

DATE SUBMITTED:		_
FEE PAID:	BZC #:	_
BZC MTG. DATE:		_
TRUSTEE MTG. DATE:		_
NOTICES MAILED:		_
DATE PUBLISHED:		_

APPLICATION FOR PRELIMINARY & FINAL DEVELOPMENT PLAN (One Step Process)

Name of Owner: HILL FAMILY ENTERPRISES LTD
Mailing Address: PO BOX 302 SUNBURY, OH 43074-9751
Email Address: <u>pete@hillsblacktop.com</u> Phone Number: 614.419.1994
Developer: RISE Galena LLC
Developer Address: 5645 Castle Creek Pkwy Dr. N. Indianapolis, IN 46250
Developer Email Address: joel@rylinnengineering.com
Developer Phone Number: (317) 983-1310
Address of Property: 320 S Three B's & K Rd, Galena, OH 43021
Parcel #(s): <u>Listed in "Proposed Plan" below.</u> Acreage: <u>10.28</u> Present Zoning: <u>NCD</u>
Subdivision Name: N/A Requested Zoning: PCD
Proposed Plan:
RISE Commercial District seeks approval for a multi-building co-warehousing
development in Berlin Township, providing secure, flexible workspace for small
businesses. The site will feature a gated facility with 24/7 access, shared office
and warehouse amenities, a full-time on-site manager, and minimal traffic impact.
Parcels: 418-140-01-062-000, 418-140-01-063-000, 418-140-01-064-000, 418-140-01-064-004,
and 2.5 acres of 418-140-01-064-002
The undersigned certifies that this application and the attachments thereto contain all information required by the Zoning Resolution and that all information contained herein is true and accurate and is submitted to induce the amendment of the zoning map. Applicant agrees to be bound by the provisions of the Zoning Resolution of Berlin Township, Delaware County, Ohio. Revised 2/3/2025
Date: Agent/Applicant Signature:
Agent/Applicant Address: 5645 Castle Creek Pkwy Dr. N, Indianapolis, IN 46250
Phone: <u>(317)</u> 983-1310 Fax:
Email address:joel@rylinnengineering.com
Date: Zoning Inspector Signature:

ONSITE CIVIL ENGINEERING INFRASTRUCTURE PLANS **FOR**

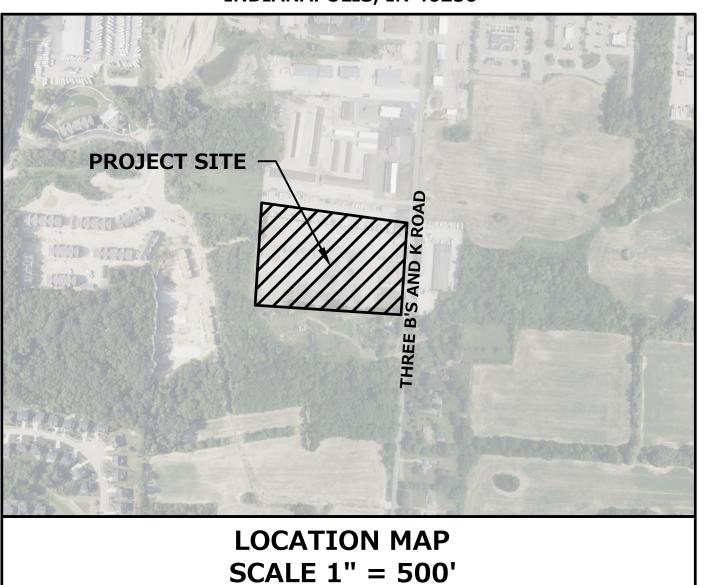
RISE COMMERCIAL DISTRICT

GALENA, OH

PLANS PREPARED FOR



5645 CASTLE CREEK PARKWAY DR. N **INDIANAPOLIS, IN 46250**



SHEET INDEX

- C-1 COVER SHEET
- C-2 GENERAL NOTES
- C-3 EXISTING CONDITIONS & DEMOLITION PLAN
- C-4 SITE DIMENSIONAL & PAVING PLAN
- C-5 GRADING PLAN
- C-6 STORM SEWER PLAN
- C-7 SANITARY SEWER PLAN
- C-8 WATER MAIN PLAN
- C-9 DRY UTILITY CONCEPT
- C-10 SITE STABLIZATION PLAN C-11 - C-17 CONSTRUCTION DETAILS
- L-1 L-6 LANDSCAPING PLANS -SEPARATE CIVIL PLAN SET-
- C-1 C-3 PUBLIC SANITARY SEWER EXTENSION PLANS

PROJECT TEAM CONTACTS

CIVIL ENGINEER:

PINNACLE ENGINEERING GROUP 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186

Matt.Carey@pinnacle-engr.com

SURVEYOR

ANDREW G. PLANET **ROLLING & HOCEVAR, INC.** MEDINA, OH 44256 (330) 723-1828

5645 CASTLE CREEK PARKWAY DR. N INDIANAPOLIS, IN 46250 (317) 527-4995 joel@risecommercialdistrict.com

RISE COMMERCIAL DISTRICT

GENERAL NOTES

- THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO SET FORTH PERFORMANCE AND CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK. ALL WORKS CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATIONS, JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., AND THE OWNER'S DIRECTION
- A GEOTECHNICAL REPORT FOR THIS SITE HAS NOT YET BEEN PREPARED. THE DATA ON SUB-SURFACE SOIL CONDITIONS IS NOT INTENDED AS A REPRESENTATION OR WARRANTY OF THE CONTINUITY OF SUCH CONDITIONS BETWEEN BORINGS OR INDICATED SAMPLING LOCATIONS. IT SHALL BE EXPRESSLY UNDERSTOOD THAT OWNER WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN THERE FROM BY THE CONTRACTOR. DATA IS MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID PROPOSAL.
- 4. THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES LEARNED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS

PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON ITS OWN COMPUTATIONS AND IN NO SUCH INSTANCE RELY ON THE

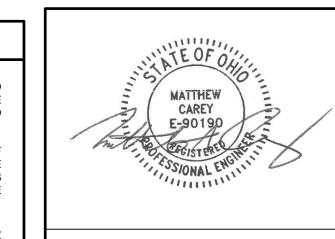
BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN

- QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL
- PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS.

- 8. COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED; AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT
- CONTRACT. ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE. OR CONTINUE. UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE
- 10. THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY
- 11. THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT. AND DIGGER'S HOTLINE IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER APPLICABLE STANDARDS.
- ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE
- 13. CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER

12. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE,

- 14. THE CONTRACTOR SHALL INDEMNIFY THE MUNICIPALITY, TOWNSHIP ENGINEER, TOWNSHIP BUILDING INSPECTOR, OWNER ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE
- 15. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING MUST BE HELD AT THE TOWNSHIP OFFICES.



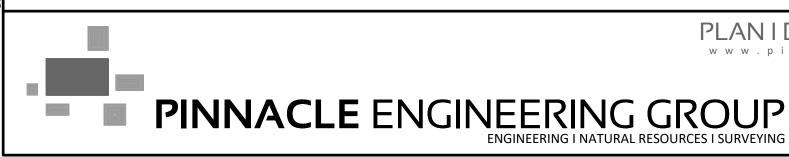


800-362-2764

ENGINEER'S LIMITATION

PINNACLE ENGINEERING GROUP, LLC AND THEIR CONSULTANTS DO NOT WARRANT OR GUARANTEE TH ACCURACY AND COMPLETENESS OF THE DELIVERABLES HEREIN BEYOND A REASONABLE DILIGENCE. IF ANY MISTAKES, OMISSIONS, OR DISCREPANCIES ARE FOUND TO EXIST WITHIN THE DELIVERABLES, THE ENGINEER SHALL BE PROMPTLY NOTIFIED PRIOR TO BID SO THAT HE MAY HAVE THE OPPORTUNITY TO TAKE WHATEVER STEPS NECESSARY TO RESOLVE THEM. FAILURE TO PROMPTLY NOTIFY THE ENGINEER OF SUCH CONDITIONS SHALL ABSOLVE THE ENGINEER FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH FAILURE ACTIONS TAKEN WITHOUT THE KNOWLEDGE AND CONSENT TO THE ENGINEER, OR IN CONTRADICTION TO THE ENGINEER'S DELIVERABLES OR RECOMMENDATIONS, SHALL BECOME THE RESPONSIBILITY NOT OF THE ENGINEER BUT OF THE PARTIES RESPONSIBLE FOR TAKING SUCH ACTION.

FURTHERMORE, PINNACLE ENGINEERING GROUP, LLC IS NOT RESPONSIBLE FOR CONSTRUCTION SAFETY OR THE MEANS AND METHODS OF CONSTRUCTION.



PLAN I DESIGN I DELIVER

20725 WATERTOWN ROAD, SUITE 100

BROOKFIELD, WI 53186

RISE COMMERCIAL **DISTRICT** GALENA, OH

COVER SHEET

REVISIONS

Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\COVER SHEET.DWG

LEGEND

SANITARY MANHOLE STORM MANHOLE

CONCRETE HEADWAL

VALVE VAULT

VALVE BOX

FIRE HYDRANT

BUFFALO BOX CLEANOUT

FORCE MAIN

STORM SEWER

WATER MAIN

LIGHTING

POWER POLE

GUY WIRE STREET SIGN

GAS MAIN TELEPHONE LINE

CONTOUR

WFTI ANDS

FLOODWAY

FLOODPLAIN

HIGH WATER LEVEL (HWL

DIVERSION SWALE

SOIL BORING

TOPSOIL PROBE

FENCE LINE, WIRE

CONCRETE SIDEWALK

CURB AND GUTTER

DEPRESSED CURB

EASEMENT LINE

PROPERTY LINE

BASE LINE

LONG CHORD OF CURVE

CURB AND GUTTER

DEGREE OF CURVE

EDGE OF PAVEMEN

FINISHED FLOOR

FINISHED GRADE

HIGH WATER LEVEL

LENGTH OF CURVE

FLOW LINE

FLOODWAY

MANHOLE

FLOODPLAIN

CATCH BASIN

CENTERLINE

DIRECTION OF SURFACE FLOW

OVERFLOW RELIEF ROUTING TREE WITH TRUNK SIZE

FENCE LINE, TEMPORARY SILT

FENCE LINE, CHAIN LINK OR IRON

FENCE LINE, WOOD OR PLASTIC

REVERSE PITCH CURB & GUTTER

ABBREVIATIONS

NATIVE SOIL INTERFACE

POINT OF VERTICAL INTERSECTION

NORMAL WATER LEVEL

POINT OF CURVATURE

POINT OF TANGENCY

RADIUS

RIGHT-OF-WAY

STORM SEWER

TOP OF BANK

TOP OF CURB

TOP OF WALK

WATER MAIN

SANITARY SEWER

TANGENCY OF CURV

TOP OF FOUNDATION

INTERSECTION ANGLE

TOP OF SIDEWALK

SPOT ELEVATION

UTILITY CROSSING

ELECTRICAL CABLE

GRANULAR TRENCH BACKFILL

ELECTRICAL TRANSFORMER

POWER POLE WITH LIGHT

SANITARY SEWER

PRECAST FLARED END SECTION

PROPOSED

GENERAL NOTES

- THE STANDARD SPECIFICATIONS LISTED ON THE COVER SHEET, THESE CONSTRUCTION PLANS. THE SPECIAL PROVISIONS, GENERAL CONDITIONS AND SUBSEQUENT DETAILS ARE ALL TO BE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS, INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE TO BE CONSIDERED A PART OF THE CONTRACT.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE INDIVIDUAL SUBCONTRACTOR SHALL VERIFY AL DIMENSIONS AND CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLANS, THEY MUST IMMEDIATELY REPORT SAME TO THE ENGINEER BEFORE DOING ANY WORK, OTHERWISE THE INDIVIDUAL SUBCONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE INDIVIDUAL SUBCONTRACTOR SHALL SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER PRIOR TO
- IN THE EVENT OF ANY DOUBT OR QUESTION ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND

SECURE SUCH INSTRUCTION, THE INDIVIDUAL SUBCONTRACTOR WILL BE CONSIDERED TO HAVE

PROCEEDED AT HIS OWN RISK AND EXPENSE.

PROCEFDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO

- ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE GUARANTEED AGAINST ALL DEFECTS IN MATERIALS AND WORKMANSHIP OF WHATEVER NATURE BY THE INDIVIDUAL SUBCONTRACTOR AND HIS SURETY FOR A PERIOD OF 24 MONTHS FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE COUNTY, OTHER APPLICABLE GOVERNMENTAL AGENCIES, AND THE OWNER.
- . BEFORE ACCEPTANCE BY THE OWNER AND FINAL PAYMENT, ALL WORK SHALL BE INSPECTED AND APPROVED BY THE OWNER OR HIS REPRESENTATIVE. FINAL PAYMENT WILL BE MADE AFTER ALL OF THE INDIVIDUAL SUBCONTRACTORS' WORK HAS $\,$ BEEN APPROVED AND ACCEPTED, AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS
- UPON AWARD OF THE CONTRACT AND WHEN REQUIRED BY THE OWNER. THE INDIVIDUAL SUBCONTRACTOR SHALL FURNISH A LABOR, MATERIAL AND PERFORMANCE BOND IN THE PENAL SUM OF 100 PERCENT OF THE CONTRACT GUARANTEEING COMPLETION OF THE WORK. THE UNDERWRITER SHALL
- 6. THE INDIVIDUAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR CONSTRUCTION ALONG OR ACROSS EXISTING STREETS OR HIGHWAYS INCLUDING THE USE AND ACCESS OF EXISTING STREETS. THE INDIVIDUAL SUBCONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS BEFORE CONSTRUCTION BEGINS. THE INDIVIDUAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STREETS OR ROADWAYS AND ASSOCIATED STRUCTURES AND SHALL MAKE REPAIRS AS NECESSARY TO THE SATISFACTION OF THE ENGINEER.
- EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, AND UTILITIES WITHIN PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS. THE INDIVIDUAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION IN THE FIELD OF THESE UTILITY LINES AND THEIR PROTECTION FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE INDIVIDUAL SUBCONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- THE INDIVIDUAL SUBCONTRACTOR SHALL REVIEW AND DETERMINE ALL IMPROVEMENTS AND SHALL VERIFY ALL QUANTITIES AS PROVIDED BY THE ENGINEER OR OWNER FOR BIDDING PURPOSES. THE INDIVIDUAL SUBCONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER. THE CONTRACT PRICE SUBMITTED BY THE INDIVIDUAL SUBCONTRACTOR SHALL BE CONSIDERED AS A LUMP SUM FOR THE COMPLETE PROJECT UNLESS THERE IS A PLAN REVISION AND/OR WRITTEN CHANGE TO THE SCOPE OF
- WHENEVER THE PERFORMANCE OF WORK IS INDICATED ON THE PLANS, AND NO ITEM IS INCLUDED IN THE CONTRACT FOR PAYMENT, THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 10. WHENEVER, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THIS LOOSE MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY BY THE RESPONSIBLE PARTY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 11. THE INDIVIDUAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNS, TRAFFIC CONTROL DEVICES, AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC DURING ALL PHASES OF CONSTRUCTION. BARRICADES AND WARNING SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH THE O.D.O.T. STANDARD SPECIFICATIONS. ADEQUATE LIGHTING SHALL BE MAINTAINED FROM DUSK TO DAWN AT ALL LOCATIONS WHERE CONSTRUCTION OPERATIONS WARRANT, OR AS DESIGNATED BY THE ENGINEER OR TOWNSHIP. ALL TRAFFIC CONTROL WORK SHALL BE DONE IN ACCORDANCE WITH THE O.D.O.T. "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
- 12. ALL PERMANENT TYPE PAVEMENTS OR OTHER PERMANENT IMPROVEMENTS WHICH ABUT THE PROPOSED IMPROVEMENT AND MUST BE REMOVED. SHALL BE SAWED FULL DEPTH. PRIOR TO REMOVAL. ALL ITEMS SO REMOVED SHALL BE REPLACED WITH SIMILAR CONSTRUCTION MATERIALS TO THEIR ORIGINAL CONDITION OR BETTER. PAYMENT FOR SAWING SHALL BE INCLUDED IN THE COST FOR REMOVAL OF EACH ITEM AND REPLACEMENT WILL BE PAID UNDER THE RESPECTIVE ITEMS IN THE CONTRACT, UNLESS OTHERWISE INDICATED.
- 3. REMOVED PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. SHALL BE DISPOSED OF BY THE INDIVIDUAL SUBCONTRACTOR AT HIS OWN EXPENSE AT LOCATIONS APPROVED BY THE OWNER. IF ONSITE DISPOSAL S NOT FEASIBLE, THE INDIVIDUAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN OFFSITE DUMP SITE AT HIS OWN EXPENSE
- 4. WHERE OVERHANGING BRANCHES INTERFERE WITH OPERATIONS OF CONSTRUCTION, SAID BRANCHES SHALL BE TRIMMED AND SEALED IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS, AND THE COST OF SAME SHALL BE INCIDENTAL TO THE CONTRACT. TREES SHALL BE REMOVED ONLY AFTER RECEIVING APPROVAL OF THE OWNER. THE OWNER SHALL DESIGNATE WHICH TREES ARE TO BE
- 15. ALL EXISTING TRAFFIC SIGNS, STREET SIGNS, ETC., WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND ARE NOT NOTED FOR REMOVAL OR DISPOSAL, SHALL BE REMOVED AND RESET BY THE LOCATIONS AS DESIGNATED BY THE ENGINEER. IF A SIGN NEEDS TO BE MOVED, NOTIFY THE PUBLIC WORKS DEPARTMENT. THIS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONA COMPENSATION SHALL BE ALLOWED. DAMAGE TO THESE ITEMS SHALL BE REPAIRED BY THE INDIVIDUAL SUBCONTRACTOR AT HIS OWN EXPENSE. ALL SIGNS NOT REQUIRED TO BE RESET SHALL BE DELIVERED TO THE TOWNSHIP AS APPROPRIATE. ALL MAIL BOXES THAT INTERFERE WITH CONSTRUCTION SHALL BE SIMILARLY RELOCATED AT NO ADDITIONAL COST.
- 16. NOTIFY THE ENGINEER OF ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS. NO FIELD TILE SHALL BE DIRECTLY OR INDIRECTLY CONNECTED TO THE PROPOSED STORM SEWER, A RECORD OF THE LOCATION OF ALL FIELD TILE OR ON-SITE DRAIN PIPE ENCOUNTERED SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE ENGINEER UPON COMPLETION OF THE PROJECT. THE COST OF THIS WORK SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- L7. DURING CONSTRUCTION OPERATIONS THE INDIVIDUAL SUBCONTRACTOR SHALL INSURE POSITIVE DRAINAGE AT THE CONCLUSION OF EACH DAY, DRAINAGE MAY BE ACHIEVED BY DITCHING, PUMPING OR ANY OTHER ACCEPTABLE METHOD. THE INDIVIDUAL SUBCONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF.
- IT SHALL BE THE RESPONSIBILITY OF THE INDIVIDUAL SUBCONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM HIS CONSTRUCTION OPERATIONS AT NO
- 19. THE INDIVIDUAL SUBCONTRACTOR SHALL COMPLY WITH AND OBSERVE THE RULES AND REGULATIONS OF O.S.H.A. AND APPROPRIATE AUTHORITIES REGARDING SAFETY PROVISIONS.
- 20. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR FOR ANY SAFETY RECAUTIONS USED BY THE INDIVIDUAL SUBCONTRACTOR. THE INDIVIDUAL SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND
- 21. ALL INDIVIDUAL SUBCONTRACTORS AND THEIR SUBCONTRACTORS OR ANY TIER SHALL INDEMNIFY THE OWNER, ENGINEER, AND ARCHITECT FROM ALL LIABILITY RESULTING FROM ANY NEGLIGENT ACT OR OMISSION WITH THEIR CONSTRUCTION, INSTALLATION, AND TESTING OF WORK ON THIS PROJECT AND SHALL NAME THEM AS ADDITIONAL INSURED ON THEIR COMMERCIAL GENERAL LIABILITY POLICIES FOR CLAIMS ARISING OUT OF THE WORK ON THIS PROJECT. A PROPER CERTIFICATE OF INSURANCE SHALL BE ISSUED PRIOR TO THE START OF CONSTRUCTION.
- 22. ELECTRIC, TELEPHONE, NATURAL GAS, AND OTHER UTILITY COMPANIES HAVE UNDERGROUND AND/OR OVERHEAD SERVICE FACILITIES IN THE VICINITY OF THE PROPOSED WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. THE CONTRACTOR SHALL CALL 811 FOR UTILITY LOCATIONS.
- 23. THE INDIVIDUAL SUBCONTRACTOR SHALL HAVE A COMPETENT SUPERINTENDENT ON THE PROJECT SITE AT ALL TIMES IRRESPECTIVE OF THE AMOUNT OF WORK SUBLET THE SUPERINTENDENT SHALL BE CAPABLE OF READING AND UNDERSTANDING THE PLANS AND SPECIFICATIONS, SHALL HAVE FULL AUTHORITY TO EXECUTE ORDERS TO EXPEDITE THE PROJECT, AND SHALL BE RESPONSIBLE FOR SCHEDULING AND HAVE CONTROL OF ALL WORK AS THE AGENT OF THE INDIVIDUAL SUBCONTRACTOR. FAILURE TO COMPLY WITH THIS PROVISION WILL RESULT IN A SUSPENSION OF WORK.
- 24. THE INDIVIDUAL SUBCONTRACTOR SHALL KEEP A SET OF "APPROVED" CONSTRUCTION PLANS ON THE JOB SITE, AND SHALL MAINTAIN (AS INDICATED HEREIN AND ELSEWHERE WITHIN THESE CONSTRUCTION NOTES, SPECIFICATIONS, AND PLANS) A LEGIBLE RECORD ON SAID PLANS OF AND FIELD TILE ENCOUNTERED, ANY MODIFICATIONS TO ALIGNMENT AND/OR TO PLANS AND SPECIFICATIONS OF PROPOSED IMPROVEMENTS, ETC. UPON COMPLETION OF THE INDIVIDUAL SUBCONTRACTORS' WORK SAID PLANS AND INFORMATION SHALL BE PROVIDED TO ENGINEER. FINAL CONTRACT PAYMENT SHALL NOT COME DUE UNTIL THIS INFORMATION IS RECEIVED BY THE ENGINEER.

EARTHWORK

- WORK UNDER THIS SECTION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
- A. CLEARING AND REMOVAL OF ALL UNDESIRABLE TREES AND OTHER VEGETATIVE GROWTH WITHIN THE CONSTRUCTION AREA. TREE REMOVAL SHALL BE AS DESIGNATED BY THE OWNER AND SHALL BE KEPT TO A MINIMUM. WHERE FEASIBLE, AND WHEN PERMITTED BY OWNER, TREES AND BRUSH REMOVED MAY BE BURIED ONSITE IN FUTURE YARD AND OPEN SPACE AREAS. IF ADEQUATE AND APPROPRIATE SPACE IS NOT AVAILABLE FOR ONSITE BURIAL, THE TREES AND BRUSH SHALL BE DISPOSED OF OFFSITE.
- STRIPPING OF TOPSOIL FROM ALL STREET, DRIVEWAY, PARKING AREA, RIGHT-OF-WAY, BUILDING PAD, AND OTHER DESIGNATED STRUCTURAL AREAS. STOCKPILING OF TOPSOIL AT LOCATIONS AS DIRECTED BY THE OWNER. TOPSOIL STOCKPILED FOR FUTURE USE SHALL BE RELATIVELY FREE FROM LARGE ROOTS, STICKS, WEEDS, BRUSH, STONES LARGER THAN ONE INCH DIAMETER, OR OTHER LITTER AND WASTE PRODUCTS INCLUDING EXTRANEOUS MATERIALS NOT CONDUCIVE TO PLANT GROWTH. TOPSOIL SHALL BE STOCKPILED IN SEQUENCE TO ELIMINATE ANY REHANDLING OR DOUBLE MOVEMENTS BY THE CONTRACTOR. FAILURE TO PROPERLY SEQUENCE THE STOCKPILING OPERATIONS SHALL NOT CONSTITUTE A CLAIM FOR ADDITIONAL COMPENSATION. NO MATERIAL SHALL BE STOCKPILED IN FRONT YARDS,
- EASEMENTS, OR IN THE RIGHT-OF-WAY. REMOVING UNSUITABLE MATERIALS AS SPECIFIED FROM ROADWAY, DRIVEWAY/PARKING, BUILDING PAD, AND OTHER DESIGNATED AREAS.
- E. DEMOLITION AND REMOVAL OF EXISTING PAVEMENTS INCLUDING OFFSITE DISPOSAL OF SAME, AT A DUMP SITE AS SELECTED BY THE CONTRACTOR. ONSITE DISPOSAL MAY BE ALLOWED IF

OVERLAND DRAINAGE SWALES (FLOOD ROUTING AREAS), PROPOSED UTILITY LOCATIONS, UTILITY

APPROVED BY THE OWNER. F. CLAY CUT AND CLAY FILL WITH COMPACTION WITHIN ROADWAY, DRIVEWAY/PARKING, BUILDING

G. EXCAVATION AND GRADING OF THE OPEN SPACE AND/OR YARD AREAS PER PLAN INCLUDING

PAD, AND OTHER DESIGNATED AREAS.

- DESIGNATED DETENTION BASIN GRADING, CONSTRUCTION OF BERMS, ETC. H. PLACEMENT AND COMPACTION OF CLAY TO THE DESIGN SUBGRADE ELEVATIONS AS REQUIRED BY THE STANDARDS AND DETAILS ON THE CONSTRUCTION PLANS. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE ELEVATIONS AND THAT PAVEMENT AND/OR TOPSOIL REPLACEMENT THICKNESS MUST BE SUBTRACTED TO
- DETERMINE SUBGRADE ELEVATIONS. PLACEMENT AND COMPACTION OF NON-STRUCTURAL FILLS. IF REQUIRED, REMOVAL FROM SITE AND DISPOSAL OF ANY EXCESS OR UNSUITABLE MATERIAL
- UPON COMPLETION OF MASS GRADING. K. MOVEMENT AND COMPACTION OF SPOIL MATERIAL FROM THE CONSTRUCTION OF UNDERGROUND
- UTILITIES. L. BACKFILLING OF CURBS AND/OR PAVEMENT AND SIDEWALK AFTER INSTALLATION OF SAME IN
- ACCORDANCE WITH THE CONTRACT DOCUMENTS. M. FINAL SHAPING AND TRIMMING TO THE LINES, GRADES, AND CROSS SECTIONS SHOWN IN THESE PLANS; AND TOPSOIL PLACEMENT TO DESIGN FINISHED GRADE ELEVATIONS AT LOCATIONS DESIGNATED IN THE CONTRACT DOCUMENTS.
- N. SOIL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE SOIL EROSION CONTROL SPECIFICATIONS INCLUDED WITHIN THE CONTRACT DOCUMENTS
- THE QUANTITIES GIVEN IN THE ENGINEER'S SUMMARY FOR EARTHWORK ARE INTENDED AS A GUIDE FOR THE CONTRACTOR IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRISE THEMSELVES OF ALL SITE CONDITIONS. THE CONTRACT PRICE SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS LUMP SUM FOR THE COMPLETE PROJECT. NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED UNLESS ORDERED IN WRITING BY THE OWNER
- PRIOR TO ONSET OF MASS GRADING OPERATIONS, THE EARTHWORK CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE SOIL EROSION CONTROL SPECIFICATIONS. THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF FILTER FENCING, ETC. TO PROTECT ADJACENT PROPERTY SHALL OCCUR BEFORE MASS GRADING BEGINS, AND IN ACCORDANCE WITH THE SOIL EROSION CONTROL CONSTRUCTION SCHEDULE.
- PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, A TREE PROTECTION FENCE SHALL BE ERECTED AROUND ANY TREE DESIGNATED ON THE PLANS TO BE PRESERVED. SAID FENCE SHALL BE PLACED IN A CIRCLE CENTERED AROUND THE TREE. THE DIAMETER OF WHICH SHALL BE SUCH THAT THE ENTIRE DRIP ZONE (EXTENT OF FURTHEST EXTENDING BRANCHES) SHALL BE WITHIN THE FENCE LIMITS. THE EXISTING GRADE WITHIN THE FENCED AREA SHALL NOT BE DISTURBED
- THE GRADING OPERATIONS ARE TO BE CLOSELY SUPERVISED AND INSPECTED, PARTICULARLY DURING THE REMOVAL OF UNSUITABLE MATERIAL AND THE CONSTRUCTION OF EMBANKMENTS OR BUILDING PADS, BY THE SOILS ENGINEER OR HIS REPRESENTATIVE. ALL TESTING, INSPECTION AND SUPERVISION OF SOIL OUALITY, UNSUITABLE REMOVAL, REPLACEMENT, MODIFICATION AND OTHER SOILS RELATED OPERATIONS SHALL BE ENTIRELY THE RESPONSIBILITY OF THE SOILS ENGINEER.
- A QUALIFIED SOILS ENGINEER SHALL REGULARLY INSPECT THE EXCAVATION OF ANY OPEN WATER AREAS TO INSURE THAT THEY WILL BE CAPABLE OF MAINTAINING DESIGNED NORMAL WATER LEVELS. GRAVEL OR SAND SEAMS OR OTHER CONDITIONS WHICH MAY BE ENCOUNTERED, AND WHICH MIGHT TEND TO DE-WATER THESE AREAS, SHALL BE REMEDIED AS DIRECTED BY THE SOILS ENGINEER (FOR EXAMPLE, LINING, CLAY BLANKET, BENTONITE, ETC.)
- THE GRADING AND CONSTRUCTION OF THE SITE IMPROVEMENTS SHALL NOT CAUSE PONDING OF STORMWATER. ALL AREAS ADJACENT TO THESE IMPROVEMENTS SHALL BE GRADED TO ALLOW
- THE PROPOSED GRADING ELEVATIONS SHOWN ON THE PLANS ARE FINISHED GRADE. TOPSOIL OF THE THICKNESS SHOWN IN THE STANDARDS AND DETAILS ON THE CONSTRUCTION PLANS IS TO BE PLACED BEFORE FINISHED GRADE ELEVATIONS ARE ACHIEVED.
- THE SELECTED STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LEVEL UNIFORM LAYERS SO THAT THE COMPACTED THICKNESS IS APPROXIMATELY SIX INCHES: IF COMPACTION EQUIPMENT DEMONSTRATES THE ABILITY TO COMPACT GREATER THICKNESS, THEN A GREATER THICKNESS MAY BE ALLOWED WITH APPROVAL FROM SOILS ENGINEER. EACH LAYER SHALL BE THOROUGHLY MIXED DURING SPREADING TO
-). EMBANKMENT MATERIAL WITHIN ROADWAY, DRIVEWAY, PARKING AREAS, AND OTHER STRUCTURAL CLAY FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM SPECIFICATION D-1557 (MODIFIED PROCTOR METHOD), OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOILS ENGINEER. EMBÂNKMENT MATERIAL FOR BUILDING PADS SHALL BE COMPACTED TO A MINIMUM OF NINETY FIVE PERCENT (95%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM DESIGNATION D-1557 (MODIFIED PROCTO) METHOD), OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOILS
- I.EMBANKMENT MATERIAL (RANDOM FILL) WITHIN NON-STRUCTURAL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF EIGHTY FIVE PERCENT (85%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM SPECIFICATION D-1557 (MODIFIED PROCTOR METHOD), OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOILS ENGINEER.
- 2. THE SURFACE VEGETATION, TOPSOIL, AND ANY OBVIOUSLY SOFT UNDERLYING SOIL SHOULD BE STRIPPED FROM ALL AREAS TO RECEIVE CLAY FILL. IF THE UNDERLYING SUBGRADE SOILS RUT DEEPER HAN ONE INCH UNDER THE CONSTRUCTION EQUIPMENT OR IF THE MOISTURE CONTENT EXCEEDS THAT NEEDED FOR PROPER COMPACTION, THE SOIL SHALL BE SCARIFIED, DRIED AND RECOMPACTED TO THE REQUIRED SPECIFICATIONS (SEE O.D.O.T. SPECIFICATIONS).
- 13. ALL PAVEMENT SUBGRADE SHALL HAVE A MINIMUM IBR OF 3.0 AS DETERMINED BY THE SOILS ENGINEER. THE PROPOSED PAVEMENT DESIGN HAS BEEN BASED ON A MINIMUM IBR OF 3.0; THEREFORE, IF AREAS OF PAVEMENT SUBGRADE ARE ENCOUNTERED WHICH DO NOT PROVIDE A MINIMUM IBR OF 3.0, SUBGRADE REPLACEMENT OR PAVEMENT DESIGN REVISIONS SHALL BE PROVIDED WHICH ARE ADEQUATE TO OBTAIN EQUIVALENT PAVEMENT STRENGTH, AS DETERMINED BY THE SOILS ENGINEER AND THE ENGINEER.
- 14. PRIOR TO UTILITY CONSTRUCTION, PROPOSED PAVEMENT AREAS, BUILDING PADS, DRIVEWAYS AND SIDEWALKS, AND YARD/OPEN SPACE AREAS SHALL BE ROUGH EXCAVATED OR FILLED TO PLUS OR MINUS ONE FOOT OF DESIGN SUBGRADE ELEVATIONS BY THE CONTRACTOR
- COMPLETED GRADING FOR PROPOSED BUILDING PADS, AS WELL AS PROPOSED SUBGRADE AREAS FOR PAVEMENT. DRIVEWAYS AND SIDEWALKS, AND YARD/OPEN SPACE AREAS SHALL BE WITHIN A TOLERANCE OF PLUS OR MINUS 0.1 FOOT OF DESIGN SUBGRADE ELEVATIONS.
- 6. THE SUBGRADE FOR PROPOSED STREET AND PAVEMENT AREAS SHALL BE PROOF-ROLLED BY THE CONTRACTOR AND ANY UNSTABLE AREAS ENCOUNTERED SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE SOILS ENGINEER.
- 7. UPON COMPLETION OF THE SURFACE IMPROVEMENTS, AND EXCEPT WHERE OTHERWISE NOTED, THE EXCAVATION CONTRACTOR SHALL RESPREAD A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL DESIGNATED OPEN SPACE, PARKWAY, LANDSCAPE, AND OTHER NON-STRUCTURAL AREAS PER PLAN SAID DESIGNATED AREAS TO BE RESPREAD BY THE EXCAVATION CONTRACTOR SHALL BE AS INDICATED WITHIN THE CONTRACT DOCUMENTS. TOPSOIL SHALL BE RESPREAD ON THE REMAINING AREAS BY THE LANDSCAPE CONTRACTOR.
- 18. RIPRAP MATERIAL TO BE PROVIDED IN CONJUNCTION WITH THE EARTHWORK IMPROVEMENTS SHALL
- 19. SOIL BORING REPORTS, AVAILABLE AT THE OFFICE OF THE ENGINEER AND THE OWNER, ARE SOLELY FOR THE INFORMATION AND GUIDANCE OF THE CONTRACTORS. THE OWNER AND ENGINEER MAKE NO REPRESENTATION OR WARRANTY REGARDING THE INFORMATION CONTAINED IN THE BORING LOGS HE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATIONS AND SHALL PLAN HIS WORK ACCORDINGL` ARRANGEMENTS TO ENTER THE PROPERTY DURING THE BIDDING PHASE MAY BE MADE UPON REQUEST OF THE OWNER. THERE WILL BE NO ADDITIONAL PAYMENT FOR EXPENSES INCURRED BY THE CONTRACTOR RESULTING FROM ADVERSE SOIL OR GROUND WATER CONDITIONS.
- 20. IF SHOWN ON THE PLANS, OPEN AREAS TO BE SEEDED SHALL BE SEEDED IN ACCORDANCE WITH THE SOIL EROSION CONTROL SPECIFICATIONS AND FINAL LANDSCAPE PLAN.
- 1. IT SHALL BE THE RESPONSIBILITY OF THE EXCAVATION CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM THEIR CONSTRUCTION OPERATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.

PREPARATION AND POUR.

22. SOILS ENGINEER SHALL BE ON SITE DURING ALL EARTHWORK OPERATIONS, PAVING, AND CONCRETE

PLAN I DESIGN I DELIVER

www.pinnacle-engr.com

UNDERGROUND UTILITIES

- WORK UNDER THIS SECTION SHALL INCLUDE TRENCHING, AUGERING AND INSTALLATION OF PIPE CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION, AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS. FITTINGS AND ACCESSORIES NECESSARY TO COMPLETE THE WORK MAY NOT BE SPECIFIED BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE
- ALL SEWER AND WATER MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN OHIO AND CONSTRUCTION DETAILS AND ORDINANCES OF THE MUNICIPALITY.
- ROUGH GRADING TO WITHIN ONE FOOT OF FINISHED SUBGRADE SHALL BE COMPLETED BY THE EARTHWORK CONTRACTOR PRIOR TO COMMENCEMENT OF UNDERGROUND UTILITY INSTALLATION.
- 4. ALL UTILITY TRENCHES BENEATH PROPOSED OR EXISTING UTILITIES, PROPOSED OR EXISTING PAVEMENT, EXISTING DRIVEWAYS AND SIDEWALKS, PROPOSED DRIVEWAYS AND SIDEWALKS WHERE DESIGNATED BY THE OWNER AND AT A 1:1 SLOPE ON EITHER SIDE OF SAME, AND/OR WHEREVER ELSE SHOWN ON THE CONSTRUCTION PLAN SHALL BE BACKFILLED WITH SELECT GRANULAR IN ACCORDANCE WITH THE CONSTRUCTION STANDARDS.
- "BAND-SEAL" OR SIMILAR FLEXIBLE TYPE COUPLINGS SHALL BE USED WHEN CONNECTING SEWER PIPES OF DISSIMILAR MATERIALS. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING

SIMILAR) AND PROPER INSTALLATION OF HUB-WYE SADDLE OR HUB-TEE SADDLE.

- METHODS SHALL BE USED: A. CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SHEWER-TAP" MACHINE OR
- REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION. WITH A 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.
- 6. ALL FLOOR DRAINS AND FLOOR DRAIN SUMP PUMPS SHALL DISCHARGE INTO THE SANITARY SEWER. ALL DOWNSPOUTS, FOOTING DRAINS AND SUBSURFACE STORMWATERS SHALL DISCHARGE INTO THE STORM SEWER OR ONTO THE GROUND BUT NOT INTO THE SANITARY
- SANITARY SEWERS SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS UNLESS SPECIFIED OTHERWISE ON THE PLANS: A. POLYVINYL CHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) CONFORMING TO ASTM DESIGNATION D-3034 FOR SANITARY SEWERS OF 15 INCH DIAMETER OR LESS, AND CONFORMING TO ASTM DESIGNATION F-679 FOR PIPE OF 18 INCH to 21 INCH DIAMETER,

WITH AN SDR OF 26, WITH ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM

- DESIGNATION D-3212. THE GASKET SHALL COMPLY WITH ASTM F-477. B. WATER MAIN QUALITY C-900 PRESSURE PIPE IN ACCORDANCE WITH AWWA C900 FOR SIZES 4 INCH TO 12 INCH DIAMETER OR AWWA C905 FOR SIZES 14 INCH TO 48 INCH DIAMETER. PVC PIPE JOINTS SHALL BE FLEXIBLE ELASTOMERIC SEALS PER ASTM D-3139 AND F-477.
- 8. ALL SANITARY SEWER MANHOLES SHALL HAVE ECCENTRIC CONES, CONE OPENINGS SHALL BE CENTERED PARALLEL TO THE MAINLINE FLOW. ALL STRUCTURE SECTIONS AND ADJUSTING RINGS SHALL BE SECURELY SEALED TO EACH OTHER OR TO THE CONE SECTION OR TOP BARREL SECTION OF THE MANHOLE USING RESILIENT, FLEXIBLE, NON-HARDENING, PREFORMED, BITUMINOUS MASTIC (RAM-NEK, OR APPROVED EQUAL). THIS MASTIC SHALL BE APPLIED IN SUCH A MANNER THAT NO SURFACE WATER OR GROUND WATER INFLOW CAN ENTER THE MANHOLE THROUGH GAPS BETWEEN BARREL SECTIONS OR CONE SECTIONS AND ADJUSTING RINGS. SANITARY SEWER MANHOLES SHALL BE 4 FOOT DIAMETER PRECAST STRUCTURES, WITH APPROPRIATE FRAME AND LIDS (SEE CONSTRUCTION STANDARDS SHEET). ALL SANITARY SEWER MANHOLES SHALL INCORPORATE THE USE OF EXTERNAL CHIMNEY SEALS (SEE CONSTRUCTION STANDARDS).
- . ALL SANITARY SEWERS, STORM SEWERS, AND SEWER SERVICES IN SEPARATE SEWER AREAS SHALL BE INSTALLED ON GRANULAR CRUSHED STONE BEDDING CLASS IA, (O.D.O.T. GRADATION CA-11), CONFORMING TO ASTM D-2321, WITH A MINIMUM THICKNESS EQUAL TO ONE FOURTH OF THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN 4 INCHES NOR MORE THAN 8 INCHES. BEDDING SHALL EXTEND TO THE SPRING LINE OF THE PIPE IN ALL CASES (UNLESS INDICATED OTHERWISE ON THE CONSTRUCTION DETAILS). FOR PVC SANITARY SEWER, THE BEDDING SHALL EXTEND TO 1 FOOT ABOVE THE TOP OF THE PIPE. BEDDING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-33 FOR SOUNDNESS AND ASTM C-67 FOR GRADATION. COST FOR BEDDING SHALL BE MERGED WITH THE UNIT PRICE BID FOR THE SEWER, WATER MAIN, ETC. SEE MWRD GENERAL NOTE 6 FOR SANITARY AND STORM BEDDING REQUIREMENTS IN COMBINED SEWER AREAS.
- 10. ALL SANITARY SERVICE CONNECTIONS TO MAINLINE SEWER SHALL BE MADE WITH PRECAST WYES OR TEES MANUFACTURED SPECIFICALLY FOR THAT PURPOSE. SANITARY SEWER SERVICE MATERIAL TO BE SAME AS MAINLINE SEWER UNLESS SPECIFICALLY INDICATED OTHERWISE.
- 1. SANITARY SERVICES SHALL BE LAID TO A MINIMUM GRADE OF 1.00 PERCENT. THE END OF EACH SERVICE SHALL BE SEALED WITH A MANUFACTURER'S WATERTIGHT PLUG. SANITARY SERVICE STUBS SHALL BE MARKED IN ACCORDANCE WITH THESE CONSTRUCTION NOTES.

A. REINFORCED CONCRETE CULVERT PIPE OF THE CLASS LISTED ON THE PLAN, CONFORMING TO

- 12. STORM SEWERS SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS UNLESS SPECIFIED OTHERWISE ON THE PLANS:
 - ASTM DESIGNATION C-76. FOR 10" DIAMETER PIPE CLASS III, THE PIPE MAY CONFORM TO ASTM DESIGNATION C-14. JOINTS FOR STORM SEWER SHALL TYPICALLY BE A TROWEL APPLIED" BITUMINOUS MASTIC COMPOUND IN ACCORDANCE WITH ASTM DESIGNATION C-76 (OR C-14 AS MAY BE APPLICABLE). EXCEPT WHERE DESIGNATED OTHERWISE ON THE PLANS AT LOCATIONS WHERE THE STORM SEWER CROSSES WATERMAINS AN "O" RING JOINT IN ACCORDANCE WITH ASTM C-443 SHALL BE USED.
- B. POLYVINYL CHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) ASTM D-2241, 160 PSI PRESSURE PIPE, SDR 26, PUSH ON BELL AND SPIGOT TYPE WITH RUBBER RING SEAL GASKET ASTM
- C. DUCTILE IRON PIPE CLASS 52 CONFORMING TO AWWA C151 WITH JOINTS CONFORMING TO 13. STORM SEWER MANHOLES SHALL BE PRECAST STRUCTURES, WITH THE DIAMETER DEPENDENT ON
- THE PIPE SIZE AND WITH APPROPRIATE FRAME AND LIDS (SEE CONSTRUCTION STANDARDS). WHERE NOTED ON THE PLANS OR CONSTRUCTION STANDARDS, MANHOLES SHALL INCORPORATE

14. WATER MAIN SHALL BE DUCTILE IRON PIPE, CLASS 52 CONFORMING TO ANSI A-21.51 OR AWWA

- C-151. RUBBER-GASKET JOINTS SHALL CONFORM TO ANSI A-21.11 OR AWWA C-111. MIN. COVER FROM FINISHED GRADE TO TOP OF WATER MAIN SHALL BE 5.5'. WATERMAIN SHALL BE CEMENT LINED IN CONFORMANCE WITH ANSI A21.4 OR AWWA C-104
- 15. WATER MAIN FITTINGS (BENDS, ELBOWS, TEES, INCREASES, REDUCERS, ETC.) MAY OR MAY NOT BE SPECIFICALLY REFERENCED ON THE CONSTRUCTION PLANS: HOWEVER, THEY ARE TO BE CONSIDERED AS INCIDENTAL AND INCLUDED IN THE LINEAL FOOTAGE COST OF THE WATER MAIN.
- 16. UNLESS NOTED OTHERWISE, GATE VALVES IN ACCORDANCE WITH TOWNSHIP STANDARDS SHALL BE USED WHEREVER VALVES ARE CALLED FOR. VALVES SHALL BE IRON BODY, BRONZE MOUNTED, PARALLEL RESILIENT SEAT VALVES PER AWWA C-509. ALL VALVES SHALL BE RATED FOR 300 PSI TEST PRESSURE AND 200 PSI WORKING PRESSURE.
- 17. VALVE VAULTS SHALL BE USED AT LOCATIONS SHOWN ON THE PLANS. VAULTS SHALL BE PRECAST CONCRETE STRUCTURES, WITH APPROPRIATE FRAME AND LIDS (SEE CONSTRUCTION STANDARDS
- 18. HYDRANTS SHALL BE OF THE MANUFACTURE AND EQUIPPED WITH AUXILIARY VALVES AND VALVE BOXES IN ACCORDANCE WITH THE MUNICIPALITY'S STANDARD. EACH HYDRANT SHALL BE EQUIPPED WITH TWO 2-1/2 INCH HOSE NOZZLE AND ONE 4-1/2 INCH PUMPER PORT. HOSE READS SHALL BE THE STANDARD OF THE MUNICIPALITY. ALL HYDRANTS SHALL OPEN LEFT (COUNTER-CLOCKWISE), ALL FIRE HYDRANTS SHALL BE SET 3 FEET TO 7 FEET FROM BACK OF
- 19. WATER SERVICES SHALL BE LAID NOT LESS THAN 5.5 FEET BELOW GRADE. A REDUCED PRESSURE ZONE BACKFLOW PREVENTER SHALL BE PROVIDED AND INSTALLED PER COUNTY REQUIREMENTS.
- 20. THRUST BLOCKING SHALL BE INSTALLED ON WATER MAINS AT ALL BENDS, TEES, ELBOWS, ETC. COST SHALL BE MERGED WITH UNIT PRICE FOR INSTALLED PIPE. RETAINER GLANDS OR MEGA-LUG FITTINGS MAY BE USED AS AN ALTERNATE IF APPROVED BY THE COUNTY.
- 21. ALL WATER MAINS SHALL HAVE COMPACTED (CA-6) GRANULAR BEDDING, A MINIMUM OF 4 INCHES BELOW THE BOTTOM OF THE PIPE FOR THE FULL LENGTH. COST FOR BEDDING SHALL BE MERGED WITH THE UNIT PRICE BID FOR THE WATER MAIN.
- 22. WHENEVER POSSIBLE, A WATER MAIN MUST BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN OR SEWER LINE, SHOULD LOCAL CONDITIONS EXIST WHICH WOULD PREVENT A LATERAL SEPARATION OF 10 FEET, A WATER MAIN MAY BE LAID CLOSER THAN O FEET TO A STORM OR SANITARY SEWER PROVIDED THAT THE WATER MAIN INVERT IS AT LEAST. l8 INCHES ABOVE THE CROWN OF THE SEWER, AND IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER. IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL OR VERTICAL SEPARATION AS DESCRIBED ABOVE. THEN THE SEWER MUST ALSO BE CONSTRUCTED OF WATER MAIN TYPE MATERIAL AND PRESSURE FESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD TO ASSURE WATERTIGHTNESS BEFORE

UNDERGROUND UTILITIES (CONT'D)

- 23. WHENEVER WATER MAINS MUST CROSS HOUSE SEWERS. STORM SEWERS OR SANITARY SEWERS THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE INVERT OF THE WATER MAIN IS 18 INCHES ABOVE THE CROWN OF THE DRAIN OR SEWER. THIS VERTICAL SEPARATION MUST BE MAINTAINED FOR THAT PORTION OF THE WATER MAIN LOCATED WITHIN 10 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. IF IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED ABOVE, OR IF IT IS NECESSARY FOR THE WATER MAIN TO PASS UNDER A SEWER OR DRAIN, THEN THE SEWER MUST BE CONSTRUCTED OF WATER MAIN TYPE MATERIAL. THIS CONSTRUCTION MUST EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WATER MAIN TO THE SEWER OR DRAIN LINE IS AT LEAST 10 FEET IN MAKING SUCH CROSSINGS, CENTER A LENGTH OF WATER MAIN PIPE OVER/UNDER 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 18 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.
- 24. WATER AND SANITARY BUILDING SERVICES SHALL BE IN SEPARATE TRENCHES WITH A MINIMUM OF 10 FEFT HORIZONTAL SEPARATION: OR IF THE SANITARY SEWER AND WATER SERVICES ARE INSTALLED IN THE SAME TRENCH. THE WATER SERVICE IS TO BE PLACED ON A SOLID SHELE A MINIMUM OF 18 INCHES ABOVE THE SANITARY SERVICE AND THE SANITARY SEWER SERVICE SHALL BE CONSTRUCTED WITH EITHER PVC SDR 26 AND SOLVENT CEMENT, DUCTILE IRON, OR SIMILAR TYPE MATERIAL AS APPROVED BY THE TOWNSHIP BUILDING DEPARTMENT.
- 25. THE UNDERGROUND CONTRACTOR SHALL PLACE AND MOUND EXCESS EXCAVATED TRENCH MATERIAL ADJACENT TO THE TRENCHES IN AN ORDERLY FASHION SO AS NOT TO CREATE A HAZARD OR OBSTRUCTION, AND TO MAINTAIN THE SITE IN A WORKABLE CONDITION. THE DISPOSAL AND PLACEMENT OF ALL EXCESS TRENCH MATERIAL SHALL BE THE RESPONSIBILITY OF THE EARTH EXCAVATING CONTRACTOR.
- 26. THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING ANY EXCAVATION FOR THE INSTALLATION OF THE SEWER OR WATER SYSTEMS.
- 27. ANY ANTICIPATED COST OF SHEETING SHALL BE REFLECTED IN THE CONTRACT AMOUNTS. NO ADDITIONAL COST WILL BE ALLOWED FOR SHEETING OR BRACING

ADJUSTING RINGS (2 RINGS MAXIMUM).

CHARGED TO THE UNDERGROUND CONTRACTOR.

- 28 FRAMES AND LIDS (OR GRATES) FOR SANITARY WATER MAIN AND STORM SEWER STRUCTURES SHALL BE AS INDICATED WITHIN THESE IMPROVEMENT PLANS. (SEE CONSTRUCTION STANDARDS)
- 29. ALL STRUCTURES SHALL HAVE A MINIMUM OF 3 INCHES AND A MAXIMUM OF 8 INCHES OF
- 30. ALL TOP OF FRAMES FOR STORM AND SANITARY SEWERS AND VALVE VAULT COVERS AND B-BOXES ARE TO BE ADJUSTED TO MEET FINAL FINISHED GRADE UPON COMPLETION OF FINISHED GRADING AND FINAL INSPECTIONS. THIS ADJUSTMENT IS TO BE MADE BY THE UNDERGROUND CONTRACTOR AND THE COST IS TO BE CONSIDERED INCIDENTAL. THE UNDERGROUND CONTRACTOR SHALL INSURE THAT ALL ROAD AND PAVEMENT INLETS OR STRUCTURES (FRAMES AND GRATES) ARE AT FINISHED GRADE. ANY ADJUSTMENTS NECESSITATED BY THE CURB OR PAVING CONTRACTOR TO ACHIEVE FINAL RIM GRADE, RESULTING IN AN EXTRA FOR SAID ADJUSTMENTS, WILL BE
- 31. THE CONTRACTOR SHALL INSTALL A 2 IN. X 4 IN. X 8 FT. POST ADJACENT TO THE TERMINUS OF THE SANITARY SERVICE, STORM SERVICE, AND WATER MAIN SERVICE, AS WELL AS SANITARY MANHOLES, STORM MANHOLES, CATCH BASINS, INLETS, AND VALVE VAULTS WITHIN TURF AREAS. THE POST SHALL EXTEND A MINIMUM F 4 FEET ABOVE THE GROUND. THE TOP 12 INCHES OF SAID POST SHALL BE PAINTED AS FOLLOWS: SANITARY-RED: WATER MAIN-BLUE; STORM-GREEN.
- 32. SANITARY SEWERS INCLUDING MANHOLES AND SERVICE LINES SHALL BE SUBJECTED TO EITHER AN INFILTRATION TEST OR AIR TEST, AND APPLICABLE DEFLECTION TEST BY THE CONTRACTOR. ALLOWABLE INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER OF PIPE PER MILE PER DAY. THE CONTRACTOR SHALL COORDINATE ALL TESTING SO THAT IT CAN BE WITNESSED BY THE TOWNSHIP ENGINEER, TOWNSHIP PUBLIC WORKS DEPARTMENT AND MWRD AS APPROPRIATE. TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION, SECTION 31-1. IN ADDITION, VACUUM TESTING OF A MANHOLE SHALL BE REQUIRED PER ASTM C-1244.
- 33. THE MAIN LINE SANITARY SEWER SHALL BE TELEVISED PRIOR TO ACCEPTANCE AND A VIDEO TAPE SHALL BE PROVIDED TO THE TOWNSHIP, ALL NECESSARY CORRECTIVE WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT DELAY. COST FOR TELEVISING AND FURNISHING VIDEO TAPE AND CORRECTIVE WORK SHALL BE INCIDENTAL TO THE CONTRACT (MERGED INTO UNIT PRICE OF THE SEWER PIPE).
- 34. ALL WATER MAINS SHALL BE SUBJECTED TO A PRESSURE TEST BY THE CONTRACTOR. HYDROSTATIC PRESSURE TEST AND LEAKAGE SHALL BE BASED ON 150 PSI FOR 2 HOURS, WATER MAINS SHALL BE CHLORINATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- 35. THE UNDERGROUND CONTRACTOR SHALL CONSIDER INCIDENTAL TO THE CONTRACT ANY CHLORINATION AND TESTING OF EXISTING WATER MAIN WHERE CONNECTIONS TO AND INCLUSION OF SUCH MAINS IS INDICATED ON THE DRAWINGS. IN THE EVENT THAT THE PRESSURE TESTS INVOLVING EXISTING MAINS FAIL, AND SUCH FAILURES ARE ATTRIBUTABLE TO DEFECTIVE ORIGINAL WORKMANSHIP AND MATERIAL, THEN THE CONTRACTOR SHALL BE ENTITLED TO ADDITIONAL PAYMENT FOR CORRECTING THE DEFICIENCIES.
- 36. THE CONTRACTOR SHALL MAINTAIN A LEGIBLE RECORD ON A SET OF CONSTRUCTION PLANS INFORMATION CONCERNING ALL MANHOLES, WYES AND SERVICES, VALVE BOXES, CURB BOXES, ETC. SUCH THAT THEY CAN BE LOCATED IN THE FIELD IN A MANNER ACCEPTABLE TO THE APPLICABLE GOVERNMENTAL AGENCY. FINAL CONTRACT PAYMENT SHALL NOT COME DUE UNTIL THIS INFORMATION IS RECEIVED BY THE ENGINEER.
- 37. ALL CATCH BASINS, SUMPS, DETENTION BASINS AND OTHER AREAS ACCUMULATING SEDIMENT ARF TO BE CLEANED AT THE END OF THE PROJECT PRIOR TO FINAL ACCEPTANCE. CLEANING MAY ALSO BE REQUIRED DURING THE COURSE OF THE CONSTRUCTION OF THE PROJECT IF IT IS DETERMINED THAT THE SILT AND DEBRIS TRAPS ARE NOT FUNCTIONING PROPERLY OR EXCESS DEBRIS HAS COLLECTED.
- 38. IT SHALL BE THE RESPONSIBILITY OF THE UNDERGROUND CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM HIS CONSTRUCTION OPERATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.

PAVING, CURBS & WALKS

0

pinnig

- WORK UNDER THIS SECTION SHALL INCLUDE FINAL SUBGRADE SHAPING AND PREPARATION: FORMING JOINTING, PLACEMENT OF ROADWAY AND PAVEMENT BASE COURSE MATERIALS AND SUBSEQUENT BINDER AND/OR SURFACE COURSES; PLACEMENT, FINISHING AND CURING OF CONCRETE; FINAL CLEAN-UP; AND
- ALL PAVING, SIDEWALK, AND CURB AND GUTTER WORK SHALL BE DONE IN ACCORDANCE WITH THE O.D.O.T. STANDARD SPECIFICATIONS AND PER BUTLER COUNTY CODE
- SUBGRADE FOR PROPOSED PAVEMENT SHALL BE FINISHED BY THE EXCAVATION CONTRACTOR TO WITHIN 0.1 FOOT, PLUS OR MINUS, OF PLAN ELEVATION. THE PAVING CONTRACTOR SHALL SATISFY HIMSELF THAT THE SUBGRADE HAS BEEN PROPERLY PREPARED AND THAT THE FINISH TOP OF SUBGRADE ELEVATION HAS BEEN GRADED WITHIN TOLERANCES ALLOWED IN THESE SPECIFICATIONS. UNLESS THE PAVING CONTRACTOR ADVISES THE OWNER AND ENGINEER IN WRITING PRIOR TO FINE GRADING FOR BASE COURSE CONSTRUCTION, IT IS UNDERSTOOD THAT HE HAS APPROVED AND ACCEPTS THE RESPONSIBILITY FOR THE SUBGRADE. PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIALS, THE PAVING CONTRACTOR SHALL FINE GRADE THE SUBGRADE SO AS TO INSURE THE PROPER THICKNESS OF PAVEMENT COURSES. NO CLAIMS FOR EXCESS TONNAGE OF BASE MATERIALS DUE TO IMPROPER SUBGRADE PREPARATION WILL BE
- THE PROPOSED PAVEMENT SHALL CONSIST OF THE SUB-BASE COURSE, BASE COURSE, HOT-MIX ASPHALT BINDER COURSE, AND HOT-MIX ASPHALT SURFACE COURSE, OF THE THICKNESS AND MATERIALS AS SPECIFIED ON THE CONSTRUCTION PLANS. A PRIME COAT OF THE TYPE AND AT THE RATE SPECIFIED ON THE CONSTRUCTION PLANS SHALL BE APPLIED TO THE SUB-BASE COURSE. UNLESS SHOWN AS A BID ITEM, PRIME COAT SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT. ALL PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE O.D.O.T. STANDARD SPECIFICATIONS
- THE MAXIMUM SIZED AGGREGATE FOR THE HOT-MIX ASPHALT SURFACE COURSE MIXTURE SHALL BE 3/8 INCH. THE HOT-MIX ASPHALT BINDER COURSE SHALL BE AS SPECIFIED IN ARTICLE 1030.04 OF THE O.D.O.T. STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A HOT-MIX ASPHALT DESIGN TO THE ENGINEER PRIOR TO THE INSTALLATION OF THE HOT-MIX ASPHALT.
- HOT-MIX ASPHALT BINDER COURSE SHALL BE PLACED ONLY WHEN THE AMBIENT AIR TEMPERATURE IS AT LEAST 40 DEGREES FAHRENHEIT AND THE FORECAST CALLS FOR RISING TEMPERATURES. HOT-MIX ASPHALT SURFACE COURSE SHALL BE PLACED ONLY WHEN THE AMBIENT AIR TEMPERATURE IS AT LEAST 45 DEGREES FAHRENHEIT AND THE FORECAST CALLS FOR RISING TEMPERATURES. NO ASPHALT WORK SHALL BE ALLOWED BETWEEN NOVEMBER 1ST AND APRIL 1ST WITHOUT PERMISSION FROM THE TOWNSHIP ENGINEER.
- AFTER THE INSTALLATION OF THE BASE COURSE, ALL TRAFFIC SHALL BE KEPT OFF THE BASE UNTIL THE BINDER COURSE IS LAID. AFTER INSTALLATION OF THE BINDER COURSE, AND UPON THE COMPLETION OF INSPECTION OF SAME AND APPROVAL BY THE TOWNSHIP AND OWNER, THE PAVEMENT SHALL BE CLEANED, A TACK COAT PROVIDED AND THE SURFACE COURSE PLACED. ALL DAMAGED AREAS IN THE BINDER, BASE, OR CURB AND GUTTER SHALL BE REPAIRED TO THE SATISFACTION OF THE TOWNSHIP AND OWNER, PRIOR TO LAYING THE SURFACE COURSE. THE PAVING CONTRACTOR SHALL PROVIDE WHATEVER EQUIPMENT AND MANPOWER IS NECESSARY, INCLUDING THE USE OF POWER BROOMS, TO PREPARE THE PAVEMENT FOR APPLICATION OF THE SURFACE COURSE. EQUIPMENT AND MANPOWER FOR CLEANING SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT. TACK COAT FOR THE BINDER COURSE SHALL ALSO BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT AND SHALL BE APPLIED TO THE BINDER AT A RATE OF 0.05 GALLONS PER SOUARE YARD, UNLESS DESIGNATED
- CONCRETE PAVEMENT SHALL BE OF THE THICKNESS AND DIMENSIONS AS SHOWN IN THE PLANS. ALL CONCRETE PAVEMENT SHALL CONFORM TO O.D.O.T. STANDARD SPECIFICATION AND BE A LOW CHERT MIX UNLESS NOTED OTHERWISE ON PLANS.
- COMBINATION CURB AND GUTTER (WHEN REQUIRED) SHALL BE OF THE TYPE AS DETAILED IN THE CONSTRUCTION PLANS. ALL CURB AND GUTTER SHALL CONFORM TO O.D.O.T. STANDARD SPECIFICATION UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS SECTION TO DETERMINE THE GUTTER FLAG THICKNESS AND THE AGGREGATE BASE COURSE THICKNESS BENEATH THE CURB AND GUTTER. THE AGGREGATE BENEATH THE CURB AND GUTTER SHALL BE INCLUDED IN THE UNIT PRICE OF THE CURB AND GUTTER -OR- THE ROADWAY SUB-BASE AGGREGATE MATERIAL SHALL BE EXTENDED BENEATH THE CURB AND GUTTER AND WILL BE INCLUDED IN THE COST FOR PAVEMENT SUB-BASE).
- 0. $\,$ 3/4 IN. THICK PREMOULDED FIBER EXPANSION JOINTS WITH 3/4 IN. X $\,$ 8 IN. PLAIN ROUND STEEL DOWEL BARS SHALL BE INSTALLED AT 60 FOOT INTERVALS AND AT ALL P.C.'S, P.T.'S, CURB RETURNS, AND AT THE END OF EACH POUR. ALTERNATE ENDS OF THE DOWEL BARS SHALL BE GREASED AND FITTED WITH METAL EXPANSION TUBES. 3/4 IN. THICK FIBRE EXPANSION JOINTS SHALL BE USED IN EVERY CASE WHERE THE SIDEWALK COINCIDES WITH THE CURB AND GUTTER. CONTRACTION JOINTS SHALL BE PROVIDED AT 15 FOOT (MAXIMUM) INTERVALS IN THE CURB. THE COST OF THESE JOINTS SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT. 3*5 BARS * 10'-0" MIN. CENTER OVER UTILITY TRENCH CROSSING, THE COST OF WHICH SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONCRETE CURB AND GUTTER.
- 11. CURING AND WEATHER PROTECTION OF ALL EXPOSED CONCRETE SURFACES SHALL BE IN ACCORDANCE WITH THE O.D.O.T. STANDARD SPECIFICATIONS. NO HONEY-COMBING OF THE CURB AND GUTTER WILL BE
- CURBS SHALL BE DEPRESSED AT LOCATIONS WHERE PUBLIC WALKS/PEDESTRIAN PATHS INTERSECT CURB. LINES AT STREET INTERSECTIONS AND OTHER LOCATIONS WHERE DIRECTED. FOR THE PURPOSE OF PROVIDING ACCESS FOR THE HANDICAPPED. (SEE CONSTRUCTION STANDARDS FOR DETAILS).
- SIDEWALKS (WHERE REQUIRED) SHALL BE OF THE THICKNESS AND DIMENSIONS AS SHOWN ON THE CONSTRUCTION PLANS. ALL SIDEWALKS SHALL CONFORM TO O.D.O.T. STANDARD SPECIFICATION, UNLESS OTHERWISE NOTED ON THE PLANS. ALL SIDEWALKS CONSTRUCTED OVER UTILITY TRENCHES SHALL BE REINFORCED WITH THREE NO. 4 REINFORCING BARS, 10 FEET LONG (MINIMUM)
- 14. BACKFILLING OF CURBS OR PAVEMENT SHALL BE THE RESPONSIBILITY OF THE EXCAVATION CONTRACTOR.
- 15. IT SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM HIS CONSTRUCTION OPERATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 16. TESTING OF THE SUB-BASE, BASE COURSE, BINDER COURSE, SURFACE COURSE AND CONCRETE WORK SHALL BE REQUIRED IN ACCORDANCE WITH THE O.D.O.T. STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF THE TOWNSHIP. A QUALIFIED TESTING FIRM SHA BE EMPLOYED BY THE OWNER TO PERFORM THE REQUIRED TESTS AND PROVIDE THE RESULTS TO THE CONSULTING ENGINEER AND THE TOWNSHIP.
- PAINTED PAVEMENT MARKINGS AND SYMBOLS, OF THE TYPE AND COLOR AS NOTED ON THE CONSTRUCTION PLANS, SHALL BE INSTALLED IN ACCORDANCE O.D.O.T. STANDARD SPECIFICATIONS PAINTED PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN THE AIR TEMPERATURE IS 50 DEGREES
- 18. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI AT 14 DAYS.

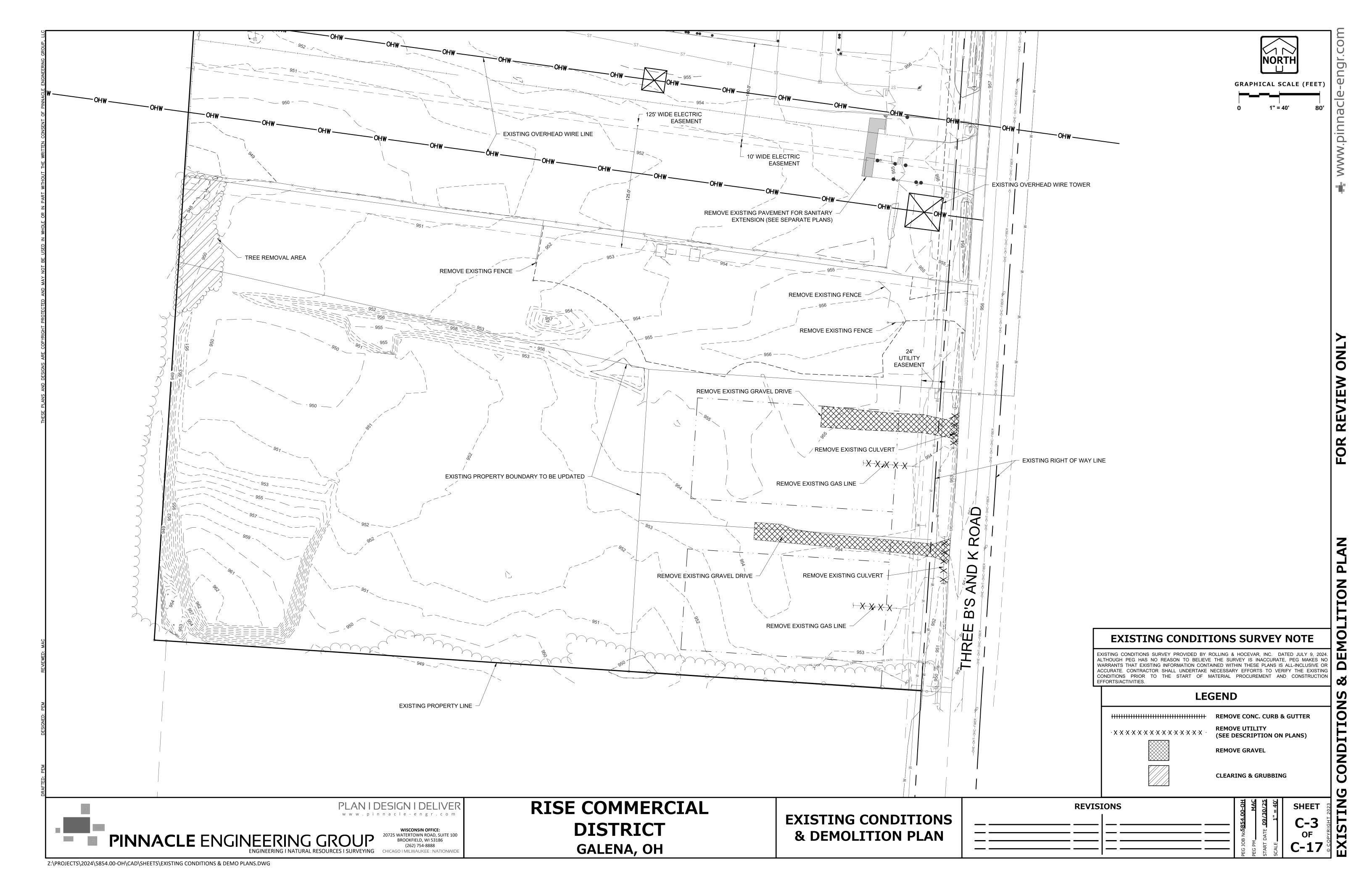
PINNACLE ENGINEERING GROUP Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\GENERAL NOTES.DWG

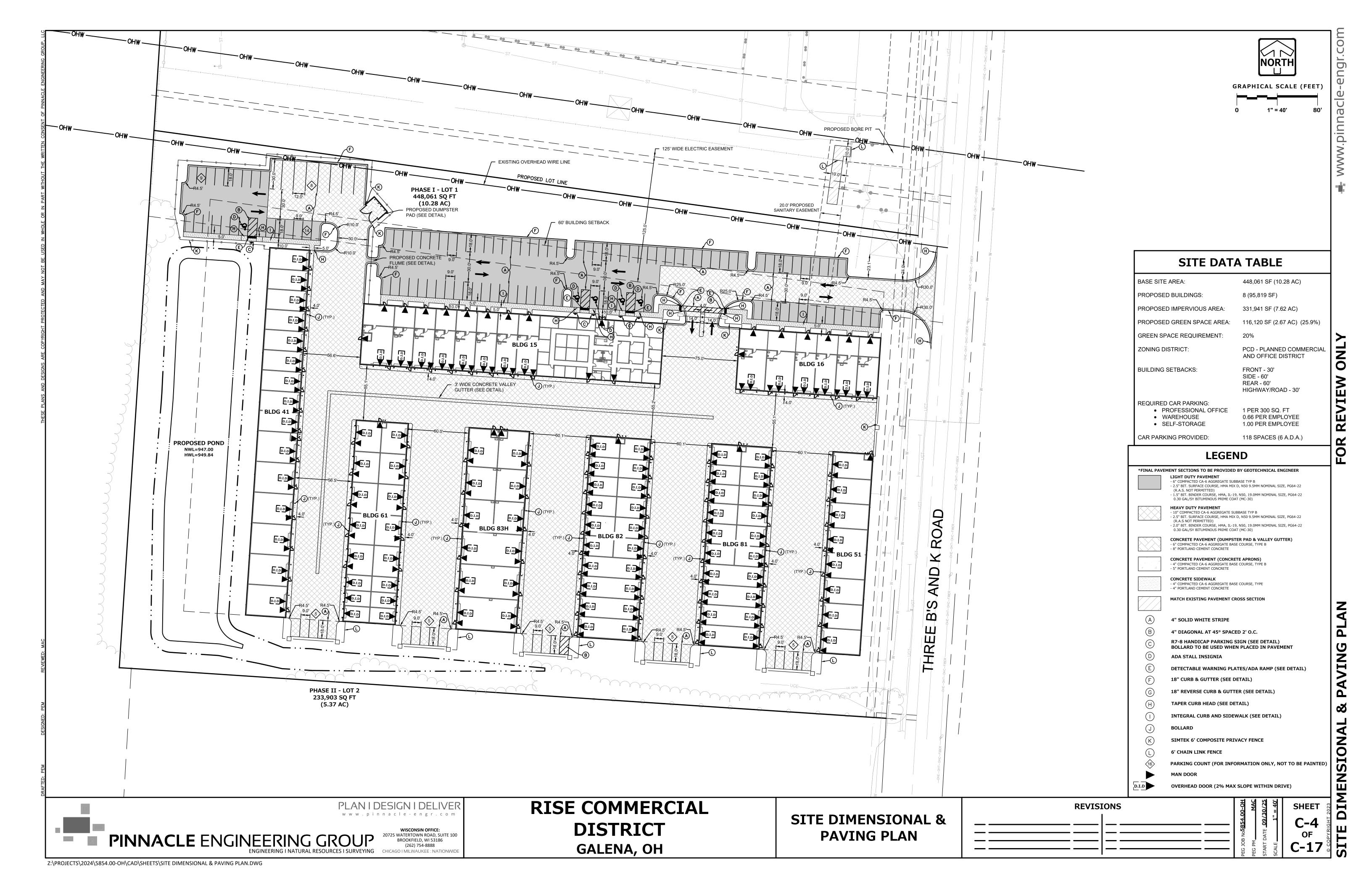
20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 (262) 754-8888

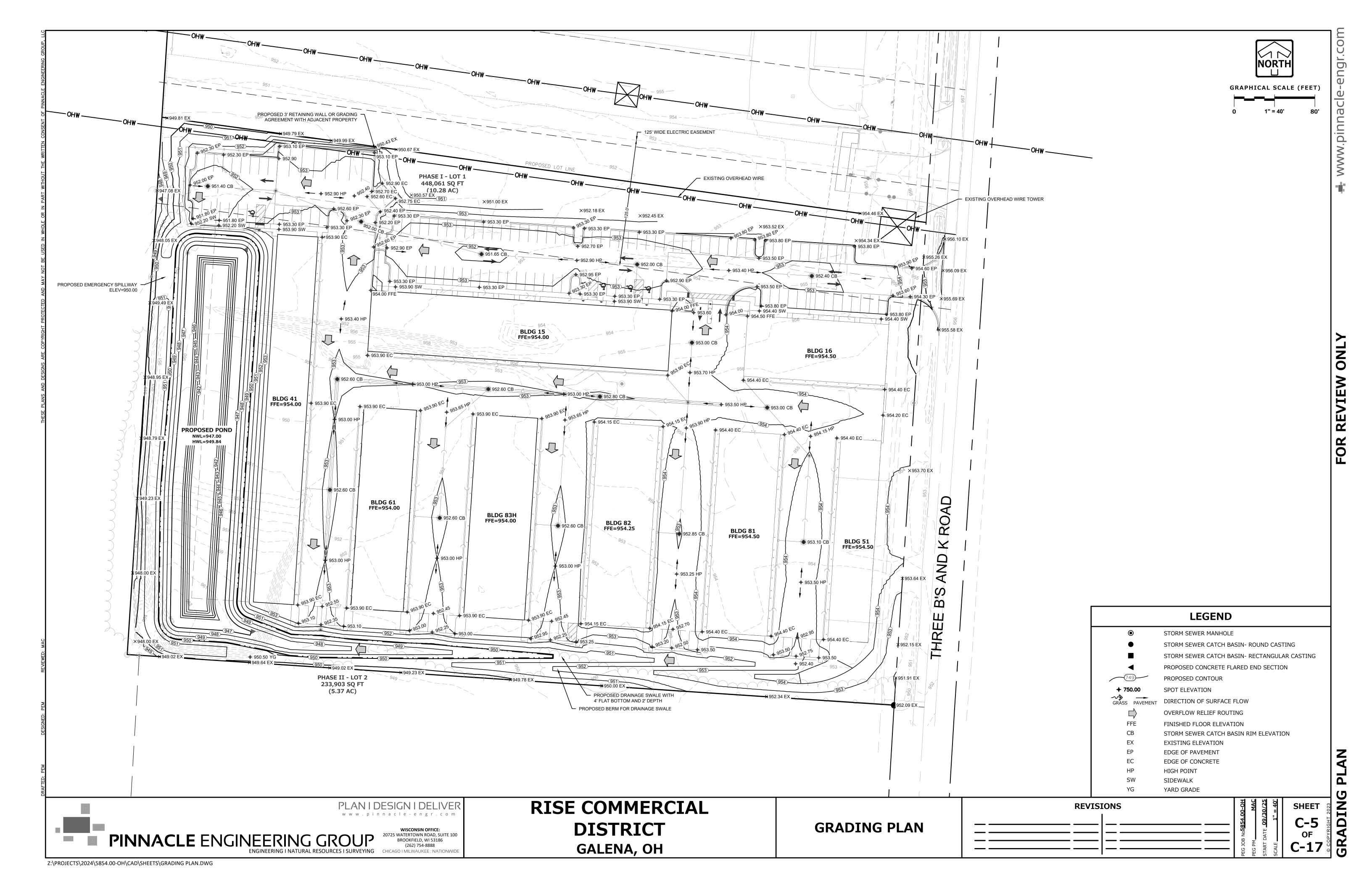
RISE COMMERCIAL **DISTRICT** GALENA, OH

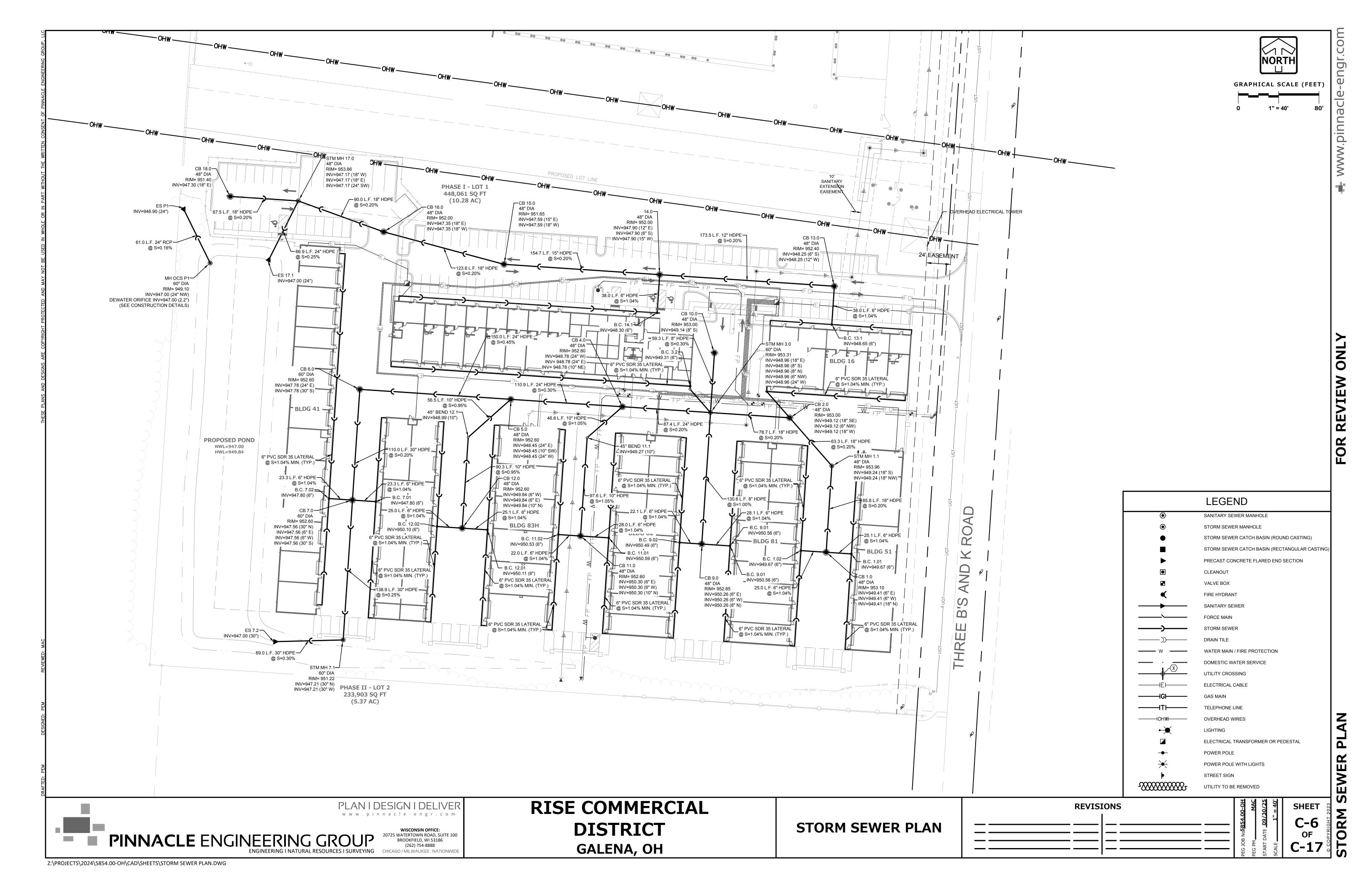
GENERAL NOTES

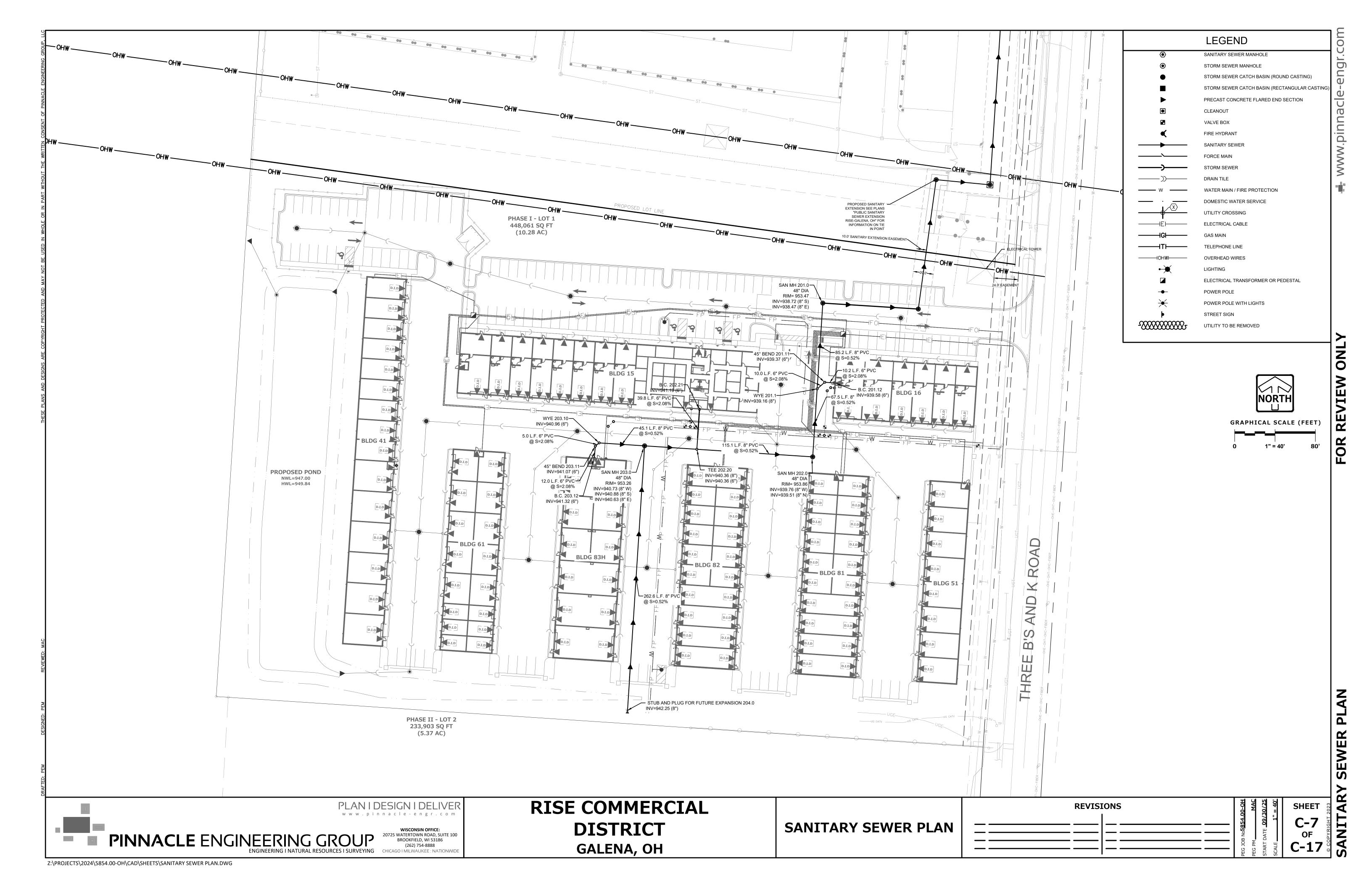
REVISIONS

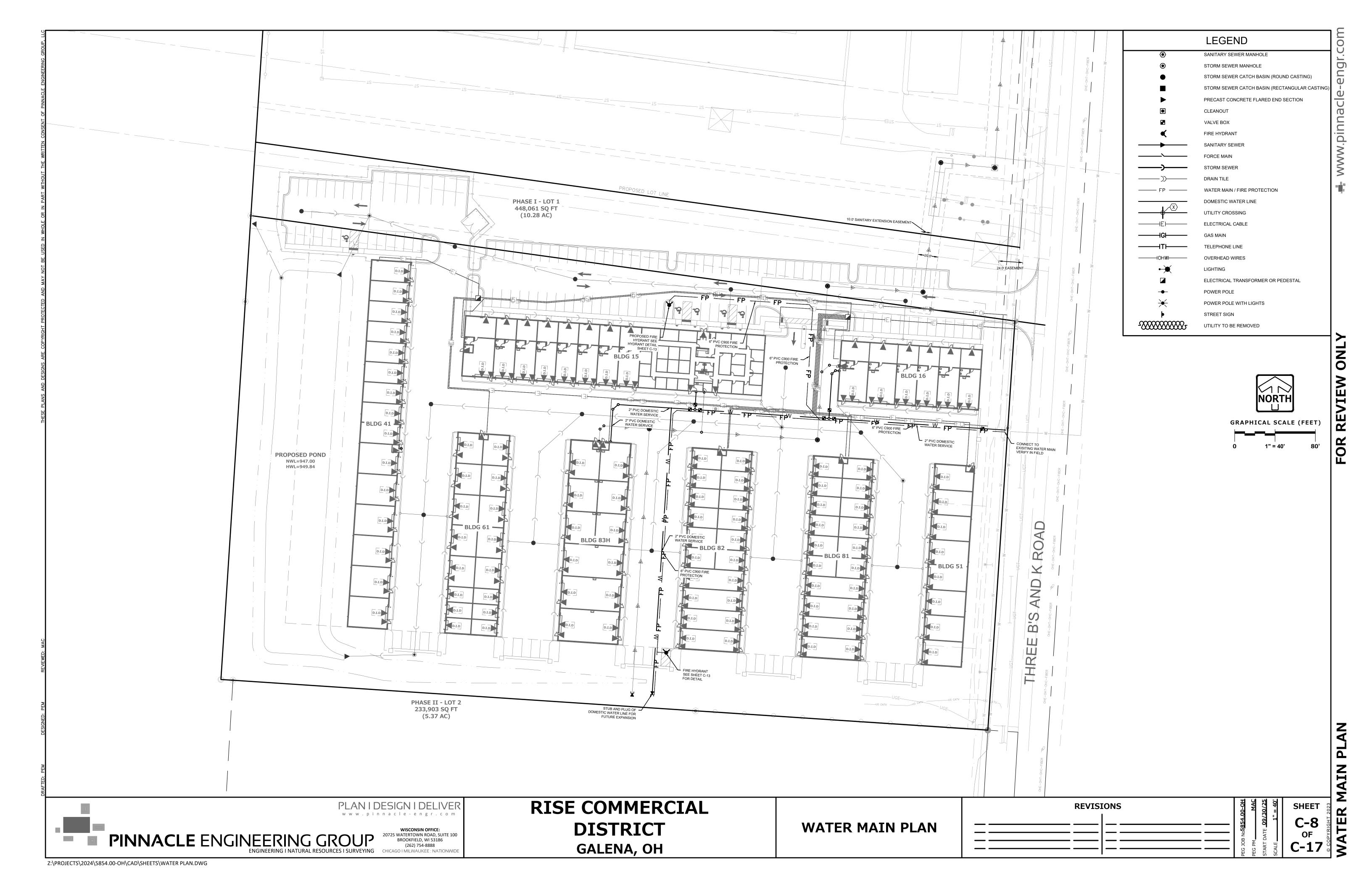


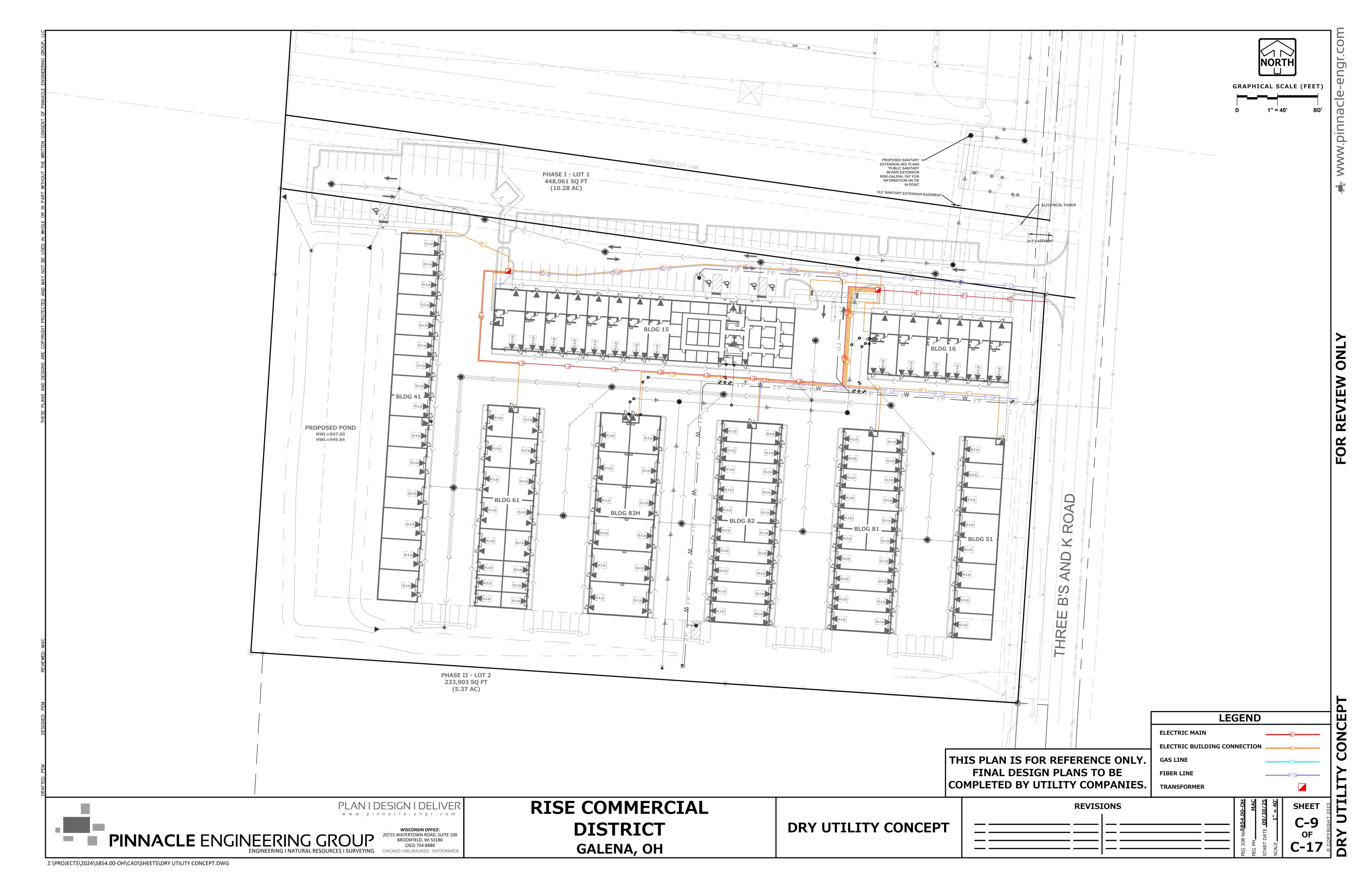


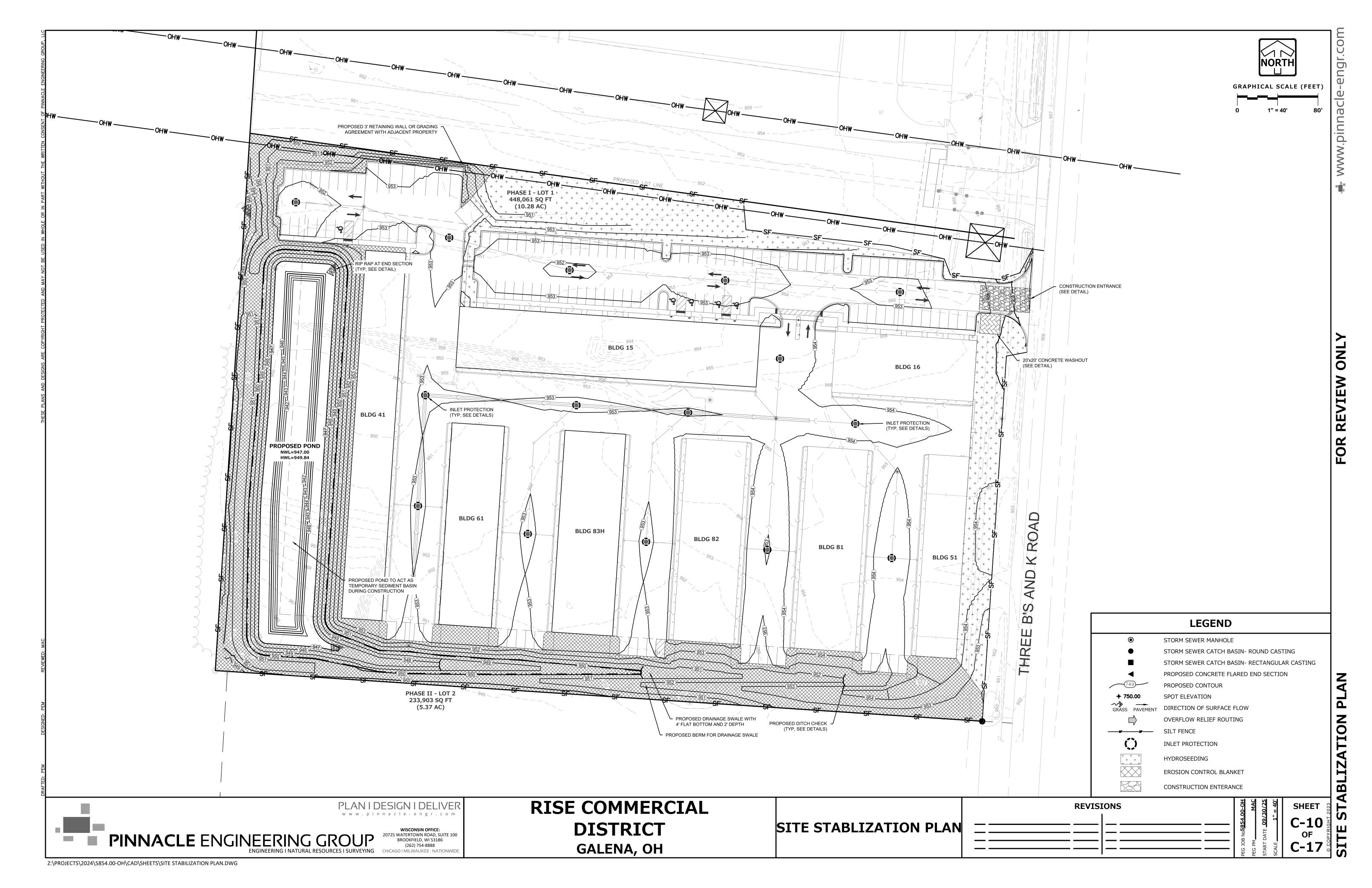


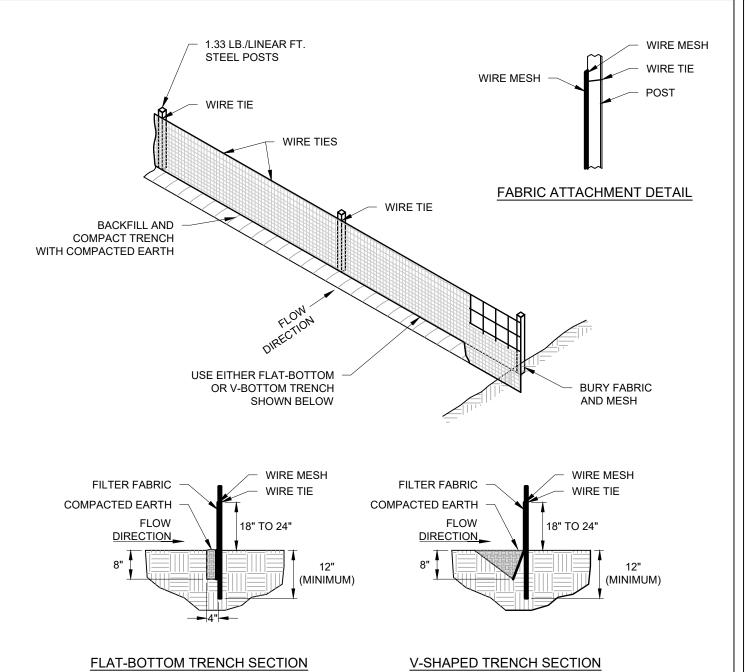






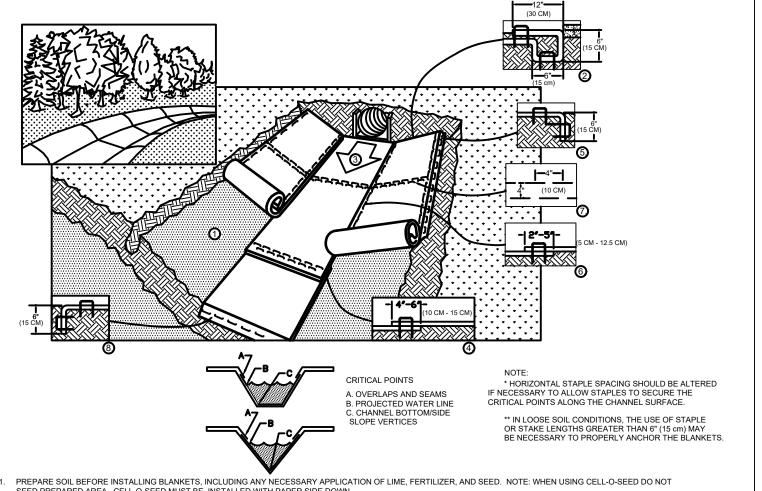






- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE ROTTOM OF THE TRENCH. BACKELL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" 5" (5 CM 12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
- CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH. EROSION MATTING SHALL MEET THE SPECIFICATIONS OF WDNR "NON-CHANNEL EROSION MAT" TECHNICAL STANDARD 1052.
- NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO

EROSION MATTING - SLOPE INSTALLATION

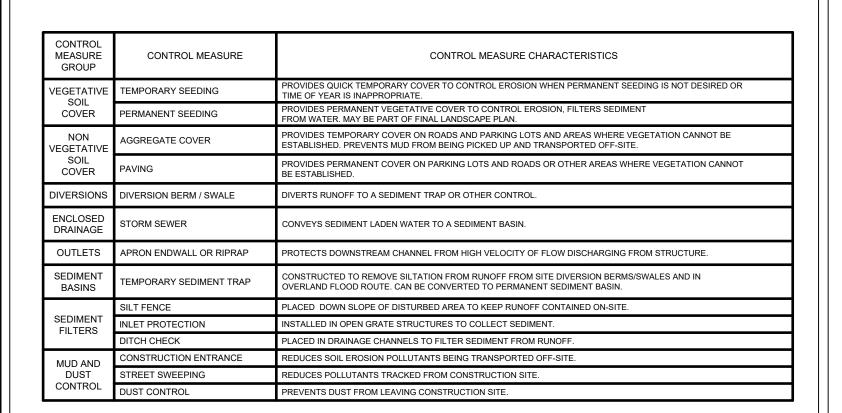


- SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMAPCT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL.

 SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE BLANKET.
- ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL LINROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.

 WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4" 6" (10 CM -15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE BLANKETS FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM)
- WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM -12.5 CM) (DEPENDING ON BLANKET TYPE) AND STAPLED.
- IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
- THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH.
- EROSION MATTING FOR CHANNELS SHALL MEET THE SPECIFICATIONS OF WDNR "CHANNEL EROSION MAT" TECHNICAL STANDARD 1053.
- NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

EROSION MATTING - CHANNEL INSTALLATION

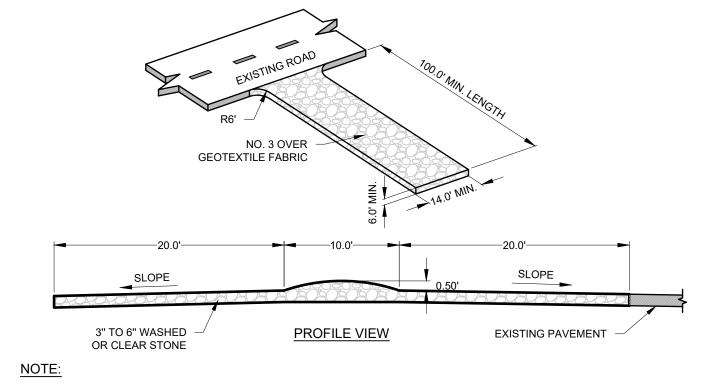


SILT FENCE

STABILIZATION EFFECTIVENESS (TIME OF YEAR)

STABILIZATION UTILIZATION PERIODS												
STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			Ą	*	*	*	*	*	* \			
PERIVIANENT SEEDING												
DORMANT SEEDING	В		\triangle								В	•
DOTAW, ATT GEEDING											<u> </u>	
TEMPORARY SEEDING			Ç	*	*	*	D *	*	<u> </u>			
SODDING			₽	*	*	*	*	*	*			İ
	ı		•		I				I /			i

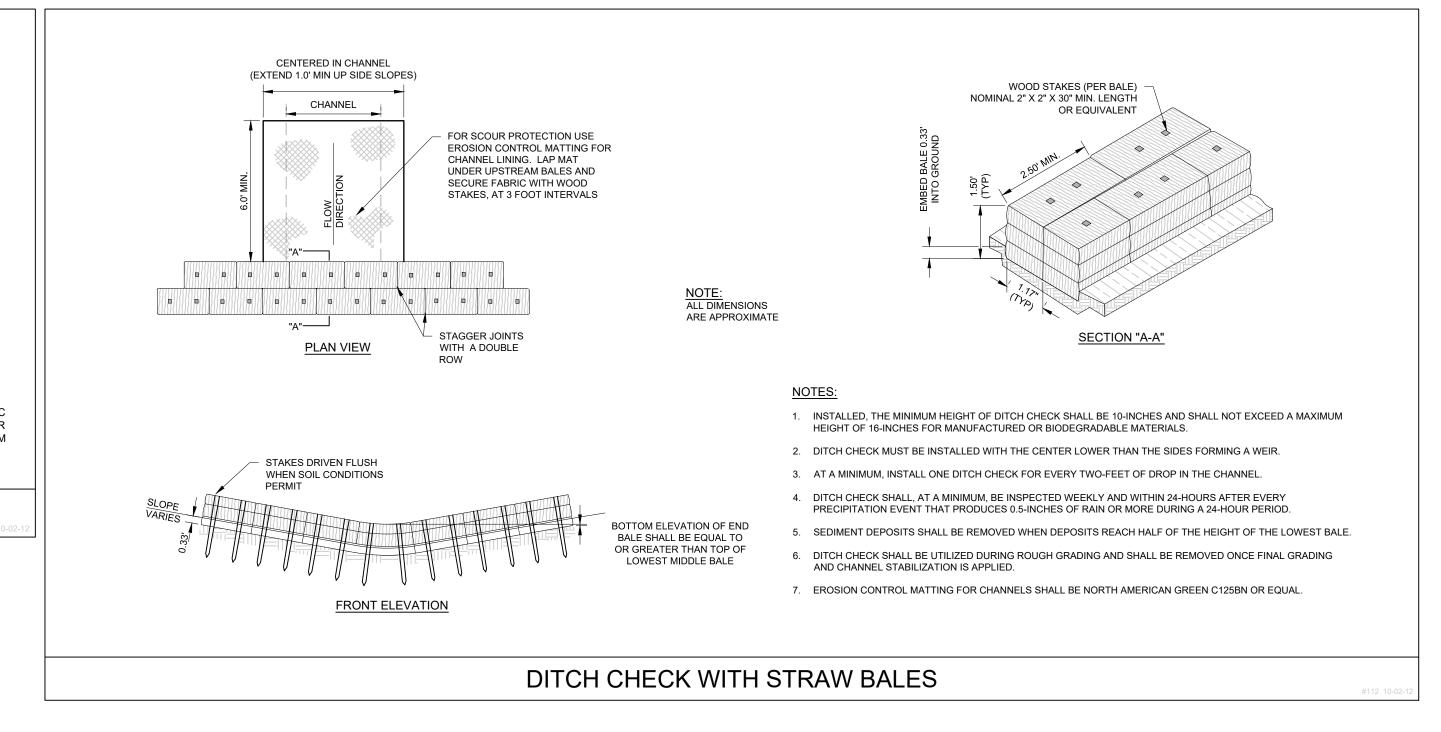
- A. KENTUCKY BLUEGRASS 90 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE.
- B. KENTUCKY BLUEGRASS 135 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 45 LBS/ACRE + 2 TONS STRAW MULCH/ACRE. C. SPRING OATS 100 LBS/ACRE.
- D. WHEAT OR CEREAL RYE 150 LBS/ACRE.
- F. STRAW MULCH 2 TONS/ACRE. * IRRIGATION/WATERING REQUIRED TO SUPPORT ESTABLISHMENT AS NEEDED.



THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH NO. 3 STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORMDRAINS MUST BE REMOVED IMMEDIATELY

CONSTRUCTION ENTRANCE

BROOKFIELD, WI 53186



PLAN I DESIGN I DELIVER www.pinnacle-engr.com 20725 WATERTOWN ROAD, SUITE 100 **PINNACLE** ENGINEERING GROUP

GALENA, OH

REVISIONS

Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\CONSTRUCTION DETAIL.DWG

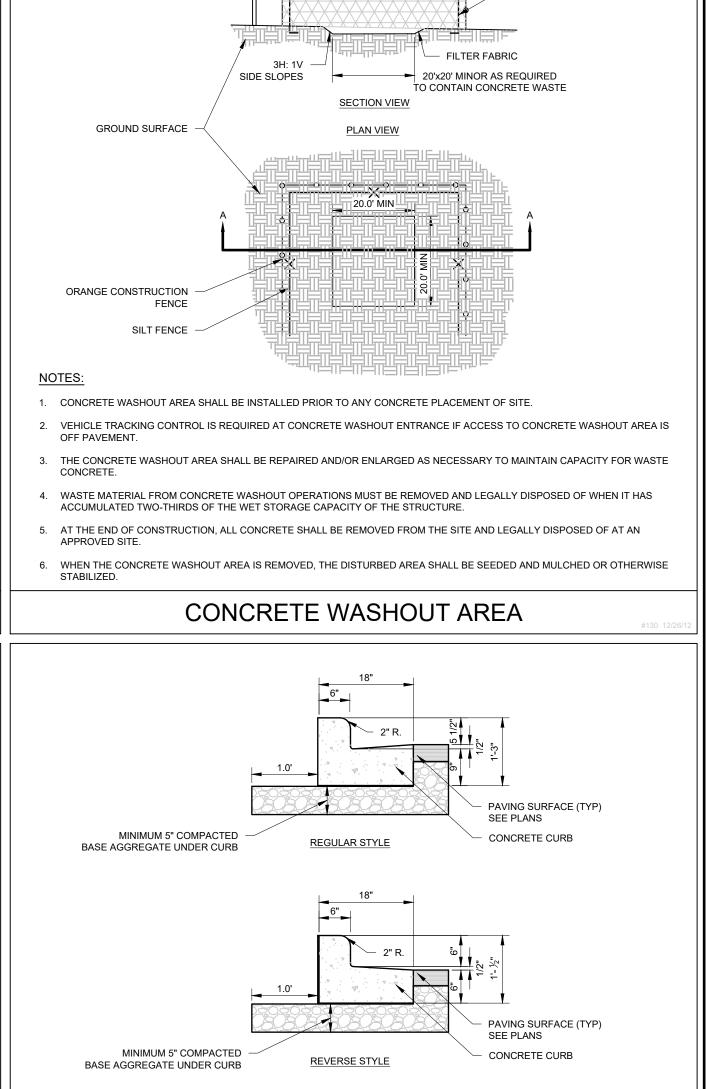


ORANGE CONSTRUCTION FENCE

eng

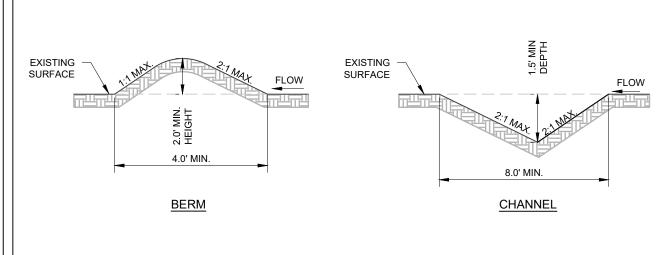
AROUND WASHOUT STRUCTURE





SIGN TO INDICATE THE LOCATION

OF THE CONCRETE WASHOUT AREA



- 1. DIVERSION MAY REQUIRE AREAS OF BERM AND OTHER AREAS OF CHANNEL TO PROVIDE SUFFICIENT PERIMETER
- 2. DIVERSION BERM VERSUS CHANNEL PRACTICES SHALL BE SELECTED SUCH TO PREVENT PONDING (E.G. POSITIVE
- 3. FOR DIVERSIONS THAT ARE TO SERVE LONGER THAN 30 DAYS, THE SIDE SLOPES INCLUDING THE RIDGE, AND THE DOWN SLOPE SIDE OF THE DIVERSION SHALL BE STABILIZED AS SOON AS THEY CONSTRUCTED BY EQUIPMENT TRACKING AND TEMPORARY SEEDING. FOR DIVERSIONS SERVING LESS THAN 30 DAYS, THE DOWN SLOPE SIDE OF THE DIVERSION SHALL BE STABILIZED AS SOON AS CONSTRUCTED BY EQUIPMENT TRACKING AND TEMPORARY
- 4. DIVERSIONS SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION ACTIVITIES. AT ALL POINTS WHERE DIVERSION BERMS OR CHANNELS WILL BE CROSSED BY CONSTRUCTION EQUIPMENT, THE DIVERSION SHALL BE SHAPED APPROPRIATELY AND/OR TEMPORARY CULVERTS OF ADEQUATE CAPACITY MAYBE ADDED AT CROSSINGS.
- 5. AT MINIMUM, INSTALL ONE DITCH CHECK (SEE DETAIL) FOR EVERY 2 VERTICAL FEET OF DROP.
- 6. DIVERSIONS SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD. MAINTENANCE SHALL BE COMPLETED AS SOON AS POSSIBLE WITH CONSIDERATION TO SITE CONDITIONS. ACCUMULATED SEDIMENT SHALL BE

DIVERSION BERM / CHANNEL

REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE DIVERSION BERM.

EXPANSION JOINT, SEE DETAIL HEREON END REINFORCEMENT 3" FROM JOINT (TYPICAL) STRUCTURE, BUILDING, SLAB, ETC. THICKENED EDGE

CONCRETE EDGE DETAIL

MIN. MAX.

A 1.6" 2.4" B 0.65" 1.5"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION

1. DETECTABLE WARNING FIELDS TO BE NEENAH FOUNDRY

(VERIFY COLOR WITH OWNER PRIOR TO INSTALLATION.

DETECTABLE WARNING FIELDS (OR APPROVED EQUAL), UNPAINTED NATURAL COLOR AND FIELD WEATHERED PRIOR TO INSTALLATION

DETECTABLE WARNING TRUNCATED DOMES

EXTEND DETECTABLE WARNINGS -

ACROSS LIMITS OF WALK FLUSH WITH PARKING AREA (SEE PLANS)

INLET PROTECTION- TYPES A AND B

WOOD 2"x4" STAKES

[nnnnnnnnn]

1. TYPE A INLET PROTECTION SHOULD BE USED ON PROPOSED INLETS UNTIL PAVEMENTS

GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I, WITH AN EOS OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE

INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

(1) FINISHED SIZE, INCLUDING FLAP POCKET WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

DETECTABLE WARNING FIELD (TYPICAL)**

PLAN VIEW

ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING
PATTERN DETAIL

(2) FOR INLET PROTECTION, TYPE "C" (WITH CURB BOX), AN ADDITIONAL 18 INCHES OF

(3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2x4.

AND CURB/GUTTER ARE INSTALLED. ONCE INSTALLED, THE INLET PROTECTION SHOULD SWITCH TO TYPE D (SEE DETAIL BELOW).

FABRIC SHALL BE BURIED

BE SECURED TO THE STAKES AND CROSS BRACING, FABRIC

SHALL COMPLETELY SURROUND INLET TO PREVENT SEDIMENT LADEN

RUNOFF FROM ENTERIN

INLET PROTECTION - TYPE "A"

FLOW ____

BURIED FABRIC MIN. 6" DEPTH

TYPE "B" INSTALLATION NOTES

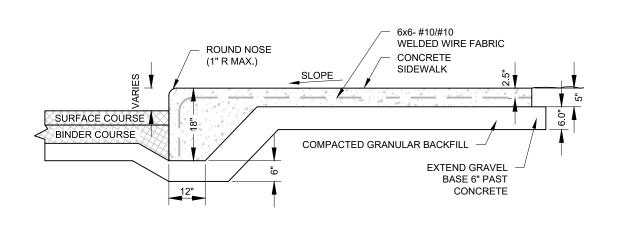
INCHES OF THE GRATE.

FROM ENTERING THE INLET.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF

MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHODS TO PREVENT ACCUMULATED SEDIMENT



ROCK CHANNEL PROTECTION AT CULVERT AND STORM SEWER OUTLETS

SEE PLAN

JOINT RESTRAINTS "TIE BOLTS" REQ'D

FOR LAST THREE JOINTS (2 BOLTS

PER JOINT @ MIN 60° SEPARATION)

1/2 END SECTION

LENGTH

PLAN VIEW

COVER EXPOSED END

SECTION WITH RIPRAP

ANCHOR WITH

GEOTEXTII E

SEPARATION FABRIC

PREFABRICATED BAR GRATE

PLAN VIEW LIMITS OF

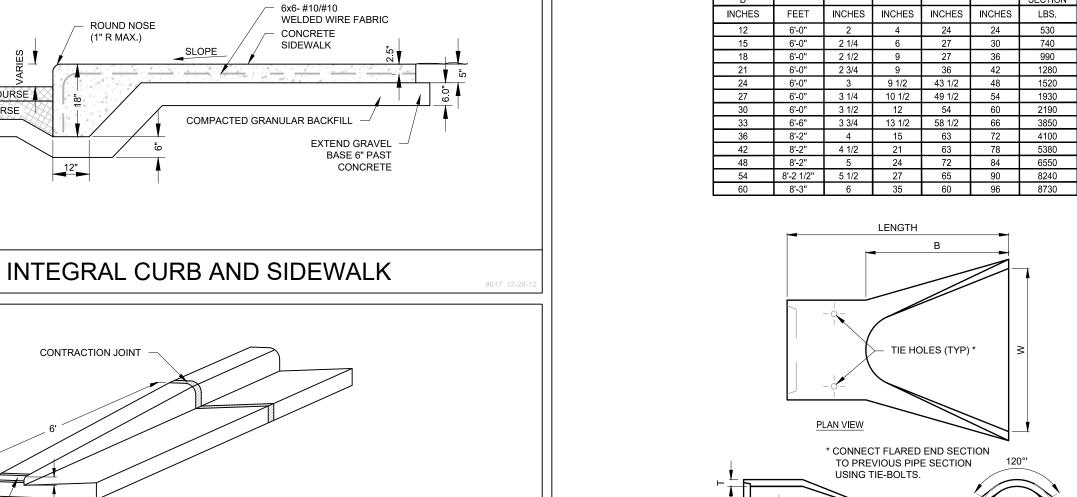
RIP RAP (SEE END VIEW)

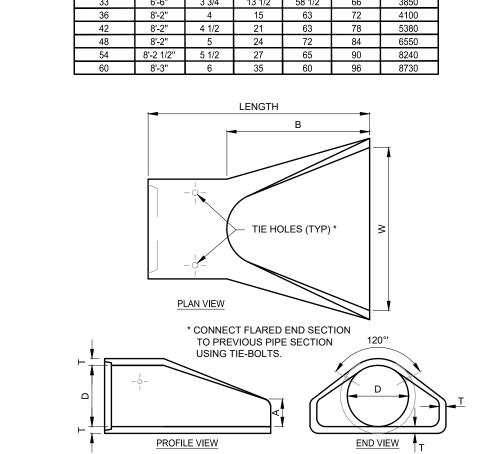
GEOTEXTILE

FABRIC

SIDE VIEW

SOIL OR STAPLES

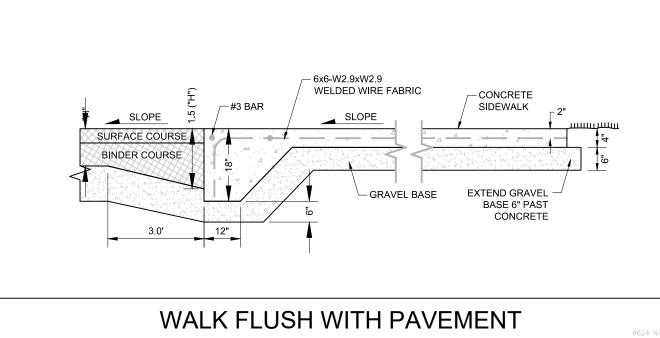




CONTRACTION JOINT 1" ROUNDED EDGE 1. CONTRACTION JOINTS SHALL BE PLACED EVERY 10 FEET 2. EXPANSION JOINTS (3/4" EXPANSION FIBER MATERIAL) SHALL BE PLACED TAPER CURB HEAD

18" VERTICAL FACE CURB

4. REVERSE STYLE CURB LOCATIONS ARE NOTED ON THE PLANS.



1. LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15 FEET NOR LESS

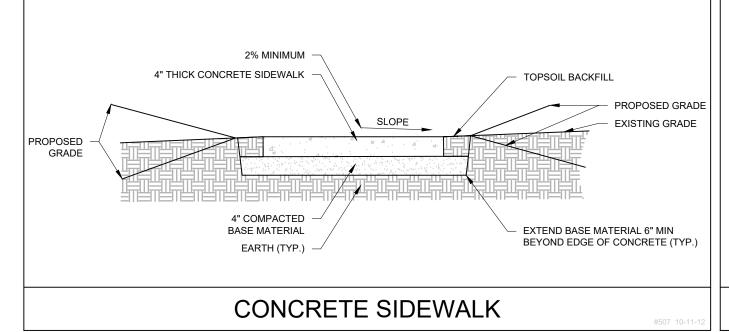
2. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200 FEET OR LESS, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER OF RECORD. THE EXPANSION JOINTS FILLER SHALL BE A ONE PIECE FIBERBOARD OR THE APPROVED EQUIVALENT MATERIAL HAVING THE SAME

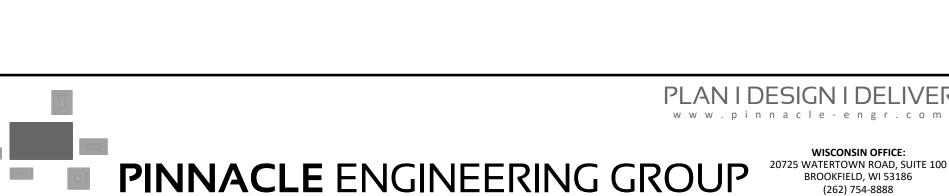
3. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED

THAN 6 FEET. THE JOINTS SHALL BE A MINIMUM OF 3 INCHES IN DEPTH.

DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 0.5 INCH THICK.

FLARED END SECTION





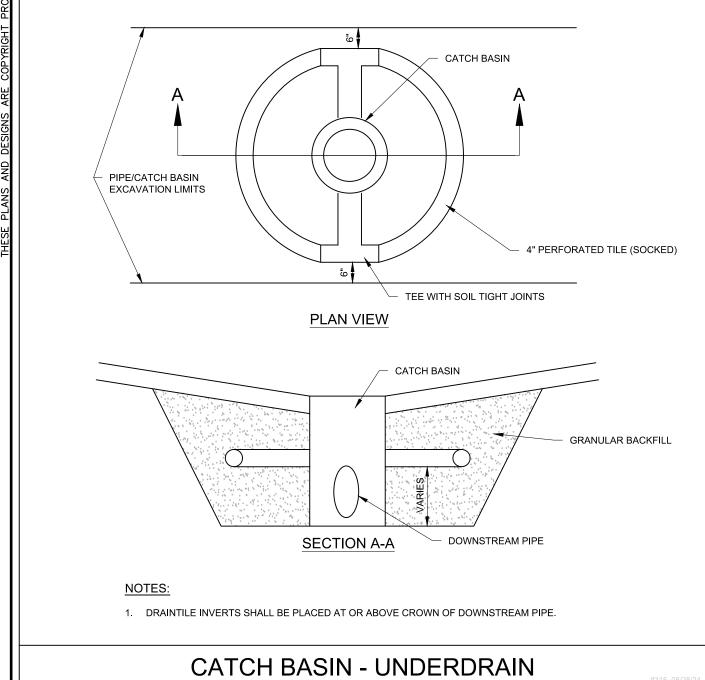
RISE COMMERCIAL **DISTRICT** WISCONSIN OFFICE: 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186

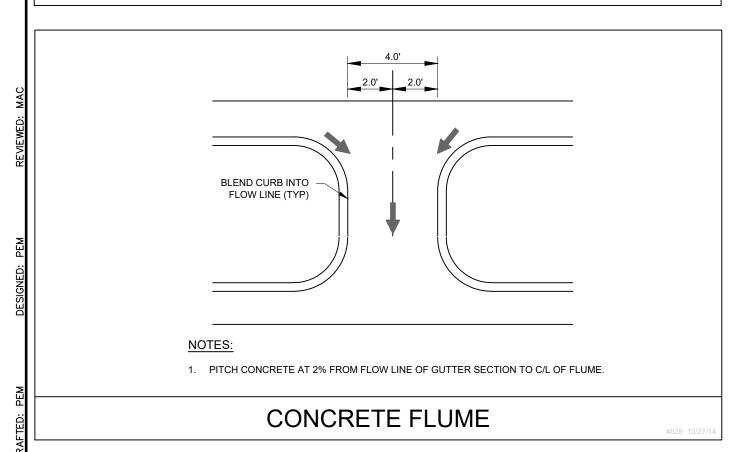
CONSTRUCTION DETAILS

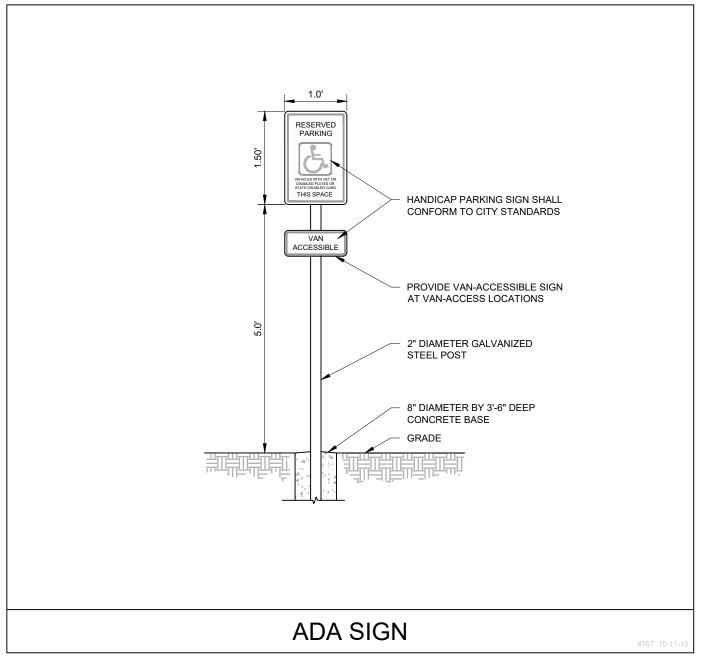
REVISIONS

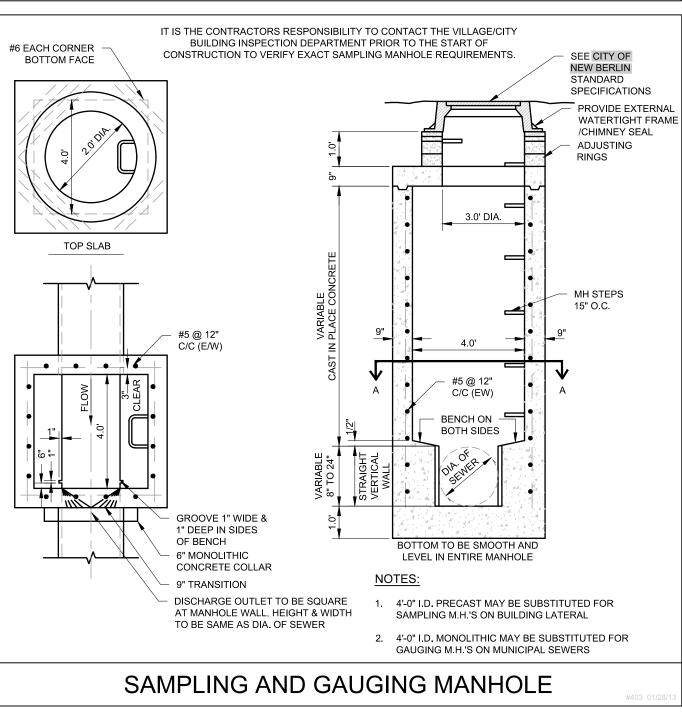
Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\CONSTRUCTION DETAIL.DWG

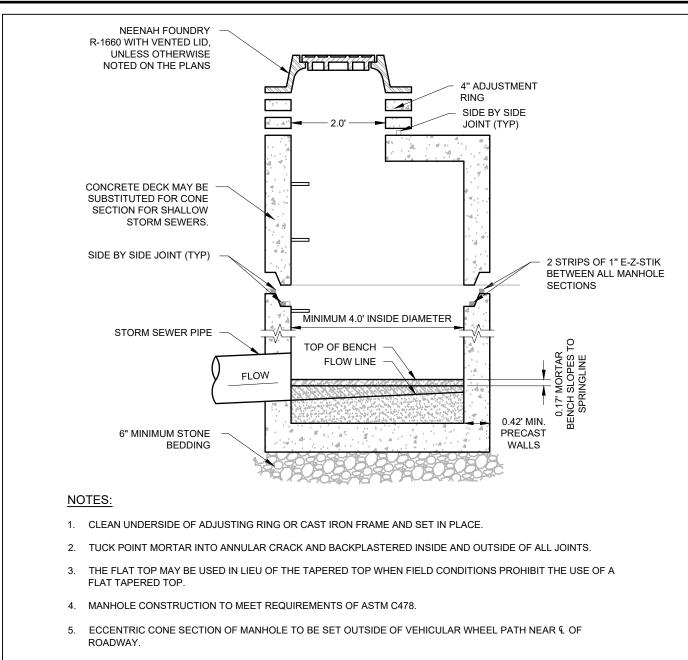
GALENA, OH (262) 754-8888





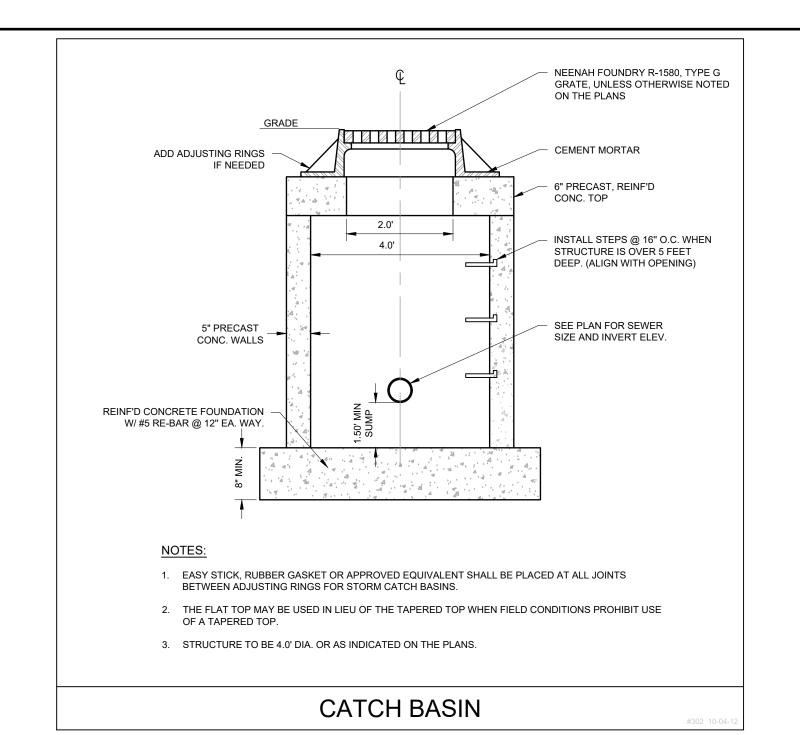


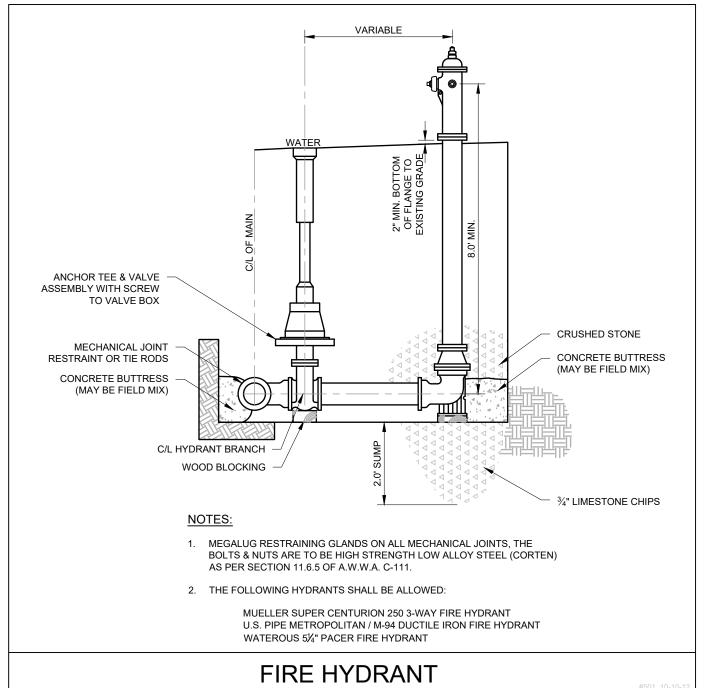


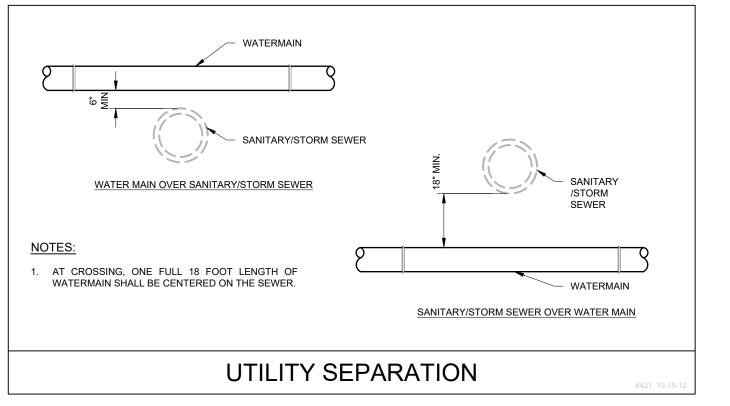


STORM SEWER MANHOLE CAST IRON FRAME AND COVER -NEENAH R-1661 OR APPROVED EQUAL PRECAST CONCRETE ADJUSTING -ADJUSTING RINGS 1 TYPE A MANHOLE 2 TYPE C MANHOLE (REINFORCED CONC. TOP SLAB DESIGNED FOR ANTICIPATED TRUCKING LOADING.) 2 STRIPS OF 1" EZ STIK MANHOLE STEPS BETWEEN ALL MANHOLE NEENAH R-1981-1 4.0' DIA ³ CLASS SI CONC. RUBBER BOOT GROUTED BENCH FLEXIBLE GASKETED MANHOLE COUPLINGS PRECAST INTO STRUCTURE FOR ALL PIPE PENERATIONS FOR SANITARY STRUCTURES. ALL AROUND CONCRETE BASE CAST INTEGRAL (SEE SPECIFICATIONS). WITH LOWEST BARREL SECTION 1. 1" EZ STIKE BETWEEN ALL ADJUSTMENT RINGS, BETWEEN TOP ADJUSTMENT RINGS AND FRAME. USE INTERNAL ADAPTOR SEAL RING, ALL JOINTS MUST BE BACKPLASTERED INSIDE AND OUT. 2. THE FLAT TOP MAYBE USED IN LIEU OF THE TAPERED TOP WHEN FIELD CONDITIONS PROHIBIT THE USE OF A TAPERED TOP. 3. STRUCTURE TO BE 4'-0" DIA UNLESS OTHERWISE INDICATED ON THE PLANS.

SANITARY MANHOLE



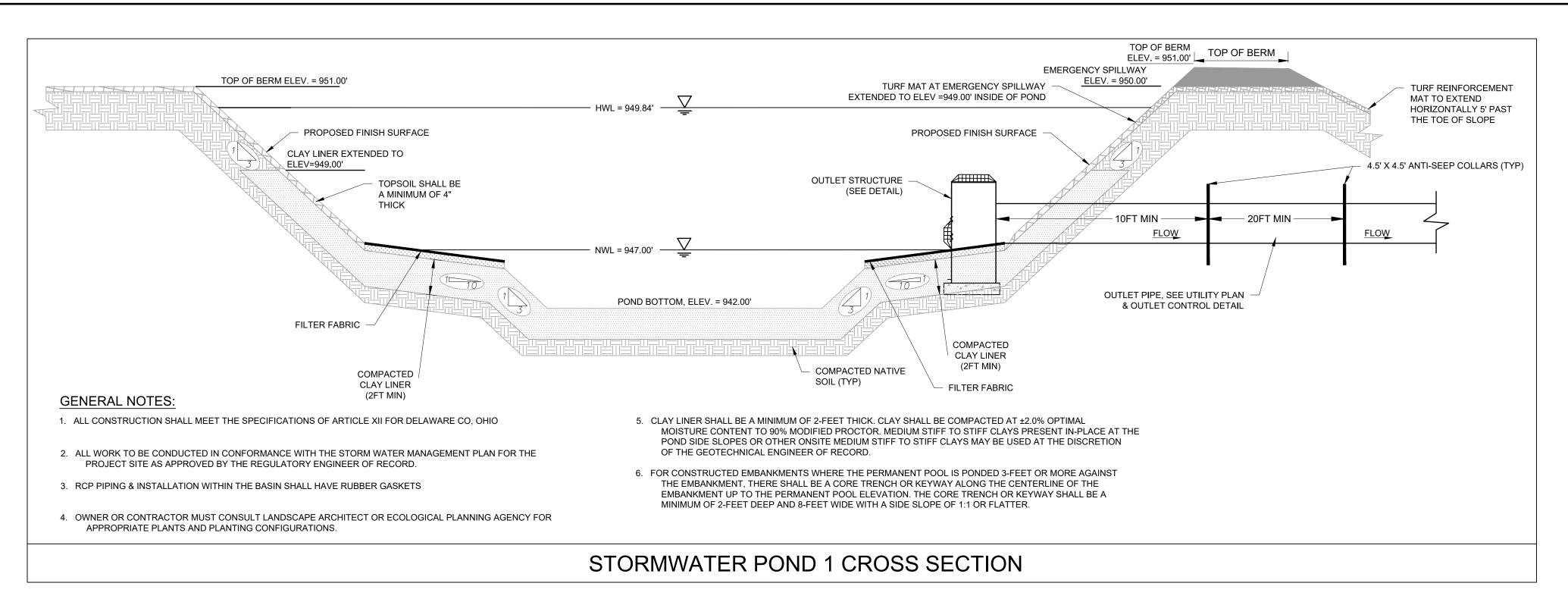


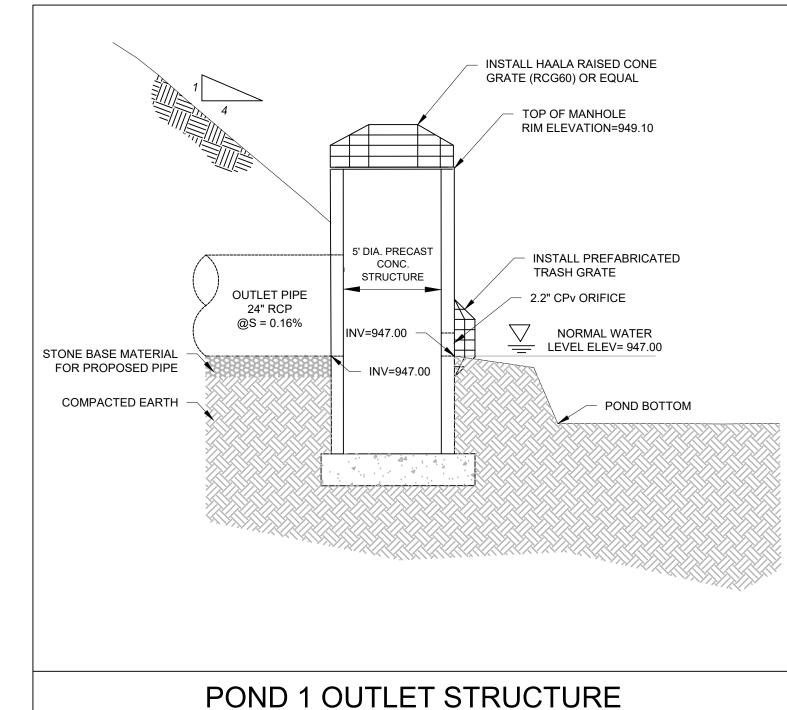


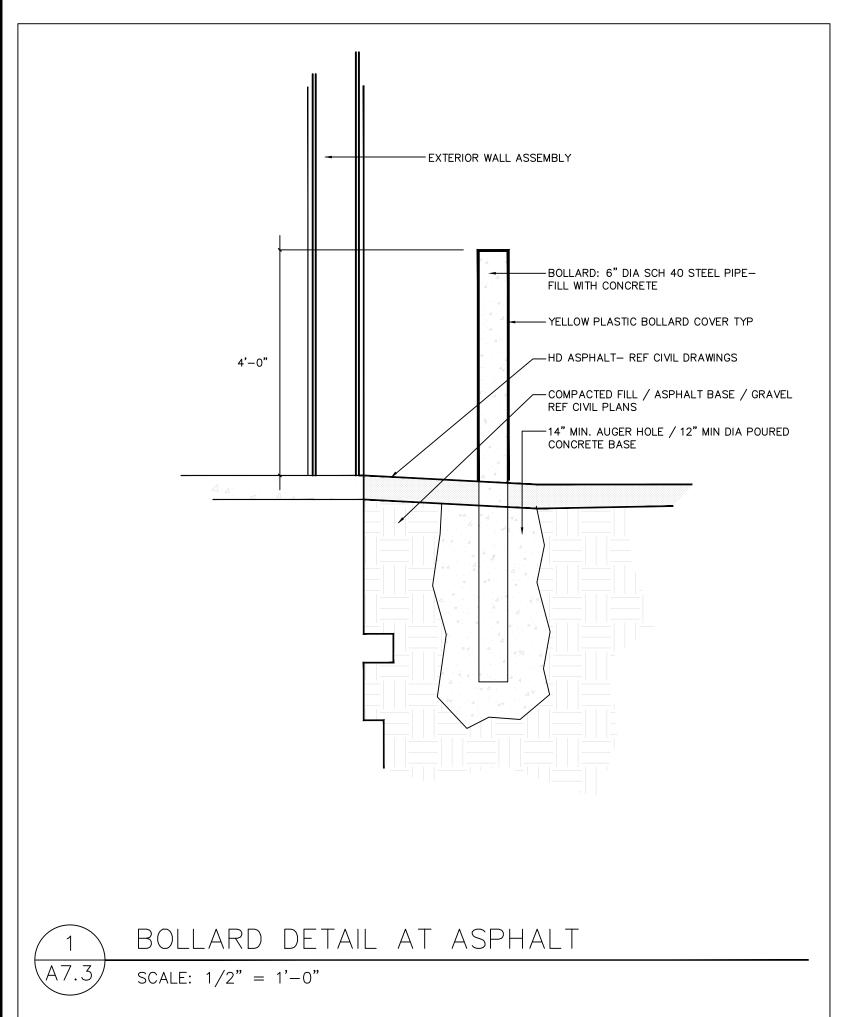


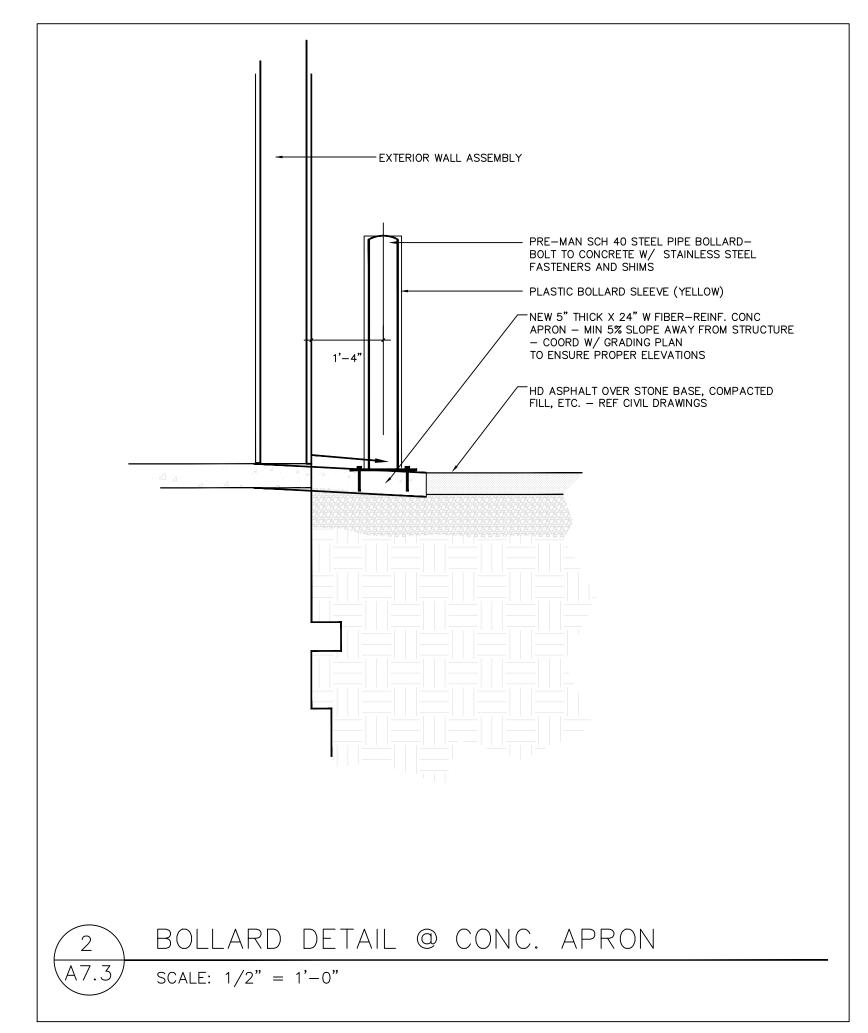
RISE COMMERCIAL
DISTRICT
GALENA, OH

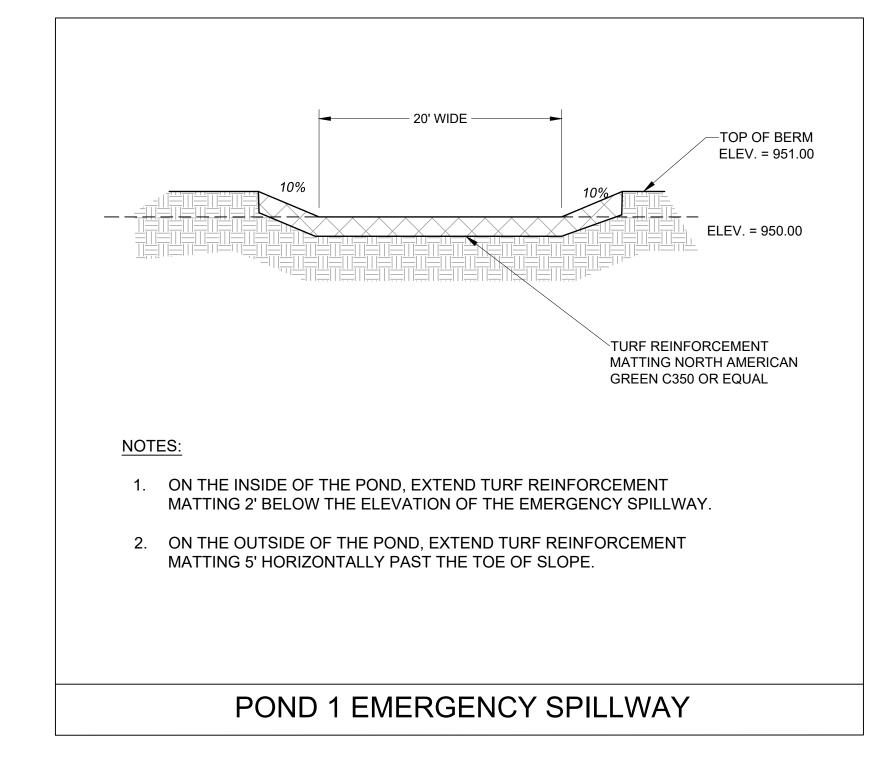
CONSTRUCTION DETAILS









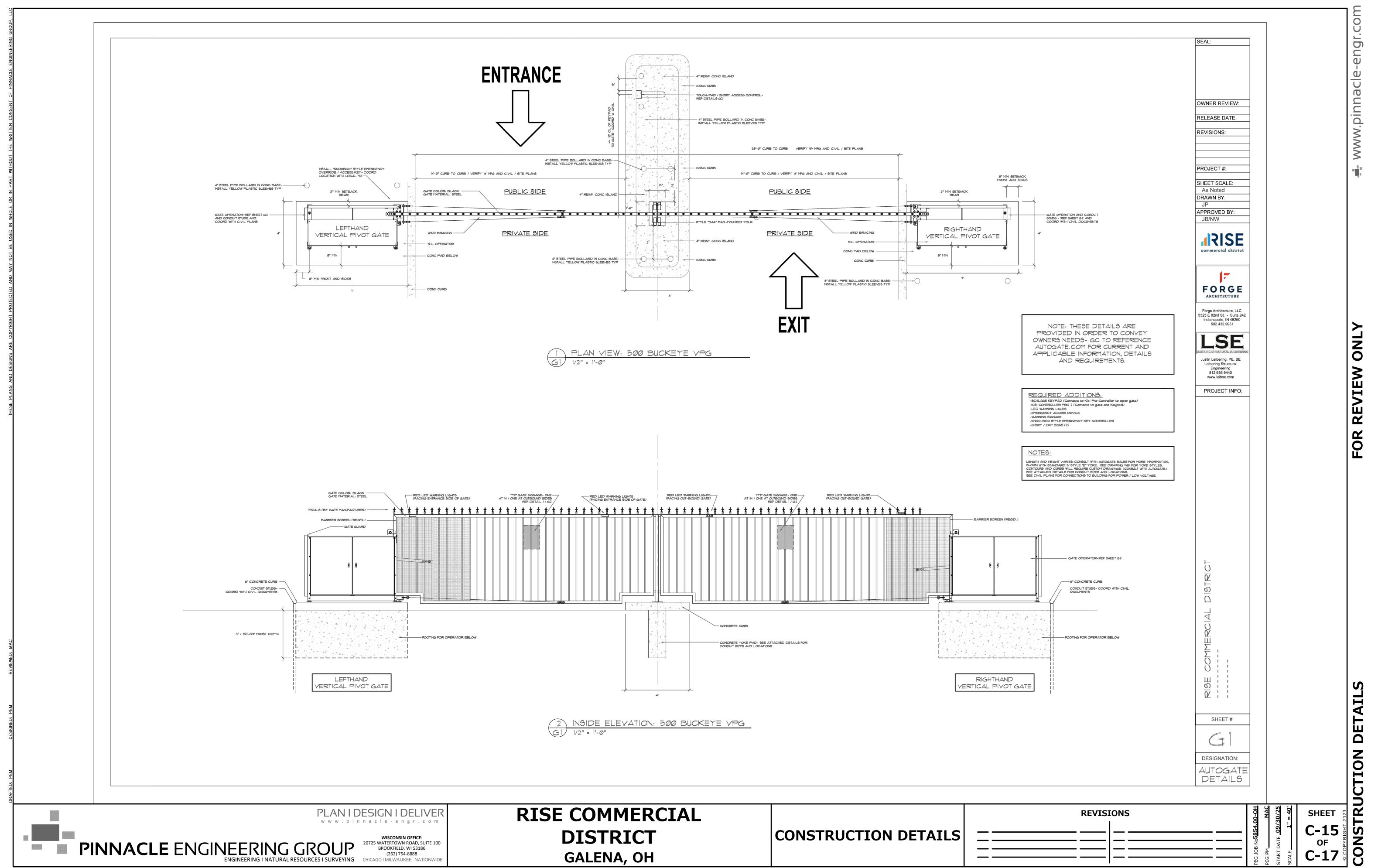


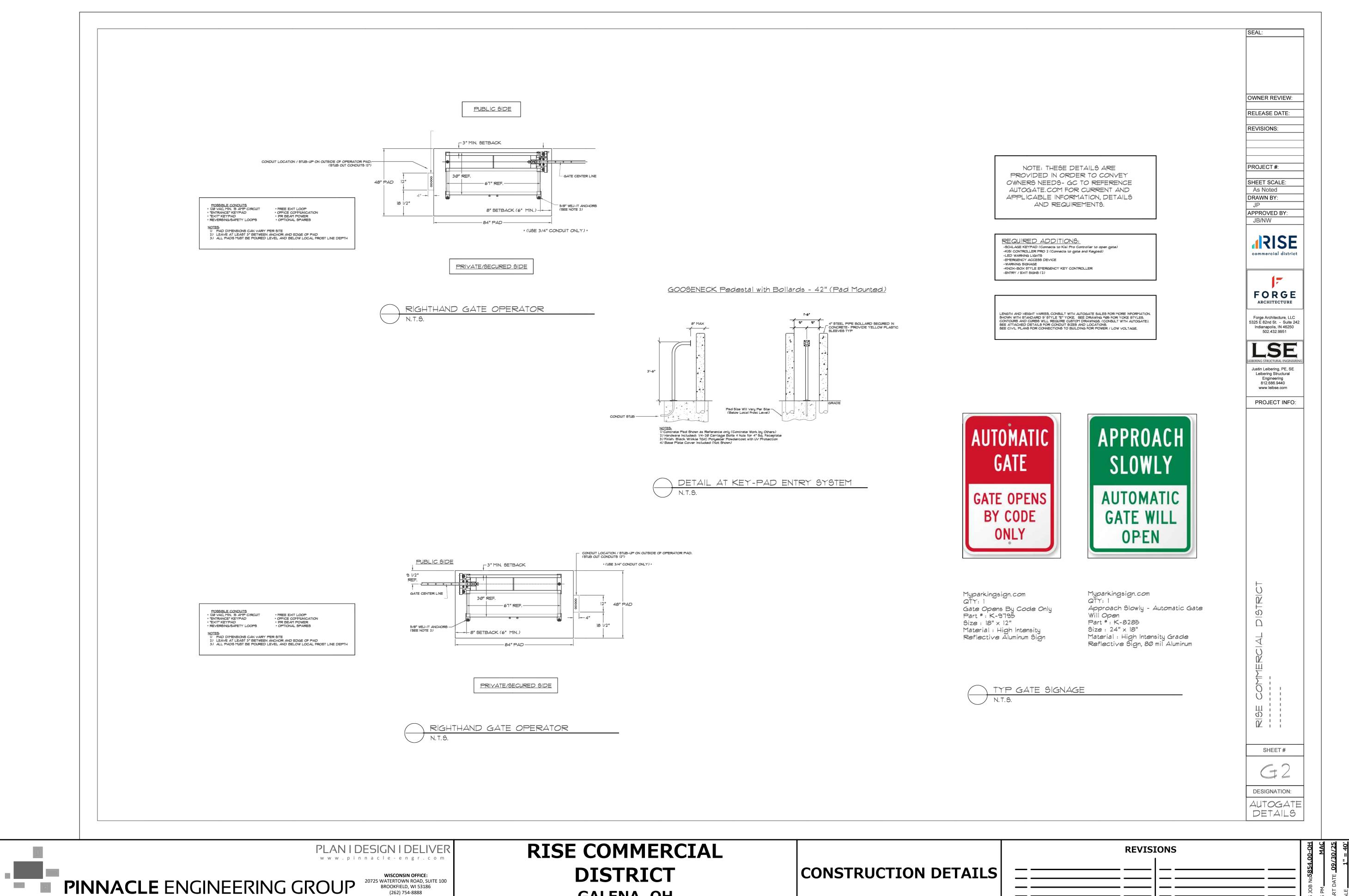


RISE COMMERCIAL **DISTRICT** GALENA, OH

CONSTRUCTION DETAILS

REVISIONS		MAC 09/30/25 1" = 40'	SH
		ol I TI I	U -
		양 世	
	I :	Z 4	
		B	I _
		PM PM LE	I C.
		D A A	
· · · · · · · · · · · · · · · · · · ·		מ מ ב	





GALENA, OH

(262) 754-8888

Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\CONSTRUCTION DETAIL.DWG

TRUCTION DETAILS

CONS

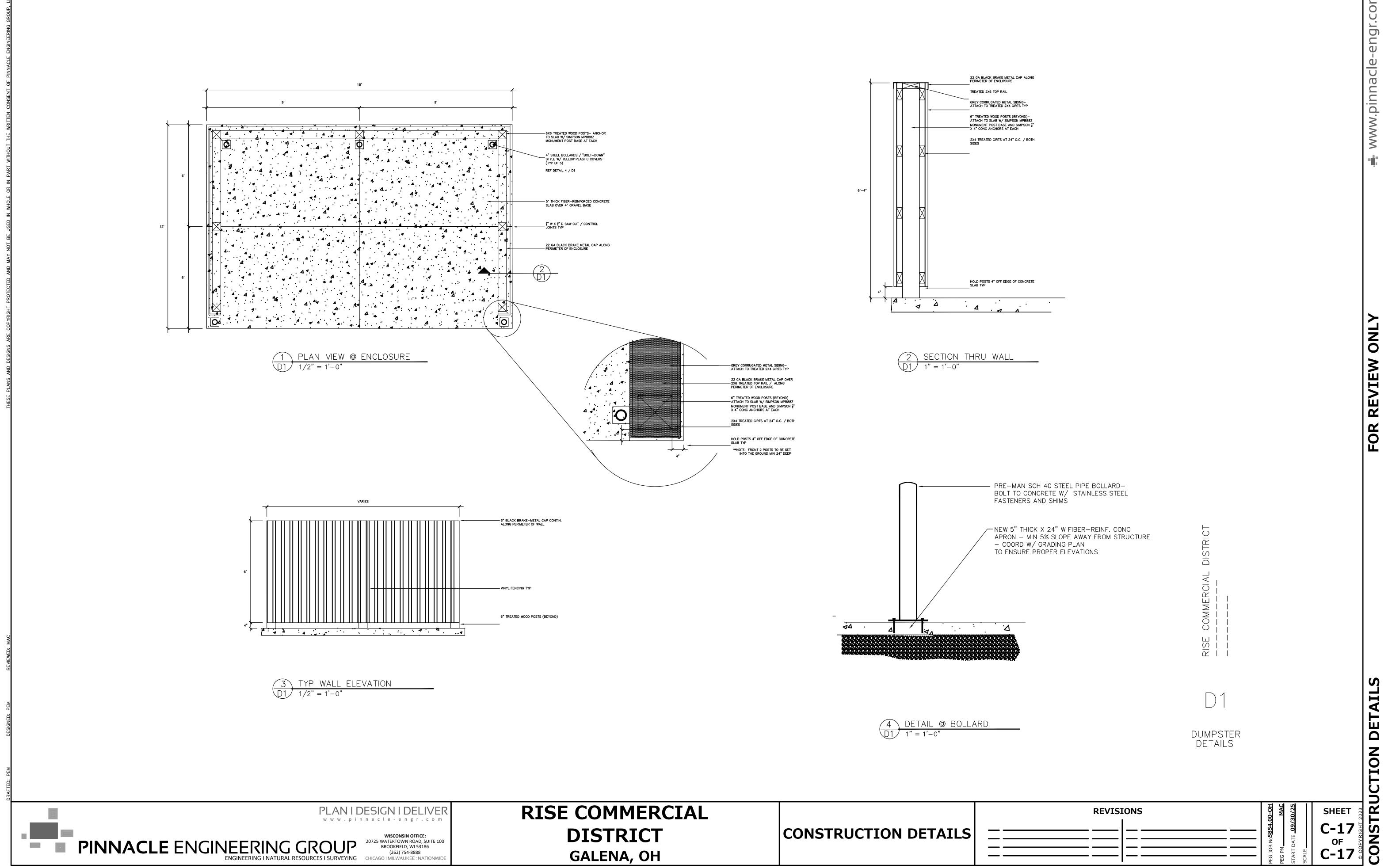
engr.co

www.pinnacle

ONL

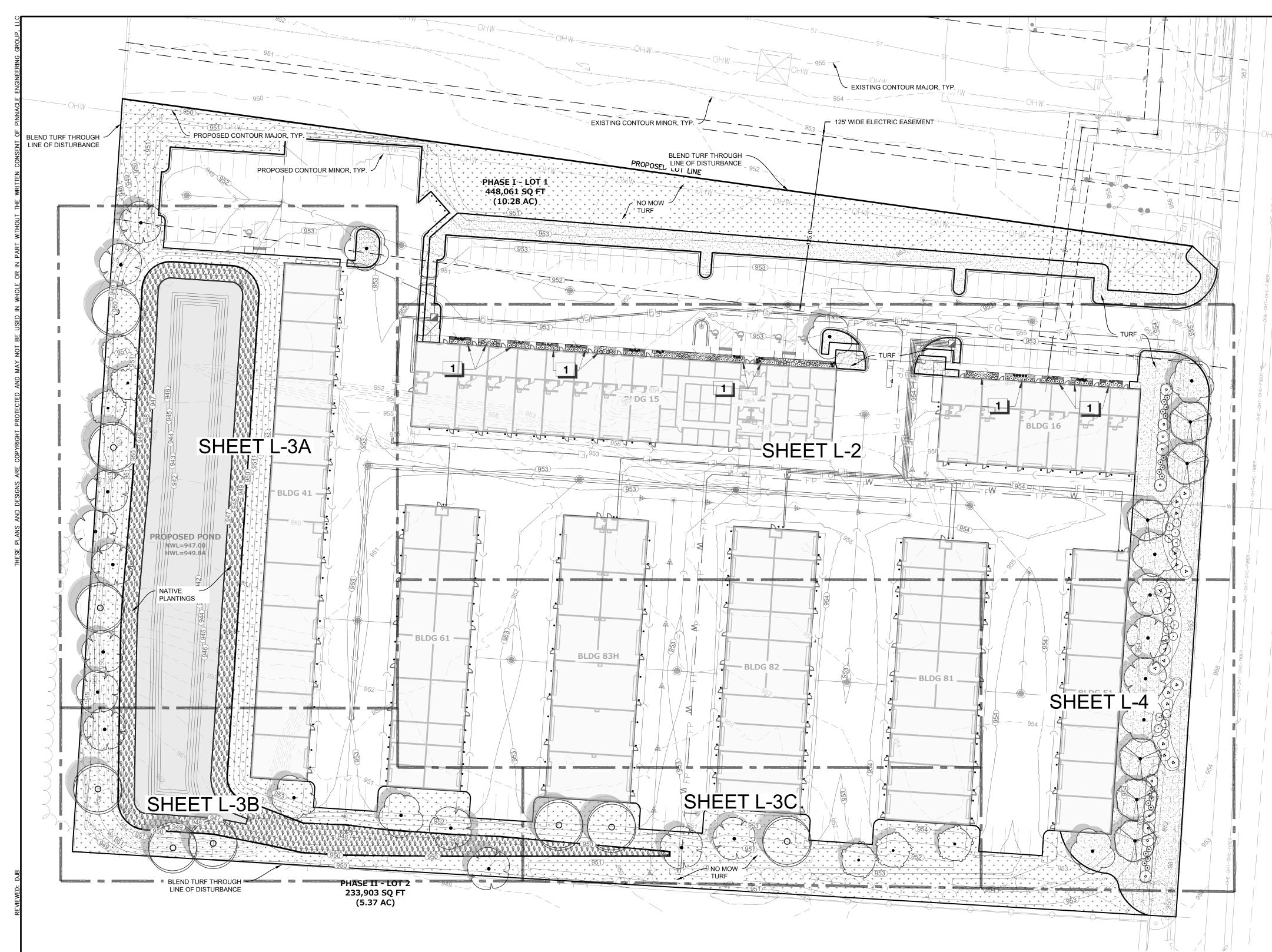
REVIEW

FOR



Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\CONSTRUCTION DETAIL.DWG

LANDSC



CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	SIZE		REMARKS		
TREES								
ANO	14	Acer rubrum 'Northwood'	Northwood Maple	2" Cal.		50' T x 35' W		
GTIS	8	Gleditsia triacanthos inermis 'Sunburst'	Sunburst Common Honeylocust	2" Cal.		45' T x 35' W		
GDE	6	Gymnocladus dioicus 'Espresso'	Espresso Kentucky Coffeetree	2" Cal.		50' T x 35' W		
TRL	6	Tilia americana 'Redmond'	Redmond American Linden	2" Cal.		50' T x 35' W		
UP2	9	Ulmus x 'Morton Glossy'	Triumph Elm	2" Cal.		55' T x 40' W		
SHRUBS								
CA	22	Cornus sanguinea 'Cato'	Arctic Sun® Bloodtwig Dogwood	2` Ht.		3' T x 3' W		
CCR	10	Cotinus coggygria `Royal Purple`	Royal Purple Smokebush	3` Ht.		12` T x 12` W		
DLR	8	Diervilla x 'G2X88544'	Kodiak Orange Diervilla	2` Ht.		4' T x 4' W		
IV2	26	Itea virginica 'SMNIVDFC'	Scentlandia® Sweetspire	2` Ht.		3' T x 3' W		
SVS	18	Syringa vulgaris 'Sensation'	Sensation Lilac	2` Ht.		11` T x 8` W		
EVERGR	EVERGREEN SHRUBS							
JI2	20	Juniperus chinensis `lowa`	Iowa Juniper	4` Ht.		13` T x 5` W		
JF	15	Juniperus chinensis 'Fairview'	Fairview Juniper	4` Ht.		7' W x 12' T		
TG	26	Taxus x media 'SMNTHDB'	Stonehenge Dark Druid® Yew	2` Ht.		3' T x 3' W		
TFC	12	Thuja occidentalis 'Congabe'	Fire Chief Arborvitae	2` Ht.		3' T x 3' W		
ORNAME	NTAL GRA	SSES						
DP	23	Deschampsia cespitosa 'Pixie Fountain'	Pixie Fountain Tufted Hair Grass	1 gal.		18" T x 18" W		
DS2	30	Deschampsia cespitosa 'Schottland'	Schottland Tufted Hair Grass	1 gal.		48"' T x 32" W		
HA2	34	Hakonechloa macra 'Aureola'	Golden Variegated Forest Grass	1 gal.		18" T x 24" W		
CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS		
PERENNI	ALS							
BY	76	Bergenia cordifolia 'Miss Piggy'	Miss Piggy Heartleaf Bergenia	4.5" Cont.	15" o.c.	15" T x 18" W		
BL2	34	Brunnera macrophylla `Looking Glass`	Siberian Bugloss	1 gal.	22" o.c.	24" T X 24" W		
HP5	61	Heuchera micrantha `Palace Purple`	Palace Purple Coral Bells	4.5" Cont.	15" o.c.	18" T X 18" W		
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME			REMARKS		
NIATI\/⊏								
NATIVE	771		OPN SEED Rainwater Renewal					
I"\(\)"\(\)"\(\)\"\(\)\"	15,056 sf	Native Plantings	Seed Mix					

Drought Tolerant Fescue Blend

No Mow/Low Grow Mix

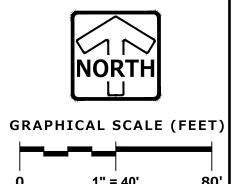
	LANDSCAPE IMPROVEMENT TABLE	REQUIRED	PROVIDED
SEC. 26.03(A)(1)(b)	PROPERTY PERIMETER: CANOPY TREES @ 1/30' CONTINUOUS HEDGE	14 X	12 * X
SEC. 26.03(B)(1)	INTERIOR FOR VEHICULAR USE AREAS: LANDSCAPE AREA	1,466 SF	1,611 SF
SEC. 26.03(B)(2)(b)	INTERIOR FOR VEHICULAR USE AREAS: CANOPY TREES @ 2" CAL.	25	31
SEC. 26.03(D)(2)	TREE PLANTING REQUIREMENTS 1" TREE SIZE / 1500SF OF BUILDING COVERAGE 55,989 SF @ 2" CAL.	32	32

^{*} UNABLE TO MEET DUE TO UTILITY & EASEMENT CONFLICTS

26,056 sf Turf Hydroseed

72,415 sf Turf Hydroseed Low Grow

REFERE	ENCE NO	TES SCHEDULE	
SYMBOL		DESCRIPTION STONE MULCH	QTY 1.611 sf
	I		,



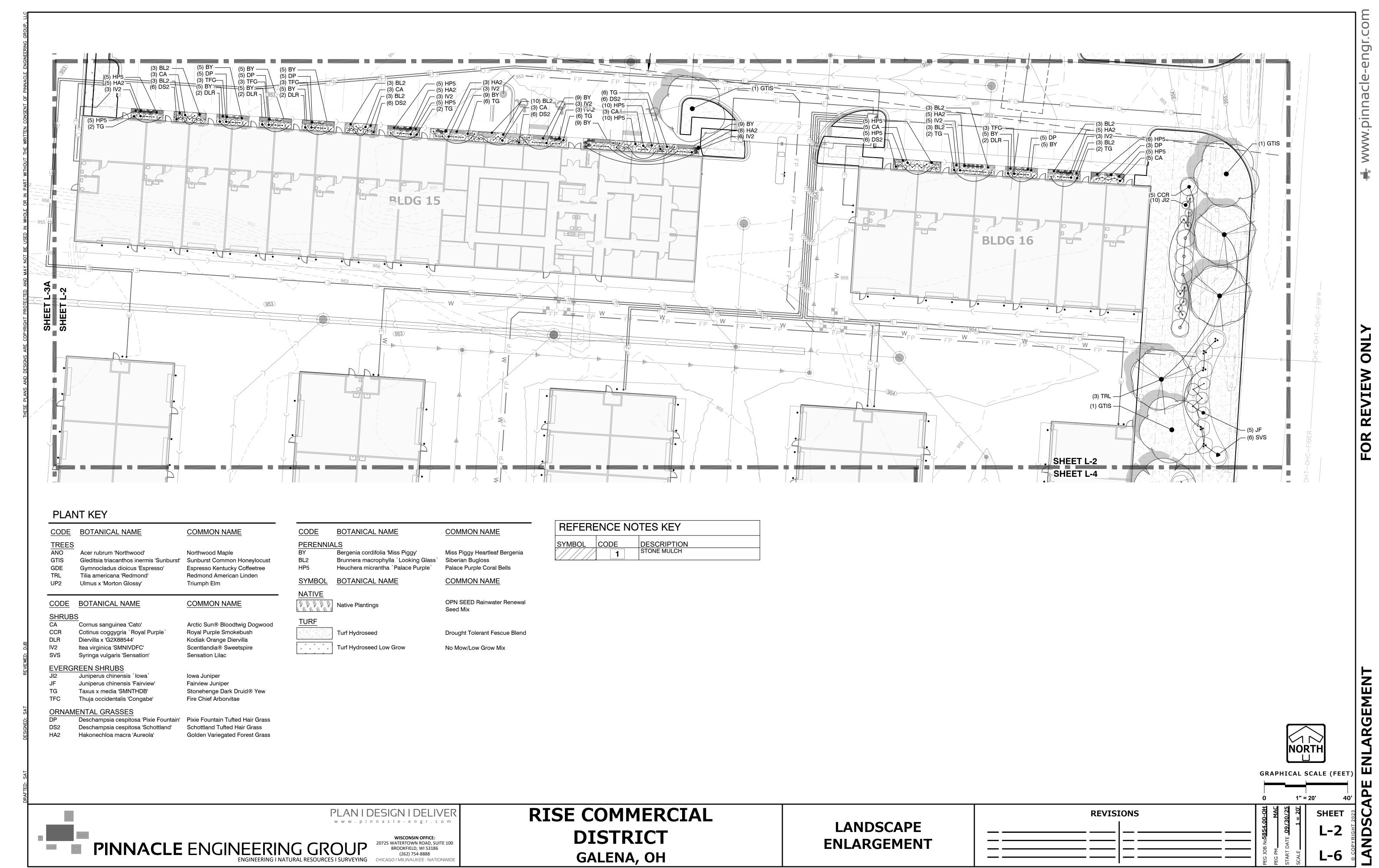
PLAN I DESIGN I DELIVER WISCONSIN OFFICE: 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 (262) 754-8888 **PINNACLE** ENGINEERING GROUP

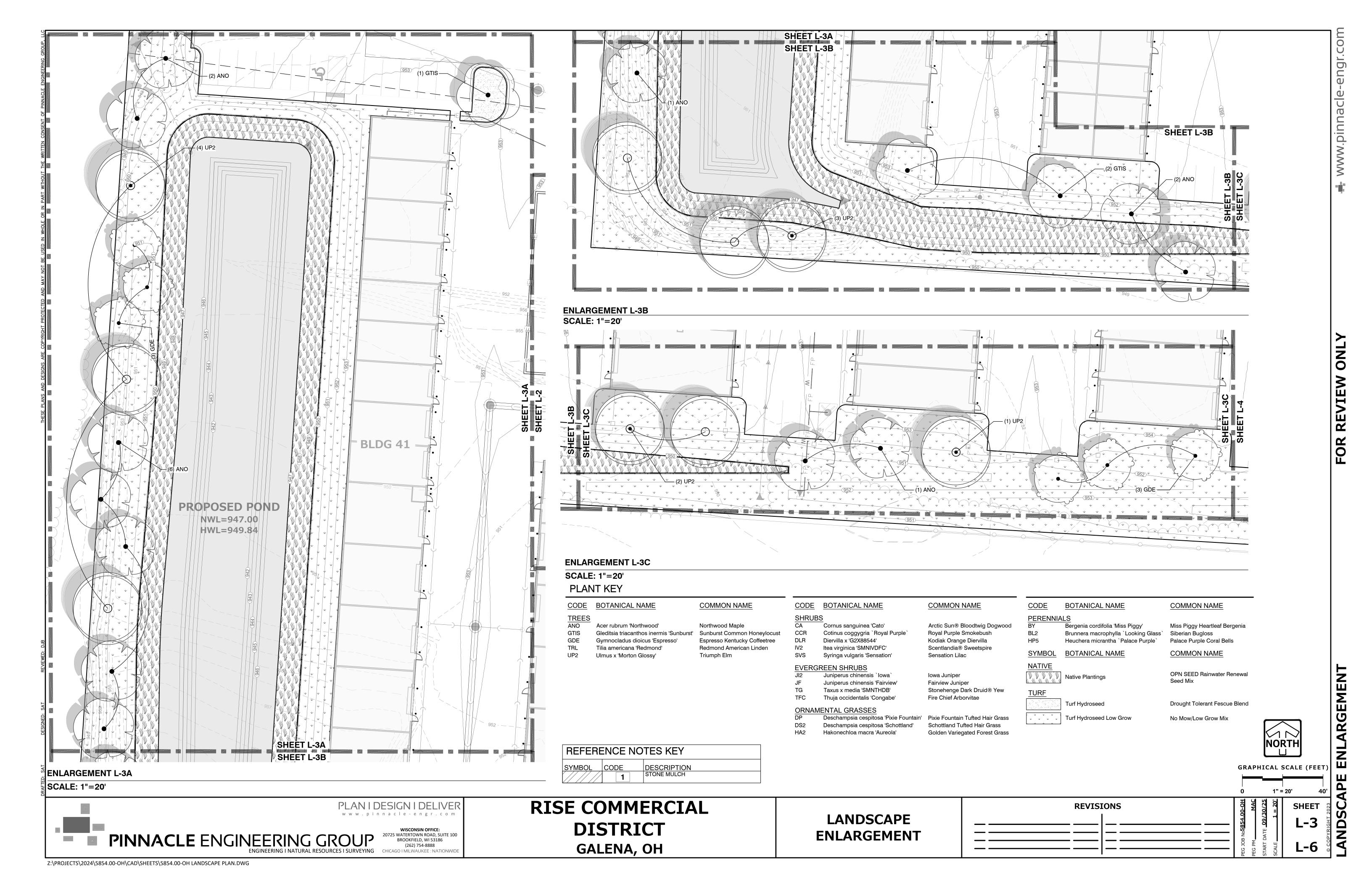
RISE COMMERCIAL **DISTRICT** GALENA, OH

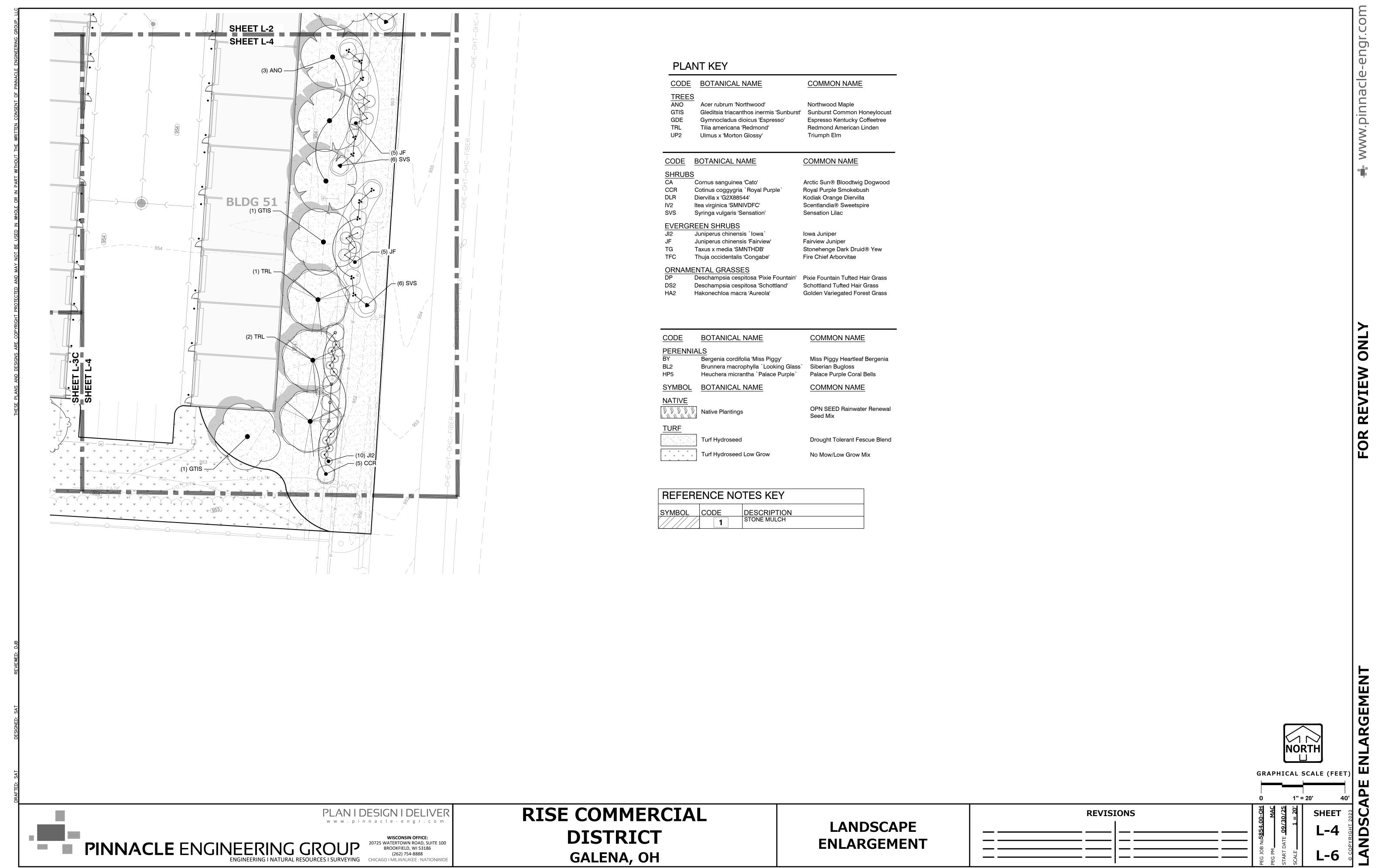
LANDSCAPE OVERVIEW

REVISIONS

Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\5854.00-OH LANDSCAPE PLAN.DWG







Z:\PROJECTS\2024\5854.00-OH\CAD\SHEETS\5854.00-OH LANDSCAPE PLAN.DWG

- 2. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY DETERMINING THE PLANT MATERIAL QUANTITIES REQUIRED BY THE LANDSCAPE PLANS. REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
- 3. NO PLANT MATERIAL OR PLANT SIZE SUBSTITUTIONS WILL BE ACCEPTED WITHOUT APPROVAL BY THE LANDSCAPE ARCHITECT. ANY CHANGES SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT IN WRITING PRIOR TO INSTALLATION.
- 4. ALL BNB STOCK SHALL BE NURSERY GROWN IN A CLAY LOAM SOIL FOR A MINIMUM OF THREE GROWING SEASONS WITHIN 200 MILES OF PROJECT LOCATION, IN A ZONE COMPATIBLE WITH USDA HARDINESS ZONE 6A. SEED SHALL BE PROVIDED FROM A NURSERY (WITHIN 200 MILES) WITH A SIMILAR PLANT HARDINESS ZONE AS PROJECT LOCATION. EXISTING SOIL SHALL BE AMENDED PER SOIL ANALYSIS REPORT TO ENSURE A PROPER GROWING MEDIUM IS ACHIEVED.
- 5. ALL PLANT MATERIAL SHALL COMPLY WITH STANDARDS DESCRIBED IN AMERICAN STANDARD OF NURSERY STOCK Z60.1 ANSI. LANDSCAPE ARCHITECT OR OWNERS AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND POTENTIALLY REJECT ANY PLANT MATERIAL DEEMED TO NOT MEET THE REQUIRED STANDARDS.
- 6. ALL STOCK SHALL BE FREE OF DISEASES AND HARMFUL INSECTS, DAMAGE, DISORDERS AND DEFORMITIES.
- 7. TREES SHALL HAVE SINGLE, STRAIGHT TRUNKS AND WELL BALANCED BRANCH SYSTEMS.
 MUTLI-STEM TREES SHALL HAVE 3-4 STRAIGHT TRUNKS AND WELL BALANCED BRANCH
 SYSTEMS. HEIGHT-TO-CALIPER RATIOS SHALL BE CONSISTENT WITH THE LATEST EDITION
 OF ANSI Z60.1.
- 8. ROOT SYSTEMS SHALL BE LARGE ENOUGH TO ALLOW FOR FULL RECOVERY OF THE TREE, AND SHALL CONFORM TO STANDARDS AS THEY APPEAR IN THE MOST CURRENT REVISION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD OF NURSERY STOCK ANSI Z60.1.
- 9. BNB TREES SHALL BE DUG WITH A BALL OF SOIL, NOT SOFT BALLED OR POTTED AND SHALL BE FIRM IN THEIR ROOTBALL. ROOT BALL SHALL BE WRAPPED (WITH BIODEGRADABLE MATERIAL). THE TREE ROOT FLARE, OR COLLAR, SHALL BE AT OR WITHIN THE TOP THREE INCHES OF GRADE.
- 10. ALL SPRING TREES MUST BE FRESHLY DUG IN THE MOST RECENT SPRING.
- 11. ALL AUTUMN TREES MUST BE FRESHLY DUG IN THE MOST RECENT AUTUMN.
- 12. TREES SHALL BE ALIVE, HEALTHY AND APPROPRIATELY MOIST, AT TIME OF DELIVERY. TREES SHALL BE SUBJECT TO INSPECTION FOR CONFORMITY TO SPECIFICATION REQUIREMENTS AND APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE. THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY TREES THAT DO NOT MEET THE SPECIFICATIONS OR THAT HAVE BEEN DAMAGED DURING SHIPMENT. THE LANDSCAPE INSTALLER MUST RECEIVE APPROVAL FROM LANDSCAPE ARCHITECT FOR ANY SUBSTITUTIONS OR ALTERATIONS.
- 13. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH PLANTING DETAILS.
- 14. ALL PLANTING BEDS SHALL HAVE A MINIMUM 10" DEPTH OF PREPARED SOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 10" OF SOIL. REFER TO SOIL PLACEMENT NOTES.
- 15. WHILE PLANTING TREES AND SHRUBS, BACKFILL $\frac{2}{3}$ OF PLANTING HOLE AND WATER TREE THOROUGHLY BEFORE INSTALLING THE REMAINDER OF SOIL MIXTURE. AFTER ALL SOIL HAS BEEN PLACED INTO THE PLANTING HOLE WATER THOROUGHLY AGAIN.
- 16. THE CONTRACTOR MUST LABEL ALL TREES WITH THE COMMON AND BOTANICAL NAMES PRIOR TO FINAL INSPECTION.
- 17. AREAS THAT CALL FOR STONE MULCH SHALL RECEIVE LANDSCAPE FABRIC WITH 2" DEEP STONE MULCH. CONTRACTOR TO PROVIDE LANDSCAPE FABRIC AND MULCH SPECIFICATIONS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. LANDSCAPE FABRIC SHALL BE INSTALLED TO COVER THE ENTIRE AREA TO RECEIVE STONE MULCH WITH EACH SEAM OVERLAPPING A MINIMUM OF 6" & STAPLED EVERY 12".
- 18. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" DEEP SHREDDED HARDWOOD MULCH, AND ALL TREES PLANTED IN TURF AREAS SHALL RECEIVE A 3" DEEP SHREDDED HARDWOOD MULCHED RING AS SHOWN IN PLANTING DETAILS.
- 19. ALL PLANTING BEDS AND TREE RINGS SHALL HAVE A 4" DEEP TRENCHED BED EDGE CREATED BY EITHER A FLAT LANDSCAPE SPADE OR MECHANICAL EDGER. BED EDGES ARE TO BE CUT CLEAN AND SMOOTH AS SHOWN ON LANDSCAPE PLANS WITH A CLEAN DEFINITION BETWEEN TURF AND PLANTING AREAS.
- 20. ALL TURF SEED AREAS SHALL RECEIVE A MINIMUM OF 6" DEPTH OF TOPSOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 6" OF SOIL AS INDICATED IN THE SOIL PLACEMENT NOTES. REQUIRED AMENDMENTS SHALL BE DETERMINED BASED ON A SOIL ANALYSIS TO BE PERFORMED. ALL TOPSOIL AMENDMENT SHALL BE AGED WEED FREE MANURE OR CLASS 1 ORGANIC MATTER.
- 21. FOR LAWN SEEDING, APPLY A STARTER FERTILIZER AND SEED UNIFORMLY AT THE RATE RECOMMENDED BY MANUFACTURER, AND PROVIDE A MULCH COVERING THAT IS SUITABLE TO PROMOTE SEED GERMINATION AND TURF ESTABLISHMENT. CONTRACTOR TO PROVIDE FERTILIZER, SEED, AND MULCH SPECIFICATIONS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. EROSION CONTROL MEASURES ARE TO BE INSTALLED IN THOSE AREAS REQUIRING STABILIZATION (SWALES, SLOPES EXCEEDING 1:3, AND THOSE LOCATIONS INDICATED IN CIVIL DRAWINGS).

- 22. THE CONTRACTOR TO ENSURE A SMOOTH, UNIFORM QUALITY TURF IS ACHIEVED WITH NO BARE SPOTS LARGER THAN 6" X 6". ANY BARE SPOTS LARGER THAN 6" X6" AT THE END OF ESTABLISHMENT PERIOD SHALL BE RESEEDED AT THE CONTRACTORS EXPENSE TO OBTAIN A DENSE, UNIFORM LAWN.
- 23. ALL FINISH GRADING AND LAWN AREAS TO BE INSTALLED BY LANDSCAPE CONTRACTOR.
- 24. ALL DISTURBED AREAS WITHIN THE PROJECT SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
- 25. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF WORK SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- 26. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, INCLUDING ANY IRRIGATION LINES, PRIOR TO DIGGING, CONSULT OHIO 811.
- 27. TREES SHALL BE INSTALLED NO CLOSER THAN:
 - -10 FEET FROM ANY FIRE HYDRANT
- 7 FEET FROM STORM SEWER, SANITARY SEWER LATERALS, AND WATER SERVICE 28. THE CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE
- ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE CONSTRUCTION SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN ALL AREAS
- 29. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, AND LICENSES NECESSARY FOR THE INSTALLATION OF THIS PLAN.
- 30. THE CONTRACTOR IS TO REVIEW ALL SITE ENGINEERING DOCUMENTS PRIOR TO INSTALLATION. ANY CONFLICTS MUST BE REPORTED TO THE LANDSCAPE ARCHITECT. THESE LANDSCAPE DRAWINGS ARE FOR THE INSTALLATION OF PLANT MATERIALS ONLY UNLESS OTHERWISE STATED.
- 31. THE CONTRACTOR SHALL PROVIDE WATERING AND MAINTENANCE SERVICES FOR A PERIOD OF 60 DAYS TO ENSURE VEGETATIVE ESTABLISHMENT. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL SUPPLY THE OWNER IN WRITING WITH ONGOING WATERING AND MAINTENANCE INSTRUCTIONS.
- 32. PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM TIME OF OWNER ACCEPTANCE. ONLY ONE REPLACEMENT PER PLANT WILL BE REQUIRED DURING THE WARRANTY PERIOD EXCEPT IN THE EVENT OF FAILURE TO COMPLY WITH THE SPECIFIED REQUIREMENTS.
- 33. THE CONTRACTOR IS RESPONSIBLE TO CONDUCT A FINAL WALK THROUGH WITH THE LANDSCAPE ARCHITECT AND OR OWNERS REPRESENTATIVE TO ANSWER QUESTIONS, PROVIDE INSTRUCTIONS, AND ENSURE THAT PROJECT REQUIREMENTS HAVE BEEN MET.

SOIL PLACEMENT NOTES

- 1. LOOSEN SUBGRADE TO A MINIMUM DEPTH INDICATED IN PLANTING NOTES USING A CULTI-MULCHER OR SIMILAR EQUIPMENT, AND REMOVE STONES MEASURING OVER 1-1/2 INCHES IN ANY DIMENSION, STICKS, RUBBISH AND OTHER EXTRANEOUS MATTER. AREAS ADJACENT TO WALKS AND PAVEMENT SHALL BE FREE OF EXCESS STONE AND PAVING MATERIALS SO AS TO PROVIDE AN UNINTERRUPTED CROSS SECTION OF SOIL. INTERNAL PARKING ISLANDS SHALL BE LOOSENED TO A DEPTH OF 30".
- 2. THOROUGHLY BLEND PLANTING SOIL MIX FOR PLANTING BED AREAS. (1 PART EXISTING SOIL, 1 PART TOPSOIL, 1 PART ORGANIC SOIL AMENDMENT, 2.9 POUNDS PER CUBIC YARD OF 4-4-4 ANALYSIS SLOW-RELEASE FERTILIZER)
- 3. TREE AND SHRUB HOLES SHALL BE FILLED WITH A PREPARED PLANTING MIXTURE OF 1 PART TOPSOIL, 2 PARTS PLANTING SOIL MIX.
- 4. SPREAD SOIL AND SOIL AMENDMENTS TO DEPTH INDICATED ON DRAWINGS, BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLEMENT. (FINISH GRADE OF PLANTING BEDS SHALL BE 3" BELOW ALL ADJACENT SURFACES. FINISH GRADE OF TURF SEEDING AREAS SHALL BE 1" BELOW ALL ADJACENT HARD SURFACES, WALKS, AND CURBS.)
- 5. PLACE APPROXIMATELY 1/2 OF TOTAL AMOUNT OF SOIL REQUIRED. WORK INTO TOP OF LOOSENED SUBGRADE TO CREATE A TRANSITION LAYER, THEN PLACE REMAINDER OF THE SOIL. SOIL TRANSITION LAYER SHALL BE TILLED TO A MINIMUM DEPTH OF 6" BELOW THE DEPTH OF NEWLY PLACED SOIL. PARKING LOT ISLANDS SHALL BE CROWNED TO A HEIGHT OF 6" TO PROVIDE PROPER DRAINAGE UNLESS OTHERWISE NOTED.
- 6. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
- 7. FINISH GRADING: GRADE SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH A LOOSE, UNIFORMLY FINE TEXTURE.
- 8. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.
- RESTORE PLANTING BEDS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

NATIVE SEEDING

ESTABLISHMENT OF A VIABLE VEGETATION COMMUNITY WITHIN THE BIO INFILTRATION BASINS WILL BE COMPLETED BY HAND-BROADCASTING OF PRE-DESIGNED SEED MIXES TO CREATE A DYNAMIC PLANTING.

PRIOR TO SEEDING

- A. ALL WEEDS AND EXISTING VEGETATION SHALL BE REMOVED. EXISTING VEGETATION SHALL BE TREATED WITH GLYPHOSATE OR SIMILAR HERBICIDE BY A LICENSED PROFESSIONAL. TREATMENT SHALL OCCUR A MINIMUM OF 10 DAYS PRIOR TO SEEDING. VEGETATION STILL ALIVE AFTER INITIAL HERBICIDE TREATMENT SHALL BE TREATED A SECOND TIME PRIOR TO TILLING INTO THE SOIL.TREATED VEGETATION SHALL BE TILLED INTO THE SOIL NO EARLIER THAN 1 DAY PRIOR TO SEEDING.
- B. PREPARATION OF SOIL PRIOR TO SEEDING
- REFER TO CIVIL PLANS FOR SOIL MIXTURE.
- 2. ALL FOREIGN MATERIALS LARGER THAN 1-INCH SHALL BE REMOVED FROM THE SOIL PRIOR TO SEEDING.
- 3. AREA SHOULD BE FREE FROM UNSIGHTLY VARIATIONS, RIDGES, AND DEPRESSIONS.
- 4. AVOID DRIVING OVER THE SPECIFIED AREA WITH MACHINERY.

SPECIFICATIONS FOR HAND BROADCASTING:

SEEDING SHALL BE CONDUCTED IN LATE FALL (SEPTEMBER 1- SOIL FREEZE) SO THAT SEEDS MAY LIE DORMANT DURING THE WINTER, ALLOWING FOR STRATIFICATION, OR SPRING (MARCH 1-JUNE 1) TO ALLOW A COMPLETE GROWING SEASON TO BECOME ESTABLISHED.

A. COVER CROP

- 1. ANNUAL RYE SHALL BE SPREAD AT A DENSITY OF 20 POUNDS PER ACRE DURING THE PLANTING OR SEEDING OF THE NATIVE PLANT SPECIES TO STABILIZE THE SOIL AND REDUCE THE GROWTH OF UNWANTED VEGETATION. THIS ANNUAL GRASS GROWS RAPIDLY WITHOUT COMPETING WITH THE WILDFLOWERS AND GRASSES THAT ARE PLANTED IN THE TARGET AREAS.
- WINTER WHEAT OR PERENNIAL RYE SHALL NOT BE USED AS A COVER CROP. THESE GRASSES MAY OUT COMPETE PRAIRIE SEEDLINGS, LEADING TO A REDUCTION IN THE SUCCESS OF THE PLANTINGS.

B. SEED MIX:

- MIX ALL NATIVE SEED WITH VERMICULITE ACCORDING TO SUPPLIERS RECOMMENDATIONS AND INSTALLATION GUIDELINES.
- 2. BROADCAST HALF THE SEED OVER THE ENTIRE SITE OR TARGET AREA.
- 3. BROADCAST THE OTHER HALF OF SEED PERPENDICULAR TO THE DIRECTION THAT THE FIRST HALF OF THE SEED WAS BROADCAST.
- 4. COVER SEED WITH $\frac{1}{4}$ -INCH TO $\frac{1}{2}$ -INCH OF SOIL (USE ANY EXCESS SOIL FROM THE SITE) WITH RAKE OR DRAG
- 5. ROLL SITE TO ENSURE FIRM SEED-TO-GROUND CONTACT.
- 6. KEEP SEED CONSTANTLY WET THROUGH GERMINATION PERIOD. GENERALLY 3 WEEKS.

ALL SEEDING SHALL BE COVERED WITH 1-INCH OF CLEAN, NON-INVASIVE STRAW (NO MARSH HAY, OR REED CANARY GRASS) WITHOUT SEEDS, WITHIN SEVEN DAYS. WHEAT, RYE, OATS, OR BARLEY ARE ACCEPTABLE FORMS OF STRAW. THOSE AREAS OF SLOPES STEEPER THAN 8:1 (EIGHT FEET HORIZONTAL TO ONE FOOT VERTICAL) SHALL BE PLANTED NO LATER THAN OCTOBER 1 AND STAKED WITH AN EROSION CONTROL BLANKET TO PREVENT EROSION.

NATIVE PLANTINGS:

WEED SUPPRESSION MEASURES:

1st YEAR - PERFORM SPOT SPRAY WITH HERBICIDE TO SUPPRESS WEEDS. THIS SHOULD OCCUR APPROXIMATELY EVERY MONTH OF THE GROWING SEASON AFTER NATIVE PLANTINGS HAVE BEEN ROUGH GRADED.

2nd YEAR - IN MAY/JUNE MOW NATIVE PLANTINGS AT 6" HEIGHT TO SUPPRESS THE WEEDS. PERFORM SPOT SPRAY WITH HERBICIDE TO SUPPRESS WEEDS. HAVE PROFESSIONAL ASSESS PLANTINGS. REPEAT MOWING NATIVE PLANTINGS AND SPOT-SPRAY IN EARLY JULY.

3rd YEAR - IN MAY/JUNE MOW NATIVE PLANTINGS AT 8" HEIGHT TO SUPPRESS THE WEEDS. PERFORM SPOT SPRAY WITH HERBICIDE TO SUPPRESS WEEDS.

4th YEAR - IN MAY PERFORM A PRESCRIBED BURN. IN JUNE HAVE A QUALIFIED PROFESSIONAL ASSESS PLANTINGS. IF A PRESCRIBED BURN CAN NOT BE UTILIZED, NATIVE PLANTINGS SHALL BE CUT TO THE GROUND AND ALL CUT MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF SITE.

PLAN I DE LA VILLE
PLANIDESIGNIDELIVER
www.pinnacle-engr.com

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888

RISE COMMERCIAL
DISTRICT
GALENA, OH

LANDSCAPE GENERAL NOTES

REVISIONS

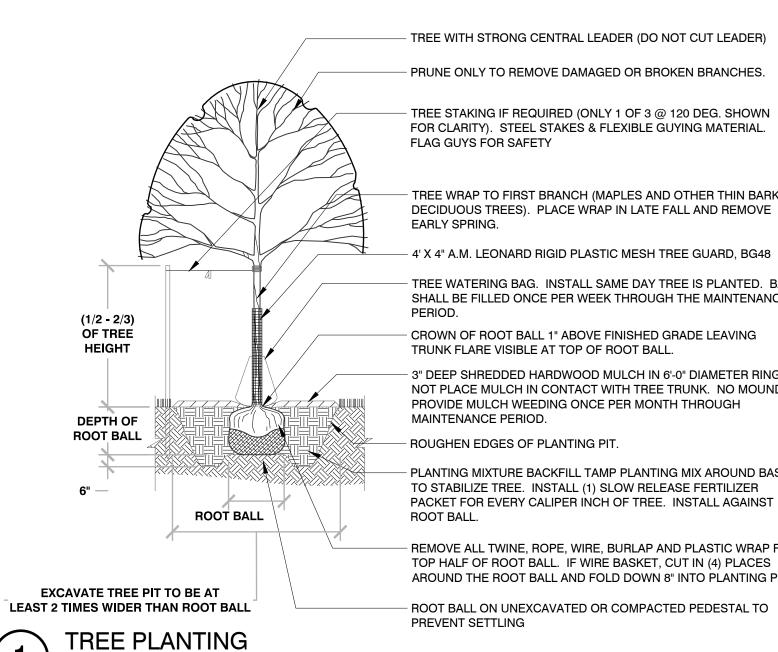
SHEET

L-5

0

0

L-6



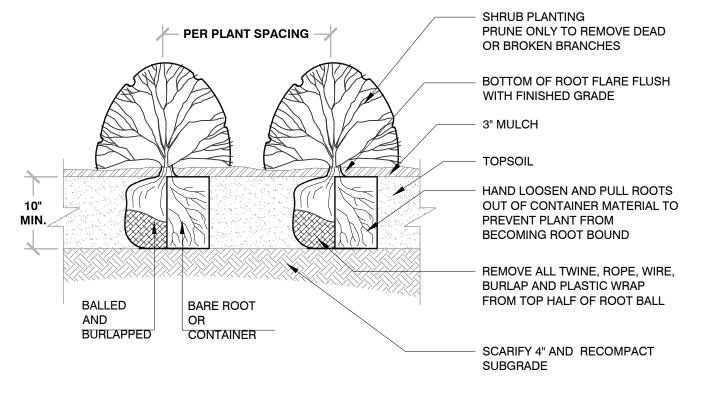
TREE STAKING IF REQUIRED (ONLY 1 OF 3 @ 120 DEG. SHOWN FOR CLARITY). STEEL STAKES & FLEXIBLE GUYING MATERIAL. FLAG GUYS FOR SAFETY TREE WRAP TO FIRST BRANCH (MAPLES AND OTHER THIN BARKED DECIDUOUS TREES). PLACE WRAP IN LATE FALL AND REMOVE EARLY SPRING. 4' X 4" A.M. LEONARD RIGID PLASTIC MESH TREE GUARD, BG48 TREE WATERING BAG. INSTALL SAME DAY TREE IS PLANTED. BAG SHALL BE FILLED ONCE PER WEEK THROUGH THE MAINTENANCE CROWN OF ROOT BALL 1" ABOVE FINISHED GRADE LEAVING TRUNK FLARE VISIBLE AT TOP OF ROOT BALL. 3" DEEP SHREDDED HARDWOOD MULCH IN 6'-0" DIAMETER RING. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. NO MOUNDING. PROVIDE MULCH WEEDING ONCE PER MONTH THROUGH

MAINTENANCE PERIOD. ROUGHEN EDGES OF PLANTING PIT. PLANTING MIXTURE BACKFILL TAMP PLANTING MIX AROUND BASE TO STABILIZE TREE. INSTALL (1) SLOW RELEASE FERTILIZER

REMOVE ALL TWINE, ROPE, WIRE, BURLAP AND PLASTIC WRAP FROM TOP HALF OF ROOT BALL. IF WIRE BASKET, CUT IN (4) PLACES AROUND THE ROOT BALL AND FOLD DOWN 8" INTO PLANTING PIT.

ROOT BALL ON UNEXCAVATED OR COMPACTED PEDESTAL TO PREVENT SETTLING

COMPACTED TOPSOIL SAUCER, DO NOT EXCEED ANGLE OF REPOSE SET ROOT COLLAR FLUSH WITH SLOPE GRADE — 3" DEEP SHREDDED HARDWOOD MULCH PLANTING MIXTURE ROOT BALL SEE PLANTING DETAIL 12" MIN. (TREES) 6" MIN. (SHRUB)



BAREROOT PLANTING NOTES:

SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.

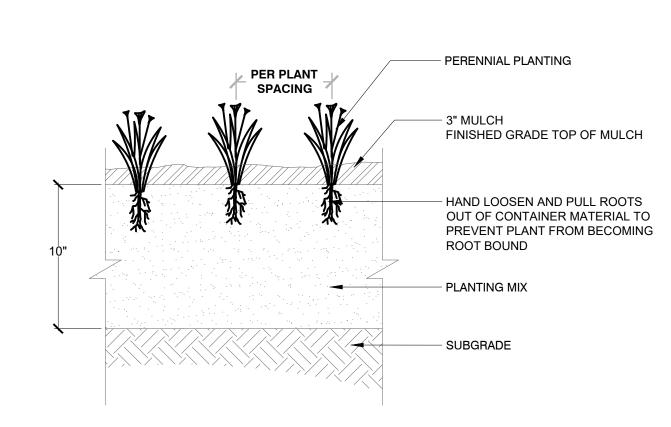
2. SCARIFY SIDES AND BOTTOMS OF HOLE. PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND BOTTOM ROOTS.

4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND

IMMEDIATELY BACKFILL WITH PLANTING SOIL MIX. 5. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.

6. BACKFILL VOIDS AND WATER SECOND TIME.

7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.



PER PLANT

SPACING

PERENNIAL PLANTING

2" STONE MULCH

LANDSCAPE FABRIC

ROOT BOUND

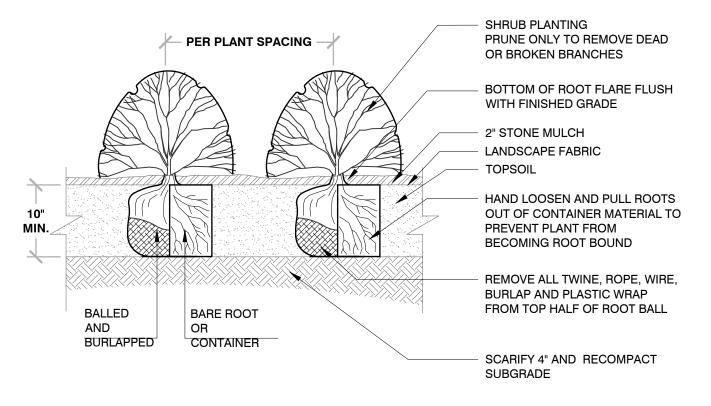
PLANTING MIX

SUBGRADE

FINISHED GRADE TOP OF MULCH

- HAND LOOSEN AND PULL ROOTS

OUT OF CONTAINER MATERIAL TO PREVENT PLANT FROM BECOMING



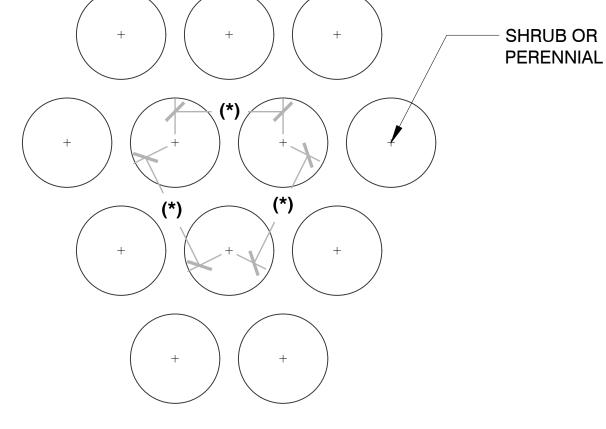
BAREROOT PLANTING NOTES:

- SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING. SCARIFY SIDES AND BOTTOMS OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND BOTTOM ROOTS
- 4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND
- IMMEDIATELY BACKFILL WITH PLANTING SOIL MIX. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.

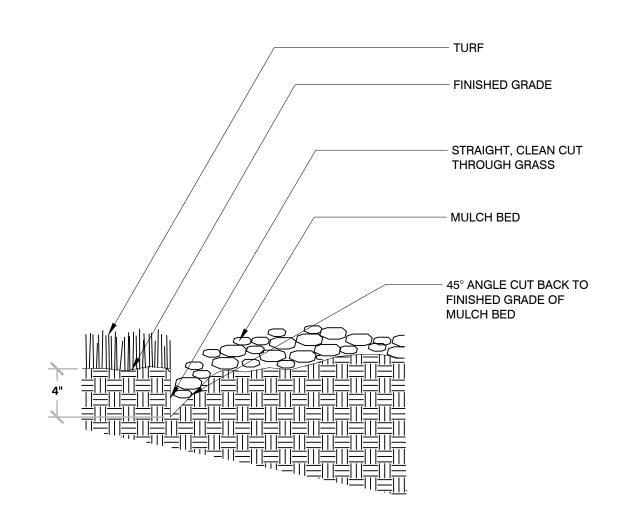
SHRUB PLANTING W/STONE MULCH

- BACKFILL VOIDS AND WATER SECOND TIME.
- 7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

PERENNIAL PLANTING W/STONE MULCH



(*) = SPECIFIED PLANT SPACING PER PLANTING LIST



PLANT SPACING

TRENCHED BED EDGE

PLAN I DESIGN I DELIVER www.pinnacle-engr.com

20725 WATERTOWN ROAD, SUITE 100

BROOKFIELD, WI 53186

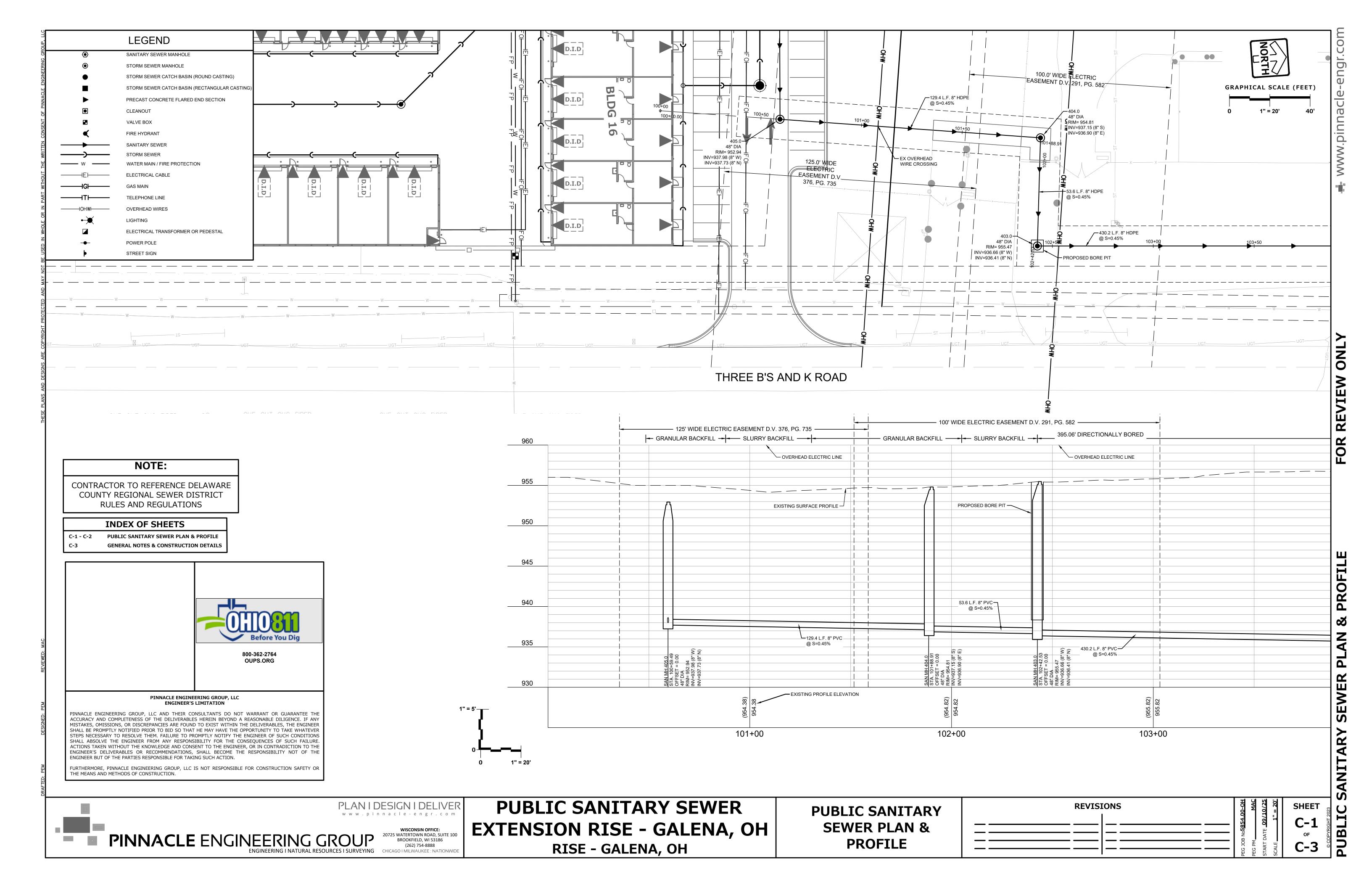
(262) 754-8888

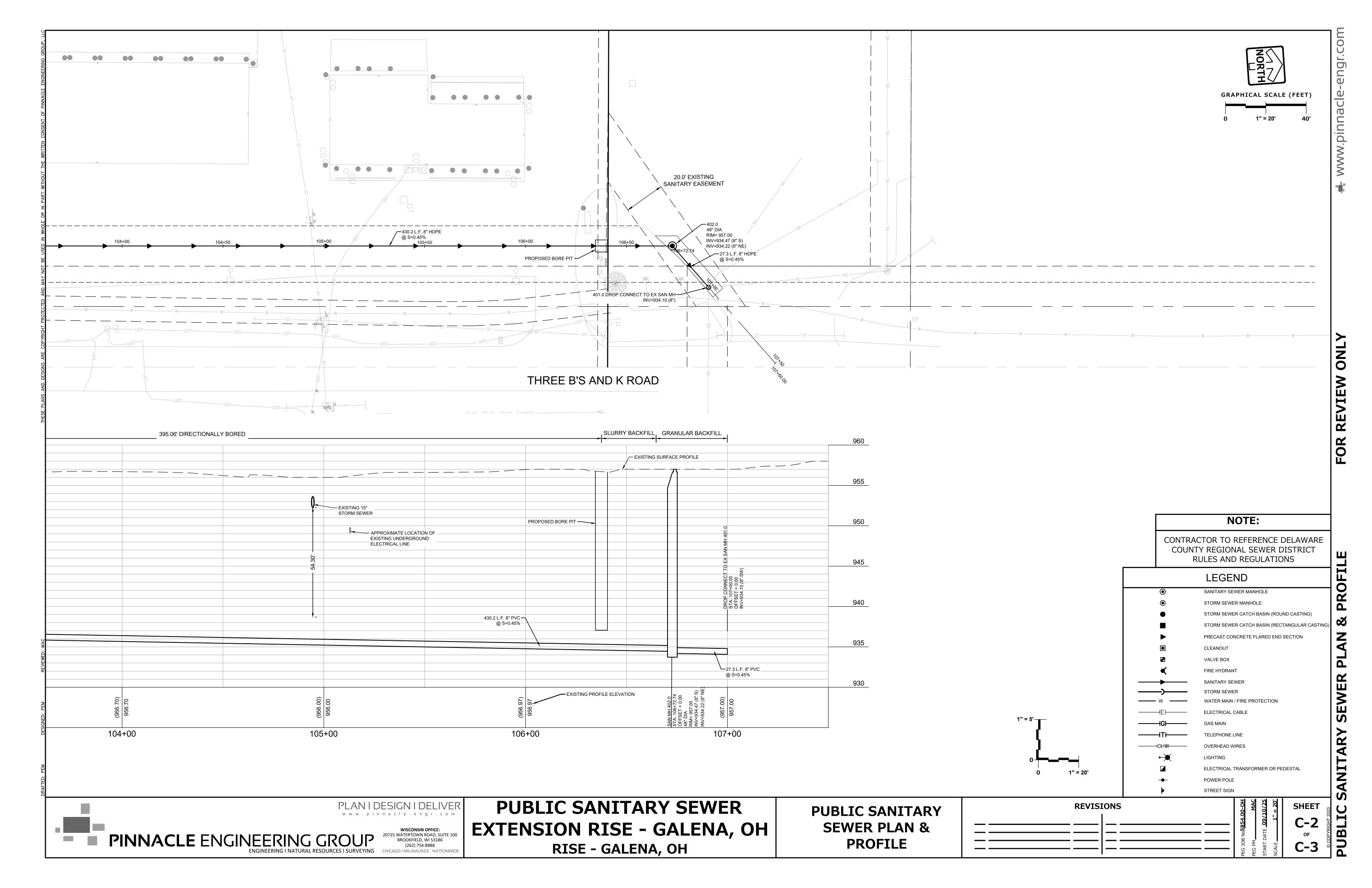
RISE COMMERCIAL **DISTRICT** GALENA, OH

LANDSCAPE DETAILS

REVISIONS

PINNACLE ENGINEERING GROUP

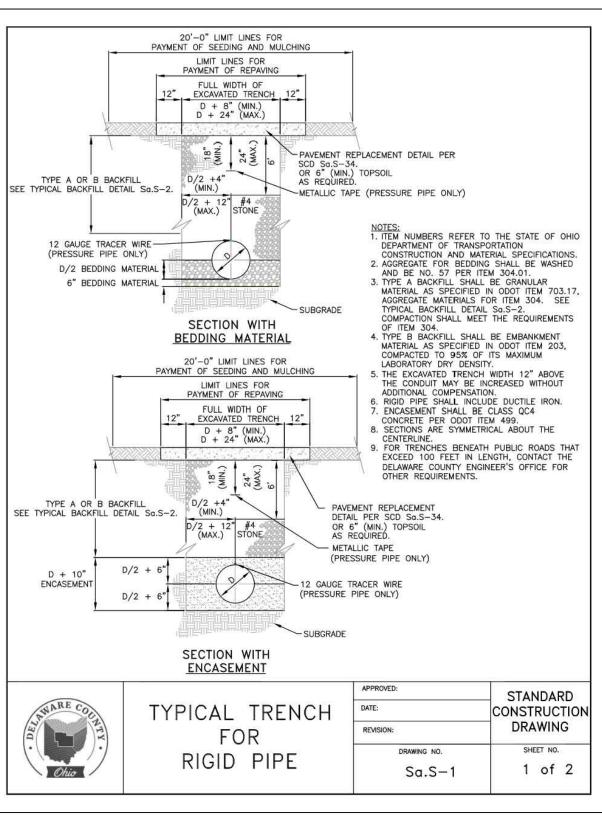


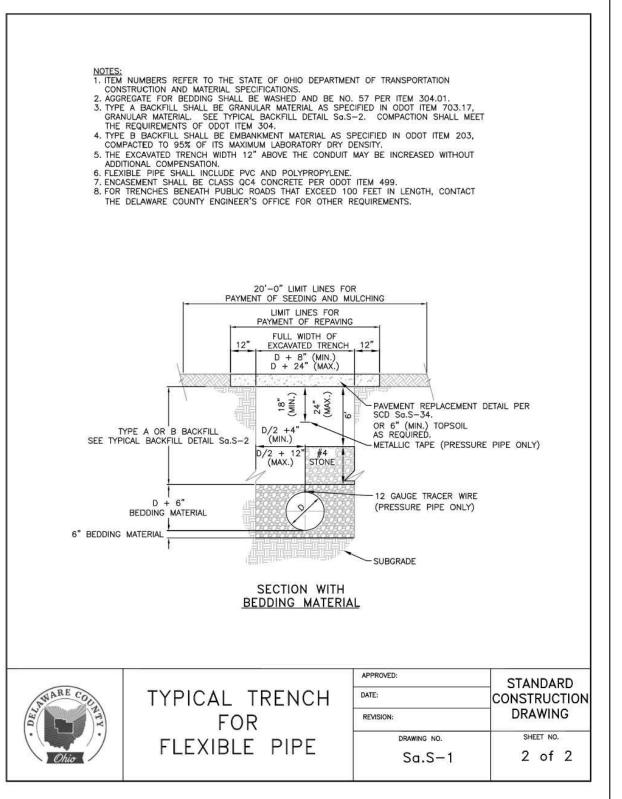


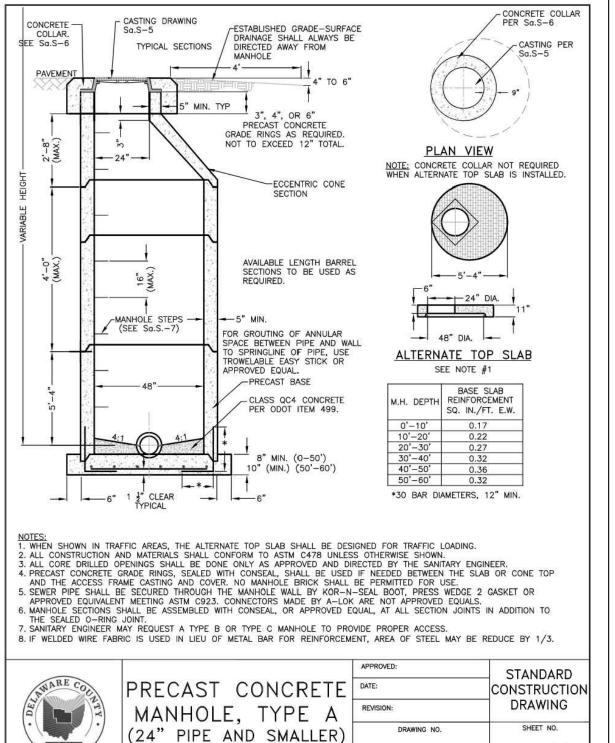
2. ALL SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN OHIO AND CONSTRUCTION DETAILS AND

ORDINANCES OF THE VILLAGE AND DELAWARE COUNTY.

- 3. ALL UTILITY TRENCHES BENEATH PROPOSED OR EXISTING UTILITIES, PROPOSED OR EXISTING PAVEMENT, EXISTING DRIVEWAYS AND SIDEWALKS, PROPOSED DRIVEWAYS AND SIDEWALKS WHERE DESIGNATED BY THE OWNER AND AT A 1:1 SLOPE ON EITHER SIDE OF SAME, AND/OR WHEREVER ELSE SHOWN ON THE CONSTRUCTION PLAN SHALL BE BACKFILLED WITH SELECT GRANULAR IN ACCORDANCE WITH THE CONSTRUCTION STANDARDS.
- 4. SANITARY SEWERS SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS UNLESS SPECIFIED POLYVINYL CHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) CONFORMING TO ASTM DESIGNATION D-3034 FOR SANITARY SEWERS OF 15 INCH DIAMETER OR LESS, AND CONFORMING TO ASTM DESIGNATION F-679 FOR PIPE OF 18 INCH to 21 INCH DIAMETER, WITH AN SDR OF 26. WITH ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM DESIGNATION D-3212. THE GASKET SHALL COMPLY WITH ASTM F-477. SDR 26 PVC PIPE SHALL BE USED FOR SANITARY SEWER PIPES GREATER THAN 20 FEET DEEP PER DELAWARE
- 5. ALL SANITARY SEWER MANHOLES SHALL HAVE ECCENTRIC CONES. CONE OPENINGS SHALL BE CENTERED PARALLEL TO THE MAINLINE FLOW, ALL STRUCTURE SECTIONS AND ADJUSTING RINGS SHALL BE SECURELY SEALED TO EACH OTHER OR TO THE CONE SECTION OR TOP BARREL SECTION OF THE MANHOLE USING RESILIENT, FLEXIBLE, NON-HARDENING, PREFORMED, BITUMINOUS MASTIC (RAM-NEK, OR APPROVED EQUAL). THIS MASTIC SHALL BE APPLIED IN SUCH A MANNER THAT NO SURFACE WATER OR GROUND WATER INFLOW CAN ENTER THE MANHOLE THROUGH GAPS BETWEEN BARREL SECTIONS OR CONE SECTIONS AND ADJUSTING RINGS. SANITARY SEWER MANHOLES SHALL BE 4 FOOT DIAMETER PRECAST STRUCTURES. WITH APPROPRIATE FRAME AND LIDS (SEE CONSTRUCTION STANDARDS SHEET). ALL SANITARY SEWER MANHOLES SHALL INCORPORATE THE USE OF EXTERNAL CHIMNEY SEALS (SEE CONSTRUCTION STANDARDS)
- 6. ALL SANITARY SEWERS SHALL BE INSTALLED ON GRANULAR CRUSHED STONE BEDDING CLASS IA, (O.D.O.T. GRADATION CA-11), CONFORMING TO ASTM D-2321, WITH A MINIMUM THICKNESS FOUAL TO ONE FOURTH OF THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN 4 INCHES NOR MORE THAN 8 INCHES. BEDDING SHALL EXTEND TO THE SPRING LINE OF THE PIPE IN ALL CASES (UNLESS INDICATED OTHERWISE ON THE CONSTRUCTION DETAILS). FOR PVC SANITARY SEWER, THE BEDDING SHALL EXTEND TO 1 FOOT ABOVE THE TOP OF THE PIPE. BEDDING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-33 FOR SOUNDNESS AND ASTM C-67 FOR GRADATION. COST FOR BEDDING SHALL BE MERGED WITH THE UNIT PRICE BID FOR THE SEWER, WATER MAIN, ETC.
- 7. THE UNDERGROUND CONTRACTOR SHALL PLACE AND MOUND EXCESS EXCAVATED TRENCH MATERIAL ADJACENT TO THE TRENCHES IN AN ORDERLY FASHION SO AS NOT TO CREATE A HAZARD OR OBSTRUCTION, AND TO MAINTAIN THE SITE IN A WORKABLE CONDITION. THE DISPOSAL AND PLACEMENT OF ALL EXCESS TRENCH MATERIAL SHALL BE THE RESPONSIBILITY OF THE FARTH EXCAVATING CONTRACTOR.
- 8. THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING ANY EXCAVATION FOR THE INSTALLATION OF THE SEWER OR WATER SYSTEMS.
- 9. ANY ANTICIPATED COST OF SHEETING SHALL BE REFLECTED IN THE CONTRACT AMOUNTS. NO ADDITIONAL COST WILL BE ALLOWED FOR SHEETING OR BRACING.
- 10. FRAMES AND LIDS (OR GRATES) FOR SANITARY STRUCTURES SHALL BE AS INDICATED WITHIN THESE IMPROVEMENT PLANS. (SEE CONSTRUCTION STANDARDS).
- 11. ALL STRUCTURES SHALL HAVE A MINIMUM OF 3 INCHES AND A MAXIMUM OF 8 INCHES OF ADJUSTING RINGS (2 RINGS MAXIMUM).
- 12. ALL TOP OF FRAMES FOR SANITARY SEWERS ARE TO BE ADJUSTED TO MEET FINAL FINISHED GRADE UPON COMPLETION OF FINISHED GRADING AND FINAL INSPECTIONS. THIS ADJUSTMENT IS TO BE MADE BY THE UNDERGROUND CONTRACTOR AND THE COST IS TO BE CONSIDERED INCIDENTAL. THE UNDERGROUND CONTRACTOR SHALL INSURE THAT ALL ROAD AND PAVEMENT INLETS OR STRUCTURES (FRAMES AND GRATES) ARE AT FINISHED GRADE, ANY ADJUSTMENTS NECESSITATED BY THE CURB OR PAVING CONTRACTOR TO ACHIEVE FINAL RIM GRADE. RESULTING IN AN EXTRA FOR SAID ADJUSTMENTS, WILL BE CHARGED TO THE UNDERGROUND
- 13. THE MAIN LINE SANITARY SEWER SHALL BE TELEVISED PRIOR TO ACCEPTANCE AND A VIDEO TAPE SHALL BE PROVIDED TO THE VILLAGE AND COUNTY, ALL NECESSARY CORRECTIVE WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT DELAY, COST FOR TELEVISING AND FURNISHING VIDEO TAPE AND CORRECTIVE WORK SHALL BE INCIDENTAL TO THE CONTRACT (MERGED INTO UNIT PRICE OF THE SEWER PIPE).
- 14. THE CONTRACTOR SHALL MAINTAIN A LEGIBLE RECORD ON A SET OF CONSTRUCTION PLANS INFORMATION CONCERNING ALL MANHOLES, WYES AND SERVICES, VALVE BOXES, CURB BOXES, ETC. SUCH THAT THEY CAN BE LOCATED IN THE FIELD IN A MANNER ACCEPTABLE TO THE APPLICABLE GOVERNMENTAL AGENCY. FINAL CONTRACT PAYMENT SHALL NOT COME DUE UNTIL THIS INFORMATION IS RECEIVED BY THE ENGINEER.
- 15. IT SHALL BE THE RESPONSIBILITY OF THE UNDERGROUND CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM HIS CONSTRUCTION OPERATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 16. CONTRACTOR SHALL REFERENCE ALL RELEVANT DELAWARE COUNTY REGIONAL SEWER DISTRICT

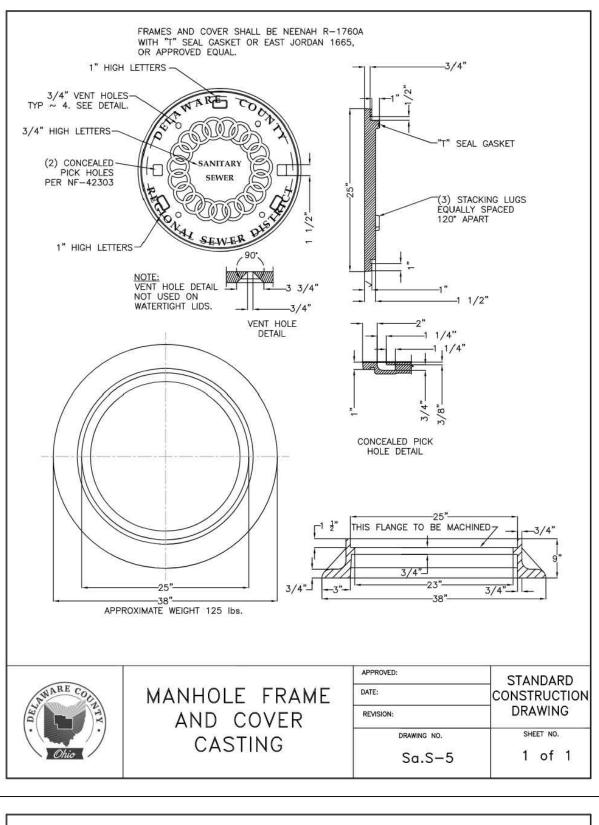




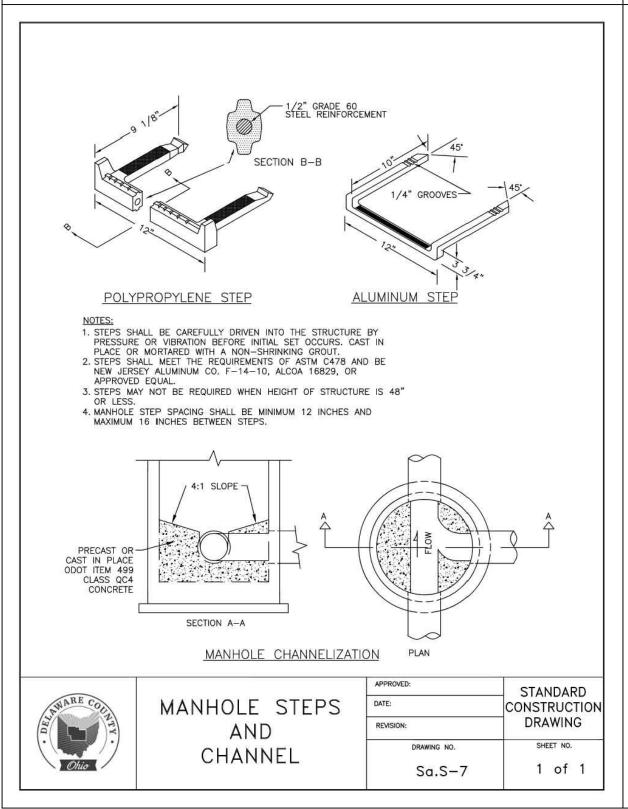


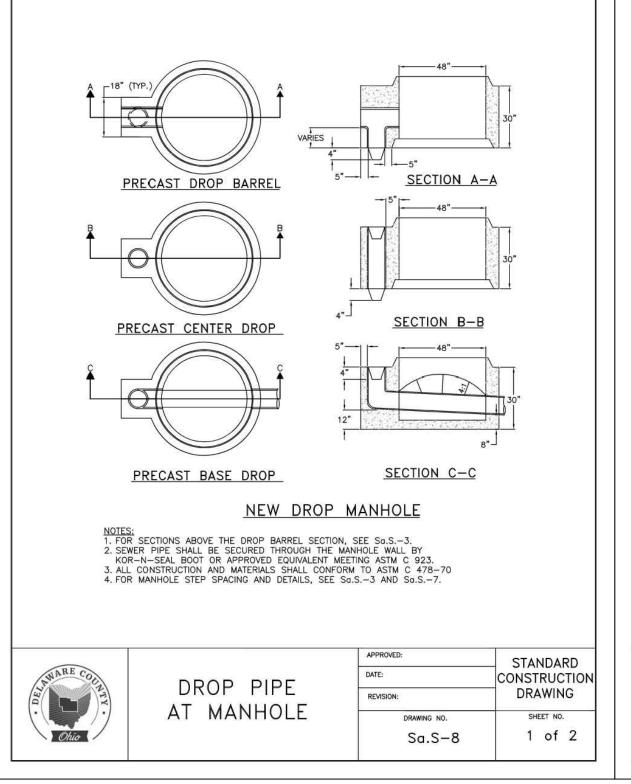
1 of 3

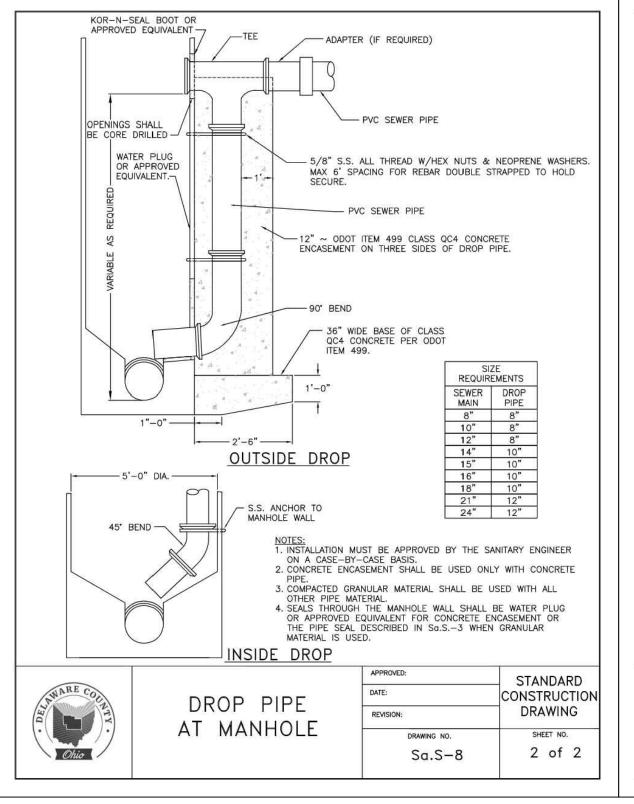
Sa.S-3

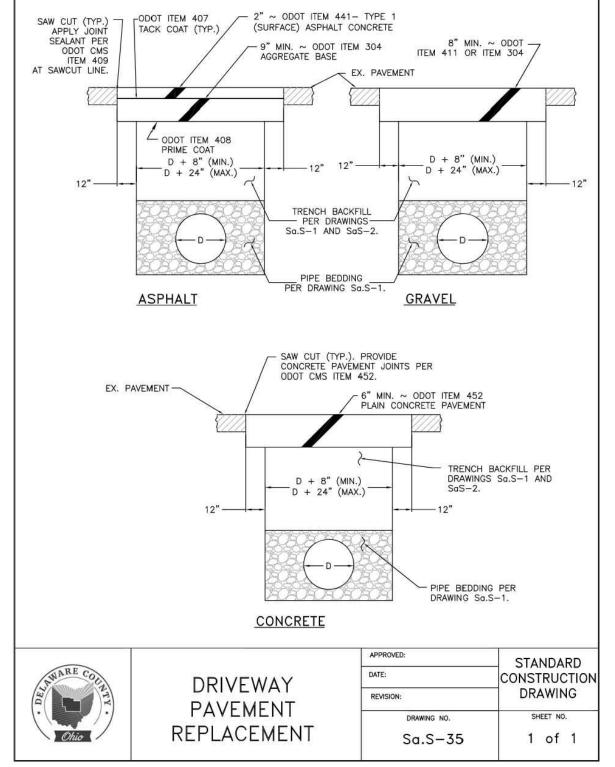


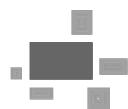
pinn











PLAN I DESIGN I DELIVER www.pinnacle-engr.com

> WISCONSIN OFFICE: 20725 WATERTOWN ROAD, SUITE 100

BROOKFIELD, WI 53186

(262) 754-8888

RISE - GALENA, OH

GENERAL NOTES & CONSTRUCTION DETAILS

REVISIONS	MAC N/10/25 1" = 20'
	PEG JOB NO 5854 PEG PM

PINNACLE ENGINEERING GROUP

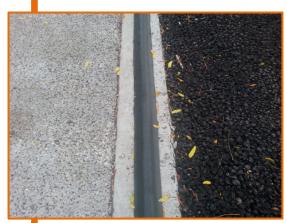
PUBLIC SANITARY SEWER EXTENSION RISE - GALENA, OH

STORMWATER MANAGEMENT PLAN









RISE Commercial Development Berlin Township, Delaware County, Ohio PEG Project Number: 5854.00-OH

Prepared for:





9/30/2025



TABLE OF CONTENTS

INTRODUCTION	2
DESIGN CRITERIA	2
ANALYSIS METHODS	2
PRE-DEVELOPMENT CONDITIONS	2
POST-DEVELOPMENT CONDITIONS	3
Pond Design, Outlet Control Structure and Emergency Spillway	3
Peak Runoff Rate Attenuation	4
Water Quality	5
CONCLUSION	

APPENDICES

APPENDIX 1 - MAPS

- Vicinity Map
- NRCS Web Soil Survey Map

APPENDIX 2 - PRE-DEVELOPMENT CONDITIONS

- Existing Conditions Survey
- Hydrology Exhibit Existing Conditions

APPENDIX 3 - POST-DEVELOPMENT CONDITIONS

- Hydrology Exhibit Proposed Conditions
- Hydrographs Proposed Conditions

APPENDIX 4 - WATER QUALITY VOLUME

WQv Calculations

Questions and comments can be directed to:

Dylan Crisp Senior Project Engineer

Phone: 262.754.8888 | Fax: 262.754.8850

dylan.crisp@pinnacle-engr.com



INTRODUCTION

The proposed RISE Commercial development site represents the tract of land generally bound by Heinrich Ditch to the east, and an existing development to the north, located in Berlin Township, Delaware County, OH. A location map that illustrates the tract of land is included in **Appendix 1**.

The site is a 10 acre lot and the development includes the construction of multiple office and warehouse buildings along with the necessary infrastructure improvements, including access drives, parking, utilities, and stormwater management facility.

DESIGN CRITERIA

Delaware County:	Article XII
Ohio EPA:	. Water Quality Volume Requirements

<u>Water Quality</u>: Water Quality volume (WQv) will be achieved in the proposed pond with orifice sizing per calculations.

<u>Water Quantity</u>: The proposed 100-yr 24-hr storm peak discharge for the proposed condition will be detained and reduced to the existing 2-yr 24-hr storm peak discharge. Additional storm events are included for typical pre to post control, per Delaware County requirements.

ANALYSIS METHODS

HydroCAD® (Version 10.00) software has been used to analyze stormwater characteristics for this stormwater management plan. HydroCAD uses the accepted TR-55 methodology for determining peak discharge runoff rates. Curve numbers are selected using the information in HydroCAD, incorporating the appropriate ground cover.

Stormwater modeling was conducted using rainfall data taken from the NOAA Atlas 14 Pt Precip website.

WQv and resulting dewater orifice size are calculated using equations from Delaware County Article XII.

PRE-DEVELOPMENT CONDITIONS

The existing site comprises of a gravel lot with driveways to 2 existing homes on the southeast corner of the site. The drainage for the site drains from east to west with some flow draining to the south. There are no wetlands present on the development site. The existing survey and existing drainage area map can be found in **Appendix 2**.

Based on the USDA NRCS Web Soil Survey Results, soils on the site are predominantly classified as Bennington silt loam (C/D) and Cardington silt loam (C/D). To be conservative, type D soils are used for the curve numbers in the hydrologic analysis. The Web Soil Survey results can be found in **Appendix 1**.

POST-DEVELOPMENT CONDITIONS

The drainage characteristics in the proposed condition will largely follow those in the existing condition. Onsite drainage areas in HydroCAD use actual SF values for roof & pavement, grass, etc to match the currently proposed development. Time of concentration values are calculated in HydroCAD using the Subcat Tc tab.

Site flow will be collected in proposed storm sewer and drainage swales and will be conveyed to a proposed wet pond at the west edge of the site. Flow will be detained and treated within the proposed pond and released to the existing low point on the site in the northwest corner. A contributing watershed map and supporting hydrologic modeling output for the proposed conditions is located in **Appendix 3**.

Pond Design, Outlet Control Device and Emergency Spillway

The onsite "wet" detention basin and its outlets will be designed to meet all requirements in the Delaware County Article XII. WQv will be achieved through the outlet control device and detention volume provided. Refer to **Appendix 4** for WQv and resulting orifice size calculations.

Post development peak runoff rate attenuation will be achieved through the outlet control device and available stormwater detention volume provided above the basin normal water level. The outlet control device will be a structure with an open top that accepts flow. The basin will be fitted with an emergency spillway set at an elevation higher than the 100-yr HWL when all contributing flow is modeled through the pond. The emergency spillway will act as a tertiary outlet to only discharge stormwater runoff in excess of the 100-yr storm. A HydroCAD summary for the emergency spillway design is included in **Appendix 3**.

Peak Runoff Rate Attenuation

Stormwater runoff peak rates will be controlled through the usage of the onsite "wet" detention basin. The basin is situated to collect all the onsite drainage. Design post-development release rates for the proposed development have been computed for the proposed watershed. Modeling includes onsite and offsite areas that will contribute to the proposed BMP. Presentation of pertinent values from the modeling is contained within the following tables:

SUMMARY OF PEAK DISCHARGE RELEASE RATES

Design Storm	Existing Conditions Peak Flow (cfs)	Proposed Conditions Peak Flow (cfs)
1-year	13.62	0.16
2-year	17.60	0.18
5-year	23.37	1.00
10-year	28.10	2.84
25-year	34.77	9.54
50-year	40.17	15.09
100-year	45.84	16.70

As can be seen in the summary table, the proposed 100-yr 24-hr storm peak discharge is detained and reduced to less than the existing 2-yr 24-hr storm peak discharge. Details for proposed condition results can be found in **Appendix 3**. Existing drainage characteristics have not been calculated because they have no bearing on the peak discharge requirements for the development site.

CONCLUSION

The stormwater management features for the RISE Commercial development have been designed to comply with the Delaware County requirements. Proposed runoff rates will be reduced for 100-year proposed storm event to meet stormwater standards. Water Quality volume requirements are met for the development site per Ohio EPA requirements.

(Appendices Follow)





Imagery ©2025 Airbus, Maxar Technologies, USDA/FPAC/GEO, Map data ©2025 200 ft



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

(o) Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Candfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

+ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

OL.1D

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot
 Other

△ Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

~

US Routes
Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12.000.

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

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

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

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Delaware County, Ohio Survey Area Data: Version 23, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Jul 1, 2024

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeA	Bennington silt loam, 0 to 2 percent slopes	2.3	21.0%
ВеВ	Bennington silt loam, 2 to 6 percent slopes	5.5	50.2%
Crd1B1	Cardington silt loam, 2 to 6 percent slopes	3.2	28.8%
Totals for Area of Interest		10.9	100.0%

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

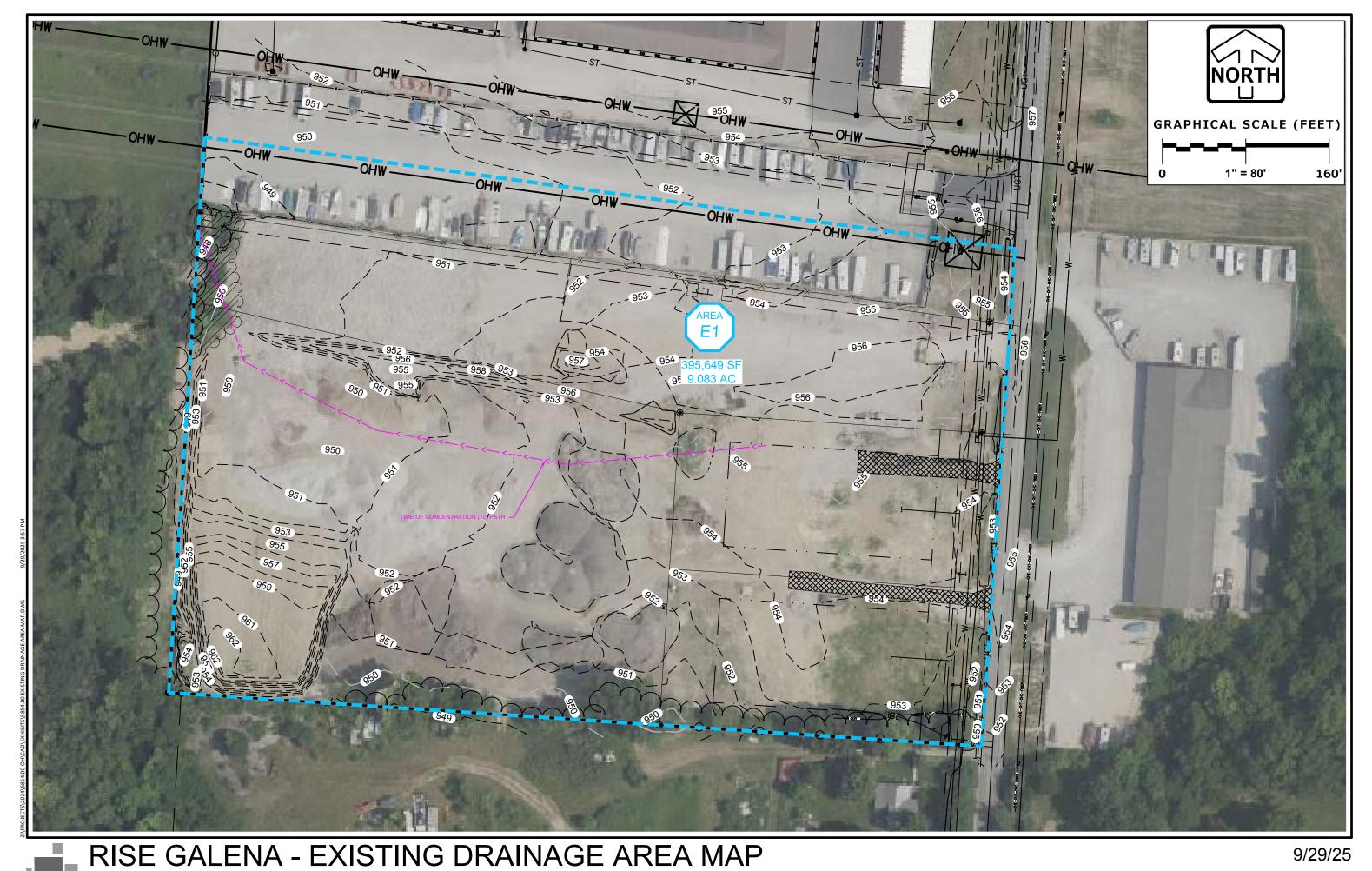
	Engineering Properties-Delaware County, Ohio													
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	ification	Pct Fragments		Percentage passing sieve number—					Plasticit
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
BeA—Bennington silt loam, 0 to 2 percent slopes														
Bennington	85	C/D	0-10	Silt loam	ML, CL	A-4, A-6	0- 0- 0	0- 0- 2	95-98-1 00	85-92-1 00	75-90-1 00	65-78- 90	25-35 -40	3-12-15
			10-29	Silty clay, clay loam, silty clay loam	CH, CL	A-6, A-7	0- 0- 0	0- 0- 2	85-98- 98	75-92- 98	65-90- 98	60-82- 92	30-40 -50	12-18-3 0
			29-42	Silt loam, loam, clay loam, silty clay loam	CL	A-6	0- 0- 2	0- 2- 2	85-95- 98	75-90- 98	65-90- 98	55-80- 90	30-35 -45	12-15-2 5
			42-79	Loam, silty clay loam, silt loam, clay loam	CL-ML, CL	A-4, A-6	0- 0- 2	0- 2- 3	85-95- 98	70-90- 98	65-88- 98	55-75- 88	25-30 -40	6-12-20

	Engineering Properties-Delaware County, Ohio													
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	agments	Percentage passing sieve number—				Liquid	Plasticit
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
BeB—Bennington silt loam, 2 to 6 percent slopes														
Bennington	85	C/D	0-9	Silt loam	CL, ML	A-4, A-6	0- 0- 0	0- 0- 2	95-98-1 00	85-92-1 00	75-90-1 00	65-78- 90	25-35 -40	3-12-15
			9-29	Silty clay, clay loam, silty clay loam	CL, CH	A-6, A-7	0- 0- 0	0- 0- 2	85-98- 98	75-92- 98	65-90- 98	60-82- 92	30-40 -50	12-18-3 0
			29-40	Silt loam, loam, clay loam, silty clay loam	CL	A-6	0- 0- 2	0- 2- 2	85-95- 98	75-90- 98	65-90- 98	55-80- 90	30-35 -45	12-15-2 5
			40-79	Silty clay loam, silt loam, loam, clay loam	CL, CL- ML	A-4, A-6	0- 0- 2	0- 2- 3	85-95- 98	70-90- 98	65-88- 98	55-75- 88	25-30 -40	6-12-20
Crd1B1—Cardington silt loam, 2 to 6 percent slopes														
Cardington	85	C/D	0-9	Silt loam	CL-ML, ML, CL	A-4, A-6	0- 0- 0	0- 0- 1	95-98-1 00	88-96-1 00	76-91-1 00	65-78- 91	20-30 -40	4-10-15
			9-34	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7	0- 0- 1	0- 0- 1	86-95- 98	68-90- 97	60-86- 97	53-76- 87	30-40 -50	10-15-3 0
			34-42	Silty clay loam, silty clay, clay loam	CL	A-6, A-7	0- 0- 1	0- 1- 3	86-95- 99	72-89- 97	67-85- 97	59-76- 90	25-35 -45	10-15-2 5
			42-79	Clay loam, silty clay loam, silt loam	CL-ML, ML, CL	A-4, A-6	0- 0- 1	0- 1- 4	86-94- 99	72-87- 97	63-80- 94	53-67- 80	22-31 -40	3-12-20

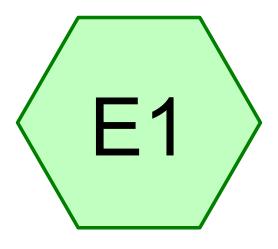
Data Source Information

Soil Survey Area: Delaware County, Ohio Survey Area Data: Version 23, Aug 27, 2024









EXIST CONDITIONS









Prepared by Pinnacle Engineering Group, Printed 10/1/2025 HydroCAD® 10.20-7a s/n 07894 © 2025 HydroCAD Software Solutions LLC

5854.00 SWMP

Prepared by Pinnacle Engineering Group

HydroCAD® 10.20-7a s/n 07894 © 2025 HydroCAD Software Solutions LLC

Printed 10/1/2025 Page 2

Area Listing (selected nodes)

9.083	90	TOTAL AREA
0.171	98	Roofs, HSG D (E1)
0.072	98	Paved parking, HSG D (E1)
4.478	96	Gravel surface, HSG D (E1)
4.362	84	50-75% Grass cover, Fair, HSG D (E1)
(acres)		(subcatchment-numbers)
Area	CN	Description

Page 3

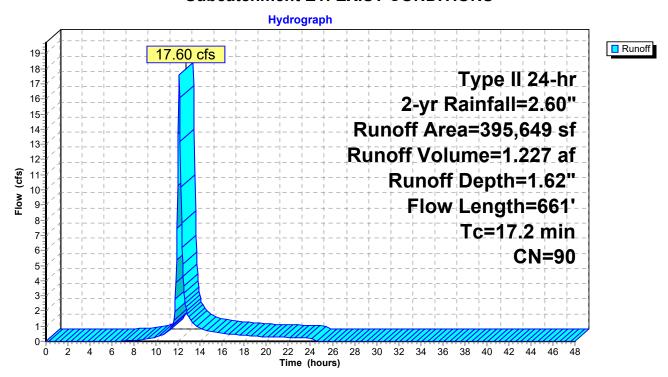
Summary for Subcatchment E1: EXIST CONDITIONS

Runoff = 17.60 cfs @ 12.09 hrs, Volume= 1.227 af, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Type II 24-hr 2-yr Rainfall=2.60"

A	rea (sf)	CN D	escription				
1	95,076	96 G	Gravel surface, HSG D				
	7,453	98 R	oofs, HSG	G D			
	3,121			ing, HSG D			
1	89,999	84 5	0-75% Gra	ass cover, F	Fair, HSG D		
3	95,649	9 90 Weighted Average					
3	85,075	_		vious Area			
	10,574	2	.67% Impe	ervious Are	a		
_		01		0 :			
Tc	Length	Slope	Velocity	Capacity	Description		
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)			
12.2	100	0.0150	0.14		Sheet Flow, Grass		
					Grass: Short n= 0.150 P2= 2.60"		
1.3	231	0.0200	2.87		Shallow Concentrated Flow, Gravel		
					Paved Kv= 20.3 fps		
3.7	330	0.0100	1.50		Shallow Concentrated Flow, Grass		
					Grassed Waterway Kv= 15.0 fps		
17.2	661	Total					

Subcatchment E1: EXIST CONDITIONS



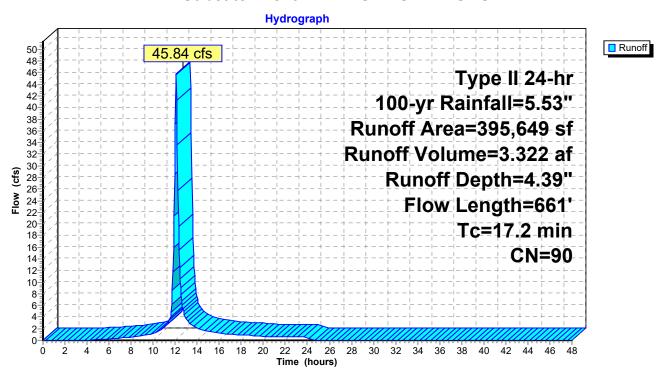
Summary for Subcatchment E1: EXIST CONDITIONS

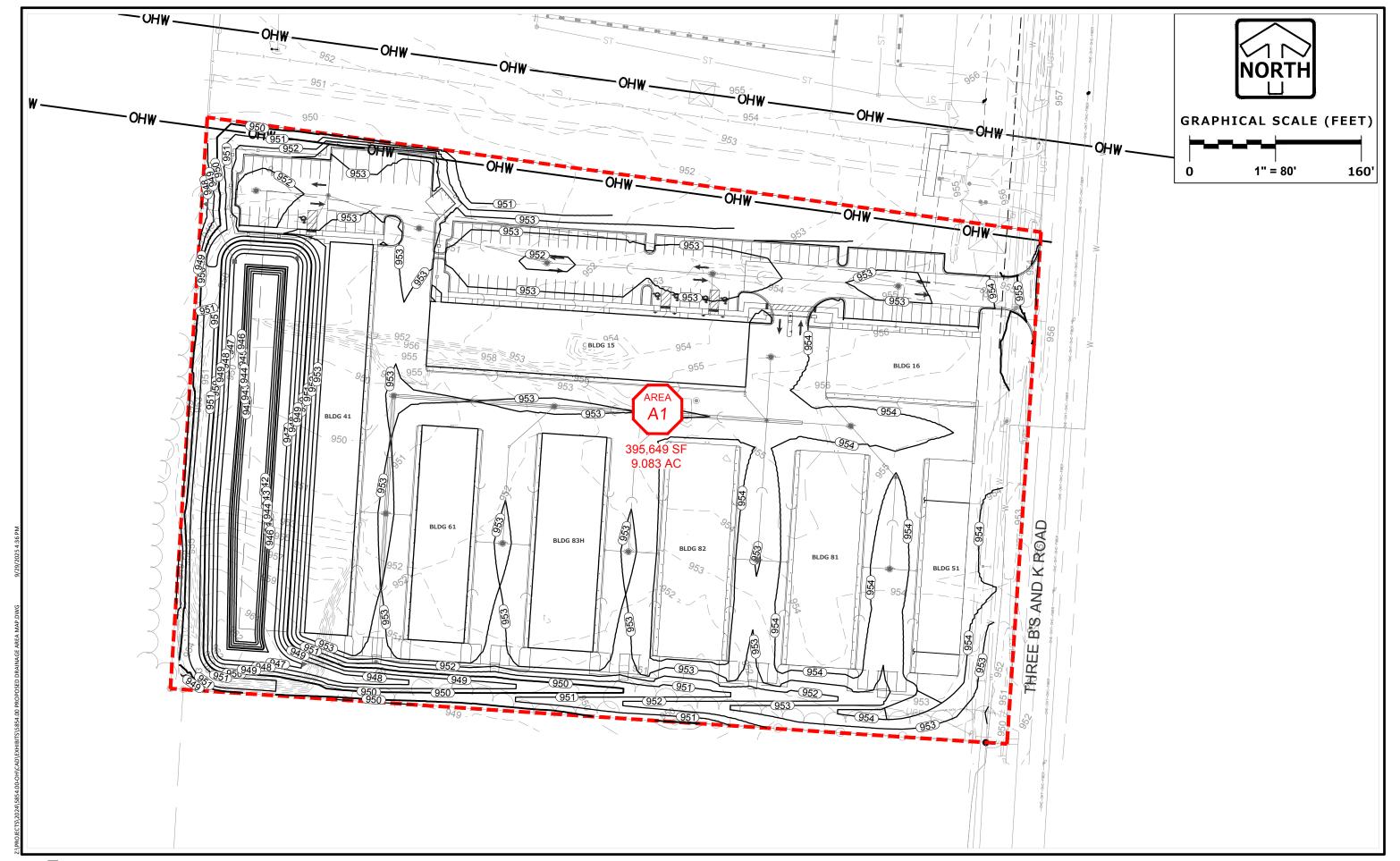
Runoff = 45.84 cfs @ 12.09 hrs, Volume= 3.322 af, Depth= 4.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Type II 24-hr 100-yr Rainfall=5.53"

	A	rea (sf)	CN	Description				
	1	95,076	96	Gravel surf	ace, HSG [)		
		7,453	98	Roofs, HSC	G D			
		3,121		Paved park				
_	1	89,999	84	50-75% Gr	ass cover, l	Fair, HSG D		
	3	95,649	49 90 Weighted Average					
	3	85,075		97.33% Pe	rvious Area	l e e e e e e e e e e e e e e e e e e e		
		10,574		2.67% Impe	ervious Are	a		
	_		-			—		
	Tc	Length	Slope	•	Capacity	Description		
_	(min)	(feet)	(ft/ft)		(cfs)			
	12.2	100	0.0150	0.14		Sheet Flow, Grass		
						Grass: Short n= 0.150 P2= 2.60"		
	1.3	231	0.0200	2.87		Shallow Concentrated Flow, Gravel		
						Paved Kv= 20.3 fps		
	3.7	330	0.0100	1.50		Shallow Concentrated Flow, Grass		
_						Grassed Waterway Kv= 15.0 fps		
	17 2	661	Total					

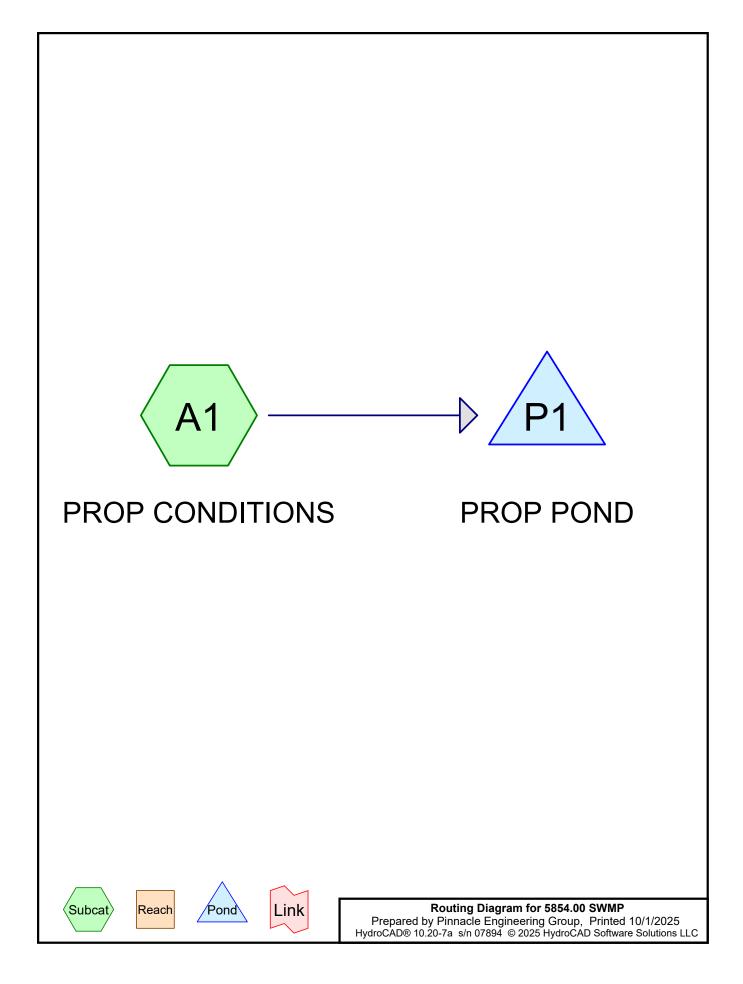
Subcatchment E1: EXIST CONDITIONS







RISE GALENA - PROPOSED DRAINAGE AREA MAP



5854.00 SWMP

Prepared by Pinnacle Engineering Group
HydroCAD® 10.20-7a s/n 07894 © 2025 HydroCAD Software Solutions LLC

Printed 10/1/2025 Page 2

Area Listing (selected nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
3.541	84	50-75% Grass cover, Fair, HSG D (A1)
3.306	98	Paved parking, HSG D (A1)
2.236	98	Roofs, HSG D (A1)

Page 3

Summary for Subcatchment A1: PROP CONDITIONS

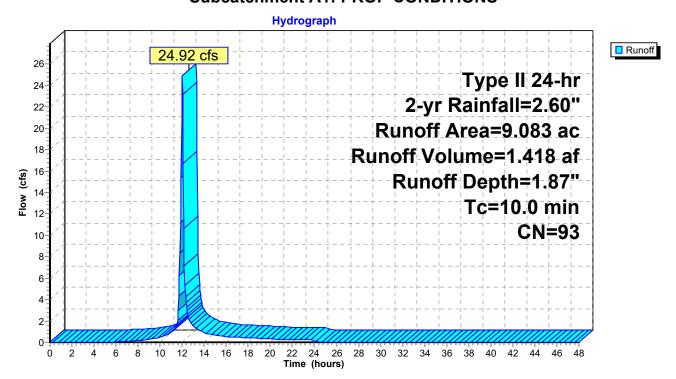
Runoff = 24.92 cfs @ 12.01 hrs, Volume= 1.418 af, Depth= 1.87"

Routed to Pond P1: PROP POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Type II 24-hr 2-yr Rainfall=2.60"

Area	a (ac)	CN	Desc	Description						
	2.236	98	Roof	oofs, HSG D						
;	3.306	98	Pave	aved parking, HSG D						
;	3.541	84	50-7	5% Grass	cover, Fair	r, HSG D				
	9.083 93 Weighted Average									
;	3.541		38.9	8% Pervio	us Area					
;	5.542		61.0	2% Imper\	ious Area					
To		gth	Slope	Velocity	Capacity	Description				
(min)	(fe	et)	(ft/ft)	(ft/sec)	(cfs)					
10.0)					Direct Entry, Conservative Minimum				

Subcatchment A1: PROP CONDITIONS



HydroCAD® 10.20-7a s/n 07894 © 2025 HydroCAD Software Solutions LLC

Page 4

Summary for Pond P1: PROP POND

Inflow Area = 9.083 ac, 61.02% Impervious, Inflow Depth = 1.87" for 2-yr event

Inflow 24.92 cfs @ 12.01 hrs, Volume= 1.418 af

0.18 cfs @ 24.11 hrs, Volume= Outflow 0.506 af, Atten= 99%, Lag= 725.7 min

Primary 0.18 cfs @ 24.11 hrs, Volume= 0.506 af 0.00 cfs @ 0.00 hrs, Volume= Secondary = 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Peak Elev= 949.01' @ 24.11 hrs Surf.Area= 31,831 sf Storage= 53,901 cf

Plug-Flow detention time= 1,089.3 min calculated for 0.505 af (36% of inflow)

Center-of-Mass det. time= 963.1 min (1,763.7 - 800.6)

Volume	Invert	Avail.Storage	Storage	Description
#1	947.00'	129,785 cf	Custom	Stage Data (Prismatic)Listed below (Recalc)
Flevation	Surf	Area Inc	Store	Cum Store

Elevation	Sun Area	inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
947.00	22,095	0	0
948.00	26,518	24,307	24,307
949.00	31,740	29,129	53,436
950.00	37,923	34,832	88,267
951.00	45,113	41,518	129,785

Device	Routing	Invert	Outlet Devices
#1	Primary	947.00'	24.0" Round Culvert
			L= 61.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 947.00' / 946.90' S= 0.0016 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	947.00'	2.2" Vert. Dewater - Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#3	Device 1	949.10'	60.0" Horiz. Open Top - Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Secondary	950.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
	•		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.18 cfs @ 24.11 hrs HW=949.01' (Free Discharge)

-1=Culvert (Passes 0.18 cfs of 11.22 cfs potential flow)

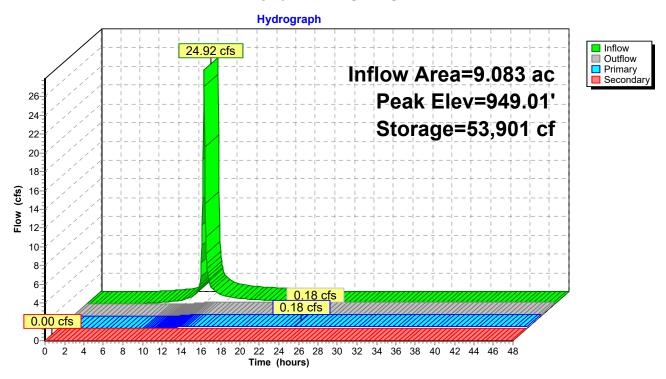
-2=Dewater - Orifice/Grate (Orifice Controls 0.18 cfs @ 6.68 fps)

3=Open Top - Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=947.00' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Page 5

Pond P1: PROP POND



Printed 10/1/2025

Page 6

Summary for Subcatchment A1: PROP CONDITIONS

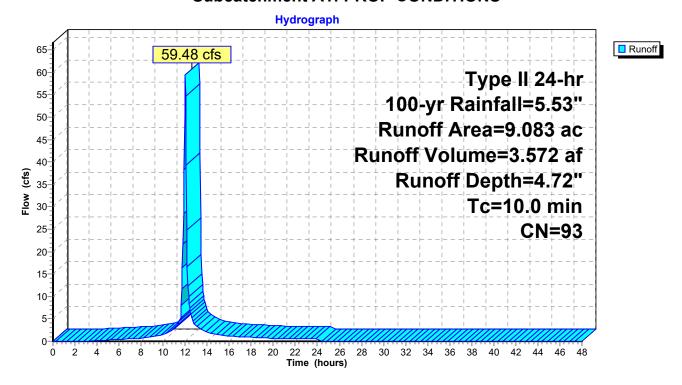
Runoff = 59.48 cfs @ 12.01 hrs, Volume= 3.572 af, Depth= 4.72"

Routed to Pond P1: PROP POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Type II 24-hr 100-yr Rainfall=5.53"

Area	a (ac)	CN	Desc	Description						
	2.236	98	Roof	oofs, HSG D						
;	3.306	98	Pave	aved parking, HSG D						
;	3.541	84	50-7	5% Grass	cover, Fair	r, HSG D				
	9.083 93 Weighted Average									
;	3.541		38.9	8% Pervio	us Area					
;	5.542		61.0	2% Imper\	ious Area					
To		gth	Slope	Velocity	Capacity	Description				
(min)	(fe	et)	(ft/ft)	(ft/sec)	(cfs)					
10.0)					Direct Entry, Conservative Minimum				

Subcatchment A1: PROP CONDITIONS



Prepared by Pinnacle Engineering Group

HydroCAD® 10.20-7a s/n 07894 © 2025 HydroCAD Software Solutions LLC

Printed 10/1/2025 Page 7

Summary for Pond P1: PROP POND

Inflow Area = 9.083 ac, 61.02% Impervious, Inflow Depth = 4.72" for 100-yr event

Inflow 59.48 cfs @ 12.01 hrs, Volume= 3.572 af

16.70 cfs @ 12.21 hrs, Volume= Outflow 2.591 af, Atten= 72%, Lag= 12.0 min

Primary 16.70 cfs @ 12.21 hrs, Volume= 2.591 af Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Peak Elev= 949.84' @ 12.21 hrs Surf.Area= 36,945 sf Storage= 82,348 cf

Plug-Flow detention time= 354.6 min calculated for 2.589 af (72% of inflow)

Center-of-Mass det. time= 264.3 min (1,039.9 - 775.5)

volume	invert	Avaii.Storage	Storage Description
#1	947.00'	129,785 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
947.00	22,095	0	0
948.00	26,518	24,307	24,307
949.00	31,740	29,129	53,436
950.00	37,923	34,832	88,267
951.00	45,113	41,518	129,785

Device	Routing	Invert	Outlet Devices
#1	Primary	947.00'	24.0" Round Culvert
			L= 61.0' RCP, sq.cut end projecting, Ke= 0.500
			Inlet / Outlet Invert= 947.00' / 946.90' S= 0.0016 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	947.00'	2.2" Vert. Dewater - Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#3	Device 1	949.10'	60.0" Horiz. Open Top - Orifice/Grate C= 0.600
			Limited to weir flow at low heads
#4	Secondary	950.00'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir
	•		Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=16.68 cfs @ 12.21 hrs HW=949.84' (Free Discharge)

-1=Culvert (Barrel Controls 16.68 cfs @ 5.31 fps)

2=Dewater - Orifice/Grate (Passes < 0.21 cfs potential flow)

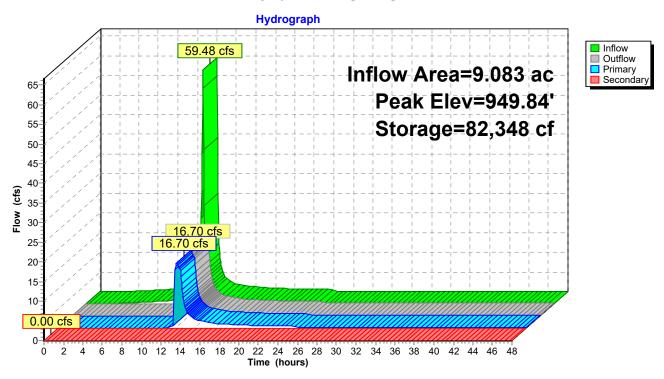
3=Open Top - Orifice/Grate (Passes < 32.70 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=947.00' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

1111lea 10/1/2025

Page 8

Pond P1: PROP POND



WQv	=	Runoff Coeff Rv	*	Rainfall Depth (in) P	*	Drainage Area (ac) A	÷	in to ft conversion 12						
				0.9										
						% Impervious (decimal)								
Rv	=	0.05	+	0.9	*	İ								
				time										
				drawdown		hr to sec								
				(hr)		conversion								
Qavg	=	WQv	÷	td	÷	3600								
				24										
•					Discharge				Accel of		Avg hyd			
					coeff				gravity		head			
Area Orifice									(ft/s^2)		(ft)			
Aorif	=	Qavg	÷]	С	*	2	*	g	*	Havg)	^0.5]
					0.6				32.2					

% Impervious 61.015 %

Drainage Area 9.083 ac

Havg 1.5 ft

WQv = 0.408146 ac-ft = 17778.82845 ft^3

Qavg = 0.205773 ft^3/sec

Aorif = 0.027029 ft^2

dorif = 0.185557 ft = 2.226686222 in



Date: October 1, 2025

Planned Construction

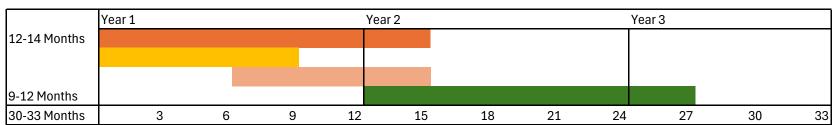
Start Date: May 15, 2026

May-2026 Aug-2026 Nov-2026 Feb-2027 May-2027 Aug-2027 Nov-2027 Feb-2028 May-2028 Aug-2028 Nov-2028

Phase I Construction
Earthwork / Horizontal
Vertical (Buildings)

Lease Up

Total # of Months:





Jeremy Haynes

Rylinn Engineering

5645 Castle Creek Pkwy Dr. N Indianapolis, IN 46250

01/22/2025

This correspondence is in response to your request confirming the availability of electric service at:

350 S Three B's & K Rd, Galena, OH 43021

American Electric Power will serve the needs of its customers as those needs occur. Any extension of our facilities to serve a customer will be made in compliance with all rules and regulations your state's utility commission. Any cost associated with providing service to the above addressed will be discussed prior to service being installed.

Before construction begins, please notify AEP's Customer Solutions Center at 1-888-710-4237 to make arrangements for service. We ask that you allow us as much notice as possible, so we can prevent any delays.

Please do not hesitate to contact us if you need any assistance or further information.

Sincerely,

American Electric Power Business Operations

Officers

PAMALA L. HAWK
President

PERRY K. TUDOR
Vice President

ROBERT W. JENKINS
Secretary
G. MICHAEL DICKEY
Treasurer

GLENN MARZLUF
General Manager/CEO

BRIAN COGHLAN Chief Operating Officer



6658 OLENTANGY RIVER ROAD DELAWARE, OHIO 43015

www.delcowater.org

Phone (740) 548-7746 • (800) 521-6779

Directors
MARC A. ARMSTRONG

DAVID A. BENDER

DOUGLAS D. DAWSON

TIMOTHY D. MCNAMARA

MICHAEL (NICK) D. SHEETS

September 24, 2025

Zach Rodenbarger: via email: <u>zachr@rylinnengineering.com</u>

Dear Mr. Rodenbarger:

Please know that Del-Co Water can provide water service to the site described below upon payment of the required fees:

Proposed Land Use: Commercial, Parcels 418-140-01-062-000, 418-140-01-063-000, 418-140-01-064-000, 418-140-01-064-004.

Location: 320 S Three B's & K Rd, Galena, OH 43021

Land Size: ±17.975 acres (combined)

This site can be served from an existing 6-inch waterline located along Three B's & K Road. An aerial map is attached to this letter.

This letter of water availability is valid for a period of one year from the date of this letter. Del-Co makes no guarantee of water availability beyond this period. Contact our Engineering Department if you have any questions on the plan review process, or our Customer Service Department for information on tap fees.

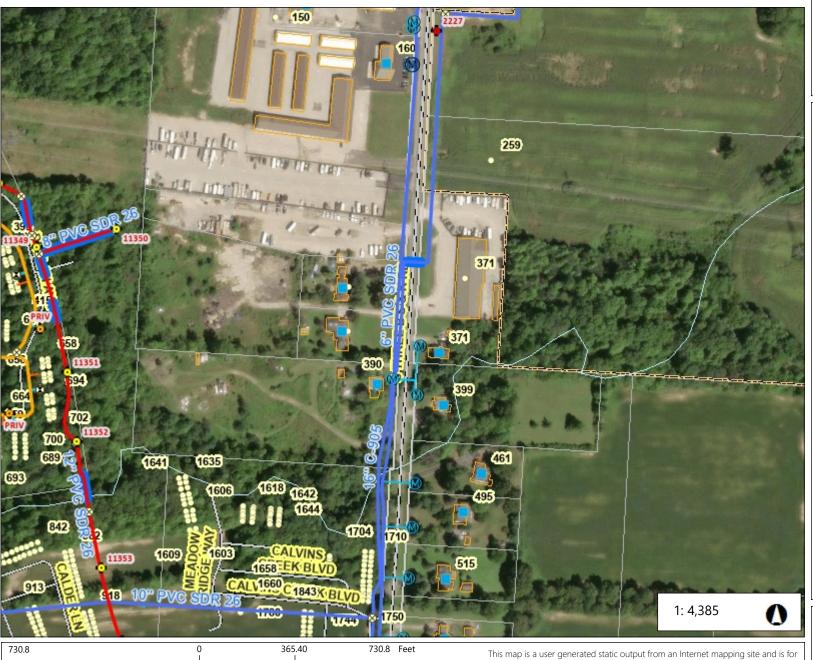
Sincerely,

DEL-CO WATER COMPANY, INC.

mo Valenzul

Cris Valenzuela Engineer

Del-Co Water Co, Inc | GIS Web Map



Legend

Flow Tests

Flow Tests > 5 Years

★ Parcel Point of Interest Water Service Point

<Null>,0

< Null>,1

Active,0

Active,1

Inactive,0

nactive,1

Water System Control Station

∆ Booster Station

Booster/Valve Station

Valve Station

Water MPRV

.....

Water Hydrants

Our Agency, Red

Our Agency, Yellow

Private

Water Flushing Hydrants

Unlocked

Locked

Water Treatment Plant

Water Tank

Active

Inactive

Notes

WGS_1984_Web_Mercator_Auxiliary_Sphere © Latitude Geographics Group Ltd.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION



RISE Commercial Berlin Twp.

Brandon Conley bconley@berlintwp.us To: Zach Rodenbarger <zachr@rylinnengineering.com>

Wed, Sep 24, 2025 at 2:13 PM

Hello Zach,

The drawings you sent look good so far. I will be able to get a better feel when I get the full set. Just make sure Berlin Twp. Zoning and Delaware County Building are good on their end.

Thank You
[Quoted text hidden]
[Quoted text hidden]
C - (614)673-5893
bconley@berlintwp.us
www.berlintwp.us

