridge Construction, article 252.08.
- Contractor shall ensure that access by Mail Delivery, Garbage Removal School Buses and Emergency Vehicles on public streets is maintained at all times.

## PAVING

- Base course shall be aggregate base course, type B (crushed limestone, grade B), conforming to the standard specifications (see plans for thickness).
- Surface course and binder course shall be bituminous concrete, Class I hot mix (see plans for thickness).
- Curb and gutter, barrier curb, and sidewalk shall be Portland Cement concrete with air entrainment of five (5) percent, plus or minus one (1) percent. A six (6) inch granular subgrade shall be placed under the curb (3) inches. Curing compound shall be applied after finishing. Curb backfill shall be incidental to the construction of the curb. Locations of water and sewer service lines shall be clearly marked on all new curbs.
- A 3/4 inch fiber expansion joint shall be installed when the curb abuts a sidewalk or existing curb.
- Curb and gutter shall be sawed and jointed at maximum intervals of twenty (20) feet and a 1/4 inch fiber expansion joint at maximum intervals of sixty (60) feet.
- Subgrade shall be finished to a 0.1 feet of design subgrade elevations by the earthwork contractor. Fine grading for pavements and sidewalks shall be the responsibility of the paving contractor.
- The base course shall be primed at the rate of 0.25 to 0.50 gallons per square yard with a liquid asphalt emulsion and shall be applied under the best weather conditions. Prime coat and cleaning of the existing surface shall be considered as incidental to the contract work.
- Prior to placement of any pavement, including curbs, the subgrade shall be proof rolled with a fully loaded tandem axle dump truck (minimum 20 tons). Proof rolling shall be witnessed by the materials consultant and the Village Engineer. Proof rolling shall be required on the base material as well as the subgrade. The subgrade, base and base material, as well as the bituminous material, shall also be tested by the materials consultant. The test results shall be provided to the engineer for his use in determining the adequacy of the pavement design.
- Structures such as manholes, valve boxes, etc. shall be adjusted to meet the new surface elevation. Furthermore, structures such as manholes, valve boxes, etc. that lie within Portland Cement Concrete slab areas (i.e. driveways, etc.) shall be boxed out by means of a cut out area with full depth joints.
- All pavement, walk, and curb removal shall be accomplished by saw cutting prior to removal.
- When a curb or sidewalk has a two inch diameter conduit or a two inch diameter conduit buried beneath them at a depth of 24" (minimum) for future street lighting (L.C.) the conduit shall extend a minimum of three (3) feet beyond the back of curb or edge of the pavement if it curbs exists.
- All drives in the right-of-way of public streets and in industrial and truck loading areas shall be a minimum of eight (8) inch thick reinforced cement concrete on a four (4) inch sand subgrade.
- Saw cut existing curb at limit of the work and replace with depressed curb as required. Drill and demol all new curb, including depressed curb, to existing as required.

- All driveway material thicknesses shall meet the minimum pavement standard requirements of the Village of Wheeling.
- Driveway apron removal and replacement shall include the installation of a truncated dome handicapped sidewalk ramp on both sides of the apron unless otherwise approved by the Village Engineer.
- All dimensions for curbs are to back of curb, unless otherwise specified.
- The use of cold-patch for temporary pavement patching shall be approved by the Village Engineer prior to placement.

## STORM SEWER

- All storm sewer pipes shall be reinforced concrete pipe conforming to ASTM C-76 Class IV with confined O-ring gasketed joints in compliance with ASTM C-361 or Tylox Super Seal gasket conforming to ASTM C-361.
- Elevations of flared end sections shall be interpreted at the invert of the flared end section.
- All storm structures are to have open (grate) lids unless specified as having closed lids (C.L.).
- Rim grades for storm sewer structures located within the curb and gutter are flow line elevations.
- All sump pump and drain tie air discharges shall be routed to the storm sewer system. Sump pump service connections shall be four (4) inch PVC family house, at the change of pipe material or 28' minimum slope of 2% and shall be gas capped. Minimum cover shall be two (2) feet, wherever possible.
- All downspouts, footing drains, and outside drains shall discharge to the storm sewer or over ground as approved by the Village Engineer.
- Minimum diameter of storm sewer shall be 12" unless approved otherwise.
- No storm water shall be discharged to the sanitary sewer system.
- Any storm sewer damaged during the work shall be repaired with full sized permanent or temporary storm sewer pipe. Use of temporary under-sized storm sewer pipe is strictly prohibited.

## SANITARY SEWER

- All sanitary sewers shall be PVC pipe SDR 26 (min.) complying with ASTM D3034, with factory fabricated joints complying with ASTM D3212, and elastomeric gaskets complying with ASTM F-477 or as approved by the Village of Wheeling. Non Shear Couplings are to be used for all dissimilar pipe connections with prior approval by the Village Engineer. Watermain crossings shall consist of material and jointing in accordance with the Illinois Environmental Protection Agency Public Water Supplies Technical Policy Statements.
- Sanitary sewers shall have a minimum slope of 3.5' minimum slope of 3.5'.
- All newly constructed sanitary sewers shall be televised and air tested and manholes vacuum tested as required by the Village of Wheeling and the Metropolitan Water Reclamation District of Greater Chicago.
- Sanitary sewer services shall be connected to the main by use of a fitting or manhole.
- All floor drains shall discharge into the sanitary sewer.
- Sanitary services to be six (6) inch diameter D.I.P. Class 52 (min.) with a minimum slope of 1% prior to entering clean out, with a distance from outside of the foundation wall to be six (6) feet. Sanitary services to be six (6) inch diameter PVC pipe SDR-26 (min.) with a minimum slope of 1% after leaving clean out. Provide cleanout on level bed (not a "pig" family house, at the change of pipe material or 28' minimum slope).
- Flexible rubber boots shall be used with all connections and penetrations into sanitary manholes.
- All sanitary manholes to be provided with "Cretex" type chimney seals.
- Manholes shall have steps sixteen (16) inches on center with step alignment to be perpendicular to the main pipe flow direction wherever possible.
- All sanitary sewer and sewer joints shall conform to:

Material	Pipe Spec	Joint Spec
DIP	ANSI A-21.51	ANSI A-21.11
PVC SDR 26 (min.)	ASTM D-3034	ASTM D-3212
ABS (SDR 26)	ASTM D-2880	ASTM D-3212
Solid (8"-15" Truss)	ASTM D-2680	ASTM D-3212

- All objectionable waste containing grease, fats, and/or oils shall discharge to an exterior grease interceptor or grease basin, with "water-tight" covers, before discharging into the sanitary sewer, including but not limited to restaurant and food preparation facilities. Automatic dishwasher and effluent domestic waste shall not discharge through the grease interceptor.
- Water services shall special attention to the existing sanitary pipe and service lines. Contractor is responsible for any damage to the existing sanitary sewer system. Any damage to the sanitary sewer system shall be repaired by the contractor by removing & replacing the existing damaged sanitary pipe with matching size in ductile iron pipe without any compensation.

## WATER MAIN

- All water mains shall be pressure tested per requirements of the Village of Wheeling. Method shall be a leakage test of 150 s.i. held for 200 p.s.i. on fire suppression line.
- All water mains shall be chlorinated per the requirements of the Village of Wheeling.
- All water mains to be ductile iron pipe per ANSI A21.51 (AWWA C151), Class 52, with "push on" or mechanical joint as required by the Village Engineer or PVC SDR 18 AWWA C300 Restained Joint Pipe conforming to AWWA C900-07. All Ductile Iron Pipe to be cement lined per ANSI A21.4 (AWWA C104).
- The minimum cover for watermain shall be 5 feet from finished grade to top of main (6 ft. max. unless approved otherwise by the Village Engineer).
- All water services shall be installed per the Village Standard.
- Water services shall suppression systems shall be made and installed by a licensed plumber, in accordance with the Illinois State Plumbing Code.
- Fire sprinkler and water lines must be pressure tested and chlorinated from the point of connection at the existing watermain to the valve inside the building. Contact the Village of Wheeling Public Works Utility Department (847) 229-4800 at least 48 hours prior to the start of construction.
- The Village of Wheeling Plumbing Inspector (847) 459-2620 and Engineering Inspector (847) 229-4000 shall be contacted at least 48 hours prior to all water service work.
- All B-boxes shall be 1-1/2" Mueller or Ford telescopic B-box with "WATER" imprinted on the lid of the box and stamped on the cover.
- All fastener hardware (i.e. nuts, bolts, and washers) associated with fittings shall be stainless steel.
- All fittings shall be restrained by twist resistant wedge, retractor glands, manufactured with torque limiting twist off nuts.
- All brass fittings for services lines shall be "Lead Free" in accordance with AWWA C800, latest revision, made from UNSCDA 89520 or UNSC154 89833. Brass alloy UNSCDA 83600 is not acceptable for any brass component in contact with potable water.
- Any lead caulking encountered at existing service line connections to the old watermain shall be removed and properly disposed of.

## IEPA NOTES

- Sewers crossing water mains shall be laid to meet the following specifications:
- Horizontal Separation:
    - Whenever possible, a water main must be laid at least ten feet horizontally from any existing or proposed sewer line.
    - Should local conditions exist which would prevent a lateral separation of ten feet, a water main may be laid closer than ten feet to a storm or sanitary sewer provided that the water main invert is at least eighteen inches above the crown of the sewer, and is either in a separate trench or in the same trench on an undisturbed earth surface located 10' from the sewer.
    - It is impossible to obtain proper horizontal and vertical separation as described in 1 and 2 above, both the water main and sewer must be constructed of pipe material which would conform to water main standards and be pressure tested to assure water tightness before backfilling.
  - Vertical Separation:
    - Whenever water mains cross house sewers, storm drains or sanitary sewers, the water main shall be laid at such an elevation that the invert of the water main is eighteen inches above the crown of the drain or sewer. This vertical separation must be maintained for that portion of the water main located within ten feet horizontally of any sewer or drain crossed. This must be measured as the normal distance from the water main to the drain or sewer.
    - Where conditions exist that the minimum vertical separation set forth in 1) above cannot be maintained, or it is necessary for the water main to pass over a sewer or drain, one of the following two measures must be taken:
      - The water main shall be installed within a PVC carrier pipe and the carrier pipe shall extend on each side of the crossing until the normal distance from the water main to the sewer or drain line is at least ten (10) feet.
      - In making sewer or drain shall be constructed of pipe material which would conform to water main standards until the normal distance from the water main to the sewer or drain line is at least ten (10) feet.
      - In the inverted sewer crossings, center a length of water main pipe over the sewer to be crossed so that the joints will be equidistant from the sewer and as remote there from as possible. Where a water main must cross under a sewer, a vertical separation of eighteen inches between the invert of the sewer and the crown of the water main shall be maintained, along with means to support the larger sized sewer lines to prevent their settling and breaking the water main.
- The horizontal and vertical separation between water service lines and all sanitary sewers, storm sewers, or any drain should be the same as for water mains, as detailed above, except that when minimum vertical separation between existing utilities and proposed improvements is indicated on the Plans or as shown above, may be used for sewer service lines.

## IEPA CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CCDD) NOTES

- CCDD Compliant Material Disposal:
- Work shall be performed in compliance with the Illinois Environmental Protection Agency (IEPA) guidelines in effect at the time of construction.
  - The Contractor will be required to make all arrangements for coordination and submission of the testing reports and certification documents with their chosen CCDD disposal facility. Written confirmation of preliminary approval must be provided from the disposal facility and confirmed by the Village as acceptable.
  - All surplus, clean material generated from the Contractor's activities must be disposed of at an IEPA approved CCDD disposal facility. The Contractor is responsible for providing documentation to the Village for each load hauled off-site showing the quantity of material and the location the material was disposed of.
  - The removal and disposal of CCDD compliant trench spoils for the installation of the water main shall be considered incidental to the cost of the pipe.
  - No extra compensation will be allowed to the Contractor for any expenses incurred complying with the requirements including, but not limited to: delays, inconvenience, or interruptions in the work resulting from compliance with these requirements.

## CCDD Non-Compliant Material Disposal:

- Work shall be performed in compliance with the Illinois Environmental Protection Agency (IEPA) guidelines in effect at the time of construction.
- A quantity has been established in the bid proposal to address areas of possible non-compliant material. If such materials are found during construction, the Contractor shall notify the Village immediately. Suspect materials are to be set aside on non-permeable tarp/plastic, etc. and covered until they may be assessed. If after assessment the material is found to be non-compliant, it shall be loaded onto trucks for proper landfill disposal off-site. Disposal documentation will be provided by the Contractor to the Village prior to any applications for payment being requested.
- The contractor to provide a third party testing company to sample and analyze discovered suspect non-compliant material. The results of the analysis report, the Owner will determine the probable limits of contamination and confirm with the Contractor in order to establish a material quantity. Work shall include all labor, equipment, materials, trucking, re-handling, etc. as required to stockpile and dispose of material, whether compliant or not. Only material determined to be non-compliant shall be paid for at the provided unit price. Re-handling and disposal of material determined to be compliant shall be incidental to contract.

## SUPPLEMENTAL NOTES

Note: In case of a conflict, contradiction, or discrepancy between the Village of Wheeling Notes or Village of Wheeling details and the Supplemental Notes, the Village of Wheeling Notes/Details shall apply, unless otherwise approved by the Village of Wheeling Engineer.

## GENERAL NOTES

- Definition of Terms:
  - "Owner" shall mean the person or entity with which Haeger Engineering, LLC has been contracted with to prepare the Plans and Specifications.
  - "Engineer" shall mean Haeger Engineering, LLC.
  - "Contractor" shall mean the persons or entities responsible for performing and constructing the work shown on the Plans and Specifications and other Contract Documents and shall not be limited to furnishing all labor, materials, tools, equipment, and other incidentals necessary.
  - "Plans and Specifications" shall mean the Engineering Drawings and any Specifications prepared by Haeger Engineering, LLC, the Engineer.
  - "Contract Documents" shall mean the contract, 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.
- The Specifications governing this project are as follows:
  - All applicable Village/City and other applicable Jurisdictional Agency Ordinances, Codes, Regulations, Requirements, Policies, Specifications, Standards, etc.
  - 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 Resolving Special Provisions" as well as any applicable IDOT Highway Regulations. Hereafter these items shall be collectively referred to as the IDOT Standard Specifications.
  - Water Main, Storm Sewer, and Sanitary Sewer construction shall conform to the "Standard Specifications for Water and Sewer Construction in Illinois", latest edition.
  - 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.
  - 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.
  - All handicap accessibility items shall conform to the Illinois Accessibility Code (IAC), latest edition.
  - General Notes and Specifications contained herein or elsewhere as a separate document.
- Contract Documents shall be read in conjunction with the more stringent requirement shall apply, unless directed otherwise by the applicable Jurisdictional Agency.
- Contract Documents:
  - The Engineer's Plans and Specifications shall be included as part of the Contract Documents.
  - All applicable Ordinances, Codes, Regulations, Requirements, Policies, Specifications, Standards, etc. shall be included as part of the 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.
  - 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 intent of the Plans and Specifications. It is the intention of the Contract Documents that the Contractor 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 work with the Engineer to resolve any operating conditions or conflicts between the contract documents cover every individual item in minute detail.
  - 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 point of contact for the soils data and shall conduct a one-day geotechnical investigation. Any breaching, shoring, 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.
- 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.
- Whenever the performance of the 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.
- 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 the responsibility of the Contractor to assume the risk and the Engineer shall not be held liable or responsible for any work performed without a permit.
- The Contractor shall indemnify and hold harmless the Owner, Engineer, Village/City, and other Jurisdictional Agencies as well as any 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 against the Contractor, whether 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.
- 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.
- In some instances, the existing utilities are shown on the Plans according to information obtained from the utility companies (after 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 at the result of field locations 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.
- The Contractor shall be responsible for coordinating and providing approvals 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.
- 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 arrangements for the protecting, adjusting, bracing, or otherwise maintaining the utility lines. The Contractor shall be held liable for the limits of the proposed construction without the approval of the Owner, including the removal of all cables, manhole covers and other related appurtenances which the Contractor desires to remove. 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.

- No extra compensation will be allowed by the Contractor for any expense incurred for complying with all of the following:
  - Work shall be performed in compliance with the Illinois Environmental Protection Agency (IEPA) guidelines in effect at the time of construction.
  - Any quantity has been established in the bid proposal to address areas of possible non-compliant material. If such materials are found during construction, the Contractor shall notify the Village immediately. Suspect materials are to be set aside on non-permeable tarp/plastic, etc. and covered until they may be assessed. If after assessment the material is found to be non-compliant, it shall be loaded onto trucks for proper landfill disposal off-site. Disposal documentation will be provided by the Contractor to the Village prior to any applications for payment being requested.
  - The contractor to provide a third party testing company to sample and analyze discovered suspect non-compliant material. The results of the analysis report, the Owner will determine the probable limits of contamination and confirm with the Contractor in order to establish a material quantity. Work shall include all labor, equipment, materials, trucking, re-handling, etc. as required to stockpile and dispose of material, whether compliant or not. Only material determined to be non-compliant shall be paid for at the provided unit price. Re-handling and disposal of material determined to be compliant shall be incidental to contract.
- The Contractor shall maintain positive drainage at all times during construction. Construction shall not block off-site drainage and the flow from any drainage ways, field ties, storm sewers or similar draining off-site properties. All on-site existing field ties, storm sewers, drainage ways or similar encountered or damaged during construction shall be maintained, restored to their original pre-construction condition or better, properly protected, and all connections to the proposed stormwater drainage system. If this can't be accomplished then the field tie 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 ties 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.
- 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 LR10 from the Owner. The Owner together also with the Contractor and other entities if 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 on the project site. The Contractor shall be responsible for ensuring that all the necessary applicable best management practices, 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.
- 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 the responsibility of the Contractor to assume the risk and the Engineer shall not be held liable or responsible for any work performed without a permit.
- The Contractor shall take sufficient precautions to protect these natural resources that are to remain, whether on-site or on adjacent property, from them from sediment, fuels, oils, bitumens, calcium chloride, or other harmful materials which 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 as an essential habitat for State or Federal endangered and/or threatened species, or Prairie or Savanna areas where the Owner has made commitments for protection of these areas. Also, previously unidentified natural resource areas, prairies, savannas, 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 the Contractor's activities may have a detrimental project effects on natural resource areas, prairies, savannas, protected species, or essential habitat the Contractor shall cooperate in accomplishing these measures.
- The Contractor shall confine their activities to within the project boundaries, work areas, or easements specified. No work shall be performed outside the project boundaries or outside the project work area 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 was a result of Contractor action, or lack thereof.
- The Contractor shall be responsible for the safety of all workers and shall provide safety training for all workers 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.
- 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 materials lawns and rights-of-way, driveways, sidewalks, ditches, landscaping, fences, manholes, storm sewers, drain lines, 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.
- All premises shown on the Plans shall be considered to be finished grade surface elevations unless noted otherwise.
- 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.
- The Contractor shall be responsible for the safety of all workers and shall provide safety training for all workers 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.
- 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. The Contractor shall be responsible for the safety of all workers and shall provide safety training for all workers 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.
- 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 until they are properly covered. The Contractor shall be responsible for the safety of all workers and shall provide safety training for all workers 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.
- The Contractor shall be responsible for the installation and maintenance of adequate signs, traffic control devices, and warning devices, in accordance with the Plans and 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 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.
- 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, installation or construction of structural steel members, by reason of the weight of the members. Any required supporting design documentation must be prepared, and signed and sealed by an Illinois licensed Structural Engineer.
- 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.
- The Contractor shall be responsible for the location and legal undisturbed 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 horizontal separation of existing or other proposed utilities as indicated on the Plans or that become apparent at a noted and shown these Field Marked Construction Plans. These Field Marked Construction Plans shall be provided to the Owner/Engineer at the completion of construction.
- All work that is performed that is not in conformity with the Plans, Specifications or other Contract Documents and warning devices, in accordance with the Plans and 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 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.
- All work performed under the Plans, Specifications or other Contract Documents shall be guaranteed against all defects in materials and workmanship, and shall be the responsibility of 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.
- 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.
- If approved, 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 by the Contractor and shall be signed and sealed by the Contractor and the Engineer as required by the Village/City and all other applicable Jurisdictional Agencies. The As-built or Record Drawings must be prepared, and signed and sealed by a registered professional Engineer in Illinois.

## DEMOLITION AND CLEARING

- The Contractor shall perform all demolition, clearing, grubbing, and tree removal and protection work in accordance with all applicable Federal, State, County and Local Ordinances or as noted in the Plans.
- Prior to the commencement of any demolition or clearing activities, the Owner or Contractor shall obtain all applicable permits to conduct the existing utility services to each building proposed for demolition.
- 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.
- Clearing shall be performed in compliance with the Illinois Environmental Protection Agency (IEPA) guidelines in effect at the time of construction. The contractor shall be responsible for the removal and legal disposal of all obstructions such as trees, weeds, fences, walls, accumulations of rubbish of whatever nature, and all logs, stumps, brush, grass, hedges, 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. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start of construction until the completion of the project, the contractor shall be responsible for the protection of all existing trees and other vegetation within the limits of construction. All existing trees are to be saved or protected. From the time of the start

MWRD GENERAL NOTES

- A. Referenced Specifications**
- All construction shall be in accordance with the applicable sections of the following, except as modified herein or on the Plans:
    - Standard Specifications for Road and Bridge Construction (Latest Edition), by the Illinois Department of Transportation (IDOT SS) for all improvements except Sanitary Sewer and storm sewers tributary to combined sewers.
    - Standard Specification for Water and Sewer Main Construction in Illinois, Latest Edition (SSWS) for Sanitary Sewer and Water Main construction.
    - Village of Wheeling Municipal Code.
    - The Metropolitan Water Reclamation District of Greater Chicago (MWRD) Watershed Management Ordinance and Technical Guidance Manual.
  - In case of a conflict between the applicable Ordinances noted, the more stringent shall take precedence and shall control all construction.

- B. Notifications**
- The MWRD Local Sewer Systems Section Field Office must be notified at least two (2) working days prior to the commencement of any work (Call 708-588-4055).
  - The Village of Wheeling Engineering Department and Public Works Department must be notified at least 24 hours prior to the start of construction and prior to each phase of work. Contractor shall determine items requiring inspection prior to start of construction or each phase of work.
  - The Contractor shall notify all utility companies prior to beginning construction for the exact locations of utilities and for their protection during construction. If existing utilities are encountered that conflict in location with new construction, immediately notify the engineer so that the conflict can be resolved. Call J.U.L.I.E. at 1-800-892-0123.

- C. General Notes**
- All elevations shown on plans reference the North American vertical datum of 1988 (NAVD88). Conversion factor is ZERO (0).
  - MWRD, the municipality and the owner or owner's representative shall have the authority to inspect, approve, and reject the construction improvements.
  - The contractor(s) shall indemnify the owner, engineer, municipality, MWRD, and their agents, etc., from all liability involving the construction, installation, or testing of this work on the project.
  - The proposed improvements must be constructed in accordance with the engineering plans as approved by MWRD and the municipality unless changes are approved by MWRD, the municipality, or authorized agent. The construction details, as presented on the plans, must be followed. Proper construction techniques must be followed on the improvements indicated on the plans.
  - The location on various underground utilities which are shown on the plans are for information only and represent the best knowledge of the engineer. Verify locations and elevations prior to beginning the construction operations.
  - Any existing pavement, sidewalk, driveway, etc., damaged during construction operations and not called for to be removed shall be replaced at the expense of the contractor.
  - Material and compaction testing shall be performed in accordance with the requirements of the municipality, MWRD, and owner.
  - The underground contractor shall make all necessary arrangements to notify all inspection agencies.
  - All new and existing utility structures on site and in areas disturbed during construction shall be adjusted to finish grade prior to final inspection.
  - Record drawings shall be kept by the contractor and submitted to the engineer as soon as underground work is completed. Final payments to the contractor shall be held until they are received. Any changes in length, location or alignment shall be shown in red. All wyes or bends shall be located from the downstream manhole. All valves, B-boxes, tees or bends shall be tied to a fire hydrant.

- D. Sanitary Sewer**
- The contractor shall take measures to prevent any polluted water, such as ground and surface water, from entering the existing sanitary sewers.
  - A water-tight plug shall be installed in the downstream sewer pipe at the point of sewer connection prior to commencing any sewer construction. The plug shall remain in place until removal is authorized by the municipality and/or MWRD after the sewers have been tested and accepted.
  - Discharging any unpolluted water into the sanitary sewer system for the purpose of sewer flushing of lines for the deflection test shall be prohibited without prior approval from the municipality or MWRD.
  - All sanitary sewer construction shall be in accordance with the standard specifications for water and sewer main construction in Illinois (latest edition).
  - All floor drains shall discharge to the sanitary sewer system.
  - All downsouts and footing drains shall discharge to the storm sewer system.
  - All sanitary sewer pipe materials and joints (and storm sewer pipe materials and joints in a combined sewer area) shall conform to the following:

Pipe Material	Pipe Specifications	Joint Specifications
Verfired Clay Pipe	ASTM C-700	ASTM C-425
Reinforced Concrete Sewer Pipe	ASTM C-76	ASTM C-443
Cast Iron Soil Pipe	ASTM A-74	ASTM C-564
Ductile Iron Pipe	ANSI A21.51	ANSI A21.11
Polyvinyl Chloride (PVC) Pipes		
6-inch to 15-inch Diameter SDR 26	ASTM D-3034	ASTM D-3212
18-inch to 27-inch Diameter F/DY=46	ASTM F-679	ASTM D-3212
High Density Polyethylene (HDPE)		
	ASTM D-3350	ASTM D-3261, F-2620 (Heat Fusion)
	ASTM D-3035	ASTM D-3212, F-477 (Gasketed)
Water Main Quality PVC SDR 26		
4-inch to 36-inch	ASTM D-2241	ASTM D-3139
4-inch to 12-inch	AWWA C900	ASTM D-3139
14-inch to 48-inch	AWWA C905	ASTM D-3139

The following materials are allowed on a qualified basis subject to district review and approval prior to permit issuance. A special condition will be added to the permit when the pipe material is used for sewer construction or a connection is made.

Pipe Material	Pipe Specifications	Joint Specifications
Polypropylene (PP) Pipe		
12-inch to 24-inch Double Wall	ASTM F-2736	ASTM D-3212, F-477
30-inch to 60-inch Triple Wall	ASTM F-2764	ASTM D-3212, F-477

- All sanitary sewer construction (and storm sewer construction in combined sewer areas), requires stone bedding with stone 1/4" to 1" in size, with minimum bedding thickness equal to 1/4 the outside diameter of the sewer pipe, but not less than four (4) inches nor more than eight (8) inches. Material shall be CA-7, CA-11 or CA-13 and shall be extended at least 12' above the top of the pipe when using PVC.
- Non-shear flexible-type couplings shall be used in the connection of sewer pipes of dissimilar materials.
- All manholes shall be provided with bolted, watertight covers. Sanitary lids shall be constructed with a concealed pickhole and watertight gasket with the word "SANITARY" cast into the lid.
- When connecting to an existing sewer main by means other than an existing wye, tee, or an existing 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 hubwye saddle or hub-tee saddle.
  - Remove an entire section of pipe (breaking only the top of one bell) and replace with a wye or tee branch section.
  - With pipe cutter, neatly and accurately cut out desired length of pipe for insertion of proper fitting, using "Band Seal" or similar couplings to hold it firmly in place.
- Whenever a sanitary/combined sewer crosses under a watermain, the minimum vertical distance from the top of the sewer to the bottom of the watermain shall be 18 inches. Furthermore, a minimum horizontal distance of 10 feet between sanitary/combined sewers and watermain shall be maintained unless: the sewer is laid in a separate trench, keeping a minimum 18" vertical separation; or the sewer is laid in the same trench with the watermain located at the opposite side on a bench of undisturbed earth, keeping a minimum 18" vertical separation. If either the vertical or horizontal distances described cannot be maintained, or the sewer crosses above the water main, the sewer shall be constructed to water main standards or it shall be encased with a water main quality carrier pipe with the ends sealed.
- All existing septic systems shall be abandoned. Abandoned tanks shall be filled with granular material or removed.
- All sanitary manholes, (and storm manholes in combined sewer areas), shall have a minimum inside diameter of 48 inches, and shall be cast in place or pre-cast reinforced concrete.
- All sanitary manholes, (and storm manholes in combined sewer areas), shall have precast "rubber boots" that conform to ASTM C-923 for all pipe connections. Precast sections shall consist of modified groove tongue and rubber gasket type joints.

- All abandoned sanitary sewers shall be plugged at both ends with at least 2 feet long non-shrink concrete or mortar plug.
- Except for foundation/footing drains proved to protect buildings, or perforated pipes associated with volume control facilities, drain tiles/field tiles/underdrains/perforated pipes are not allowed to be connected to or tributary to combined sewers, sanitary sewers, or storm sewers tributary to combined sewers in combined sewer areas. Construction of new facilities of this type is prohibited; and all existing drain tiles and perforated pipes encountered within the project area shall be plugged or removed, and shall not be connected to combined sewers, sanitary sewers, or storm sewers tributary to combined sewers.
- A backflow preventer is required for all detention basins tributary to combined sewers. Required backflow preventers shall be inspected and exercised annually by the property owner to ensure proper operation, and any necessary maintenance shall be performed to ensure functionality. In the event of a sewer surcharge into an open detention basin tributary to combined sewers, the permittee shall ensure that clean up and wash out of sewage takes place within 48 hours of the storm event.

- E. Erosion and Sediment Control**
- The contractor shall install the erosion and sediment control devices as shown on the approved erosion and sediment control plan.
  - Erosion and sediment control practices shall be functional prior to hydrologic disturbance of the site.
  - All design criteria, specifications, and installation of erosion and sediment control practices shall be in accordance with the Illinois Urban Manual.
  - A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.
  - Inspections and documentation shall be performed, at a minimum:
    - Upon completion of initial erosion and sediment control measures, prior to any soil disturbance.
    - Once every seven (7) calendar days and within 24 hours of the end of a storm event with greater than 0.5 inch of rainfall or liquid equivalent precipitation.
  - 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 co-permittee shall plan for appropriate soil erosion and sediment control measures.
  - A stabilized mat of crushed stone meeting the standards of the Illinois Urban Manual 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. Concrete washout facilities shall be constructed in accordance with the Illinois Urban Manual and shall be installed prior to any on site construction activities involving concrete.
  - Mortar washout facilities shall be constructed as necessary to direct all runoff from hydrologically disturbed areas to an appropriate sediment trap or basin.
  - Temporary diversions shall be constructed as necessary to direct all runoff from hydrologically disturbed areas to an appropriate sediment trap or basin. Volume control facilities shall not be used as temporary sediment basins.
  - Disturbed areas of the site where construction activities have temporarily or permanently ceased shall be stabilized with temporary or permanent measures within seven (7) days.
  - All flood protection areas and volume control facilities shall, at a minimum, be protected with a double-row of silt fence (or equivalent).
  - Volume control facilities shall not be constructed until all of the contributing drainage area has been stabilized.
  - Soil stockpiles shall, at a minimum, be protected with perimeter sediment controls. Soil stockpiles shall not be placed in flood protection areas or their buffers.
  - Earthen bankment side slopes shall be stabilized with appropriate erosion control blanket.
  - Storm sewers that are or will be functioning during construction shall be protected by appropriate sediment control measures.
  - The contractor shall either remove or replace any existing drain tiles and incorporate them into the drainage plan for the development. Drain tiles cannot be tributary to a sanitary or combined sewer.
  - Drain tiles allowed in combined sewer area for green infrastructure practices.
  - If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion and sedimentation. Dewatering systems should be inspected daily during operational periods. The site inspector must be present at the commencement of dewatering activities.
  - The contractor shall be responsible for trench dewatering and excavation for the installation of sanitary sewers, storm sewers, water mains as well as their services and other appurtenances. Any trench dewatering, which contains sediment shall pass through a sediment settling pond or equally effective sediment control device. Alternatives may include dewatering into a sump pit, filter bag or existing vegetated upslope area. Sediment laden waters shall not be discharged to waterways, flood protection areas or the combined sewer system.
  - All permanent erosion control practices shall be initiated within seven (7) days following the completion of soil disturbing activities.
  - All erosion and sediment control measures shall be maintained and repaired as needed on a year-round basis during construction and any periods of construction shutdown until permanent stabilization is achieved.
  - All temporary erosion and sediment control measures shall be removed within thirty (30) days after permanent site stabilization.
  - The erosion and sediment control measures shown on the plans are the minimum requirements. Additional measures may be required, as directed by the engineer, site inspector, or MWRD.

**TECHNICAL GUIDANCE MANUAL**

**WATER AND SEWER SEPARATION REQUIREMENTS (PER IEPA)**

7/1/15

STD. DWG. NO. 41

PAGE NO. 42

The drawings illustrate various separation scenarios:
 

- Scenario 1:** Proposed sewer line with 18" minimum vertical separation above existing water main. Shows a trench with a casing and gravel bedding.
- Scenario 2:** Proposed sewer line below existing water main with less than 18" vertical separation. Shows a casing and gravel bedding with specific guidelines for excavation and compaction.
- Scenario 3:** Proposed water main above existing sewer line with less than 18" vertical separation. Shows a casing and gravel bedding with specific guidelines for excavation and compaction.
- Scenario 4:** Proposed water main below existing sewer line with 18" minimum vertical separation. Shows a casing and gravel bedding with specific guidelines for excavation and compaction.
- Scenario 5:** Proposed sewer line below existing water main with less than 18" vertical separation. Shows a casing and gravel bedding with specific guidelines for excavation and compaction.
- Scenario 6:** Proposed water main below existing sewer line with 18" minimum vertical separation. Shows a casing and gravel bedding with specific guidelines for excavation and compaction.

**TECHNICAL GUIDANCE MANUAL**

**RIGID AND FLEXIBLE PIPE INSTALLATION DETAIL**

7/1/15

STD. DWG. NO. 34

PAGE NO. 35

The drawings illustrate the installation details for rigid and flexible pipes:
 

- Rigid Pipe Installation Detail:** Shows a trench with a rigid pipe, bedding, and backfill. Includes specifications for trench width, bedding depth, and backfill material.
- Flexible Pipe Installation Detail:** Shows a trench with a flexible pipe, bedding, and backfill. Includes specifications for trench width, bedding depth, and backfill material.

**TECHNICAL GUIDANCE MANUAL**

**TYPICAL SANITARY MANHOLE 'A' AND 'B' DETAIL**

7/1/15

STD. DWG. NO. 39

PAGE NO. 40

The drawings illustrate the details for typical sanitary manholes:
 

- Detail A:** Shows a manhole with a cast iron frame and cover, precast concrete adjustment rings, and a watertight joint.
- Detail B:** Shows a manhole with a cast iron frame and cover, precast concrete adjustment rings, and a watertight joint.

ALL MATERIALS FOR WALLS	D	T (MIN.)
PRECAST REINFORCED CONCRETE SECTION	4 FEET	4 IN
	6 FEET	5 IN
	8 FEET	6 IN
	10 FEET	7 IN
CAST-IN-PLACE CONCRETE	4 FEET	4 IN
	5 FEET	5 IN
	6 FEET	6 IN

**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

**MWRD GENERAL NOTES AND DETAILS**

**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C2.1** / 9

Issued For Construction: 5/6/2019  
Per MWRD & Village Comments: 3/18/2019  
Per Village Comments: 1/25/2019

Date: 5/6/2019  
Revision: 3  
2  
1

**GENERAL NOTES AND CONDITIONS**

- The Contractor shall coordinate construction activities with utility companies, the Village of Wheeling and the Airport.
- The Contractor shall be responsible for the protection of all underground utilities even though they may not be shown on the plans. Therefore, the Contractor shall have the respective utility companies field locate all of their facilities and reform exploratory excavations in order to locate any potential conflicts with proposed improvements prior to beginning construction. Any relocation or lowering of utilities shall be coordinated by the Contractor. Utilities that are damaged during construction shall be repaired or replaced by the Contractor at his own expense.
- Ten (10) feet or three (3) meter transitions shall be used to match proposed curb and gutter and median items of work to existing curbs & gutters and medians in the field, unless otherwise shown. The transitions shall be paid for at the contract unit price for the proposed items of work specified.
- Barricades: The Contractor shall provide and install two (2) weighted sandbags on each type I or type II barricade used- (1) weighted sand bag across each bottom rail.
- All the work performed by the Contractor shall be guaranteed for a period of twelve (12) months from the date of final acceptance by IDOT. This guarantee shall include all defects in materials and workmanship.
- The Village of Wheeling, Illinois, Public Works Department must be notified at least two (2) working days prior to a request for inspection, commencement or resumption of any work.
- The Contractor is responsible for maintaining adequate signs, barricades, fencing, traffic control devices, flaggers, and measures and all other measures that are necessary to protect the safety of the project area at all times. All necessary items shall be included in Traffic Control Pay Item.
- All structures, inlets, pipes, valves and roads must be kept clean and free of dirt and debris at all times.
- Adjustment of any structure frames, connection to existing structures and existing pipe tie-ins shall be considered incidental to project.
- All sanitary manholes shall be provided with bolted, watertight covers. Sanitary lids shall be constructed with a concealed pickhole and watertight gasket with the word "SANITARY" cast into the lid.
- All fire hydrant leads shall be ductile iron Class 52.
- Any defective or non-bicycle safe frame & grates shall be brought to the Village's attention. All frames & grates to be replaced shall remain property of the Village and shall be stored in the right-of-way for pick up by the Village.
- Any mailboxes that are in conflict with the proposed construction shall be removed and replaced in accordance with the Village standards. This work will be included in the contract. Mail service shall be maintained all the times. Contractor must be careful with the existing mailboxes. Any damaged mailboxes shall be replaced by the Contractor at no additional cost to the homeowner or the Village.
- Existing driveway pavement, sidewalk, and curb and gutter to remain in place shall be saw cut full depth to provide a neat vertical face between the proposed and the existing structure. This work shall be considered incidental to each pay item.
- Class D patches shall be constructed at locations determined by the engineer in the field. Any saw cuts associated with this pay item will be considered incidental and no extra compensation will be made. Any subbase removal beneath it will also be incidental.
- Any roots encountered while removing the sidewalk or driveway aprons shall be saw-cut and disposed by the Contractor.
- Tree root pruning shall be provided at each tree location, the price of which shall be included in the pay item tree root pruning. No extra compensation will be allowed. Limits of curb & gutter and sidewalk removal are approximate and shall be marked in field by Engineer/Owner. Limits are subject to change.
- All items which are damaged or disturbed as a result of work shall be replaced to existing condition or better at the contractor's expense.
- Access to streets and private driveways shall be provided at all times except during actual construction adjacent thereto. Temporary ramps shall be constructed as necessary to provide such access utilizing crushed aggregate (cost incidental). It will be the Contractor's responsibility to notify the residents and businesses when access to their driveways will be temporarily closed due to curb and gutter, driveway or sidewalk replacement. The contractor shall distribute Village approved notices of anticipated closures. Every effort shall be made to accommodate access to these properties involving placement of pavement in stages across driveways and knocking on doors when driveways will be closed.
- Contractor shall ensure that access by Mail Delivery, Garbage Removal, School Buses and Emergency Vehicles on public streets is maintained at all times.
- Restoration limits for topsoil and seed/sod shall be limited to disturbed areas shown on plans. Any additional disturbed areas will not be paid for.

**CONC. CURB, SIDEWALK & PAVING NOTES**

- The finished hot-mix asphalt surface course shall be constructed to 1/4" above the edge of concrete curb and gutter/ribbon.
- The proposed curb and gutter shall be depressed at abutting sidewalks and across driveways as indicated on the plans.
- Saw cutting required for removal of existing driveway pavement, sidewalk, curb and gutter and where the proposed pavement abuts existing pavement to remain in place (begin, end and limits of construction) shall be as specified in article 440 of the Standard Specifications. Provide a neat vertical face between the proposed and existing surfaces. Saw cutting shall be included in the pay item being removed. All saw cutting shall be full depth.
- Pavement and driveway removal and replacement work shall be limited to one side of the street in each direction at a time to minimize congestion. Full depth saw cut 1 feet minimum off of edge of pavement is required prior to removal to allow space for proper compaction of pavement base course (incidental).
- Construction operations involving temporary closing of driveways or roads shall not commence without at least three (3) working days prior notice to the Village by the Contractor. The Contractor will also be required to provide 48 hours notice to affected parties by distributing written notices and posting signs.
- Construct temporary ramps to adjoining pavement or driveway as needed or directed by Engineer. These ramps must be minimum two car wide and shall be constructed for the entire width of pavement removal. These ramps shall be constructed using crushed limestone CA-6, Gr-8, virgin material or as directed by the Engineer. Proper temporary driveway entrance signs must be installed. The Contractor is responsible to maintain open access to all side streets, homes, industries, and businesses at all times. These temporary ramps shall be considered incidental to pavement removal and will not be paid for separately.
- All the density tests will be performed by using cores.
- Leaving binder shall be used around the structures in the roadway in variable thickness as necessary or as determined by the engineer.
- Protective coating for all concrete surfaces shall be considered incidental to cost of respective pay items.
- Proposed 3/4" preformed expansion joint is required at concrete sidewalk, driveways and curb and gutter/ribbon and shall be incidental to the curb and gutter removal and replacement.
- In areas where the existing driveway, sidewalk or curb and gutter is to be removed and/or replaced, the removal and disposal of any additional material required to establish the proposed driveway, sidewalk, curb and gutter or parkway subgrade elevation shall be included in the respective removal or other pay items.
- If any milled pavement is open to traffic, the maximum grade differential between passes of milling machine shall not exceed 1.5 inches.
- If any soft or yielding materials are detected after excavation to subgrade, the Contractor will at the direction of the Geotechnical Engineer to remove the material and replace with porous granular embankment, subgrade.

**UTILITY & DRAINAGE NOTES**

- Any saw cuts and excavation required to remove and install structures, sewers, water main, etc. shall be considered incidental to the item being removed or installed.
- Trench backfill used shall be CA-6 (grade-8) crushed limestone and shall be considered incidental to the item being installed. No crushed concrete will be allowed as trench backfill material. Trench backfill shall be provided up to the existing pavement/finished grade to eliminate any voids created and to provide temporary roadway access. The backfill material shall be placed in 8 inch lifts, loose measurement, and compacted by mechanical means to the satisfaction of the engineer.
- Contractor must imply careful method to salvage all existing pipes to remain. If any of the existing pipes are damaged during construction; the Contractor shall replace the damaged pipe at no extra cost to the Village. No extra compensation will be allowed.
- Inlet and pipe protection must be installed on all open grate structures that receive drainage from disturbed areas prior to commencing the work and shall be maintained regularly throughout the length of the project.
- Contractor shall grade and construct improvements to provide positive drainage. Contractor may be required to make minor adjustments to proposed grades and rim elevations as necessary. Ponding water will not be permitted.
- All Frame & Lid castings located within pavement which required adjusting to finished grade shall be backfilled with Class S1 Concrete and allowed to cure for 72 hours prior to placement of surface course. Class PP Concrete shall be utilized if surface course is to be placed in less than 72 hours. HMA materials will not be allowed as backfill around adjusted frames. This work shall be incidental to drainage & utility structures to be adjusted.
- All storm drainage structures in curbs shall have modified drainage structure and pipe underdrain (special) per Village of Wheeling details.

**AIRPORT PROPERTY NOTES**

- All operations on Airport Property shall be in conformance with AC 150/5370, latest edition, "Operational Safety on Airports During Construction." Contractor responsible for complying with all FAA/Airport requirements including any permitting.
- Coordination is required by Contractor with Airport Manager, General Phone Number: 847-537-2580, in order to minimize impacts to Airport operations. The Airport Manager shall have final say in approval of all construction activities on Airport Property.
- Contractor shall be required to put FAA compliant airport safety flags or working beacon lights on all equipment, barricades, obstructions, etc. used on Airport Property.
- Contractors equipment and materials shall not be stored on airport property unless permission from Airport Manager has been approved.
- Construction fence shall be installed around work areas on Airport Property.
- Perimeter Airport fence shall be closed daily and when open to perform proposed sanitary sewer work within the perimeter fence the Contractor to monitor access to prevent unauthorized access to Airport Property.
- All existing Airport Facilities including but not limited to lighting circuits, FAA cables and other electrical devices and equipment shall remain in service at all times. Any Airport Facilities damaged by Contractor shall be immediately repaired at their expense.
- The Contractor shall provide the phone numbers for 3 personnel who may be contacted in an emergency. Personnel shall be on call for 24 hours per day for maintaining Airport hazard lighting, barricades, equipment, etc.
- Above work shall be considered incidental to the Contract.

**TRAFFIC / CONSTRUCTION STAGING**

The Contractor shall submit a pre-planned sequence of work at the pre-construction meeting for review and approval. The Contractor's superintendent and the Resident Engineer will be required to work together with the affected businesses in planning their construction schedule so as to minimize the inconvenience and maintain access during construction as well as a reasonable level of construction efficiency. At least one lane shall remain open for traffic at all times to allow access into each property. The Resident Engineer and/or the Village reserve the right to restrict work on a pavement segment if construction operations on the previous segment are unacceptable.

The sequence of traffic / construction staging is recommended in the order listed below:

- Removals for utility & drainage structure improvements and utility and drainage structure installation
- Removals to install concrete ribbon/sidewalk and roadway widening
- Subgrade widening and compaction for roadway widening and concrete ribbon/sidewalk installation
- Full depth paving and widening to binder and milling of existing pavement as necessary to install 2" of surface course as well as any pavement patches
- Install pavement markings and restoration as required

**DRIVEWAY CLOSINGS:**

It will be the Contractor's responsibility to notify businesses and the Village two (2) days in advance when access to the businesses' driveways will be temporarily closed due to the curb and gutter and/or driveway replacement. The Contractor shall distribute notices APPROVED by the Village, to the businesses/property owners. Every effort shall be made to accommodate access to these properties (i.e. knock on doors when driveway is about to be closed, construct half of entrance at a time, use high early strength concrete for ribbon and sidewalk at driveway locations as necessary, etc).

**DEBRIS REMOVAL:**

Materials resulting from the removal of pavement, driveways, curb and gutter, Hot-Mix Asphalt pavement and subgrade, utilities, etc. shall be removed at the end of each day to a village approved site. In the judgment of the Village, should it be necessary to remove such materials, the Village will have the material removed and the Contractor shall be billed (charged) accordingly.

**WATER SUPPLY:**

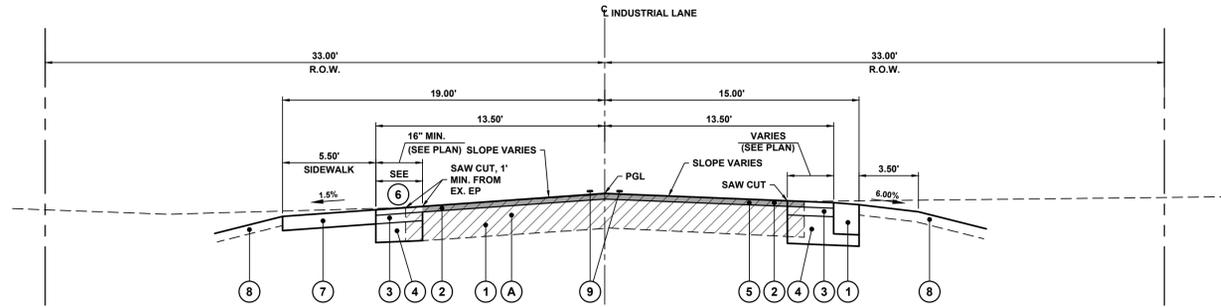
The Contractor can obtain municipal water in bulk, at NO CHARGE, as long as there is not a "watering ban" in effect. Prior to obtaining any water, an account with the Finance Department must be set up for documentation on water usage. The indiscriminate use of fire hydrants is strictly prohibited. Water for construction shall be metered or otherwise accounted for on a daily log maintained with the Public Works Department. The Contractor shall provide the water truck and driver required to obtain and transport this water. The Village reserves the right to restrict or refuse the use of Village water if deemed necessary.

**FUTURE SERVICE CONNECTIONS:**

Individual property owners will be required to connect to water and sanitary services as well as abandonment of their well and septic at a later date and will be responsible for any required plans, permitting, fees, construction costs, etc. required. Contractor to provide as-built for all proposed improvements including location of all water and sanitary service laterals.

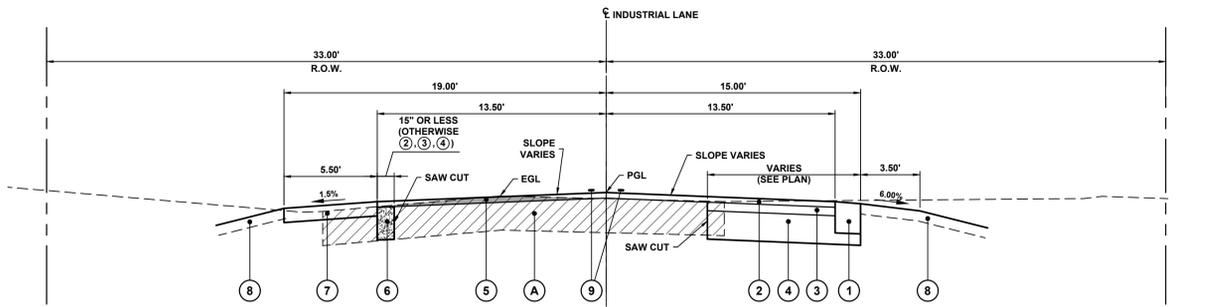
**ADDITIONAL SPECIFICATIONS / INCIDENTALS NOTES:**

- Monolithically poured curb for the "MODIFIED CURB DRAINAGE STRUCTURE TO BE ADJUSTED" shall be incidental to the cost of that pay item. No extra compensation will be paid for lineal feet of curb and gutter.
- "REMOVAL & DISPOSAL OF UNSUITABLE MATERIAL" shall include the removal of all uncontaminated material required for removal in order to achieve the proposed design elevations, as well as any material required for undercut removals as directed by the Geotechnical Engineer.
- Removal and Disposal of "CONTAMINATED WASTE" shall include the storage, removal, and proper disposal of any materials determined to be "contaminated" in accordance with EPA standards.
- All existing mailboxes are to remain in service at all times. Any necessary removals and/or relocations of mailboxes shall be done at the expense of the Contractor and are incidental to the Contract.
- Whenever the performance of work is indicated on the plan, and no pay item is included in the contract for payment, the work shall be considered incidental to the contract and no additional compensation will be allowed.



**TYPICAL CROSS SECTION A-A**

STA. 9+75 TO STA. 20+00  
STA. 24+50 TO STA. 27+35.50



**TYPICAL CROSS SECTION B-B**

STA. 20+00 TO STA. 24+50

**LEGEND**

- (A) EXISTING PAVEMENT
- (1) 18" WIDE CONCRETE RIBBON
- (2) 2" HOT-MIX ASPHALT SURFACE COURSE. MIX "D", N50
- (3) 3" HOT-MIX ASPHALT BINDER COURSE. IL-19, N50
- (4) 10" AGGREGATE BASE COURSE, TYPE B, CA-6 CRUSHED AGGREGATE
- (5) LIMITS OF SURFACE MILLING (2" & VARIES - SEE NOTE)
- (6) CONCRETE WEDGE (INCIDENTAL TO CONCRETE RIBBON/SIDEWALK), USE WITH (2) WHEN WIDTH IS LESS THAN 15", OTHERWISE USE (2), (3), (4).
- (7) 8" CONCRETE SIDEWALK AT DRIVEWAY  
6" CONCRETE SIDEWALK AT PARKWAY
- (8) RESTORATION  
OPTION-1: FURNISH AND PLACE 3" TOPSOIL AND SOD, SALT TOLERANT  
OPTION-2: FURNISH AND PLACE 3" TOPSOIL, SEED AND BLANKET
- (9) 2-4" SOLID YELLOW LINE AT 11" O.C.

**Notes:**

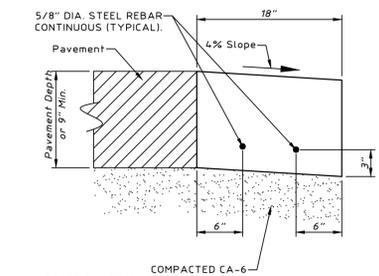
- Existing pavement shall be milled as necessary to provide minimum 2" of final HMA surface course that shall be placed at one time.
- Refer to Report of Subsurface Exploration Services by CGMT Dated 3/9/2018 for Pavement Core Information.
- All concrete shall be high early strength concrete at driveways and in roadway.

**HOT-MIX ASPHALT MIXTURE REQUIREMENT TABLE**

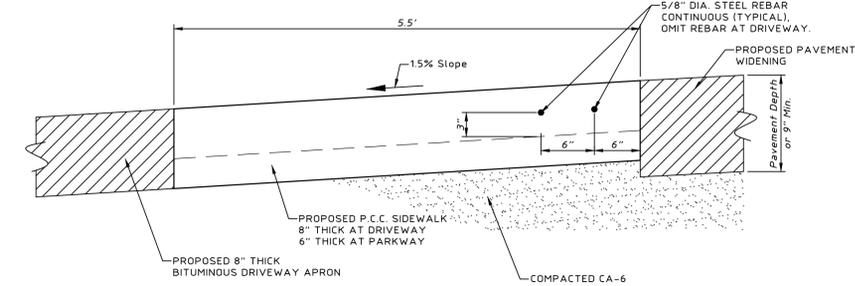
THE FOLLOWING TABLE OUTLINES THE VARIOUS REQUIREMENTS FOR EACH MIXTURE TYPE TO BE USED AS A PART OF THIS PROJECT.

ITEM	AC TYPE	AIR VOIDS
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2 - INCH	PG 64-22	4% @ 50 GYR
HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N50, 3 - INCH	PG 64-22*	4% @ 50 GYR
LEVELING BINDER (MACHINE METHOD), N50, VARIABLE (AS NEEDED)	PG 64-22*	4% @ 50 GYR

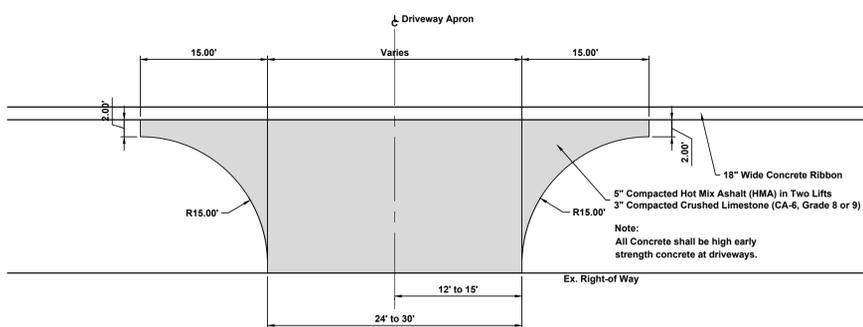
NOTE: THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ.YDIN.  
\* WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22.



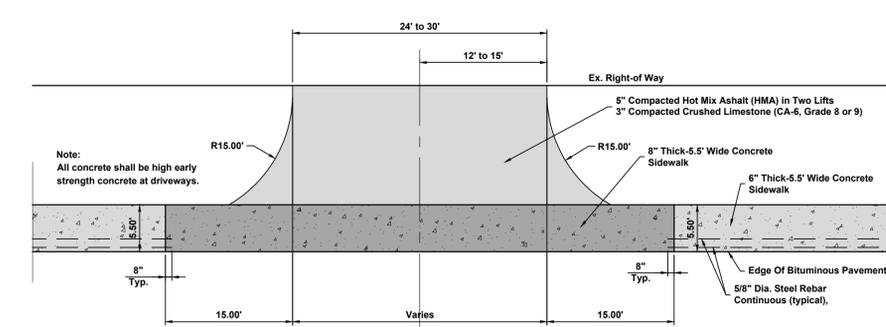
**18" WIDE CONCRETE RIBBON**



**5.5' WIDE CONCRETE SIDEWALK**



**TYPICAL SOUTH DRIVEWAY APRON DETAIL**  
SCALE: 1"=10"



**TYPICAL NORTH DRIVEWAY APRON DETAIL**  
SCALE: 1"=10"

**SCHEDULE OF QUANTITIES**

Item	Description	Quantity	Unit
1	Full Depth Asphalt Pavement Removal	642	SY
2	10" PCC Pavement Removal Including Adjacent Curb & Gutter Removal	22	SY
3	Driveway Pavement Removal	3,164	SY
4	Hot-Mix Asphalt Surface Removal, 2-Inch and Varies	4,205	SY
5	Storm Sewer Removal Including Backfill	1	LS
6	Street Sign & Miscellaneous Removal & Restoration/Relocation	1	LS
7	Earthwork	1	LS
<b>Sanitary Sewer</b>			
8	8" PVC SDR26 Sanitary Sewer	1,787	LF
9	6" PVC SDR26 Sanitary Service Lateral	535	LF
10	Manhole, 48" Dia. With Frame and Lid (Bottom/Waterlight)	9	EA
11	Connect to Existing Structure	1	EA
<b>Storm Sewer</b>			
12	12" RCP Storm Sewer	1,019	LF
13	18" RCP Storm Sewer	1,822	LF
14	Inlet, 2' Dia. with Beehive Grate	19	EA
15	Catch Basin, 4' Dia. with Beehive Grate	25	EA
16	Connect to Existing Structure	1	EA
17	Drainage & Utility Structures to be Adjusted	1	EA
18	Connect Existing Pipes into Proposed Storm	3	EA
19	Rip-Rap with Filter Fabric	12	SY
<b>Watermain</b>			
20	10" PVC Watermain Including Fittings and Tracer Wire	1,834	LF
21	12" PVC Watermain Including Fittings and Tracer Wire	306	LF
22	6" DIP, Class 52 Watermain For Hydrant Leads	27	LF
23	1.5" Type K Copper Water Service (Short - North Side)	7	EA
24	1.5" Type K Copper Water Service (Long - South Side)	8	EA
25	12" Gate Valve in 60" Vault with Frame and Lid	2	EA
26	10" Gate Valve in 60" Vault with Frame and Lid	4	EA
27	Fire Hydrant with Auxiliary Valve in Box	8	EA
28	Connect to Existing Watermain	2	EA
<b>Pavement</b>			
29	Hot-Mix Asphalt Surface Course, MIX "D", N50 (2")	605	TON
30	Hot-Mix Asphalt Binder Course, IL-19.0, N50 (3")	201	TON
31	Aggregate Base Course, Type B (1.56 Tons/CY)	737	TON
32	Bituminous Drivesways (5" Hot-Mix Asphalt over 3" Aggregate Base Course)	1,554	SY
33	10" PCC Pavement	22	SY
34	8" PCC Sidewalk Through Drivesways	3,773	SF
35	6" PCC Sidewalk with Rebar	6,439	SF
36	PCC Ribbon	1,774	CY
37	Butt-Joint	75	SY
38	Bituminous Materials (Tack Coat) [0.05 Pounds/SF]	2,426	LB
39	Thermoplastic Pavement Marking - Line 4"	3,470	LF
<b>Erosion Control &amp; Landscaping</b>			
40	Silt Fence	726	LF
41	Inlet Protection	43	EA
42	Furnish and Place Topsoil, 3"	5,575	SY
43	Sod, Salt Tolerant	5,575	SY
<b>Miscellaneous</b>			
44	Mobilization	1	LS
45	Traffic Control & Protection	1	LS
46	Construction Layout	1	LS
47	Contingency Allowance	1	LS
<b>Contingency Items - Contractor to Provide Additional Unit Pricing</b>			
48	Utility Potholing *	-	EA
49	Exploratory Excavation *	-	CY
50	Seed and Blanket (North American Green DS75) *	-	SY
51	Removal & Disposal of Unsuitable Material *	-	CY
52	Removal & Disposal of Contaminated Material *	-	CY
53	Porous Granular Embankment *	-	CY
54	Trench Backfill *	-	CY

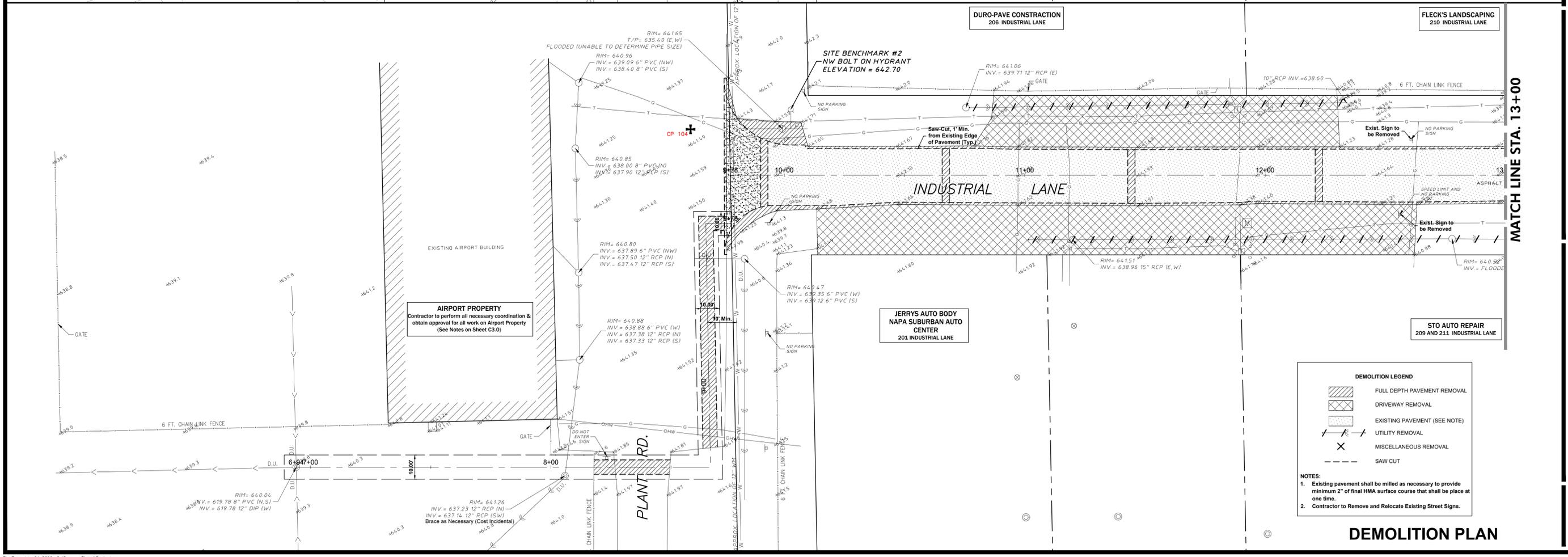
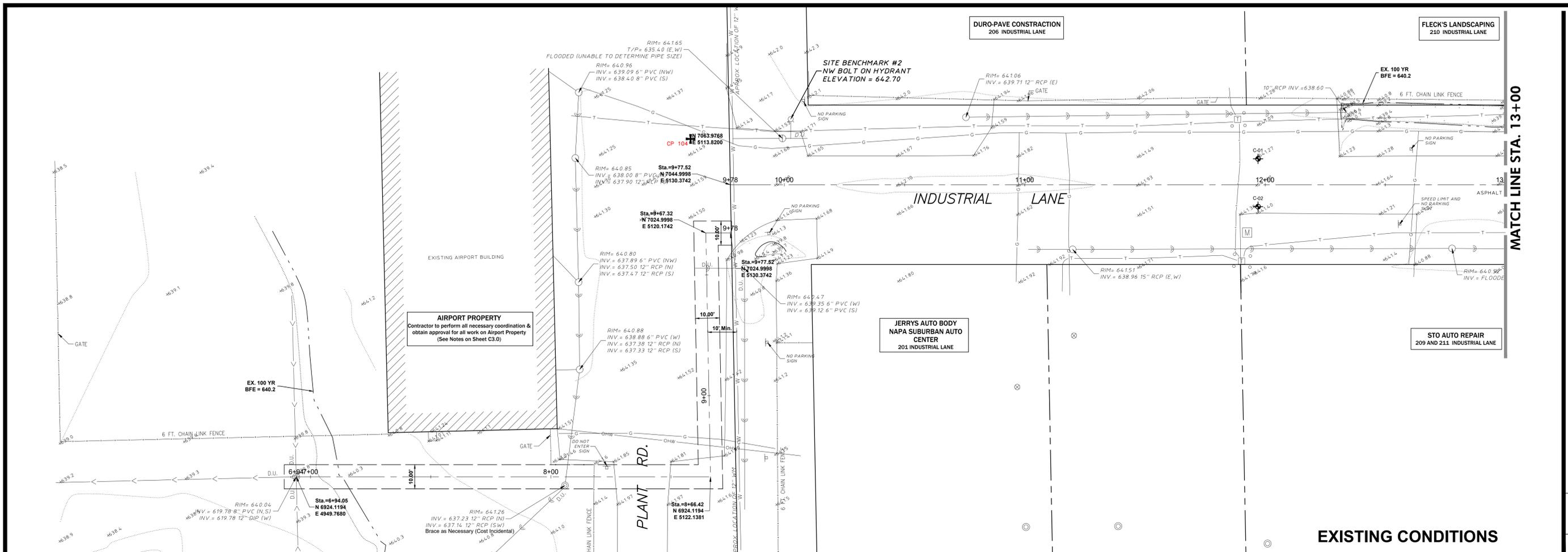
Notes:  
1. Whenever the performance of work is indicated on the plan, and no pay item is included in the contract for payment, the work shall be considered incidental to the contract and no additional compensation will be allowed.  
2. \* = Contingency item provided for the purpose of obtaining a contract unit price. Not to be used unless required and agreed to in writing by the Village prior to performing the work. If the Village concludes that price exceeds a "fair market value", work will be negotiated at a Time & Materials Basis per IDOT Standard Specifications.

**HAEGER ENGINEERING**  
consulting engineers • land surveyors  
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.294.6600 Fax: 847.394.6608  
Illinois Professional Design Firm License No. 184-0003152  
www.haegerengineering.com

**SCHEDULE OF QUANTITIES, TYPICAL SECTIONS AND DETAILS**  
**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C3.0**

Revision  
1  
2  
3  
Date  
1/25/2019  
3/18/2019  
5/6/2019



**DEMOLITION LEGEND**

- FULL DEPTH PAVEMENT REMOVAL
- DRIVEWAY REMOVAL
- EXISTING PAVEMENT (SEE NOTE)
- UTILITY REMOVAL
- MISCELLANEOUS REMOVAL
- SAW CUT

**NOTES:**

- Existing pavement shall be milled as necessary to provide minimum 2" of final HMA surface course that shall be place at one time.
- Contractor to Remove and Relocate Existing Street Signs.

**DEMOLITION PLAN**



**NORTH**

Scale: 1" = 20'

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/15/2019	Per MWRD & Village Comments
1	1/25/2019	Per Village Comments

**HAEGER ENGINEERING**  
consulting engineers • land surveyors

100 East Stone Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

**EXISTING CONDITIONS AND DEMOLITION PLAN**

**INDUSTRIAL LANE IMPROVEMENT PLANS**

WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C4.0**



Scale: 1" = 20'

MATCH LINE STA. 13+00

MATCH LINE STA. 19+00

MATCH LINE STA. 13+00

MATCH LINE STA. 19+00

240 INDUSTRIAL BLDG.  
240 INDUSTRIAL LANE

FOUNDATION DRILLING  
215 INDUSTRIAL LANE

FOUNDATION DRILLING  
215 INDUSTRIAL LANE

INDUSTRIAL LANE

INDUSTRIAL LANE

EXISTING CONDITIONS

DEMOLITION PLAN

**DEMOLITION LEGEND**

- FULL DEPTH PAVEMENT REMOVAL
- DRIVEWAY REMOVAL
- EXISTING PAVEMENT (SEE NOTE)
- UTILITY REMOVAL
- ABANDON UTILITY
- MISCELLANEOUS REMOVAL
- SAW CUT

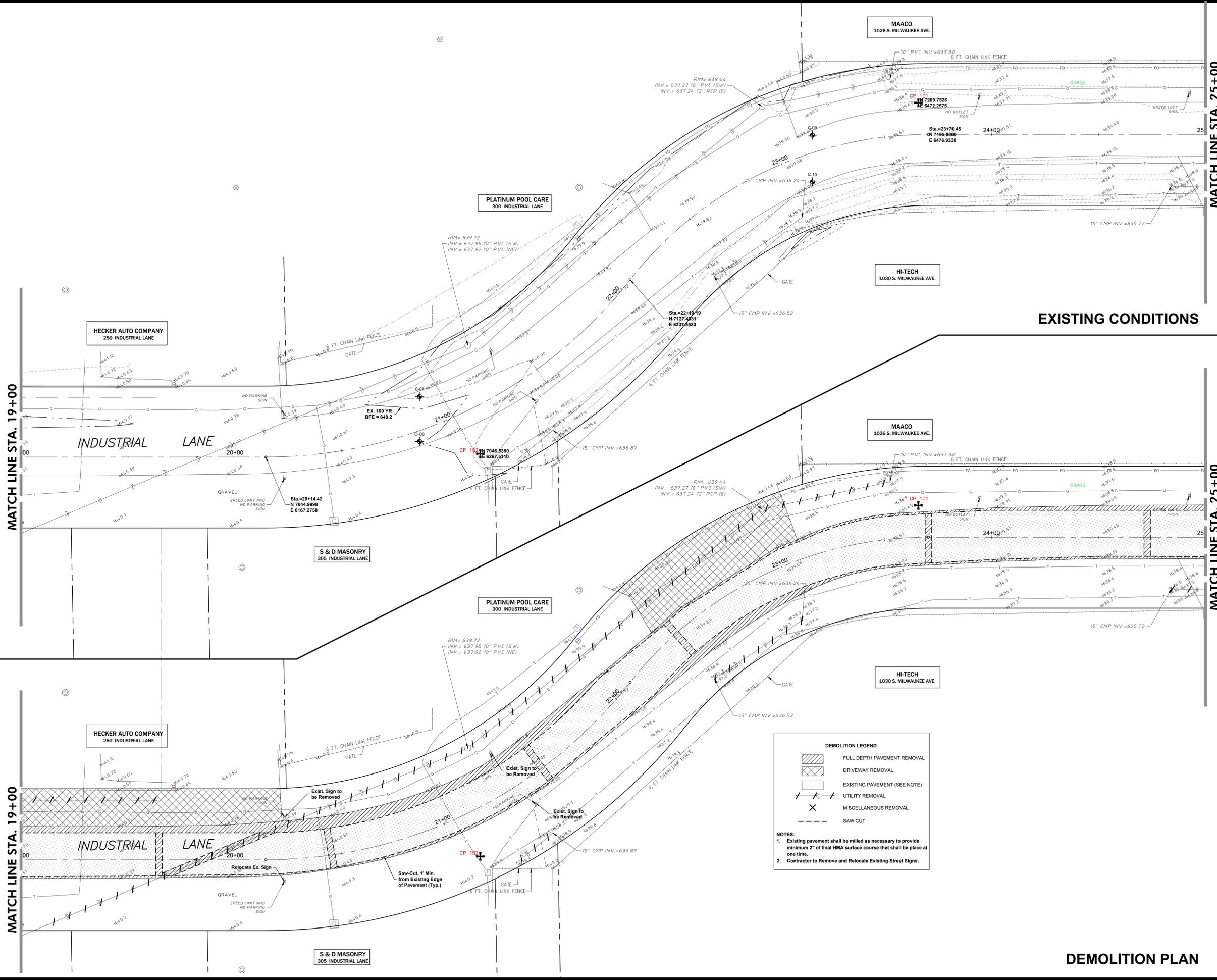
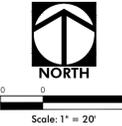
Note: Existing pavement shall be milled as necessary to provide minimum 2" of final HMA surface course that shall be place at one time.

**HAEGER ENGINEERING**  
consulting engineers • land surveyors  
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

**EXISTING CONDITIONS  
AND DEMOLITION PLAN**  
**INDUSTRIAL LANE  
IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C4.1**  
C9

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MPRD & Village Comments
1	1/25/2019	Per Village Comments



EXISTING CONDITIONS

DEMOLITION PLAN

**DEMOLITION LEGEND**

- FULL DEPTH PAVEMENT REMOVAL
- DRIVEWAY REMOVAL
- EXISTING PAVEMENT (SEE NOTE)
- UTILITY REMOVAL
- MISCELLANEOUS REMOVAL
- SAW CUT

**NOTES:**

- Existing pavement shall be milled as necessary to provide minimum 2" of final HMA surface course that shall be placed at one time.
- Contractor to Remove and Relocate Existing Street Signs.

3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWRD & Village Comments
1	1/25/2019	Per Village Comments
No.	Date	Revision

**EXISTING CONDITIONS AND DEMOLITION PLAN**

**INDUSTRIAL LANE IMPROVEMENT PLANS**

WHEELING, ILLINOIS

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No: 17-203  
 Sheet: C4.2



Scale: 1" = 20'

MATCH LINE STA. 25+00

MATCH LINE STA. 25+00

INDUSTRIAL LANE

INDUSTRIAL LANE

MAACO  
1026 S. MILWAUKEE AVE.

HI-TECH  
1030 S. MILWAUKEE AVE.

MAACO  
1026 S. MILWAUKEE AVE.

HI-TECH  
1030 S. MILWAUKEE AVE.

S. MILWAUKEE

S. MILWAUKEE

AVE.

AVE.

Remove Existing Curb and Gutter as Necessary to Transition from Proposed Concrete Ribbon to Existing Curb and Gutter. Ribbon shall be dovetailed into Existing Curb and Gutter. Cost for this Work shall be incidental to the Concrete Ribbon.

**DEMOLITION LEGEND**

	FULL DEPTH PAVEMENT REMOVAL
	DRIVEWAY REMOVAL
	EXISTING PAVEMENT (SEE NOTE)
	UTILITY REMOVAL
	MISCELLANEOUS REMOVAL
	SAW CUT

- NOTES:**
- Existing pavement shall be milled as necessary to provide minimum 2" of final HMA surface course that shall be place at one time.
  - Contractor to Remove and Relocate Existing Street Signs.

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWRD & Village Comments
1	1/25/2019	Per Village Comments

**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 AND DEMOLITION PLAN**  
**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C4.3**



BEGIN ROADWAY IMPROVEMENTS STA. 9+75.00

DURO-PAVE CONSTRUCTION 206 INDUSTRIAL LANE

FLECK'S LANDSCAPING 210 INDUSTRIAL LANE

SITE BENCHMARK #2 NW BOLT ON HYDRANT ELEVATION = 642.70

AIRPORT PROPERTY Contractor to perform all necessary coordination & obtain approval for all work on Airport Property (See Notes on Sheet C3.0)

JERRYS AUTO BODY NAPA SUBURBAN AUTO CENTER 201 INDUSTRIAL LANE

STO AUTO REPAIR 209 AND 211 INDUSTRIAL LANE

PAVING LEGEND

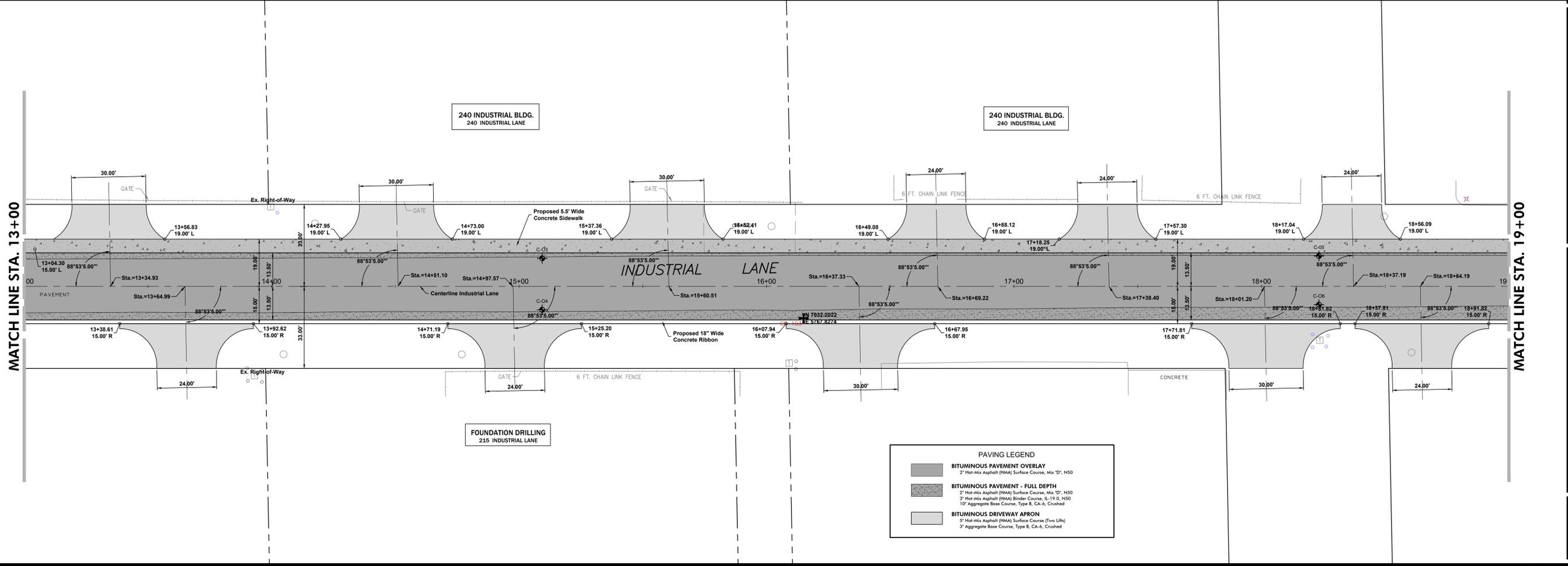
- BITUMINOUS PAVEMENT OVERLAY**  
2" Hot-Mix Asphalt (HMA) Surface Course, Mix "D", NS0
- BITUMINOUS PAVEMENT - FULL DEPTH**  
2" Hot-Mix Asphalt (HMA) Surface Course, Mix "D", NS0  
3" Hot-Mix Asphalt (HMA) Binder Course, IL 19.0, NS0  
10" Aggregate Base Course, Type B, CA-6, Crushed
- BITUMINOUS DRIVEWAY APRON**  
5" Hot-Mix Asphalt (HMA) Surface Course (Two Lifts)  
3" Aggregate Base Course, Type B, CA-6, Crushed

NOTE: PROVIDE 2-4" YELLOW LINE AT 11" O.C. CENTERLINE STRIPING FROM STA. 9+78 TO STA. 27+36

MATCH LINE STA. 13+00

MATCH LINE STA. 13+00

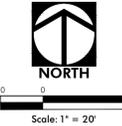
MATCH LINE STA. 19+00



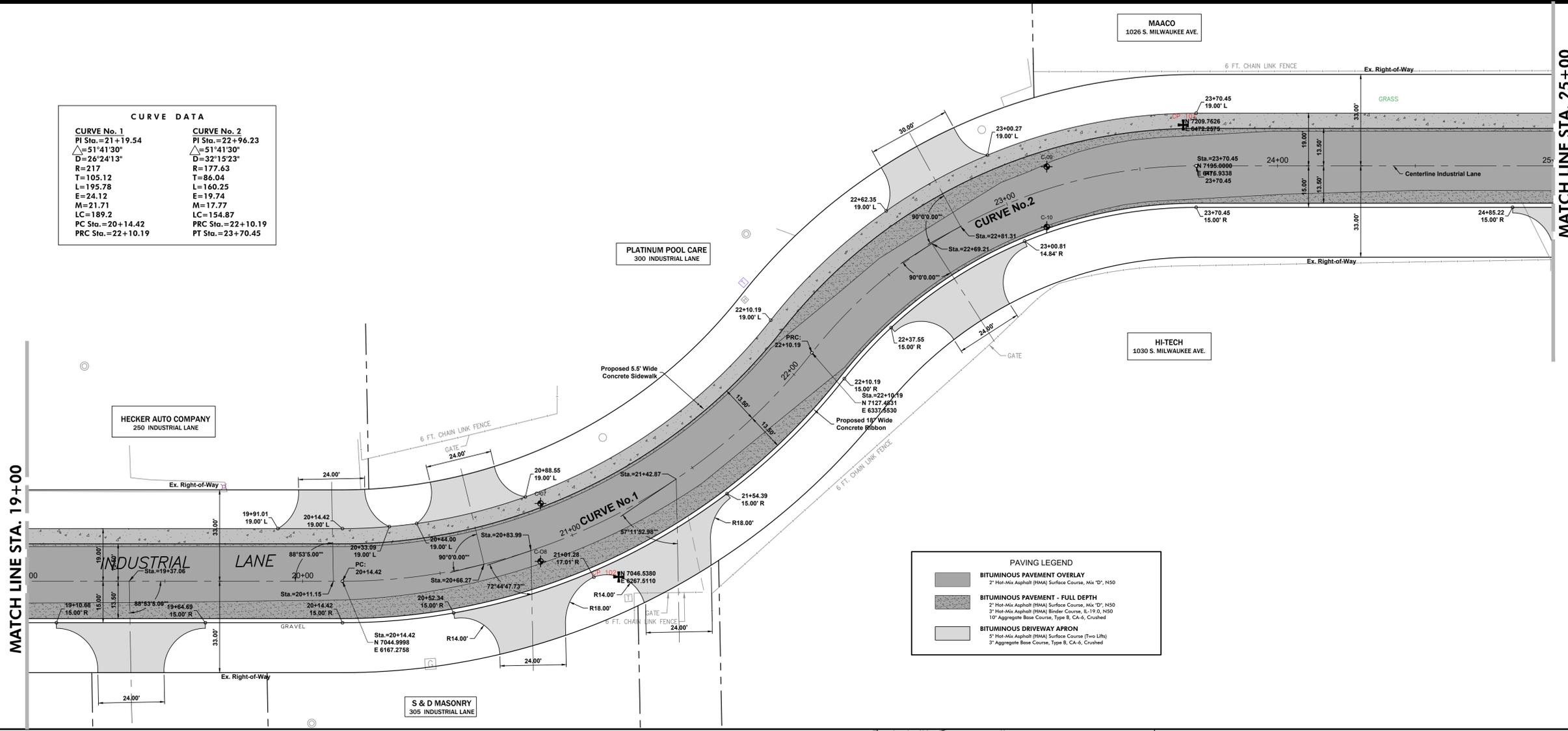
**HAEGER ENGINEERING**  
consulting engineers • land surveyors  
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

**GEOMETRIC AND PAVING PLAN**  
**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

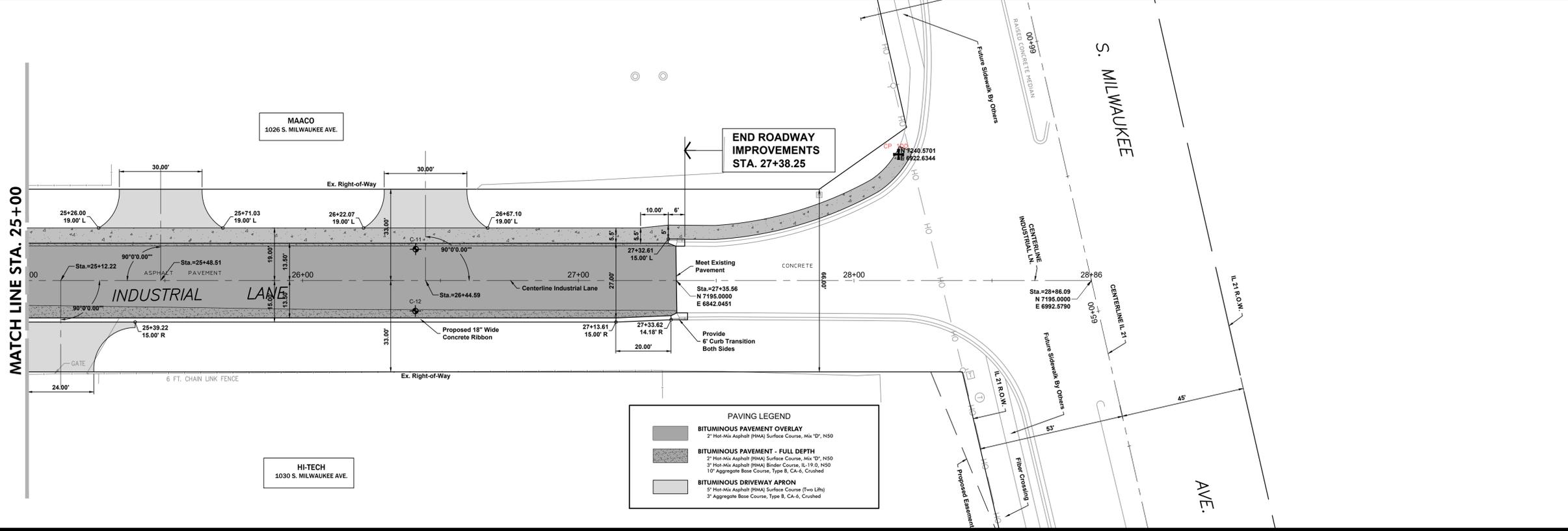
Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C5.0**



CURVE DATA	
<b>CURVE No. 1</b>	<b>CURVE No. 2</b>
PI Sta.=21+19.54	PI Sta.=22+96.23
$\Delta=51^{\circ}41'30''$	$\Delta=51^{\circ}41'30''$
D=26'24'13"	D=32'15'23"
R=217	R=177.63
T=105.12	T=86.04
L=195.78	L=160.25
E=24.12	E=19.74
M=21.71	M=17.77
LC=189.2	LC=154.87
PC Sta.=20+14.42	PRC Sta.=22+10.19
PT Sta.=22+10.19	PT Sta.=23+70.45



PAVING LEGEND	
[Pattern]	<b>BITUMINOUS PAVEMENT OVERLAY</b> 2" Hot-Mix Asphalt (HMA) Surface Course, Mix "D", N50
[Pattern]	<b>BITUMINOUS PAVEMENT - FULL DEPTH</b> 2" Hot-Mix Asphalt (HMA) Surface Course, Mix "D", N50 3" Hot-Mix Asphalt (HMA) Binder Course, IL-19.0, N50 10" Aggregate Base Course, Type B, CA-6, Crushed
[Pattern]	<b>BITUMINOUS DRIVEWAY APRON</b> 5" Hot-Mix Asphalt (HMA) Surface Course (Two Lifts) 3" Aggregate Base Course, Type B, CA-6, Crushed

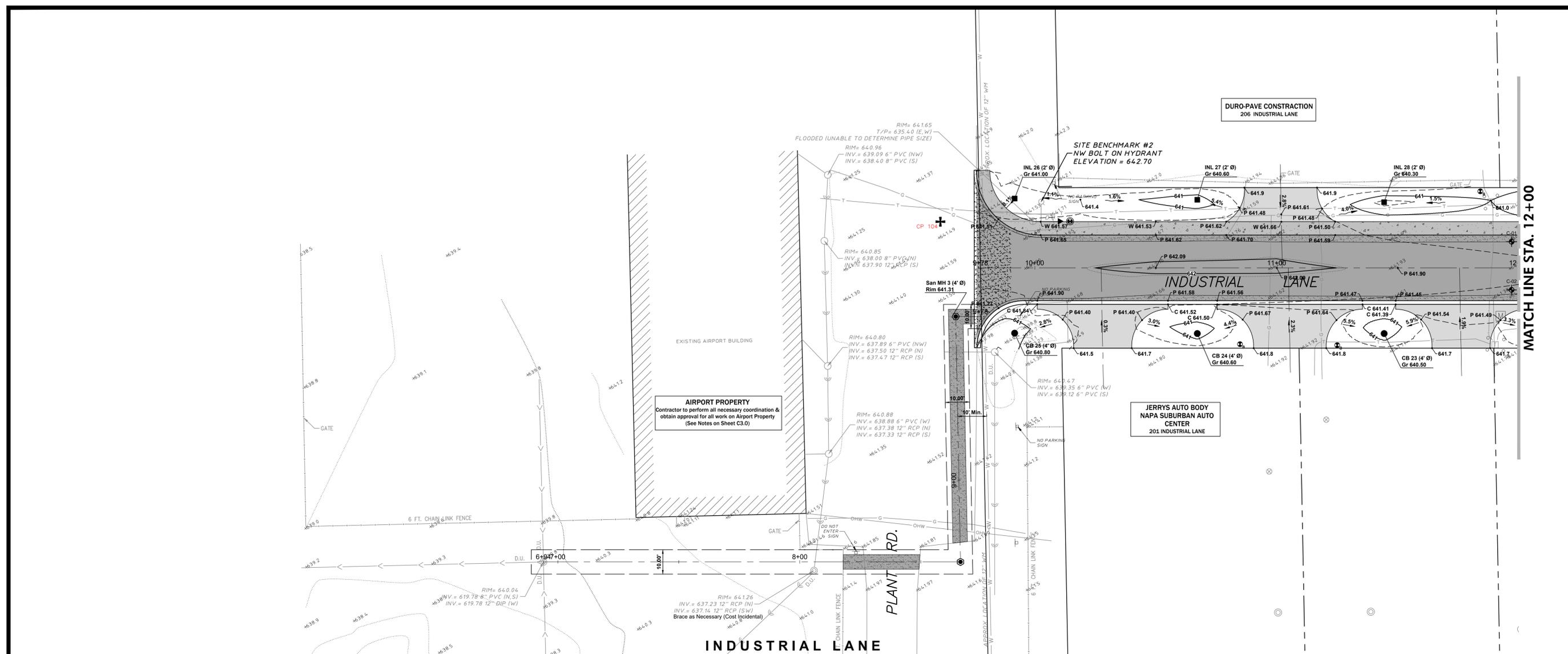


PAVING LEGEND	
[Pattern]	<b>BITUMINOUS PAVEMENT OVERLAY</b> 2" Hot-Mix Asphalt (HMA) Surface Course, Mix "D", N50
[Pattern]	<b>BITUMINOUS PAVEMENT - FULL DEPTH</b> 2" Hot-Mix Asphalt (HMA) Surface Course, Mix "D", N50 3" Hot-Mix Asphalt (HMA) Binder Course, IL-19.0, N50 10" Aggregate Base Course, Type B, CA-6, Crushed
[Pattern]	<b>BITUMINOUS DRIVEWAY APRON</b> 5" Hot-Mix Asphalt (HMA) Surface Course (Two Lifts) 3" Aggregate Base Course, Type B, CA-6, Crushed

**HAEGER ENGINEERING**  
consulting engineers • land surveyors  
100 East Stone Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

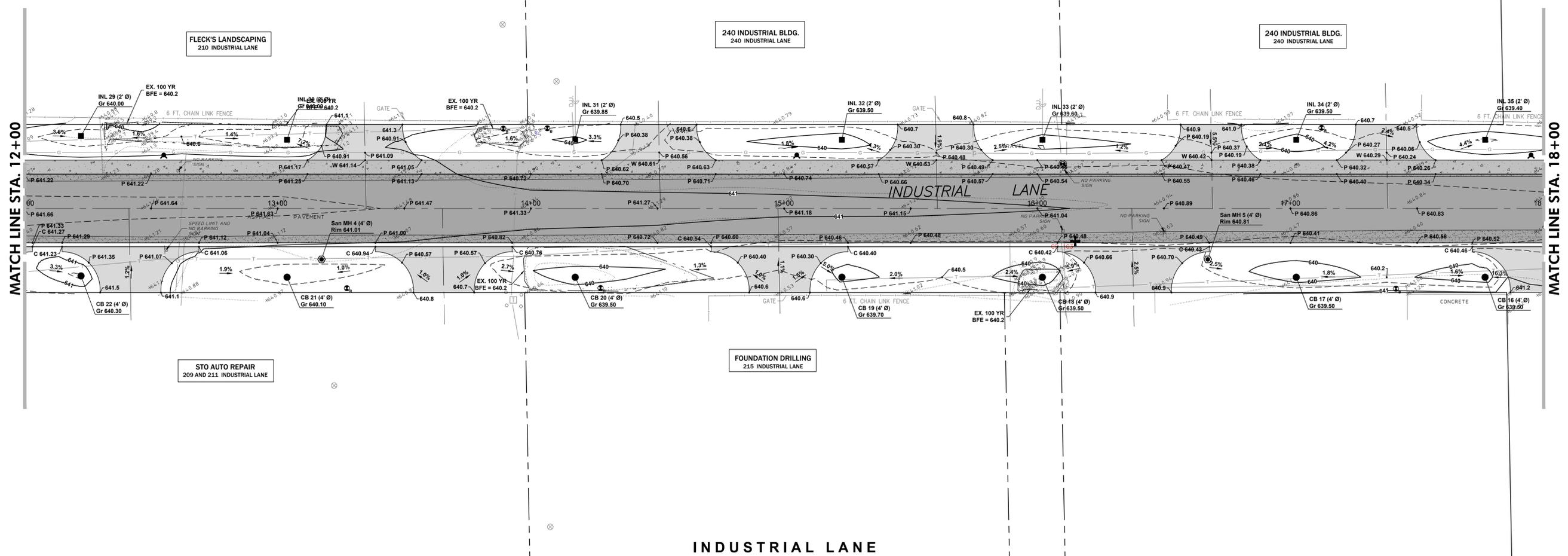
**GEOMETRIC AND PAVING PLAN**  
**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C5.1** of C9

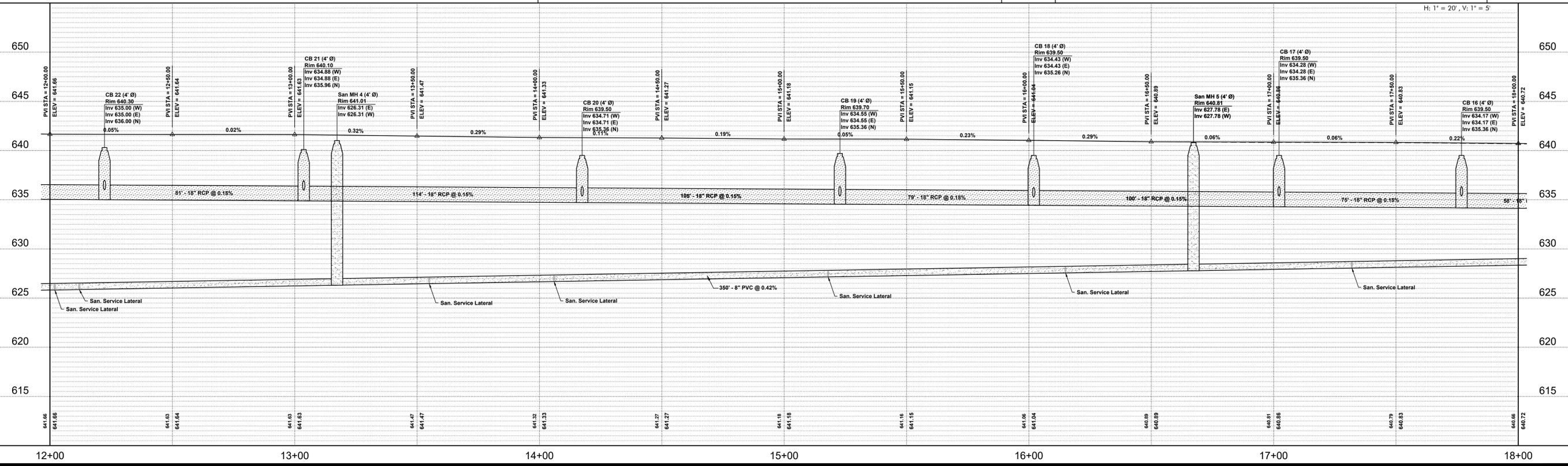




Scale: 1" = 20'



### INDUSTRIAL LANE

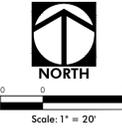
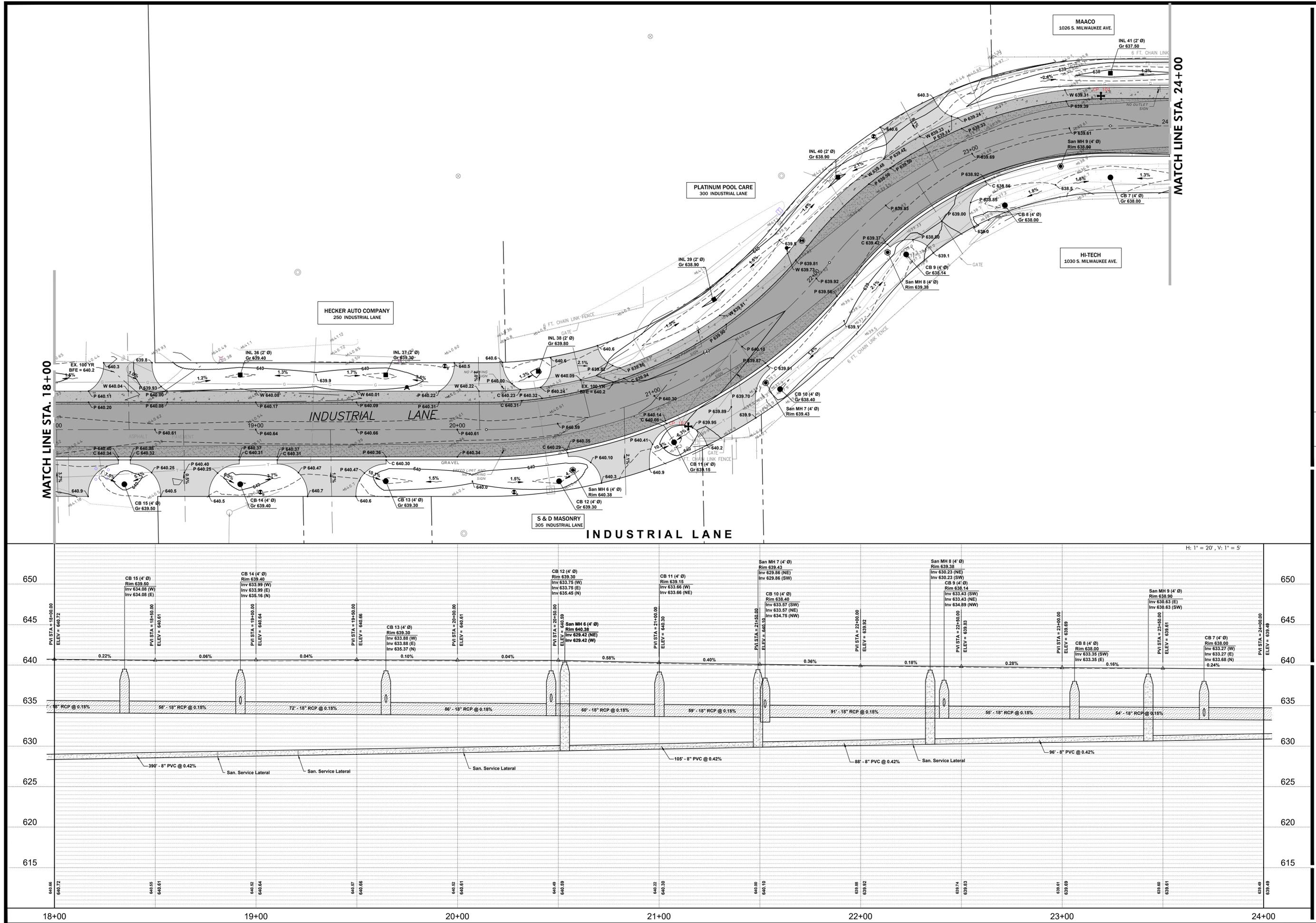


**HAEGER ENGINEERING**  
 consulting engineers • land surveyors  
 100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6498  
 Illinois Professional Design Firm License No. 184-003152  
 www.haegerengineering.com

**GRADING  
 PLAN AND PROFILE  
 INDUSTRIAL LANE  
 IMPROVEMENT PLANS**  
 WHEELING, ILLINOIS

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No. 17-203  
 Sheet **C6.1** of C9

Date	Revision
5/6/2019	Issued For Construction
3/18/2019	Per MWRD & Village Comments
1/25/2019	Per Village Comments



**HAEGER ENGINEERING**  
 consulting engineers • land surveyors  
 100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
 Illinois Professional Design Firm License No. 184-003152  
 www.haegerengineering.com

**GRADING  
 PLAN AND PROFILE  
 INDUSTRIAL LANE  
 IMPROVEMENT PLANS**  
 WHEELING, ILLINOIS

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No. 17-203  
 Sheet **C6.2** of C9

Issued For Construction	Date
5/6/2019	
Per MWD & Village Comments	
3/18/2019	
Per Village Comments	
1/25/2019	

No.

Date

Revision



Scale: 1" = 20'

MATCH LINE STA. 24+00

MAACO  
1026 S. MILWAUKEE AVE.

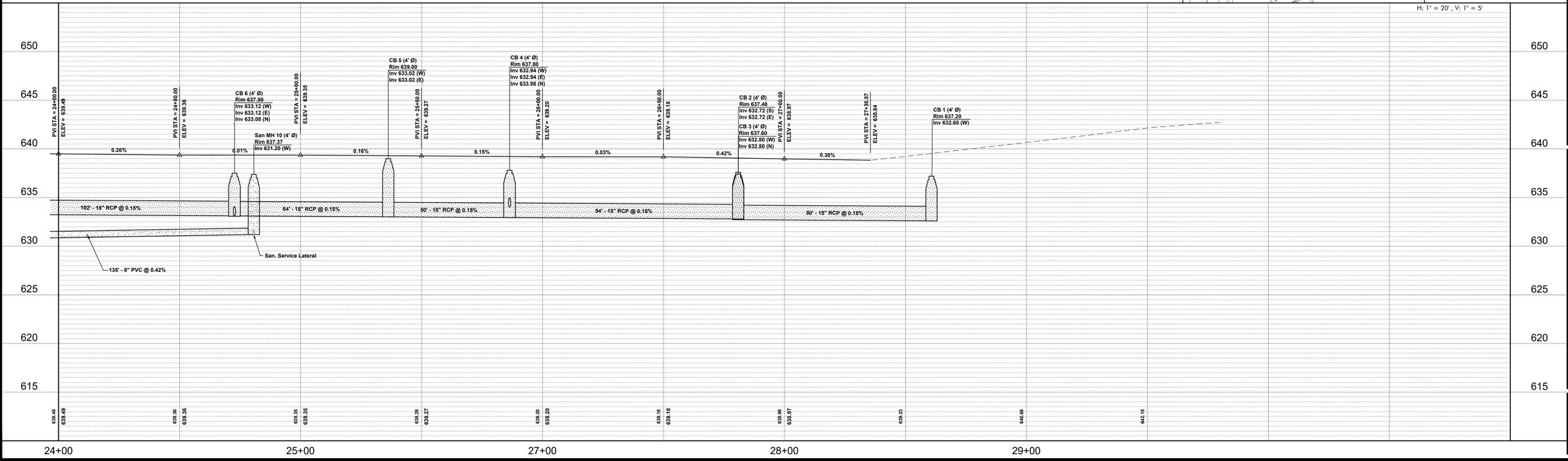
HI-TECH  
1030 S. MILWAUKEE AVE.

S. MILWAUKEE

AVE.

INDUSTRIAL LANE

H: 1" = 20', V: 1" = 5'

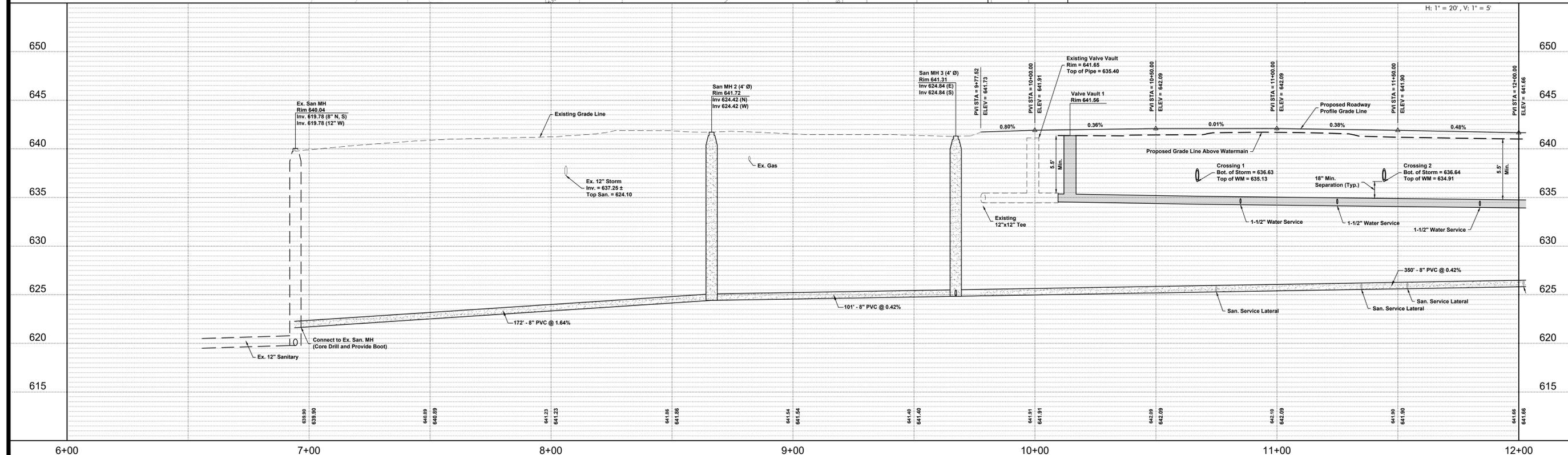
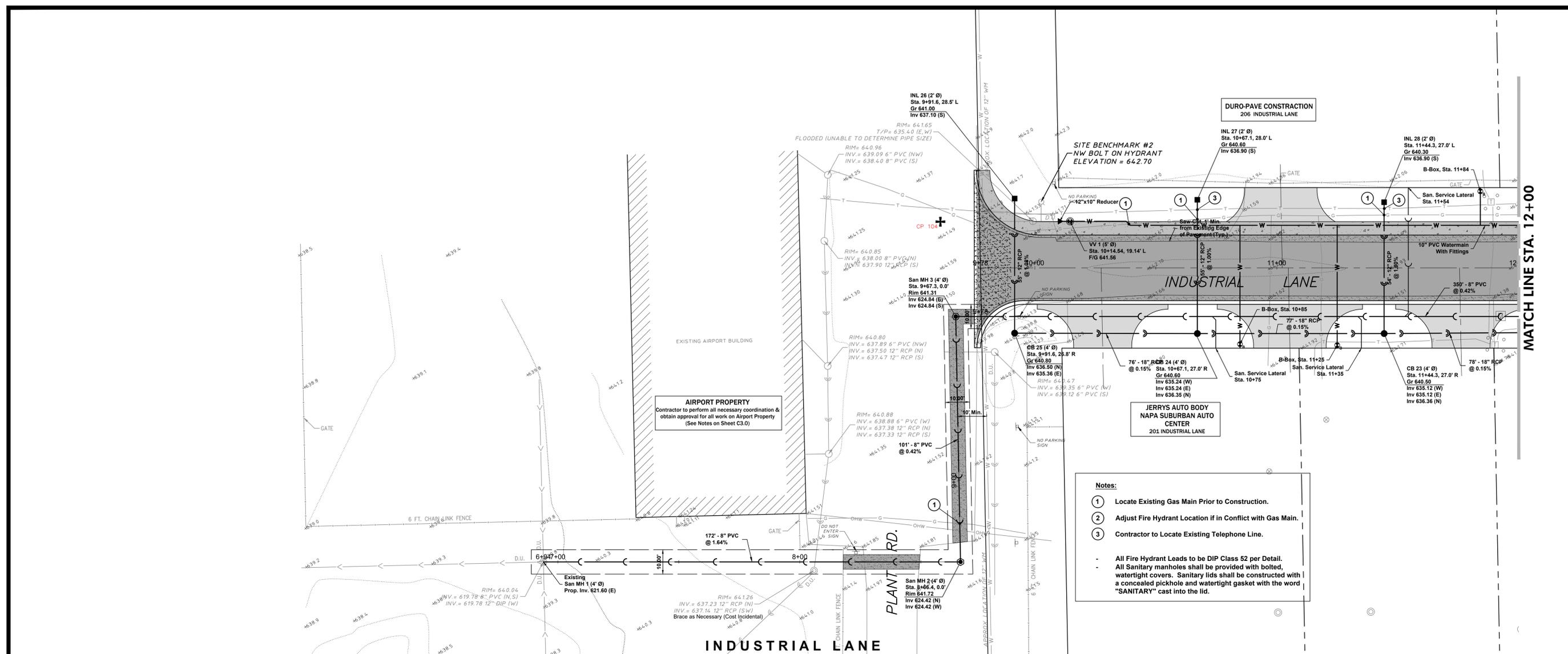


**HAEGER ENGINEERING**  
 consulting engineers • land surveyors  
 100 East Stone Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
 Illinois Professional Design Firm License No. 184-003152  
 www.haegerengineering.com

**GRADING  
 PLAN AND PROFILE  
 INDUSTRIAL LANE  
 IMPROVEMENT PLANS**  
 WHEELING, ILLINOIS

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No. 17-203  
 Sheet **C6.3**  
 C9

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MPRD & Village Comments
1	1/25/2019	Per Village Comments



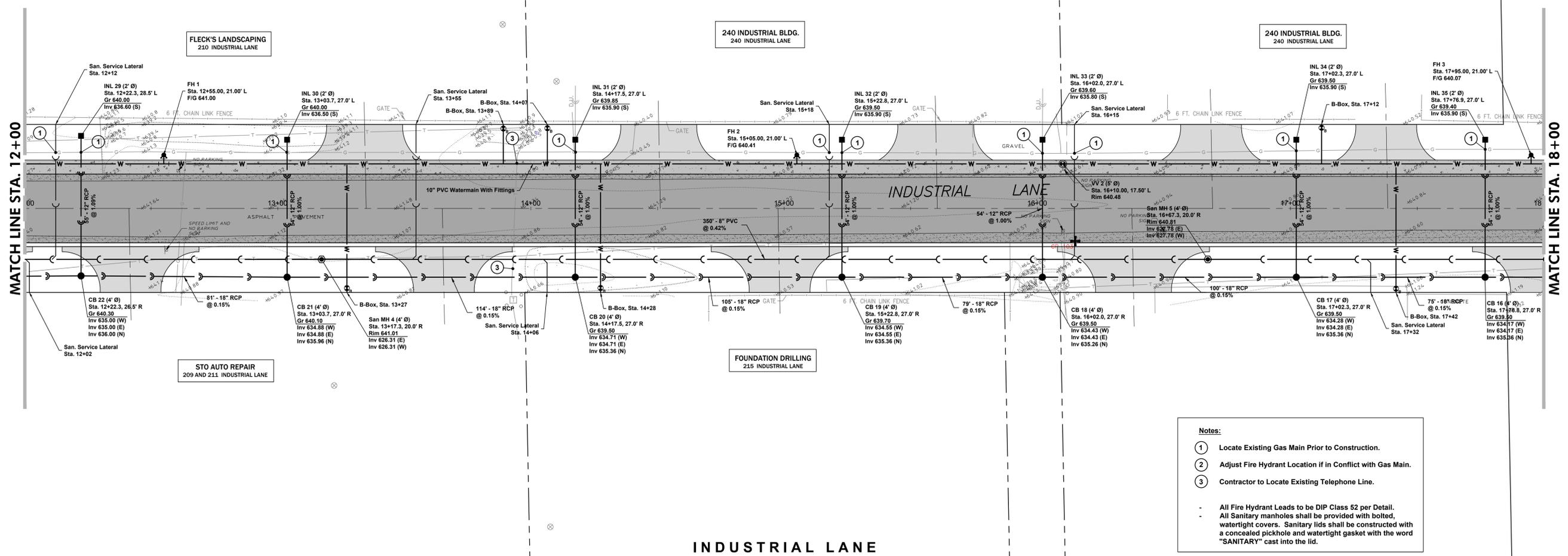
**HAEGER ENGINEERING**  
consulting engineers • land surveyors

100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608  
Illinois Professional Design Firm License No. 184-003142 www.haegerengineering.com

**UTILITY PLAN AND PROFILE**  
**INDUSTRIAL LANE**  
**IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWRD & Village Comments
1	1/25/2019	Per Village Comments

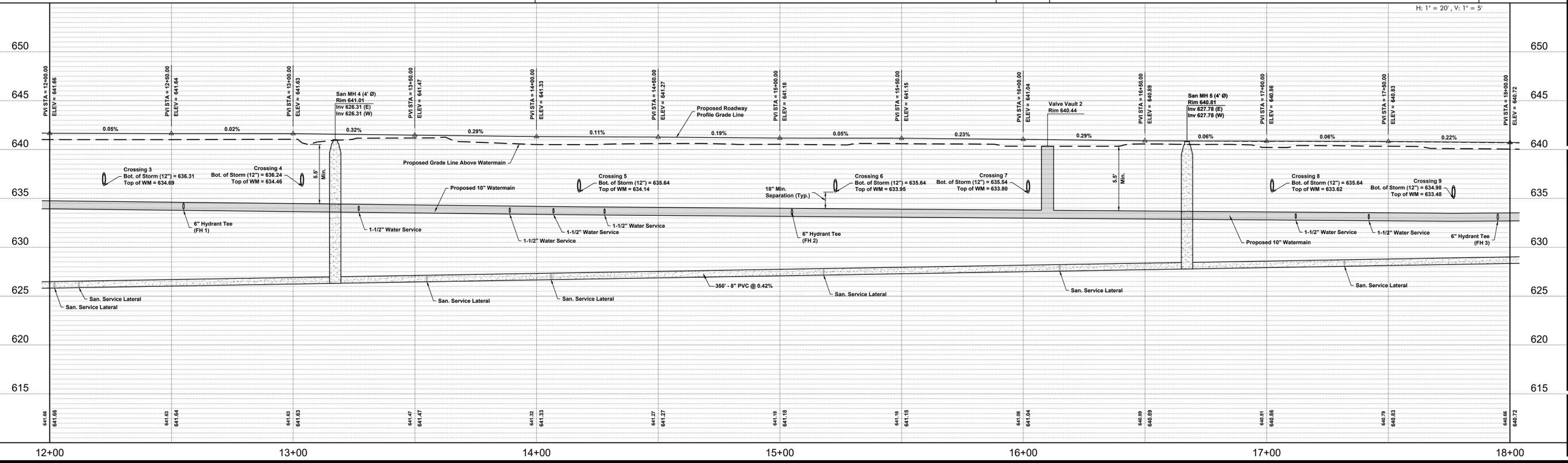
Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No. 17-203  
 Sheet **C7.0** of C9



**Notes:**

- 1 Locate Existing Gas Main Prior to Construction.
- 2 Adjust Fire Hydrant Location if in Conflict with Gas Main.
- 3 Contractor to Locate Existing Telephone Line.

- All Fire Hydrant Leads to be DIP Class 52 per Detail.  
 - All Sanitary manholes shall be provided with bolted, watertight covers. Sanitary lids shall be constructed with a concealed pickhole and watertight gasket with the word "SANITARY" cast into the lid.



**HAEGER ENGINEERING**  
 consulting engineers • land surveyors

100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6498  
 Illinois Professional Design Firm License No. 184-003152  
 www.haegerengineering.com

**UTILITY  
 PLAN AND PROFILE  
 INDUSTRIAL LANE  
 IMPROVEMENT PLANS**  
 WHEELING, ILLINOIS

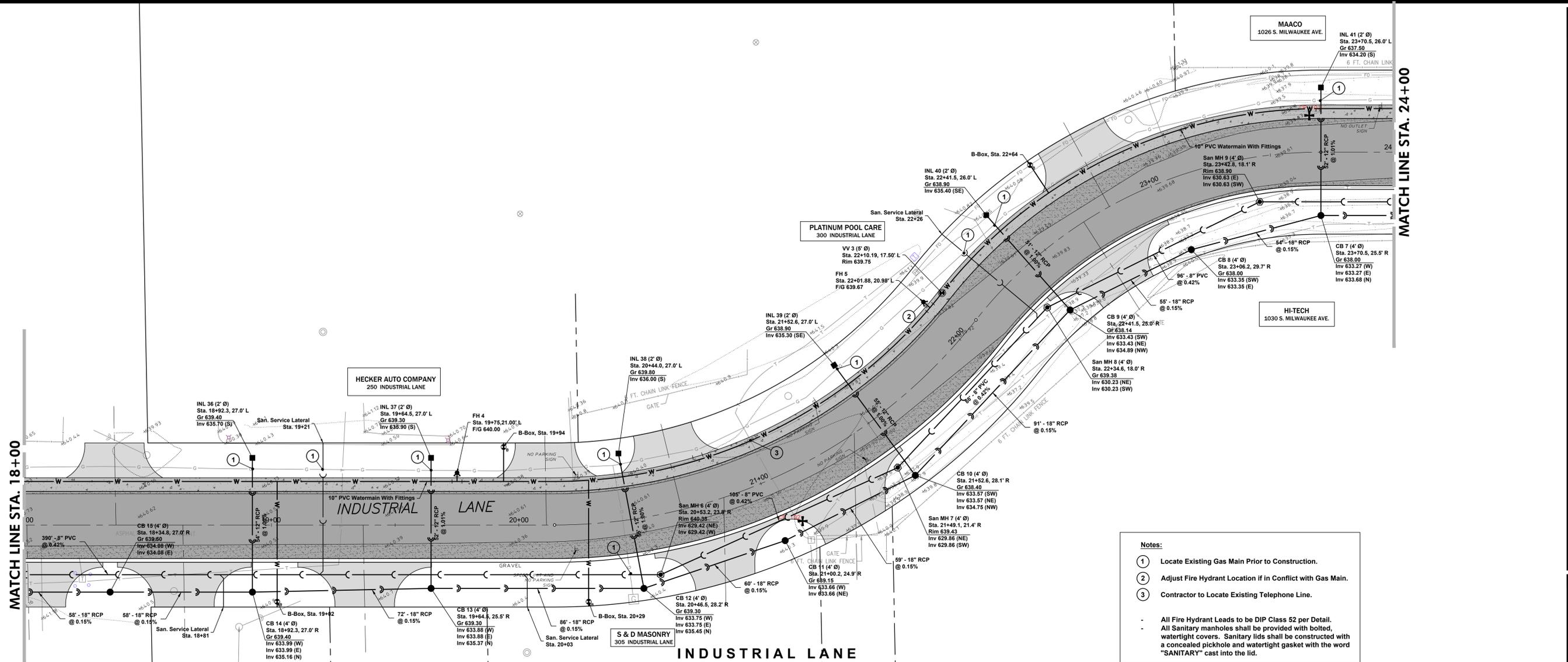
No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWD & Village Comments
1	1/25/2019	Per Village Comments

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No. 17-203  
 Sheet **C7.1** of C9



MATCH LINE STA. 18+00

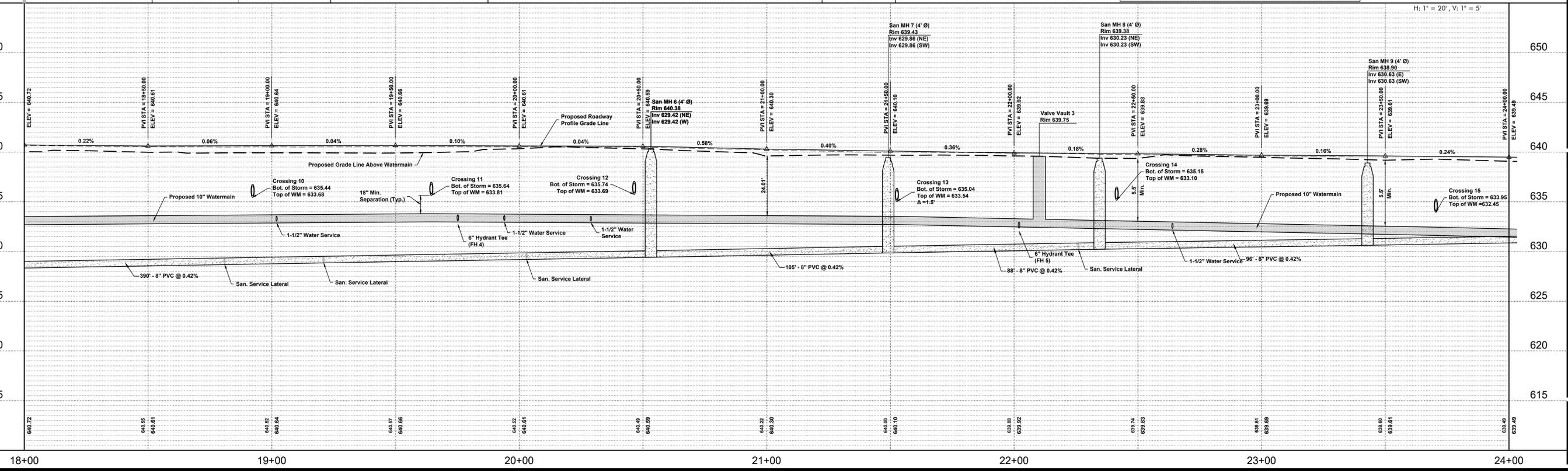
MATCH LINE STA. 24+00



**Notes:**

- 1 Locate Existing Gas Main Prior to Construction.
- 2 Adjust Fire Hydrant Location if in Conflict with Gas Main.
- 3 Contractor to Locate Existing Telephone Line.

- All Fire Hydrant Leads to be DIP Class 52 per Detail.
- All Sanitary manholes shall be provided with bolted, watertight covers. Sanitary lids shall be constructed with a concealed pickhole and watertight gasket with the word "SANITARY" cast into the lid.

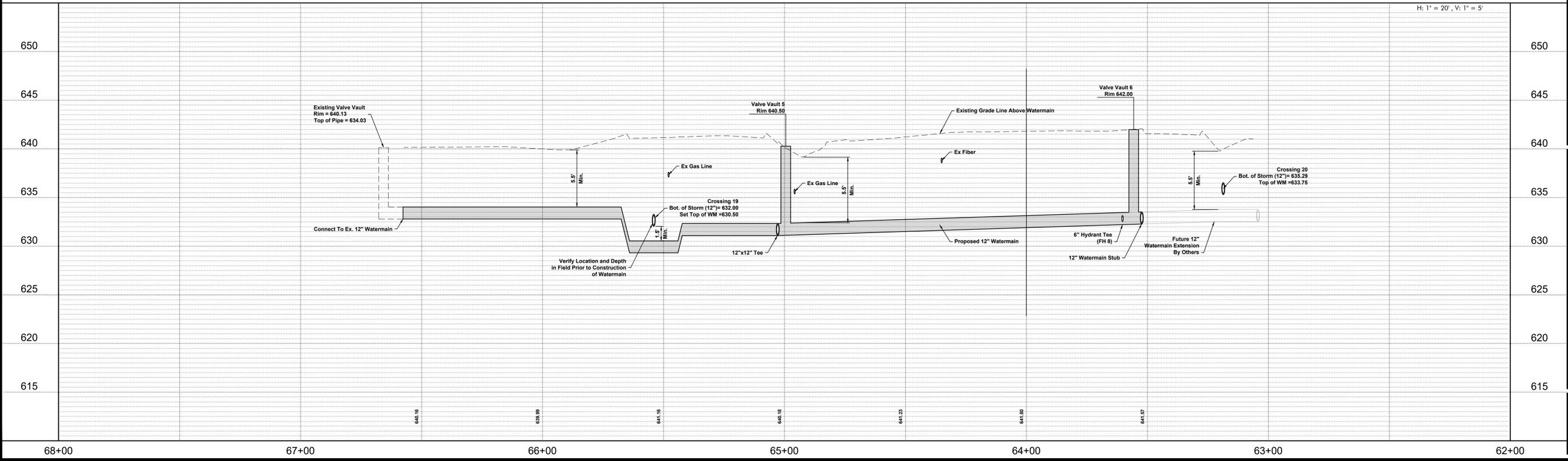
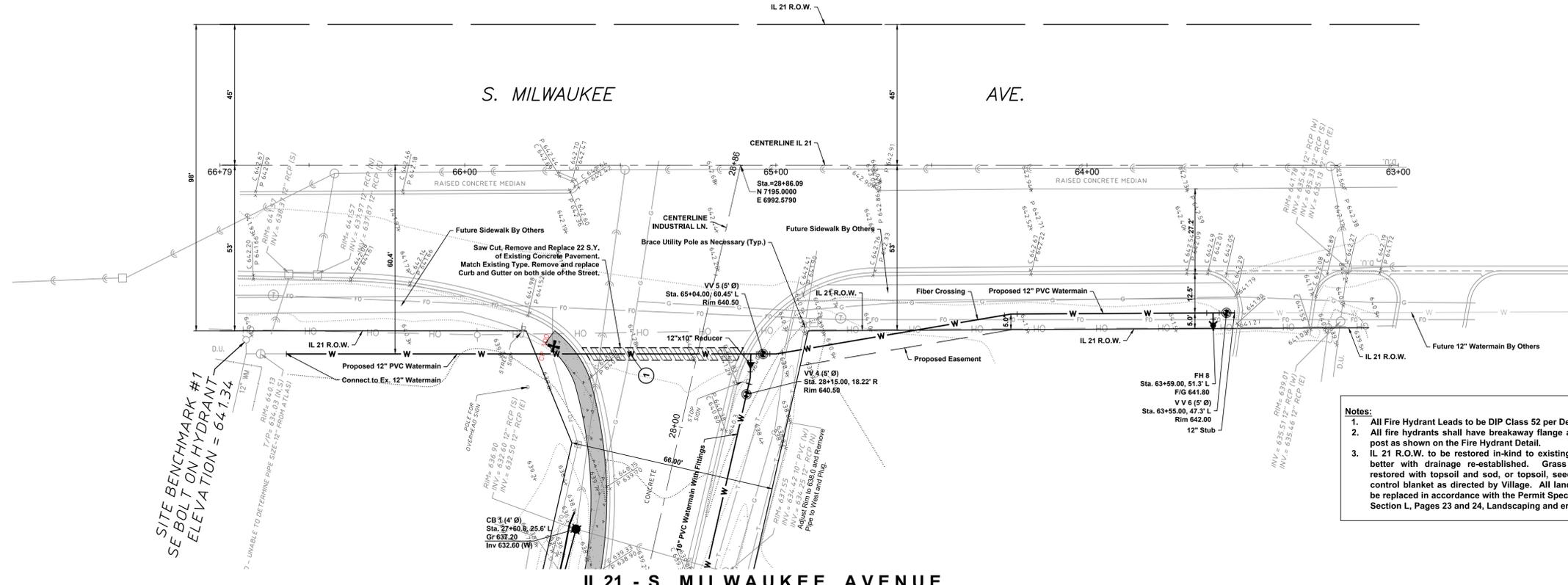
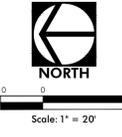


**HAEGER ENGINEERING**  
 consulting engineers • land surveyors  
 100 East Stone Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
 Illinois Professional Design Firm License No. 184-003152  
 www.haegerengineering.com

**UTILITY PLAN AND PROFILE**  
**INDUSTRIAL LANE**  
**IMPROVEMENT PLANS**  
 WHEELING, ILLINOIS

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No. 17-203  
 Sheet **C7.2** of C9





**HAEGER ENGINEERING**  
consulting engineers • land surveyors

100 East Stone Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6498  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

**UTILITY PLAN AND PROFILE**

**INDUSTRIAL LANE IMPROVEMENT PLANS**

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C7.4** C9

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWRD & Village Comments
1	1/25/2019	Per Village Comments

**RP Filter Specifications:**

Material	Part Number	Weight (lb)	Dimensions (in)
Concrete	ASTM D 4832	200	24" x 24" x 12"
Stainless Steel	ASTM A 312	150	24" x 24" x 12"
Galvanized Steel	ASTM A 653	150	24" x 24" x 12"
Aluminum	ASTM B 221	150	24" x 24" x 12"

**OR VILLAGE OF WHEELING APPROVED EQUAL**

Material	Part Number	Weight (lb)	Dimensions (in)
Concrete	ASTM D 4832	200	24" x 24" x 12"
Stainless Steel	ASTM A 312	150	24" x 24" x 12"
Galvanized Steel	ASTM A 653	150	24" x 24" x 12"
Aluminum	ASTM B 221	150	24" x 24" x 12"

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**INLET AND FILTER PROTECTION STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. ERO-1

**NOTE:** DEPENDING UPON CONFIGURATION, ATTACH FABRIC TO WIRE MESH W/40G RINGS, STEEL POSTS W/7E WIRES, WOOD POSTS W/4NALS.

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**SILT FENCE INSTALLATION STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. ERO-2

**NOTES:**

- BACKFILL A COMPACT GRANULAR TRENCH BACKFILL (CA-6, GRADE 8 OR APPROVED EQUAL) UNDER STREET PAVEMENT, DRIVEWAYS, AND SIDEWALKS.
- EXCAVATED MATERIAL MAY BE USED TO FILL GROUVE IN NON-PAVED AREAS.
- GRADE NO. CA-7, 8, 11 OR 13 GRAVEL OR LARGER TO SPRING LINE FOR ROAD PAVEMENT OR 12" ABOVE TOP OF PAVEMENT FOR (D.I.P.) ARTICLE 550.07.
- IF ENCOUNTERED, REMOVE UNSATURABLE MATERIALS AND REPLACE WITH 4" OF STONE AS DIRECTED BY THE TESTING AGENCY OR THE VILLAGE ENGINEER.
- TRENCH SIDES TO BE SLOPED OR SHOTCRETTED/SHORED IN ACCORDANCE WITH OSHA REQUIREMENTS.
- MAXIMUM TRENCH WIDTH = 18" (1'-4" O.D. WHEN TRENCH < 5 FEET, -24" (2'-0" O.D. WHEN TRENCH > 5 FEET).
- STREET CROSS SECTION MUST MATCH THE EXISTING ROADWAY OR THE VILLAGE OF WHEELING TYPICAL STREET CROSS SECTION, WHICHEVER IS GREATER.

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**TRENCH BACKFILL STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. UTL-1

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**UTILITY SEPARATION STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. UTL-4

**NOTES:**

- ALL JOINTS SHALL BE SEALED WATER-TIGHT BY MEANS OF F-2 SEAL, KENT-SEAL, OR EQUAL (INCLUDING CAST IRON FRAME TO CONCRETE MANHOLE STRUCTURE).
- MANHOLE STRUCTURE TO BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE.
- MANHOLE STRUCTURE SHALL CONFORM TO A.S.T.M. SPECIFICATION C-918-80 OR LATER REVISION.
- 60" I.D. MANHOLE WALLS SHALL BE 6" THICK (MIN.).
- CASTING MANHOLE COVER SHALL BE FURNISHED WITH THE WORD "SANITARY" & "VILLAGE OF WHEELING" CAST IN LID.
- CRETEK TYPE SEAL ON ALL SANITARY MANHOLES.
- ALL EXISTING STRUCTURES TO BE MACHINE COEDED AND SMOOTHED.
- VACUUM TEST REQUIRED ON ALL NEW MANHOLE INSTALLATIONS.
- AGGREGATE BASE COURSE SHALL BE VIBRATED AGGREGATE OR VILLAGE ENGINEER APPROVED EQUAL.

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**SANITARY MANHOLE STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. SAN-1

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**FRAME AND CLOSED LID SANITARY STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. SAN-3

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**FRAME AND BOLT DOWN SANITARY LID STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. SAN-4

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**SANITARY SERVICE RISER STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. SAN-5

**NOTE:**

- STORM SEWER PIPES IN PUBLIC RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE PIPE AS PER SECTION 550 OF THE I.DOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- STORM SEWER ON PRIVATE PROPERTY MAY BE PVC-SDR26, DUCTILE IRON, OR RCPP.
- ALL OTHER PIPE MATERIAL MUST BE APPROVED BY THE VILLAGE ENGINEER.
- JOINTS FOR RCPP SHALL BE PREFORMED, FLEXIBLE, O-RING GASKET TYPE OR TYLOX SUPER SEAL GASKET (ASTM C-361).
- INLET SHALL BE CONNECTED TO A STORM SEWER AFTER FLOWING THROUGH A CATCH BASIN AND SHALL NOT DISCHARGE DIRECTLY TO THE STORM SEWER.
- MINIMUM STORM SEWER PIPE DIAMETER IS 12" UNLESS OTHERWISE APPROVED BY THE VILLAGE ENGINEER.

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**INLET STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. ST-1

**NOTE:**

- STORM SEWER PIPES IN PUBLIC RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE PIPE AS PER SECTION 550 OF THE I.DOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- STORM SEWER ON PRIVATE PROPERTY MAY BE PVC SDR-26, DUCTILE IRON, OR RCPP.
- ALL OTHER PIPE MATERIAL MUST BE APPROVED BY THE VILLAGE ENGINEER.
- JOINTS FOR RCPP SHALL BE PREFORMED, FLEXIBLE, O-RING GASKET TYPE OR TYLOX SUPER SEAL GASKET (ASTM C-361).
- MINIMUM STORM SEWER PIPE DIAMETER IS 12" UNLESS OTHERWISE APPROVED BY THE VILLAGE ENGINEER.

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**CATCH BASIN & RESTRICTOR CLEANOUT STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. ST-2

**NOTE:**

- STORM SEWER PIPES IN PUBLIC RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE PIPE AS PER SECTION 550 OF THE I.DOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- STORM SEWER ON PRIVATE PROPERTY MAY BE PVC-SDR26, DUCTILE IRON, OR RCPP.
- ALL OTHER PIPE MATERIAL MUST BE APPROVED BY THE VILLAGE ENGINEER.
- JOINTS FOR RCPP SHALL BE PREFORMED, FLEXIBLE, O-RING GASKET TYPE OR TYLOX SUPER SEAL GASKET (ASTM C-361).
- INLET SHALL BE CONNECTED TO A STORM SEWER AFTER FLOWING THROUGH A CATCH BASIN AND SHALL NOT DISCHARGE DIRECTLY TO THE STORM SEWER.
- MINIMUM STORM SEWER PIPE DIAMETER IS 12" UNLESS OTHERWISE APPROVED BY THE VILLAGE ENGINEER.

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**STORM MANHOLE STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. ST-4

**VILLAGE OF WHEELING**  
 ENGINEERING DIVISION  
 100 EAST STATE PARKWAY, SCHENBURG, IL 60173  
 WWW.VILLAGEOFWHEELING.IL.GOV

**FRAME AND OPEN LID STORM MANHOLE STANDARD**

REVISIONS	DATE	DESCRIPTION
1	11/11/02	ISSUED FOR CONSTRUCTION

DETAIL NO. ST-6

**STANDARD DETAILS**

**INDUSTRIAL LANE IMPROVEMENT PLANS**

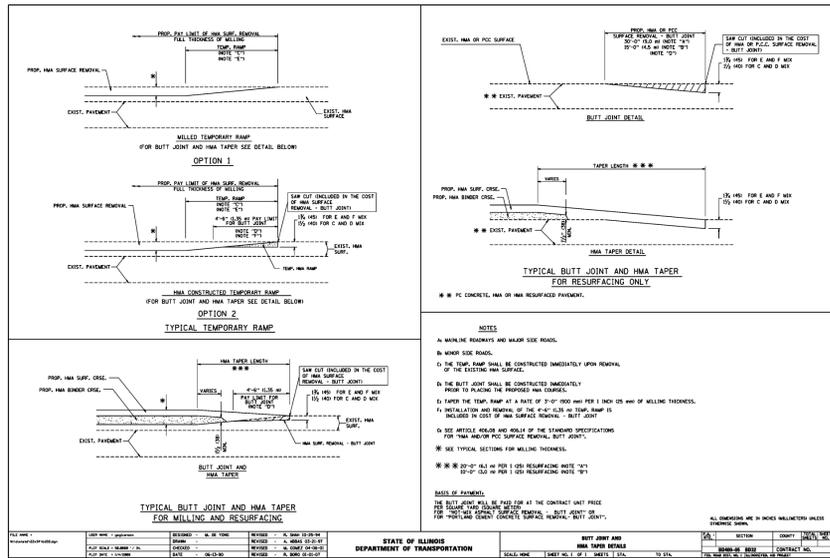
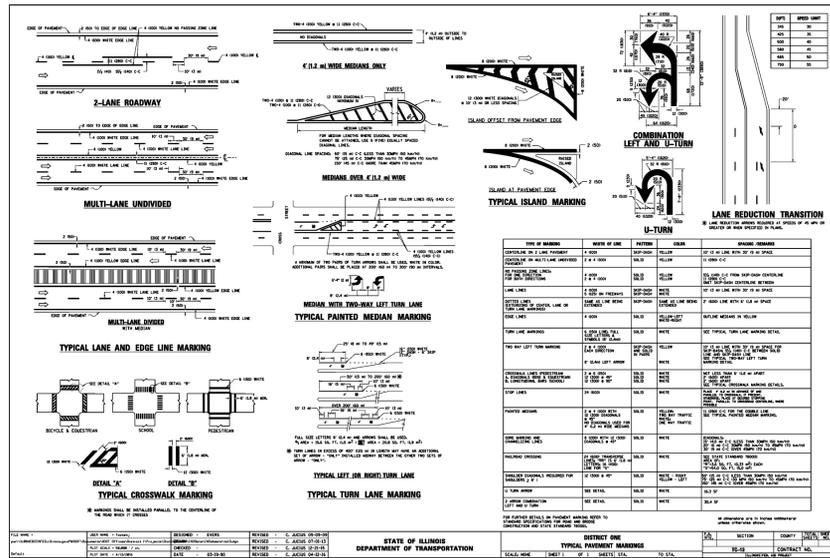
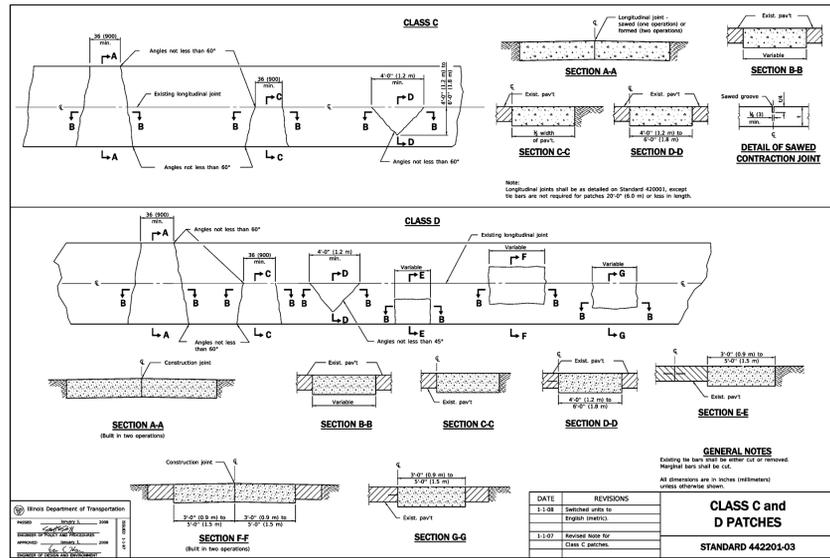
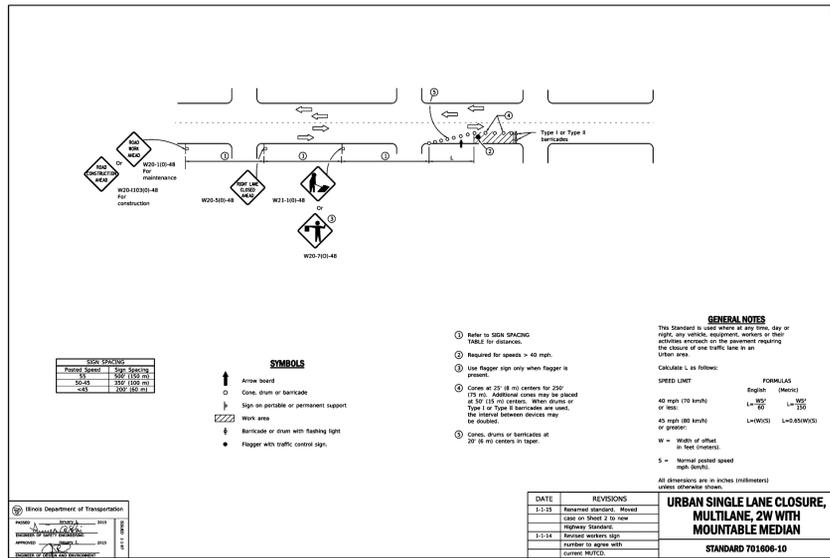
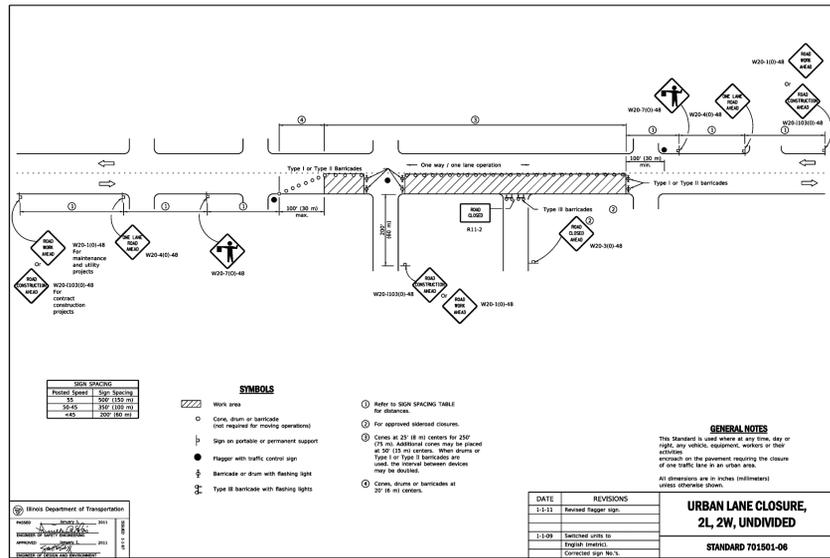
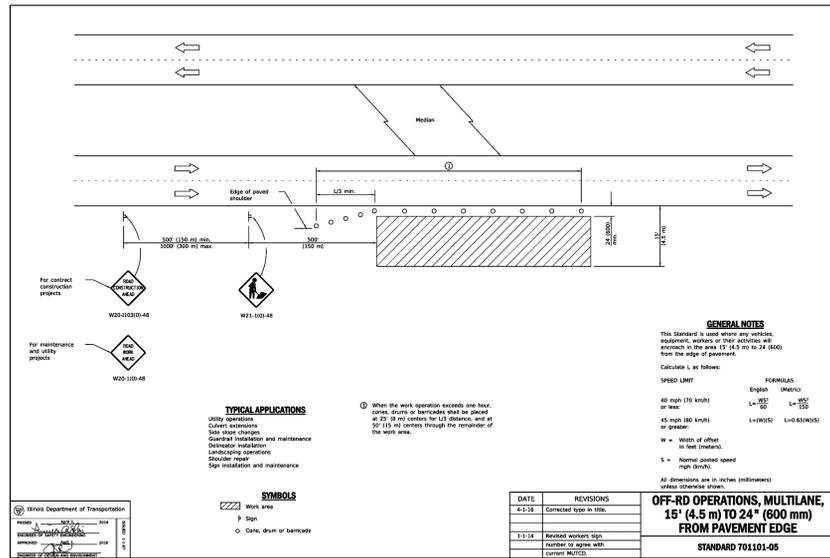
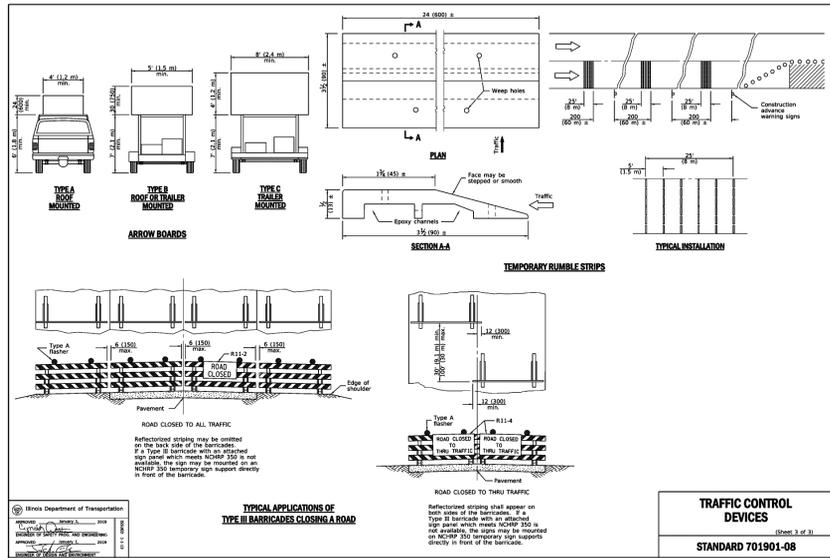
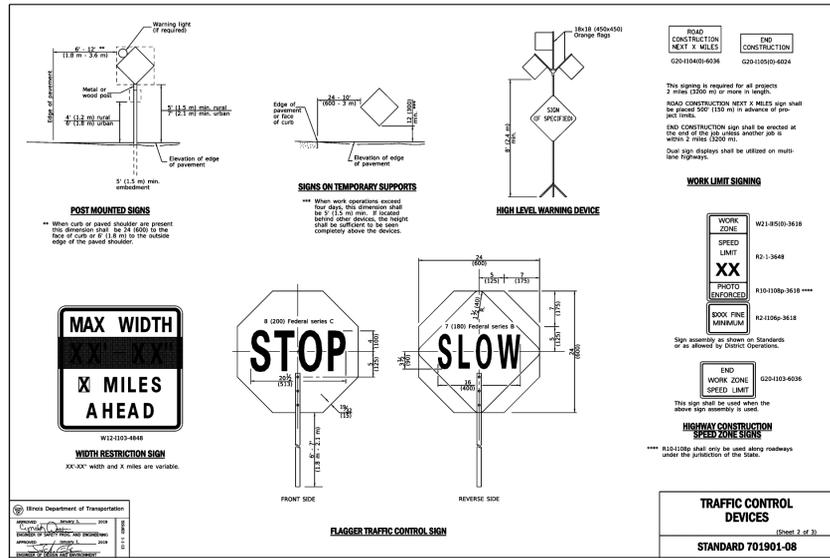
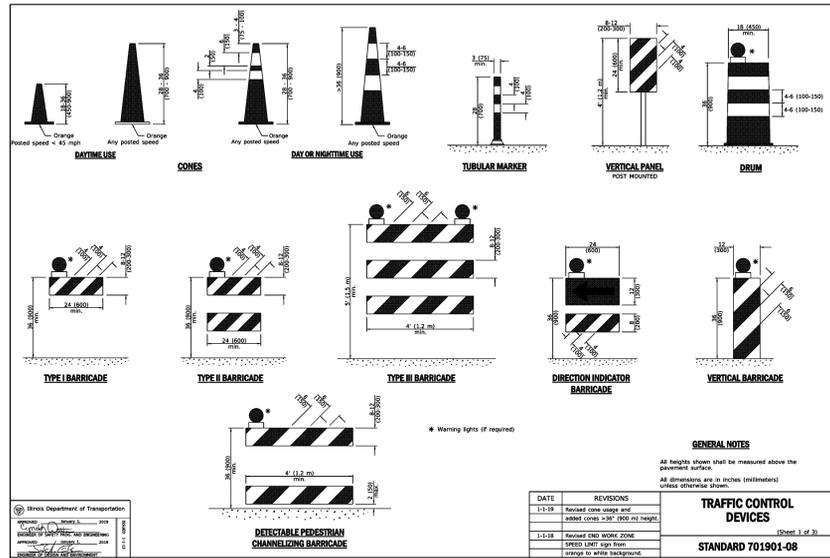
**HAEGER ENGINEERING**  
 consulting engineers & land surveyors

100 East State Parkway, Schenburg, IL 60173, Tel: 847.394.6600, Fax: 847.394.6608  
 Illinois Professional Design Firm License No. 184-003142  
 www.haegerengineering.com

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No: 17-203  
 Sheet **C8.0**

Issued For Construction: 3/18/2019  
 Per MWD & Village Comments: 1  
 Per Village Comments: 1  
 Date: 1/25/2019  
 No. 1



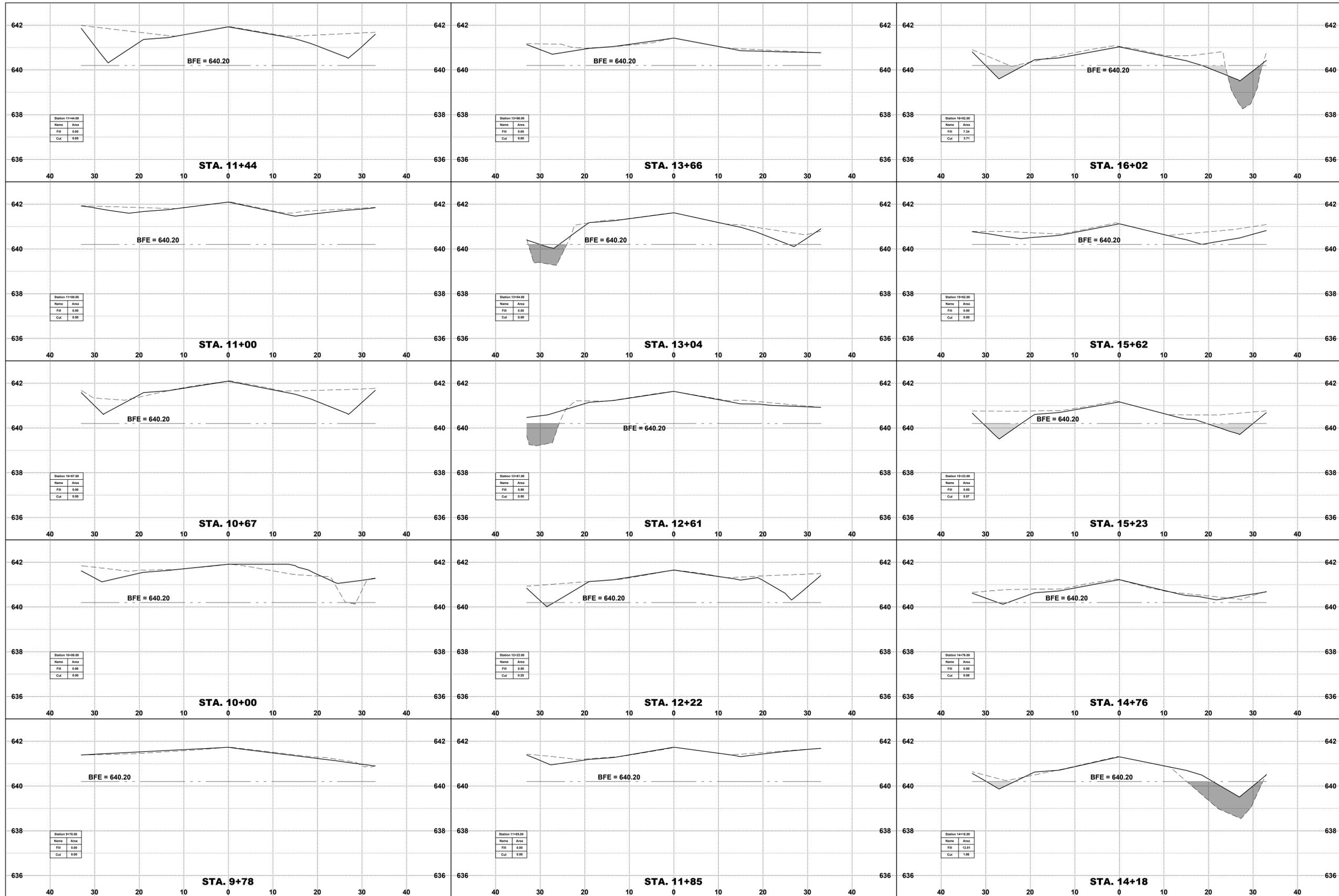


**STANDARD DETAILS**

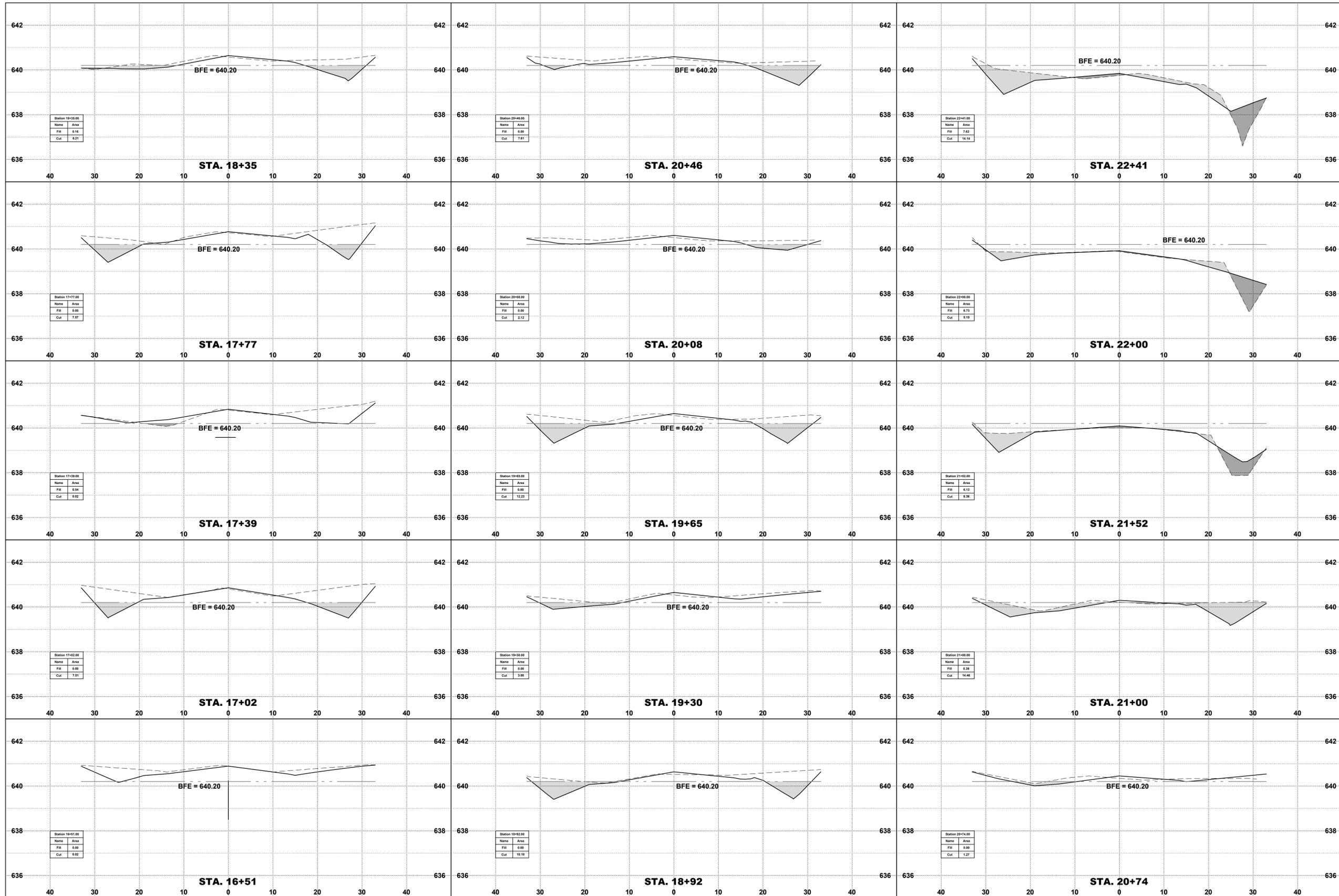
**INDUSTRIAL LANE IMPROVEMENT PLANS**

**WHEELING, ILLINOIS**

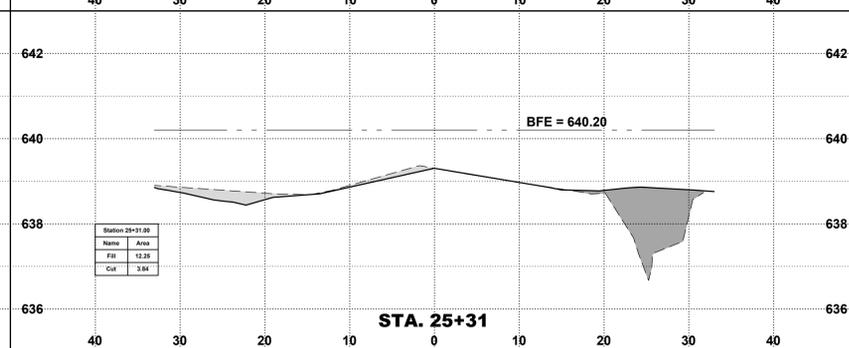
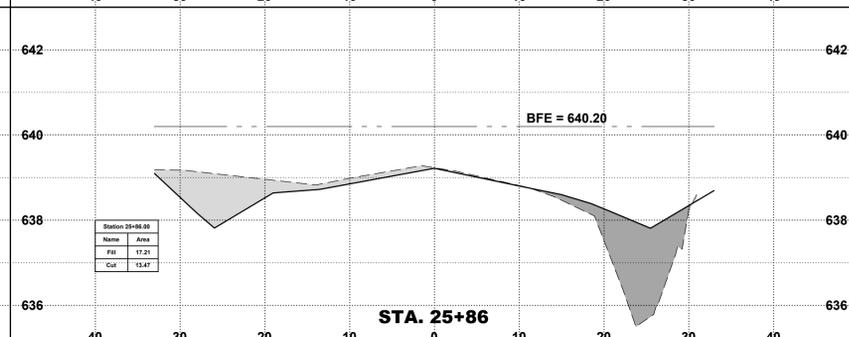
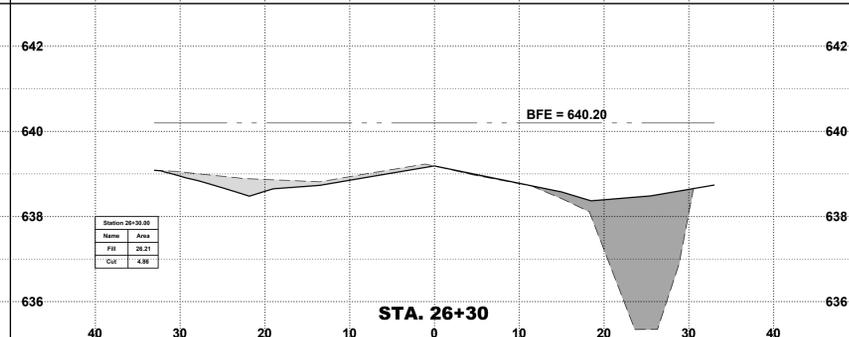
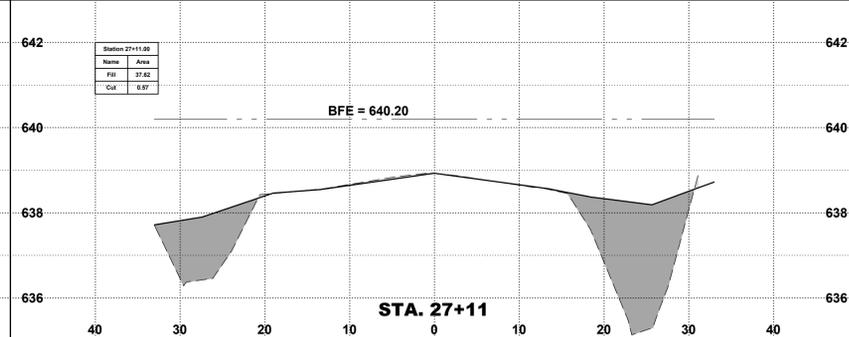
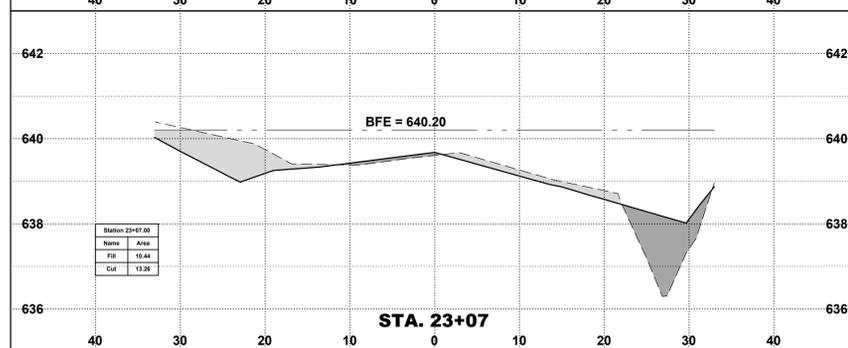
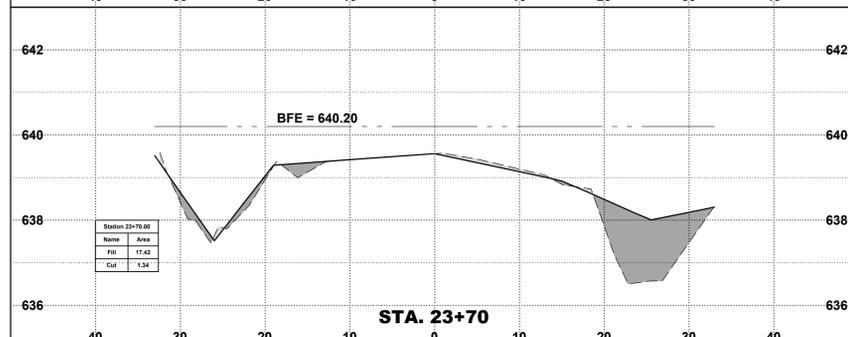
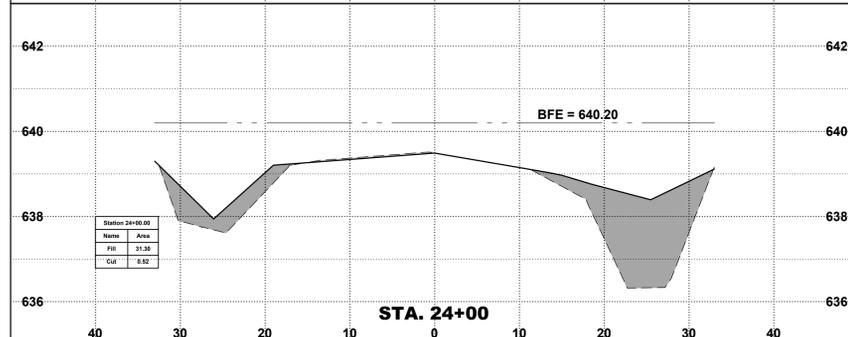
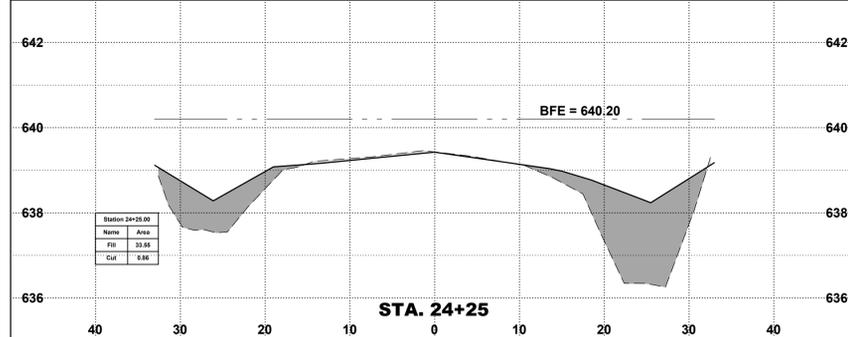
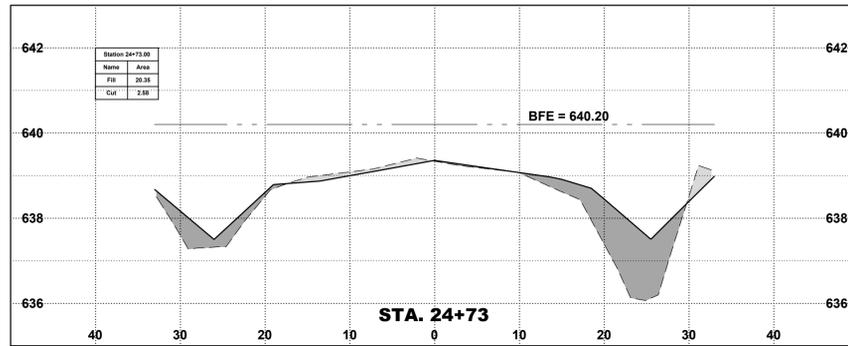
Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No: 17-203  
 Sheet: C8.2



No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWBD & Village Comments
1	1/25/2019	Per Village Comments



No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/19/2019	Per MWBD & Village Comments
1	1/25/2019	Per Village Comments



**COMPENSATORY STORAGE CALCULATIONS**  
(100 YEAR BFE = 640.2)

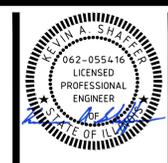
STA.	Distance (feet)	100-Yr Flood Elevation	Fill Area (sf)	Fill Volume (cf)	Cumulative Fill Volume (cf)	Cut Area (sf)	Cut Volume (cf)	Cumulative Cut Volume (cf)
9+78.00		640.20	0.00		0	0.00	0	0
10+00.00	22.00	640.20	0.06	1	1	0.00	0	0
10+67.00	67.00	640.20	0.00	2	3	0.00	0	0
11+00.00	33.00	640.20	0.00	0	3	0.00	0	0
11+44.00	44.00	640.20	0.00	0	3	0.00	0	0
11+85.00	41.00	640.20	0.00	0	3	0.00	0	0
12+22.00	37.00	640.20	0.00	0	3	0.00	5	5
12+61.00	39.00	640.20	5.98	117	120	0.00	5	10
13+04.00	43.00	640.20	5.55	248	120	0.00	2	12
13+66.00	62.00	640.20	0.00	172	368	0.09	3	15
14+18.00	52.00	640.20	12.81	333	540	1.06	28	43
14+76.00	58.00	640.20	0.00	371	873	0.08	33	76
15+23.00	47.00	640.20	0.00	0	1,244	5.57	133	209
15+62.00	39.00	640.20	0.00	0	1,244	0.00	109	318
16+02.00	40.00	640.20	7.34	147	1,391	3.71	74	392
16+51.00	49.00	640.20	0.00	180	1,571	0.02	91	483
17+02.00	51.00	640.20	0.00	0	1,571	7.51	192	675
17+39.00	37.00	640.20	0.54	10	1,581	0.02	139	814
17+77.00	38.00	640.20	0.00	10	1,581	7.57	144	958
18+35.00	58.00	640.20	0.16	5	1,596	6.21	400	1,358
18+92.00	57.00	640.20	0.00	5	1,601	10.10	465	1,823
19+30.00	38.00	640.20	0.00	0	1,601	3.00	249	2,072
19+65.00	35.00	640.20	0.00	0	1,601	12.23	267	2,339
20+08.00	43.00	640.20	0.00	0	1,601	2.12	309	2,648
20+46.00	38.00	640.20	0.00	0	1,601	7.61	185	2,833
20+74.00	28.00	640.20	0.00	0	1,601	1.27	124	2,957
21+00.00	26.00	640.20	0.39	5	1,606	14.46	204	3,161
21+52.00	52.00	640.20	6.13	170	1,776	6.36	541	3,702
22+00.00	48.00	640.20	6.73	309	2,085	5.10	275	3,977
22+41.00	41.00	640.20	7.62	294	2,379	14.14	394	4,371
23+07.00	66.00	640.20	7.62	596	2,975	13.26	904	5,275
23+70.00	63.00	640.20	10.44	878	3,853	1.34	460	5,735
24+00.00	30.00	640.20	31.30	731	4,584	0.52	28	5,763
24+25.00	25.00	640.20	33.55	811	5,395	0.86	17	5,780
24+73.00	48.00	640.20	20.35	1,294	6,689	2.58	83	5,863
25+31.00	58.00	640.20	12.25	945	7,634	3.84	186	6,049
25+86.00	55.00	640.20	17.21	810	8,444	13.47	476	6,525
26+30.00	44.00	640.20	26.21	955	9,399	4.86	403	6,928
27+11.00	81.00	640.20	37.62	2,585	11,984	0.57	220	7,148
28+00.00	89.00	640.20	0.00	1,674	13,658	0.00	25	7,173

Summary		
Fill Below 100 YR BFE =	13,658 CF	0.31 AC-FT
Required Compensatory Storage (Fill*1.5) =	20,487 CF	0.47 AC-FT
Provided Onsite Compensatory Storage (Cut) =	7,173 CF	0.16 AC-FT
Provided Offsite Compensatory Storage @ Airport =	19166 CF	0.44 AC-FT
Provided Total Compensatory Storage =	26339 CF	0.60 AC-FT
Provided Excess Compensatory Storage Available =	5852 CF	0.13 AC-FT

**HAEGER ENGINEERING**  
consulting engineers • land surveyors  
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

**CROSS SECTIONS AND  
STA. 24+25 TO STA. 27+11  
INDUSTRIAL LANE  
IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **C9.2**  
C9



EXPIRES 11-30-19

# VILLAGE OF WHEELING COOK COUNTY STATE OF ILLINOIS

## INDUSTRIAL LANE IMPROVEMENT PLANS STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

**CONTACTS:**  
VILLAGE OF WHEELING: JON TACK, VILLAGE ENGINEER

**VILLAGE OF WHEELING - VILLAGE HALL:**  
2 Community Boulevard  
Wheeling, IL 60090  
Tel: 847-459-2600  
Fax: 847-459-9692

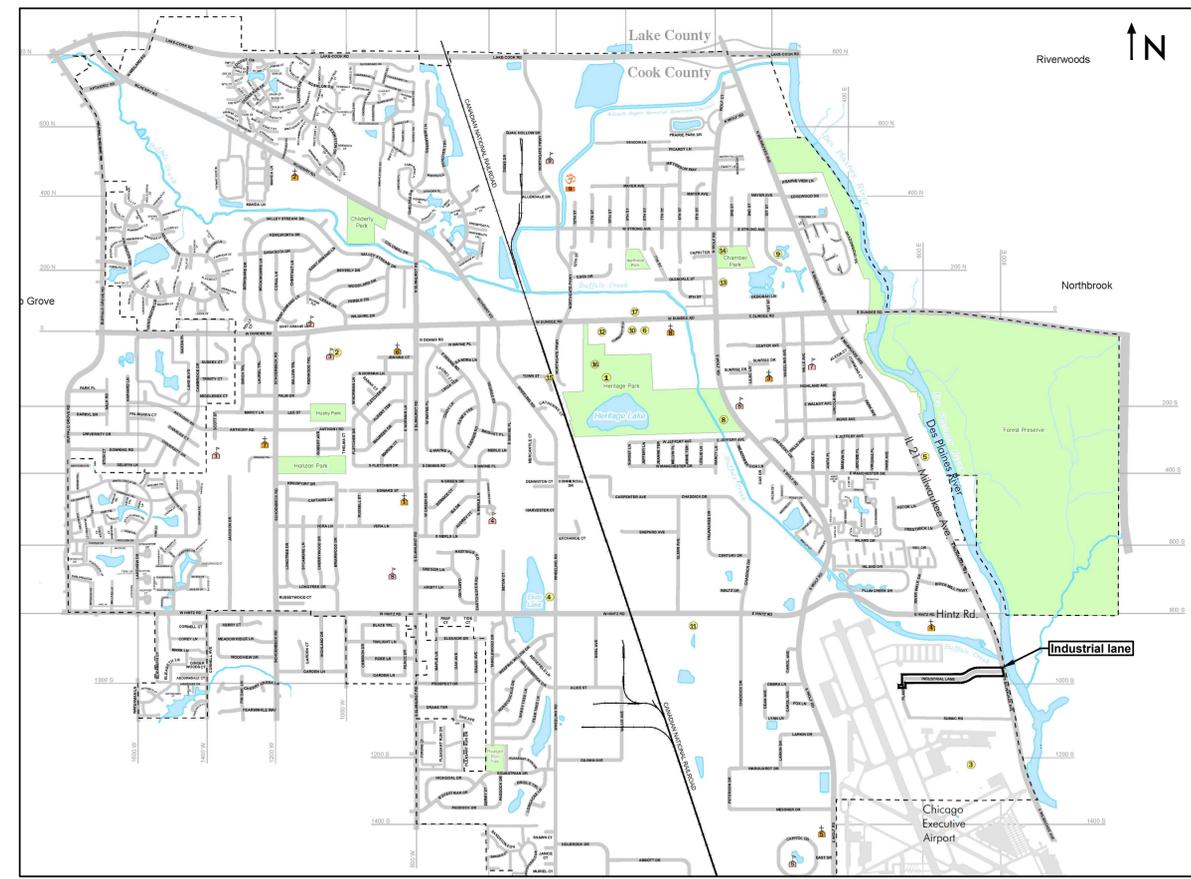
**VILLAGE OF WHEELING - PUBLIC WORKS:**  
77 W. Hintz Road  
Wheeling, IL 60090  
Tel: 847-279-6900  
Fax: 847-279-6420

**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

**BENCHMARKS:**  
**VILLAGE OF WHEELING BM-20**  
2.5" Aluminum Disk Stamped 'Village of Wheeling - Survey Marker' at South of Hintz Rd. Bridge, West of Buffalo Creek, ~1000' East of Wolf Rd.  
Elevation = 638.395 (NAVD 88)

**VILLAGE OF WHEELING BM-21**  
2.5" Aluminum Disk stamped 'Village of Wheeling - Survey Marker' on SE Corner of Milwaukee Ave. Bridge, ~115' North of Industrial Lane.  
Elevation = 644.908 (NAVD 88)

See Sheets C4.0 - C4.3 of Industrial Lane Improvement Plans for Site Benchmarks



INDEX TO STORM WATER POLLUTION PREVENTION PLAN SHEETS	
NO.	DESCRIPTION
EC-1.0	SWPPP TITLE SHEET
EC-2.0	SWPPP GENERAL NOTES AND DETAILS
EC-3.0	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
EC-3.1	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Existing Symbol	Description	Proposed Symbol
	Storm Sewer Manhole	
	Catch Basin	
	Inlet	
	Flared End Section	
	Headwall	
	Area Drain	
	Sanitary Sewer Manhole	
	Clean Out	
	Storm Sewer	
	Storm Sewer Service	
	Perforated Underdrain	
	Sanitary Sewer	
	Sanitary Sewer Service	
	Combined Sewer	
	Force Main	
	Water Main	
	Water Main Service	
	Fire Hydrant	
	Valve Vault	
	Valve Box	
	B-Box	
	Well Head	
	Light Pole	
	Light Pole With Mast Arm	
	Traffic Signal	
	Traffic Signal With Mast Arm	
	Hand Hole	
	Fence	
	Guardrail	
	Pipe Bollard	
	Sign	
	Gas Valve	
	Gas Line	
	Electric Line	
	Overhead Utility Line	
	Fiber Optic Line	
	Electrical Pedestal	
	Electric Manhole	
	Guy Wire	
	Utility Pole	
	Telephone Pedestal	
	Telephone Manhole	
	Telephone Line	
	Cable TV Line	
	Cable TV Pedestal	
	Flagpole	
	Mailbox	
	Handicapped Parking Stall	
	Number of Parking Stalls	
	Curb & Gutter	
	Reverse Pitch Curb & Gutter	
	Depressed Curb	
	Retaining Wall	
	Curb Elevation and Gutter/Pavement Elevation	
	Pavement Elevation	
	Sidewalk Elevation	
	Ground Elevation	
	Top of Wall Elevation	
	Bottom of Wall Elevation	
	Open Lid Frame & Grate	
	Closed Lid Frame & Lid	
	Swale	
	Hardscape Flow	
	Softscape Flow	
	Contour Line	
	Floodplain	
	Floodway	
	Deciduous Tree	
	Coniferous Tree	
	Bush	
	Brushline	
	Pavement Core	
	Over Land Flow Route	

No.	Date	Description
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWPD & Village Comments
1	1/22/2019	Per Village Comments

**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  
TITLE SHEET  
INDUSTRIAL LANE  
IMPROVEMENT PLANS  
WHEELING, ILLINOIS**

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **EC1.0**  
EC3



Know what's below.  
Call before you dig.

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

**Stormwater Pollution Prevention Plan**

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10AQ02, 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 in Village Wheeling, IL. (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:

Roadway Widening and Installation of utilities including storm sewer, sanitary sewer, and water main.

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:

Generally, removals and clearing and grubbing will occur. Then the underground utilities will be constructed. Finally, roadway ribbon/sidewalk and roadway widening will be constructed, followed by final grading and restoration. Refer to Industrial Lane Improvement Plans for additional information.

D. The total area of the construction site is estimated to be approximately ± 2.99 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 0.70.

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

Please refer to the geotechnical report.

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 Wheeling Drainage Ditch which is Tributary to 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 (SWPPP) Plan. SWPPP 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 and inlet protection.

Describe how the Structural Practices listed above will be utilized:

See Storm Water Pollution Prevention (SWPPP) Plan. SWPPP 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

Any stockpiles shall be outside of the floodplain. 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, Latest Edition. 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 (SWPPP) Plan. SWPPP 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 manner to direct runoff to storm structures with 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. Required inspections and reports shall be performed by Contractor as part of the Contract.

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 1/2 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 EPA Field Operations Section office by email at: epa.swrnoncomp@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 of all 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.

**MWRD Erosion and Sediment Control Notes:**

Note: Refer to Sheet 2.0 of Industrial Lane Improvement Plans for additional MWRD Erosion and Sediment Control Notes

**Owner/Contractor Certification Statement**

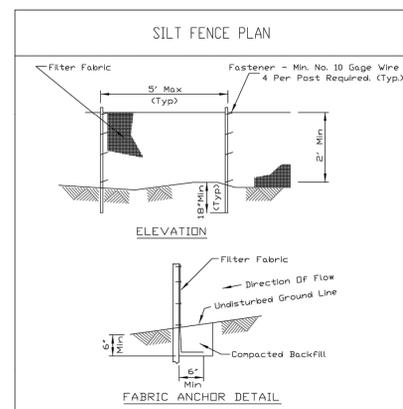
This certification statement is part of the Storm Water Pollution Prevention Plan for Industrial Lane Improvements project, in accordance with General NPDES Permit No. ILR10AQ02 issued by the Illinois Environmental Protection Agency.

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.

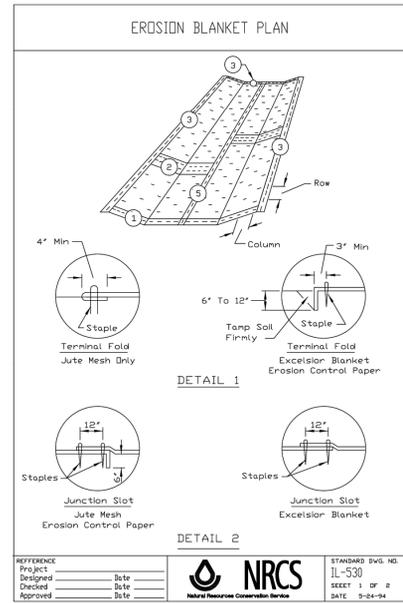
In addition, I have read and understand all of the information and requirements stated in the Storm Water Pollution Prevention Plan for the above mentioned project. I have provided all documentation required to be in compliance with the ILR10 and Storm Water Pollution Prevention Plan and will provide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



**NOTES:**  
 1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.  
 2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class I with equivalent opening size of at least 30 for nonwoven and 40 for woven.  
 3. Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 3.0 sq. in.  
 4. Silt fence shall meet all applicable sections of AASHTO Spec. 289-00.

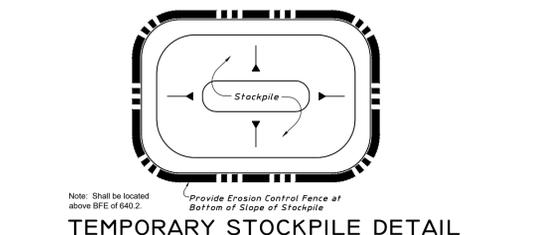


**REFERENCE:** Project: \_\_\_\_\_ Date: \_\_\_\_\_  
 Designed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Checked: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved: \_\_\_\_\_ Date: \_\_\_\_\_

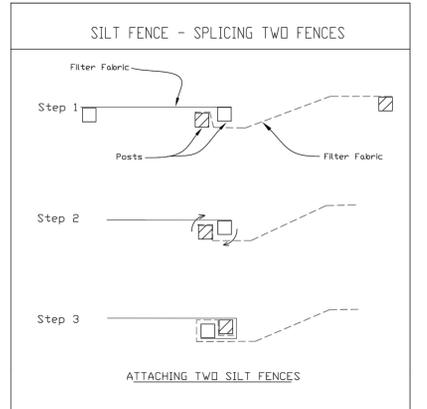
Stabilization Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Permanent Seeding			A			*	*		*			
Dormant Seeding	B										B	
Temporary Seeding			C			D						
Sodding			E**									
Mulching	F											

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

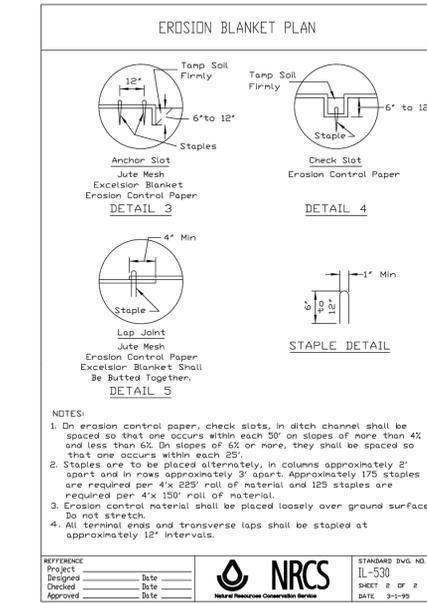
\* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER  
 \*\* IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING



Note: Shall be located above BFE of 640.2.



**NOTES:**  
 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: \_\_\_\_\_ Date: \_\_\_\_\_  
 Designed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Checked: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved: \_\_\_\_\_ Date: \_\_\_\_\_

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

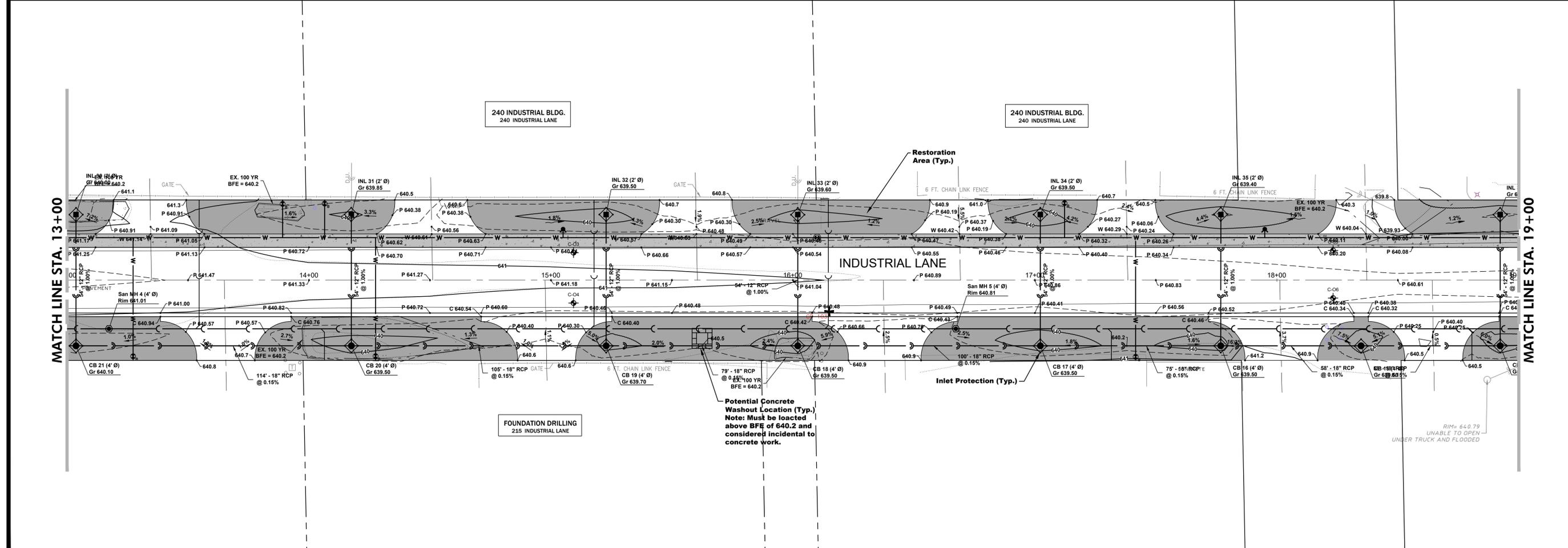
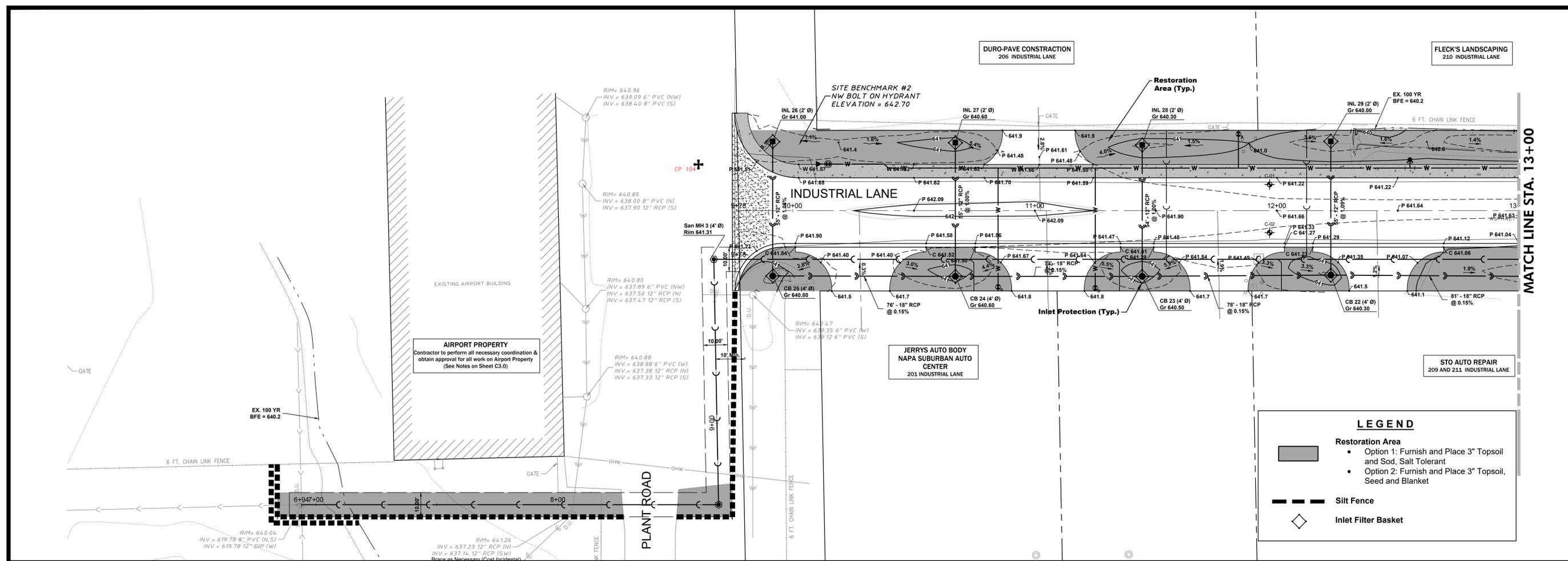
\* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER  
 \*\* IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING



Note: Shall be located above BFE of 640.2.

**HAEGER ENGINEERING**  
 consulting engineers • land surveyors  
 100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
 Illinois Professional Design Firm License No. 184-003142  
 www.haegerengineering.com

Project Manager: KAS  
 Engineer: KAS  
 Date: 10/01/2018  
 Project No.: 17-203  
 Sheet: EC2.0 of EC3



**HAEGER ENGINEERING**  
consulting engineers • land surveyors

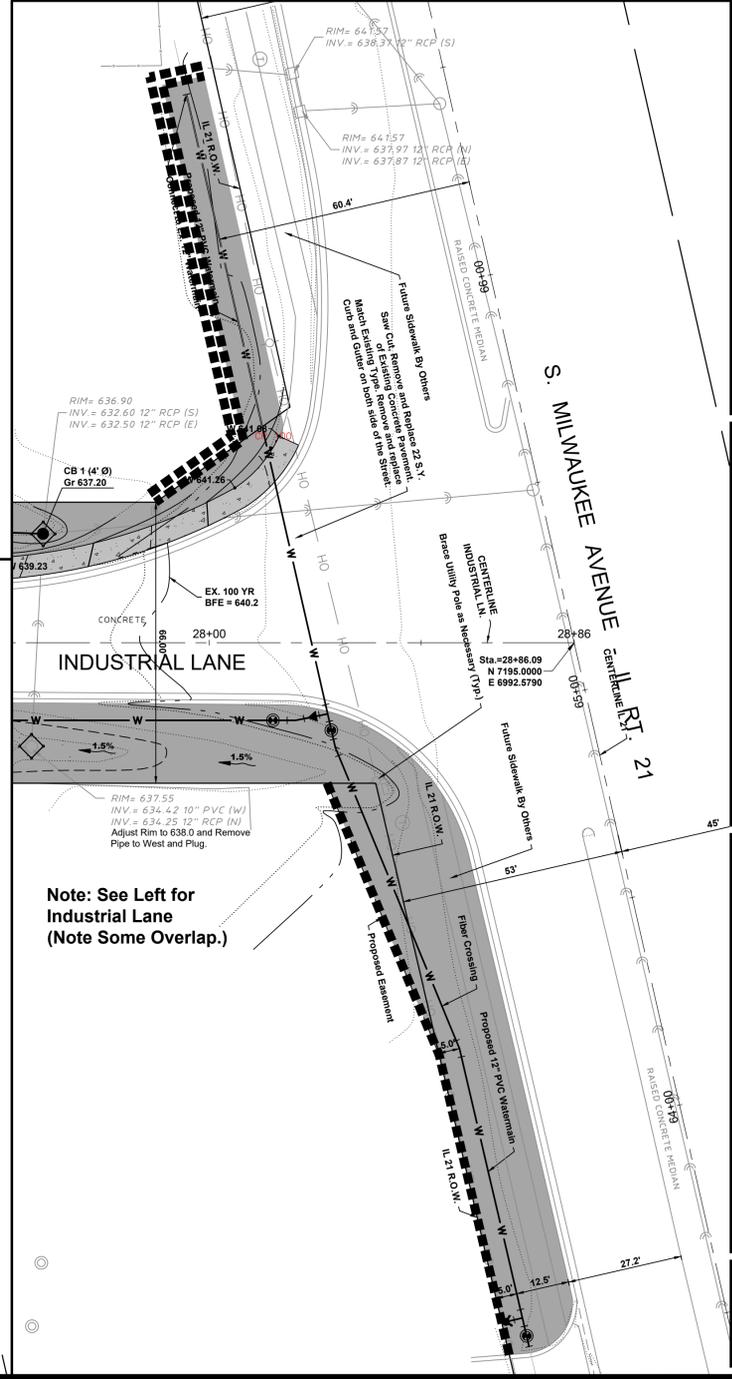
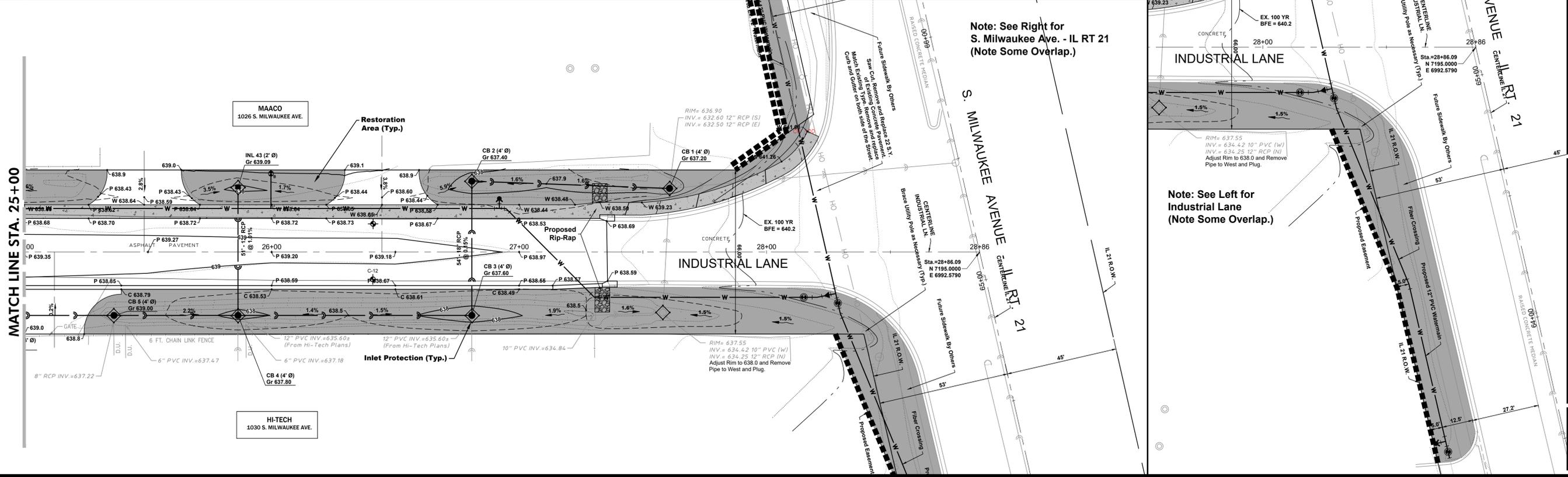
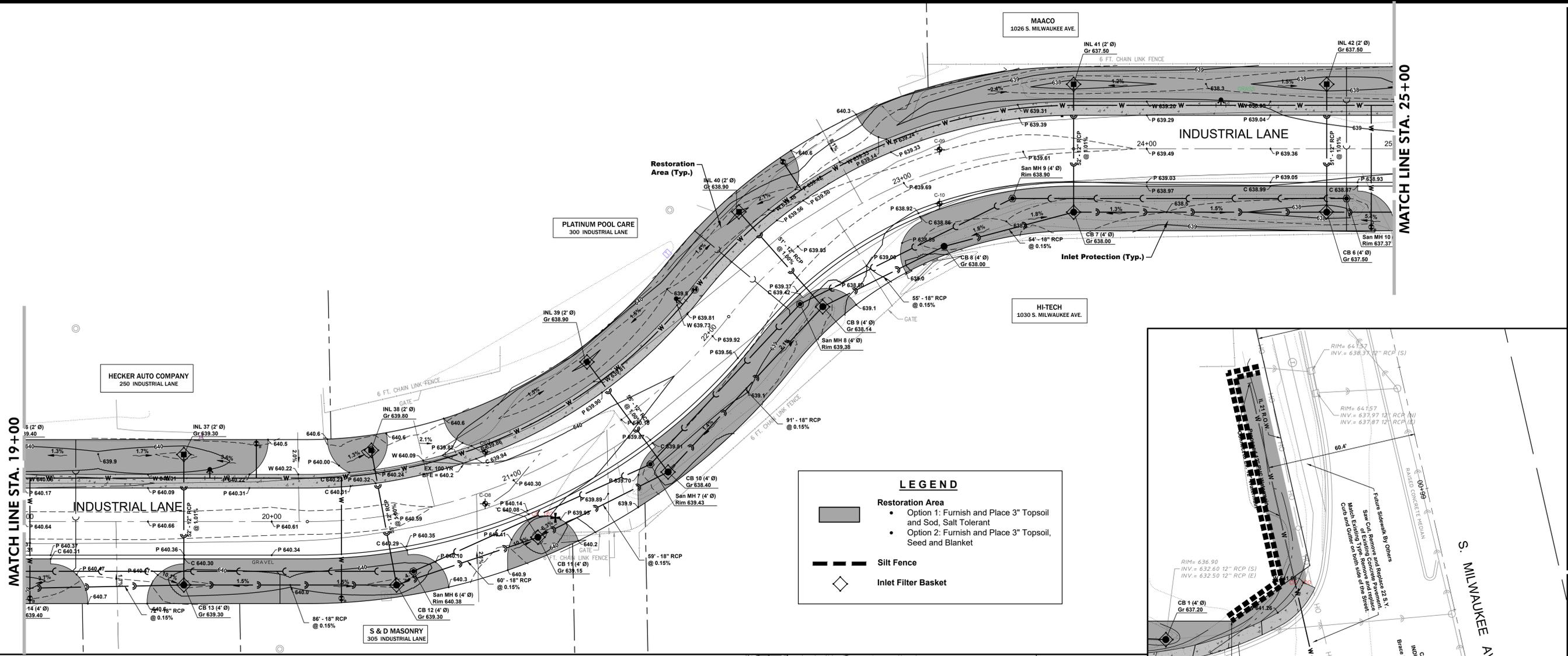
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6498  
Illinois Professional Design Firm License No. 184-003152  
www.haegerengineering.com

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**

**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **EC3.0** EC3

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWPD Village Comments
1	1/25/2019	Per Village Comments



**HAEGER ENGINEERING**  
consulting engineers • land surveyors

100 East Stone Parkway, Schaumburg, IL 60173 • Tel: 847.394.6000 Fax: 847.394.6408  
Illinois Professional Design Firm License No. 184-003152 www.haegerengineering.com

No.	Date	Revision
3	5/6/2019	Issued For Construction
2	3/18/2019	Per MWBD Village Comments
1	1/25/2019	Per Village Comments

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**  
**INDUSTRIAL LANE IMPROVEMENT PLANS**  
WHEELING, ILLINOIS

Project Manager: KAS  
Engineer: KAS  
Date: 10/01/2018  
Project No. 17-203  
Sheet **EC3.1** of EC3