

BEING A SUBDIVISION IN PART OF THE WEST HALF OF THE
SOUTHWEST QUARTER OF SECTION 14, TOWNSHIP 37 NORTH,
RANGE 9 EAST OF THE THIRD PRINCIPAL MERIDIAN, WILL
COUNTY, ILLINOIS

THE ENCLAVE ON BOOK

COVER SHEET

EARTHWORK		UNDERGROUND UTILITIES - GENERAL		SANITARY SEWER		WATER MAIN		STORM SEWER	
<p>1. Topsoil Excavation Includes:</p> <p>a. Excavation of topsoil and other structurally unsuitable materials within those areas that will require earth excavation or compacted earth fill material, in order to achieve the plan subgrade elevations. The amount of topsoil to be stripped shall be verified in the field by a soils engineer.</p> <p>b. Placement of the excavated material in OWNER designated areas for future use within areas to be landscaped, and those areas not requiring structural fill material.</p> <p>c. Compaction of the excavated material where placed in areas not requiring structural fill material, shall be moderate.</p> <p>d. Excess materials, if not utilized as fill or if not stockpiled for future landscaping, shall be completely removed from the construction site and disposed of by the CONTRACTOR.</p> <p>2. Earth Excavation Includes:</p> <p>a. Excavation of earth and other materials which are suitable for use as structural fill. The excavation shall be to within a tolerance of 0.3 feet (+) of the plan subgrade elevations. The (+) tolerance within pavement areas shall be such that the earth material shall "balance" as part of the fine grading operation.</p> <p>b. Placement of the earth and other suitable materials shall be within those areas requiring structural fill in order to achieve the plan subgrade elevations to within a tolerance of 0.3 feet (+). The fill material shall be placed in loose lifts that shall not exceed eight (8) inches in thickness, and the water content shall be adjusted in order to achieve the required compaction. Earth material may be placed within those portions of the building site not requiring structural fill, to within four (4) inches of the plan finished grade elevation. In areas requiring structural fill, however, the earth material shall not be placed over topsoil or other unsuitable materials unless specifically directed by a Soils Engineer with the concurrence of the OWNER.</p> <p>c. Compaction of the earth and other suitable materials, shall be to at least 95% of the maximum dry density as determined by the Modified Proctor Test, ASTM D1557 laboratory procedure within proposed pavement areas and building areas, on rear yards abutting to the proposed lakes. Moderate compaction is required elsewhere. All fill shall be placed in 8" lifts, loose measure.</p> <p>d. Excess materials, if not utilized as fill, shall be completely removed from the construction site and disposed of by the CONTRACTOR.</p> <p>3. Unsuitable Material</p> <p>a. Unsuitable material shall be considered as material which is not suitable for the support of pavement and building construction, and is encountered below normal topsoil depths and the proposed subgrade elevation. The decision to remove said material, and to what extent, shall be made by a Soils Engineer with the concurrence of the OWNER in writing.</p> <p>4. General</p> <p>The Grading CONTRACTOR shall:</p> <p>a. Maintain proper site drainage at all times during the course of construction, and prevent storm water from running into or standing in excavated areas.</p> <p>b. Spread and compact uniformly to the degree specified all excess trench spoil after completion of the underground improvements.</p> <p>c. Scarify and compact to the degree specified the upper twelve (12) inches of the suitable subgrade material, in all areas that may be soft due to excess moisture content. This applies to cut areas as well as fill areas.</p> <p>d. Provide water to add to dry material in order to adjust the moisture content for the purpose of achieving the specified compaction.</p> <p>5. Testing and Final Acceptance</p> <p>a. The CONTRACTOR shall provide as a minimum, a fully loaded tri-axle dumptruck or similar equipment for proof rolling the pavement subgrade prior to the placement of the curb and gutter and the base material. In addition, the pavement aggregate base course shall also be proof rolled. The City Engineer shall be notified 48 hours in advance of any proof roll.</p> <p>b. Specific compaction testing may be required by the OWNER in selected fill areas. The CONTRACTOR shall bear the cost of any compaction testing which does not meet specification as well as the responsibility and cost for the necessary correction(s).</p> <p>c. Approval of the pavement subgrade by the OWNER shall be required prior to the placement of the pavement materials.</p> <p>d. The subgrade soil shall be tested by a professional geotechnical engineer at the developer's expense and shall have a minimum designated Illinois Bearing Ratio (IBR equal to three (3)).</p> <p>e. A soil investigation report shall be provided to the City to verify the in situ IBR value. Pavement structures with subgrade soil having an IBR value less than three (3) shall have an increased pavement structure as necessary to carry the design traffic loading.</p> <p>6. Method of Measurement</p> <p>a. As-built measurements of earthwork for the purpose of payment shall not apply, the quantities shown in the engineer's "quantity estimate" shall be utilized unless said quantities are adjusted by mutual consent of the owner and contractor prior to the signing and acceptance of a contract.</p> <p>b. The quantities as shown in the engineer's "quantity estimate" are those estimated by the engineer and are provided solely for the convenience of the contractor, the contractor by choosing to utilize these quantities in the preparation of his "lump sum" bid, also accepts their accuracy, the contractor is therefore encouraged to make his own independent earthwork calculation, and to visit the site prior to the preparation of his bid.</p> <p>c. Prior to the removal of unsuitable material, the contractor shall notify the owner for authorization to remove said material, upon authorization and removal, the contractor shall request that the unsuitable material shall be field measured by the engineer in place.</p> <p>7. Basis of payment</p> <p>a. Payment for all earthwork shall be "lump sum", the contractor shall provide unit prices for earthwork for the purpose of contract adjustment, if required.</p> <p>b. Payment for the removal of unsuitable material shall be based on the quantities as field measured by the engineer, the contractor shall provide as part of his bid a unit price per cubic yard for the removal of unsuitable material, said unit price shall include the complete removal of the material, replacement with a suitable material obtained by the Contractor from a borrow source, and compaction to the required specification.</p>		<p>1. The Underground CONTRACTOR Shall:</p> <p>a. Adhere to the criteria for the separation between water mains and sanitary sewers, storm sewers, combined sewers, sewer services and septic fields according to the requirements stated in the IEPA Rules for Public Water Supplies (the formal citation is Title 35, Subtitle F, Chapter II, Parts 651-654). All sewer water main separations shall be constructed per the "Standard Specifications for Water and Sewer Main Construction in Illinois".</p> <p>b. Be responsible to place on grade, and coordinate with other CONTRACTORS, all underground utility structure frames such as manholes, catch basins, and inlets.</p> <p>c. Be aware of potential conflicts with existing utilities. The CONTRACTOR shall excavate around the existing utilities to determine their exact location and elevation prior to the construction of the proposed utility improvements. Should unforeseen conflicts be found, the CONTRACTOR shall contact the ENGINEER prior to constructing the proposed improvements.</p> <p>d. Fences shall be installed a minimum of 5 feet from water or sanitary main when running parallel with them. When Fences are installed crossing water or sanitary mains, the posts shall be located to have the main between them.</p> <p>e. Shall maintain 2' minimum clearance between existing utilities and new foundations and underground facilities. In areas where foundations and underground facilities are proposed adjacent to existing utilities, the CONTRACTOR shall pot hole by vacuum excavation or by hand excavation to locate existing utility to verify minimum clearance requirement.</p> <p>f. Adjust or reconstruct any existing utility structure to the satisfaction of the utility owner. Adjustments and/or reconstructions not called for on the plans shall be considered incidental to the contract. No more than two adjusting rings within a min. of four inches (4") and a max. of twelve inches (12") of adjusting rings. All structures & frames shall be flush with final grade.</p> <p>g. Provide poured concrete fillets conforming to the shape of the pipe in all sanitary and storm manholes, and inlets.</p> <p>h. Be responsible for maintaining the top of any utility trench at least three (3) feet away from any existing or proposed curb or pavement, in those instances where the trench runs parallel to said curb or pavement.</p> <p>i. Be responsible for the dewatering of utility trenches during construction and providing the necessary trench bracing that may be required to assure safe working conditions.</p> <p>j. Remove soft material that may be encountered at the pipe invert elevation to a depth of at least one (1) ft. below the bottom of the pipe, and backfill with compacted bedding material.</p> <p>k. No damage to the road subgrade with excessive water saturation from hydrant flushing or from leaks in the water distribution system. The cost of repair for such damage shall be borne by the CONTRACTOR. Hoses should be used to direct the water from hydrant flushing into the storm sewer system (if available).</p> <p>l. Repair any existing field drainage tile damaged during construction, and properly reroute and/or connect said tile to the nearest storm sewer outlet. All locations of encountered field drainage tile shall be properly indicated on the CONTRACTOR'S record drawing.</p> <p>m. A set of as-built record drawing shall be given to the City of Naperville upon completion of improvements showing the elevation and location (tied to two points) of all new and existing structures including fire hydrants, valve boxes and vaults, linestop sleeves, water service corporation stops, water main fittings/bends, manholes, sanitary service wyes (measured from downstream manhole), and abandoned water or sanitary service lines. All elevations shall be referenced to the same benchmark datum as the original design. Horizontal ties shall be referenced to lot lines, back of curb, or property corners.</p> <p>n. Be responsible for implementation of the "Soil Erosion and Sedimentation Control Measures" as applicable.</p> <p>o. Maintain erosion control measures (straw bales and filter fabric) until grass is established.</p> <p>p. All brass components shall be certified to be lead free in compliance with NSF 61 and NSF 372 and identified with applicable markings.</p> <p>q. New watermain valves, including pressure tap valves adjacent to an existing watermain, and existing watermain valves shall only be operated by City of Naperville, Department of Public Utilities CEE/Com Division personnel with 48-hour notice (Monday-Friday). Contact Naperville TED Business Group for scheduling.</p> <p>r. All valve boxes, vaults, hydrants, and manholes shall not be covered with construction debris and shall remain accessible to the respective utility company.</p> <p>s. All excavations deeper than 20 feet deep must be protected by a system designed by a registered professional engineer.</p> <p>2. Method of Measurement</p> <p>a. All sanitary sewer, storm sewer, and water main pipe shall be measured in the field after its installation. Payment shall be based on these field measurements.</p> <p>b. All appurtenances such as manholes, catchbasins, inlets, valves and valve vaults, valve boxes, and fire hydrants, shall be paid for on the basis of in-place quantities.</p> <p>c. Trench backfill material shall be measured by multiplying the as-constructed length of pipe (where applicable) by the average depth of the pipe by the "Payment Quantities per foot of Conduit" listed in Table 1, pg. 138 and "Typical Detail of Conduit Installation", pg. 137 of the Standard Specification for Sewer and Water in Illinois. If requested, the CONTRACTOR shall provide load tickets to the ENGINEER for verification of the trench backfill material delivered to the construction site. Load tickets for bedding material shall be submitted separately.</p> <p>3. Basis of Payment</p> <p>a. All sanitary sewer, water main, and storm sewer pipe shall be paid for at the contract unit price per LINEAL FOOT. The price shall include the necessary labor and material for a complete in-place installation, as well as all incidental construction, testing, bedding material, and connections to existing utilities.</p> <p>b. All appurtenances for the underground improvements shall be paid for at the contract unit price EACH, said price to include the necessary labor and material for a complete in-place installation. The price for manholes, inlets, and catchbasins shall also include the frame and grate and all incidental construction. The price for fire hydrants shall also include a six (6) inch valve and box, and all incidental construction.</p> <p>c. Trench backfill material shall be paid for at the contract unit price per CUBIC YARD. Compaction must be made by mechanical methods.</p> <p>4. As-Built Water & Sanitary Services</p> <p>a. As-built locations shall be provided for all water and sanitary sewer stubs. They shall also be stamped on the curb.</p> <p>5. Structure Castings</p> <p>a. Frames and lids (or grates) for sanitary, watermain and storm sewer structures shall be as indicated on the plans, and the cost of same shall be integrated into the representative structure costs.</p> <p>b. Manhole castings shall be adjusted to finished grade using precast adjusting rings set on bitumastic material. All structures shall have no more than two adjusting rings w/ a min. of four inches (4") and a max. of twelve inches (12") of adjusting rings.</p> <p>c. All frames shall be set on a mastic bed with all gaps tuck pointed.</p> <p>d. All castings shall be made in the U.S.A. with U.S.A. materials.</p> <p>6. Trench Backfill</p> <p>a. Bedding, haunching and the initial backfill shall consist of IDOT CA-7, CA-11 OR CA-19 aggregate. The initial backfill shall be placed to at least 12" above the pipe.</p> <p>b. Final backfill of the trench shall be accomplished by careful replacement of the excavated material. Any pipe installed under or within a 45 degree angle of repose (1:1) from the top of pipe to the edge of pavement, driveway (when driveway location is known) or curb and gutter shall be backfilled to the top of the trench with compacted IDOT CA-7, CA-11 or CA-19 material.</p> <p>c. Compaction shall be in achieved using 8" lifts (uncompacted) and mechanical compaction to 95% density. All costs for compaction and testing shall be paid for by the Developer or Contractor. Results shall be copied to the City Engineer.</p>		<p>1. Material shall be:</p> <p>a. All sanitary sewer piping shall be PVC pipe meeting the requirements of ASTM D-2241 with joints conforming to ASTM D-3139. All sanitary sewer fittings shall be PVC meeting the following requirements: 4" to 12" shall be Injection Molded Fittings meeting ASTM D-2241.Greater than 12" shall be Fabricated Fittings meeting ASTM D-2241 or C905. Minimum pressure rating shall be 150 psi.</p> <p>b. DIP (CL 50 min) with polywrap for all pipe with less than 4' or greater than 25' of cover.</p> <p>c. PVC SDR 26 or D.I.P., CL 52 for service laterals less than 3' in depth, otherwise PVC SDR 35.</p> <p>d. sewer pipe and fittings shall be in accordance with ASTM D-3034 for sizes 4"-15" (100-375 mm).</p> <p>2. Joints shall be:</p> <p>a. for PVC; flexible elastomeric seal joints, ASTM D-3139, pressure joint.</p> <p>b. for DIP; rubber gasket joints, ANSI A21.11</p> <p>3. Bedding shall be as detailed on the Engineering Plan.</p> <p>4. Minimum size for mains shall be eight inches (8") and the minimum size for services shall be 6".</p> <p>5. Wyes or Tees shall be provided on the new sanitary sewers for proposed building services. All connections to existing sanitary sewers not having wyes shall be made with a "sewer tap" for building services and with a manhole for sewer extensions. All taps shall include a properly installed hub wye saddle.</p> <p>6. "Band Seal" or similar couplings shall be used when joining pipes of dissimilar materials.</p> <p>7. All sanitary structures shall have an external wrap, MAC or approved equal.</p> <p>8. Polyethylene encasement shall be provided for all DIP sanitary sewer in accordance with AWWA latest standards.</p> <p>9. Prior to pipe laying and jointing, the trench shall be sufficiently dewatered to maintain the water level in the trench at or below the base of the bedding. State / Federal permits, license agreements or other required approvals shall be obtained prior to dewatering.</p> <p>10. Where separation from water main cannot be maintained as required per Illinois specifications, the sanitary sewer shall be mechanical joint PVC pressure pipe meeting C-900 or C-905.</p> <p>11. Sewers shall be laid straight in both horizontal and vertical planes between manholes with a minimum cover of 4 feet.</p> <p>12. Sanitary sewers shall be located a minimum of 10 feet from any building and meet separation requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois.</p> <p>13. Services shall be a minimum 6 inches and extend to the property line or beyond any utility located in the front yard of a lot being served (single-family development), or to within five (5) feet from the face of a proposed building being served (multi-family and commercial development). The termination points shall be clearly located with a green-topped 4 inch x 4 inch stake extending a minimum 3 feet above final grade. The service lines shall be connected to the sewer using a wye at the 10:00 and 2:00 positions. Service lines not immediately connected to the building to be served shall be tightly plugged, using a plug provided by the pipe manufacturer for such use.</p> <p>14. Testing and Final Acceptance</p> <p>a. Sanitary sewer mains and services shall be tested for exfiltration of air under pressure and deflection for flexible thermoplastic pipe in accordance with the Standard Specifications for Water and Sewer Construction in Illinois prior to their final acceptance. Allowable testing limits shall be as described in the "Standard Specifications" unless the local requirements are more restrictive. Service stubs must be properly plugged and sealed and clearly located at their termination points prior to testing. All sewer mains, service lines and manholes shall be clean and free of debris prior to their final acceptance. Sanitary Sewer shall be inspected and tested in accordance with the local jurisdictional requirements for television inspection and reviewed by the City Engineer. Two copies of all test results shall be provided to the Municipality.</p> <p>b. All sanitary manholes shall be tested for leakage by vacuum testing. The manhole frame and adjusting rings shall be in place when testing. Any leaks shall be repaired prior to the test. The contractor shall submit video recordings on DVD or flash drive along with a comprehensive televising report which will indicate the location, footages and nature of any defects. Prior to final acceptance, these defects shall be repaired to the satisfaction of the Water/Wastewater Utility and re-televised.</p> <p>c. The contractor shall provide internal televised inspection of all installed sanitary sewer, laterals, manholes and connections to the public system. Following completion of televising work, the contractor shall submit video recordings on DVD or flash drive along with a comprehensive televising report which will indicate the location, footages and nature of any defects. Prior to final acceptance, these defects shall be repaired to the satisfaction of the Water/Wastewater Utility and re-televised.</p> <p>d. During water main installation, to make a closure between two pipe ends, or between pipe and fittings, or between pipe end and valve, short lengths shall be used with proper connections or couplings. Repair sleeves shall not be used to make closures during new construction.</p> <p>e. All pipe and trenching shall be viewed and approved by the Municipality prior to cover and backfill.</p> <p>f. All bends of 22-1/2 degrees or greater, and all tees and plugs shall be thrust protected to prevent movement of the line under pressure. Thrust protection may also be obtained by the use of a combination of retaining glands and threaded rods.</p> <p>g. All retainer glands when required to restrain valves, fittings, hydrants, and pipe joints shall be mechanical joint wedge action type MEGALUG 1100D Series as manufactured by EBSA Iron, Inc. or UNI-FLANGE BLOCKUSTER 1400 SERIES as manufactured by Ford Meter Box Co. and shall be for use on ductile iron pipe conforming to ANSI/AWWA C151/A21.51, for nominal pipe sizes 3" through 48".</p> <p>h. Existing ductile iron systems for restraining push-on pipe bells shall be MEGALUG SERIES 1100HD or FORD SERIES 1390.</p> <p>i. Existing ductile iron systems requiring restraint shall be MEGALUG SERIES 1100SD (split MEGALUG) for mechanical joints.</p> <p>15. Testing and Disinfection</p> <p>a. The preferred point of application of the chlorinating agent shall be at the beginning of the pipeline extension or any valued section of it and through a corporation stop in the top of the newly laid pipe. The injector for delivering the chlorine gas into the pipe should be supplied from a tap on the pressure side of the gate valve controlling the flow into the pipeline extension.</p> <p>b. Water from the existing distribution system or any other source of supply shall be controlled so as to flow slowly into the newly laid pipeline during the application of chlorine-gas. The rate of chlorine mixture flow shall be in such proportion to the rate of water entering the pipe that the chlorine dose applied to the water entering the newly laid pipe shall be at least fifty parts-per-million (50ppm), or enough to meet the requirements during the retention period.</p> <p>c. Valves shall be manipulated so that the strong chlorine solution in the line being treated shall not flow back into the line supplying the water. The pipe section being chlorinated shall be kept at a lower pressure than the water system pressure.</p> <p>d. Treated water shall be retained in the pipe long enough to destroy all spore-forming bacteria. This retention period shall be at least twenty-four (24) hours. After the chlorine-treated water has been retained for the required time, the chlorine residual at the pipe extremities and at other representative points shall be at least twenty five parts-per-million (25ppm).</p> <p>e. In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.</p> <p>f. After all mains have been pressure tested, they shall be disinfected and tested according to the requirements of the Standards for Disinfecting Water Mains, AWWA C-601 and C-651, and as required by this Section. All disinfection, as required by this Section, shall be performed by an independent firm exhibiting experience in the methods and techniques of this operation, and shall be approved by the City Public Works Department. The contractor shall obtain two samples of water from the main for bacteriological testing. A second series of samples shall be collected no less than 24 hours after the first set of samples has been collected. The contractor and the City will be furnished with copies of the bacteriological report for their records.</p>		<p>9. Water services, where indicated on the "Quantity Estimate" as "long" or "short", shall include the necessary length of Type "K": copper water tube of the size shown on the plans, corporation stop, curb stop, and service box, and all necessary labor, tools, equipment, excavation & backfill, for a complete installation as shown on the Engineering plans. Trench backfill will be paid for separately, when required.</p> <p>10. Valve Boxes</p> <p>a. Valve boxes shall be Tyler 6850 or approved equal. For larger valves Tyler 6860 or approved equal with #6 base.</p> <p>b. Valve boxes are not allowed in paved areas – valve vault shall be provided. CONTRACTOR shall submit in writing any location where a vault is not intended to be installed and specific reason why it cannot be installed. This must be approved by City of Naperville Department of Public Works – Water.</p> <p>c. Valve box must have additional upward or downward travel when adjusted to finished grade.</p> <p>11. Valve Vaults</p> <p>a. All valve vaults shall be precast reinforced concrete only.</p> <p>b. All valve vaults shall have no more than two adjusting rings with a minimum of four inches (4") and a maximum of twelve inches (12") of adjusting rings.</p> <p>c. All lifting holes, joints between precast reinforced concrete sections, gaps between pipes and structures shall be tuckpointed with hydraulic cement.</p> <p>d. All castings shall be set on bitumastic material.</p> <p>e. Bitumastic material shall be placed between precast reinforced concrete sections.</p> <p>f. All steps shall be fiberglass or neoprene coated.</p> <p>g. All structure connections shall be concrete sewer pipe, ASTM C14 for extra strength pipe</p> <p>12. Fire Hydrants</p> <p>a. Fire Hydrants shall be of a type specified in City detail with 5-1/4 inch valve opening and shall be painted safety orange.</p> <p>b. The hydrant shall be for a five foot (5') bury with mechanical joint shoe and have two 2-1/2 inch hose connections and one four and one-half inch (4-1/2") male pump connection. Thread shall be National Standard.</p> <p>c. The hydrant shall have a break-away traffic flange and connections.</p> <p>d. All fire hydrants shall be bagged "NOT IN SERVICE" until all testing and has been completed and the new watermain section is in service.</p> <p>e. Hydrants leads shall be six-inch (6") swivel anchoring coupling. Hydrant tees shall be used in lieu of swivel anchoring coupling pipe where required to meet plan locations.</p> <p>f. The maximum distance between fire hydrants shall be 350 feet.</p> <p>g. All fire hydrants shall be kept clear of obstructions within three (3) feet in all directions. This shall include posts, fences, vehicles, growth, trash, storage, and any other material or objects.</p> <p>h. All fire hydrants to have a 10 pound anode bag attached to the hydrant.</p> <p>i. The Contractor shall rotate and/or adjust any existing and/or new hydrant to the satisfaction of the Department of Public Utilities.</p> <p>13. Pipe Cover and Separation</p> <p>a. Cover over water pipes shall be a minimum of 5.5 feet.</p> <p>b. Horizontal and vertical separation shall meet requirements of the "Standard Specifications for Water and Sewer Main Construction in Illinois." Locations requiring alternative materials are noted on the plans.</p> <p>14. Pipe Laying</p> <p>a. The contractor shall keep the trench free from water while the water main is being placed and until the pipe joint has been sealed to the satisfaction of the City Engineer.</p> <p>b. Adequate provisions shall be made for the safety, storage, and protection of all water pipe prior to installation in the trench. Care shall be taken to prevent damage to the pipe castings, both inside and out. Provisions shall be made to keep the inside of the pipe clean throughout its storage period and to keep mud and/or other debris from being deposited therein. All pipe shall be thoroughly cleaned on the inside before laying of the pipe. Proper equipment shall be used for the safe handling, conveying, and laying of the pipe so as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench.</p> <p>c. In making joints, all portions of the jointing materials and the socket and spigot ends of the joining pipe shall be wiped clean of all foreign materials. The actual assembly of the jointing shall be in accordance with the manufacturer's installation instructions. During construction, until jointing operations are complete, the open ends of all pipes shall at all times be protected and sealed with temporary watertight plugs.</p> <p>d. During water main installation, to make a closure between two pipe ends, or between pipe and fittings, or between pipe end and valve, short lengths shall be used with proper connections or couplings. Repair sleeves shall not be used to make closures during new construction.</p> <p>e. All pipe and trenching shall be viewed and approved by the Municipality prior to cover and backfill.</p> <p>f. All bends of 22-1/2 degrees or greater, and all tees and plugs shall be thrust protected to prevent movement of the line under pressure. Thrust protection may also be obtained by the use of a combination of retaining glands and threaded rods.</p> <p>g. All retainer glands when required to restrain valves, fittings, hydrants, and pipe joints shall be mechanical joint wedge action type MEGALUG 1100D Series as manufactured by EBSA Iron, Inc. or UNI-FLANGE BLOCKUSTER 1400 SERIES as manufactured by Ford Meter Box Co. and shall be for use on ductile iron pipe conforming to ANSI/AWWA C151/A21.51, for nominal pipe sizes 3" through 48".</p> <p>h. Existing ductile iron systems for restraining push-on pipe bells shall be MEGALUG SERIES 1100HD or FORD SERIES 1390.</p> <p>i. Existing ductile iron systems requiring restraint shall be MEGALUG SERIES 1100SD (split MEGALUG) for mechanical joints.</p> <p>15. Testing and Disinfection</p> <p>a. The preferred point of application of the chlorinating agent shall be at the beginning of the pipeline extension or any valued section of it and through a corporation stop in the top of the newly laid pipe. The injector for delivering the chlorine gas into the pipe should be supplied from a tap on the pressure side of the gate valve controlling the flow into the pipeline extension.</p> <p>b. Water from the existing distribution system or any other source of supply shall be controlled so as to flow slowly into the newly laid pipeline during the application of chlorine-gas. The rate of chlorine mixture flow shall be in such proportion to the rate of water entering the pipe that the chlorine dose applied to the water entering the newly laid pipe shall be at least fifty parts-per-million (50ppm), or enough to meet the requirements during the retention period.</p> <p>c. Valves shall be manipulated so that the strong chlorine solution in the line being treated shall not flow back into the line supplying the water. The pipe section being chlorinated shall be kept at a lower pressure than the water system pressure.</p> <p>d. Treated water shall be retained in the pipe long enough to destroy all spore-forming bacteria. This retention period shall be at least twenty-four (24) hours. After the chlorine-treated water has been retained for the required time, the chlorine residual at the pipe extremities and at other representative points shall be at least twenty five parts-per-million (25ppm).</p> <p>e. In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.</p> <p>f. After all mains have been pressure tested, they shall be disinfected and tested according to the requirements of the Standards for Disinfecting Water Mains, AWWA C-601 and C-651, and as required by this Section. All disinfection, as required by this Section, shall be performed by an independent firm exhibiting experience in the methods and techniques of this operation, and shall be approved by the City Public Works Department. The contractor shall obtain two samples of water from the main for bacteriological testing. A second series of samples shall be collected no less than 24 hours after the first set of samples has been collected. The contractor and the City will be furnished with copies of the bacteriological report for their records.</p>		<p>1. All storm sewer shall conform to the requirements of The Standard Specifications for Water and Sewer Main Construction in Illinois</p> <p>2. Storm sewers shall be reinforced concrete pipe conforming to ASTM C76 minimum Class III with O-ring joints conforming to ASTM C433.</p> <p>3. Bedding shall be minimum of 6" of CA-7.</p> <p>4. Minimum size shall be twelve inches (12").</p> <p>5. Storm Structures</p> <p>a. Rear yard catch basins are not allowed.</p> <p>b. All storm structures shall be precast reinforced concrete only.</p> <p>c. All storm structures shall be set on a six-inch (6") CA-7 cushion.</p> <p>d. All storm structures shall have no more than two adjusting rings within a minimum of four inches (4") and a maximum of twelve inches (12") of adjusting rings.</p> <p>e. All lifting holes, joints between precast reinforced concrete sections, gaps between pipes and structures shall be tuckpointed with hydraulic cement.</p> <p>f. Bitumastic material shall be placed between precast reinforced concrete sections.</p> <p>g. All steps shall be fiberglass or neoprene coated.</p> <p>h. All structure connections shall be concrete sewer pipe, ASTM C14 for extra strength pipe</p> <p>6. Storm sewer and all storm structures shall be clean and free of debris prior to their final acceptance. Storm Sewer shall be inspected and tested in accordance with the local jurisdictional requirements including television inspection for review by the city Engineer.</p> <p>7. Sump pump service connections shall be 4" PVC SDR 26 unless otherwise noted.</p> <p>8. All flared end sections less than 48" (effective diameter) require grates in accordance with IDOT specifications.</p> <p>9. All castings shall be made in the USA with USA materials. Closed covers shall be stamped per Detail Storm 10.</p> <p>10. Catch basins and inlets shall have a minimum inside diameter of 24 inches and shall be constructed of precast concrete units in accordance with ASTM 778-05 (or latest edition) and shall conform to the City of Naperville standard detail. All catch basins and inlets shall be water-tight at all points below grade. All visible leaks shall be sealed in a manner acceptable to the city engineer. catch basins and inlets shall be furnished with a frame and grate based upon the location of the installation as listed below. All frames and grates shall meet or exceed AASHTO H-20 loading specifications. Frames shall be shop painted with asphaltic base paint.</p> <p>a. Pavement: East Jordan Iron Works 1022 Frame with Type M1 radial flat grate, or approved equal.</p> <p>b. Barrier curb and gutter: East Jordan Iron Works 7220 Frame with Type M1 grate and T1 curb box, or approved equal.</p> <p>c. Depressed curb: East Jordan Iron Works 5120 Frame and grate, or approved equal.</p> <p>d. Mountable curb: East Jordan Iron Works 7525 Frame and grate, or approved equal.</p> <p>e. Non-paved areas: East Jordan Iron Works 6527 beehive grate, or approved equal. Alternately, in areas where there is the likelihood of pedestrian traffic, East Jordan Iron Works 1022 frame with Type M1 radial flat grate, or approved equal may be used.</p>	
				WATER MAIN					

REVISIONS		NO. DATE		DESCRIPTION		BY	
		1 09-15-19		PER CITY REVIEW		SDS	
		2 03-07-19		PER CITY REVIEW		DMV	

FINAL ENGINEERING PLANS		FOR		McNAUGHTON DEVELOPMENT		11S220 JACKSON ST. SUITE 101		BURR RIDGE, ILLINOIS 60527		(630) 325-3400	
DESIGNTEK ENGINEERING, INC.		CONSULTING, CIVIL ENGINEERING & LAND SURVEYING		9930 W. 190TH STREET, SUITE L		MOKENA, ILLINOIS 60448		(708) 326-4961		FAX (708) 326-4962	
ILL. PROF. LIC. NO.: 1B4-003740											
PROJECT INFORMATION		Project No.: 18-0050		Scale: AS NOTED		Date: 01-18-2019		Design By: SDS		Drawn By: DEI	
		Checked By: SDS									
2		OF								13	
SPECIFICATIONS & GENERAL NOTES											

Ln:\Projects\2018\18-0050\Specifications\Drawings\Drawings\18-0050_EE_specs_Book_2-17-2019_2:54:52 PM By:edwh

REVIEWS	BY	DATE	DESCRIPTION	PER	CITY REVIEW
	NOI	DATE	DESCRIPTION	PER	CITY REVIEW
	2	02-07-19			
	2	02-07-19			

McNAUGHTON DEVELOPMENT

11S220 JACKSON ST., SUITE 101

BURR RIDGE, ILLINOIS 60527

(630) 325-3400

FINAL ENGINEERING PLANS

FOR

THE ENCLAVE ON BOOK

BOOK ROAD

NAPERVILLE, ILLINOIS

DESIGNTEK ENGINEERING, INC.

CONSULTING, CIVIL ENGINEERING & LAND SURVEYING

9930 W. 190TH STREET, SUITE L

MOKENA, ILLINOIS 60448

(708) 326-4961

FAX: (708) 326-4962

ILL. PROF. LIC. NO.: 184-003740

PROJECT INFORMATION

Project No.: 18-0050

Scale: AS NOTED

Date: 01-18-2019

Design By: SDS

Drawn By: DEI

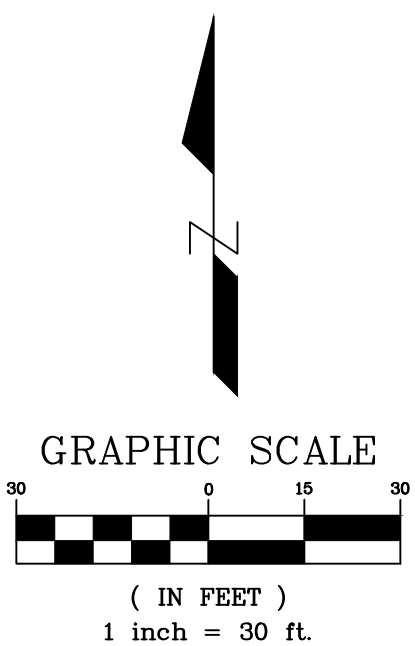
Checked By: SDS

2 OF 13

SPECIFICATIONS & GENERAL NOTES

U:\Projects\32018\18-0050\Engineering\Drawings\18-0050-EP.dwg, Date: 3/7/2019, 2:45:58 PM, By: eash

GENERAL NOTES		CITY OF NAPERVILLE - GENERAL NOTES			
<div>1. Definition of Terms<div>a. The CONTRACTOR is the individual, firm, partnership or corporation contracting with the OWNER for performance of the prescribed work.</div><div>b. The OWNER is the individual, firm, partnership or corporation having the authority to award the contract for the prescribed work.</div><div>c. The ENGINEER where specifically referred to in the Specifications shall be the OWNER'S representative.</div></div> <div>2. All CONTRACTORS shall be responsible for the following, which shall also be incidental to the cost of construction:<div>a. Examination of the Engineering Plans and Specifications and the existing site conditions prior to submitting a bid, and notifying the ENGINEER at once of any discrepancies.</div><div>b. The obtaining of any necessary permits not previously applied for by the OWNER, and posting of the necessary bonds.</div><div>c. The notification of the start of construction to the City of Naperville TED Business Group at (630) 420-6082, utility companies, and the ENGINEER at least two (2) working days prior to said start. All existing utilities must be staked prior to construction. All construction, including equipment startup, shall be between the hours of 7:00 a.m. to 5:00 p.m. Monday through Saturday, and no work is permitted on Sundays.</div><div>d. Calling attention to the OWNER of any errors or discrepancies, which may be suspected in lines and grades, which are established by the OWNER. The CONTRACTOR shall not proceed with the work until the lines and grades which are believed to be in error have been verified or corrected by the OWNER. Additional staking that may be required due to CONTRACTOR negligence shall be paid for by the CONTRACTOR.</div><div>e. The providing of safe and healthful working conditions throughout the prosecution of the construction work. This shall include, but not be limited to: the removal of debris, the protecting of construction hazards with barricades and the keeping of public street pavements clean of construction dirt and debris.</div><div>f. The restoration to the original condition or better of any areas that are damaged by the CONTRACTOR during construction.</div><div>g. The testing of materials, if required by the OWNER and/or the jurisdictional agencies.</div><div>h. The guarantee of all materials and workmanship for a period of one (1) year upon final acceptance by the OWNER and other jurisdictional agencies.</div><div>i. Trees shall be installed a minimum of five (5) feet horizontally from underground electrical feeders, sanitary sewers, sanitary services, water mains, and water services. Trees shall be installed a minimum of ten (10) feet horizontally from utility structures and appurtenances, including, but not limited to, manholes, valve vaults, valve boxes and fire hydrants. No trees, shrubs or obstacles will be allowed 10' in front of, 5' on the sides, and 7' to the rear of the electrical transformer.</div><div>j. The contractor shall be responsible for implementation & maintenance of all soil erosion & sedimentation control measures throughout the entire project.</div><div>k. Contractors are required to obtain applicable permits from the Municipality.</div></div> <div>3. The OWNER shall be responsible for the following:<div>a. Scheduling the necessary preconstruction meeting(s) with the jurisdictional agencies at least two (2) working days prior to the commencement of work.</div><div>b. Insurance certificates from all contractors, naming the City of Naperville as additional insured, prior to preconstruction meeting being set.</div><div>c. Providing the CONTRACTOR with one (1) set of control line and grade stakes (at offsets mutually agreed upon) for the proper prosecution and control of the work.</div><div>d. Applying for IEPA, IDOT, and all applicable County, Municipal and Sanitary District Permits. Other necessary permits shall be the responsibility of the CONTRACTOR.</div></div> <div>4. The ENGINEER shall be responsible for the following:<div>a. To periodically visit the construction site in order to better carry out the duties and responsibilities assigned by the OWNER and undertaken by the ENGINEER.</div><div>b. The ENGINEER shall not, during such visits or as a result of such observations of the CONTRACTOR(s)' work in progress, supervise, direct or have control over the CONTRACTOR(s) work nor shall the ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by the CONTRACTOR(s)', for safety precautions and programs incident to the work of the CONTRACTOR(s) or for any failure of the CONTRACTOR(s) to comply with laws, rules, regulations, ordinances, codes or orders applicable to the CONTRACTOR(s) furnishing and performing their work. Accordingly, the ENGINEER can neither guarantee the performance of the construction contracts by the CONTRACTOR(s) nor assume responsibility for the CONTRACTOR(s)' failure to furnish and perform their work in accordance with the Contract Documents.</div></div> <div>5. Except where modified by the contract documents, all work proposed herein shall be in accordance with the following specifications, which are hereby made a part hereof:<div>a. "Standard Specifications for Road and Bridge Construction", and "Supplemental Specifications and Recurring Special Provisions", latest edition, prepared by the Illinois Department of Transportation (IDOT Standard Specifications).</div><div>b. Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition, as adopted by the Illinois Society of Professional Engineers, etal.</div><div>c. Illinois Urban Manual, latest edition.</div><div>d. City of Naperville Codes and Ordinances and Standard Specification current edition when these plans were approved.</div><div>e. American With Disabilities Act, Standards for Accessible Design, latest ed.</div></div> <div>6. In the event of a conflict between statements, which apply to the construction work, the OWNER should contact the Public Works Director for direction.</div>		<div>GENERAL NOTES</div> <div>1. The OWNER or his/her/their representative is responsible to obtain any and all permits required by applicable governmental agencies.</div> <div>2. All work shall be performed in accordance with the city of Naperville design manual and standard specifications (current edition) and with the Illinois Department of Dransportation's "Standard Specifications for Road and Bridge Construction"(current edition).</div> <div>3. All contractors doing work in the public right-of-way must be licensed (when applicable) to make public improvements within the Naperville corporate limits.</div> <div>4. The contractor/developer assumes all responsibility and liability for any action resulting from their work within the public right-of-way.</div> <div>5. The contractor/developer shall indemnify and hold harmless the city of Naperville.</div> <div>6. Prior to commencement of any off-site construction, the contractor shall secure written authorization that all off-site easements have been secured and that permission has been granted to enter onto private property.</div> <div>7. The Contractor and their on-site representatives will be required to attend a preconstruction meeting with the city of Naperville prior to any work being started. A preconstruction meeting will not be scheduled until the project has been approved by the city of Naperville development review team and the required surety has been posted.</div> <div>8. A minimum of 48 hours notice shall be given to the city of Naperville TED Business group (630-420-6082) prior to starting work or restarting work after some absence of work for any reason.</div> <div>9. It shall be the CONTRACTOR's responsibility to adequately identify and locate all existing utilities prior to excavation. Before starting construction, the Contractor shall contact JULIE for the location of any and all utilities. The toll-free number is 800-892-0123 it is the responsibility of the CONTRACTOR to locate any private facilities or non-JULIE member facilities.</div> <div>10. The Contractor can schedule all necessary site inspections with the city of Naperville by calling (630) 420-6082 between the hours of 8:00am and 4:00pm (closed 1:00pm to 2:00pm on weekdays when the city is open for business. The Contractor will be required to provide the site permit number for the project in order to schedule the inspection(s).</div> <div>11. Record drawings are required to be submitted and approved by the city of Naperville prior to final occupancy being granted.</div> <div>12. Final acceptance of public improvements shall be granted only after a final inspection has been completed and has revealed that all improvements have been satisfactorily completed in accordance with the Naperville standard specifications. Utilities are not considered accepted until they are formally accepted by the city council as required in accordance with the Naperville municipal code.</div> <div>STORM SEWER</div> <div>1. No connection to an existing public storm sewer may be made without permission of the City Engineer.</div> <div>2. The CONTRACTOR shall repair any existing field drainage tile damaged during construction and properly reroute and/or connect said tile to the nearest storm sewer outlet; all locations of encountered field drainage tile shall be properly indicated on the Contractor's record drawings.</div> <div>EROSION CONTROL & DRAINAGE</div> <div>1. The Contractor shall maintain proper drainage at all times during the course of construction and prevent storm water from running into or standing in excavated areas.</div> <div>2. During extended dry periods, the construction area(s) may need to be watered down to prevent the blowing of soil from the site.</div> <div>3. During construction, a stabilized construction entrance shall be utilized to minimize the tracking of dirt onto the public streets. It is the CONTRACTOR's responsibility to keep public street pavement clean of dirt and debris. Any dirt that is tracked onto the public streets shall be removed the same day. If the amount tracked on the public street is excessive, cleaning may be required more frequently.</div> <div>4. It is the responsibility of the OWNER or his designee to inspect all temporary erosion control measures per the requirements of the NPDES permit and correct any deficiencies as needed.</div> <div>GEOMETRIC & PAVING</div> <div>1. The DEVELOPER and CONTRACTOR shall have the responsibility to adequately protect the pavement and property, curb and gutter and other right-of-way improvements, whether newly constructed or existing, from any and all damage. Sufficient means shall be employed by the CONTRACTOR to protect against such damage to the satisfaction of the City Engineer.</div> <div>2. Any new or existing improvements that are damaged shall be repaired or replaced in a manner that is satisfactory to the City Engineer.</div> <div>3. The CONTRACTOR and/or DEVELOPER shall secure all necessary rights and permissions to perform any work on private property not within the ownership rights of the DEVELOPER. the DEVELOPER shall bear the sole responsibility for damages that may occur as a result of work performed under contracts they initiate.</div> <div>4. The CONTRACTOR/DEVELOPER will be responsible for bringing pavements (street, curb and gutter, sidewalk, driveway) on the property up to city standards including any repairs to substandard pavements that existed prior to or occurred during construction.</div> <div>5. Wherever new work will meet existing conditions other than lawn areas, regardless of whether the new or existing work is asphalt or concrete, the existing adjacent sidewalk, driveways, pavement or curb shall be neatly saw cut. The saw cut shall be in a neat straight line sufficiently deep so that it renders a smooth vertical face to match to. If the Contractor is not careful or does not saw deep enough and the cut line breaks out or chips to an imperfect edge, then the existing side must be re-cut square and done over until it is correct.</div> <div>TRAFFIC CONTROL & PROTECTION</div> <div>1. All DEVELOPERS and CONTRACTORS shall provide suitable traffic control for their construction activities in accordance with part 6 of the Manual on Uniform Traffic Control Devices (MUTCD), latest edition. Traffic control must be provided for any activity that impacts traffic flow. This includes, but is not limited to, road closures requiring detours, dally lane closures, long term lane closures, narrow lanes, and construction vehicles entering and exiting the public roadway. All traffic control setups may be inspected by the city of Naperville to ensure that they are providing positive guidance to motorists and are not in themselves presenting a hazardous situation. A representative of the Developer or Contractor must provide phone numbers at which they can be reached 24 hours a day and on weekends so that they can maintain traffic control devices.</div> <div>2. Pedestrians must be provided with a safe alternate route if pedestrian facilities are to be closed as a result of construction activities. Guidance must be provided to pedestrians so that they may avoid the work zone. Said pedestrian detour plan (with signage) is to be reviewed and accepted by the city in writing, prior to the commencement of the work.</div> <div>3. the CONTRACTOR shall employ the appropriate methods of traffic control in accordance with the plans, specifications and the Manual on Uniform Traffic Control Devices, such that the safety of vehicles, and pedestrians is preserved at all times. The erection and maintenance of the traffic control devices shall be to the satisfaction of the agency of jurisdiction and the City Engineer.</div> <div>4. Any temporary open holes should be barricaded and protected in accordance with applicable standards.</div>			
<div>DESIGNTEK ENGINEERING, INC. CONSULTING, CIVIL ENGINEERING & LAND SURVEYING 9930 W. 190TH STREET, SUITE L MOKENA, ILLINOIS 60448 (708) 326-4961 FAX: (708) 326-4962 IL PROF. LIC. NO.: 184 - 003740</div> <div>DEI</div> <div>PROJECT INFORMATION</div> <div>Project No.: 18-0050</div> <div>Scale: AS NOTED</div> <div>Date: 01-18-2019</div> <div>Design By: SDS</div> <div>Drawn By: DEI</div> <div>Checked By: SDS</div>		<div>FINAL ENGINEERING PLANS FOR THE ENCLAVE ON BOOK BOOK ROAD NAPERVILLE, ILLINOIS</div>		<div>McNAUGHTON DEVELOPMENT 11S220 JACKSON ST. SUITE 101 BURR RIDGE, ILLINOIS 60527 (630) 325-3400</div>	
3		OF		13	

[illegible]

McNAUGHTON DEVELOPMENT
115220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

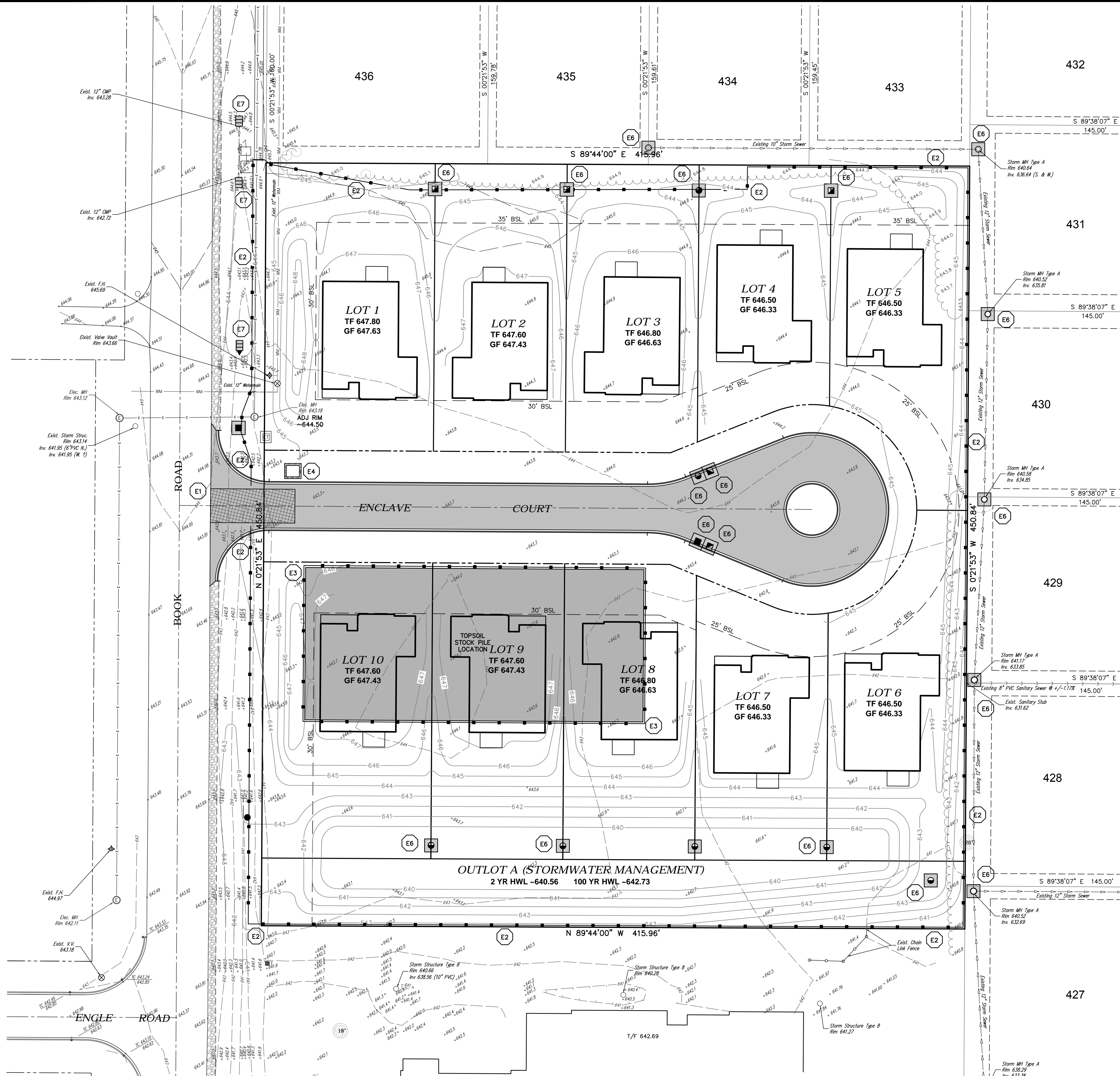
DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
IL PROF. LIC. NO.: 1184 - 003740



PROJECT INFORMATION
Project No.: 18-0050
Scale: 1" = 30'
Date: 01-18-2019
Design By: SDS
Drawn By: DEI
Checked By: SDS

EXISTING CONDITIONS & REMOVAL PLAN

EXISTING CONDITIONS & REMOVAL PLAN

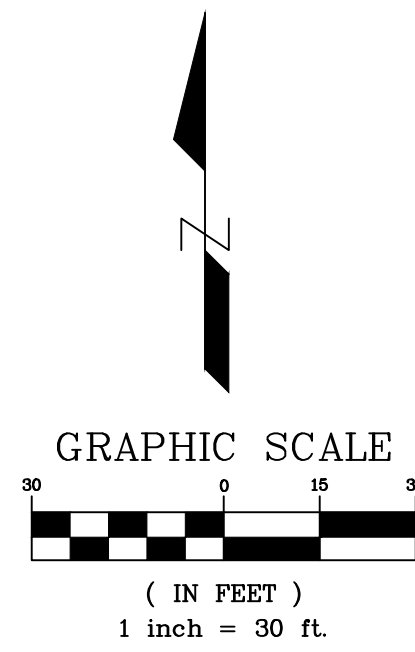


EROSION CONTROL & SEDIMENTATION NOTES

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL, LATEST EDITION, AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- THE APPLICANT AND/OR CONTRACTOR IS RESPONSIBLE FOR INSURING THE OBTAINED PERMIT WITH THE COMPLETED SWPPP IS POSTED ON SITE IN A PROMINENT LOCATION BEFORE COMMENCEMENT OF ANY WORK ON SITE AND SHALL CONTACT THE CITY AT LEAST 2 WORKING DAYS BEFORE THE START OF CONSTRUCTION, INSTALLATION OF SEDIMENT AND EROSION MEASURES AND COMPLETION OF FINAL LANDSCAPING.
- THE CITY SHALL BE PROVIDED WITH A COPY OF THE EPA LETTER OF NOTIFICATION OF COVERAGE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE DEVELOPER IS RESPONSIBLE FOR HAVING THE SWPPP AND A STAMPED AND SIGNED COPY OF THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN ON SITE AT ALL TIMES AND BE PRESENTED WHEN REQUESTED BY ANY AUTHORIZED AGENCY.
- THE DEVELOPER SHALL INSPECT THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES EVERY SEVEN (7) DAYS AND AFTER 0.5" OR MORE RAINFALL. IMMEDIATE REPAIR SHALL BE MADE OF ANY DAMAGED EROSION CONTROL ELEMENTS THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
- ALL CONSTRUCTION TRAFFIC SHALL ENTER SITE ONLY AT PROPOSED STABILIZED CONSTRUCTION ENTRANCE(S) AS SHOWN ON PLANS.
- ALL DIRT, MUD, OR DEBRIS THAT REACHES THE PUBLIC ROADS SHALL BE CLEANED IMMEDIATELY BY THE CONTRACTOR.
- TECHNIQUES SHALL BE EMPLOYED TO PREVENT THE BLOWING OF DUST OR SEDIMENT FROM THE SITE.
- SILT FENCE, SILT BASINS, AND STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE CONSTRUCTED AS DETAILED ON THE FINAL ENGINEERING PLANS PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED. IN ADDITION, SILT FENCE SHALL BE PROVIDED FOR AREAS DRAINING 200' AND GREATER IN ACCORDANCE WITH NRCS CODE R20.
- SCHEDULE OF CONTROL MEASURE IMPLEMENTATION:
 - A. CONSTRUCT THE APPLICABLE PORTIONS OF THE EROSION AND SEDIMENTATION CONTROLS PRIOR TO SITE CLEARING.
 - B. CONTROL SITE DEVELOPMENT IN ACCORDANCE WITH THE SPECIFICATIONS.
 - C. MAINTAIN INLET PROTECTION, CONSTRUCTION TRAFFIC SURFACES, CLEANING OF STORM STRUCTURES AND THE LIKE ON A REGULAR BASIS AFTER EACH HEAVY RAIN OR AS OTHERWISE REQUIRED.
- THE ESTIMATED CONSTRUCTION SCHEDULE IS AS FOLLOWS:

TOPSOIL STRIPPING	SPRING	2019
MASS EARTHWORK	SPRING <td>2019</td>	2019
UNDERGROUND IMPROVEMENTS	SPRING <td>2019</td>	2019
ROADWAY (CURB & PAVEMENT)	SUMMER <td>2019</td>	2019
BUILDING CONSTRUCTION	SUMMER <td>2019</td>	2019
FINAL GRADING	SUMMER <td>2019</td>	2019
BASIN STABILIZATION	SPRING <td>2019</td>	2019
FINAL LANDSCAPING	SUMMER/FALL <td>2019</td>	2019

THE ENTIRE SITE MUST BE STABILIZED, USING A HEAVY MULCH LAYER OR ANOTHER METHOD AT THE CLOSE OF THE CONSTRUCTION SEASON.
- DISTURBED AREAS WITHIN ALL PUBLIC R.O.W.'S SHALL BE RESTORED W/ 6" MIN. TOPSOIL & SOD. RESTORATION SHALL OCCUR IMMEDIATELY AFTER COMPLETION OF CONSTRUCTION, WEATHER PERMITTING. ALL OTHER DISTURBED AREAS SHALL BE RESTORED WITH 4" TOPSOIL & SEED.
- STRAW BALES ARE NOT PERMITTED IN AREAS OF CONCENTRATED FLOW. ROCK CHECK DAMS SHALL BE USED IN THESE AREAS. TECHNIQUES THAT DIVERT UPLAND RUNOFF PAST DISTURBED SLOPES SHALL BE EMPLOYED.
- THE PROTECTION OF THE OPEN LD DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AS SPECIFIED IN DETAILS. ALL OPEN LD DRAINAGE STRUCTURES LOCATED IN YARD AREAS AND THE SEDIMENTATION BASIN MUST BE PROTECTED PER INLET PROTECTION DETAILS UNTIL SUCH A TIME THAT THE LANDSCAPING IS IN PLACE AND EFFECTIVELY PREVENTING POTENTIAL SILTATION OF THESE STRUCTURES. ALL OPEN LD DRAINAGE STRUCTURES IN PAVED AREAS SHALL HAVE FILTER BASKETS INSTALLED UNDER THE LIDS. IN THE EVENT THE GRAVEL BASE IS NOT IN PLACE UPON INSTALLATION, INLET PROTECTION SHALL BE PROVIDED AS INDICATED PER INLET PROTECTION DETAIL.
- EROSION CONTROL BLANKET (ECB) SHALL BE INSTALLED TO ALL DISTURBED AREAS WITH SLOPES EQUAL TO OR STEEPER THAN 3H:1V AND IN CRITICAL AREAS (EX: DETENTION BASIN PERIMETERS, STREAMBANKS, BERMS, ETC.) IMMEDIATELY UPON FINAL GRADING. 5175 NORTH AMERICAN GREEN (OR SIMILAR) ECB SHALL BE USED. ECB WITH GREEN DYE IS NOT ACCEPTABLE.
- SOIL STOCKPILES SHALL BE STABILIZED OR COVERED AT THE END OF EACH WORKDAY. STOCKPILES TO REMAIN IN PLACE FOR 14 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.
- DURING DEWATER OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
- AN INCIDENT OF NON-COMPLIANCE (INC) MUST BE COMPLETED AND SUBMITTED BY THE OWNER TO THE IEPA AND COPIED TO THE CITY IF, AT ANY TIME, AN EROSION OR SEDIMENT CONTROL DEVICE FAILS.
- A NOTICE OF TERMINATION (NOT) SHALL BE COMPLETED BY THE OWNER IN COMPLIANCE WITH THE NPDES PHASE II REQUIREMENTS WHEN ALL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE WITH A 70% ESTABLISHED RATE OF VEGETATION. THE NOTICE OF TERMINATION SHALL BE SENT TO THE IEPA AND THE CITY. THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO CONTROL WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE AT THE CONSTRUCTION SITE THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY.



STABILIZATION TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDING			A			*	*					
DORMANT SEEDING	B									B		
TEMPORARY SEEDING			C			*	D*					
SODDING			E**									
MULCHING	F											

- A. KENTUCKY BLUEGRASS 90 LBS/AC MIXED WITH PERENNIAL RYEGRASS 30 LBS/AC
- B. KENTUCKY BLUEGRASS 135 LBS/AC MIXED WITH PERENNIAL RYEGRASS 45 LBS/AC + 2 TONS STRAW MULCH/AC
- C. SPRING OATS 100 LBS/AC
- D. WHEAT OR CEREAL RYE 150 LBS/AC
- E. SOD
- F. STRAW MULCH 2 TONS/AC
- * IRRIGATION NEEDED DURING JUNE AND JULY
- ** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD

SOIL PROTECTION CHART

EROSION CONTROL LEGEND

- E1 CONSTRUCTION ENTRANCE PER NRCS SPECIFICATIONS
- E2 SILT FENCE PER NRCS SPECIFICATIONS
- E3 DOUBLE ROW OF SILT FENCE PER NRCS SPECIFICATIONS
- E4 CONCRETE WASHOUT AREA
- E5 TEMPORARY SEDIMENTATION BASIN
- E6 INLET PROTECTION PER OR EQUIVALENT TO NRCS SPECIFICATIONS
- E7 CULVERT / FES PROTECTION PER OR EQUIVALENT TO NRCS SPECIFICATIONS AND STANDARD DRAWING NO. IL-610

SOIL EROSION & SEDIMENTATION CONTROL PLAN, SPECIFICATIONS AND DETAILS

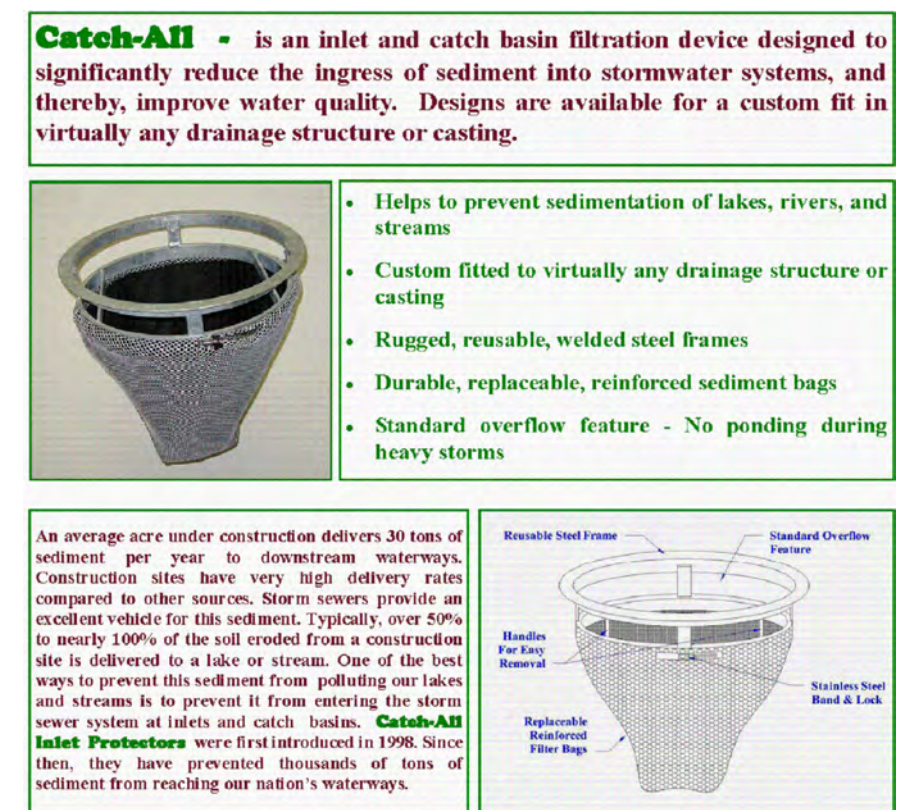
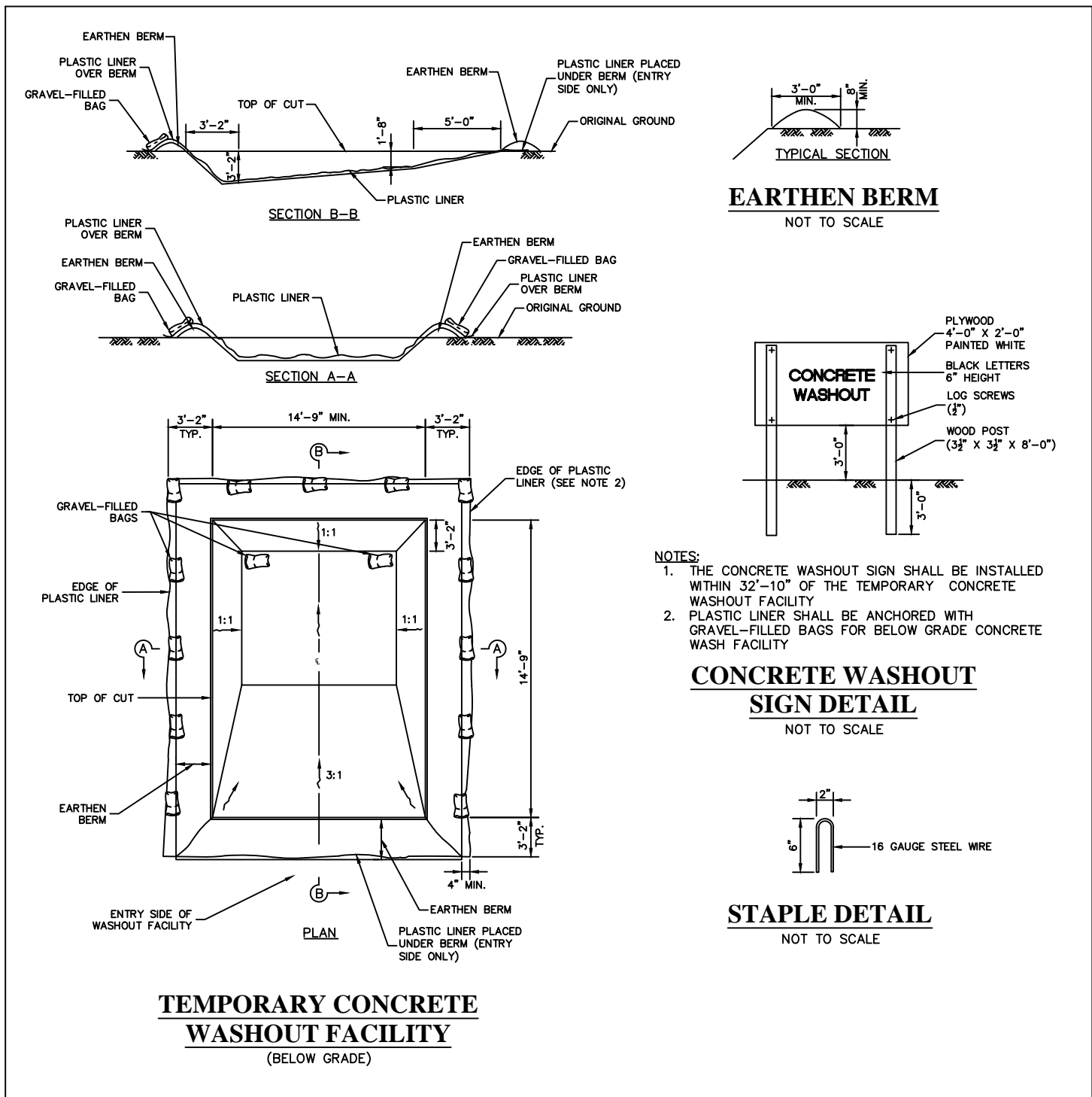
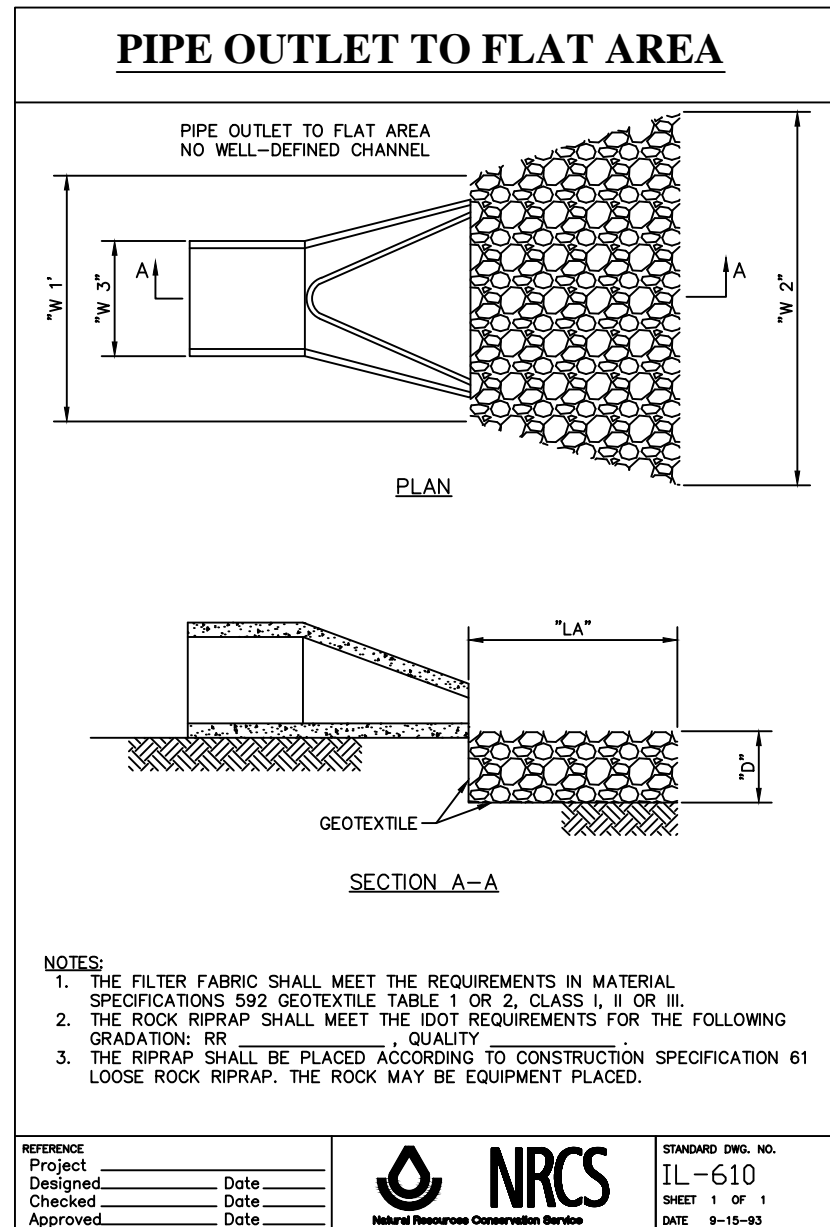
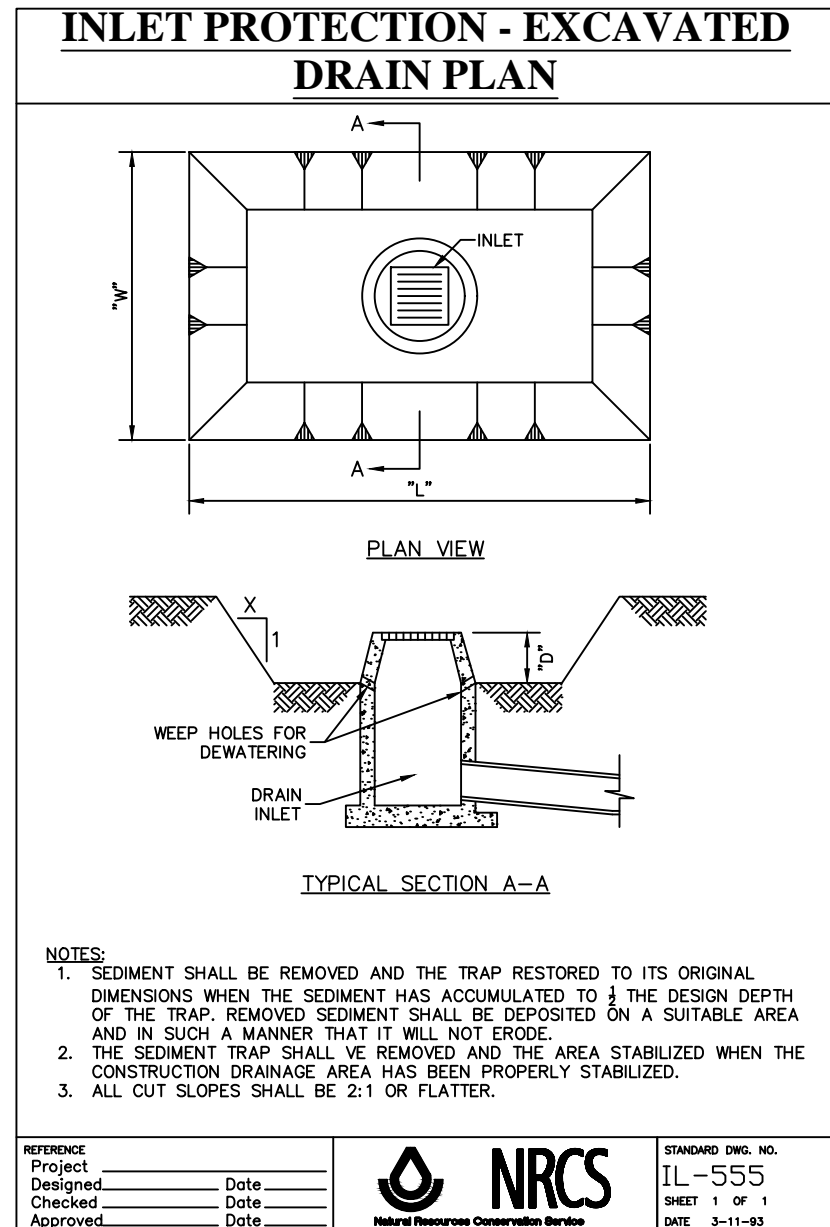
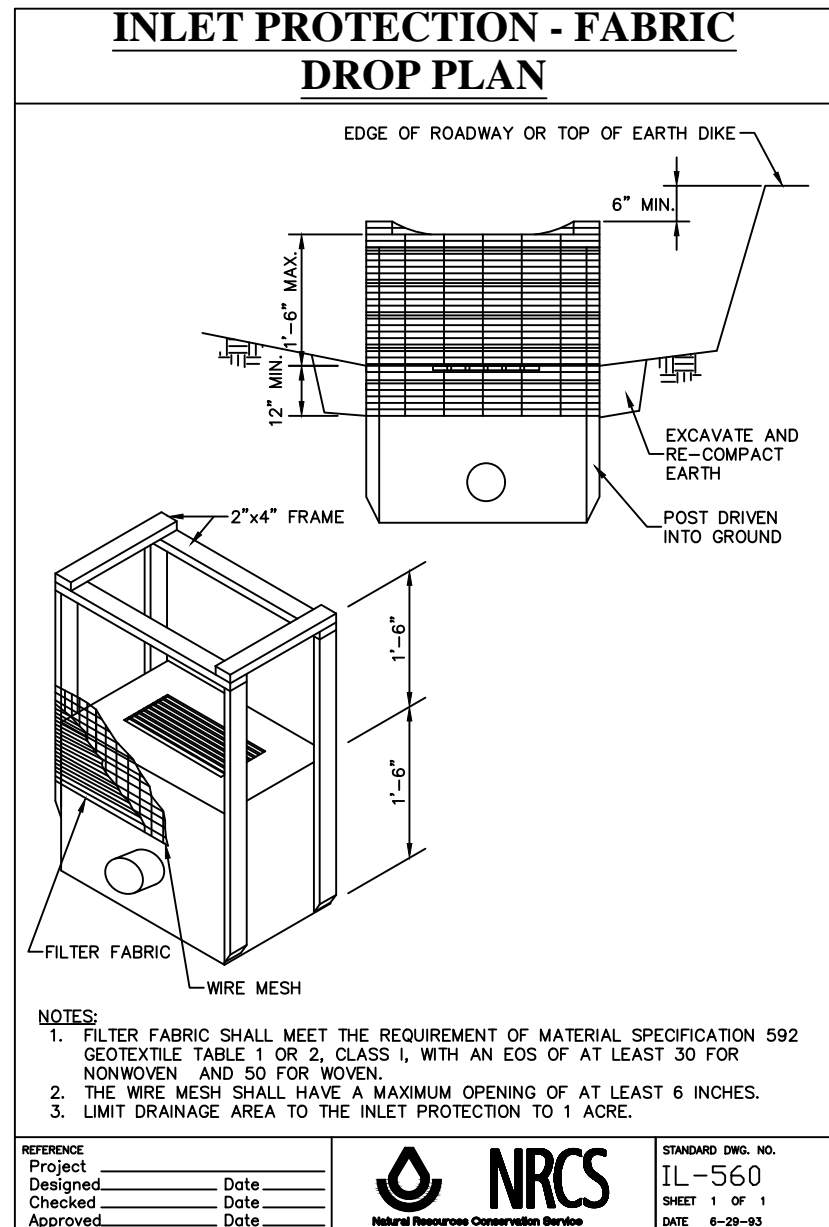
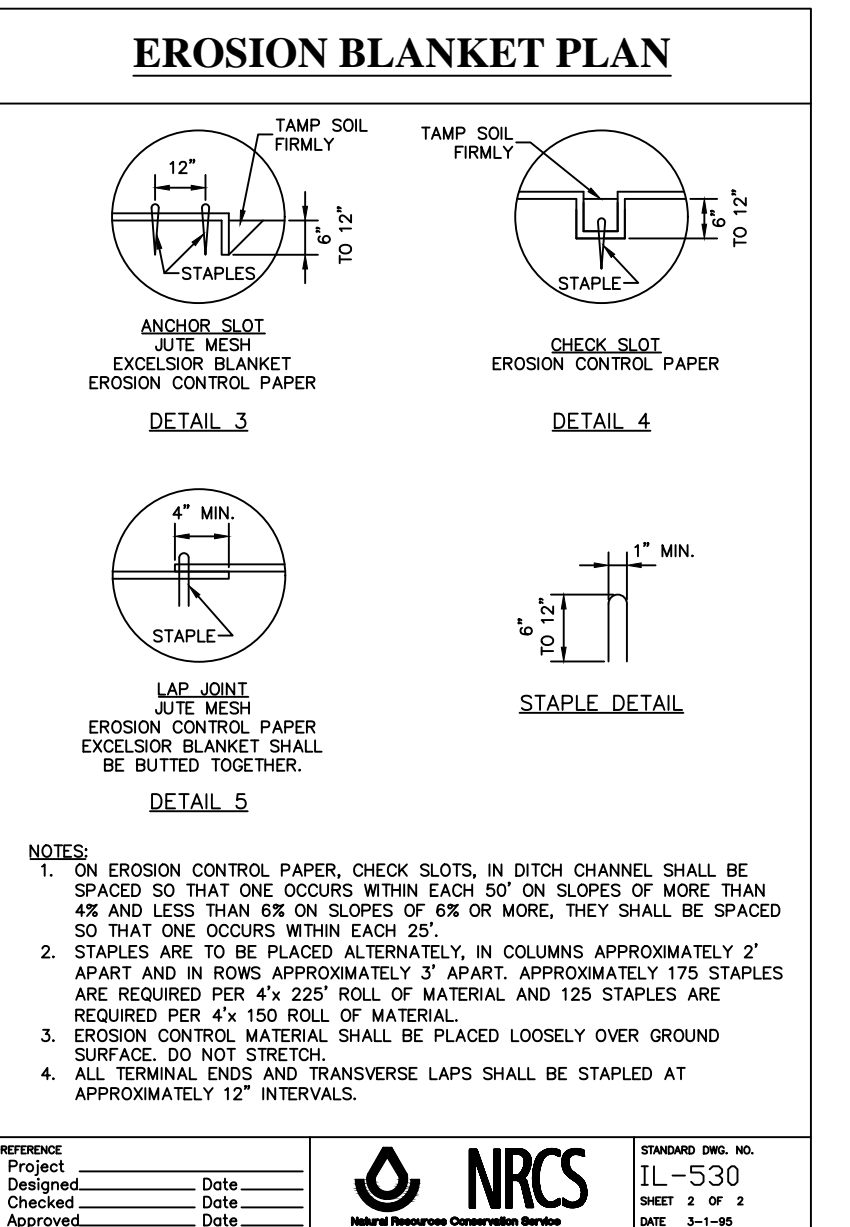
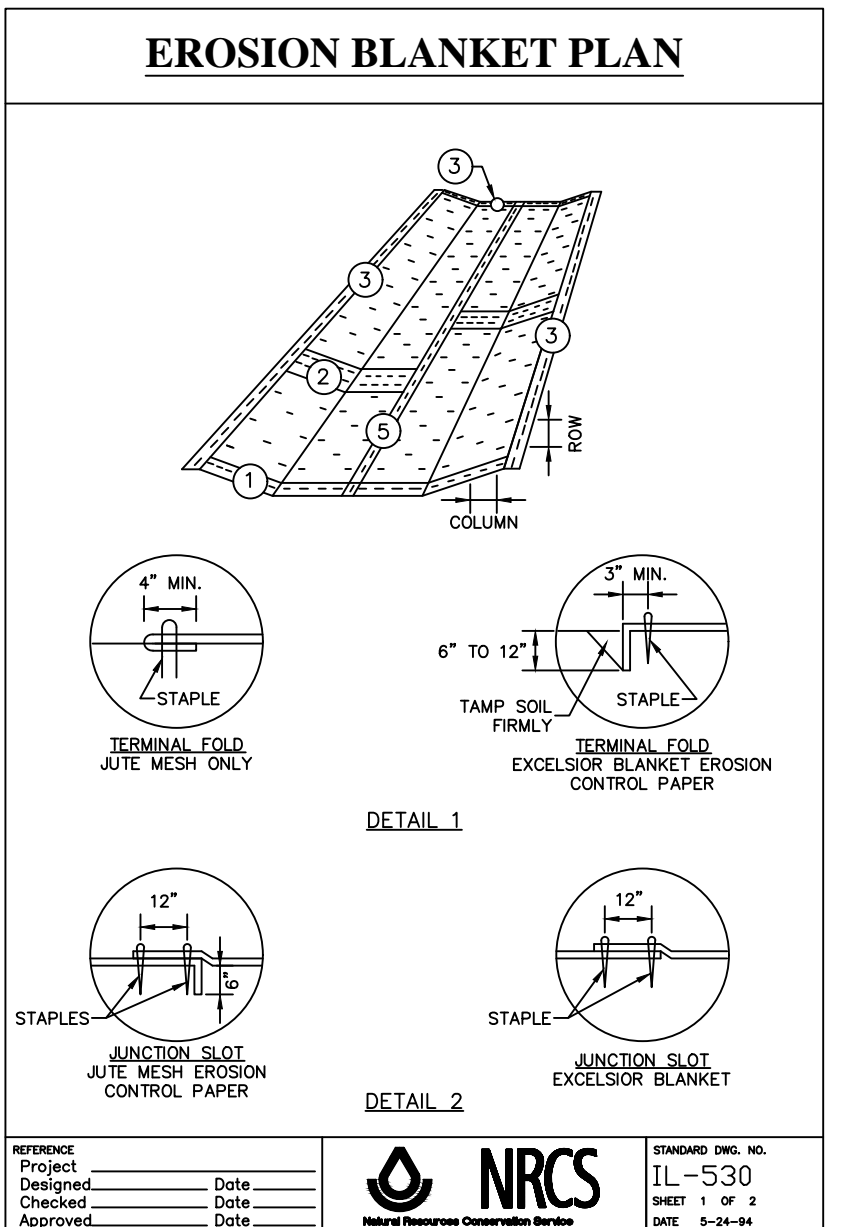
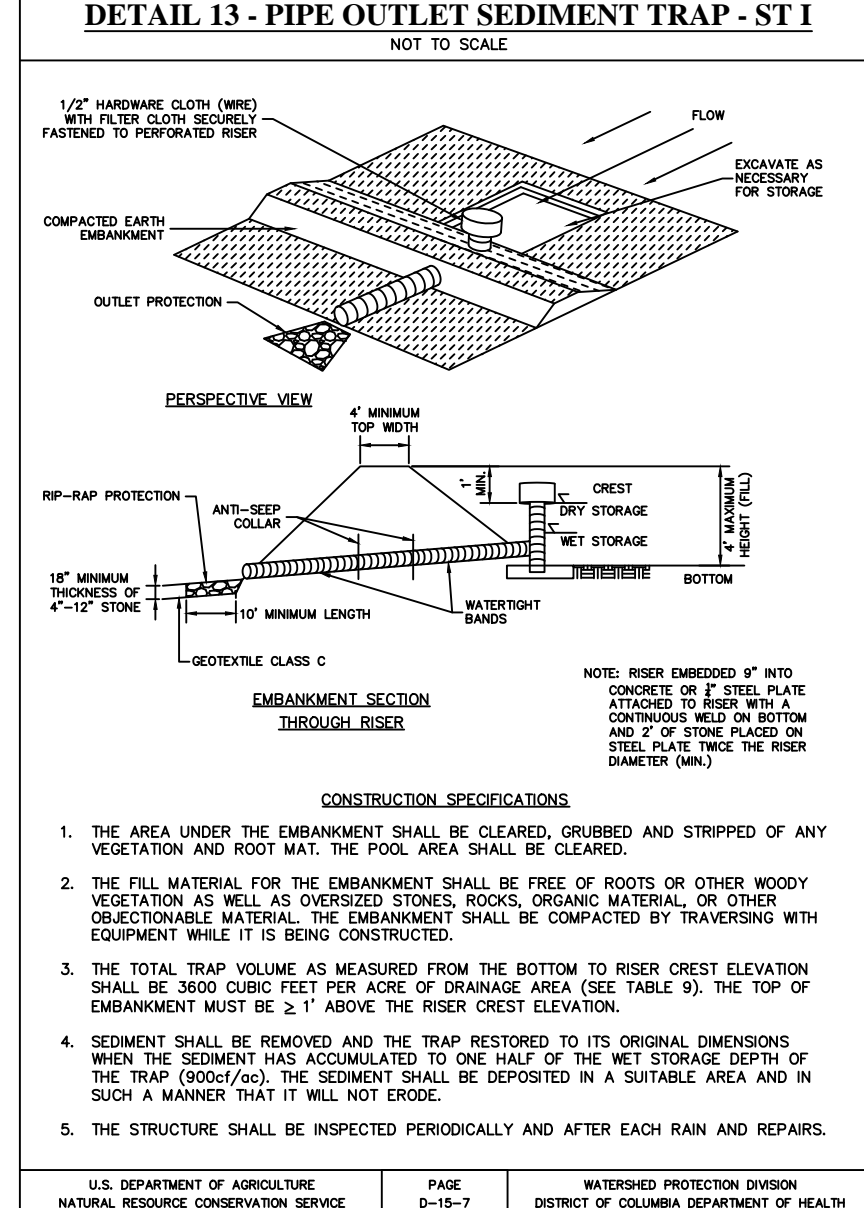
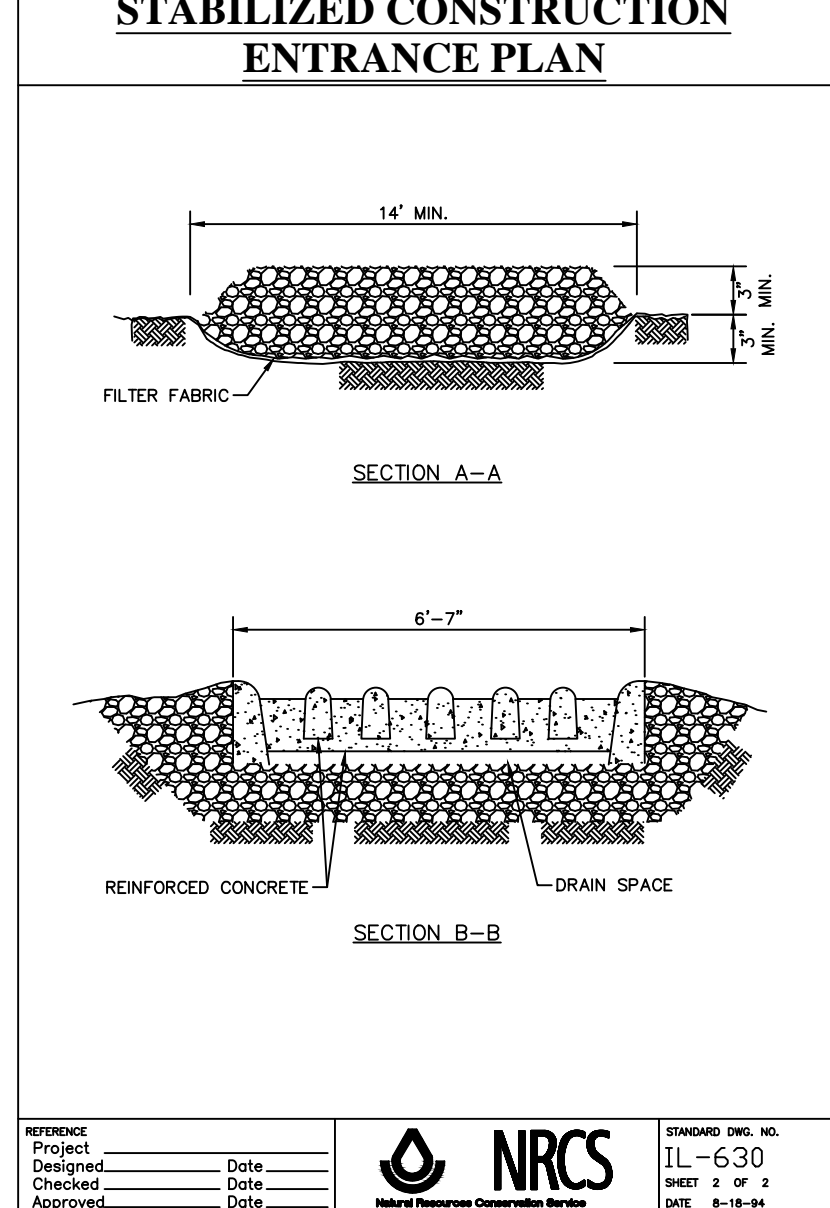
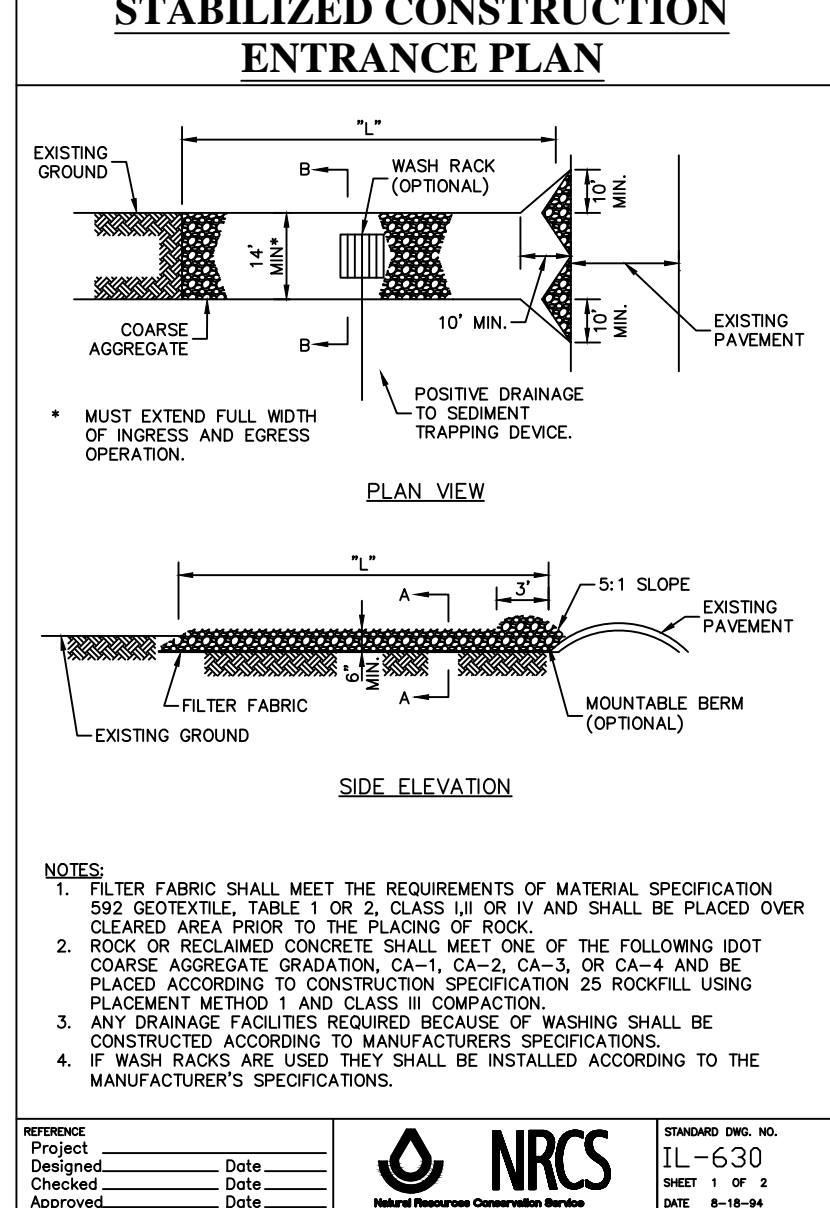
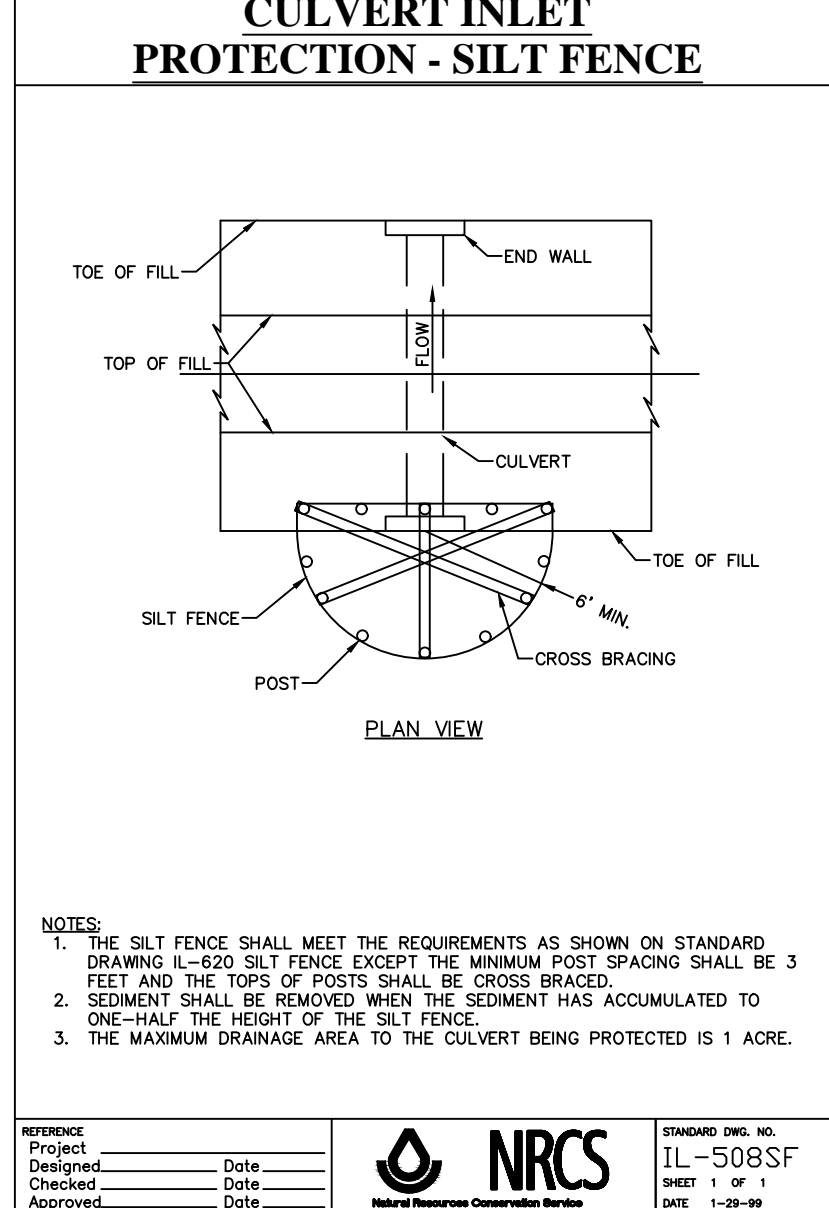
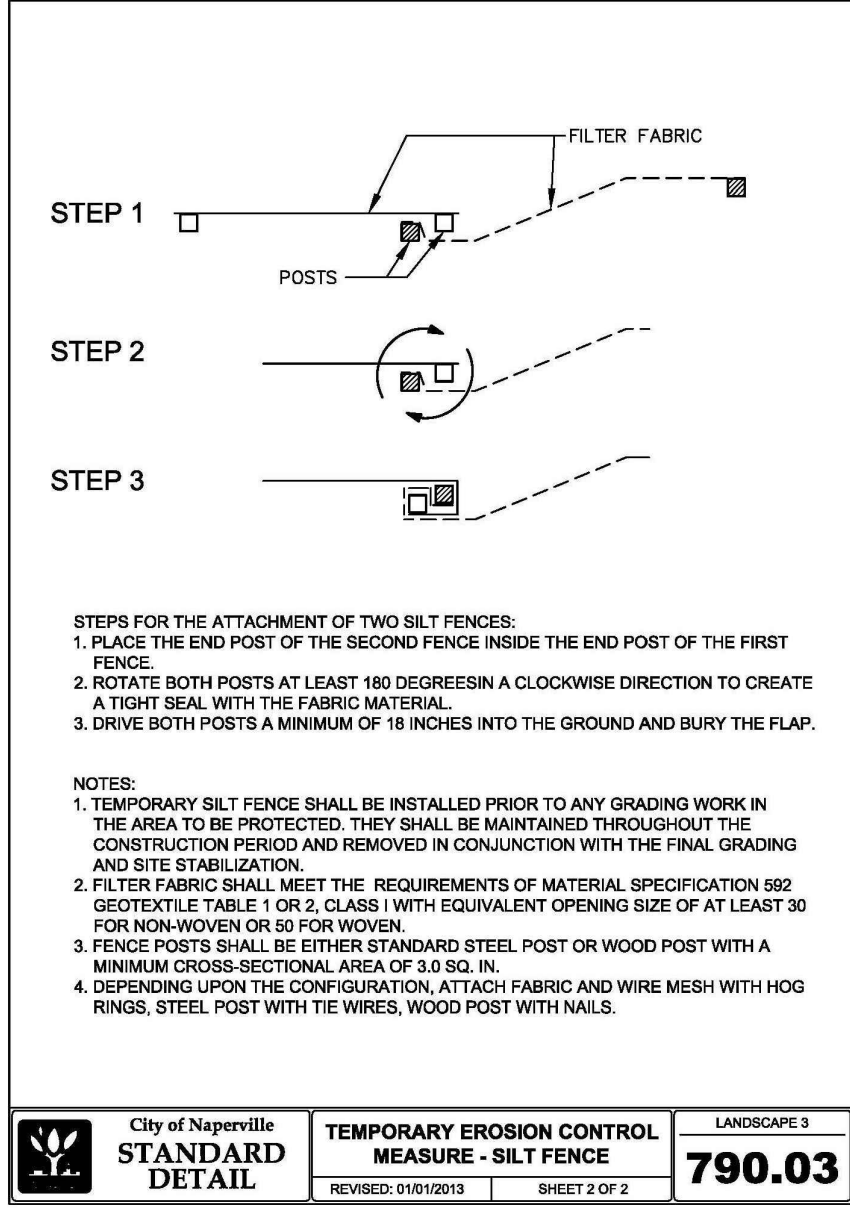
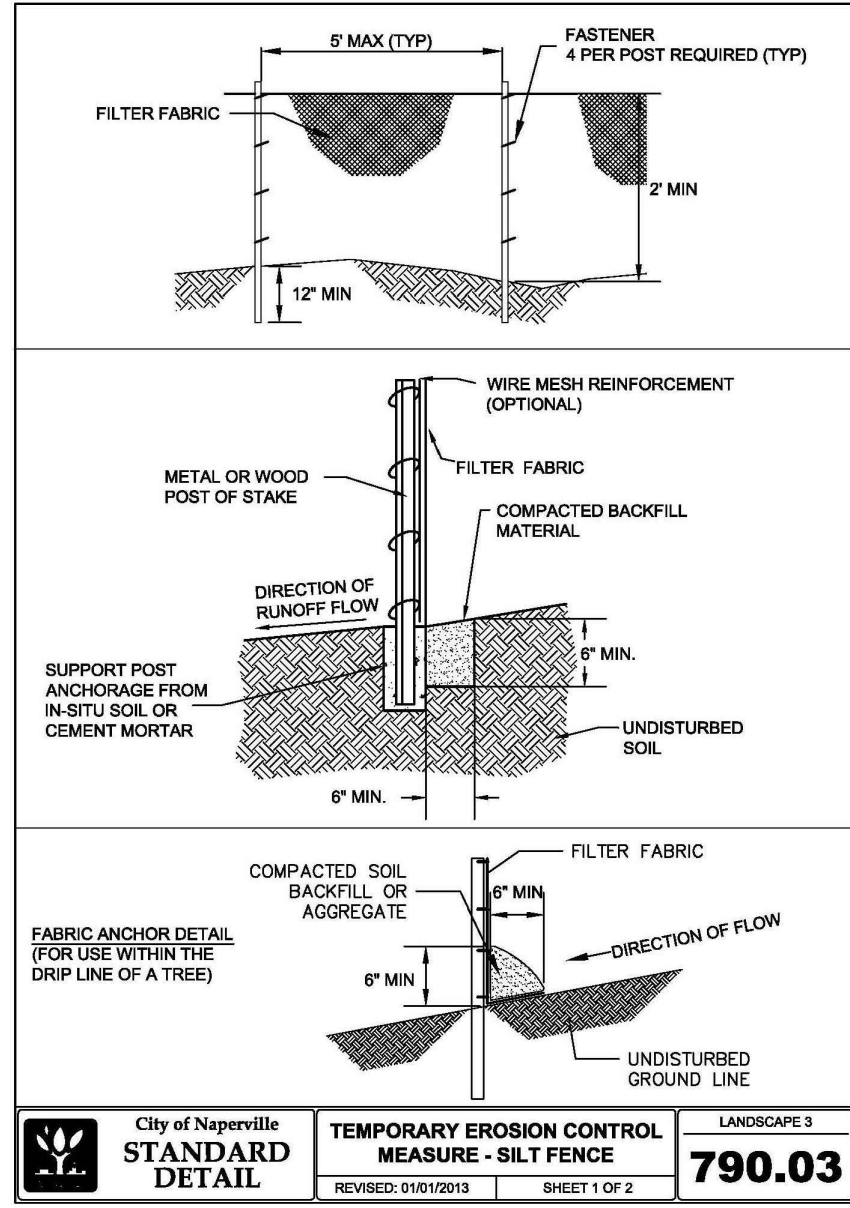
REVISIONS		NO.	DATE	BY
1		02-15-19	PER CITY REVIEW	
2		03-07-19	PER CITY REVIEW	

McNAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
IL Prof. Lic. No.: 184-003740

PROJECT INFORMATION	
Project No.:	18-0050
Scale:	1" = 30'
Date:	01-18-2019
Design By:	SDS
Drawn By:	DEI
Checked By:	SDS



NO.	DATE	DESCRIPTION	BY
1	02-07-19	PER CITY REVIEW	SDS
2	03-07-19	PER CITY REVIEW	SDS

McNAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
ILL. PROF. LIC. NO.: 184-003740



PROJECT INFORMATION
Project No.: 18-0050
Scale: NONE
Date: 01-18-2019
Design By: SDS
Drawn By: DEI
Checked By: SDS

6
OF
13

SOIL EROSION & SEDIMENTATION CONTROL PLAN DETAILS

UTILITY & GEOMETRIC PLAN

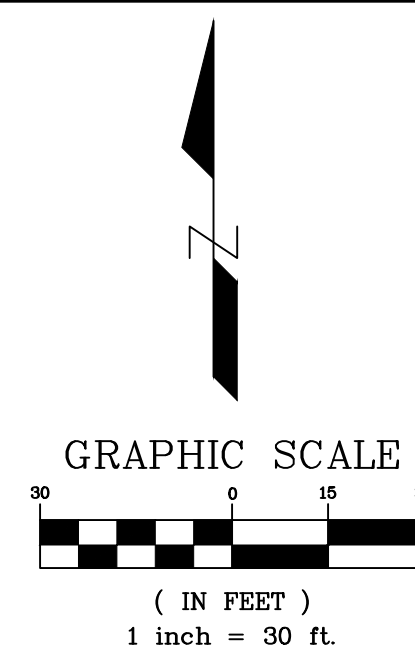
NOTES:

- 1) VEHICULAR ACCESS SHALL NOT BE ALLOWED FROM BOOK ROAD ONTO LOTS 1 AND 10. THIS "NO" ACCESS SHALL BE PERMANENT AND APPLY TO LOTS 1 AND 10.
- 2) ALL WATER SERVICES ARE 1.5" TYPE "K" COPPER.
- 3) ALL SANITARY SERVICES ARE 6" PVC @ 1.00% CLEANOUTS SHALL BE PROVIDED ~7' FROM FOUNDATION WALL.
- 4) DRIVEWAYS MUST BE A MINIMUM OF 5' FROM FIRE HYDRANTS.
- 5) ALL PIPE LENGTHS ARE APPROXIMATE. THOSE WHICH INCLUDE A FLARED END SECTION ARE TO THE END OF THE SECTION.
- 6) UNDERGROUND UTILITIES SHALL RECEIVE FULL DEPTH TRENCH BACKFILL WHERE INDICATED PER UNDERGROUND UTILITIES SPECIFICATIONS ON SHEET XX.

UTILITY CROSSING INFORMATION

1. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN WATERMAIN AND STORM/SANITARY SEWERS.
2. DEPTHS OF EXISTING WM ARE ASSUMED AND MUST BE FIELD VERIFIED PRIOR TO START OF CONSTRUCTION.
3. WHEN THE WM CROSSES BELOW A SEWER, THE SEWER MUST BE CONSTRUCTED WITH WM QUALITY PIPE & JOINTS THAT COMPLY WITH 35 IAC 653.19-1, ELSE EITHER PIPE MUST BE INSTALLED IN A CASING, THE PROTECTION MUST EXTEND TO AND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WM TO THE SEWER IS 18 INCHES. IN ADDITION, THE WM MUST BE LOCATED AT LEAST 18 INCHES BELOW THE SEWER. THIS 18 INCHES IS A STRUCTURAL PROTECTION TO PREVENT THE SEWER FROM SETTLING AND BREAKING THE WM.
4. WHEN THE WM CROSSES ABOVE A SEWER AND IT IS NOT 18 INCHES ABOVE THE CROWN OF THE SEWER WHERE THE PIPE CROSSES, THE SEWER MUST BE CONSTRUCTED WITH WM QUALITY PIPE & JOINTS (COMPLIANCE SAME AS ABOVE) OR A CASING PIPE CAN BE INSTALLED AROUND THE WM OR THE SEWER. THE CASING PIPE MUST BE A MATERIAL THAT IS APPROVED FOR USE AS WM. CONCRETE IS NOT AN ACCEPTABLE ENCASEMENT.
5. WHEN THE ENCASEMENT OPTION IS USED, IT SHALL BE ONE CONTINUAL SECTION (NO JOINTS).

ID	BOTTOM OF PIPE	TOP OF PIPE	VERTICAL SEPARATION	CROSSING INFO.
1	637.60	634.85	2.74'	STORM OVER SANITARY
2	638.80	634.29	4.51'	WATERMAIN OVER SANITARY
3	638.45	636.90	1.55'	STORM OVER WATERMAIN (LOWER & ENCASE WATERMAIN)
4	637.40	635.80	1.60'	STORM OVER WATERMAIN (LOWER & ENCASE WATERMAIN)
5	634.60	633.77	0.83'	STORM OVER SANITARY
6	639.86	638.00	1.86'	STORM OVER WATERMAIN (LOWER & ENCASE WATERMAIN)
7	641.44 (STORM)	642.84 (STORM)	UNKNOWN	STORM OVER/UNDER EXISTING ELECTRIC (FIELD VERIFY ADJUST ELECTRIC ACCORDINGLY)

**SANITARY STRUCTURES** (XX)

- 1 CONNECT TO EXISTING 8" PVC SANITARY STUB
INV ~631.62
FIELD VERIFY

2 48" M.H., CL
RIM 643.20
INV 631.71 (E)
INV 632.50 (N&S)

3 48" M.H., C.L.
RIM 644.00
INV 633.31(S)
INV 633.41(W)

4 48" M.H., C.L.
RIM 645.25
INV 635.32

5 8" PVC STUB WITH PLUG & BLOCK
INV 633.23

WATER VALVE VAULTS

- 1 INSTALL 12" LINE STOP ON THE WEST SIDE OF BOOK ROAD
- 2 12" VALVE IN 60" VAULT RIM 644.20
- 3 12" VALVE IN 60" VAULT (REPLACE EXIST. VALVE & VAULT) RIM 645.50

FIRE HYDRANTS

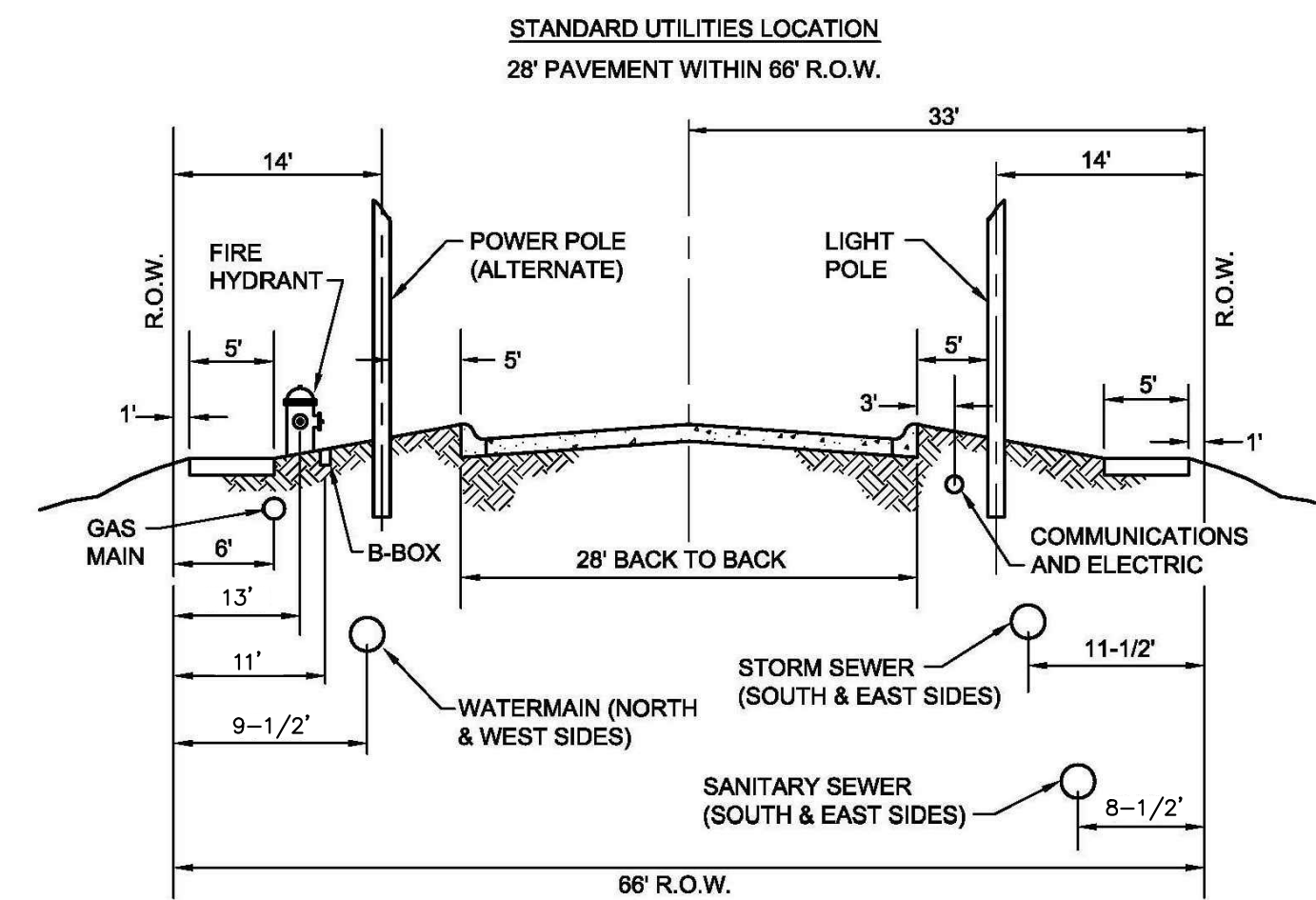
- FIRE HYDRANT ASSEMBLY
GRADE RING 644.70

STORM SEWER STRUCTURES

- | | | | | | |
|-----|---|----|--|-----|---|
| A12 | 12" RCP FES W/GRATE
INV 643.00 | A9 | 24" DIA. INLET
RIM 643.50
INV 640.50 (W, 10") | A3 | 48" DIA. M.H., O.L.
RIM 639.00
INV 635.42 (W, 18")
INV 635.42 (N, 24")
INV 635.42 (E, 21") |
| A15 | 48" DIA. CATCHBASIN, O.L.
RIM 644.00
INV 641.47 (N, 15")
INV 641.22 (S, 12") | A8 | 24" DIA. INLET
RIM 644.20
INV 641.20 (E, 10") | A2 | 48" DIA. M.H., O.L.
RIM 639.00
INV 635.11 (W, 21")
INV 635.11 (SE, 18") |
| A14 | 48" DIA. M.H., O.L.
RIM 643.80
INV 637.25 (N&E, 15") | A7 | 24" DIA. INLET
RIM 643.80
INV 640.59 (W, 10")
INV 640.43 (E, 12") | A1 | 60" DIA. RESTRICTOR M.H.
WITH 2 OPEN LIDS
RIM 643.80
INV 634.86 (NW, 18")
INV 634.86 (SE, 18")
(SEE DETAIL, SHEET #12) |
| A13 | 48" DIA. M.H., O.L.
RIM 639.00
INV 636.30 (E&W, 15") | A6 | 48" DIA. M.H., O.L.
RIM 643.50
INV 640.10 (E, 10")
INV 639.93 (W, 12")
INV 639.43 (S, 18") | | |
| A12 | 48" DIA. M.H., O.L.
RIM 639.00
INV 635.90 (W, 15")
INV 635.65 (E, 18") | A5 | 48" DIA. M.H., O.L.
RIM 643.41 (FL)
INV 639.07 (NE, 12")
INV 638.63 (N&S, 18") | EX1 | EXISTING 48" M.H.
RIM 640.52
PR INV 634.74 (NW, 10")
EX INV 632.69 (N&E, 12") |
| A11 | 24" DIA. INLET
RIM 643.48 (FL)
INV 638.96 (NW, 12") | A4 | 48" DIA. M.H., O.L.
RIM 643.41 (FL)
INV 638.90 (SE, 12")
INV 638.40 (N, 18") | | |
| A10 | 24" DIA. INLET
RIM 643.48 (FL)
INV 639.13 (SW, 12") | | | | |

STORM SEWER GRATES

SEE DETAILS ON SHEETS 10 THRU 12



City of Naperville
**STANDARD
DETAIL**

STANDARD ROADWAY SECTION

REVISÉ: 01/01/2013

SHEET 2 OF 4

PAVEMENT 1
590.01

DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING

9930 W. 190TH STREET, SUITE
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962

IL PROF. LIC. No.: 184 - 003740



PROJECT INFORMATION

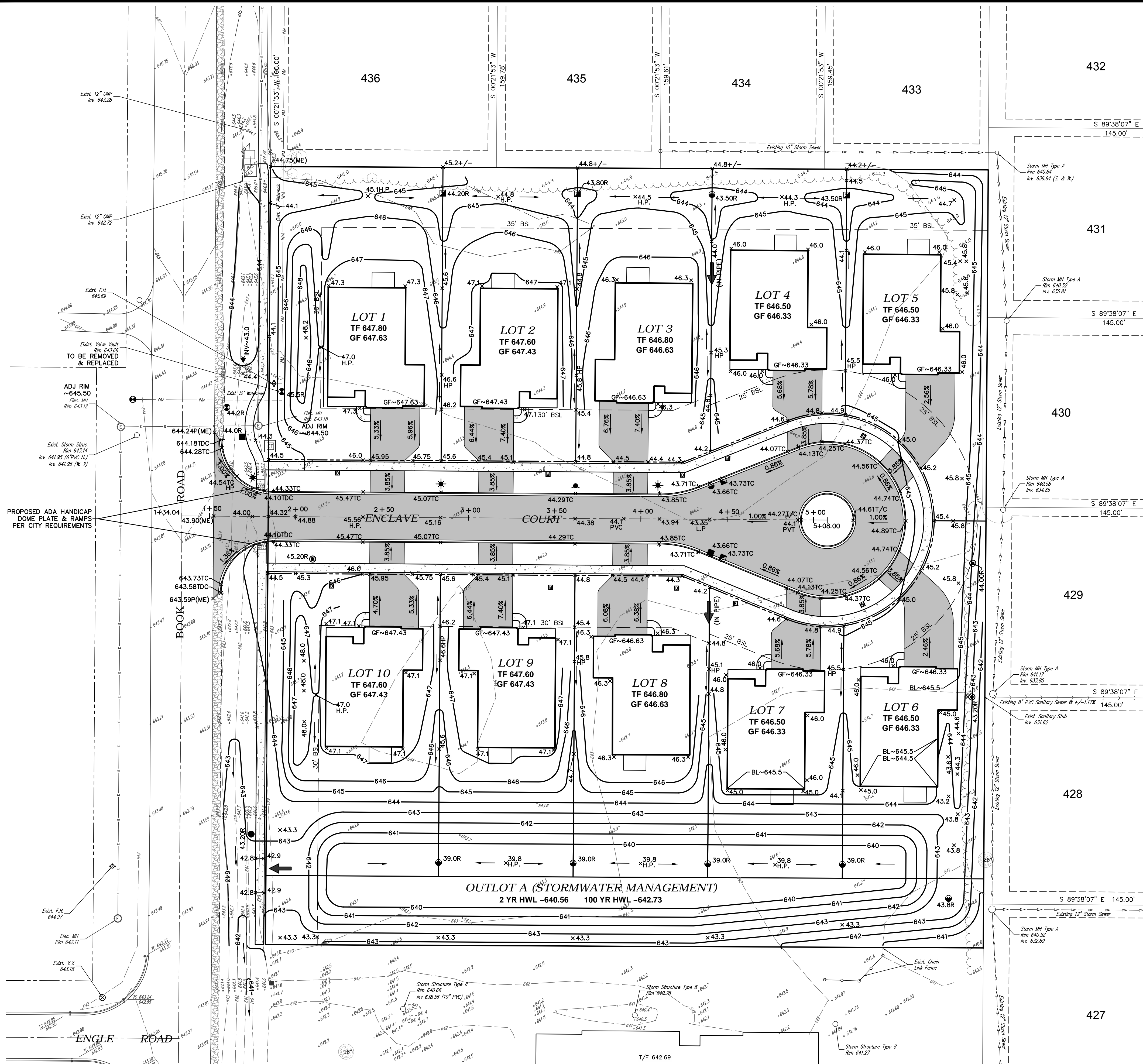
Project No.: 18-0050
Scale: 1" = 30'
Date: 01-18-2019
Design By: SDS
Drawn By: DEI
Checked By: SDS

7

OF

13

UTILITY & GEOMETRIC PLAN



GRADING PLAN

GRADING CONVERSIONS

EDGE OF PAVEMENT (EP)	=	CL - 0.26'
FLOW LINE (FL)	=	CL - 0.34'
TOP OF CURB (TC)	=	CL - 0.09'
RIGHT OF WAY	=	CL + 0.41'

GRADING/PAD NOTES

TF XXX.X	BL/DS XXX.XX
LO XXX.X	
WO XXX.X	
LOWER GF	
XXX.XX	

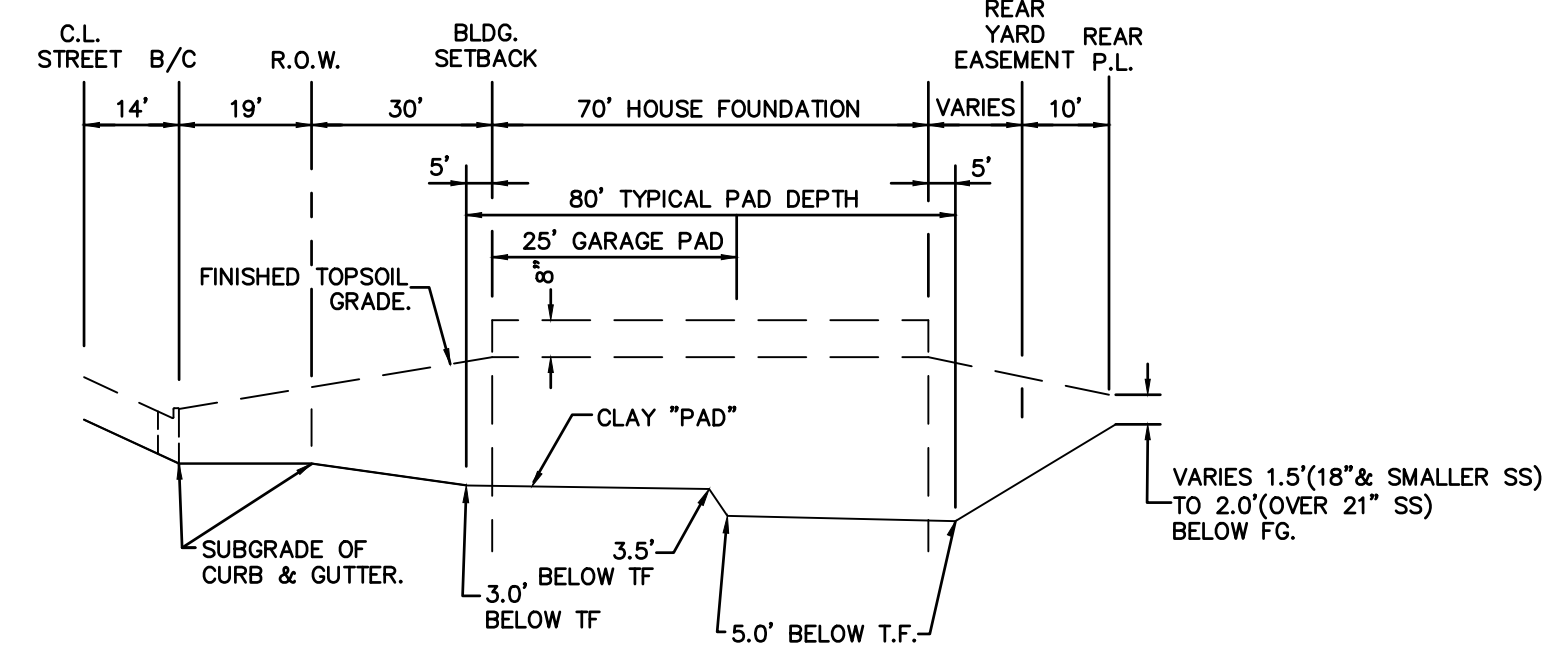
TF = TOP OF FOUNDATION ELEVATION
LO = LOOKOUT ELEVATION
WO = WALKOUT/BSMT FLOOR @ WALKOUT ELEVATION
(TYPICAL: WO = TF - 8.67')
BL = BRICK LEDGE / DS = DROP SIDING

SHADED DRIVE DENOTES RESTRICTED GARAGE LOCATION NECESSARY FOR 8.0% MAX. SLOPE

GF = GARAGE FLOOR ELEVATION (TYPICAL: GF = TF - 0.17')
LWR GF = LOWERED GARAGE FLOOR ELEVATION IS REQUIRED TO MAINTAIN XX% MAX. DRIVEWAY SLOPE.

TYPICAL PAD SECTION

NOT TO SCALE



NOTES:

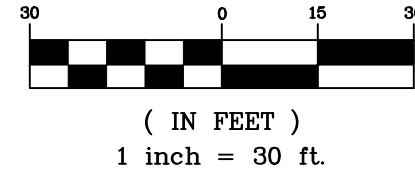
- EARTHWORK CONTRACTOR TO CUT SLOTS IN REAR YARDS WHERE NECESSARY TO ALLOW FOR POSITIVE DRAINAGE AWAY FROM PADS.
- FOR "LOOKOUT" AND "WALKOUT" LOTS, CONTRACTOR TO END PAD 5 FEET BEYOND GARAGE AND TRANSITION GRADE TO L/O OR W/O ELEVATION.

POND DATA SUMMARY

POND BOTTOM	=	639.00
HWL (2 YR - 24 HOUR)	=	640.56
HWL (100 YR - 24 HOUR)	=	642.73
WEIR ELEVATION	=	642.90
REQ. STORAGE VOLUME (PER C.O.N.)	=	1.23 AC-FT.
VOLUME PROVIDED @ MAX HWL	=	1.33 AC-FT.
ALLOWABLE DISCHARGE	=	0.65 CFS
ACTUAL DISCHARGE (AT CALCULATED HWL)	=	0.66 CFS

Notes	Pond Elev. (Ft.)	Area (SF)	Depth (Ft.)	Vol. (CF)	Vol. (Ac. Ft.)	Cumulative Vol. (Ac. Ft.)
Inv Restrictor	634.87	0				0.00
	635.50	11	0.6	2	0.00	0.00005
	637.50	189	2.0	163	0.0038	0.0038
Storm Rims/Bottom	639.00	466	1.5	476	0.0109	0.0147
	639.80	10,872	0.8	3,624	0.08	0.10
	640.00	11,590	0.2	2,246	0.05	0.15
Top of Baffle Wall	640.60	13,983	0.6	7,661	0.18	0.33
	641.00	15,703	0.4	5,934	0.14	0.46
	641.50	17,795	0.5	8,369	0.19	0.65
	642.00	20,018	0.50	9,448	0.22	0.87
	642.44	21,999	0.4	9,240	0.21	1.08
	642.60	22,742	0.2	3,579	0.08	1.16
100 Yr-24Hr HWL	642.73	23,355	0.1	2,996	0.07	1.23
	642.80	23,689	0.1	1,647	0.04	1.27
	642.85	23,929	0.1	1,190	0.03	1.30
Weir	642.90	24,170	0.0	1,202	0.03	1.33
	642.95	24,412	0.1	1,215	0.03	1.35
	643.00	24,655	0.0	1,227	0.03	1.38

GRAPHIC SCALE



McNAUGHTON DEVELOPMENT
115220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
ROAD
NAPERVILLE, ILLINOIS

DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
ILL. PROF. LIC. NO.: 184-003740

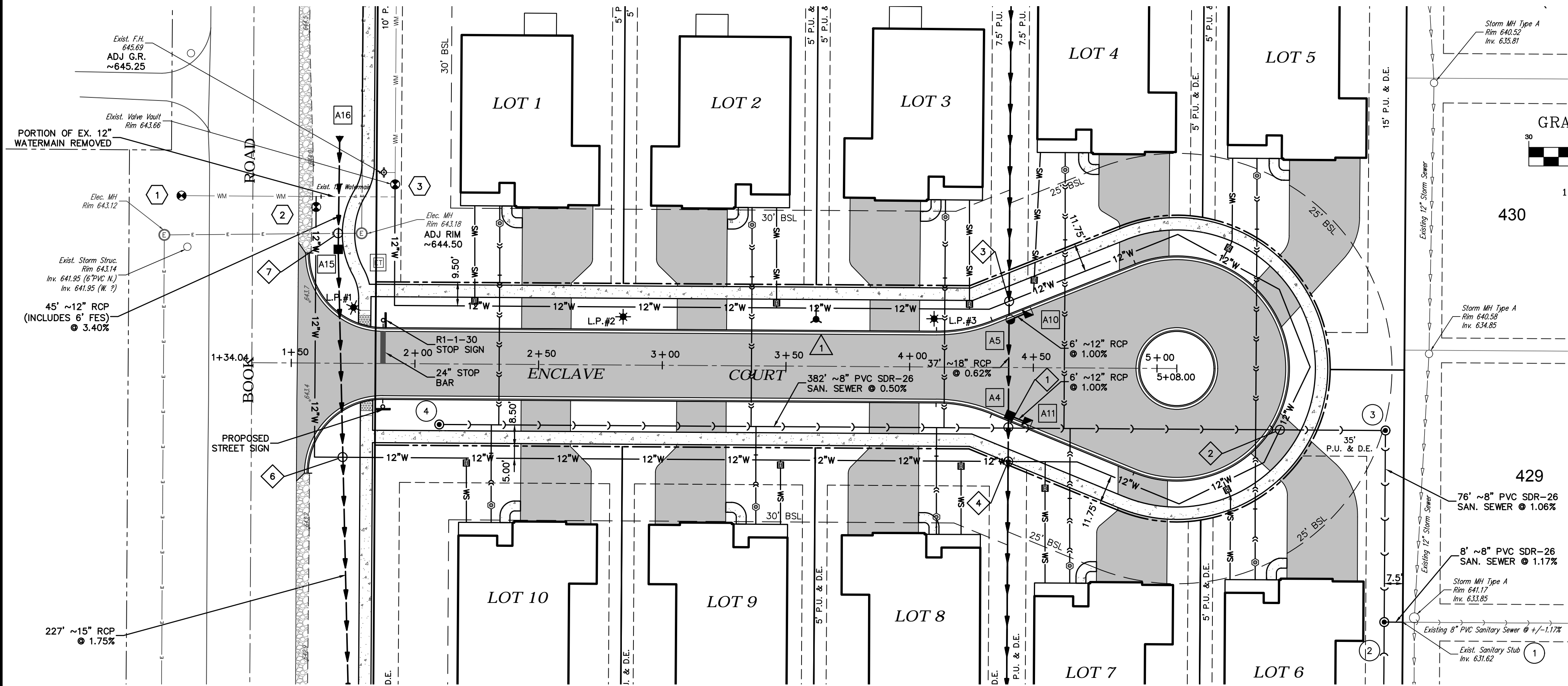


PROJECT INFORMATION

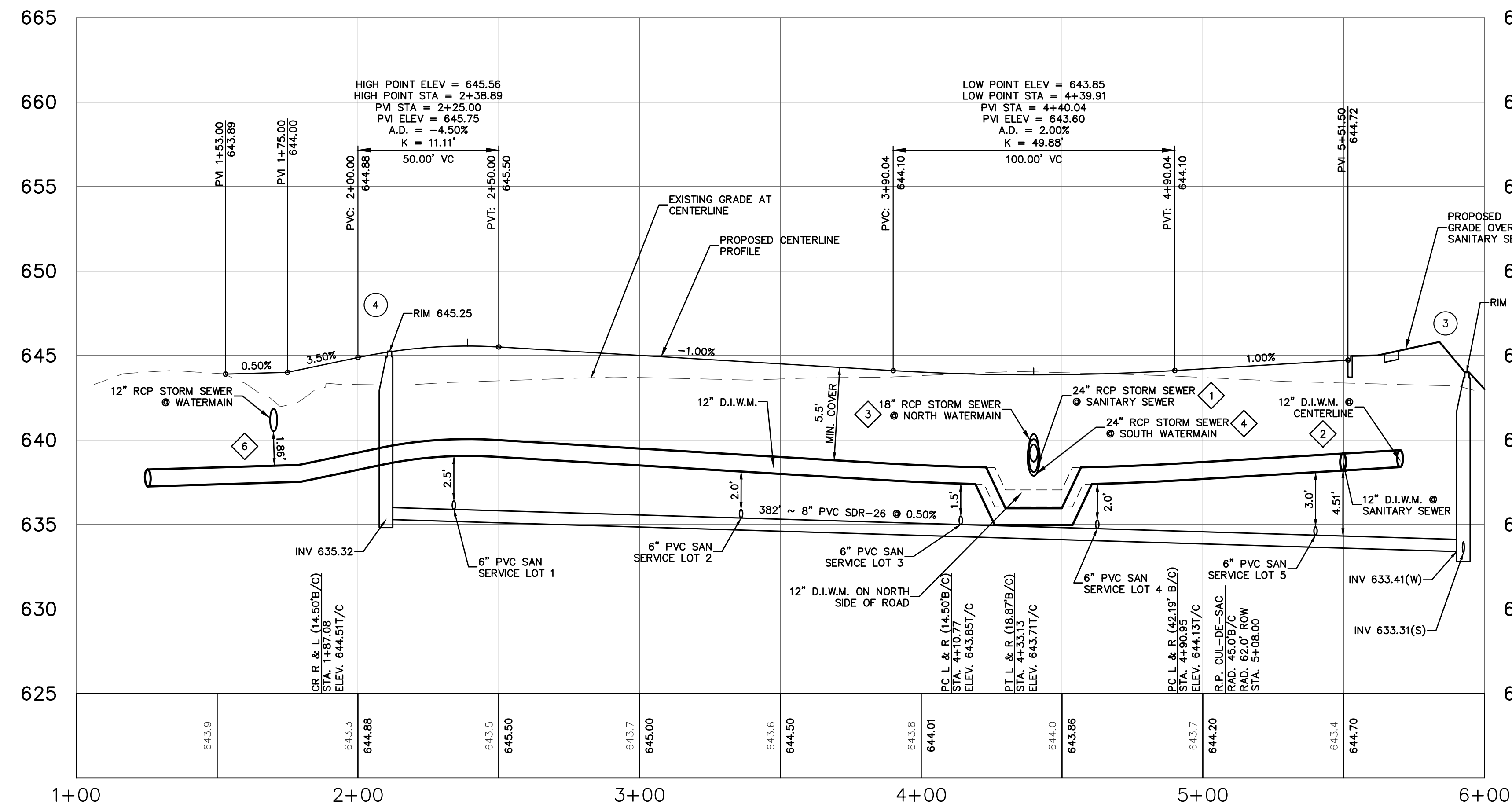
Project No.: 18-0050
Scale: 1" = 30'
Date: 01-18-2019
Design By: SDS
Drawn By: DEI
Checked By: SDS

8
OF
13

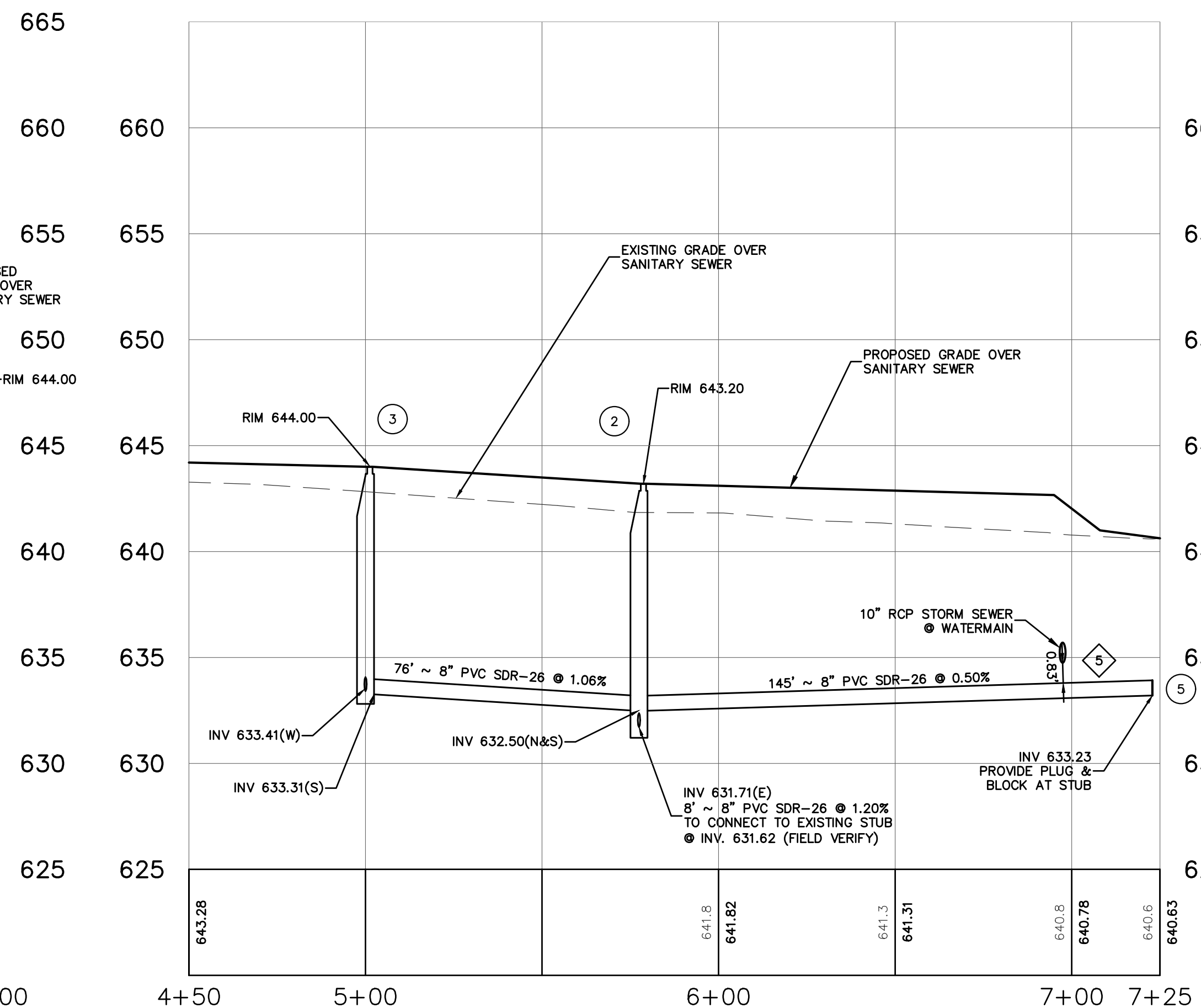
L:\Projects\2018\18-0050\Engineering\DWG\Enclave\18-0050_Enclave_Plan_18-0050_Plan.dwg Plot Date: 3/7/2019 2:56:10 PM By: elv



ENCLAVE COURT
STATION: 1+34.04 TO 6+00.00



SEE RIGHT SIDE THIS SHEET
FOR CONTINUATION



SEE LEFT SIDE THIS SHEET
FOR CONTINUATION

SANITARY SEWER MANHOLE #1, 2, 3 & 5

PROFILE SCALE
H: 1" = 30'
V: 1" = 5'

REVISIONS		NO.	DATE	DESCRIPTION	BY
1		02-15-19	PER CITY REVIEW	SDS	
2		03-07-19	PER CITY REVIEW	DMV	

McNAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

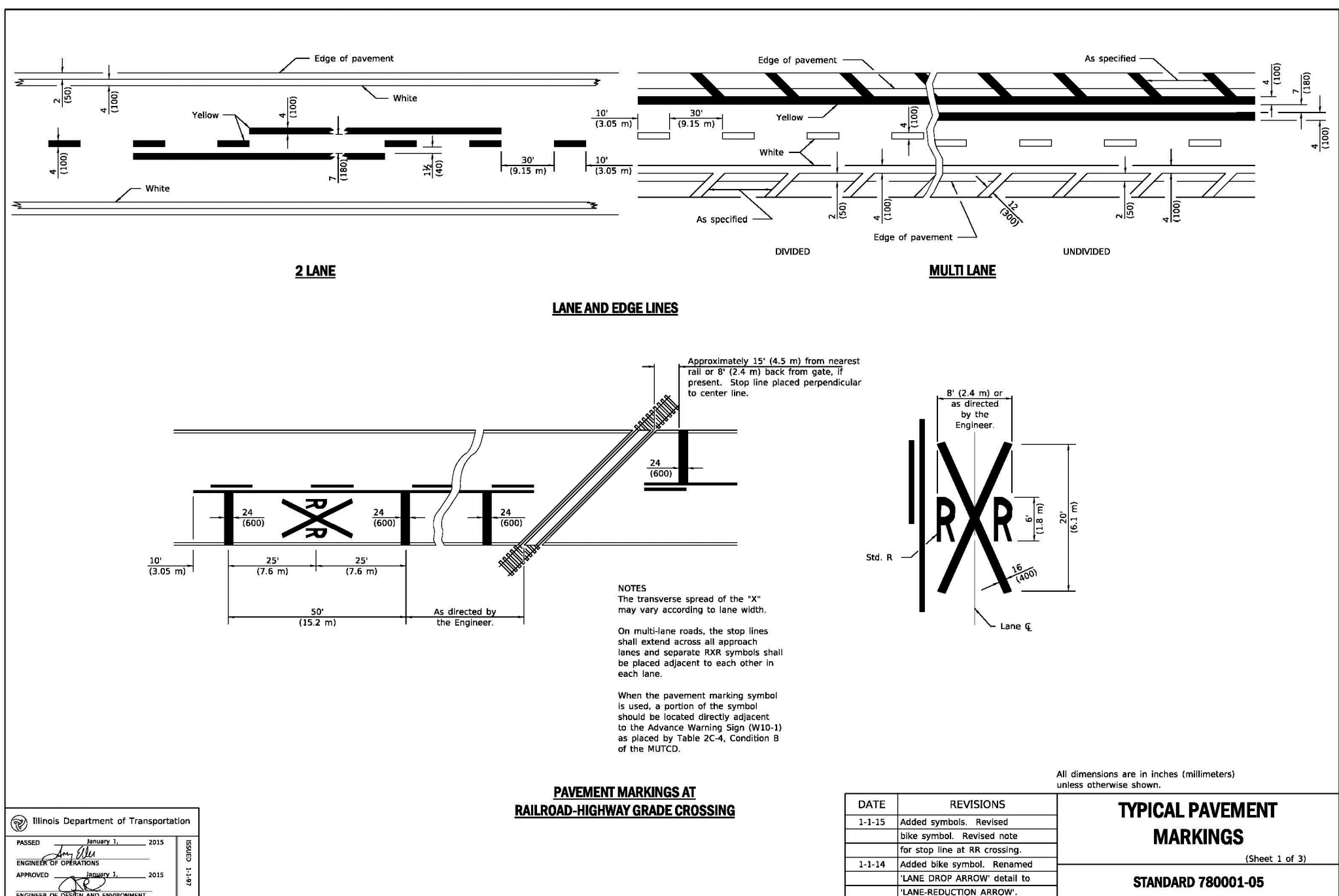
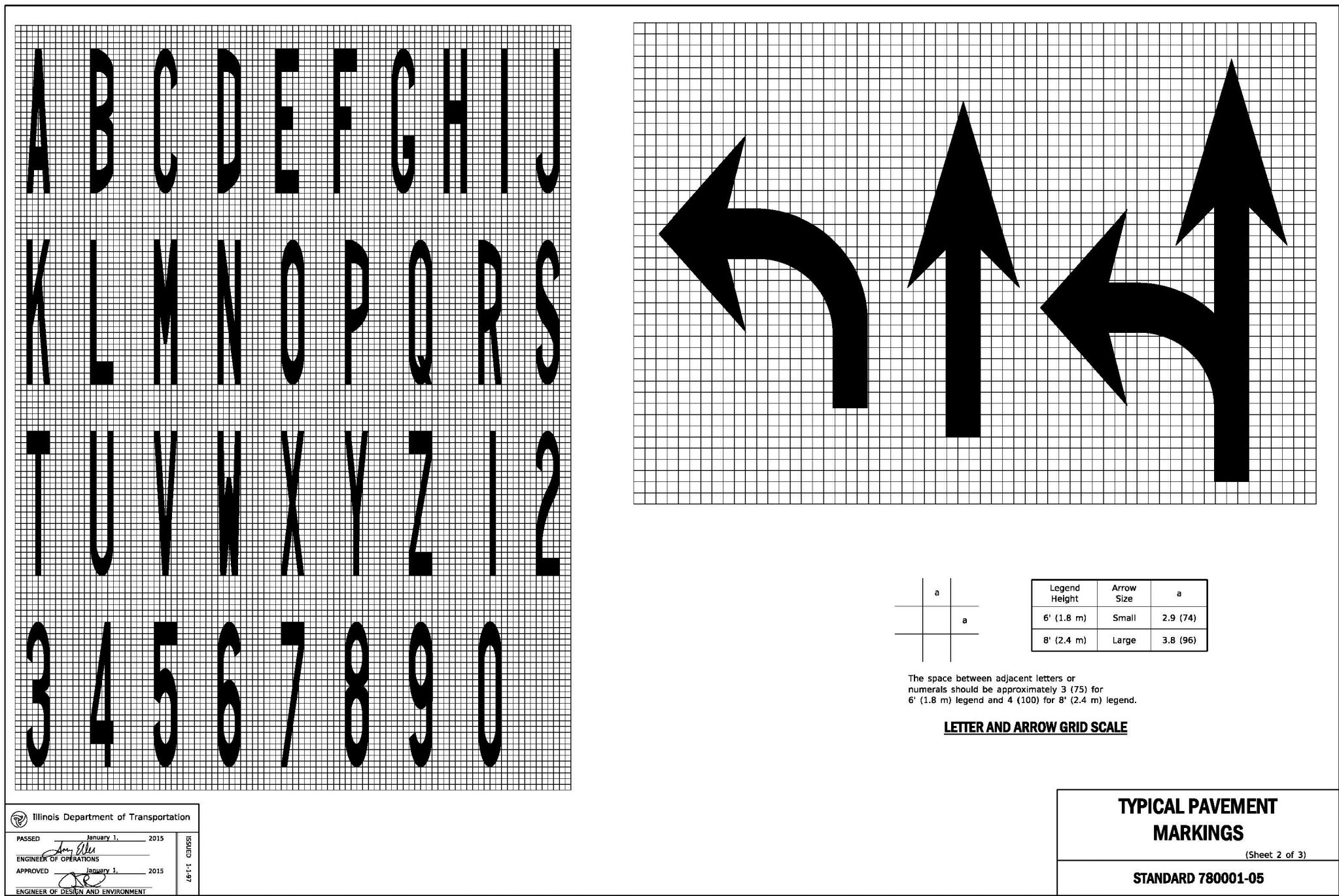
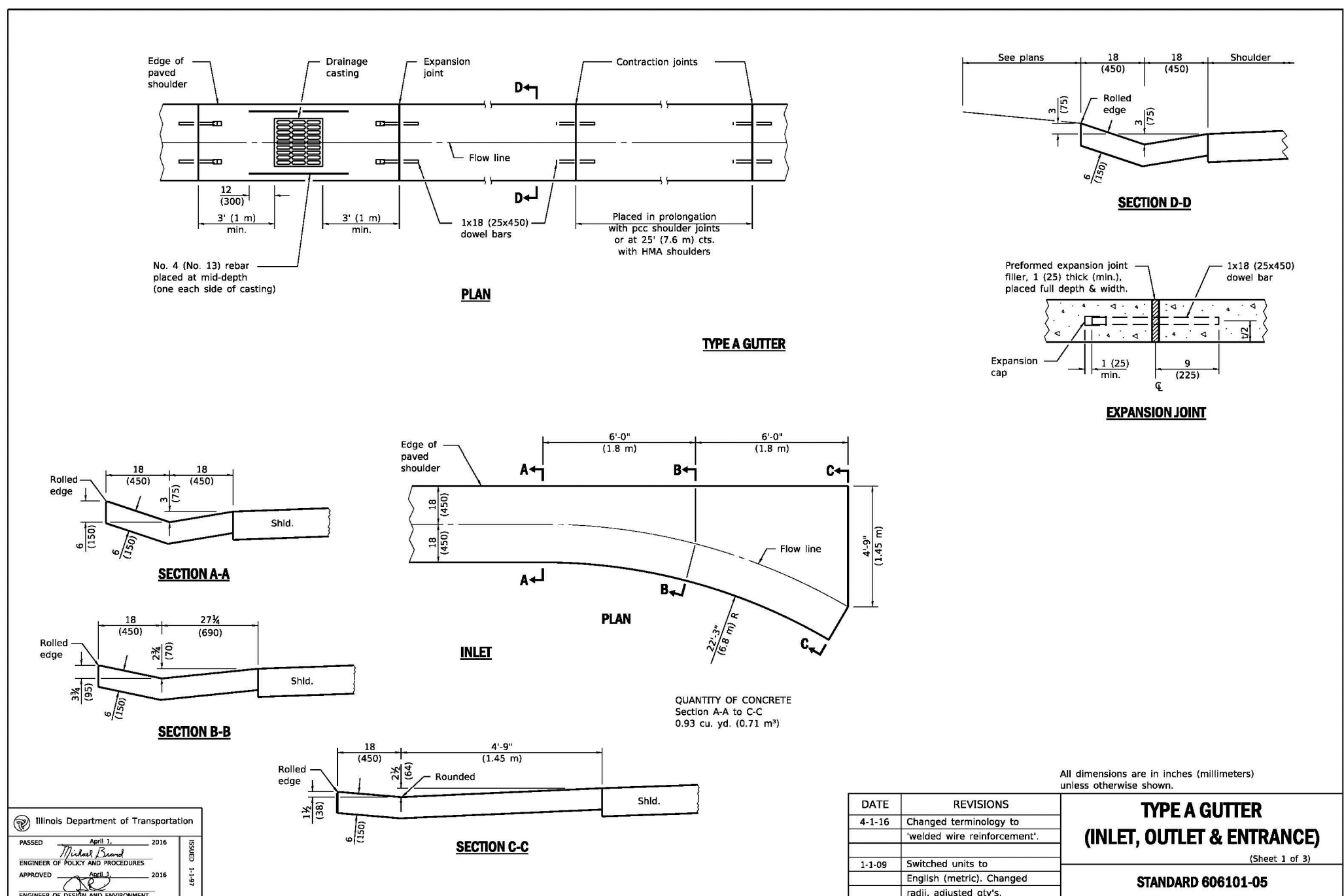
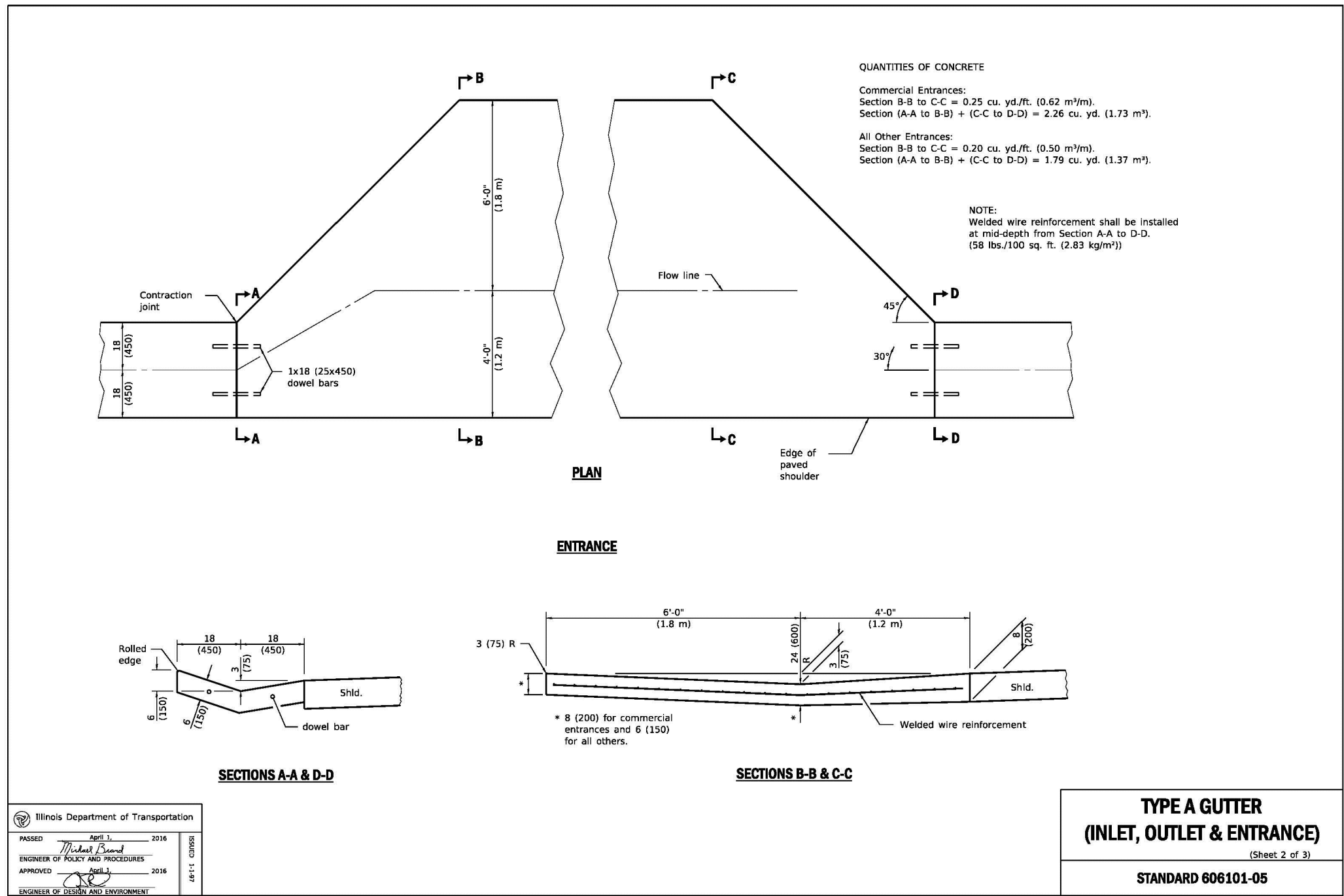
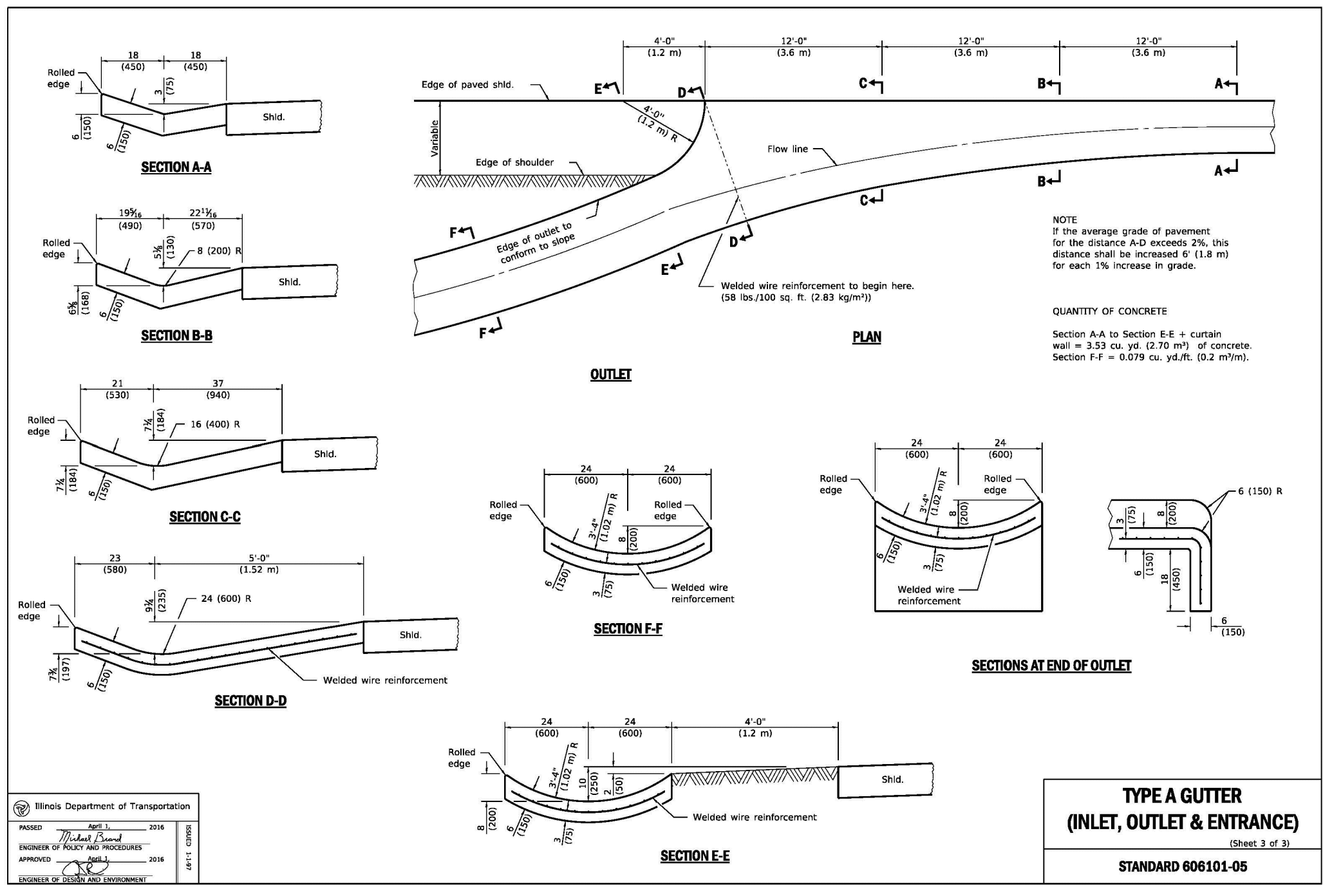
FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
ILL. PROF. LIC. NO.: 184-003740

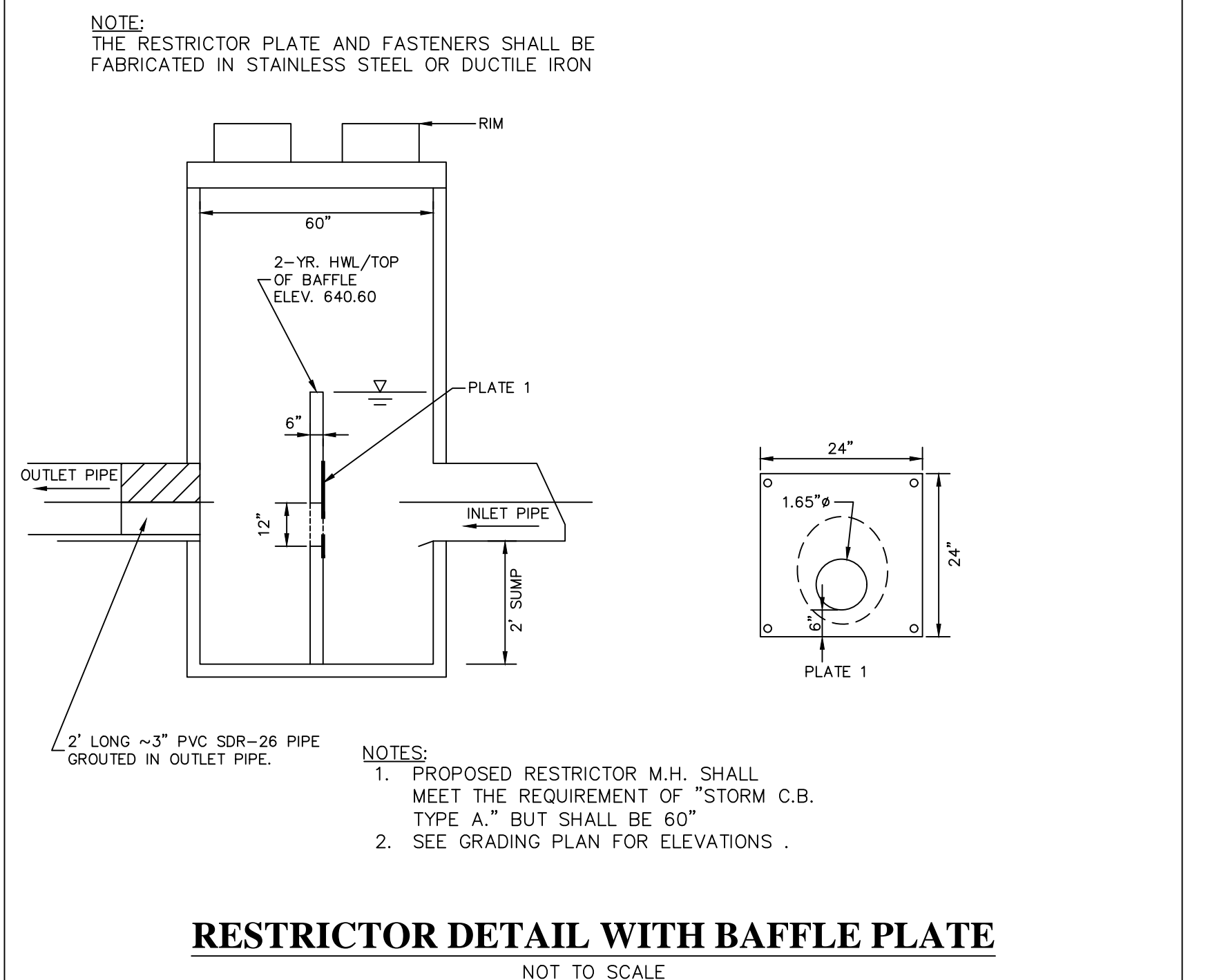
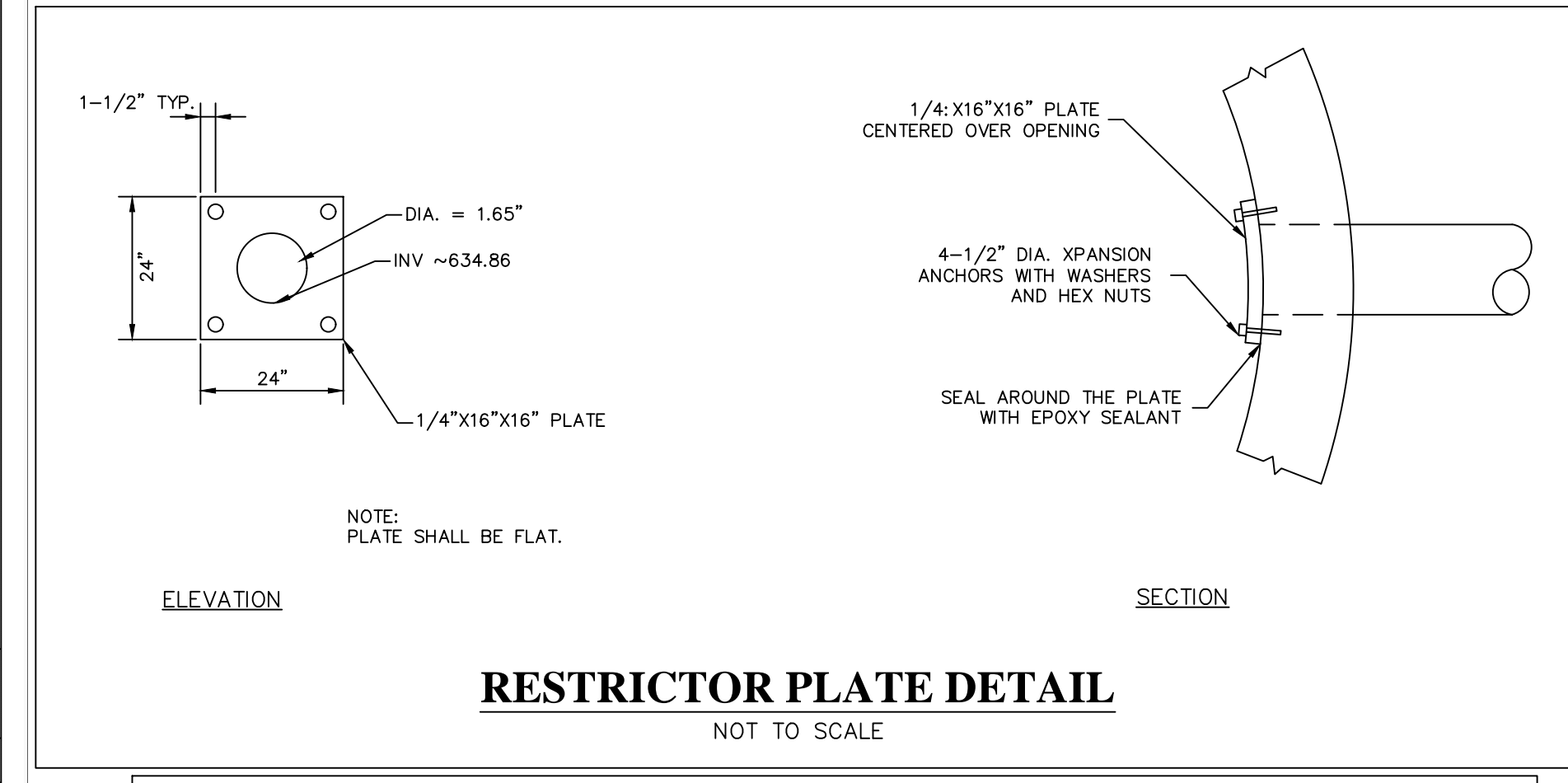
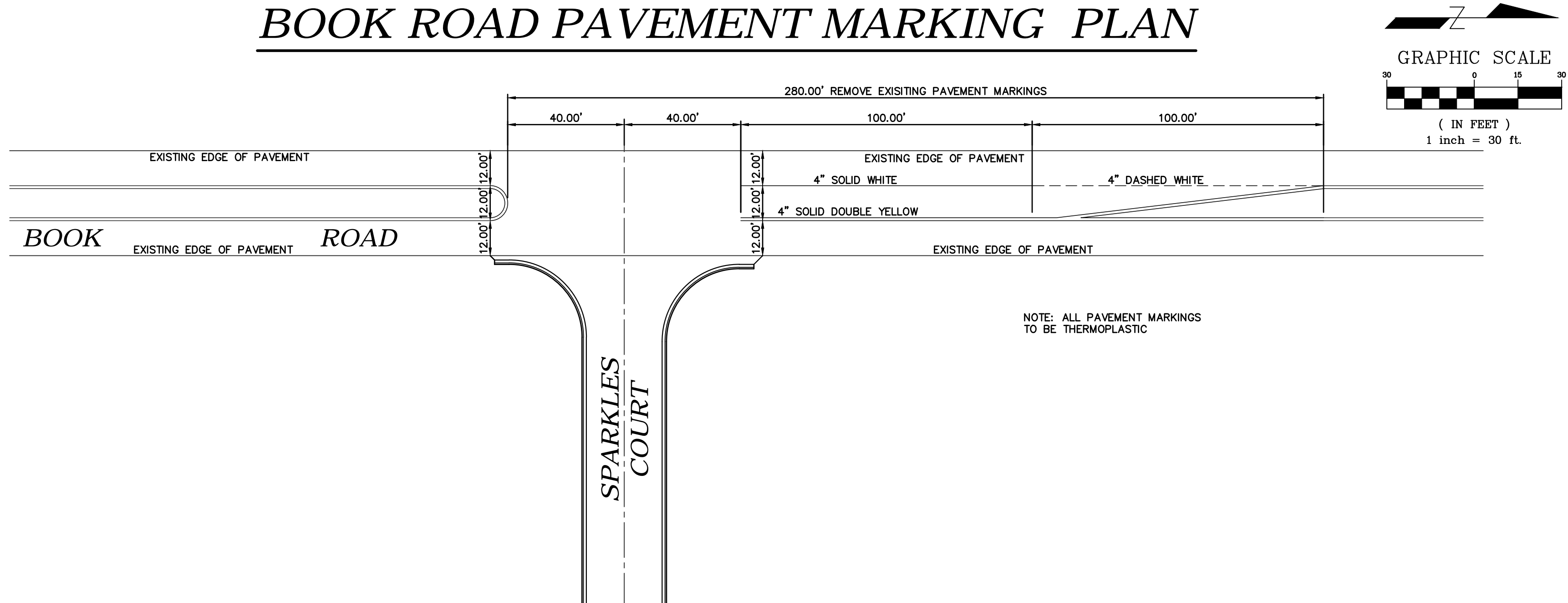


PROJECT INFORMATION	
Project No.:	18-0050
Scale:	AS NOTED
Date:	01-18-2019
Design By:	SDS
Drawn By:	DEI
Checked By:	SDS

L:\Projects\13\1313\13-0050\Engineering\Drawings\Plan\13-0050-EE.dwg, Date: 3/7/2019, 2:15:10 PM, By: dclark



BOOK ROAD PAVEMENT MARKING PLAN



NO.	DATE	DESCRIPTION	BY
1	03-07-19	PER CITY REVIEW	SDS
2	03-07-19	PER CITY REVIEW	SDS

McNAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

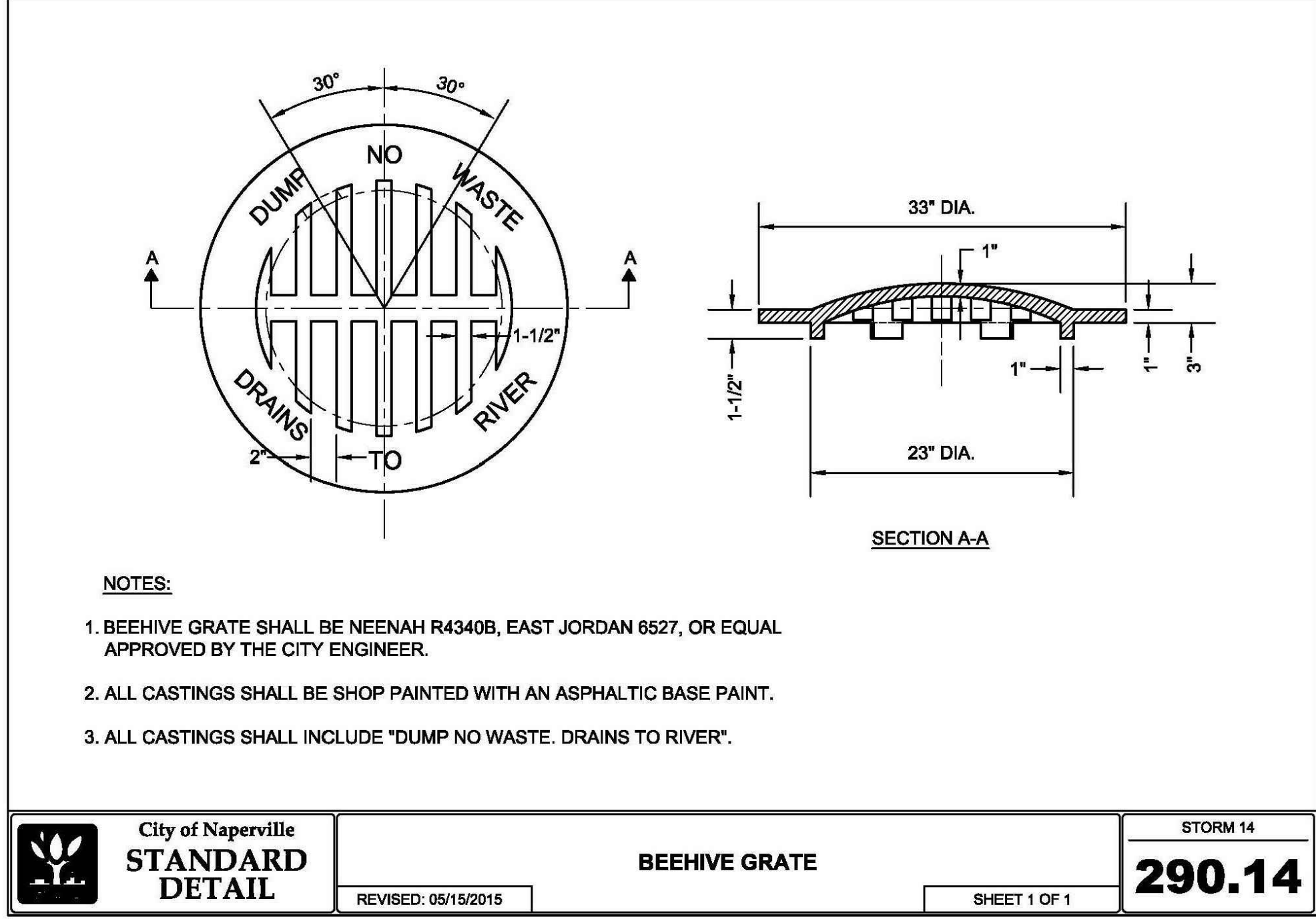
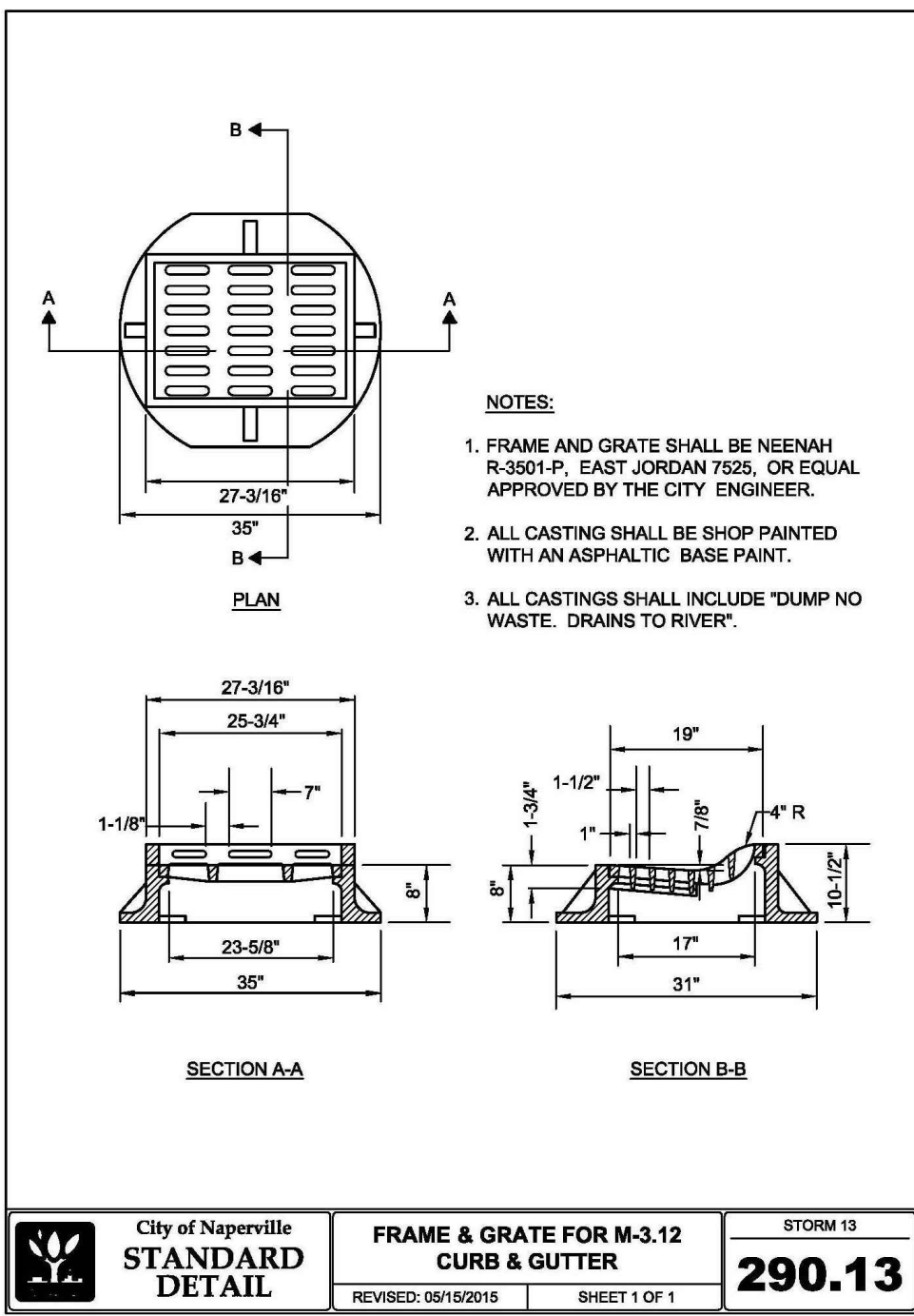
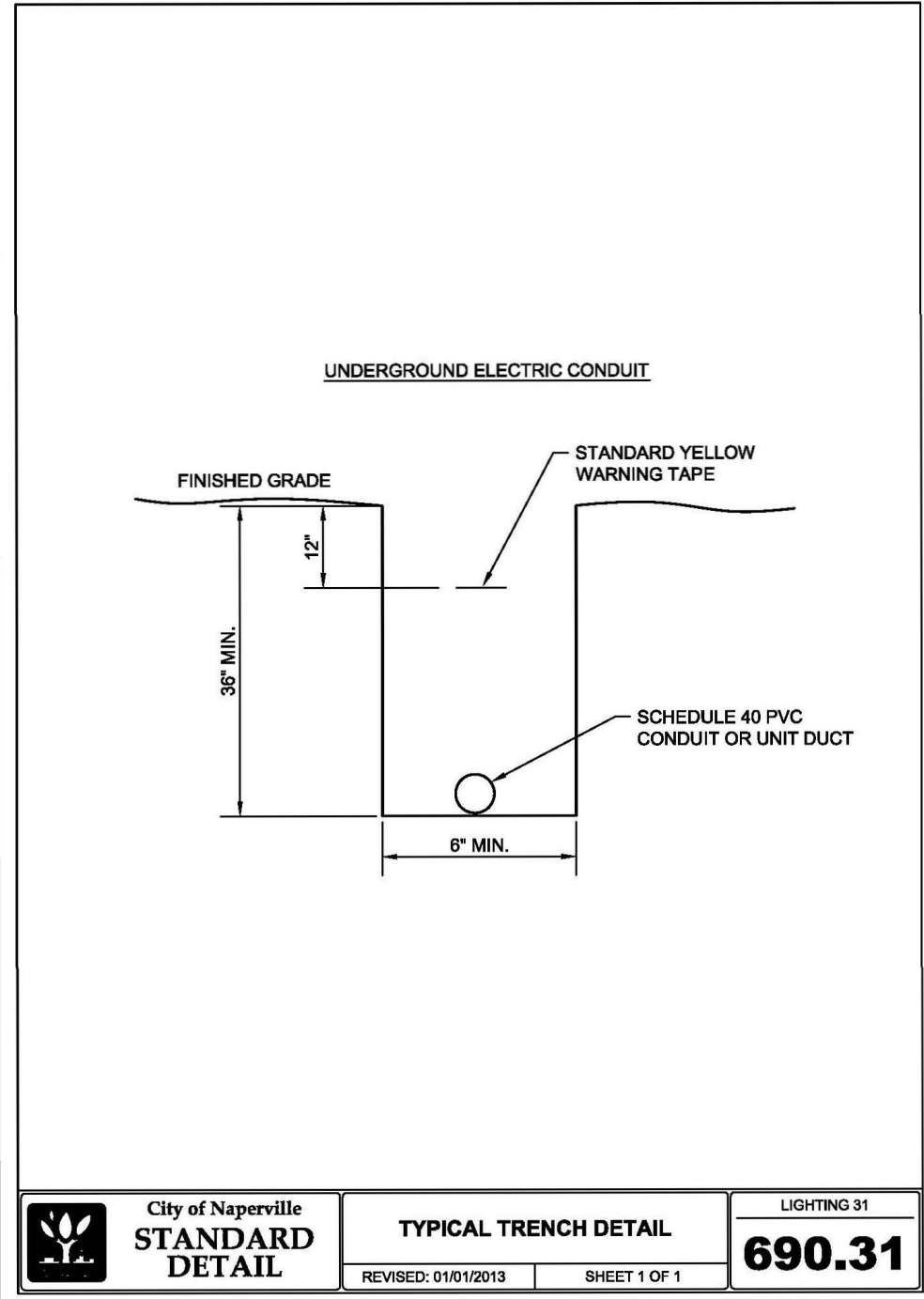
DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962

PROJECT INFORMATION
Project No.: 18-0050
Scale: NONE
Date: 01-18-2019
Design By: SDS
Drawn By: DEI
Checked By: SDS

12
OF
13

CONSTRUCTION DETAILS

L:\Projects\13018\18-0050\Engineering\Drawings\18-0050_EE.dwg Plot Date: 3/7/2019 2:42:22 PM By: dwh



DESIGNTEK ENGINEERING, INC.
CONSULTING, CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
IL PROF. LIC. NO.: 184 - 003740



PROJECT INFORMATION	
Project No.:	18-0050
Scale:	NONE
Date:	01-18-2019
Design By:	SDS
Drawn By:	DEI
Checked By:	SDS

13
OF
13

FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

MCAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
BURR RIDGE, ILLINOIS 60527
(630) 325-3400

REVISIONS	
NO.	DATE
1	03-07-19
2	03-07-19

CONSTRUCTION DETAILS