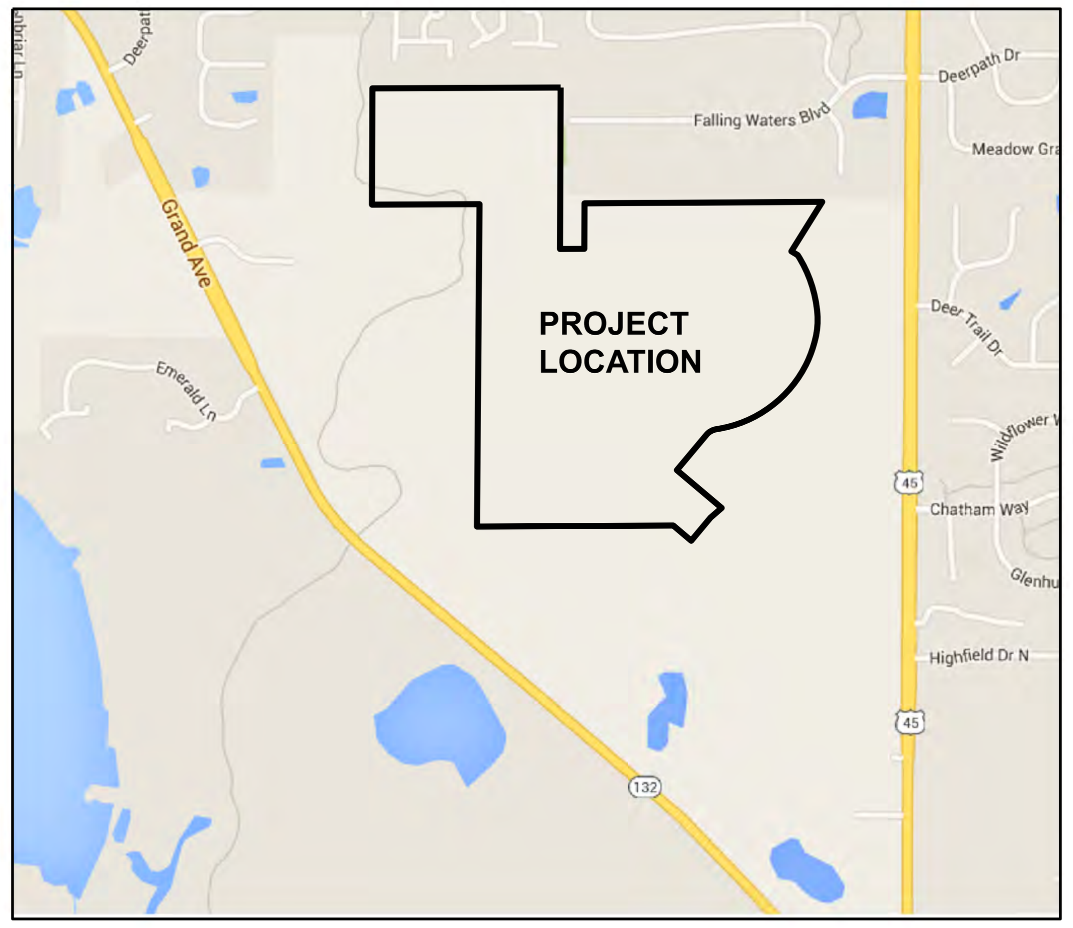
FINAL ENGINEERING FOR BRIARGATE

LINDENHURST, ILLINOIS



LOCATION MAP NORTH

BENCHMARKS:

SOURCE BENCHMARK:
NGS MARK "ML014" ELEVATION 755.34 NAVD88

SITE BENCHMARKS:
FIRE HYDRANT AT THE WEST END OF FALLING WATERS BOULEVARD
ARROW BOLT ON FIRE HYDRANT
ELEVATION = 783.24 NAVD88

FIRE HYDRANT AT THE SOUTH END OF FALLING WATERS WAYS
ARROW BOLT ON FIRE HYDRANT
ELEVATION = 763.68 NAVD88

CONTACT INFORMATION:

VILLAGE OF LINDENHURST
2301 EAST SAND LAKE ROAD
LINDENHURST, IL. 60046
1-847-356-8252

NORTH SHORE GAS
3001 GRAND AVE.
WAUKEGAN, IL. 60085
1-847-263-4656

COMED
1500 FRANKLIN BOULEVARD
LIBERTYVILLE, IL. 60048
1-847-816-5254

AT&T
1-847-888-7333

NATURAL GAS PIPELINE COMPANY
OF AMERICA LLC
PROJECT MANAGER
KINDER MORGAN INC. - TGP SOUTH
10001 LOUISIANA STREET, SUITE 1202 B
HOUSTON, TEXAS 77002
1-713-420-4363

IDOT
DISTRICT 1
201 W. CENTER COURT
SCHAUMBURG, IL. 60196
1-847-705-4131

LAKE COUNTY STORMWATER
MANAGEMENT COMMISSION
500 WEST WINCHESTER RD.
LIBERTYVILLE, IL 60048
(847) 377-7700

NOTE:

ALL WETLANDS SHALL BE DELINEATED AND STAKED IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION.

DRAINAGE CERTIFICATE

TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF THIS DEVELOPMENT OR ANY PART THEREOF, OR, THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREAS, OR DRAINS WHICH THE DEVELOPER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF THE CONSTRUCTION OF THIS DEVELOPMENT.

REGISTERED PROFESSIONAL ENGINEER DATE

OWNER OR OWNER'S DULY AUTHORIZED AGENT DATE

INDEX

PREPARED FOR:

PULTE HOME COMPANY, LLC

1900 E. GOLF ROAD - SUITE 300 SCHAUMBURG, IL. 60173, (847) 230-5400

CONSULTING ENGINEERS:

PEARSON, BROWN & ASSOCIATES, INC.

A PROFESSIONAL DESIGN FIRM - ILLINOIS PROFESSIONAL ENGINEERING CORPORATION - LICENSE NUMBER 184-001058 EXPIRES 04/30/21
1850 W. WINCHESTER ROAD - SUITE 205 LIBERTYVILLE, IL. 60048 (847) 367-6707

LEGEND

EXISTING PROPOSED

SANITARY SEWER
FORCE MAIN
STORM SEWER
P.V.C. STORM SEWER
COMBINED SEWER
DRAIN TILE
WATER MAIN
TRENCH BACKFILL
MANHOLE
CATCH BASIN
INLET
2' STORM MANHOLE
INLET MANHOLE
FLARED END SECTION
HEAD WALL
LIFT STATION
CLEAN-OUT
METER VAULT
VALVE VAULT
VALVE BOX
BUFFALO BOX
FIRE HYDRANT
CONFLICT
CROSSING
TRIPLE BASIN
GREASE BASIN
GAS MAIN
ELECTRIC CABLE
TELEPHONE CABLE
FIBER OPTIC CABLE
CABLE
STREET LIGHT
UTILITY POLE
PEDESTAL
TRANSFORMER
GAS VALVE
ELECTRIC BOX
TELEPHONE MANHOLE
FIBER OPTIC MANHOLE
TRAFFIC SIGNAL BOX
TRAFFIC SIGNAL

EXISTING PROPOSED

CENTER LINE
EASEMENT
BUILDING SETBACK
CURB & GUTTER
CURB & REVERSE GUTTER PITCH
DEPRESSED CURB & GUTTER
GUARD RAIL
FENCE
RETAINING WALL
CURB RAMP
DRIVEWAY HAND
SIGN
MAIL BOX
SOIL BORING
DECIDIOUS TREE, DIAMETER
EVERGREEN TREE, HEIGHT
TOP OF FOUNDATION (T/F 600.00)
FINISHED GRADE (F/G 600.00)
SPOT ELEVATION (600.00)
TOP OF CURB ELEVATION (T/C 600.00)
FLOW LINE OF GUTTER (F/L 600.00)
CONTOUR (600)
DITCH
DRAINAGE FLOW
OVERLAND FLOW
RIM ELEVATION (R-600.00)
INVERT ELEVATION (I-600.00)
WETLAND LIMIT
WETLAND BUFFER LINE
RIDGE LINE
BASE FLOOD ELEVATION LINE
F.E.M.A. FLOODPLAIN LINE

CONTACT JULIE AT 8-1-1 OR 800-892-0123
With the following:
Call Before You Dig
County LAKE
City/Twnship LINDENHURST - LAKE VILLA
Sec 1/4 Sec No. Sec 1, SW & SE 1/4 Sec 12, NE 1/4
JULIE ILLINOIS ONE-CALL SYSTEM
illinois1call.com
Call 2 working days BEFORE YOU DIG.

PERMIT	NUMBER	DATE ISSUED
IEPA - SANITARY	2020-HB-65160	04/07/20
IEPA - WATER		
IEPA - NOI		
VILLAGE		

REVISIONS		
1	02/14/20	REVISED PER VILLAGE REVIEW COMMENTS
2	04/16/20	REVISED PER VILLAGE REVIEW COMMENTS
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

ENGINEER'S SEAL & SIGNATURE

ORIGINAL ISSUE DATE: 12/12/19

SHEET NUMBER 1 OF 47 SHEETS

JOB No. 1994

BRIARGATE

SPECIAL PROVISIONS

THE FOLLOWING SPECIAL PROVISIONS ASSUME A TYPICAL OWNER/DEVELOPER AND FOUR PRIME CONTRACTORS (EXCAVATION, UNDERGROUND, PAVING, AND LIGHTING). IF A GENERAL CONTRACTOR IS INVOLVED, REQUIREMENTS AND RESPONSIBILITIES SHALL APPLY ACCORDINGLY BASED ON CONTRACT RELATIONSHIPS BETWEEN THE GENERAL CONTRACTOR, RELEVANT SUBCONTRACTORS AND THE OWNER/DEVELOPER.

I. GENERAL NOTES

1. THE CONSTRUCTION OF ALL IMPROVEMENTS OF THE PROJECT SHALL BE GOVERNED BY THE LATEST CODES AND ORDINANCES OF THE MUNICIPALITY.

THE CONSTRUCTION OF ALL SEWER AND WATER MAIN IMPROVEMENTS ON THIS PROJECT SHALL BE GOVERNED BY THE FOLLOWING:
A. THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS", LATEST REVISION, EXCEPT AS NOTED IN THE PLANS AND SPECIFICATIONS.
B. THE "ILLINOIS ADMINISTRATIVE CODE, TITLE 77, PART 890" THE "ILLINOIS PLUMBING CODE", LATEST REVISION
C. THE "ILLINOIS ADMINISTRATIVE CODE, TITLE 35, SUBTITLE C, PART 370" THE "ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS", LATEST REVISION
D. THE "ILLINOIS ADMINISTRATIVE CODE, TITLE 35, SUBTITLE F" "PUBLIC WATER SUPPLIES", LATEST REVISION

THE CONSTRUCTION OF ALL PAVING AND GRADING IMPROVEMENTS SHALL BE GOVERNED BY THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" (SPECIAL PROVISIONS), LATEST REVISIONS, PREPARED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT). IN CASE OF CONFLICT THE "SPECIAL PROVISIONS" SHALL TAKE PRECEDENCE AND GOVERN. BOTH THE IDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS SHALL HEREINAFTER BE REFERRED TO AS THE "IDOT STANDARD SPECIFICATIONS".

SOIL EROSION AND SEDIMENT CONTROL ON THIS PROJECT SHALL BE GOVERNED BY THE "ILLINOIS URBAN MANUAL", LATEST REVISION.

2. **OMITTED**

3. **GUARANTEE PERIOD**
ALL CONSTRUCTION PERFORMED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR AND HIS SURETY FOR A PERIOD OF TWELVE MONTHS FROM THE DATE OF FINAL ACCEPTANCE BY THE LOCAL MUNICIPALITY, GOVERNING AUTHORITY, OR PRIVATE OWNER OF THE WORK AGAINST DEFECTS IN WORKMANSHIP AND FAULTY OR IMPROPER MATERIALS.

4. **BONDS AND INSURANCE**
OWNER SHALL FURNISH PERFORMANCE AND PAYMENT BONDS AS SECURITY FOR THE FAITHFUL PERFORMANCE AND PAYMENT OF ALL HIS OBLIGATIONS UNDER THE PLANS AND SPECIFICATIONS. THESE BONDS SHALL BE IN AMOUNTS AT LEAST EQUAL TO THE CONTRACT PRICE, AND IN SUCH FORM AND WITH SUCH SURETIES AS ARE LICENSED TO CONDUCT BUSINESS IN THE STATE WHERE THE PROJECT IS LOCATED AND ARE NAMED IN THE CURRENT LIST OF "SURETY COMPANIES ACCEPTABLE ON FEDERAL BONDS" AS PUBLISHED IN THE FEDERAL REGISTER BY THE AUDIT STAFF BUREAU OF ACCOUNTS, U. S. TREASURY DEPARTMENT. IF THE SURETY ON ANY BOND FURNISHED BY THE OWNER IS DECLARED BANKRUPT OR BECOMES INSOLVENT OR ITS RIGHT TO DO BUSINESS IS TERMINATED IN ANY STATE WHERE ANY PART OF THE PROJECT IS LOCATED IS REVOKED, OWNER SHALL WITHIN FIVE DAYS THEREAFTER SUBSTITUTE ANOTHER BOND AND SURETY, BOTH OF WHICH SHALL BE ACCEPTABLE.

OWNER OR CONTRACTOR SHALL PURCHASE AND MAINTAIN SUCH INSURANCE AS WILL PROTECT HIM FROM CLAIMS UNDER WORKMEN'S COMPENSATION LAWS, DISABILITY BENEFIT LAWS OR OTHER SIMILAR EMPLOYEE BENEFIT LAWS; FROM CLAIMS FOR DAMAGES BECAUSE OF BODILY INJURY, OCCUPATIONAL SICKNESS OR DISEASE, OR DEATH OF HIS EMPLOYEES, AND CLAIMS INSURED BY USUAL PERSONAL INJURY LIABILITY COVERAGE; FROM CLAIMS FOR DAMAGES BECAUSE OF BODILY INJURY, SICKNESS OR DISEASE, OR DEATH OF ANY PERSON OTHER THAN HIS EMPLOYEES INCLUDING CLAIMS INSURED BY USUAL PERSONAL INJURY LIABILITY COVERAGE; FROM CLAIMS FOR DAMAGES BECAUSE OF BODILY INJURY OR PROPERTY DAMAGE OUT OF THE OWNERSHIP, MAINTENANCE OR USE OF ANY AUTOMOBILE OR VEHICLE; AND FROM CLAIMS FOR INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY, INCLUDING LOSS OF USE RESULTING THEREFROM - ANY OR ALL OF WHICH MAY ARISE OUT OF OR RESULT FROM OWNER'S OR CONTRACTOR'S OPERATIONS UNDER THE PLANS AND SPECIFICATIONS, WHETHER SUCH OPERATIONS BE BY HIMSELF OR BY ANY SUBCONTRACTOR OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM OR FOR WHOSE ACTS ANY OF THEM MAY BE LEGALLY LIABLE. THIS INSURANCE SHALL INCLUDE THE SPECIFIC COVERAGES AND BE WRITTEN FOR NOT LESS THAN ANY LIMITS OF LIABILITY AND MAXIMUM DEDUCTIBLES SPECIFIED OR REQUIRED BY LAW, WHICHEVER IS GREATER. SHALL INCLUDE CONTRACTUAL LIABILITY INSURANCE AND SHALL INCLUDE OWNER AND CONSULTANT AS ADDITIONAL INSURED PARTIES. BEFORE STARTING THE WORK, CONTRACTOR SHALL FILE WITH OWNER AND CONSULTANT CERTIFICATES OF SUCH INSURANCE, ACCEPTABLE TO OWNER; THESE CERTIFICATES SHALL CONTAIN A PROVISION THAT THE COVERAGE AFFORDED UNDER THE POLICIES WILL NOT BE CANCELLED OR MATERIALLY CHANGED UNTIL AT LEAST FIFTEEN DAYS PRIOR WRITTEN NOTICE HAS BEEN GIVEN TO OWNER AND CONSULTANT. CERTIFICATE OF INSURANCE SHALL BE FILED WITH THE MUNICIPAL CLERK NAMING THE MUNICIPALITY, MUNICIPALITY'S CONSULTANTS, ITS ELECTIVE AND APPOINTIVE BOARDS, COMMISSIONS, OFFICERS, AGENTS AND EMPLOYEES AS ADDITIONAL INSURED TO COVER, CLAIMS, WHICH MAY ARISE OUT OF THE PERFORMANCE OF THE WORK BY THE APPLICANT OR HIS AGENTS OR CONTRACTORS.

CONTRACTOR SHALL PROVIDE CERTIFICATES OF INSURANCE AND POLICIES EVIDENCING THE MINIMUM INSURANCE COVERAGE AND LIMITS SET FORTH BELOW TO THE VILLAGE OF LINDENHURST. SUCH POLICIES SHALL BE IN FORM AND FROM COMPANIES ACCEPTABLE AND SATISFACTORY TO THE VILLAGE OF LINDENHURST TO AFFORD PROTECTION AGAINST ALL CLAIMS FOR DAMAGES TO PUBLIC OR PRIVATE PROPERTY, AND INJURIES TO PERSONS, ARISING OUT OF AND DURING THE PROGRESS OF THE WORK UNTIL FINAL ACCEPTANCE AND PAYMENT BY THE VILLAGE OF LINDENHURST. A COPY OF THE CERTIFICATE OF INSURANCE SHALL NAME THE VILLAGE OF LINDENHURST AS ADDITIONAL INSURED. THE POLICY OF INSURANCE SHALL CONTAIN NO PROVISIONS THAT INVALIDATE THE NAMING OF THE VILLAGE OF LINDENHURST AS ADDITIONAL INSURED.

a. MINIMUM COVERAGE
THE INSURANCE COVERAGES AND LIMITS SET FORTH BELOW SHALL BE DEEMED TO BE MINIMUM COVERAGES AND LIMITS AND SHALL NOT BE CONSTRUED IN ANY WAY AS A LIMITATION ON CONTRACTOR'S DUTY TO CARRY ADEQUATE INSURANCE OR ON CONTRACTOR'S LIABILITY FOR LOSSES OR DAMAGES UNDER THIS AGREEMENT. THE MINIMUM INSURANCE COVERAGES AND LIMITS THAT SHALL BE MAINTAINED AT ALL TIMES WHILE PROVIDING, PERFORMING, OR COMPLETING THE WORK ARE AS FOLLOWS:

1. WORKMEN'S COMPENSATION AND EMPLOYER'S LIABILITY
LIMITS SHALL NOT BE LESS THAN:
WORKER'S COMPENSATION: STATUTORY
EMPLOYERS LIABILITY: $500,000 EA. ACCIDENT-INJURY $500,000 EA. EMPLOYEE-DISEASE
$500,000 EA. DISEASE-POLICY. SUCH INSURANCE SHALL EVIDENCE THAT COVERAGE APPLIES TO THE STATE OF ILLINOIS.

2. COMPREHENSIVE MOTOR VEHICLE LIABILITY INSURANCE. LIMITS FOR VEHICLES OWNED, NON-OWNED, OR RENTED SHALL NOT BE LESS THAN:
$1,000,000 BODILY INJURY AND PROPERTY DAMAGE COMBINED SINGLE LIMIT
3. COMPREHENSIVE GENERAL LIABILITY . LIMITS SHALL NOT BE LESS THAN:
$1,000,000 BODILY INJURY AND PROPERTY DAMAGE COMBINED SINGLE LIMITS.
COVERAGE IS TO BE WRITTEN ON AN "OCCURRENCE" BASIS.
COVERAGE TO INCLUDE:
PREMISES OPERATIONS PRODUCTS/COMPLETED OPERATIONS INDEPENDENT CONTRACTORS
INDEPENDENT CONTRACTORS PERSONAL INJURY(WITH EMPLOYMENT EXCLUSION DELETED)
BROAD FORM PROPERTY DAMAGE ENDORSEMENT "X","C", AND "U" CONTRACTUAL LIABILITY
CONTRACTUAL LIABILITY COVERAGE SHALL SPECIFICALLY INCLUDE THE INDEMNIFICATION SET FORTH BELOW.
4. UMBRELLA LIABILITY. LIMITS SHALL NOT BE LESS THAN:
$2,000,000 BODILY INJURY AND PROPERTY DAMAGE COMBINED SINGLE LIMIT.
THIS POLICY SHALL APPLY IN EXCESS OF THE LIMITS STATES IN 1, 2, AND 3 ABOVE.

5. **INDEMNIFICATION**
CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE MUNICIPALITY, MUNICIPALITY'S CONSULTANTS, OWNER AND CONSULTANT, AND THEIR AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING ATTORNEYS' FEES ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, DAMAGE, LOSS OR EXPENSE (A) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF) INCLUDING THE LOSS OF USE RESULTING THEREFROM AND (B) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT IT IS CAUSED IN PART BY A PARTY INDEMNIFIED HEREUNDER. IN ANY AND ALL CLAIMS AGAINST OWNER OR CONSULTANT OR ANY OF THEIR AGENTS OR EMPLOYEES BY ANY EMPLOYEE OF CONTRACTOR, ANY SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, THE INDEMNIFICATION OBLIGATION SHALL NOT BE LIMITED IN ANY WAY BY ANY LIMITATION ON THE AMOUNT OR TYPE OF DAMAGES, COMPENSATION OR BENEFITS PAYABLE BY OR FOR CONTRACTOR OR ANY SUBCONTRACTOR UNDER WORKMEN'S COMPENSATION ACTS, DISABILITY BENEFIT ACTS OR OTHER EMPLOYEE BENEFIT ACTS.

6. **LIABILITY LIMITATIONS**
THE CONTRACTOR AND HIS SUBCONTRACTORS ARE SKILLED AND EXPERIENCED IN THE USE AND INTERPRETATIONS OF PLANS AND SPECIFICATIONS SUCH AS THOSE INCLUDED IN THE BID DOCUMENTS FOR THIS CONTRACT. THEY HAVE CAREFULLY REVIEWED THE PLANS AND SPECIFICATIONS, AND HAVE FOUND THEM FREE OF AMBIGUITIES AND SUFFICIENT FOR BID PURPOSES. FURTHER, THEY HAVE BASED THEIR BID SOLELY ON THESE DOCUMENTS, NOT RELYING IN ANY WAY ON ANY EXPLANATION OR INTERPRETATION, ORAL OR WRITTEN, FROM ANY OTHER SOURCE. HAVING ASSURED HIMSELF OF THE ADEQUACY OF THE DOCUMENTS AND THE ACCURACY OF HIS BID, THE CONTRACTOR AGREES AND SHALL REQUIRE HIS SUBCONTRACTORS TO AGREE TO LIMIT THE LIABILITY OF THE OWNER AND OF THE CONSULTANT TO A TOTAL AGGREGATE LIABILITY TO THE CONTRACTOR OF THE AMOUNT OF THE CONSULTANT'S TOTAL FEE FOR SERVICES RENDERED ON THIS PROJECT. NEITHER THE CONTRACTOR NOR ANY OF HIS SUBCONTRACTORS ASSUME ANY LIABILITY FOR THE ERRORS, OMISSIONS OR NEGLIGENT ACTS OF THE CONSULTANT.

7. **SAFETY AND PROTECTION**
CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. HE SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE THE NECESSARY PROTECTION TO PREVENT DAMAGE, INJURY OR LOSS TO:
A. ALL EMPLOYEES ON THE WORK AND OTHER PERSONS WHO MAY BE AFFECTED THEREBY.
B. ALL THE WORK AND ALL MATERIALS OR EQUIPMENT TO BE INCORPORATED THEREIN, WHETHER IN STORAGE ON OR OFF THE SITE.
C. OTHER PROPERTY AT THE SITE OR ADJACENT THERETO, INCLUDING TREES, SHRUBS, LAWNS, WALKS, PAVEMENTS, ROADWAYS, STRUCTURES AND UTILITIES NOT DESIGNATED FOR REMOVAL, RELOCATION OR REPLACEMENT IN COURSE OF CONSTRUCTION.
CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION FOR THE SAFETY OF PERSONS OR PROPERTY OR TO PROTECT THEM FROM DAMAGE, INJURY OR LOSS. HE SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR ITS SAFETY AND PROTECTION. HE SHALL NOTIFY OWNERS OF ADJACENT UTILITIES WHEN PROSECUTION OF THE WORK MAY AFFECT THEM. ALL DAMAGE, INJURY OR LOSS TO ANY PROPERTY REFERRED TO CAUSE, DIRECTLY OR INDIRECTLY, IN WHOLE OR IN PART, BY CONTRACTOR, ANY SUBCONTRACTOR OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, SHALL BE REMEDIED BY CONTRACTOR. CONTRACTOR'S DUTIES AND RESPONSIBILITIES FOR THE SAFETY AND PROTECTION OF THE WORK SHALL CONTINUE UNTIL SUCH TIME AS ALL THE WORK IS COMPLETED AND CONSULTANT HAS ISSUED A NOTICE TO OWNER AND CONTRACTOR THAT THE WORK IS ACCEPTABLE. CONTRACTOR SHALL DESIGNATE A RESPONSIBLE MEMBER OF HIS ORGANIZATION AT THE SITE WHOSE DUTY SHALL BE THE PREVENTION OF ACCIDENTS. THIS PERSON SHALL BE THE CONTRACTOR'S SUPERINTENDENT UNLESS OTHERWISE DESIGNATED IN WRITING BY CONTRACTOR TO OWNER. IN EMERGENCIES AFFECTING THE SAFETY OF PERSONS OR THE WORK OR PROPERTY AT THE SITE OR ADJACENT THERETO, CONTRACTOR, WITHOUT SPECIAL INSTRUCTION OR AUTHORIZATION FROM CONSULTANT OR OWNER, IS OBLIGATED TO ACT, AT HIS DISCRETION, TO PREVENT THREATENED DAMAGE, INJURY OR LOSS.

8. **SUPERVISION AND SUPERINTENDENCE**
CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK EFFICIENTLY AND WITH HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, BUT HE SHALL NOT BE SOLELY RESPONSIBLE FOR THE NEGLIGENCE OF OTHERS IN THE DESIGN OR SELECTION OF A SPECIFIC MEANS, METHOD, TECHNIQUE, SEQUENCE OR PROCEDURE OF CONSTRUCTION WHICH IS INDICATED IN AND REQUIRED BY THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SEE THAT THE FINISHED WORK COMPLIES ACCURATELY WITH THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL KEEP ON THE WORK AT ALL TIMES DURING ITS PROGRESS, A COMPETENT RESIDENT SUPERINTENDENT SHALL BE PROVIDED, WHO SHALL NOT BE REPLACED WITHOUT WRITTEN NOTICE TO OWNER AND CONSULTANT, EXCEPT UNDER EXTRAORDINARY CIRCUMSTANCES. THE SUPERINTENDENT WILL BE THE CONTRACTOR'S REPRESENTATIVE AT THE SITE AND SHALL HAVE AUTHORITY TO ACT ON BEHALF OF CONTRACTOR. ALL COMMUNICATIONS GIVEN TO THE SUPERINTENDENT SHALL BE AS BINDING AS IF GIVEN TO CONTRACTOR.

9. **SUBSTITUTE MATERIAL OR EQUIPMENT**
IF THE GENERAL REQUIREMENTS, LAWS, ORDINANCES OR APPLICABLE RULES OR REGULATIONS PERMIT CONTRACTOR TO FURNISH OR USE A SUBSTITUTE THAT IS EQUAL TO ANY MATERIAL OR EQUIPMENT SPECIFIED, AND IF ANY CONTRACTOR WISHES TO FURNISH OR USE A PROPOSED SUBSTITUTE, HE SHALL MAKE WRITTEN APPLICATION TO CONSULTANT, OWNER AND VILLAGE FOR APPROVAL OF SUCH A SUBSTITUTE CERTIFYING IN WRITING THAT THE PROPOSED SUBSTITUTE WILL PERFORM ADEQUATELY THE FUNCTION CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR OR EQUAL SUBSTANCE TO THAT SPECIFIED AND BE SUITED TO THE SAME USE AND CAPABLE OF PERFORMING THE SAME FUNCTION AS THAT SPECIFIED; STATING WHETHER OR NOT ITS INCORPORATION IN OR USE IN CONNECTION WITH THE PROJECT IS SUBJECT TO THE PAYMENT OF ANY LICENSE FEE OR ROYALTY; AND IDENTIFYING ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED AND INDICATING AVAILABLE MAINTENANCE SERVICE. NO SUBSTITUTE SHALL BE ORDERED OR INSTALLED WITHOUT THE WRITTEN APPROVAL OF CONSULTANT WHO WILL BE THE JUDGE OF EQUALITY AND MAY REQUIRE CONTRACTOR TO FURNISH SUCH OTHER DATA ABOUT THE PROPOSED SUBSTITUTE AS HE CONSIDERS PERTINENT. NO SUBSTITUTE SHALL BE ORDERED OR INSTALLED WITHOUT SUCH PERFORMANCE GUARANTEE AND BONDS AS OWNER MAY REQUIRE WHICH SHALL BE FURNISHED AT CONTRACTOR'S EXPENSE.

10. **RECORD DRAWINGS**
CONTRACTOR SHALL KEEP ONE RECORD COPY OF ALL SPECIFICATIONS, DRAWINGS, ADDENDA, MODIFICATIONS, AND SHOP DRAWINGS AT THE SITE IN GOOD ORDER AND ANNOTATED TO SHOW ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. THESE SHALL BE AVAILABLE TO CONSULTANT AND SHALL BE DELIVERED TO HIM OR OWNER UPON COMPLETION OF THE PROJECT. CONSULTANT OR OWNER SHALL SUPPLY RECORD DRAWINGS TO THE LOCAL MUNICIPALITY.

11. **INSTRUCTIONS TO CONTRACTORS FROM CONSULTANT**
THE CONTRACTOR SHALL ONLY ACCEPT INSTRUCTIONS, EITHER VERBAL OR WRITTEN, FROM AUTHORIZED PERSONNEL OF PEARSON, BROWN & ASSOCIATES, INC. THE PERSONNEL SO AUTHORIZED TO ISSUE INSTRUCTIONS TO CONTRACTORS ARE EXCLUSIVELY RONALD ADAMS, GUS ZOGRAFOS AND ANGELO ZOGRAFOS, NOT WITHOUT OWNERS PERMISSION.

12. **APPLICATION FOR PAYMENT**
IF APPROVAL BY THE CONSULTANT AND THE MUNICIPALITY IS REQUIRED FOR THE PROCESSING OF THE APPLICATION FOR PAYMENT, THEN CONTRACTOR SHALL SUBMIT TO CONSULTANT AN APPLICATION FOR PAYMENT ACCEPTABLE TO CONSULTANT AND SHALL PROVIDE TO THE CONSULTANT ANY AND ALL INFORMATION PERTINENT TO SAID APPLICATION WHETHER REQUESTED SPECIFICALLY OR NOT. CONSULTANT'S APPROVAL IS BASED ON WORK COMPLETED TO DATE OF APPLICATION SUBMITTAL. IF CONTRACTOR HAS AGREED BY CONTRACT AGREEMENT OR IN THE SCOPE OF WORK TO A QUANTITY OF EQUIPMENT WITH OPERATORS OR TO A NUMBER OF CREWS TO START WORK ON A SPECIFIC DATE AND PROCEED AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE, AND CONTRACTOR DOES NOT PROVIDE THE EQUIPMENT WITH OPERATORS OR THE NUMBER OF CREWS AS DIRECTED BY OWNER OR HIS REPRESENTATIVE, THEN THE OWNER OR HIS REPRESENTATIVE RESERVES THE RIGHT TO WITHHOLD APPROVAL FOR PAYMENT UNTIL SUCH TIME AS CONTRACTOR HAS COMPLIED WITH SAID CONTRACT AGREEMENT OR SCOPE OF WORK.

13. **RETENTION**
ANY AND ALL APPLICATIONS FOR PAYMENT SUBMITTED TO CONSULTANT SHALL HAVE A TEN PERCENT (10%) RETAINER UNTIL SUCH TIME AS ONE HUNDRED PERCENT (100%) OF THE WORK REQUESTED OF SAID CONTRACTOR HAS BEEN COMPLETED. UPON COMPLETION OF ONE HUNDRED (100%) PERCENT OF THE WORK, THE RETENTION SHALL BE REDUCED TO FIVE (5%) UNTIL SUCH TIME AS CONTRACTOR HAS APPLIED FOR AND OBTAINED TESTING AND APPROVAL IN WRITING FINAL ACCEPTANCE FOR MAINTENANCE OF THIS WORK BY SAID GOVERNING AUTHORITIES. UPON TESTING, APPROVAL AND ACCEPTANCE OF THE WORK, THE RETENTION SHALL BE REDUCED TO TWO PERCENT (2%) UNTIL ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AT WHICH TIME ALL MONIES DUE CONTRACTOR SHALL BE APPROVED FOR PAYMENT UNLESS CONTRACTOR HAD FAILED TO PERFORM IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND/OR WRITTEN OR VERBAL INSTRUCTIONS FROM ENGINEER REGARDING FAULTY MATERIAL AND/OR WORKMANSHIP.

14. **CONFLICT BETWEEN COMPONENT PARTS OR SPECIFICATIONS**
IN THE EVENT THAT ANY PROVISION IN ANY OF THE FOLLOWING COMPONENT PARTS OF THESE SPECIFICATIONS CONFLICT WITH ANY PROVISION IN ANY OTHER OF THE COMPONENT PARTS, THE PROVISION IN THE COMPONENT PART FIRST LISTED BELOW SHALL GOVERN OVER ANY OTHER COMPONENT PART WHICH FOLLOWS IT, EXCEPT AS MAY OTHERWISE BE SPECIFICALLY STATED. SAID COMPONENT PARTS ARE THE FOLLOWING:
A. SPECIAL PROVISIONS
B. PLANS
C. RECURRING SPECIAL PROVISIONS
D. SUPPLEMENTAL SPECIFICATIONS
E. STANDARD SPECIFICATIONS

15. **PERMITS**
THE OWNER OR CONSULTANT SHALL MAKE APPLICATION FOR THE FOLLOWING PERMITS:
MUNICIPALITY: WATERSHED DEVELOPMENT PERMIT
IEPA: NOI, SANITARY SEWER, AND WATER SUPPLY

II. GENERAL NOTES

1. NO CONSTRUCTION PLANS SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED 'FOR CONSTRUCTION'. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL 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, HE MUST IMMEDIATELY REPORT SAME TO THE CONSULTANT BEFORE DOING ANY WORK, OTHERWISE THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTIONS FROM THE CONSULTANT PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. 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 CONSULTANT SHALL BE FINAL AND CONCLUSIVE.

2. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS BEFORE CONSTRUCTION BEGINS. HE 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 CONSULTANT.

3. IF LINE AND GRADE STAKES ARE PROVIDED BY CONSULTANT, STAKES WILL BE SET AT THE OWNER'S EXPENSE ONE TIME AND ONE TIME ONLY. CONTRACTORS SHALL NOTIFY THE CONSULTANT THAT STAKES WILL BE NEEDED AT LEAST 3 WORKING DAYS IN ADVANCE OF STARTING THEIR WORK. (ADDITIONAL NOTIFICATION SHALL BE PROVIDED PRIOR TO THE START OF INITIAL PROJECT CONSTRUCTION OPERATIONS.) ANY AND ALL REQUIRED RESTAKING WILL BE PERFORMED BY THE CONSULTANT AT THE EXPENSE OF THAT CONTRACTOR REQUIRING THE RESTAKING. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT STAKES PROVIDED FOR HIS USE AND TO REPORT TO THE OWNER'S SUPERINTENDENT ANY SPECIFIC LOCATIONS OF DAMAGED STAKES AND/OR MONUMENTS PROVIDED. LOT CORNER IRONS ARE TO BE CONSIDERED AS CONTROL.

OFTEN TIMES, CURB GRADE STAKES ARE PLACED AT A 4' OFFSET TO BACK OF CURB AT THE REQUEST OF THE CONTRACTOR. IN MOST INSTANCES, THIS AREA IS LOCATED OVER THE WATERMAIN, SANITARY SEWER OR STORM SEWER TRENCH, AND NOT SOLID GROUND. CURB GRADE STAKES MAY LOSE THEIR INTEGRITY DUE TO A RAIN EVENT, HEAVY MACHINERY TRAFFIC, AND THE LIKE. THEREFORE, THE CURB CONTRACTOR SHALL CHECK THE CURB GRADE STAKES DURING THE SETTING OF THE STRING LINE AND REPORT ANY IRREGULARITIES TO THE CONSULTANT. THE CURB CONTRACTOR SHALL ALSO VERIFY THAT ALL STAKES FOR CURB DEPRESSIONS (SIDEWALKS, DRIVEWAYS, BIKE PATHS, EMERGENCY ACCESSES, ETC.) ARE IN PLACE PRIOR TO POURING OF ANY CURB.

4. 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 CONTRACTOR 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 CONTRACTOR SHALL NOTIFY THE CONSULTANT IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.

5. 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.

6. THE CONTRACTOR 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 I.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 CONSULTANT, MUNICIPAL OR GOVERNING AGENCY. ALL TRAFFIC CONTROL WORK SHALL BE DONE IN ACCORDANCE WITH THE I.D.O.T. HIGHWAY STANDARDS, AND THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

7. CONTRACTORS SHALL KEEP PUBLIC STREET PAVEMENTS CLEAN OF DIRT AND DEBRIS AND, WHEN NECESSARY, CLEAN PAVEMENTS ON A DAILY BASIS.

8. PRIOR TO COMMENCEMENT OF UNDERGROUND CONSTRUCTION, THE GRADING CONTRACTOR SHALL OBTAIN FROM THE OWNER AND/OR CONSULTANT VERIFICATION OF ELEVATIONS TO PLUS OR MINUS ONE TENTH OF A FOOT (0.10') OF PROPOSED SUB-GRADE AND APPROVALS OF COMPACTION.

9. DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHALL ENSURE POSITIVE SITE DRAINAGE AT THE CONCLUSION OF EACH DAY. SITE DRAINAGE MAY BE ACHIEVED BY DITCHING, PUMPING OR ANY OTHER ACCEPTABLE METHOD. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF.

10. IT SHALL BE THE RESPONSIBILITY OF EACH 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.

11. THE CONSULTANT, MUNICIPALITY AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR FOR ANY SAFETY PRECAUTIONS USED BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

12. 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 J.U.L.I.E AT (800)892-0123 AND THE MUNICIPALITY FOR UTILITY LOCATIONS.

13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE FOR THE RELOCATION OR BRACING OF EXISTING UTILITY POLES THAT MAY BE WITHIN THE WORKING LIMITS OF THE CONTRACT. IT IS EXPRESSLY UNDERSTOOD THAT ALL WORK AND COSTS CONNECTED WITH THESE UTILITY POLES, THEIR TEMPORARY RELOCATIONS, ETC., SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER OR RELEVANT CONTRACTOR.

14. ALL PAVEMENT, CURB AND GUTTER, DRIVEWAYS, SIDEWALKS, TREES, SHRUBS, BUSHES, LAWNS, FENCES, AND ALL OTHER STRUCTURES REQUIRED TO BE REMOVED, SHALL BE REPLACED AND/OR RESTORED AS DIRECTED BY THE OWNER TO ORIGINAL CONDITION. ALL RESTORATION NOT COVERED IN THE CONTRACT QUANTITIES OR SPECIFICATIONS SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.

15. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL SAFETY REGULATIONS AS OUTLINED IN THE LATEST REVISIONS OF THE FEDERAL CONSTRUCTION SAFETY STANDARDS (SERIES 1926) AND WITH APPLICABLE PROVISIONS AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS OF THE WILLIAMS STEIGER OCCUPATIONAL HEALTH STATE SAFETY ACT OF 1970(REVISED). THE CONTRACTOR, CONSULTANT AND OWNER SHALL EACH BE RESPONSIBLE FOR HIS OWN RESPECTIVE AGENTS AND EMPLOYEES.

16. CHANGES IN THE CONSULTANT'S ENGINEERING PLANS MUST BE APPROVED BY BOTH THE DESIGN CONSULTANT AND THE MUNICIPAL ENGINEER. A WRITTEN REQUEST, ACCOMPANIED BY REVISED ENGINEERING PLANS, IS TO BE SUBMITTED TO AND APPROVED BY BOTH BEFORE CHANGES ARE STARTED.

17. DRAIN TILES MAY EXIST ON THE SUBJECT PROPERTY; THEIR LOCATIONS MAY BE KNOWN AND/OR UNKNOWN AND MAY EXTEND OFFSITE EITHER UPSTREAM OR DOWNSTREAM. THE MUNICIPAL ENGINEER AND CONSULTANT SHALL BE CONTACTED REGARDING ANY UNFORESEEN DRAIN TILES. ALL EXISTING ONSITE MAINLINE DRAIN TILES SHALL BE ABANDONED BY TRENCH REMOVAL PRIOR TO OTHER DEVELOPMENT ACTIVITIES. IF ANY EXISTING DRAIN TILE (MAINLINE, SUB-MAIN OR LATERAL) CONTINUE OFFSITE TO UPLAND WATERSHEDS, THE CONTRACTOR (GRADING AND/OR UNDERGROUND) SHALL NOTIFY THE MUNICIPAL ENGINEER AND THE CONSULTANT FOR DIRECTION AND MUST MAINTAIN DRAINAGE SERVICE DURING CONSTRUCTION UNTIL NEW STORM SEWER CAN BE INSTALLED FOR A PERMANENT CONNECTION OR BE REROUTED WITH NEW PIPE OF SIMILAR SIZE, MATERIAL, CAPACITY AND GRADIENT AND PUT INTO ACCEPTABLE OPERATION. SUCH CONNECTION OR RELOCATION SHALL BE RECORDED ON "RECORD DRAWINGS". NORMAL CONSTRUCTION ACTIVITY INCLUDING GRADING, UNDERGROUND PIPING AND BUILDING EXCAVATION SHOULD ADEQUATELY REMOVE OR LOCATE MOST DRAIN TILE SUB-MAINS AND LATERALS. THE COST OF THE ABOVE WORK NOT INCLUDED IN THE SCHEDULE OF QUANTITIES SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

III. EARTHWORK

1. 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.
B. STRIPPING OF TOPSOIL FROM ALL STREET, DRIVEWAY, PARKING LOT, RIGHT-OF-WAY, BUILDING PAD, AND OTHER DESIGNATED STRUCTURAL AREAS.
C. STOCKPILING OF TOPSOIL AT LOCATIONS AS DIRECTED BY THE OWNER AND APPROVED BY MUNICIPALITY. TOPSOIL STOCKPILED FOR FUTURE USE SHALL BE RELATIVELY FREE FROM LARGE ROOTS, STICKS, WEEDS, BRUSH, STONES LARGER THAN ONE (1) INCH DIAMETER, OR OTHER LITTER AND WASTE PRODUCTS INCLUDING EXTRANEOUS MATERIALS NOT CONDUCIVE TO PLANT GROWTH.
D. REMOVING UNSUITABLE MATERIALS AS SPECIFIED FROM ROADWAY, DRIVEWAY/PARKING, BUILDING PAD AND OTHER DESIGNATED AREAS.
E. DEMOLITION AND REMOVAL OF EXISTING BUILDINGS AND/OR PAVEMENTS INCLUDING OFFSITE DISPOSAL OF SAME AT A DUMP SITE AS SELECTED BY THE CONTRACTOR.
F. CLAY CUT AND CLAY FILL WITH COMPACTION WITHIN ROADWAY, DRIVEWAY/PARKING, BUILDING PAD, AND OTHER DESIGNATED AREAS.
G. EXCAVATION AND GRADING OF THE OPEN SPACE AND/OR YARD AREAS PER PLAN INCLUDING DETENTION FACILITIES, BERMS, ETC.
H. PLACEMENT AND COMPACTION OF CLAY TO THE DESIGN SUBGRADE ELEVATIONS AS REQUIRED BY THE STANDARDS AND DETAILS ON THE CONSTRUCTION PLANS.
I. PLACEMENT AND COMPACTION OF NON-STRUCTURAL FILLS.
J. IF REQUIRED, REMOVAL FROM SITE AND DISPOSAL OF ANY EXCESS OR UNSUITABLE MATERIAL UPON COMPLETION OF MASS GRADING.
K. SOIL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS.
L. ANY EXISTING WELLS ENCOUNTERED SHALL BE EXPOSED AND SEALED 3-FEET BELOW PROPOSED FINISH GRADE BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 920.120 OF THE ILLINOIS WATER CONSERVATION CODE, DEPARTMENT OF PUBLIC HEALTH, LATEST EDITION, AND ALL APPLICABLE LOCAL RULES AND REGULATIONS.
M. ANY EXISTING SEPTIC TANKS AND GREASE TRAPS ENCOUNTERED SHALL HAVE ALL LIQUIDS AND SOLIDS REMOVED AND DISPOSED OF BY A LICENSED COMMERCIAL HAULER IN ACCORDANCE WITH GOVERNMENTAL JURISDICTIONAL ENTITY REGULATIONS, AND THE TANK AND GREASE TRAPS SHALL THEN BE FILLED WITH SUITABLE MATERIALS OR REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.

2. THE QUANTITIES GIVEN IN THE CONSULTANT'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 HIMSELF 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.

3. PRIOR TO ONSET OF MASS GRADING OPERATIONS, THE EARTHWORK CONTRACTOR SHALL FAMILIARIZE HIMSELF 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 PLANS AND CONSTRUCTION SCHEDULE.

4. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, A "SNOW 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 TREE-PROTECTION FENCING SHALL BE INSTALLED AND MAINTAINED BY A DESIGNATED, RESPONSIBLE CONTRACTOR.

5. THE GRADING OPERATIONS ARE TO BE CLOSELY SUPERVISED AND INSPECTED, PARTICULARLY DURING THE REMOVAL OF UNSUITABLE MATERIAL AND THE CONSTRUCTION OF EMBANKMENTS, DETENTION PONDS BERM OR BUILDING PADS, BY THE SOILS ENGINEER OR HIS REPRESENTATIVE. ALL TESTING, INSPECTION AND SUPERVISION OF SOIL QUALITY, UNSUITABLE REMOVAL AND ITS REPLACEMENT AND OTHER SOILS RELATED OPERATIONS SHALL BE ENTIRELY THE RESPONSIBILITY OF THE SOILS ENGINEER. THE SOILS ENGINEER SHALL PROVIDE AS-BUILT INFORMATION VERIFYING THAT THE CONSTRUCTION CONDITION OF DETENTION POND EARTHEN IMPOUNDMENTS MEET THE DESIGN REQUIREMENTS.

6. A QUALIFIED SOILS ENGINEER SHALL REGULARLY INSPECT THE EXCAVATION OF THE DETENTION/LAKE AREAS TO INSURE THAT THE DETENTION/LAKES 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 DEWATER THE LAKES, SHALL BE REMEDIED AS DIRECTED BY THE SOILS ENGINEER (I.E. LINING, CLAY BLANKET, BENTONITE, ETC.).

7. THE GRADING AND CONSTRUCTION OF THE SITE IMPROVEMENTS SHALL NOT CAUSE PONDING OF STORM WATER. ALL AREAS ADJACENT TO THESE IMPROVEMENTS SHALL BE GRADED TO ALLOW POSITIVE DRAINAGE.

8. THE SELECTED STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LEVEL UNIFORM LAYERS SO THAT THE COMPACTED THICKNESS IS APPROXIMATELY SIX INCHES (6") AT COMPACTION EQUIPMENT DEMONSTRATES THE ABILITY TO COMPACT GREATER THICKNESSES. THEN A GREATER THICKNESS MAY BE SPECIFIED. EACH LAYER SHALL BE THOROUGHLY MIXED DURING SPREADING TO ENSURE UNIFORMITY.

9. EMBANKMENT MATERIAL WITHIN DETENTION POND BERMS, BUILDING PADS, ROADWAYS, DRIVEWAYS, PARKING LOTS, AND OTHER STRUCTURAL CLAY FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF NINETY FIVE PERCENT (95%) 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.

10. EMBANKMENT MATERIAL (RANDOM FILL) WITHIN NON-STRUCTURAL 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).

11. 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 THAN 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 SECTION 212.03 OF THE I.D.O.T. SPECIFICATIONS).

12. 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 MIN. IBR OF 3.0, THEREFORE, IF AREAS OF PAVEMENT SUBGRADE ARE ENCOUNTERED WHICH DO NOT PROVIDE A MINIMUM IBR OF 3.0, SUB-GRADE REPLACEMENT OR PAVEMENT DESIGN REVISIONS SHALL BE PROVIDED WHICH ARE ADEQUATE TO OBTAIN EQUIVALENT PAVEMENT STRENGTH, AS DETERMINED BY THE CONSULTANT AND SOILS ENGINEER.

13. GRADING FOR PROPOSED PAVEMENT SUBGRADE AREAS, BUILDING PADS, AND YARD/OPEN SPACE AREAS SHALL BE WITHIN A TOLERANCE OF PLUS OR MINUS ONE TENTH OF A FOOT (0.1') OF DESIGN SUBGRADE ELEVATIONS.

14. 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 CONSULTANT, MUNICIPAL INSPECTOR OR SOILS ENGINEER.

15. UPON COMPLETION OF THE MASS-GRADING IMPROVEMENTS, THE EXCAVATION CONTRACTOR SHALL RESPREAD A 6-INCH LAYER OF TOPSOIL ON ALL DESIGNATED LANDSCAPE AREAS (BERMS, PONDS, PARKS, ETC.).

16. RIP RAP MATERIAL PLACED IN CONJUNCTION WITH THE EARTHWORK IMPROVEMENTS SHALL CONFORM TO SECTION 705 OF THE I.D.O.T. SPECIFICATIONS.

17. SOIL BORING REPORTS, AVAILABLE AT THE OFFICE OF THE CONSULTANT AND THE OWNER, ARE SOLELY FOR THE INFORMATION AND GUIDANCE OF THE CONTRACTORS AND THE OWNER AND CONSULTANT MAKE NO REPRESENTATION OR WARRANTY REGARDING THE INFORMATION CONTAINED IN THE BORING LOGS. THE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATIONS AND SHALL PLAN HIS WORK ACCORDINGLY. ARRANGEMENTS TO INSPECT 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.

IV. UNDERGROUND

GENERAL

1. WORK UNDER THIS SECTION SHALL INCLUDE TRENCHING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTING, 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 CONTRACT.

2. ALL SEWER AND WATER MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN ILLINOIS", LATEST EDITION, AND THE ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS, LATEST EDITION AND THE STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS AND ORDINANCES OF THE GOVERNING MUNICIPALITY AND THE SANITARY DISTRICT AS APPLICABLE.

3. ROUGH GRADING TO WITHIN ONE TENTH OF A FOOT (0.10') OF FINISHED SUBGRADE SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF UNDERGROUND UTILITY INSTALLATION.

4. ALL UTILITY TRENCHES BENEATH PROPOSED OR EXISTING PAVEMENT, DRIVEWAYS, SIDEWALKS AND FOR A DISTANCE OF TWO FEET ON EITHER SIDE OF SAME, OR WITHIN THE ZONE OF INFLUENCE WHICHEVER IS GREATER AND/OR WHEREVER ELSE SHOWN ON THE CONSTRUCTION PLAN SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL (CA-6) AND THOROUGHLY COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.

5. "BAND-SEAL" OR SIMILAR FLEXIBLE TYPE COUPLINGS SHALL BE USED WHEN CONNECTING SEWER PIPES OF DIS-SIMILAR MATERIALS. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, THE FOLLOWING METHOD SHALL BE USED: WITH THE PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING. USING "BAND-SEAL" OR SIMILAR COUPLINGS AND SHEAR RINGS AND CLAMPS TO HOLD IT FIRMLY IN PLACE. MISSION COUPLINGS SHALL BE THE LENGTH OF BOOT APPROXIMATELY EQUAL TO THE PIPE DIAMETER. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR THE INSTALLATION.

6. ALL FLOOR DRAINS AND FLOOR DRAIN SUMP PUMPS SHALL DISCHARGE INTO THE SANITARY SEWER.

7. ALL DOWNSPOUTS, FOOTING DRAINS AND SUBSURFACE STORM WATERS SHALL DISCHARGE INTO THE STORM SEWER OR ONTO THE GROUND. SUMP PUMP DISCHARGE LINES FROM RESIDENTIAL HOMES SHALL BE CONNECTED TO THE STORM SEWER SYSTEM FOR THIS PURPOSE ONLY. SUMP PUMPS SHALL BE DESIGNED WITH AN AIR GAP. A RIGID FOUR-INCH (4") DIAMETER PVC PIPE CAN BE USED TO CONNECT THE INDIVIDUAL SUMP PUMP SERVICE LINE TO THE STORM SEWER.

8. THE UNDERGROUND CONTRACTOR SHALL DEPOSIT AND LEVEL ALL SEWER SPOIL ON-SITE AS DIRECTED BY THE CONSULTANT OR OWNER. THE UNDERGROUND CONTRACTOR SHALL RETURN THE PAVEMENT SUB-GRADE TO WITHIN A TOLERANCE OF PLUS OR MINUS ONE QUARTER FOOT (0.25') IN ELEVATION AND THE 95% COMPACTION OF THE MAXIMUM DENSITY SHOWN ON THE DRY WEIGHT CURVE DETERMINED BY THE MODIFIED PROCTOR ANALYSIS AS LEFT BY THE GRADING CONTRACTOR. THIS WORK SHALL BE CONSIDERED AS INCIDENTAL TO THE UNDERGROUND CONTRACT.

9. THE UNDERGROUND CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING ANY EXCAVATION FOR THE INSTALLATION OF THE SEWER OR WATER SYSTEMS. ANY DEWATERING ENCOUNTERED SHALL BE INCIDENTAL TO THE RESPECTIVE UNDERGROUND UTILITY.

10. ANY ANTICIPATED COST OF SHEETING SHALL BE REFLECTED IN THE CONTRACT AMOUNTS. NO ADDITIONAL COST WILL BE ALLOWED FOR SHEETING OR BRACING.

11. STRUCTURES FOR SANITARY AND STORM SEWERS AND VALVE VAULTS FOR WATER MAINS SHALL BE IN ACCORDANCE WITH THESE IMPROVEMENT PLANS AND THE APPLICABLE STANDARD SPECIFICATIONS. WHERE GRANULAR TRENCH BACKFILL IS REQUIRED AROUND THESE STRUCTURES, THE COST SHALL BE CONSIDERED AS INCIDENTAL AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE STRUCTURE.

12. FRAMES AND LIDS (OR GRATES) FOR SANITARY, WATER MAIN AND STORM SEWER STRUCTURES SHALL BE AS INDICATED WITHIN THESE IMPROVEMENT PLANS.

13. ALL STRUCTURES SHALL HAVE A MINIMUM OF 3-INCHES OF ADJUSTING RINGS AND A MAXIMUM OF 8-INCES, UNLESS OTHERWISE NOTED.

14. ALL FRAMES FOR STORM SEWERS, SANITARY SEWERS, VALVE VAULT COVERS AND B-BOXES ARE TO BE ADJUSTED TO MEET FINAL FINISH 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 CONTRACTOR.

15. THE CONTRACTOR SHALL INSTALL A 4"X4"X8' POST ADJACENT TO THE TERMINUS OF THE SANITARY SERVICE, WATER MAIN SERVICE, STORM SERVICE, SANITARY MANHOLES, STORM MANHOLES, CATCH BASINS, INLETS, AND WATER VAULTS. THE POST SHALL EXTEND A MINIMUM OF 4-FEET ABOVE THE GROUND. THE TOP 12" OF SAID POST SHALL BE PAINTED AS FOLLOWS: SANITARY - RED; WATER MAIN - BLUE; STORM - GREEN.

16. RIP-RAP MATERIAL TO BE PROVIDED IN CONJUNCTION WITH THE UNDERGROUND IMPROVEMENTS SHALL CONFORM TO SECTION 705, OF THE IDOT SPECIFICATIONS.

17. THE UNDERGROUND CONTRACTOR SHALL PROVIDE OWNER WITH THE LOCATION OF EACH BUILDING SERVICE AT THE TIME OF INSTALLATION. UPON COMPLETION OF ALL SERVICES, THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE MUNICIPALITY A FINAL COMPILATION OF ALL SERVICE LOCATION RECORDS ACCEPTABLE TO THE OWNER AND TO THE MUNICIPALITY. ALL FUTURE EXTENSIONS AND CONNECTIONS OF SERVICES TO BUILDINGS SHALL BE DONE BY OTHERS. THE LOCATION SHALL BE INDICATED ON THE PLANS BY INCLUDING THE SERVICE LOCATION RECORDS. RELOCATION OF SERVICES, NOT FOUND AT LOCATIONS INDICATED BY RECORDS, SHALL BE THE RESPONSIBILITY OF THE UNDERGROUND CONTRACTOR AT NO COST TO THE OWNER.

SANITARY SEWER

18. SANITARY SEWERS AND SERVICES SHALL BE CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS AS SPECIFIED ON THE PLANS:
A. POLYVINYL CHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) CONFORMING TO ASTM DESIGNATION D-3034 WITH AN SDR OF 26 WITH ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM DESIGNATION D-3212
B. WHERE SHOWN ON THE PLANS POLYVINYL CHLORIDE (PVC, C-900) WITH A PRESSURE RATING OF 235psi - DR 18 CONFORMING TO ASTM D2241 AND JOINTS IN ACCORDANCE WITH ASTM D3139 AND ELASTOMERIC SEALS IN ACCORDANCE WITH ASTM F477.

19. ALL SANITARY SEWER MANHOLES SHALL HAVE ECCENTRIC CONES. CONE OPENINGS SHALL BE CENTERED PERPENDICULAR TO THE MAINLINE FLOW. ALL STRUCTURE SECTIONS SHALL BE SECURELY SEALED TO EACH OTHER OR TO THE CONE SECTION OR TOP BARREL SECTION OF THE MANHOLE USING BUTYL RUBBER STRIP OR RUBBER GASKET. FRAMES ARE TO BE SEALED MECHANICALLY USING SYNTHETIC RUBBER SEALS WITH STAINLESS STEEL BANDS AND BOLTS. PIPE PENETRATIONS SHALL BE PROPERLY SIZED AND CORED AND SEALED WITH FLEXIBLE SYNTHETIC RUBBER PIPE SLEEVE WHICH IS FASTENED TO THE PIPE W/STAINLESS STEEL BAND CONNECTIONS. BARREL SECTIONS SHALL BE SEALED USING BUTYL RUBBER MATERIAL STRIPS AND/OR GASKETS. 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-FEET IN DIAMETER PRECAST STRUCTURES, WITH APPROPRIATE FRAME AMD LIDS (SEE CONSTRUCTION STANDARDS). LIDS SHALL BE IMPRINTED 'SANITARY SEWER'. SANITARY MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C969 OR ASTM C1244. CHIMNEY SEALS SHALL NOT BE BURIED UNTIL AFTER INSPECTION BY THE VILLAGE.

20. FRAMES FOR SANITARY STRUCTURES SHALL BE EITHER NEENAH 1713 OR EAST JORDAN 1050. LIDS (OR GRATES) FOR SANITARY STRUCTURES SHALL HAVE SELF SEALING GASKET WITH CONCEALED PICK HOLES AND BE IMPRINTED "SANITARY".

21. ALL SANITARY SEWER AND SEWER SERVICES SHALL BE INSTALLED ON GRANULAR CRUSHED STONE BEDDING, HAVING AN I.D.O.T. GRADATION OF CA-6, WITH A MINIMUM THICKNESS EQUAL TO 1/4TH OF THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN 4-INCHES NOR MORE THAN 8-INCHES. BEDDING SHALL EXTEND TO 1.0-FOOT OVER THE TOP OF THE PIPE FOR SANITARY SEWERS AND SANITARY SERVICES (UNLESS INDICATED OTHERWISE ON THE CONSTRUCTION DRAWINGS). 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. REFER TO CONSTRUCTION STANDARDS SHEET FOR DETAILS OF BEDDING AND BACKFILL.

22. 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.

23. 6-INCH SANITARY SERVICES, OF THE SAME MATERIAL AS THE MAIN LINE SHALL BE LAID TO A MINIMUM GRADE OF 1.00%. 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.

24. SEWER SERVICE RISER SHALL BE USED WHEN MAINLINE SEWER EXCEEDS 12-FEET IN DEPTH.

25. NEOPRENE COUPLINGS WITH STAINLESS STEEL BANDS SHALL BE USED TO CONNECT SANITARY SERVICE LINES TO THE BUILDING PLUMBING OUTLET.

26. ALL SANITARY SEWERS INCLUDING 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 200 GALLONS PER 24-HOURS, PER MILE, PER INCH-DIAMETER OF PIPE. THE CONTRACTOR SHALL COORDINATE ALL TESTING SO THAT IT CAN BE WITNESSED BY THE MUNICIPAL ENGINEER, MUNICIPALITY'S PUBLIC WORKS DEPARTMENT AND/OR SANITARY DISTRICT AS APPLICABLE. THIS WORK SHALL BE INCIDENTAL TO THE UNDERGROUND CONTRACT.

27. A CURRENT COLOR VIDEO RECORDING PROVIDED TO THE VILLAGE ON A CD OR THUMB-DRIVE AND A TYPE WRITTEN TRANSCRIPTION OF THE INTERNAL INSPECTION OF THE NEWLY CONSTRUCTED SANITARY SEWER SYSTEM SHALL BE SUBMITTED TO THE MUNICIPALITY AND SANITARY DISTRICT AS APPLICABLE, PRIOR TO REFUNDING OF SITE IMPROVEMENT ESCROW RETENTION MONIES BY THE MUNICIPALITY. THIS WORK SHALL INCLUDE THE ROTATION OF THE LENS TO LOOK AT EACH SERVICE. ALL CORRECTIVE WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT DELAY. CORRECTIVE WORK SHALL BE INCIDENTAL TO THE UNDERGROUND CONTRACT

WATER MAIN

28. WATER MAIN SHALL BE
A. POLYVINYL CHLORIDE (PVC, C-900) WATER MAIN PIPE WITH A PRESSURE RATING OF 235psi - SDR 18 CONFORMING TO ASTM D2241 AND JOINTS IN ACCORDANCE WITH ASTM D3139 AND ELASTOMERIC SEALS IN ACCORDANCE WITH ASTM F477. THE MINIMUM COVER FROM FINISHED GRADE TO TOP OF WATER MAIN SHALL BE 5.5-FEET. METALLIC DETECTION TAPE OR #10 COPPER WIRE (INSULATED) IS REQUIRED TO BE INSTALLED WITH ALL NON-METALLIC WATERMAINS WITH ENDS BROUGHT UP INSIDE THE VAULT TO THE CASTING TO ALLOW FOR CONNECTION TO A LOCATION DEVICE.

29. WATER MAIN FITTINGS (BENDS, ELBOWS, TEES, 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.
ALL WATER MAIN FITTINGS SHALL BE DUCTILE IRON, COMPACT MJ FITTINGS PER AWWA C153 STD, AND HAVE MECHANICAL JOINTS PER AWWA C-111 AND BE INSTALLED WITH MEGA-LUGS AS MANUFACTURED BY EBAA IRON SUPPLIED WITH COR-TEN T-BOLTS OR APPROVED EQUAL

30. UNLESS NOTED OTHERWISE, RIGHT HAND CLOSING GATE VALVES IN ACCORDANCE WITH MUNICIPAL 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.

31. WATER TIGHT VALVE VAULTS SHALL BE USED AT ALL VALVE LOCATIONS. PRECAST CONCRETE STRUCTURES WITH FRAME AND LIDS. BARREL SECTIONS SHALL BE SEALED USING A BUTYL RUBBER OR BITUMINOUS MASTIC MATERIAL STRIP (SEE CONSTRUCTION STANDARDS).
FRAMES TO BE NEENAH 1713 OR EAST JORDAN 1050 WITH "WATER" IMPRINTED ON LIDS. OPENINGS FOR WATER MANS TO BE PROVIDED WITH WATER TIGHT BOOTS.

32. HYDRANTS SHALL BE IN ACCORDANCE WITH AWWA C-502 AND MUELLER "CENTURION" MODEL A-423 OR CLOW - MEDALLION, OTHER MATERIALS OF EQUAL SPECIFICATION AND QUALITY MAY BE ALLOWED AS APPROVED IN WRITING BY VILLAGE ENGINEER. HYDRANTS SHALL HAVE A MINIMUM OF 5 .50 FEET OF COVER, HAVE MJ INLET, BE EQUIPPED WITH SEPERATE AUXILIARY VALVES AND VALVE BOXES, AND OPEN "LEFT". "ANCHOR" TEE ALLOWED. ALL HYDRANTS SHALL BE SET MIN. 3 FEET BEHIND BACK OF CURB.

33. 1-1/2" TYPE K COPPER WATER SERVICES SHALL BE LAID NOT LESS THAN 5.5-FEET BELOW GRADE. BEDDING AND INITIAL BACKFILL TO 6-INCHES OVER TOP OF COPPER PIPE WITH FA6

34. THRUST BLOCKING SHALL BE INSTALLED ON WATERMAINS AT ALL BENDS, TEES, ELBOWS, ETC. COST OF SAME SHALL BE MERGED WITH UNIT PRICE FOR PIPE INSTALLED.

35. BEDDING AND HAUNCHING FOR ALL WATER MAIN SHALL BE IDOT GRADATION FA-6, BEDDING SHALL EXTEND A MINIMUM THICKNESS OF 4-INCHES BELOW THE BOTTOM OF PIPE FOR THE FULL LENGTH. HAUNCHING FOR PVC WATER MAIN SHALL EXTEND TO 1.0 FOOT OVER THE TOP OF PIPE. COST FOR BEDDING SHALL BE MERGED WITH THE UNIT PRICE BID FOR THE WATER MAIN. REFER TO CONSTRUCTION STANDARDS FOR DETAILS OF BEDDING, HAUNCHING AND BACKFILL. FOR ALL WATERMAINS PLACED IN CASING PIPE, THE "PSI CASING SPACERS AND END SEALS" MUST BE INCLUDED IN THE COST OF THE CASING.

36. CONNECTION TO AN EXISTING WATER MAIN SHALL BE DONE BY PRESSURE CONNECTION ONLY. PRESSURE CONNECTION AND VALVE SHALL BE LOCATED WITHIN THE VALVE VAULT. IF PRESSURE CONNECTION CANNOT BE DONE, USE A CUT IN SLEEVE AND TEE CONNECTION. ALL FITTINGS WILL BE SWABBED OUT WITH A CHLORINE SOLUTION OF AT LEAST 50 MG/L. THIS SOLUTION MUST BE TESTED BY A MUNICIPAL REPRESENTATIVE. CONNECTION TO THE END OF AN EXISTING WATER MAIN SHOULD BE WITH A VALVE ONLY. NO NEW WATERMAIN CAN BE PRESSURE TESTED SEPARATELY.

37. ALL B-BOX LOCATIONS SHALL BE MARKED ON THE CURB/SIDEWALK WITH A "W" AND ALL SANITARY SERVICE LOCATIONS SHALL BE MARKED ON THE CURB/SIDEWALK WITH A "S".

38. 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, IN PRESENCE OF MUNICIPAL REPRESENTATIVE. THIS WORK SHALL BE INCIDENTAL TO THE UNDERGROUND CONTRACT.

39. 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.

STORM SEWER

40. UNLESS OTHERWISE INDICATED ON THE PLANS, STORM SEWER PIPES SHALL BE REINFORCED CONCRETE PIPE (R.C.P.) CONFORMING TO ASTM DESIGNATION C-76. 12-INCH PIPES SHALL BE CLASS IV, 15-INCH, 18-INCH, AND 21-INCH PIPES SHALL BE CLASS III, AND 24-INCH AND LARGER PIPES SHALL BE CLASS II. JOINTS FOR STORM SEWERS SHALL BE "O"-RING JOINTS IN ACCORDANCE WITH ASTM C-443.

41. ALL STORM SEWER SHALL BE INSTALLED ON AN AGGREGATE BEDDING HAVING AN I.D.O.T. GRADATION OF CA-6 WITH A MINIMUM THICKNESS EQUAL TO 1/4TH 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 FOR R.C.P. STORM SEWERS (UNLESS INDICATED OTHERWISE ON THE CONSTRUCTION DRAWINGS). COST FOR BEDDING SHALL BE MERGED WITH THE UNIT PRICE BID FOR THE STORM SEWER. REFER TO CONSTRUCTION STANDARDS SHEET FOR DETAILS OF BEDDING AND BACKFILL.

42. STORM SEWER MANHOLES SHALL BE PRECAST STRUCTURES, WITH A MINIMUM 4-FOOT DIAMETER, DEPENDENT ON THE PIPE SIZE. BASES SHALL BE INTEGRAL. JOINT SEALING WITH PERFORMED MASTIC. STEPS TO BE PLASTIC COATED STEEL.

43. FRAMES FOR STORM MANHOLES SHALL BE EITHER NEENAH R-1713 OR EAST JORDAN 1050 WITH SOLID LIDS IMPRINTED "STORM" OR OPEN TYPE "D" LID. INLET FRAME/GRATES WITHIN B-6.12 CURB AND GUTTER SHALL BE EITHER NEENAH R-3281 A AT VALLEY LOCATIONS AND NEENAH R-3281 AL/AR AT FLOW THROUGH LOCATIONS, OR EAST JORDAN 7210 WITH VANE GRATE AT FLOW THROUGH LOCATIONS. "BEEHIVE" GRATES TO BE NEENAH R-4340 B (UNLESS NOTED OTHERWISE). ALL INLETS/CATCH BASINS SHALL BE CAST WITH A "FISH" SYMBOL OR MARKED "NO WASTE DUMPING". OTHER MATERIALS OF EQUAL SPECIFICATION AND QUALITY FOR STORM SEWER STRUCTURES MAY BE ALLOWED AS APPROVED IN WRITING BY THE VILLAGE ENGINEER.

44. ALL FLARED END SECTIONS 12-INCHES OR GREATER SHALL HAVE A REMOVABLE GRATE SYSTEM TO PREVENT ENTRY. THIS GRATE SYSTEM SHALL BE MADE FROM STEEL STOCK THAT IS HOT-DIPPED GALVANIZED AFTER FABRICATION.

45. ALL CATCH BASINS ARE 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.

V. PAVING, CURB, AND WALKS

1. WORK UNDER THIS SECTION SHALL INCLUDE FINAL SUB GRADE 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 RELATED WORK.

2. ALL PAVING, SIDEWALK, AND CURB AND GUTTER WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION AND THE MUNICIPAL CODES AND ORDINANCES.

3. SUBGRADE FOR PROPOSED PAVEMENT SHALL BE RETURNED BY THE UNDERGROUND CONTRACTOR TO WITHIN ONE QUARTER FOOT (0.25'), PLUS OR MINUS, OF PLAN ELEVATION. THE PAVING CONTRACTOR SHALL SATISFY HIMSELF THAT THE SUBGRADE HAS BEEN PROPERLY PREPARED AND THAT THE FINISH TOP 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 SUB-GRADE SO AS TO ENSURE THE PROPER THICKNESS OF PAVEMENT COURSES. NO CLAIMS FOR EXCESS TONNAGE OF BASE MATERIALS DUE TO IMPROPER SUBGRADE PREPARATION WILL BE HONORED.

4. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR THE BACKFILLING OF THE CURB AND GUTTER. ALL CURB SHALL BE BACKFILLED AND COMPACTED FOR A DISTANCE OF FIVE FEET AT A GRADE OF 2% FLUSH WITH TOP OF CURB. THE COST FOR BACKFILLING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE FOR LINEAL FEET OF CURB AND GUTTER.

5. THE PROPOSED PAVEMENT SHALL CONSIST OF THE SUB-BASE COURSE, BASE COURSE, HMA (HOT MIX ASPHALT) BINDER COURSE, AND HMA SURFACE COURSE, OF THE THICKNESS AND MATERIALS AS SPECIFIED ON THE CONSTRUCTION PLANS. A BITUMINOUS MATERIAL 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 IDOT STANDARD SPECIFICATIONS INCLUDING UPDATED PROVISIONS, AND IN ACCORDANCE WITH MUNICIPAL SUBDIVISION AND ENGINEERING REQUIREMENTS.

6. THE CONTRACTOR SHALL SUBMIT A BITUMINOUS MIX DESIGN TO THE SOILS ENGINEER PRIOR TO THE INSTALLATION OF THE BITUMINOUS MIX.

7. HMA BINDER COURSE SHALL BE PLACED ONLY WHEN THE AMBIENT AIR TEMPERATURE IS AT LEAST 40 DEGREES FAHRENHEIT AND THE FORECAST CALLS FOR RISING TEMPERATURES. HMA SURFACE COURSE SHALL BE PLACED ONLY WHEN THE AMBIENT AIR TEMPERATURE IS AT LEAST 45 DEGREES FAHRENHEIT AND THE FORECAST CALLS FOR RISING TEMPERATURES.

8. 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 FOR PUBLIC IMPROVEMENTS AFTER THE BINDER COURSE HAS BEEN IN PLACE FOR ONE WINTER), AND UPON THE COMPLETION OF INSPECTION OF SAME AND APPROVAL BY THE MUNICIPALITY AND OWNER, THE PAVEMENT SHALL BE CLEANED, TESTED BY AN INDEPENDENT TESTING AGENCY SELECTED BY THE MUNICIPALITY PRIOR TO PLACEMENT OF THE SURFACE COURSE ALL DAMAGED AREAS IN THE BINDER, BASE OR CURB AND GUTTER SHALL BE REPAIRED TO THE SATISFACTION OF THE MUNICIPALITY 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 PAVING CONTRACT. PRIME COAT FOR THE BINDER AND SURFACE COURSE SHALL ALSO BE CONSIDERED AS INCIDENTAL TO THE PAVING CONTRACT AND SHALL BE APPLIED TO THE BINDER AT A RATE OF 0.10 GALLONS PER SQUARE YARD AND 0.05 GALLONS PER SQUARE YARD FOR THE SURFACE.

9. COMBINATION CURB AND GUTTER SHALL BE OF THE TYPE AS DETAILED IN THE CONSTRUCTION PLANS. THE CONCRETE SHALL HAVE AN AIR CONTENT OF NOT LESS THAN FIVE PERCENT (5%) NOR MORE THAN EIGHT PERCENT (8%) OF THE VOLUME OF CONCRETE. CONCRETE SHALL BE A IDOT CLASS SI MIX DESIGN AND SHALL DEVELOP A MINIMUM OF 3,500 PSI COMPRESSIVE STRENGTH AT FOURTEEN (14) DAYS. ALL CURB AND GUTTER SHALL BE BROOM FINISHED. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS-SECTION TO DETERMINE THE GUTTER FLAG THICKNESS. CURB AND GUTTER SHALL BE CONSTRUCTED WITH IDOT CLASS SI CONCRETE.

10. CURB AND GUTTER SHALL HAVE TWO NUMBER FOUR REINFORCING BARS 10' LONG CENTERED OVER UTILITY TRENCHES. EXPANSION JOINTS SHALL BE DOWELED AND SPACED AT NO MORE THAN 100 FEET ON CENTER AND AT TANGENT POINTS OF ALL RADII. CONTROL JOINTS SHALL BE PROVIDED AT FIFTEEN FEET ON CENTER AND SHALL CONSIST OF A SAW CUT MINIMUM OF ONE AND ONE HALF INCHES DEEP.

11. CURING AND PROTECTION OF ALL EXPOSED CONCRETE SURFACES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE MUNICIPALITY. NO HONEY-COMBING OF THE CURB AND GUTTER WILL BE ACCEPTED.

12. CURBS SHALL BE DEPRESSED AT LOCATIONS WHERE PUBLIC WALKS/PEDESTRIAN PATHS INTERSECT CURB LINES AT STREET INTERSECTIONS AND OTHER LOCATIONS AS DIRECTED, FOR THE PURPOSE OF PROVIDING ACCESS TO THE DISABLED. (SEE CONSTRUCTION STANDARDS).

13. SIDEWALKS SHALL BE OF THE THICKNESS AND DIMENSIONS AS SHOWN IN THE CONSTRUCTION PLANS, AND SHALL BE A MINIMUM OF 6 INCHES THICK AT DRIVEWAYS. ALL SIDEWALK CONCRETE SHALL BE A MINIMUM OF (6.1) BAG MIX WITH AIR ENTRAINMENT TO 6% AND SHALL DEVELOP A MINIMUM OF 3,500 PSI COMPRESSIVE STRENGTH AT TWENTY EIGHT (28) DAYS. CONTRACTION JOINTS SHALL BE SET AT FIVE (5') FEET ON CENTER. ONE-HALF (1/2) INCH PREMOULDED FIBRE EXPANSION JOINTS SHALL BE PLACED AT FIFTY (50) FEET ON CENTER AND WHERE THE SIDEWALK MEETS THE CURB, A BUILDING, ANOTHER SIDEWALK, OR AT THE END OF EACH POUR. ALL SIDEWALKS CONSTRUCTED OVER UTILITY TRENCHES SHALL BE REINFORCED WITH THREE (3) NO.4 REINFORCING BARS (5' BEYOND THE WALLS OF THE TRENCH). ALL SIDEWALKS SHALL BE BROOM FINISHED. SIDEWALKS SHALL BE CONSTRUCTED WITH IDOT CLASS SI CONCRETE SIDEWALKS SHALL BE 4" THICK AND 6" THICK AT DRIVEWAYS AND CONTINUOUS THROUGH DRIVEWAYS. ALL SIDEWALKS SHALL BE CONSTRUCTED ON A CA-6, GRADE 8, LIMESTONE BASE TWO (2) INCHES THICK. FIBER MESH SHALL BE ADDED TO THE CONCRETE MIX AT A RATE OF 1.50 POUNDS PER CUBIC YARD OF CONCRETE. ALL SIDEWALK CONSTRUCTION SHALL BE REQUIRED TO USE 6-INCH HIGH FORMS.

14. TESTING OF THE SUB-BASE, BASE COURSE, BINDER COURSE, SURFACE COURSE AND CONCRETE WORK SHALL BE REQUIRED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS, INCLUDING UPDATED PROVISIONS AND IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF THE MUNICIPALITY. A QUALIFIED TESTING FIRM SHALL BE EMPLOYED BY THE DEVELOPER AND APPOINTED BY THE MUNICIPALITY TO PERFORM THE REQUIRED TESTS AND PROVIDE THE RESULTS TO THE CONSULTING ENGINEER AND THE MUNICIPALITY.

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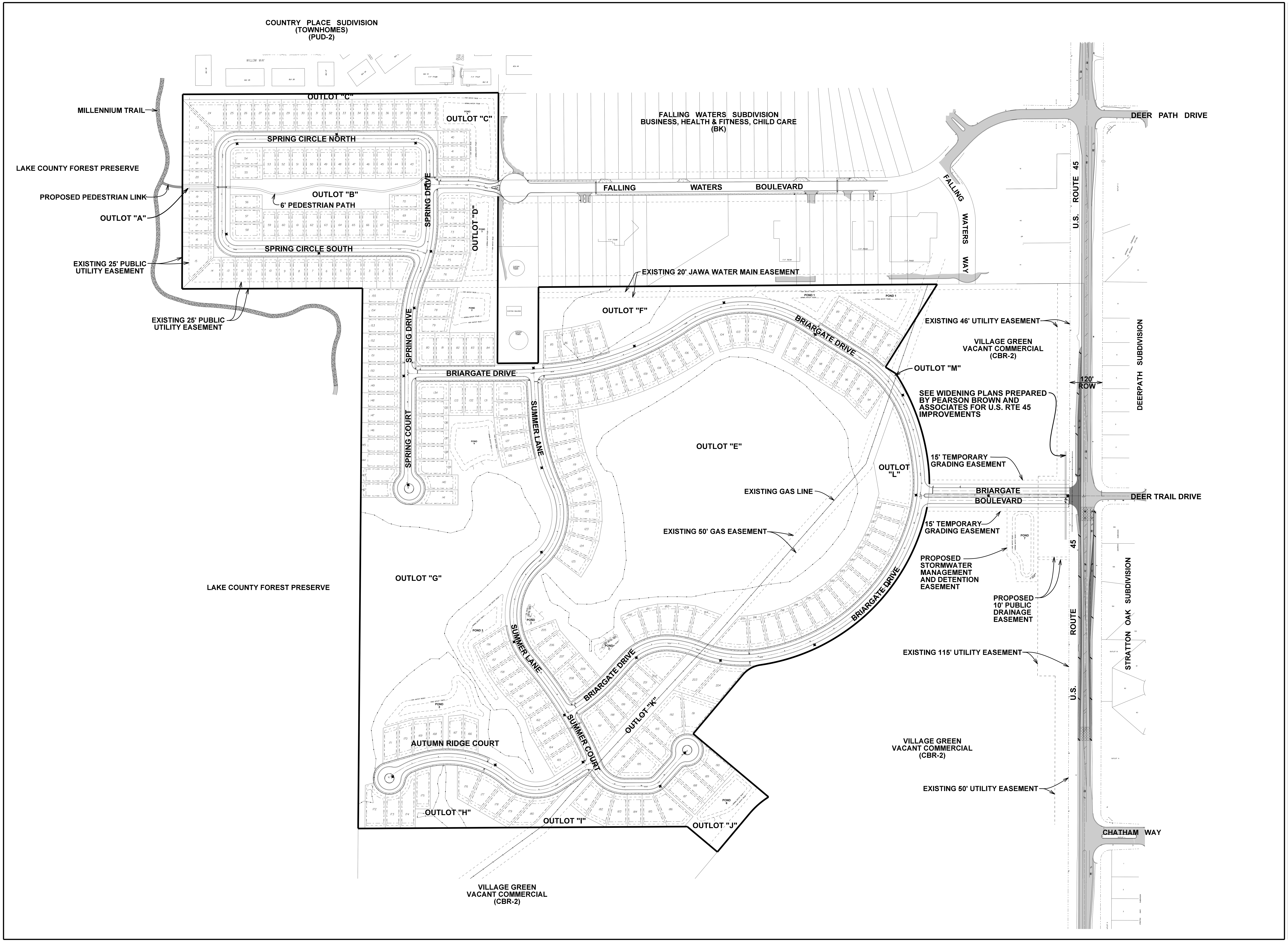
DATE	BY	DESCRIPTION
02/14/20	RCJ	REVISED PER VILLAGE REVIEW COMMENTS
04/16/20	AKZ	REVISED PER VILLAGE REVIEW COMMENTS

REVISIONS

SPECIFICATIONS & NOTES

SHEET NUMBER
2
OF 47 SHEETS
JOB No. 1994



NORTH

SCALE: 1" = 150'

150' 75' 0 150'

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OVERALL SITE PLAN

SHEET NUMBER

3

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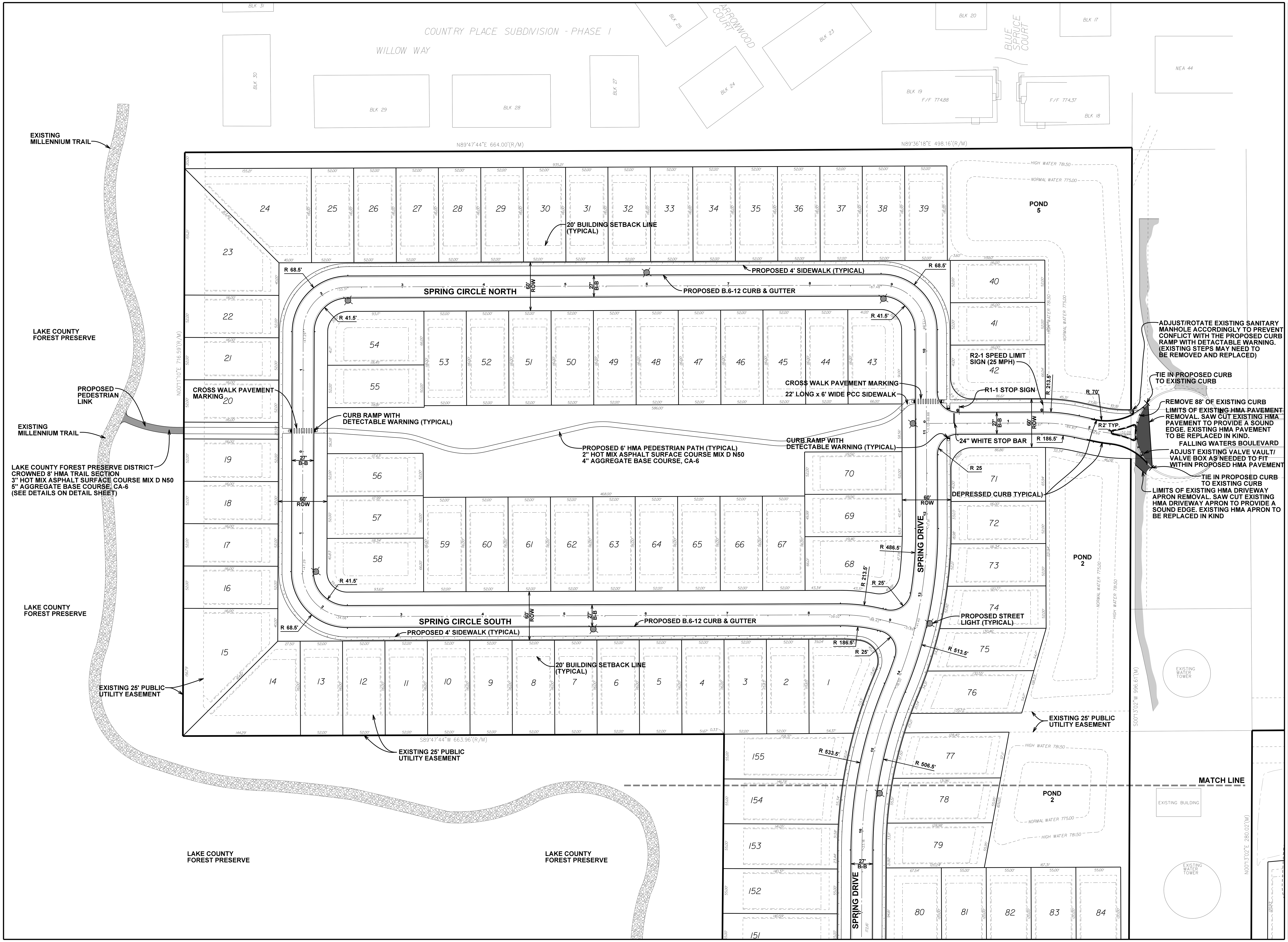
JOB No. 1994



NORTH

SCALE: 1" = 50'

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GEOMETRICS PLAN NORTH

SHEET NUMBER

4

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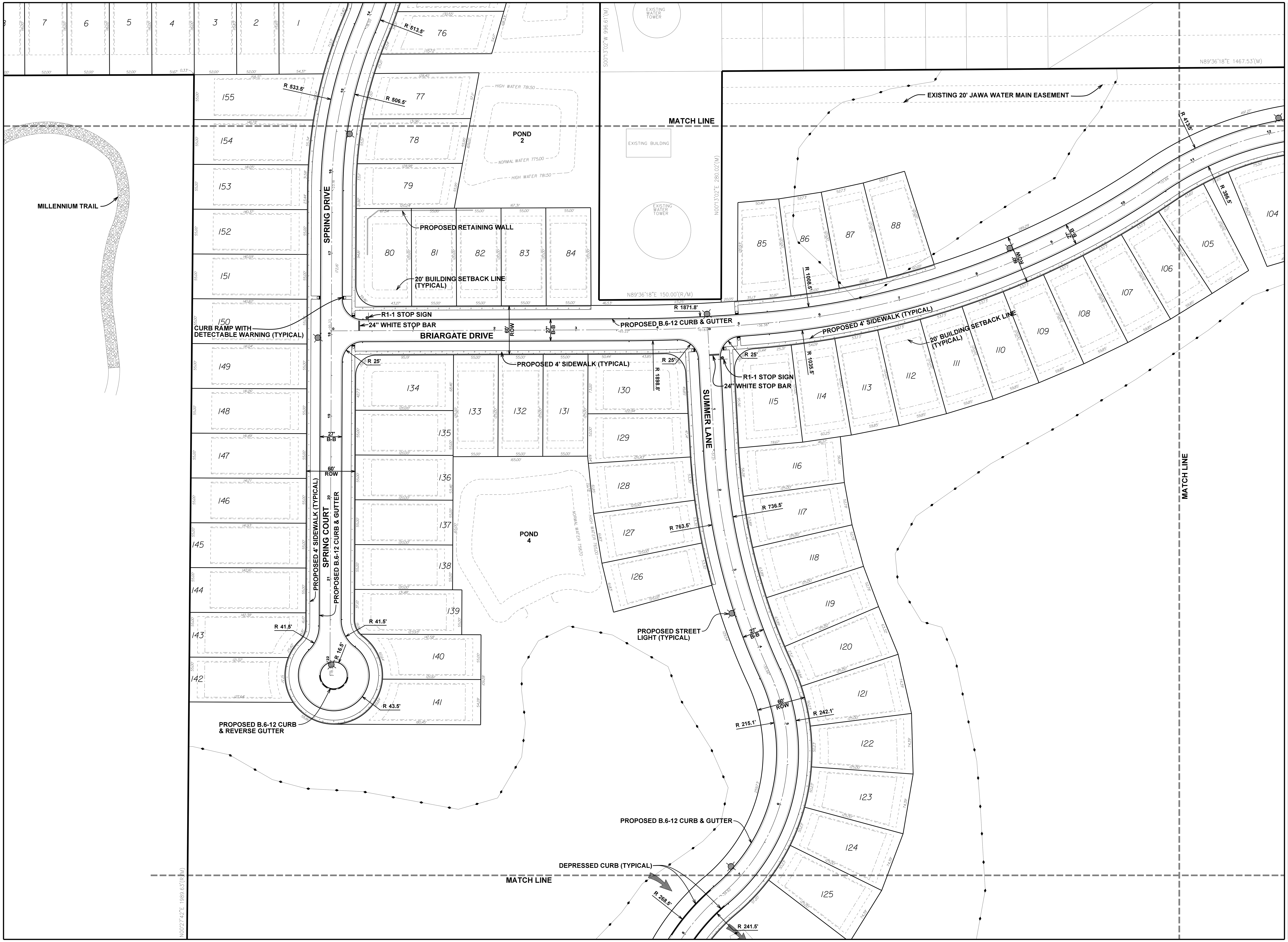
JOB No. 1994



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GEOMETRICS PLAN
WEST CENTRAL

SHEET NUMBER
5
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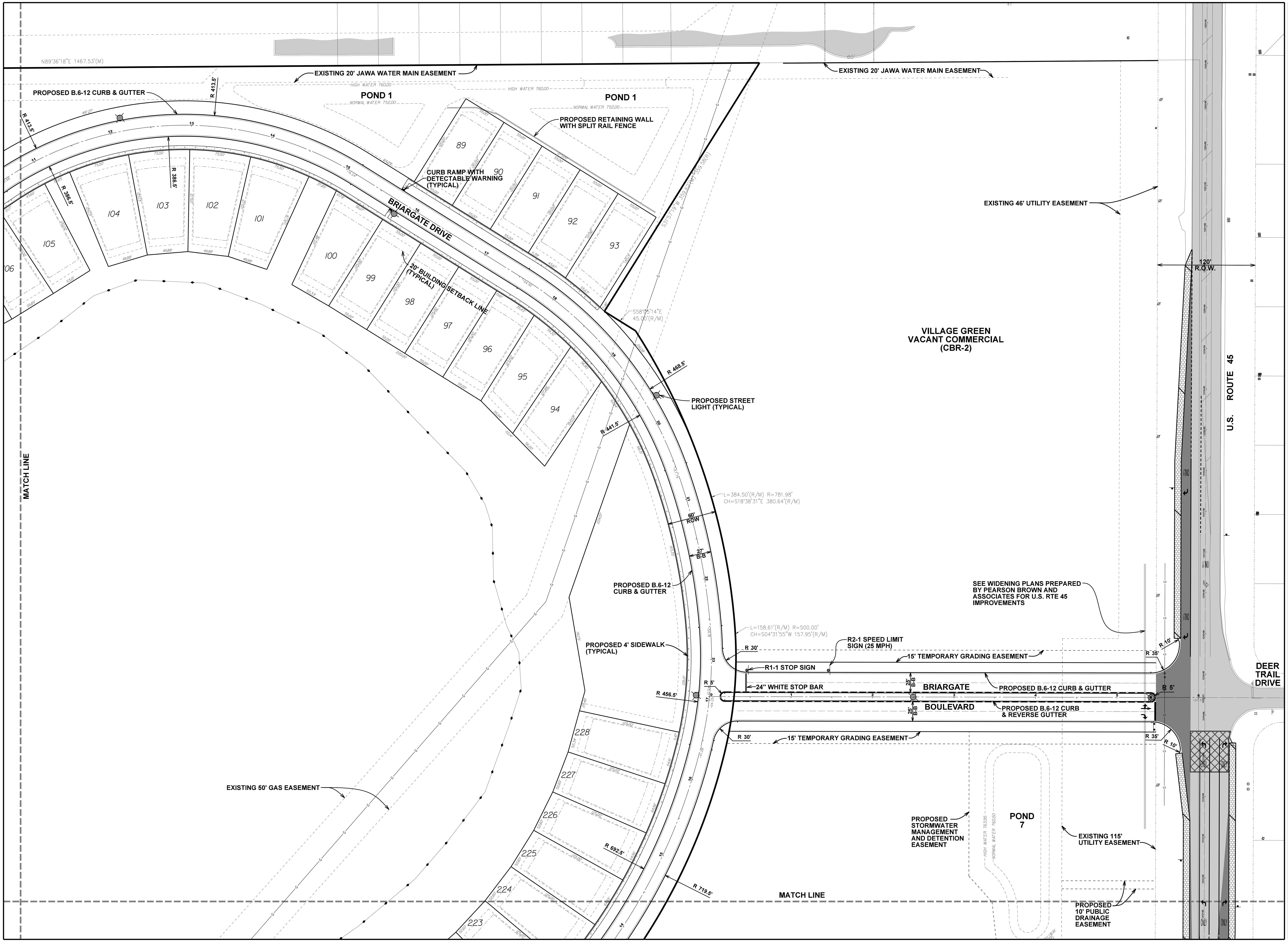
JOB No. 1994



NORTH

SCALE: 1" = 50'

BRIARGATE

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EAST CENTRAL

SHEET NUMBER
6
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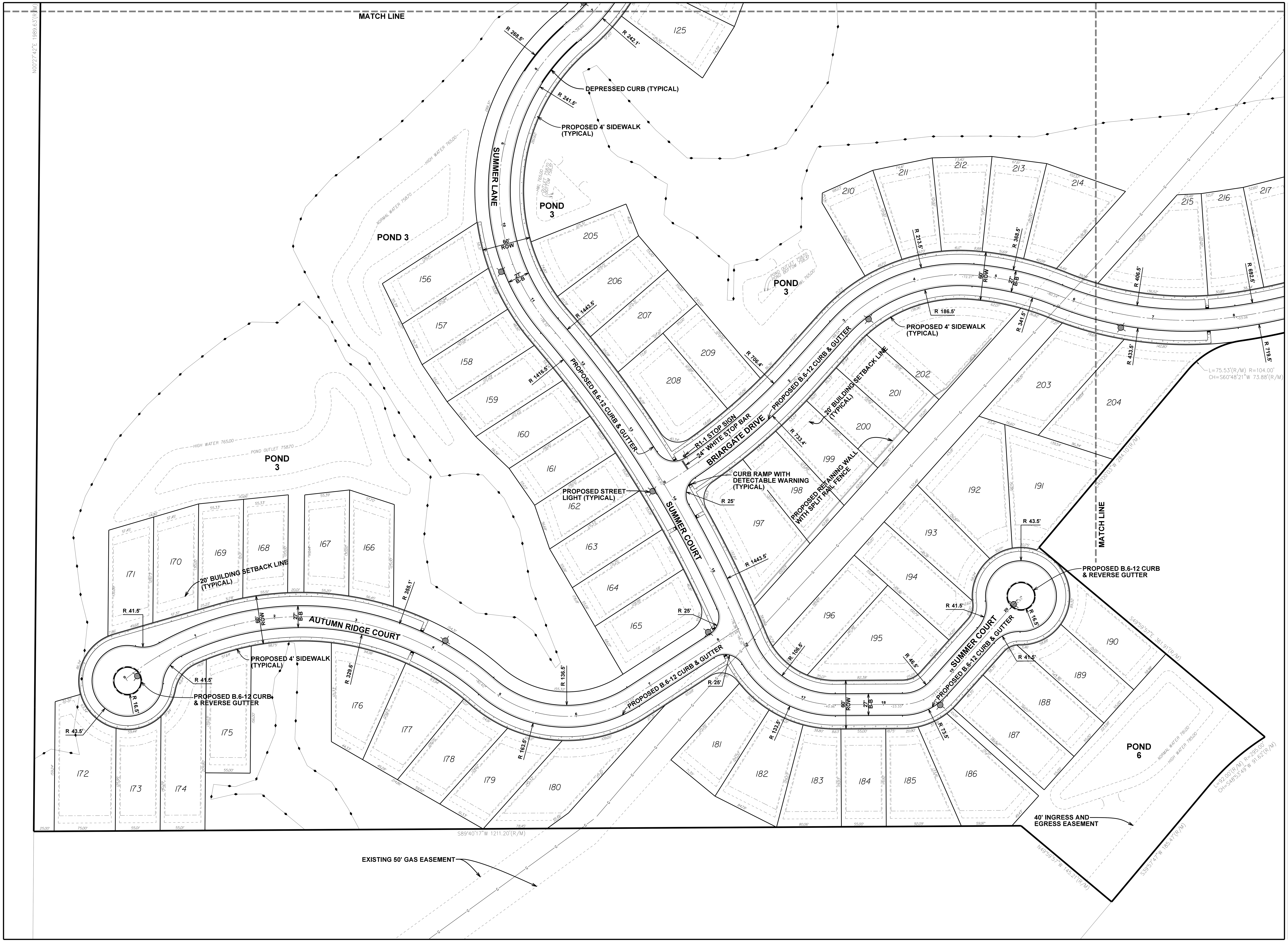

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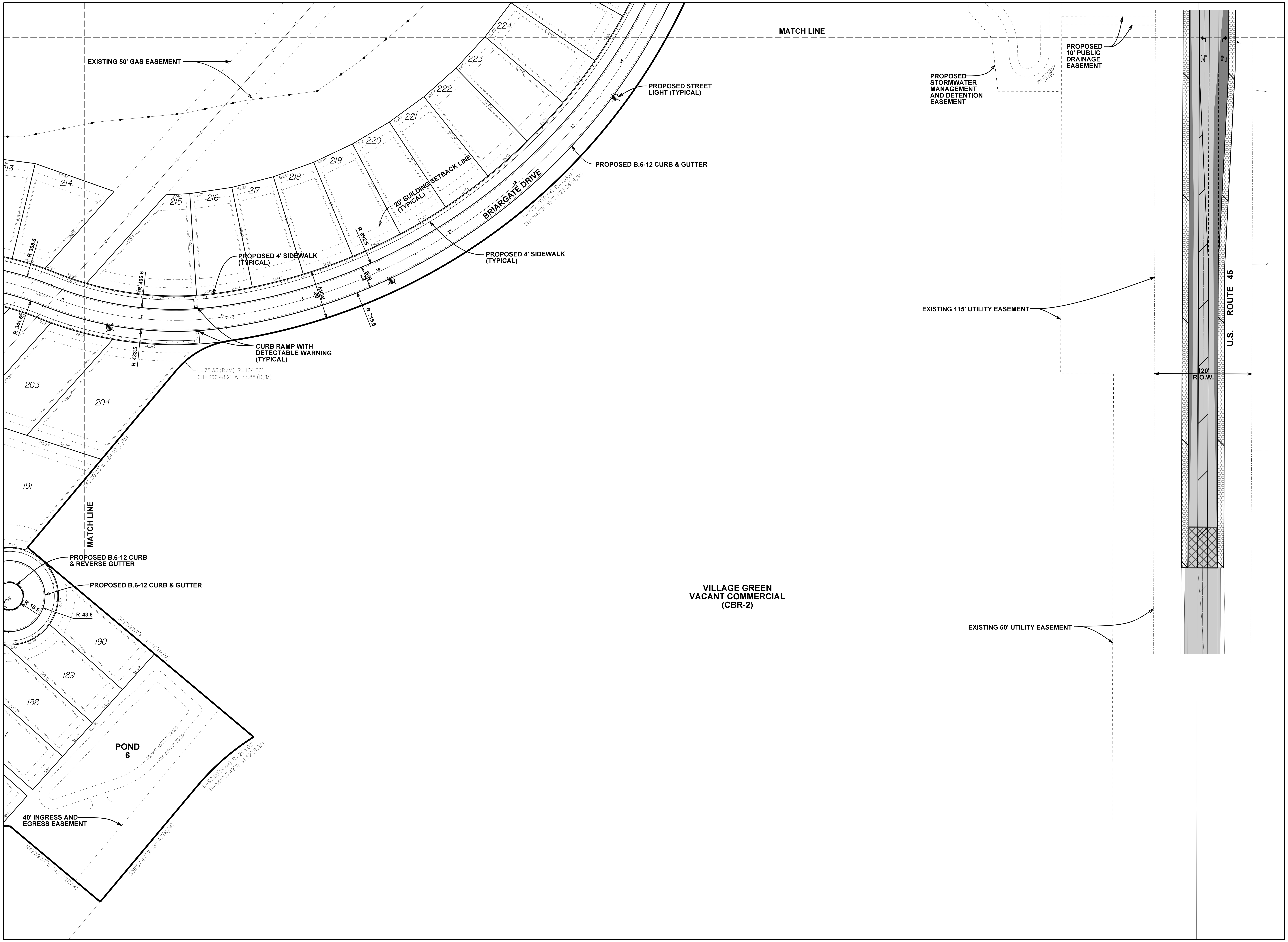
GEOMETRICS PLAN
SOUTHWEST

SHEET NUMBER
7
OF 47 SHEETS
JOB No. 1994



BRIARGATE

LINDENHURST, ILLINOIS

PEARSON,BROWN & ASSOCIATES,INC.
CONSULTING ENGINEERS
1850 W. WINCHESTER ROAD - SUITE 205
LIBERTYVILLE, IL. 60048
PHONE: (847) 367-6707
FAX: (847) 367-2567
E-MAIL ADDRESS: pba@pearsonbrown.com

DESIGNED BY: A.K.Z.
DRAWN BY: R.C.J.
CHECKED BY: A.K.Z.
ORIGINAL ISSUE: 12/12/19

REVISIONS

DATE	BY	DESCRIPTION
02/14/20	RCJ	REVISED PER VILLAGE REVIEW COMMENTS
04/16/20	AKZ	REVISED PER VILLAGE REVIEW COMMENTS

GEOMETRICS PLAN
SOUTHEAST

SHEET NUMBER
8
OF 47 SHEETS
JOB No. 1994

NOTES:

1. ALL EXISTING FIELD TILES SHALL BE ABANDONED AND COLLAPSED THROUGH THE CONSTRUCTION AREA. ALL POINTS ENTERING THE SITE SHALL BE CONNECTED TO THE PROPOSED STORM SEWER OR RELOCATED.
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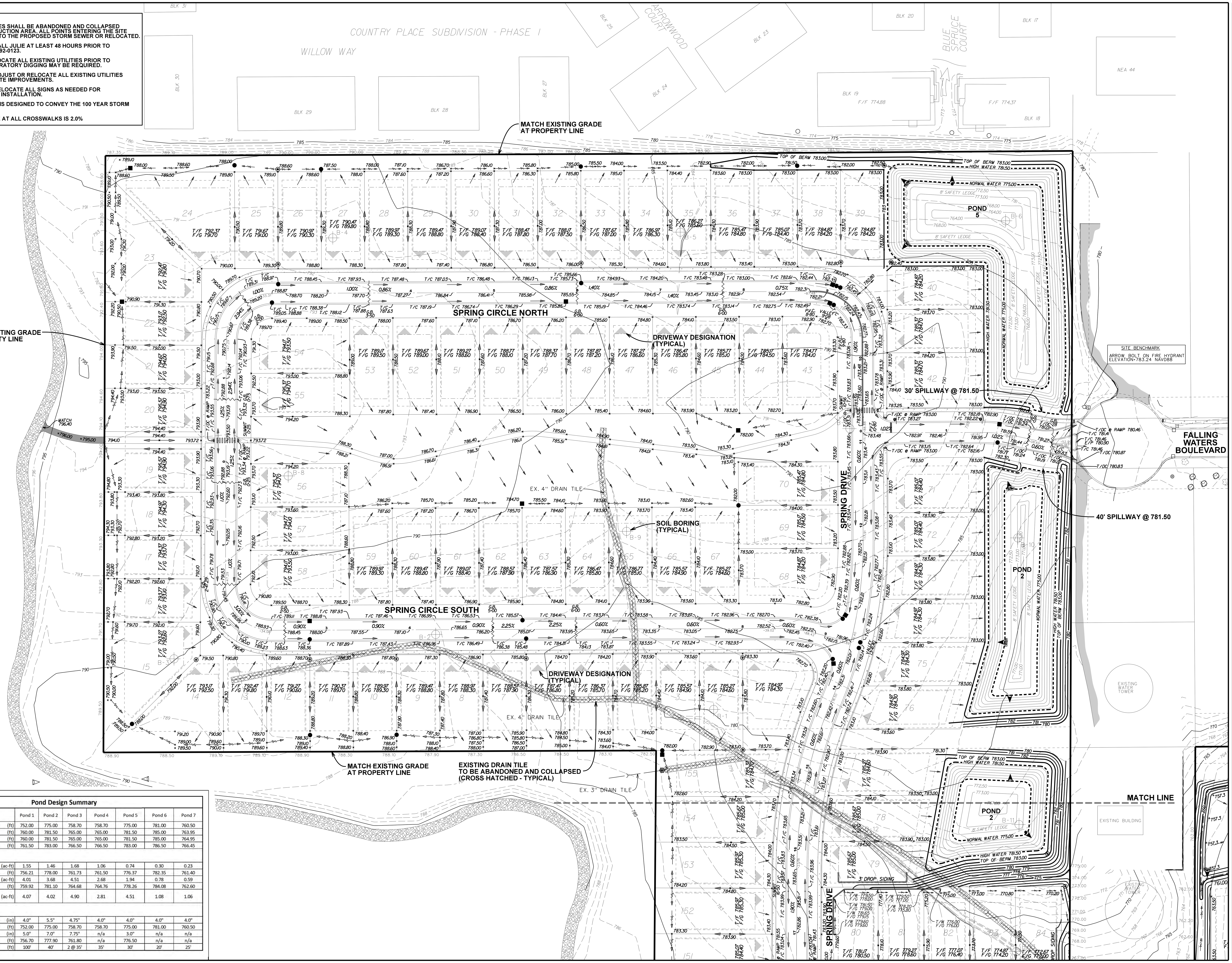
6. STORM SEWER SYSTEM IS DESIGNED TO CONVEY THE 100 YEAR STORM EVENT.
7. MAXIMUM CROSS SLOPE AT ALL CROSSWALKS IS 2.0%



Pond Design Summary								
		Pond 1	Pond 2	Pond 3	Pond 4	Pond 5	Pond 6	Pond 7
Outlet/NWL	(ft)	752.00	775.00	758.70	758.70	775.00	781.00	760.50
HWL	(ft)	760.00	781.50	765.00	765.00	781.50	785.00	763.95
Spillway	(ft)	760.00	781.50	765.00	765.00	781.50	785.00	764.95
Top of Berm	(ft)	761.50	783.00	766.50	766.50	783.00	786.50	766.45
Detention Design:								
Required 2-Year Storage	(ac-ft)	1.55	1.46	1.68	1.06	0.74	0.30	0.23
Corresponding WSE	(ft)	756.21	778.00	761.73	761.50	776.37	782.35	761.40
Required 100-Year Storage	(ac-ft)	4.01	3.68	4.51	2.68	1.94	0.78	0.59
Corresponding WSE	(ft)	759.92	781.10	764.68	764.76	778.26	784.08	762.60
Provided Storage (From Outlet/NWL to HWL)	(ac-ft)	4.07	4.02	4.90	2.81	4.51	1.08	1.06
Outlet Design:								
Lower Restrictor Diameter	(in)	4.0"	5.5"	4.75"	4.0"	4.0"	4.0"	4.0"
Lower Restrictor Invert Elevation	(ft)	752.00	775.00	758.70	758.70	775.00	781.00	760.50
Upper Restrictor Diameter	(in)	5.0"	7.0"	7.75"	n/a	3.0"	n/a	n/a
Upper Restrictor Invert Elevation	(ft)	756.70	777.90	761.80	n/a	776.50	n/a	n/a
Spillway Length	(ft)	100'	40'	2 @ 35'	35'	30'	20'	25'

NORTH

SCALE: 1" = 50'

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NORTH

GRADING PLAN

SHEET NUMBER

9

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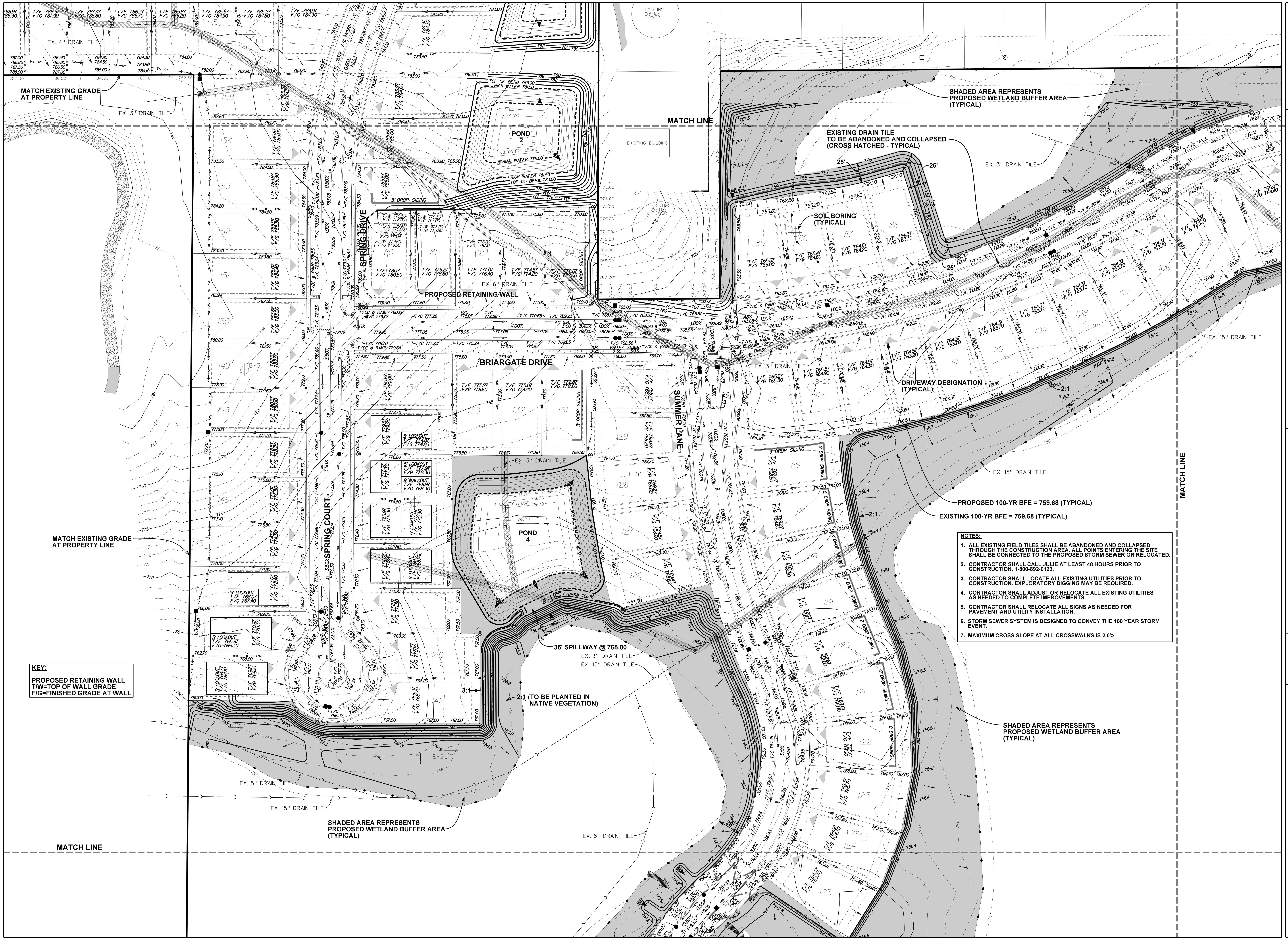

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GRADING PLAN

WEST CENTRAL

SHEET NUMBER
10
OF 47 SHEETS

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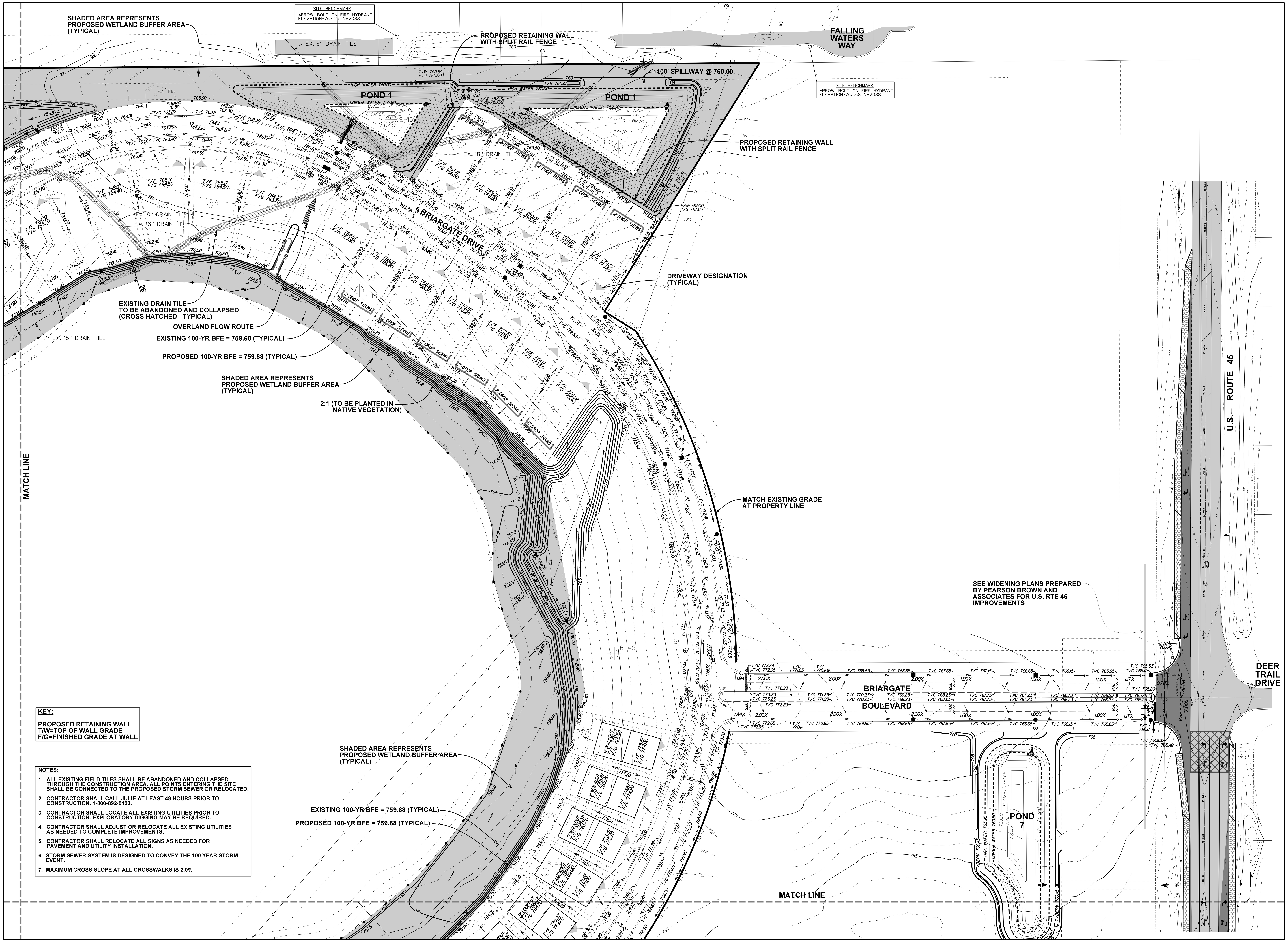

KEY:

PROPOSED RETAINING WALL
T/W=TOP OF WALL GRADE
F/G=FINISHED GRADE AT WALL

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GRADING PLAN

EAST CENTRAL

SHEET NUMBER

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GRADING PLAN

SOUTHWEST

SHEET NUMBER

12

OF 47 SHEETS

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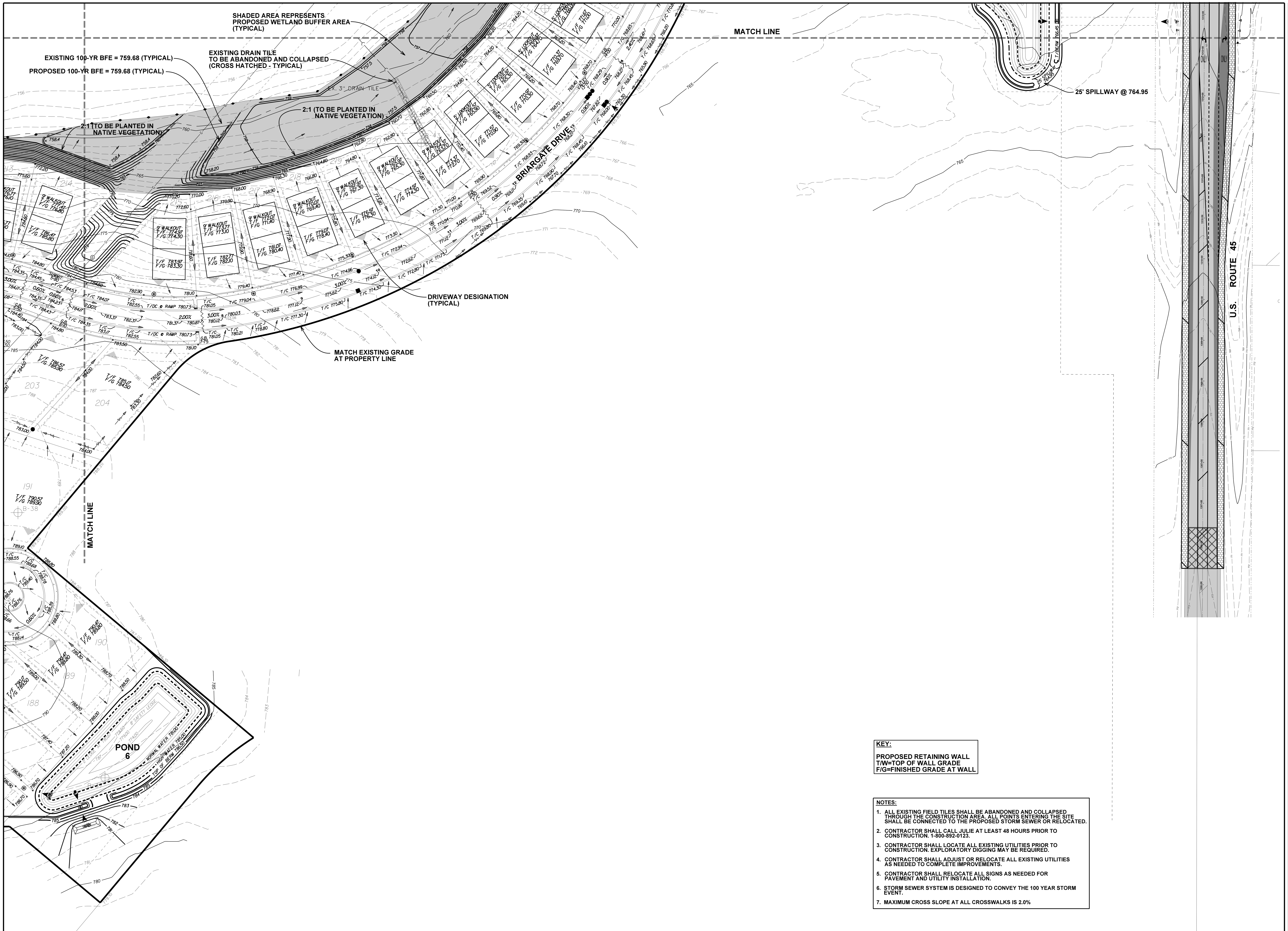

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SOUTHEAST

SHEET NUMBER

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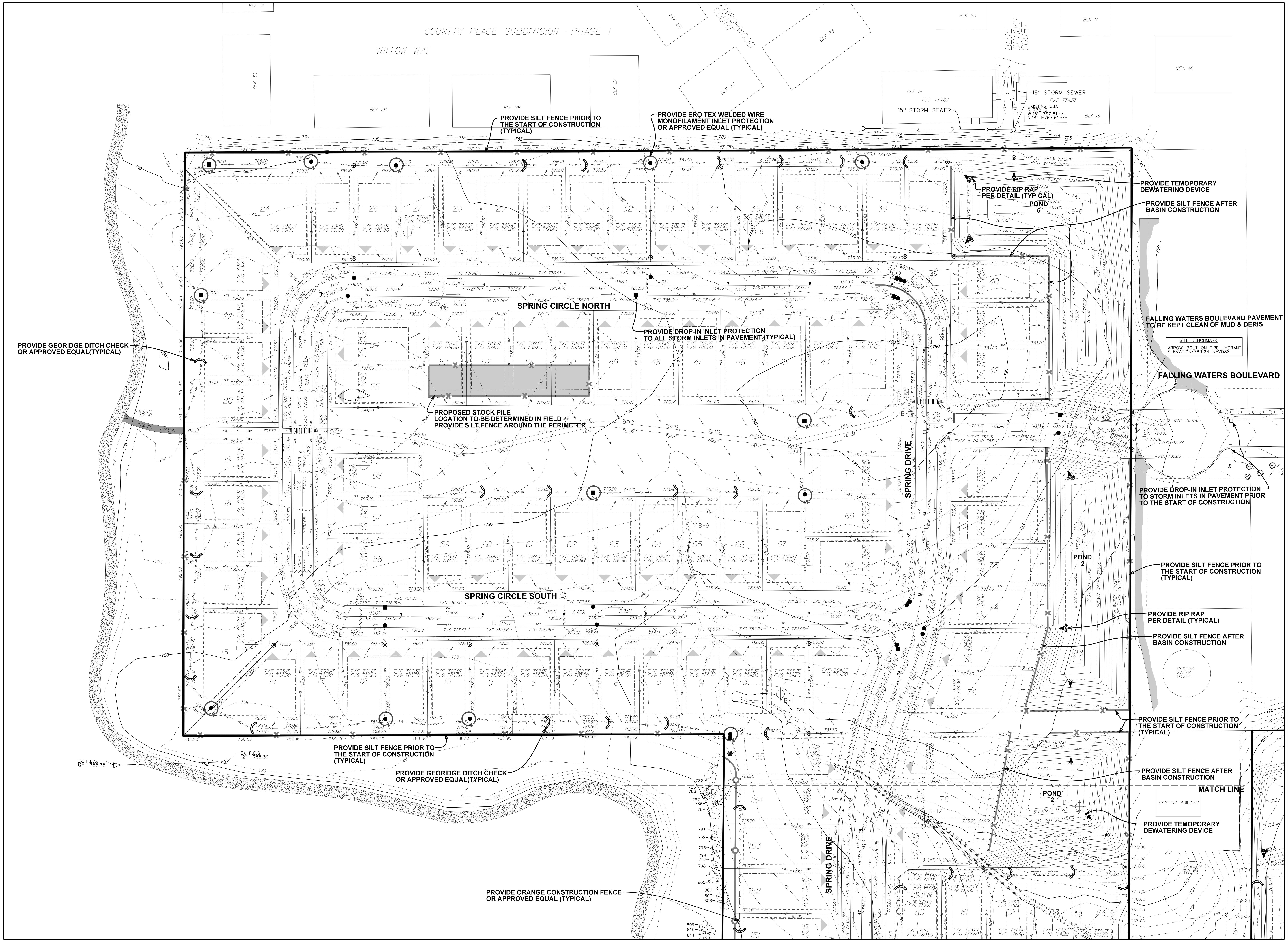

NORTH

SCALE: 1" = 50'

50' 25' 0 50'

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EROSION CONTROL PLAN NORTH

SHEET NUMBER
14
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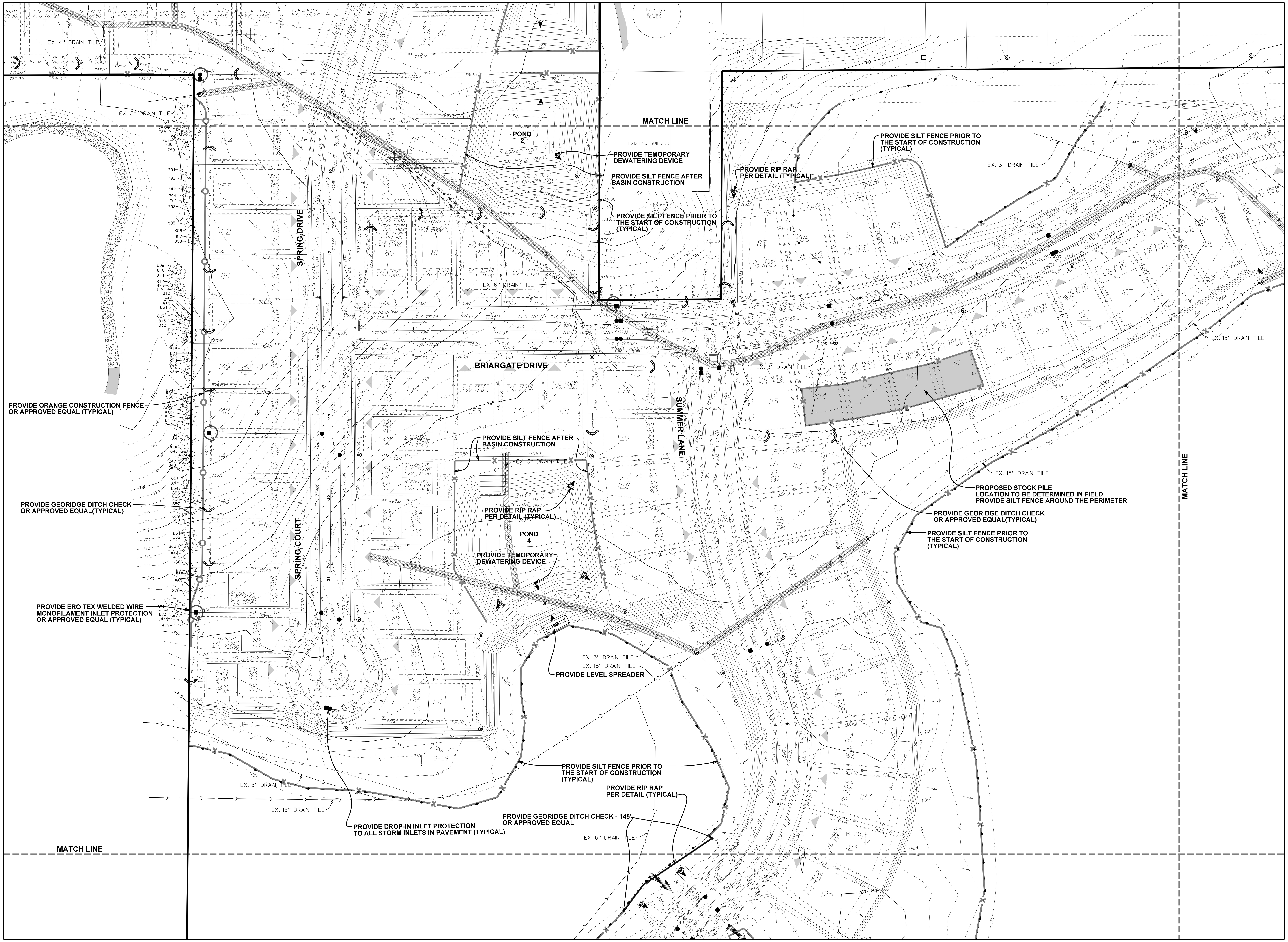

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EROSION CONTROL PLAN

WEST CENTRAL

SHEET NUMBER

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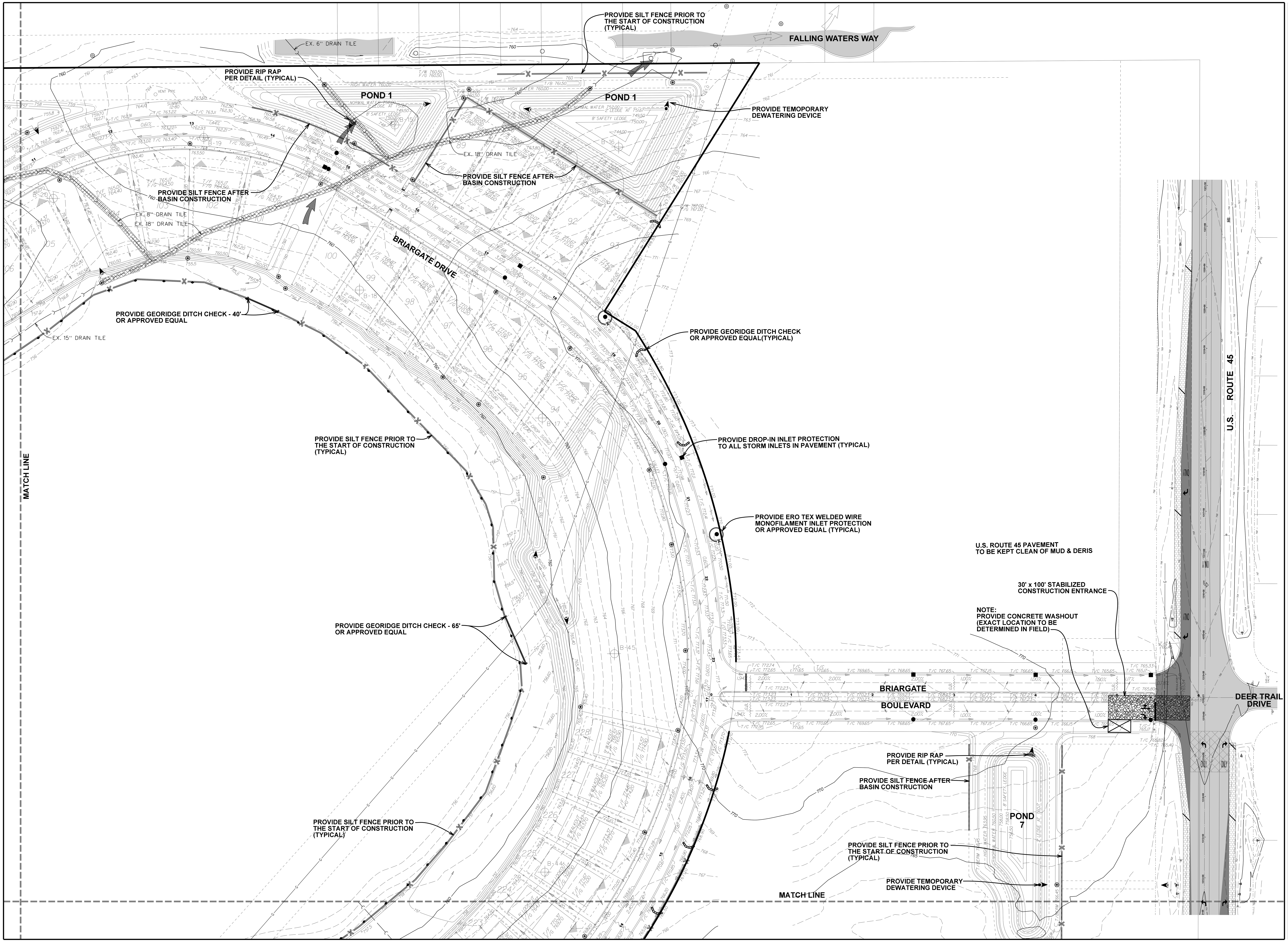

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SCALE: 1" = 50'

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EROSION CONTROL PLAN
EAST CENTRAL

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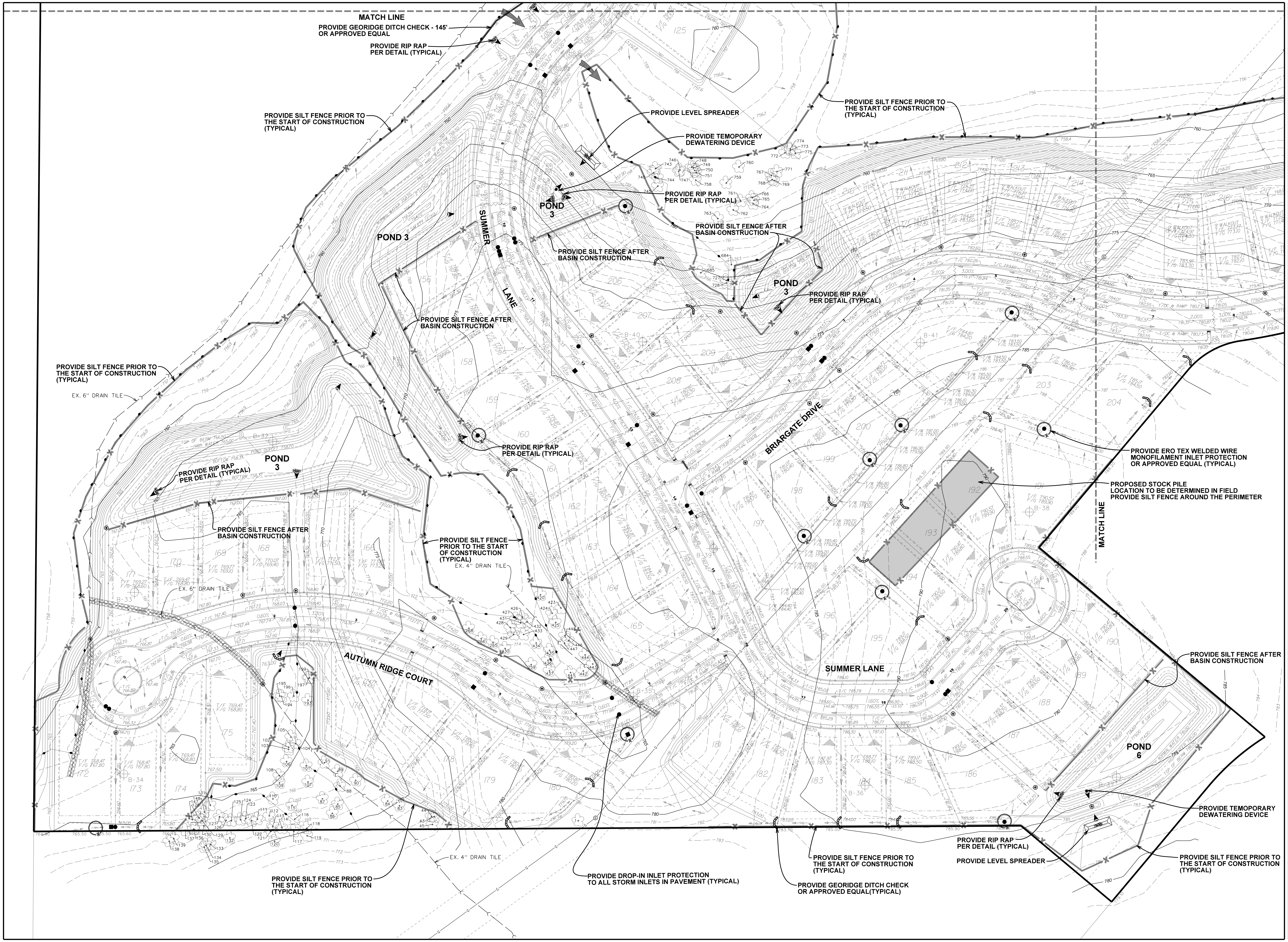

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EROSION CONTROL PLAN
SOUTHWEST

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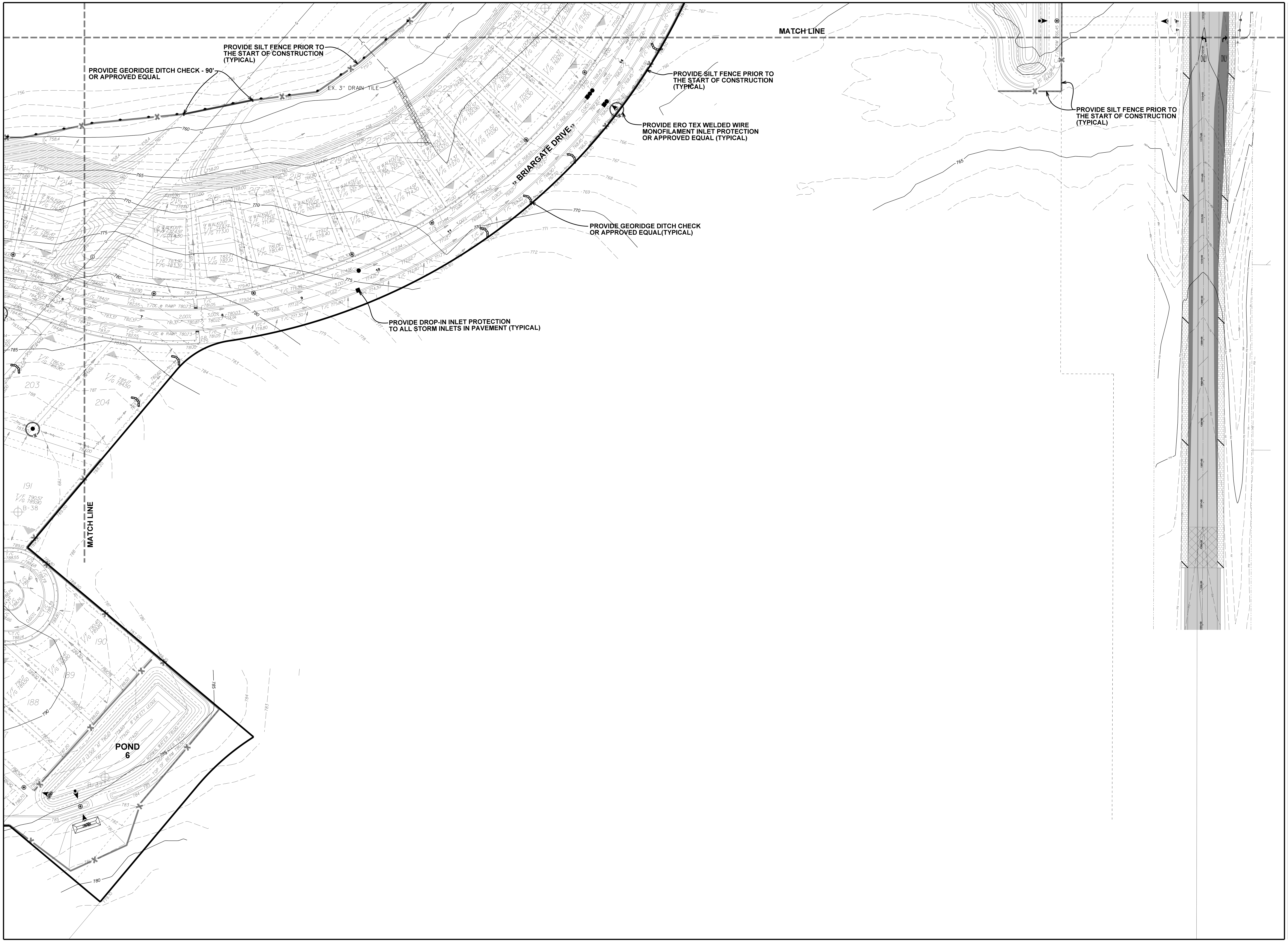

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EROSION CONTROL PLAN

SOUTHEAST

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

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

B. FOR THOSE DEVELOPMENTS THAT REQUIRE A DESIGNATED EROSION CONTROL INSPECTOR (DECI), INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:
- UPON COMPLETION OF SEDIMENT AND RUNOFF CONTROL MEASURES (INCLUDING PERIMETER CONTROLS AND DIVERSIONS), PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
- AFTER EVERY SEVEN (7) CALENDAR DAYS OR STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.

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

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

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

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

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

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

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

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

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

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

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

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

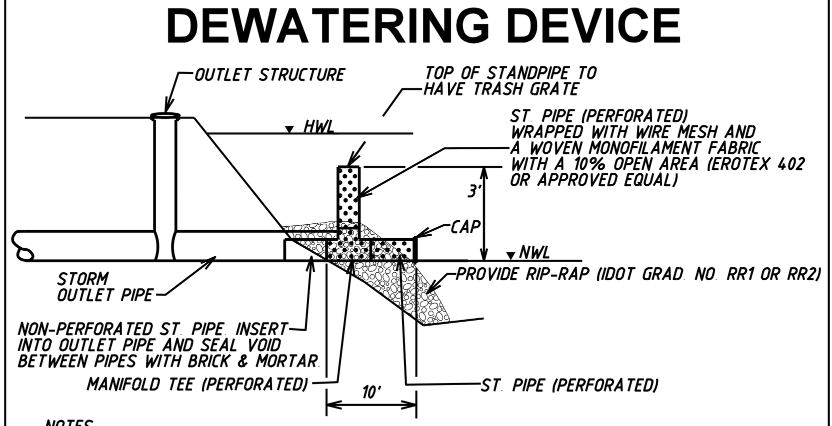
O. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, ENFORCEMENT OFFICER, OR OTHER GOVERNING AGENCY.

TYPICAL CONSTRUCTION SEQUENCING

1. INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL SE/SC MEASURES
   A. SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION
   B. SILT / CONSTRUCTION FENCE INSTALLATION
   C. CONSTRUCTION FENCING AROUND AREAS NOT TO BE DISTURBED
   D. STABILIZED CONSTRUCTION ENTRANCE
2. TREE REMOVAL WHERE NECESSARY (CLEAR & GRUB)
3. CONSTRUCT WATER QUALITY / RVR / SEDIMENT COLLECTION BASIN
4. STRIP TOPSOIL, STOCKPILE TOPSOIL AND GRADE SITE
5. TEMPORARILY STABILIZE TOPSOIL STOCKPILES (SEED AND SILT FENCE AROUND TOE OF SLOPE)
6. INSTALL STORM SEWER, SANITARY SEWER, WATER AND ASSOCIATED INLET & OUTLET PROTECTION
7. PERMANENTLY STABILIZE UPPER ZONES OF THE WATER QUALITY / RVR BASIN WITH SEED AND EROSION CONTROL BLANKET PER LANDSCAPE PLANS LOWER ZONE TO REMAIN OVER-EXCAVATED FOR SEDIMENT COLLECTION UNTIL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED.
8. TEMPORARILY STABILIZE ALL AREAS INCLUDING LOTS THAT HAVE REACHED TEMPORARY GRADE
9. INSTALL ROADWAYS
10. PERMANENTLY STABILIZE ALL OUTLOT AREAS
11. INSTALL STRUCTURES AND GRADE INDIVIDUAL LOTS
12. PERMANENTLY STABILIZE LOTS
13. COMPLETE FINAL GRADING AND SEEEDING/PLANTING OF WATER QUALITY / RVR BASIN.
14. REMOVE ALL TEMPORARY SE/SC MEASURES AFTER THE SITE IS STABILIZED WITH VEGETATION

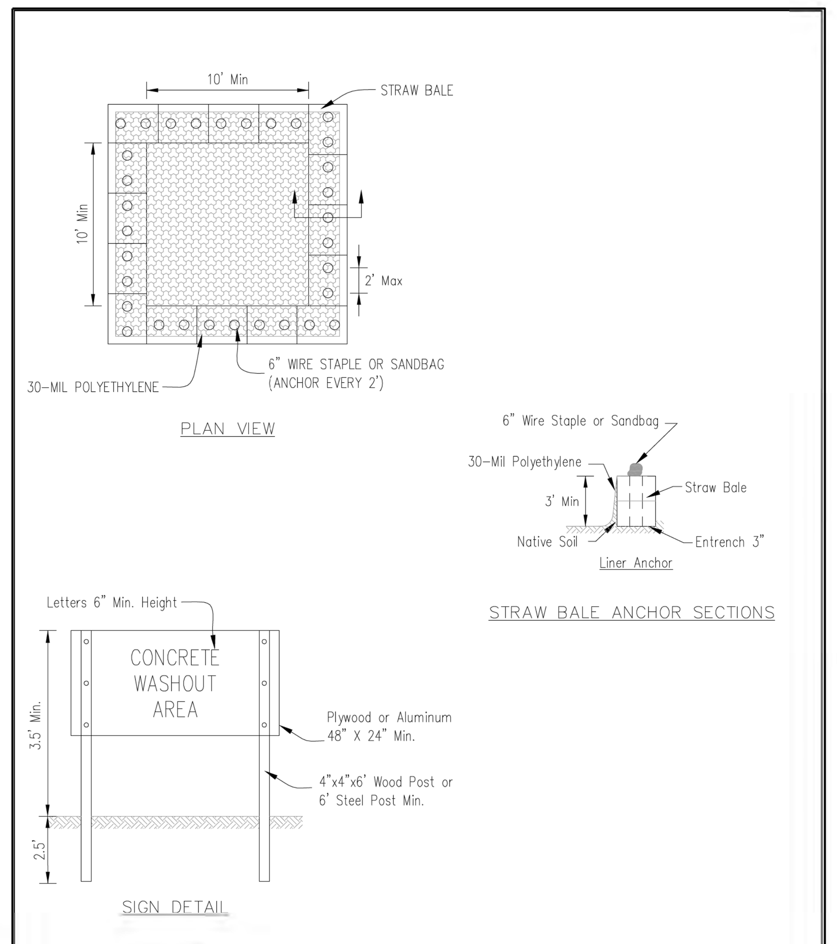
* SOIL EROSION AND SEDIMENT CONTROL MAINTENANCE MUST OCCUR WEEKLY AND AFTER EVERY ONE-HALF INCH (1/2") OR GREATER RAINFALL EVENT

TEMPORARY SEDIMENT DEWATERING DEVICE



NOTES

1. A PERFORATED STANDPIPE SHALL BE PROVIDED AS PART OF THE SEDIMENT BASIN EROSION CONTROL MEASURES DURING CONSTRUCTION
2. STORM PIPE AND TEE TO BE EITHER PERFORATED CORRUGATED DUAL WALL HDPE PIPE WITH A SMOOTH INTERIOR (ASTM F-667) OR SINGLE WALL HDPE PIPE (ASTM F-667)
3. PIPE DIAMETER TO BE ONE SIZE SMALLER THAN STORM OUTLET PIPE WITH MAXIMUM SIZE OF 30-INCH
4. 12 HOLES PER CORRUGATION (MIN) HOLES TO BE 3/4-INCH DIAMETER (MIN)
5. A WOVEN MONOFILAMENT FABRIC WITH A 10% OPEN AREA (EROTEX 402 OR APPROVED EQUAL) SHALL BE WRAPPED OVER THE WIRE MESH AND FASTENED TO THE PERFORATED STANDPIPE WITH STRAPPING OR CONNECTING BANDS
6. WHEN THE SEDIMENT BASIN IS NO LONGER REQUIRED FOR SEDIMENT CONTROL, THE ENTIRE STANDPIPE ASSEMBLY SHALL BE REMOVED
7. FABRIC TO BE CHECKED WEEKLY FOR CLOGGING (CLEAN OR REPLACE AS NEEDED)



NOTES:

1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and/or slurry and returning the facilities to a functional condition.
2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.
3. Each straw bale is to be staked in place using (2) 2"x2"x4' wooden stakes.

TEMPORARY CONCRETE WASHOUT FACILITY – STRAW BALE

ERO-TEX

THE GROUND CONTROL LEADERS

Welded Wire Monofilament Inlet Protector

Specifications

Description: Welded wire monofilament protector shall consist of three (3) parts:
- 36" wide geotextile fabric (Orange or Black) composed of monofilament polypropylene yarns, which are woven into a stable network such that the yarns retain their relative position.
- 6" x 6" welded wire mesh geotextile composite, shall be 30" tall, formed and secured into a 42" minimum diameter circle.
- Fastening rings shall be constructed of wire conforming to ASTM A641, A-809, A-370 and A-358.

Assembly: Geotextile shall be wrapped a minimum of one inch over the top member of the 6" x 6" welded wire mesh and secured with fastening rings at six inched on center. Geotextile shall be secured to the sides of the welded wire mesh with fastening rings at a spacing of one per square foot. The fastening rings shall penetrate both layers of geotextile and securely close around a steel member. The bottom 2" +/- of fabric shall be left unsecured to allow for entrenchment. **DEPTH OF TRENCHING SHALL BE 6" MINIMUM**

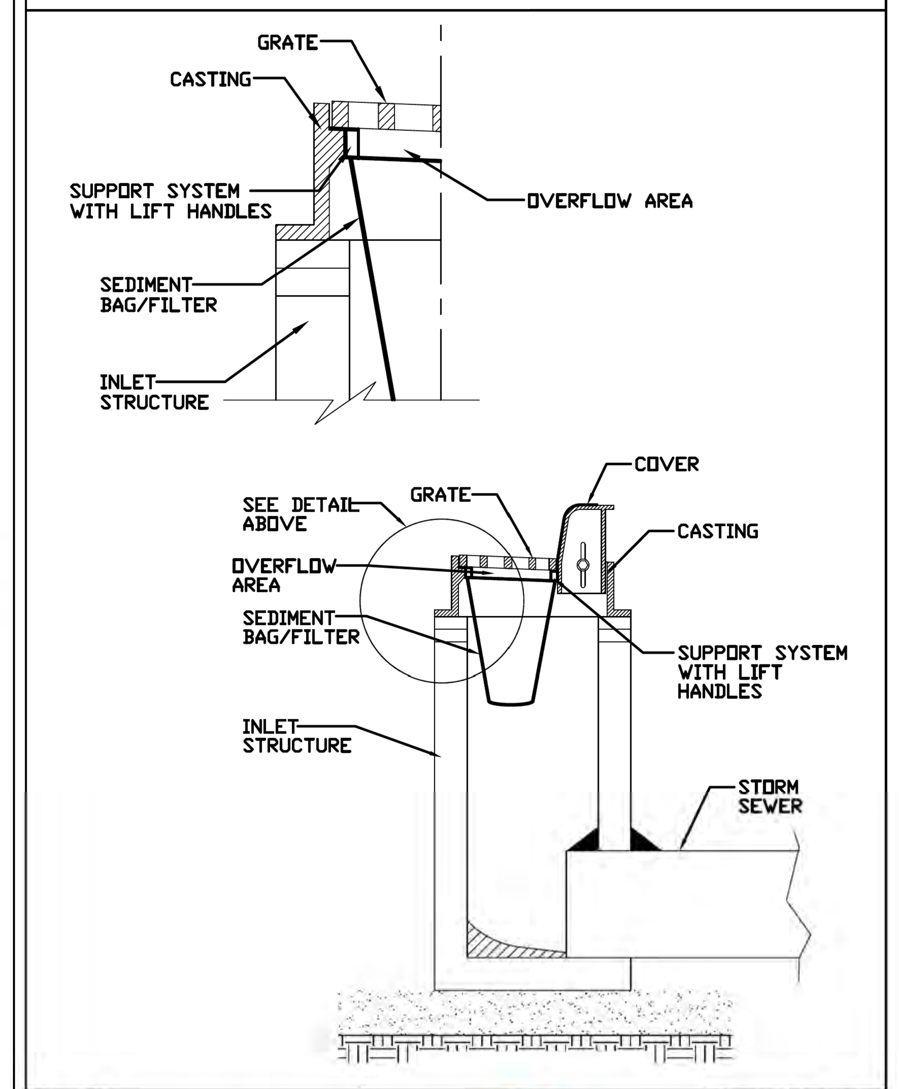
Geotextile:

Physical Properties	MARV Values	Unit	Test Method
Structure	Woven Monofilament		
Polymer	Polypropylene		
Wide Width Tensile Strength	200 (MD) x 140 (CD)	lbs/in	ASTM D4595
Grab Tensile Strength	365 (MD) x 200 (CD)	lbs	ASTM D4632
Grab Tensile Elongation	24 (MD) x 10 (CD)	%	ASTM D4632
Trapezoid Tear Strength	115 (MD) x 75 (CD)	lbs/in	ASTM D4533
CBR Puncture Strength	675	lbs/in	ASTM D6241
Apparent Opening Size (AOS)	40	U.S. Sieve	ASTM D4751
Percent Open Area	10	%	COE-02215
Permittivity	2.1	sec^{-1}	ASTM D4491
Permeability	0.14	cm/sec	ASTM D4491
Flow Rate	145	$gal/min/ft^2$	ASTM D4491
UV Resistance (at 500 hours)	90	% strength retained	ASTM D4355

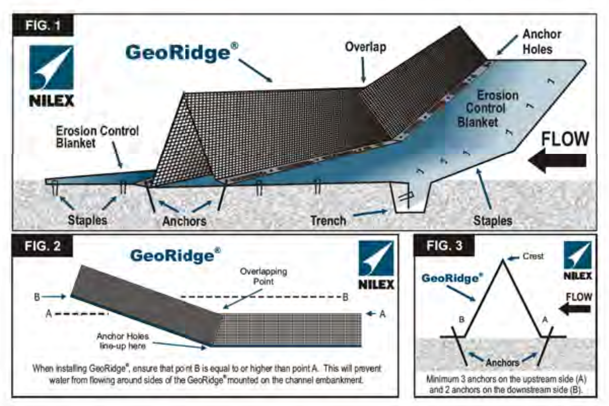
Welded Wire Mesh: 6" x 6" welded wire mesh shall be formed of 10ga steel conforming of ASTM A-185.

ERO-TEX N94 W14330 Garwin Mace Drive · Menomonee Falls, WI 53051
(262) 250-9945 www.ero-tex.net 866-437-6839 (Toll Free) FAX: (866) 437-6839

INLET PROTECTION – PAVED AREAS DROP-IN PROTECTION

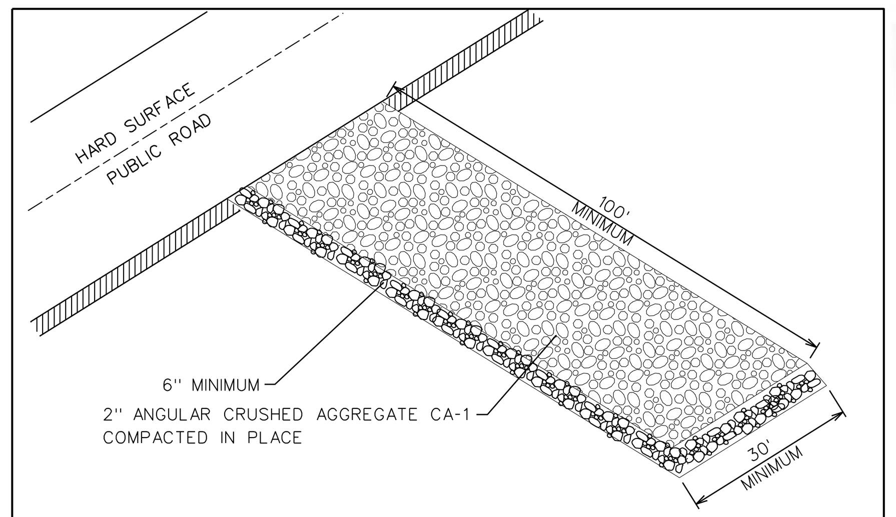


REFERENCE Project			STANDARD DWG. NO. IUM-561D
Designed	Date		SHEET 1 OF 1
Checked	Date		
Approved	Date		DATE 01-10-11

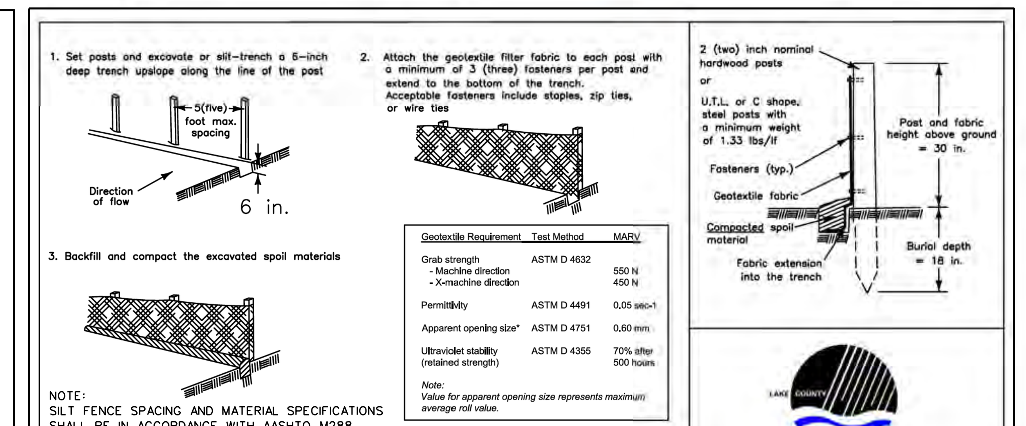


INSTALLATION INSTRUCTIONS

nilex.com
1-800-667-4811



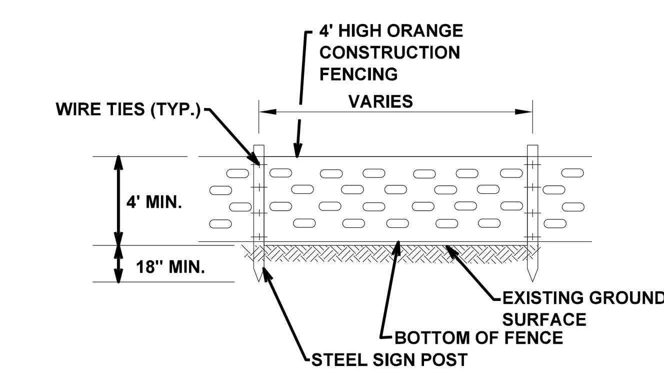
STABILIZED CONSTRUCTION ENTRANCE



NOTE:
SILT FENCE SPACING AND MATERIAL SPECIFICATIONS SHALL BE IN ACCORDANCE WITH AASHTO M288

SILT FENCE DETAIL

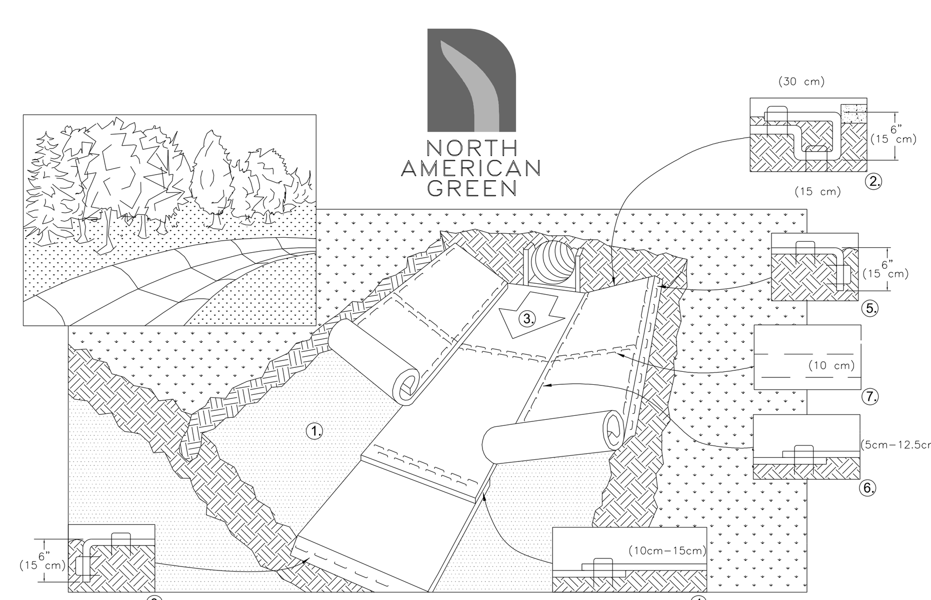
STORMWATER MANAGEMENT COMMISSION



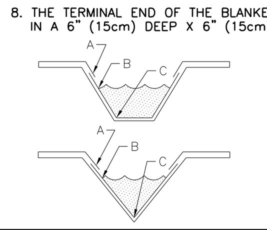
CONSTRUCTION NOTES:
1. STEEL POSTS SHALL BE SPACED AS REQUIRED TO SUPPORT CONSTRUCTION FENCE

ORANGE CONSTRUCTION FENCE

CHANNEL INSTALLATION



1. 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.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) 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" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. 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 OPTIONAL DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" (10cm-15cm) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5cm-12.5cm) (DEPENDING ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH™ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9m-12m) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

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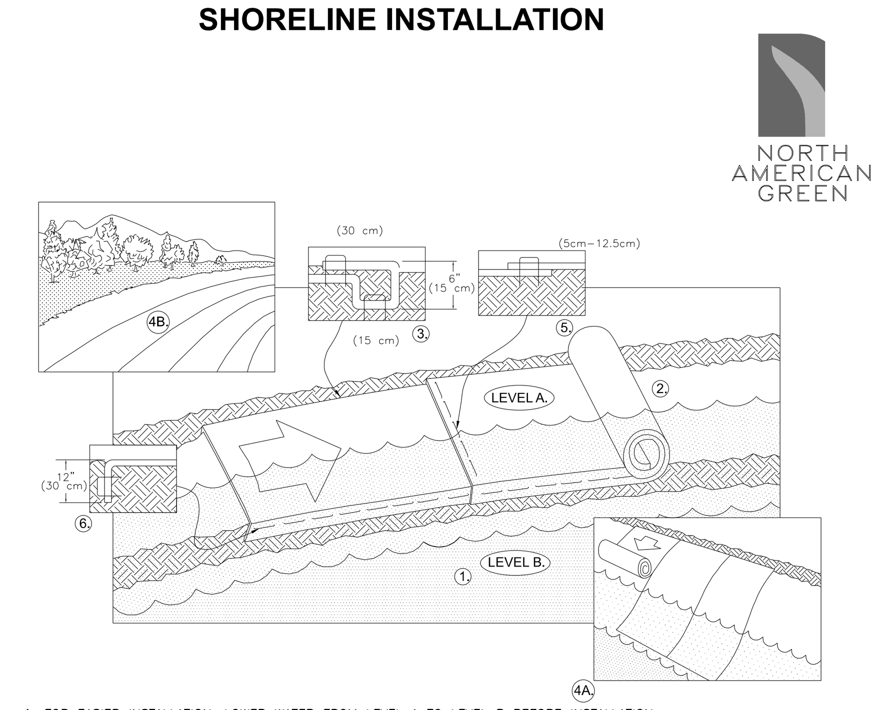
SHORELINE INSTALLATION



1. FOR EASIER INSTALLATION, LOWER WATER FROM LEVEL A TO LEVEL B BEFORE INSTALLATION.
2. 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.
3. BEGIN AT THE TOP OF THE SHORELINE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) 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" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
4. ROLL BLANKETS EITHER (A.) DOWN THE SHORELINE FOR LONG BANKS, (TOP TO BOTTOM) OR (B.) HORIZONTALLY ACROSS THE SHORELINE 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 OPTIONAL DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. THE EDGES OF ALL HORIZONTAL AND VERTICAL BLANKET SEAMS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT BETWEEN ADJACENT BLANKETS, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH™ON THE PREVIOUSLY INSTALLED BLANKET. SECURE ALL OVERLAPS WITH STAPLES SPACED 12" (30cm) APART.

NOTE:
* SEAM OVERLAP SHOULD BE SHINGLED ACCORDING TO PREDOMINANT EROSIVE ACTION.

6. THE EDGE OF THE BLANKET AT OR BELOW NORMAL WATER LEVEL MUST BE ANCHORED BY PLACING THE BLANKET IN A 12" (30cm) DEEP X 6" (15cm) WIDE ANCHOR TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART IN THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING (STONE OR SOIL MAY BE USED AS BACKFILL.)

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

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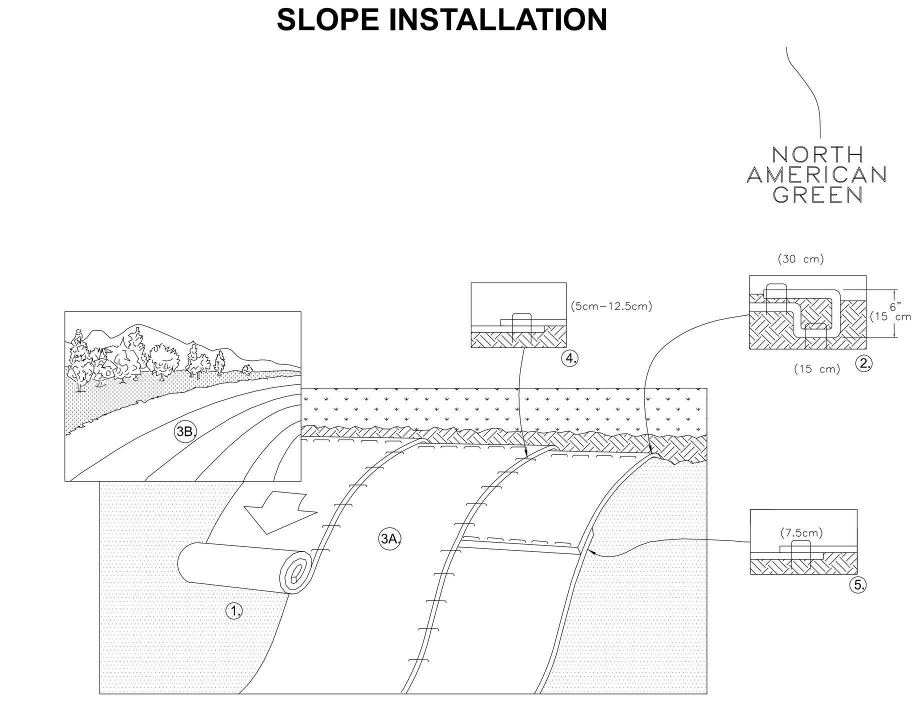
SLOPE INSTALLATION



1. 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.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) 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" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. 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 OPTIONAL DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH™ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

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STAPLE PATTERN GUIDE

NOTE:
USE STAPLE PATTERN E

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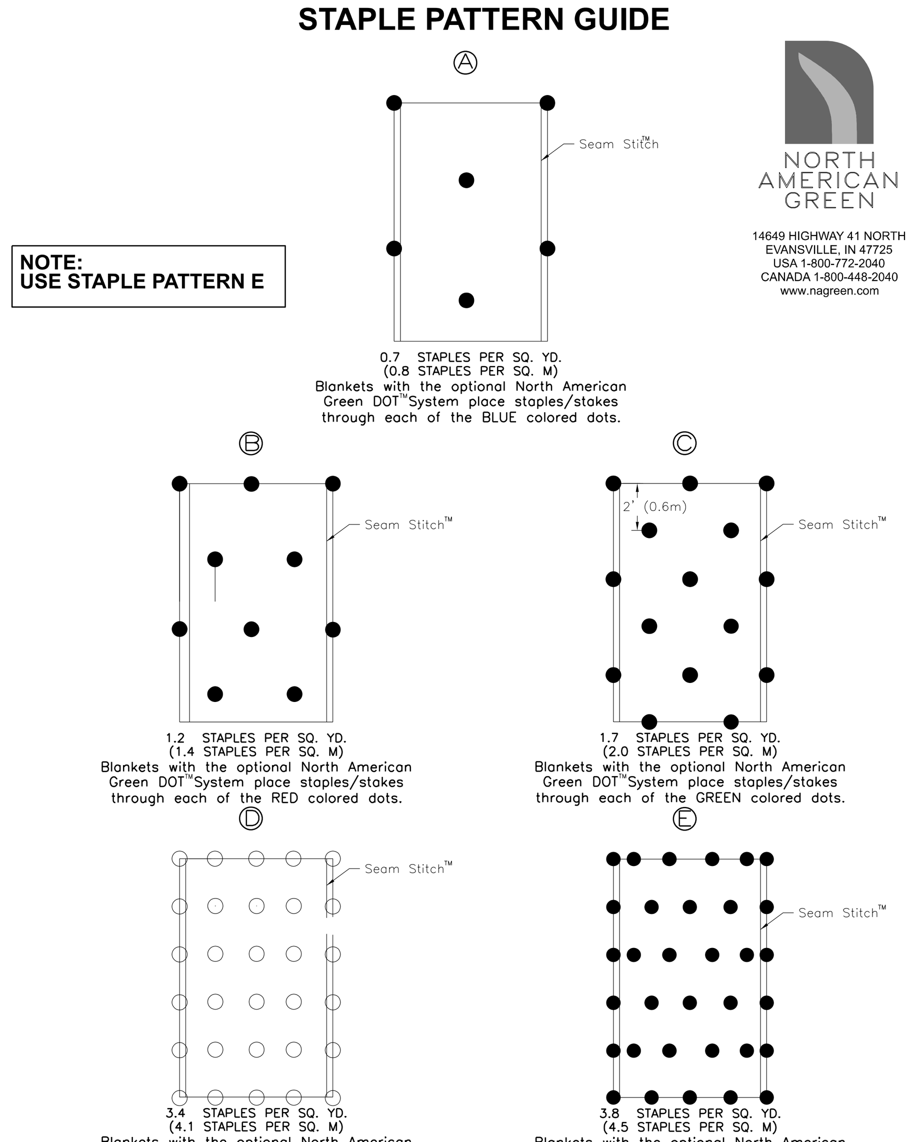

0.7 STAPLES PER SQ. YD. (0.8 STAPLES PER SQ. M) Blankets with the optional North American Green DOT™System place staples/stakes through each of the BLUE colored dots.

1.2 STAPLES PER SQ. YD. (1.4 STAPLES PER SQ. M) Blankets with the optional North American Green DOT™System place staples/stakes through each of the RED colored dots.

1.7 STAPLES PER SQ. YD. (2.0 STAPLES PER SQ. M) Blankets with the optional North American Green DOT™System place staples/stakes through each of the GREEN colored dots.

3.4 STAPLES PER SQ. YD. (4.1 STAPLES PER SQ. M) Blankets with the optional North American Green DOT™System place staples/stakes through each of the WHITE colored dots.

3.8 STAPLES PER SQ. YD. (4.5 STAPLES PER SQ. M) Blankets with the optional North American Green DOT™System place staples/stakes through each of the YELLOW colored dots.

*Location of Seam Stitch™will vary depending on North American Green product type: ~Approx. 5" seam overlap for BioNet erosion control blankets

DATE	BY	DESCRIPTION
02/14/20	RCJ	REVISED PER VILLAGE REVIEW COMMENTS
04/16/20	AKZ	REVISED PER VILLAGE REVIEW COMMENTS

REVISIONS

EROSION CONTROL NOTES AND DETAILS

BRIARGATE

LINDENHURST, ILLINOIS

DESIGNED BY: A.K.Z.
DRAWN BY: R.C.J.
CHECKED BY: A.K.Z.
ORIGINAL ISSUE: 12/12/19

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CONSULTING ENGINEERS
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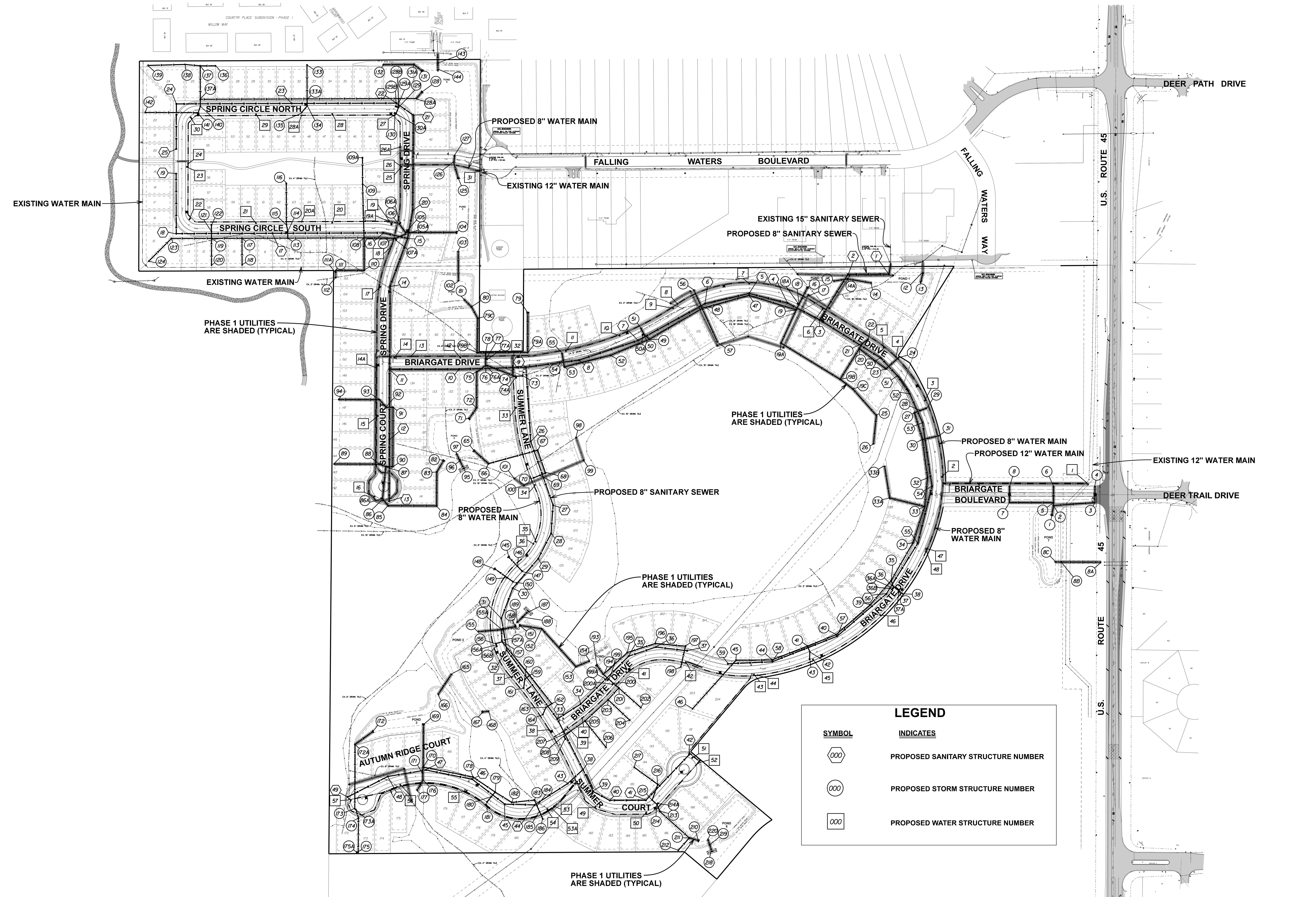
LIBERTYVILLE, IL. 60048
PHONE: (847) 367-6707
FAX: (847) 367-2567
E-MAIL ADDRESS: pba@pearsonbrown.com

SHEET NUMBER
19
OF 47 SHEETS

JOB No. 1994



LEGEND

SYMBOL	INDICATES
(000) hexagon	PROPOSED SANITARY STRUCTURE NUMBER
(000) circle	PROPOSED STORM STRUCTURE NUMBER
[000] square	PROPOSED WATER STRUCTURE NUMBER

NORTH

SCALE: 1" = 150'

150' 75' 0 150'

BRIARGATE

LINDENHURST, ILLINOIS

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GENERAL UTILITY PLAN

SHEET NUMBER

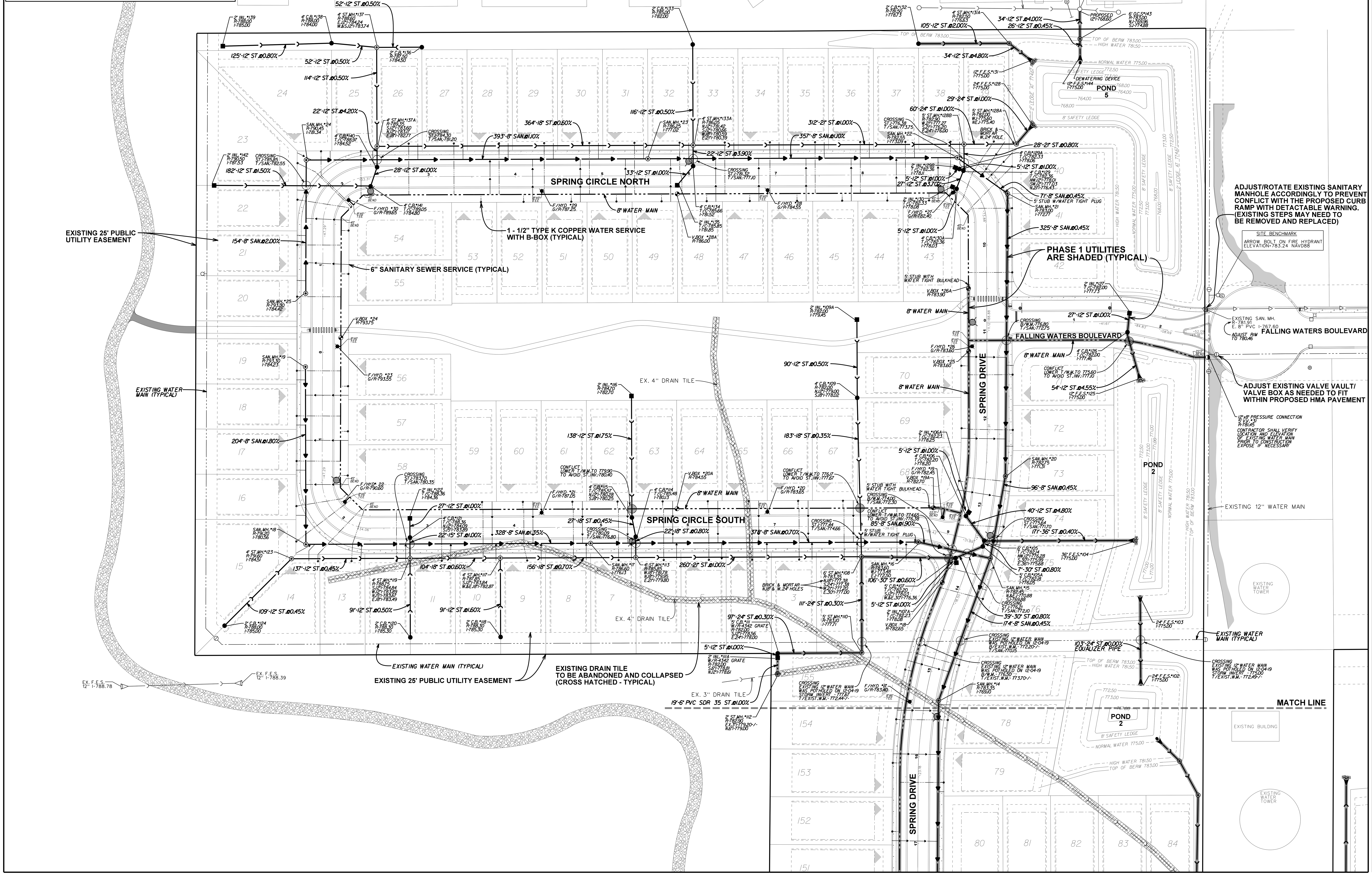
20

OF 47 SHEETS

JOB No. 1994

NOTES:

1. ALL EXISTING FIELD TILES SHALL BE ABANDONED AND COLLAPSED THROUGH THE CONSTRUCTION AREA. ALL POINTS ENTERING THE SITE SHALL BE CONNECTED TO THE PROPOSED STORM SEWER OR RELOCATED.
2. CONTRACTOR SHALL CALL JULIE AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. 1-800-892-0123.
3. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXPLORATORY DIGGING MAY BE REQUIRED.
4. CONTRACTOR SHALL ADJUST OR RELOCATE ALL EXISTING UTILITIES AS NEEDED TO COMPLETE IMPROVEMENTS.
5. CONTRACTOR SHALL RELOCATE ALL SIGNS AS NEEDED FOR PAVEMENT AND UTILITY INSTALLATION.
6. STORM SEWER SYSTEM IS DESIGNED TO CONVEY THE 100 YEAR STORM EVENT.
7. MAXIMUM CROSS SLOPE AT ALL CROSSWALKS IS 2.0%



NORTH

SCALE: 1" = 50'

BRIARGATE

LINDENHURST, ILLINOIS

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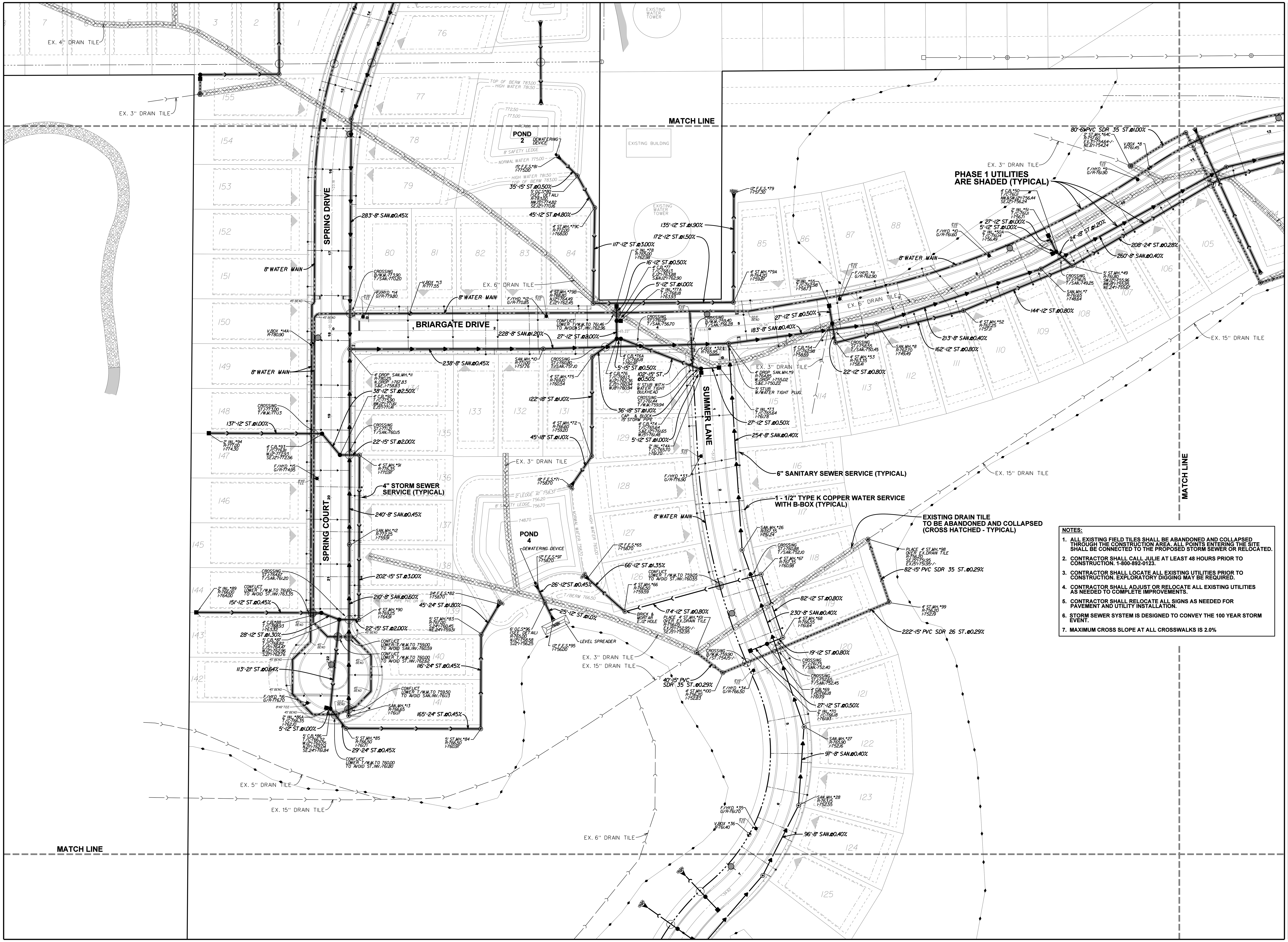
UTILITY PLAN

SHEET NUMBER
21
OF 47 SHEETS
JOB No. 1994



NORTH

SCALE: 1" = 50'

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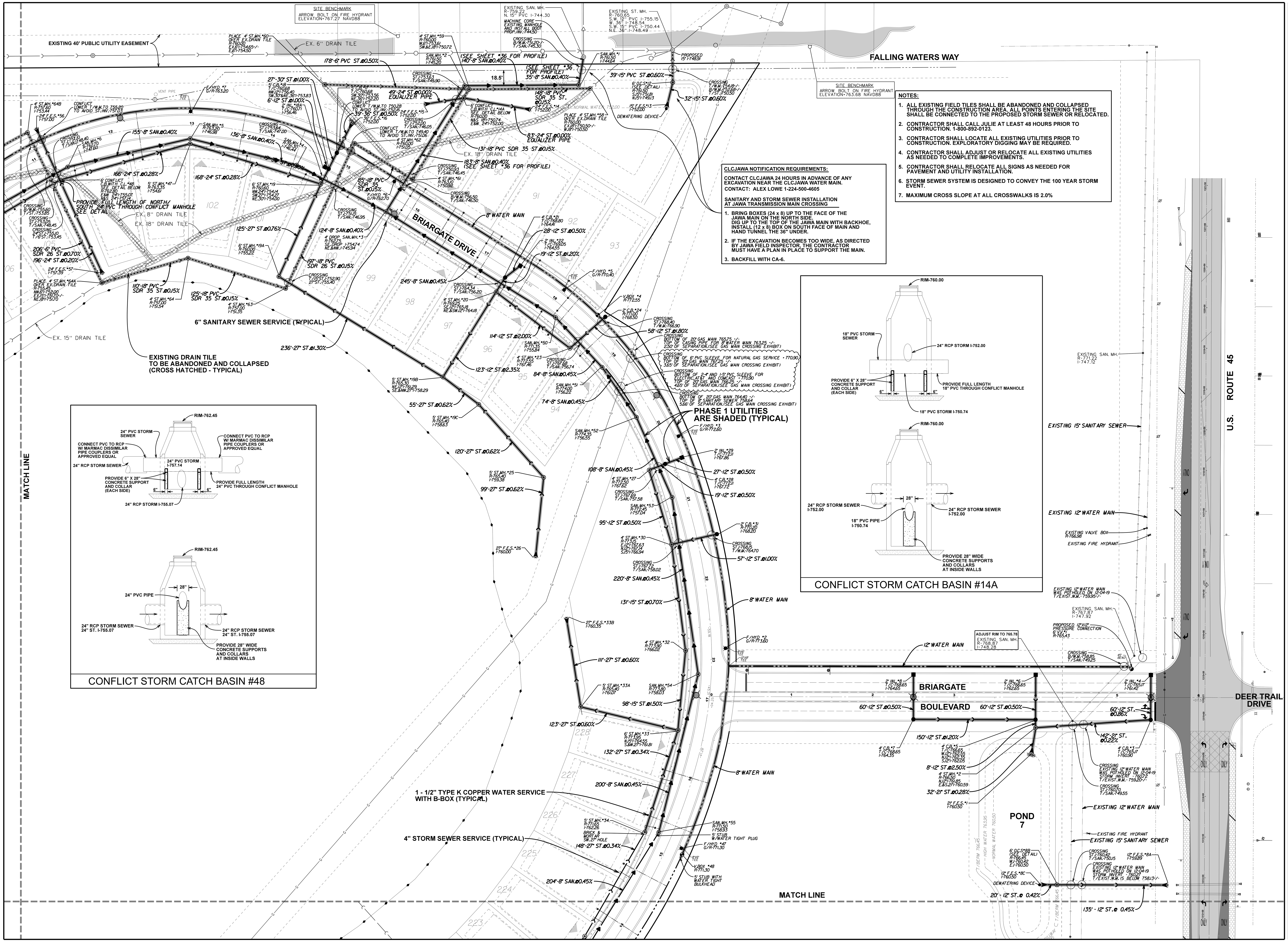
REVISIONS

UTILITY PLAN

WEST CENTRAL

SHEET NUMBER
22
OF 47 SHEETS

JOB No. 1994



NOTES:

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2. CONTRACTOR SHALL CALL JULIE AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. 1-800-892-0123.
3. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXPLORATORY DIGGING MAY BE REQUIRED.
4. CONTRACTOR SHALL ADJUST OR RELOCATE ALL EXISTING UTILITIES AS NEEDED TO COMPLETE IMPROVEMENTS.
5. CONTRACTOR SHALL RELOCATE ALL SIGNS AS NEEDED FOR PAVEMENT AND UTILITY INSTALLATION.
6. STORM SEWER SYSTEM IS DESIGNED TO CONVEY THE 100 YEAR STORM EVENT.
7. MAXIMUM CROSS SLOPE AT ALL CROSSWALKS IS 2.0%

CLCJAWA NOTIFICATION REQUIREMENTS:

CONTACT CLCJAWA 24 HOURS IN ADVANCE OF ANY EXCAVATION NEAR THE CLCJAWA WATER MAIN.
CONTACT: ALEX LOWE 1-224-500-4605

SANITARY AND STORM SEWER INSTALLATION AT JAWA TRANSMISSION MAIN CROSSING

1. BRING BOXES (24 x 8) UP TO THE FACE OF THE JAWA MAIN ON THE NORTH SIDE. DIG UP TO THE TOP OF THE JAWA MAIN WITH BACKHOE, INSTALL (12 x 8) BOX ON SOUTH FACE OF MAIN AND HAND TUNNEL THE 36" UNDER.
2. IF THE EXCAVATION BECOMES TOO WIDE, AS DIRECTED BY JAWA FIELD INSPECTOR, THE CONTRACTOR MUST HAVE A PLAN IN PLACE TO SUPPORT THE MAIN.
3. BACKFILL WITH CA-6.

NORTH

SCALE: 1" = 50'

BRIARGATE

LINDENHURST, ILLINOIS

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UTILITY PLAN

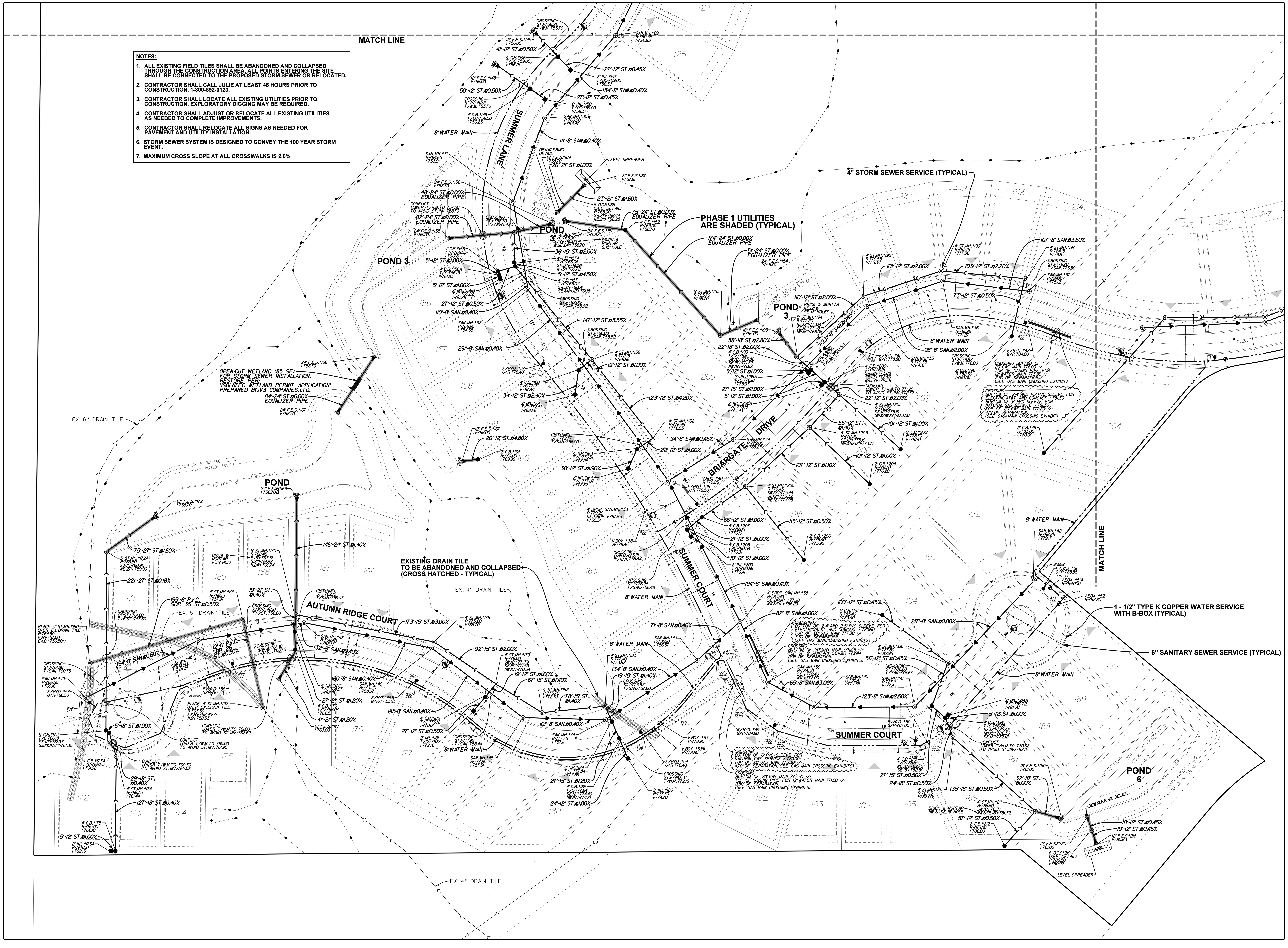
EAST CENTRAL

SHEET NUMBER
23
OF 47 SHEETS

JOB No. 1994

NOTES:

1. ALL EXISTING FIELD TILES SHALL BE ABANDONED AND COLLAPSED THROUGH THE CONSTRUCTION AREA. ALL POINTS ENTERING THE SITE SHALL BE CONNECTED TO THE PROPOSED STORM SEWER OR RELOCATED.
2. CONTRACTOR SHALL CALL JULIE AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. 1-800-892-0123.
3. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXPLORATORY DIGGING MAY BE REQUIRED.
4. CONTRACTOR SHALL ADJUST OR RELOCATE ALL EXISTING UTILITIES AS NEEDED TO COMPLETE IMPROVEMENTS.
5. CONTRACTOR SHALL RELOCATE ALL SIGNS AS NEEDED FOR PAVEMENT AND UTILITY INSTALLATION.
6. STORM SEWER SYSTEM IS DESIGNED TO CONVEY THE 100 YEAR STORM EVENT.
7. MAXIMUM CROSS SLOPE AT ALL CROSSWALKS IS 2.0%



NORTH

SCALE: 1" = 50'

BRIARGATE

LINDENHURST, ILLINOIS

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DATE	BY	DESCRIPTION
02/14/20	RCJ	REVISED PER VILLAGE REVIEW COMMENTS
04/16/20	AKZ	REVISED PER VILLAGE REVIEW COMMENTS

REVISIONS

UTILITY PLAN

SOUTHWEST

SHEET NUMBER

24

OF 47 SHEETS

JOB No. 1994