LEGAL DESCRIPTION

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

FINAL ENGINEERING PLANS

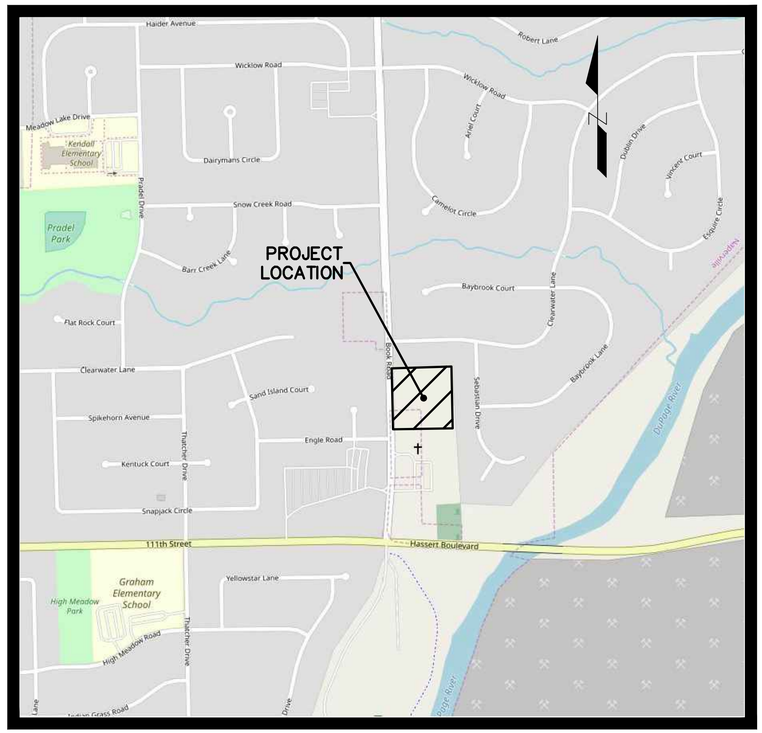
FOR

THE ENCLAVE ON BOOK

NAPERVILLE, ILLINOIS

OWNER:
Mc NAUGHTON DEVELOPMENT
11S220 JACKSON STREET, SUITE 101
(630) 325-3400

ENGINEER:
DESIGNTEK ENGINEERING, INC.
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961



LOCATION MAP
NOT TO SCALE

INDEX OF PLAN SHEETS

NOTES:

1. THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBER OPTIC, ELECTRIC, CABLE TV AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT JULIE (1-800-892-0123 OR 811) AND ALL OTHER UTILITY OWNERS WHICH ARE IN THE PROJECT LIMITS BEFORE COMMENCING EXCAVATION.

SURFACE WATER DRAINAGE CERTIFICATE

STATE OF ILLINOIS)
COUNTY OF WILL)

TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF THESE LOT IMPROVEMENTS OR ANY PART THEREOF, OR THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISIONS HAVE BEEN MADE FOR THE COLLECTION AND DIVERSION OF SUCH WATERS INTO PUBLIC AREAS OR DRAINS WHICH THE OWNER 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 PROPERTIES BECAUSE OF THE CONSTRUCTION OF THESE LOT IMPROVEMENTS.

DATED 7th DAY OF MARCH, 2019

LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
SCOTT D. SCHREINER
062-049702
Exp 11/30/19

BENCHMARKS

CITY OF NAPERVILLE BENCHMARK:

CITY OF NAPERVILE SURVEY MONUMENT
STATION No. 1503
STATION ELEVATION: 670.06 NAVD88

TOP OF CURB OPPOSITE FIRE HYDRANT AT LOTS 388/389 ACROSS FROM LOT 431 RIVER RUN UNIT 5
ELEVATION: 640.07

RIM OF SANITARY MH IN SIDEWALK AT LOTS 428/429 RIVER RUN UNIT 5 (FROM AS-BUILT PLANS)
ELEVATION: 640.75

SITE BENCHMARK:

TAG BOLT OF FIRE HYDRANT EAST SIDE OF TAG BOLT OF FIRE HYDRANT ON EAST SIDE OF BOOK ROAD AT LOT 1 THE ENCLAVE.
ELEVATION: 645.69

PARCEL IDENTIFICATION NUMBER

07-01-14-300-005
07-01-14-300-013

SITE DATA

AREA: 210,074 SQUARE FEET
OR 4.823 ACRES

BASIS OF BEARING

BASIS OF BEARINGS: WEST LINE OF RIVER RUN UNIT 5 AS RECORDED BY DOCUMENT NUMBER R96-094475 = N 00°21'53" E

CITY OF NAPERVILLE PROJECT NUMBER

19-10000009

LEGEND

EXISTING		PROPOSED
	SANITARY SEWER	
SS	SANITARY SERVICE	
	SANITARY MANHOLE	
	STORM SEWER	
	STORM SERVICE	
	CATCH BASIN	
	OPEN LID STORM MANHOLE	
	CLOSED LID STORM MANHOLE	
	STORM INLET	
	FLARED END SECTION	
	WATER MAIN	WM
WS	WATER SERVICE	WS
	VALVE VAULT	
	B-BOX	
	HYDRANT	
	VALVE BOX	
	STREET LIGHT	
	UTILITY POLE	
	RETAINING WALL	
	SILT FENCE	
XXX	CONTOUR	XXX
FM	FORCE MAIN	FM
XXX.X x	SPOT GRADES	TF=XXX.XXx
	OVERFLOW ARROW	
TF XXX.XX	TOP OF FOUNDATION	TF=XXX.XX
FG XXX.XX	FINISH GRADE	FG=XXX.XX
FF XXX.XX	FINISH FLOOR	FF=XXX.XX
GF XXX.XX	GARAGE FLOOR	GF=XXX.XX

Call Before You Dig
JULIE ILLINOIS ONE-CALL SYSTEM
CALL 1-800-892-0123 or 811
AT LEAST 48 HOURS (2 WORKING DAYS) BEFORE YOU DIG
WWW.ILLINOIS1CALL.COM

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
IL PROF LIC. NO.: 184-003740

DEI

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

COVER SHEET

L:\Projects\2018\18-0050\Engineering\DWG\Final\18-0050 TE.dwg, Plot Date: 3/7/2019 8:55:57 PM, By: dvinh

EARTHWORK

1. Topsoil Excavation Includes:

   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.

   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.

   c. Compaction of the excavated material where placed in areas not requiring structural fill material, shall be moderate.

   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.

2. Earth Excavation Includes:

   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.

   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.

   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, an rear yards abutting to the proposed lakes. Moderate compaction is required elsewhere. All fill shall be placed in 8" lifts, loose measure.

   d. Excess materials, if not utilized as fill, shall be completely removed from the construction site and disposed of by the CONTRACTOR.

3. Unsuitable Material

   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.

4. General

   The Grading CONTRACTOR shall:

   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.

   b. Spread and compact uniformly to the degree specified all excess trench spoil after completion of the underground improvements.

   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.

   d. Provide water to add to dry material in order to adjust the moisture content for the purpose of achieving the specified compaction.

5. Testing and Final Acceptance

   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.

   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).

   c. Approval of the pavement subgrade by the OWNER shall be required prior to the placement of the pavement materials.

   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).

   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.

6. Method of Measurement

   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.

   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.

   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.

7. Basis of payment

   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.

   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.

UNDERGROUND UTILITIES - GENERAL

1. The Underground CONTRACTOR Shall:

   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".

   b. Be responsible to place on grade, and coordinate with other CONTRACTORS, all underground utility structure frames such as manholes, catch basins, and inlets.

   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.

   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.

   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.

   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.

   g. Provide poured concrete fillets conforming to the shape of the pipe in all sanitary and storm manholes, and inlets.

   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.

   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.

   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.

   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).

   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.

   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 should be referenced to the same benchmark datum as the original design plans. Horizontal ties shall be referenced to lot lines, back of curb, or property corners.

   n. Be responsible for implementation of the "Soil Erosion and Sedimentation Control Measures" as applicable.

   o. Maintain erosion control measures (straw bales and filter fabric) until grass is established.

   p. All brass components shall be certified to be lead free in compliance with NSF 61 and NSF 372 and identified with applicable markings.

   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/Cm Division personal with 48–hour notice (Monday–Friday). Contact Naperville TED Business Group for scheduling.

   r. All valve boxes, vaults, hydrants, and manholes shall not be covered with construction debris and shall remain accessible to the respective utility company.

   s. All excavations deeper than 20 feet deep must be protected by a system designed by a registered professional engineer.

2. Method of Measurement

   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.

   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.

   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.

3. Basis of Payment

   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.

   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.

   c. Trench backfill material shall be paid for at the contract unit price per CUBIC YARD. Compaction must be made by mechanical methods.

4. As–Built Water & Sanitary Services

   a. As–built locations shall be provided for all water and sanitary sewer stubs. They shall also be stamped on the curb.

5. Structure Castings

   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.

   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.

   c. All frames shall be set on a mastic bed with all gaps tuck pointed.

   d. All castings shall be made in the U.S.A. with U.S.A. materials.

6. Trench Backfill

   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.

   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.

   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.

SANITARY SEWER

1. Material shall be:

   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.

   b. DIP (CL 50 min) with polywrap for all pipe with less than 4' or greater than 25' of cover.

   c. PVC SDR 26 or D.I.P. CL 52 for service laterals less than 3' in depth, otherwise PVC SDR 35.

   d. sewer pipe and fittings shall be in accordance with ASTM D–3034 for sizes 4"–15" (100–375 mm).

2. Joints shall be:

   a. for PVC; flexible elastomeric seal joints, ASTM D–3139, pressure joint.

   b. for DIP; rubber gasket joints, ANSI A21.11

3. Bedding shall be as detailed on the Engineering Plan.

4. Minimum size for mains shall be eight inches (8") and the minimum size for services shall be 6".

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.

6. "Band Seal" or similar couplings shall be used when joining pipes of dissimilar materials.

7. All sanitary structures shall have an external wrap, MAC or approved equal.

8. Polyethylene encasement shall be provided for all DIP sanitary sewer in accordance with AWWA latest standards.

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.

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.

11. Sewers shall be laid straight in both horizontal and vertical planes between manholes with a minimum cover of 4 feet.

12. Sanitary sewers shall be located a minimum of 10 feeet from any building and meet separation requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois.

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.

14. Testing and Final Acceptance

   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.

   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 from exterior of manhole – patching inside of manhole shall not be acceptable. A vacuum of 10"(254 mm) Hg shall be place on the manhole and the time shall be measured for the vacuum to drop to 9"(229 mm) Hg. The vacuum shall not drop below 9"(229 mm) Hg for the following time periods for each size of manhole:
      a) 48–inch diameter – 60 seconds
      b) 60–inch diameter – 75 seconds
      c) 72–inch diameter – 90 seconds
      d) 84–inch diameter – 105 seconds

   Any manholes that fail the test shall be sealed and re–tested until acceptable.

   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.

WATER MAIN

1. All installations shall conform to the requirements of the Standard Specifications for Water and Sewer Main Construction in Illinois.

2. Ductile iron water main to be Class 52. All ductile iron pipe is to be encased in polyethylene film. Polyethylene encasement to be installed in accordance with ANSI/AWWA C105/A21.5–05., Mechanical joints with stainless steel nuts, bolts and washers, Type 304 or better. Push–On Rubber Gasket joints complying to AWWA C600–99.
   a. Stainless steel nuts, bolts/T–bolts, and washers, Type 304 or better, will be required on all water main installations. This would apply to hydrants, tapping sleeves, valves, fittings, restraint, and other appurtenances buried or in valve vaults. Mechanical joints and restraint glands require 304 stainless steel T–bolts. An anti–seize compound shall be factory applied to nuts or bolts – any damage to this coating shall be repair with field applied approved anti–seize compound that is a molybdenum–base lubricant, Bostik Never–Seez or approved equal.

3. Material for the services shall be soft temper, Type K, copper water tubing, conforming to ASTM latest standard w/ compression fittings, unless otherwise noted on the plans.
   a. Water service line smaller than 3" shall be type K copper. If joints are required due to length of service, then only compression type coupling shall be permitted. No soldered or flared type joints are allowed.

4. Sizes for main & service lines shall be as indicated on the Engineering Plan.

5. Joints shall incorporate a formed bell complete with a single rubber gasket conforming to ASTM F477 and shall be designed to meet the zero leakage test requirements of ASTM D3139.

6. Connections to City water system shall be made under full water service pressure.
   a. Tapping sleeves shall include two piece bolted sleeve type with mechanical joints, (Tyler/Union), or equal with joint accessories.
   b. Tapping valves shall include fully ported gate valves complying with AWWA C515–09 and mechanical joints type, American Series 2500 or approved equal.Tapping valves shall be placed in precast concrete vaults.

7. The shut–off valve or curb stop for services shall be located as shown on the plans and shall be installed with a valve box of design approved by the Municipality. The termination point shall be clearly located with a blue–topped 4 inch x 4 inch stake extending a minimum of 3 feet above and below final grade.

8. Valves: Mueller, Clow or equal mechanical joint, resilient wedge seat, cast iron, bronze–mounted, O–ring seal, bronze non–rising stems, gate valves. Valves shall open left and be tested to 500 psi with a 250 psi working pressure.
   a. The valves less than 16" shall be standard pattern, gate valves and shall have the name or mark of the manufacturer, size and working pressure plainly cast in raised letters on the valve body. Valves may be approved from one of the following manufacturers: American, Clow, Waterous or Kennedy.

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.

10. Valve Boxes
    a. Valve boxes shall be Tyler 6850 or approved equal. For larger valves Tyler 6860 or approved equal with #6 base.
    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.
    c. Valve box must have additional upward or downward travel when adjusted to finished grade.

11. Valve Vaults
    a. All valve vaults shall be precast reinforced concrete only.
    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.
    c. All lifting holes, joints between precast reinforced concrete sections, gaps between pipes and structures shall be tuckpointed with hydraulic cement.
    d. All castings shall be set on bitumastic material.
    e. Bitumastic material shall be placed between precast reinforced concrete sections.
    f. All valve vaults shall have neoprene coated or fiberglass steps.
    g. Vaults and boxes shall not be allowed under streets, sidewalks or driveways.

12. Fire Hydrants
    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.
    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 pumper connection. Thread shall be National Standard.
    c. The hydrant shall have a break–away traffic flange and connections.
    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.
    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.
    f. The maximum distance between fire hydrants shall be 350 feet.
    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.
    h. All fire hydrants to have a 10 pound anode bag attached to the hydrant.
    i. The Contractor shall rotate and/or adjust any existing and/or new hydrant to the satisfaction of the Department of Public Utilities.

13. Pipe Cover and Separation
    a. Cover over water pipes shall be a minimum of 5.5 feet.
    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.

14. Pipe Laying
    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.
    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.
    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.
    d. During water main installation, to make a closure between two pipe ends, or between pipe end 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.
    e. All pipe and trenching shall be viewed and approved by the Municipality prior to cover and backfill.
    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 attained by the use of a combination or retaining glands and threaded rods.
    g. All retainer glands when required to restrain valves, fittings, hydrants, and pipe joints shall be mechanical joint wedge action type MEGALUG 1100 Series as manufactured by EBBA Iron, Inc. or UNI–FLANGE BLOCKBUSTER 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".
    h. Existing ductile iron systems for restraining push–on pipe bells shall be MEGALUG SERIES 1100HD or FORD SERIES 1390.
    i. Existing ductile iron systems requiring restraint shall be MEGALUG SERIES 1100SD (split MEGALUG) for mechanical joints.

15. Testing and Disinfection
    a. The preferred point of application of the chlorinating agent shall be at the beginning of the pipeline extension or any valved 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.
    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.
    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.
    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).
    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.
    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.

STORM SEWER

1. All storm sewer shall conform to the requirements of The Standard Specifications for Water and Sewer Main Construction in Illinois
2. Storm sewers shall be reinforced concrete pipe conforming to ASTM C76 minimum Class III with O–ring joints conforming to ASTM C433.
3. Bedding shall be minimum of 6" of CA–7.
4. Minimum size shall be twelve inches (12").
5. Storm Structures
   a. Rear yard catch basins are not allowed.
   b. All storm structures shall be precast reinforced concrete only.
   c. All storm structures shall be set on a six–inch (6") CA–7 cushion.
   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.
   e. All lifting holes, joints between precast reinforced concrete sections, gaps between pipes and structures shall be tuckpointed with hydraulic cement.
   f. Bitumastic material shall be placed between precast reinforced concrete sections.
   g. All steps shall be fiberglass or neoprene coated.
   h. All structure connections shall be concrete sewer pipe, ASTM C14 for extra strength pipe
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.
7. Sump pump service connections shall be 4" PVC SDR 26 unless otherwise noted.
8. All flared end sections less than 48" (effective diameter) require grates in accordance with IDOT specifications.
9. All castings shall be made in the USA with USA materials. Closed covers shall be stamped per Detail Storm 10.
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 C478–05 (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.
    a. Pavement: East Jordan Iron Works 1022 Frame with Type M1 radial flat grate, or approved equal.
    b. Barrier curb and gutter: East Jordan Iron Works 7220 Frame with Type M1 grate and T1 curb box, or approved equal.
    c. Depressed curb: East Jordan Iron Works 5120 Frame and grate, or approved equal.
    d. Mountable curb: East Jordan Iron Works 7525 Frame and grate, or approved equal.
    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.

PAVING CURBS AND SIDEWALK

1. Fine Grading
   a. Prior to the construction of the curb and gutter and the placement of the base material, the streets shall be fine graded to within 0.1 feet + of final subgrade elevation, to a point two (2) feet beyond the back of the proposed curb.
2. Curb and Gutter
   a. The curb and gutter shall be the type as detailed on the Engineering Plans.
   b. The curbs shall be backfilled after their construction and prior to the placement of the base course.
3. Pavement
   a. The pavement materials shall be as detailed on the Engineering Plans. Thickness specified shall be considered to be the minimum compacted thickness.
4. General. The Paving Contractor shall:
   a. Repair any base course and binder course failures prior to the installation of the final bituminous concrete surface course.
   b. Sweep clean the binder course prior to the installation of the final bituminous concrete surface course. Excessive cleaning of the binder course that may be required, and is not the fault of the Paving CONTRACTOR, shall be paid for on a time and material basis by prior agreement with the OWNER.
   c. Permit the bituminous concrete binder course to weather one (1) winter season prior to the installation of the bituminous concrete surface course.
   d. Street signs & Traffic signs.
5. Testing and Final Acceptance
   a. Prior to the placement of the base course, the subgrade must pass a proof roll test to be approved by the local jurisdictional authority. The City shall be contacted at least 2 business days in advance of the proof roll. (See "Testing and Final Acceptance for Earthwork")
   b. Prior to placement of the bituminous concrete surface course, the CONTRACTOR if requested by the OWNER, shall obtain specimens of the binder course with a core drill where directed by the ENGINEER, for the purpose of thickness verification. Coring shall be in accordance with the applicable provisions of ART.406.15 of the Standard Specification entitled "Standard Specifications for Road and Bridge Construction". The cost for obtaining cores, which meet or exceed the specification, shall be borne by the OWNER.
   c. Deficiencies in the bituminous concrete binder course shall be adjusted for by increasing the plan thickness of the surface course with no additional cost to the OWNER.
   d. A nuclear density test must be conducted on asphalt pavement in accordance with IDOT standards.
   e. Final acceptance of the total pavement installation shall be subject to the testing and checking requirements cited above.
6. Method of Measurement
   a. Curb and Gutter, and base course shall be measured in the field by the CONTRACTOR. The quantities shall be submitted to the OWNER for verification.
   b. When requested by the OWNER, documentation for the installed base course, bituminous concrete binder, and surface, shall be submitted to the ENGINEER for verification. Deficiencies in total bituminous concrete pavement thickness shall be adjusted for in accordance with the requirements of the jurisdictional authority.
7. Basis of Payment
   a. Curb and Gutter will be paid for at the contract unit price per LINEAL FOOT.
   b. Prime Coat material will be paid for at the contract unit price per GALLON.
   c. Base Course will be paid for at the contract unit price per SQUARE YARD.
   d. Bituminous Concrete will be paid for at the contract unit price per SQUARE YARD.

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

SPECIFICATIONS & GENERAL NOTES

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

DEI

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

GENERAL NOTES

1. Definition of Terms
   a. The CONTRACTOR is the individual, firm, partnership or corporation contracting with the OWNER for performance of the prescribed work.
   b. The OWNER is the individual, firm, partnership or corporation having the authority to award the contract for the prescribed work.
   c. The ENGINEER where specifically referred to in the Specifications shall be the OWNER'S representative.
2. All CONTRACTORS shall be responsible for the following, which shall also be incidental to the cost of construction:
   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.
   b. The obtaining of any necessary permits not previously applied for by the OWNER, and posting of the necessary bonds.
   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.
   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.
   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.
   f. The restoration to the original condition or better of any areas that are damaged by the CONTRACTOR during construction.
   g. The testing of materials, if required by the OWNER and/or the jurisdictional agencies.
   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.
   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.
   j. The contractor shall be responsible for implementation & maintenance of all soil erosion & sedimentation control measures throughout the entire project.
   k. Contractors are required to obtain applicable permits from the Municipality.
3. The OWNER shall be responsible for the following:
   a. Scheduling the necessary preconstruction meeting(s) with the jurisdictional agencies at least two (2) working days prior to the commencement of work.
   b. Insurance certificates from all contractors, naming the City of Naperville as additional insured, prior to preconstruction meeting being set.
   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.
   d. Applying for IEPA, IDOT, and all applicable County, Municipal and Sanitary District Permits. Other necessary permits shall be the responsibility of the CONTRACTOR.
4. The ENGINEER shall be responsible for the following:
   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.
   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.
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:
   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).
   b. Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition, as adopted by the Illinois Society of Professional Engineers, etal.
   c. Illinois Urban Manual, latest edition.
   d. City of Naperville Codes and Ordinances and Standard Specification current edition when these plans were approved.
   e. American With Disabilities Act, Standards for Accessible Design, latest ed.
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.

CITY OF NAPERVILLE - GENERAL NOTES

GENERAL NOTES

1. The OWNER or his/her/their representative is responsible to obtain any and all permits required by applicable governmental agencies.
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).
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.
4. The contractor/developer assumes all responsibility and liability for any action resulting from their work within the public right-of-way.
5. The contractor/developer shall indemnify and hold harmless the city of Naperville.
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.
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.
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.
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 tall-free number is 800-892-0123 it is the responsibility of the CONTRACTOR to locate any private facilities or non-JULIE member facilities.
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).
11. Record drawings are required to be submitted and approved by the city of Naperville prior to final occupancy being granted.
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.

STORM SEWER

1. No connection to an existing public storm sewer may be made without permission of the City Engineer.
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.

EROSION CONTROL & DRAINAGE

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.
2. During extended dry periods, the construction area(s) may need to be watered down to prevent the blowing of soil from the site.
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.
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.

GEOMETRIC & PAVING

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.
2. Any new or existing improvements that are damaged shall be repaired or replaced in a manner that is satisfactory to the City Engineer.
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.
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.
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.

TRAFFIC CONTROL & PROTECTION

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, daily 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.
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.
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.
4. Any temporary open holes should be barricaded and protected in accordance with applicable standards.

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
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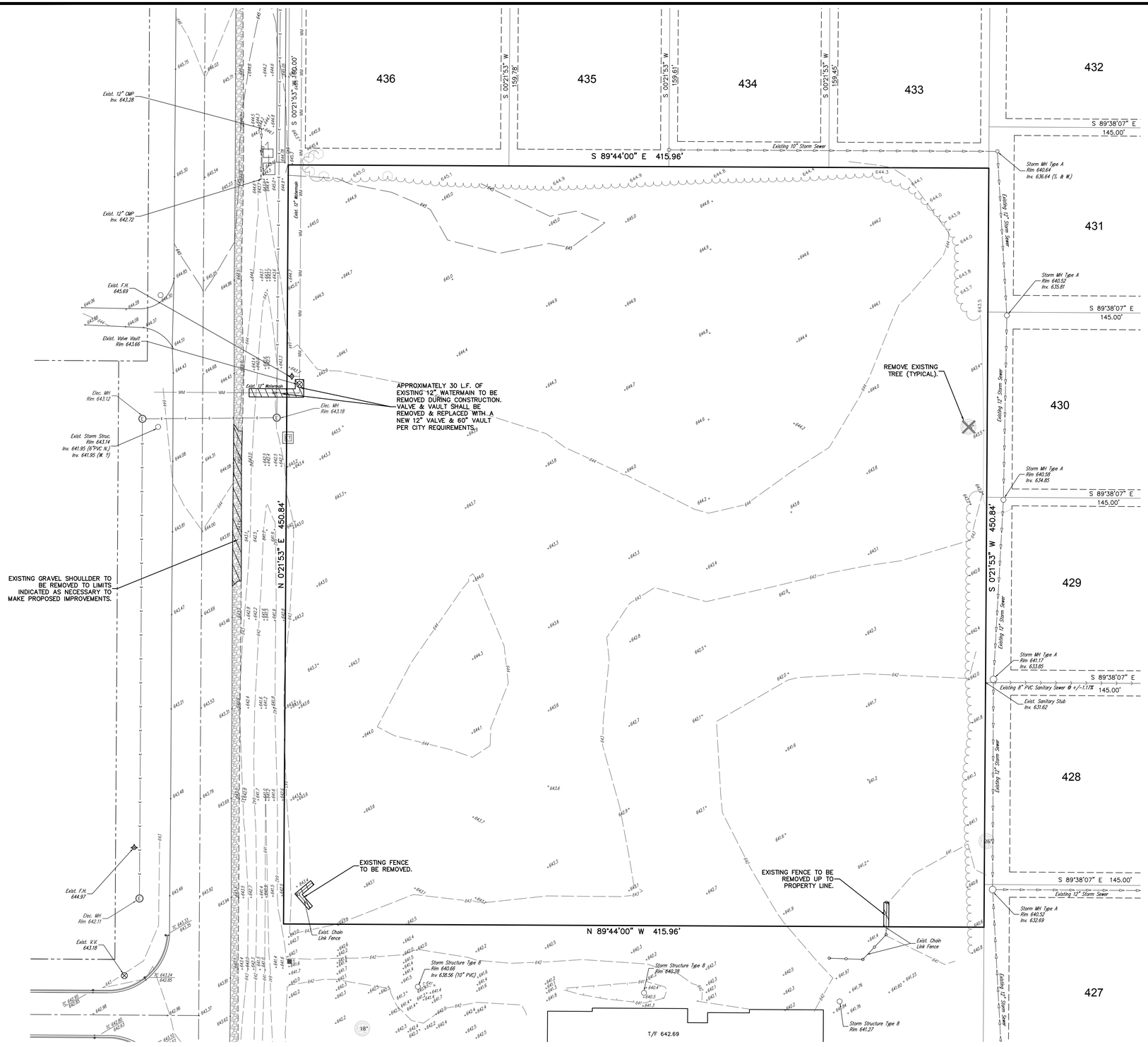
IL PROF. LIC. NO.: 184 - 003740

DEI

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

SPECIFICATIONS & GENERAL NOTES



GRAPHIC SCALE

30 0 15 30

(IN FEET)
1 inch = 30 ft.

EXISTING CONDITIONS & REMOVAL PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	02-15-19	PER CITY REVIEW	SDS
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McNAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
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FINAL ENGINEERING PLANS
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DEI

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

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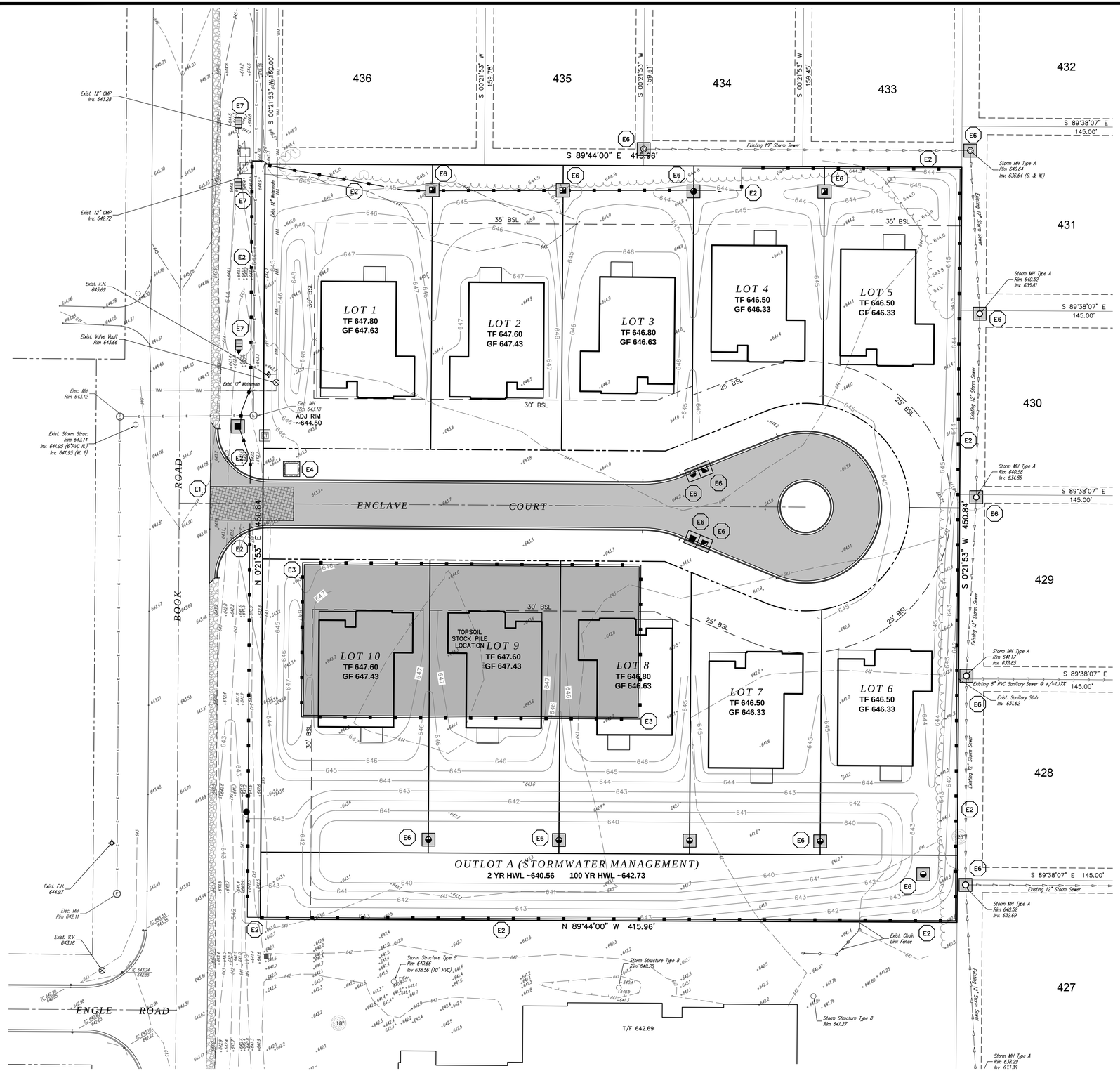


EROSION CONTROL & SEDIMENTATION NOTES

1. 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.
2. 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.
3. THE CITY SHALL BE PROVIDED WITH A COPY OF THE IEPA LETTER OF NOTIFICATION OF COVERAGE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. 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.
5. 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.
6. ALL CONSTRUCTION TRAFFIC SHALL ENTER SITE ONLY AT PROPOSED STABILIZED CONSTRUCTION ENTRANCE(S) AS SHOWN ON PLANS.
7. ALL DIRT, MUD, OR DEBRIS THAT REACHES THE PUBLIC ROADS SHALL BE CLEANED IMMEDIATELY BY THE CONTRACTOR.
8. TECHNIQUES SHALL BE EMPLOYED TO PREVENT THE BLOWING OF DUST OR SEDIMENT FROM THE SITE.
9. 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 PLAN UNTIL THE DISTURBED AREA IS STABILIZED. IN ADDITION, SILT FENCE SHALL BE PROVIDED FOR AREAS DRAINING 200' AND GREATER IN ACCORDANCE WITH NRCS CODE 920.
10. 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.
11. THE ESTIMATED CONSTRUCTION SCHEDULE IS AS FOLLOWS:

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

    THE ENTIRE SITE MUST BE STABILIZED, USING A HEAVY MULCH LAYER OR ANOTHER METHOD AT THE CLOSE OF THE CONSTRUCTION SEASON.
12. 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.
13. 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.
14. THE PROTECTION OF THE OPEN LID DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AS SPECIFIED IN DETAILS. ALL OPEN LID 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 LID 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.
15. EROSION CONTROL BLANKET (ECB) SHALL BE INSTALLED TO ALL DISTURBED AREAS WITH SLOPES EQUAL TO OR STEEPER THAN 5H:1V AND IN CRITICAL AREAS (EX: DETENTION BASIN PERIMETERS, STREAMBANKS, BERMS, ETC.) IMMEDIATELY UPON FINAL GRADING. S175 NORTH AMERICAN GREEN (OR SIMILAR) ECB SHALL BE USED. ECB WITH GREEN DYE IS NOT ACCEPTABLE.
16. 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.
17. DURING DEWATER OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
18. AN INCIDENT OF NON-COMPLIANCE (ION) 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.
19. 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.
20. 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

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

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

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

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
IL PROF. LIC. NO.: 184-003740

DEI

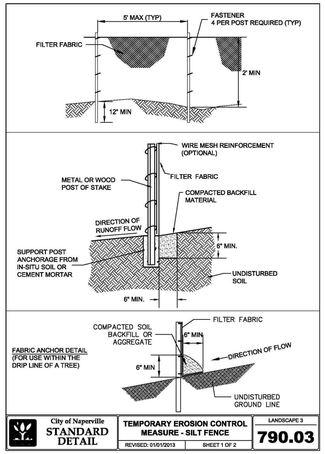
PROJECT INFORMATION
Project No.: 18-0050
Scale: 1" = 30'
Date: 01-18-2019
Design By: SDS
Drawn By: DEI
Checked By: SDS

5
OF
13

SOIL EROSION & SEDIMENTATION CONTROL PLAN, SPECIFICATIONS AND DETAILS

SOIL EROSION & SEDIMENTATION CONTROL PLAN, SPECIFICATIONS AND DETAILS

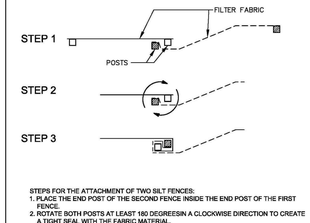
L:\Projects\2018\18-0050\Engineering\DWG\Final\18-0050 TE.dwg Plot Date: 3/7/2019 2:56:02 PM By:dvelth



City of Naperville
STANDARD DETAIL

TEMPORARY EROSION CONTROL MEASURE - SILT FENCE

REVISED: 01/01/2013 | SHEET 1 OF 2 | LANDSCAPE 3 | **790.03**



STEPS FOR THE ATTACHMENT OF TWO SILT FENCES:
1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREESIN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.

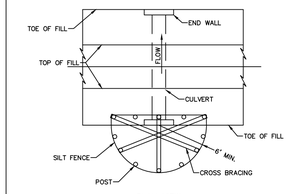
NOTES:
1. TEMPORARY SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NON-WOVEN OR 50 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.
4. DEPENDING UPON THE CONFIGURATION, ATTACH FABRIC AND WIRE MESH WITH HOG RINGS, STEEL POST WITH TIE WIRES, WOOD POST WITH NAILS.

City of Naperville
STANDARD DETAIL

TEMPORARY EROSION CONTROL MEASURE - SILT FENCE

REVISED: 01/01/2013 | SHEET 2 OF 2 | LANDSCAPE 3 | **790.03**

CULVERT INLET PROTECTION - SILT FENCE



PLAN VIEW

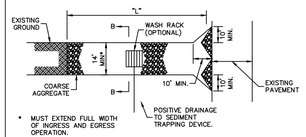
NOTES:
1. THE SILT FENCE SHALL MEET THE REQUIREMENTS AS SHOWN ON STANDARD DRAWING IL-620 SILT FENCE EXCEPT THE MINIMUM POST SPACING SHALL BE 3 FEET AND THE TOPS OF POSTS SHALL BE CROSS BRACED.
2. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE SILT FENCE.
3. THE MAXIMUM DRAINAGE AREA TO THE CULVERT BEING PROTECTED IS 1 ACRE.

REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

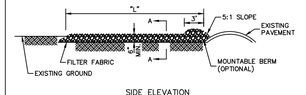
STANDARD DWG. NO. IL-508SF | SHEET 1 OF 1 | DATE 1-29-99

STABILIZED CONSTRUCTION ENTRANCE PLAN



* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.

PLAN VIEW



SIDE ELEVATION

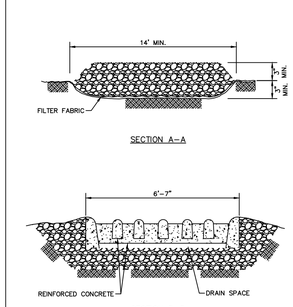
NOTES:
1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I,II OR IV AND SHALL BE PLACED OVER CLEARED AREA PRIOR TO THE PLACING OF ROCK.
2. ROCK OR RECLAIMED CONCRETE SHALL MEET ONE OF THE FOLLOWING IDOT COARSE AGGREGATE GRADATION, CA-1, CA-2, CA-3, OR CA-4 AND BE PLACED ACCORDING TO CONSTRUCTION SPECIFICATION 25 ROCKFILL USING PLACEMENT METHOD 1 AND CLASS III COMPACTION.
3. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHALL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.
4. IF WASH RACKS ARE USED THEY SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

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

STABILIZED CONSTRUCTION ENTRANCE PLAN



SECTION B-B

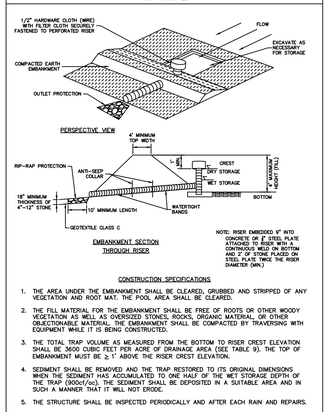
REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

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

DETAIL 13 - PIPE OUTLET SEDIMENT TRAP - ST I

NOT TO SCALE

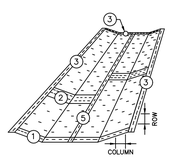


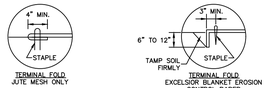
CONSTRUCTION SPECIFICATIONS

1. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. THE TOTAL TRAP VOLUME AS MEASURED FROM THE BOTTOM TO RISER CREST ELEVATION SHALL BE 3600 CUBIC FEET PER ACRE OF DRAINAGE AREA (SEE TABLE 9). THE TOP OF EMBANKMENT MUST BE ≥ 1' ABOVE THE RISER CREST ELEVATION.
4. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF OF THE WET STORAGE DEPTH OF THE TRAP (900cf/ac). THE SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
5. THE STRUCTURE SHALL BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND REPAIRS.

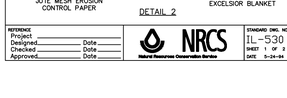
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCE CONSERVATION SERVICE	PAGE D-15-7	WATERSHED PROTECTION DIVISION DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH

EROSION BLANKET PLAN





DETAIL 1



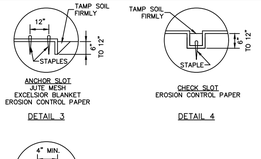
DETAIL 2

REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

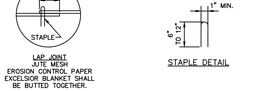
NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-530 | SHEET 1 OF 2 | DATE 5-24-94

EROSION BLANKET PLAN



DETAIL 3 | DETAIL 4



DETAIL 5

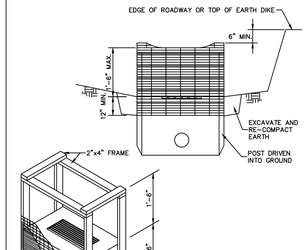
NOTES:
1. ON EROSION CONTROL PAPER, CHECK SLOTS, IN DITCH CHANNEL SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6% ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 3' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'x 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'x 150 ROLL OF MATERIAL.
3. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE, DO NOT STRETCH.
4. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-530 | SHEET 2 OF 2 | DATE 3-11-95

INLET PROTECTION - FABRIC DROP PLAN



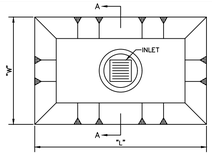
NOTES:
1. FILTER FABRIC SHALL MEET THE REQUIREMENT OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I, WITH AN EOS OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
2. THE WIRE MESH SHALL HAVE A MAXIMUM OPENING OF AT LEAST 6 INCHES.
3. LIMIT DRAINAGE AREA TO THE INLET PROTECTION TO 1 ACRE.

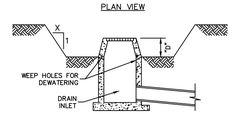
REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-560 | SHEET 3-11-95 | DATE 6-29-93

INLET PROTECTION - EXCAVATED DRAIN PLAN





TYPICAL SECTION A-A

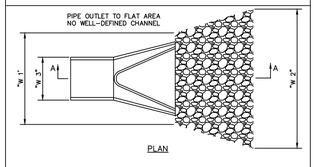
NOTES:
1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ½ THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED ON A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
2. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTION DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
3. ALL CUT SLOPES SHALL BE 2:1 OR FLATTER.

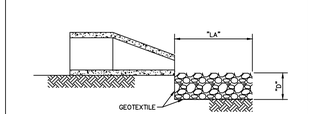
REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-555 | SHEET 1 OF 1 | DATE 3-11-93

PIPE OUTLET TO FLAT AREA



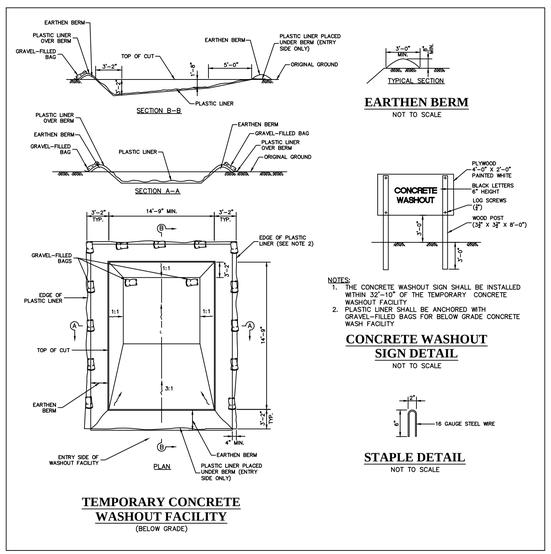


NOTES:
1. THE FILTER FABRIC SHALL MEET THE REQUIREMENTS IN MATERIAL SPECIFICATIONS 592 GEOTEXTILE TABLE 1 OR 2, CLASS I, II OR III.
2. THE ROCK RIPRAP SHALL MEET THE IDOT REQUIREMENTS FOR THE FOLLOWING GRADATION: RR
3. THE RIPRAP SHALL BE PLACED ACCORDING TO CONSTRUCTION SPECIFICATION 61 LOOSE ROCK RIPRAP. THE ROCK MAY BE EQUIPMENT PLACED.

REFERENCE: Project ____ Designed ____ Date ____ Checked ____ Date ____ Approved ____ Date ____

NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-610 | SHEET 1 OF 1 | DATE 9-15-93



TEMPORARY CONCRETE WASHOUT FACILITY
(BELOW GRADE)

EARTHEN BERM
NOT TO SCALE

NOTES:
1. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 32'-10" OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
2. PLASTIC LINER SHALL BE ANCHORED WITH GRAVEL-FILLED BAGS FOR BELOW GRADE CONCRETE WASH FACILITY

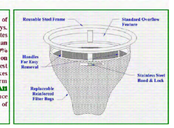
CONCRETE WASHOUT SIGN DETAIL
NOT TO SCALE

STAPLE DETAIL
NOT TO SCALE

Catch-All - is an inlet and catch basin filtration device designed to significantly reduce the ingress of sediment into stormwater systems, and thereby, improve water quality. Designs are available for a custom fit in virtually any drainage structure or casting.

- Helps to prevent sedimentation of lakes, rivers, and streams
- Custom fitted to virtually any drainage structure or casting
- Rugged, reusable, welded steel frames
- Durable, replaceable, reinforced sediment bags
- Standard overflow feature - No ponding during heavy storms

An average acre under construction delivers 30 tons of sediment per year to downstream waterways. Construction sites have very high delivery rates compared to other sources. Storm sewers provide an excellent vehicle for this sediment. Typically, over 50% to nearly 100% of the soil eroded from a construction site is delivered to a lake or stream. One of the best ways to prevent this sediment from polluting our lakes and streams is to prevent it from entering the storm sewer system at inlets and catch basins. **Catch-All Inlet Protectors** were first introduced in 1998. Since then, they have prevented thousands of tons of sediment from reaching our nation's waterways.



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

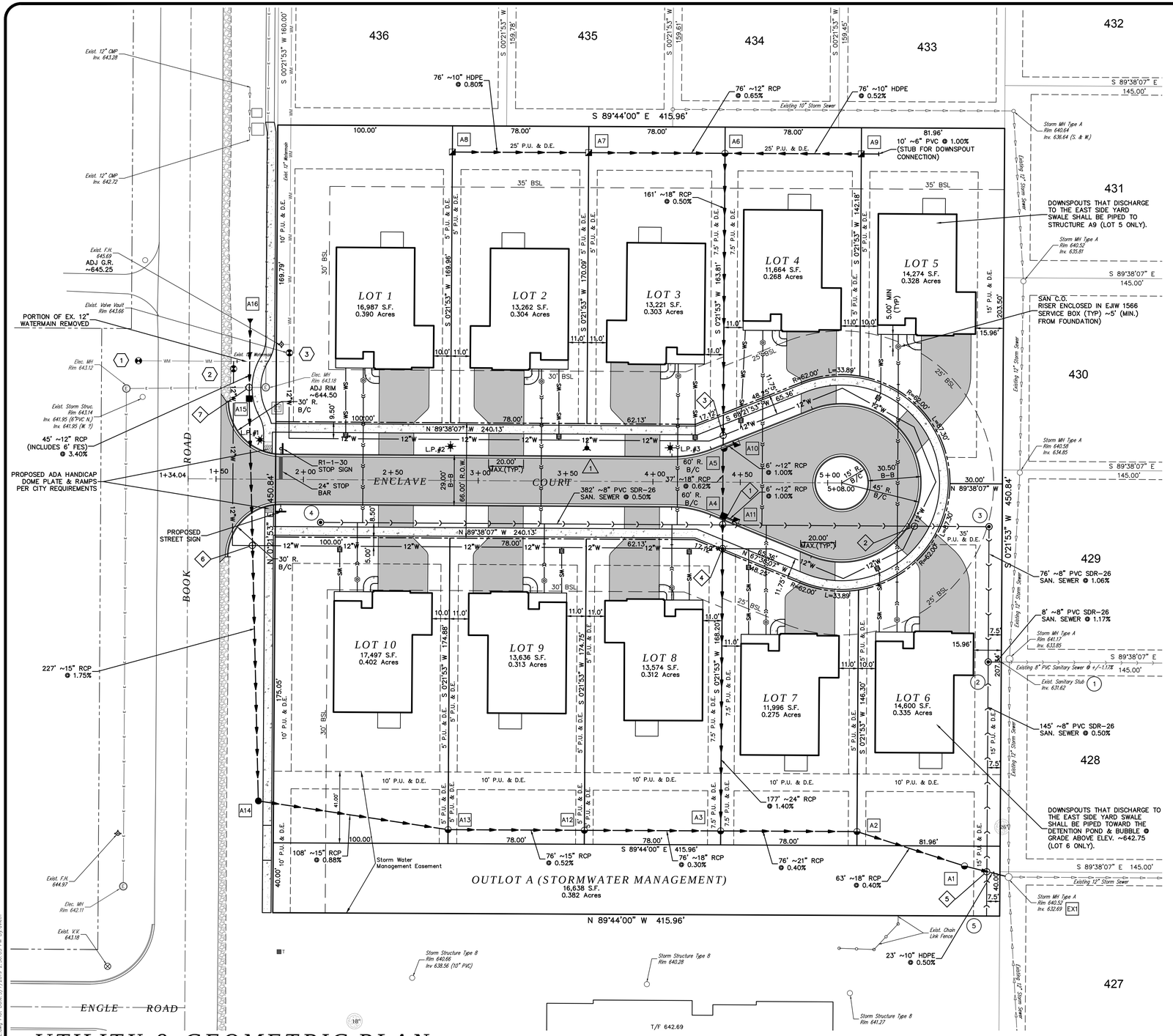
SOIL EROSION & SEDIMENTATION CONTROL PLAN DETAILS

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

DEI

PROJECT INFORMATION

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



UTILITY & GEOMETRIC PLAN

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 (X)

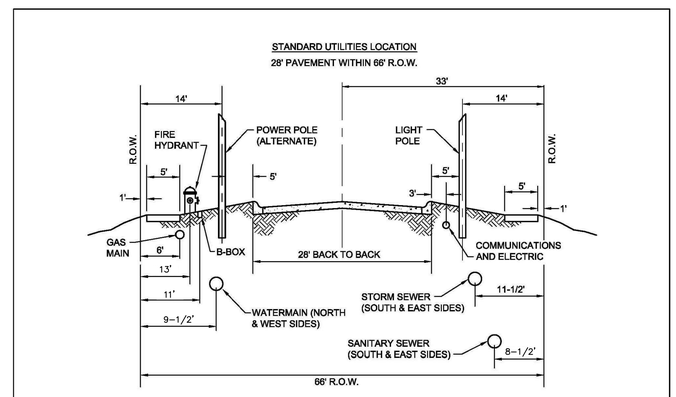
1. FIRE HYDRANT ASSEMBLY GRADE RING 644.70

STORM SEWER STRUCTURES (#)

- A16 — 12" RCP FES W/GRATE INV 643.00
- A15 — 48" DIA. CATCHBASIN, O.L. RIM 644.00 INV 641.47 (N, 12") INV 641.22 (S, 15")
- A14 — 48" DIA. M.H., OL RIM 643.20 INV 637.25 (N&E, 15")
- A13 — 48" DIA. M.H., O.L. RIM 639.00 INV 636.30 (E&W, 15")
- A12 — 48" DIA. M.H., O.L. RIM 639.00 INV 635.90 (W, 15") INV 635.65 (E, 18")
- A11 — 24" DIA. INLET RIM 643.48 (FL) INV 638.96 (NW, 12")
- A10 — 24" DIA. INLET RIM 643.48 (FL) INV 639.13 (SW, 12")
- A9 — 24" DIA. INLET RIM 643.50 INV 640.50 (W, 10")
- A8 — 24" DIA. INLET RIM 644.20 INV 641.20 (E, 10")
- A7 — 24" DIA. INLET RIM 643.80 INV 640.59 (W, 10") INV 640.43 (E, 12")
- 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")
- A5 — 48" DIA. M.H., O.L. RIM 643.41 (FL) INV 639.07 (NE, 12") INV 638.63 (N&S, 18")
- A4 — 48" DIA. M.H., O.L. RIM 643.41 (FL) INV 638.90 (SE, 12") INV 638.40 (N, 18") INV 637.90 (S, 24")
- 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")
- A2 — 48" DIA. M.H., O.L. RIM 639.00 INV 635.11 (W, 21") INV 635.11 (SE, 18")
- A1 — 60" DIA. RESTRICTOR M.H. WITH 2 OPEN LIDS RIM 643.80 INV 634.86 (NW, 18") INV 634.86 (SE, 10") (SEE DETAIL, SHEET #12)
- EX1 — EXISTING 48" M.H. RIM 640.52 PR INV 634.74 (NW, 10") EX INV 632.69 (N,S&E, 12")

STORM SEWER GRATES

SEE DETAILS ON SHEETS 10 THRU 12



City of Naperville STANDARD DETAIL

STANDARD ROADWAY SECTION

REVISED: 01/01/2013 — SHEET 2 OF 4 — PAVEMENT 1 — **590.01**

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 (XX)

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 653.119 OR ELSE EITHER PIPE MUST BE INSTALLED IN A CASING. THE PROTECTION MUST EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WM TO THE SEWER IS AT LEAST 10 FEET. 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. (XX)
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)

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
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IL PROF. LIC. NO.: 184-003740

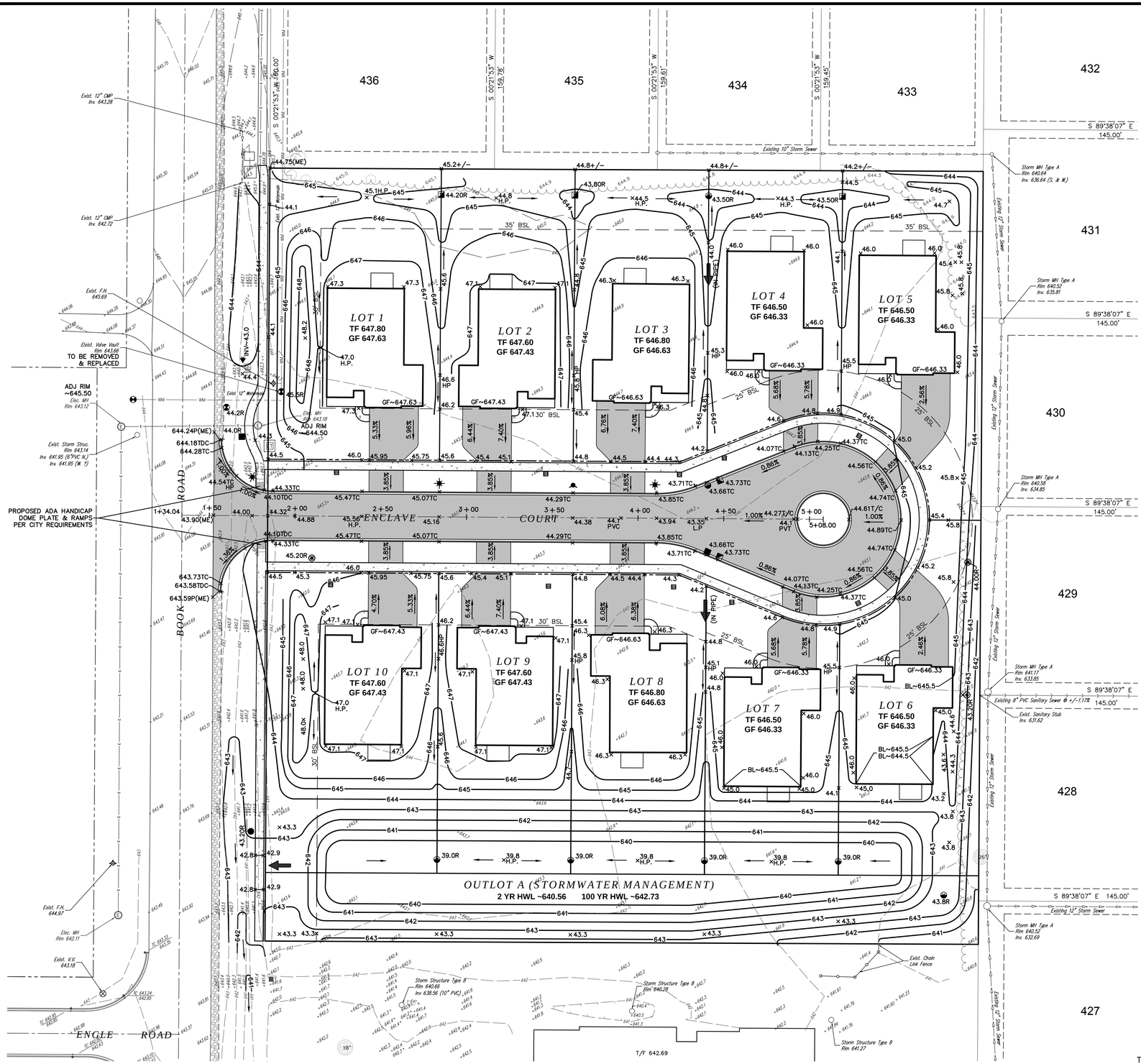
DEI

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

L:\Projects\2018\18-0050\Engineering\DWG\Final\18-0050 FE.dwg Plot Date: 3/7/2019 2:56:05 PM By: dvelin



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'

GRAPHIC SCALE

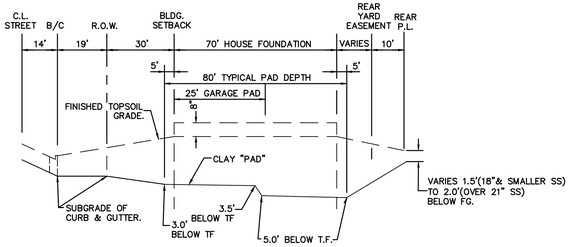
30 0 15 30

(IN FEET)
1 inch = 30 ft.

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

TYPICAL PAD SECTION

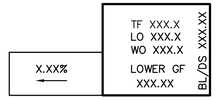
NOT TO SCALE



NOTES:

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

GRADING/PAD NOTES



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.

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

REVISIONS

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

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

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

DESIGNTEK ENGINEERING, INC.
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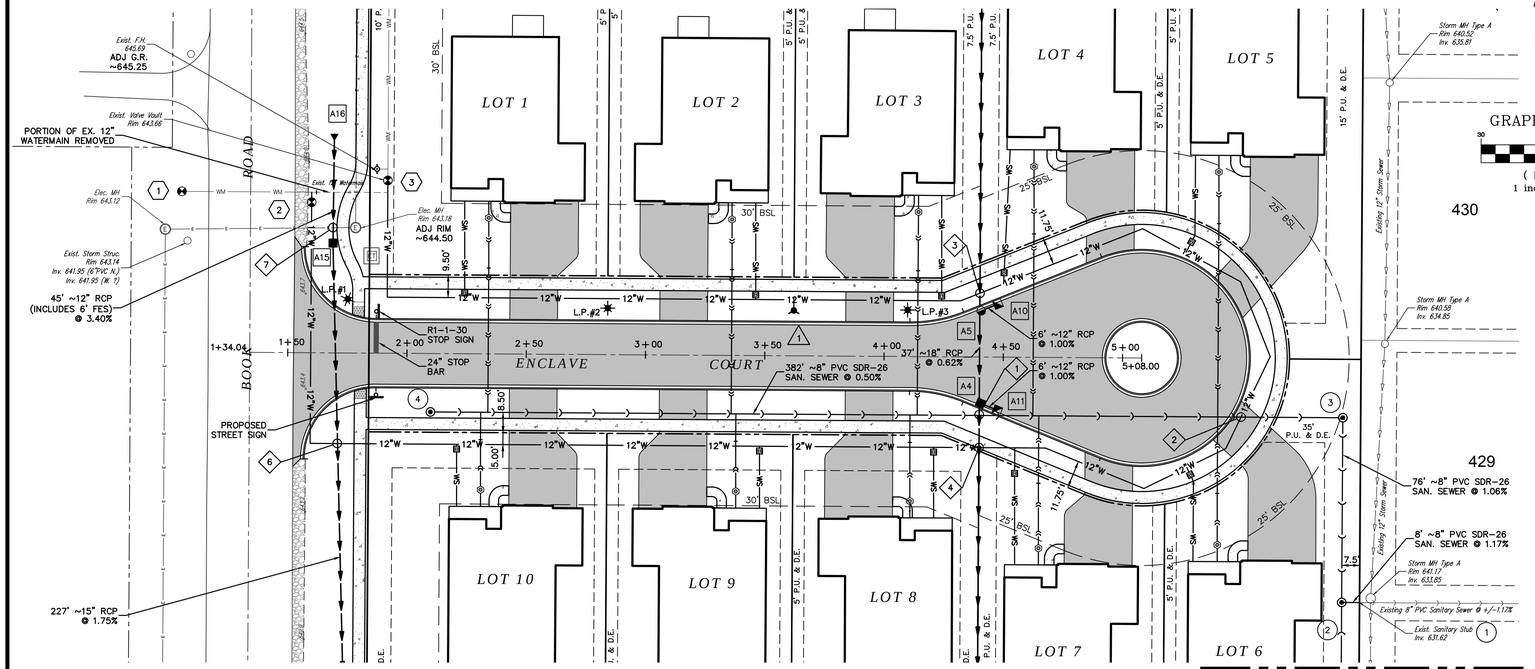
IL PROF. LIC. NO.: 184-003740

DEI

PROJECT INFORMATION

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

GRADING PLAN

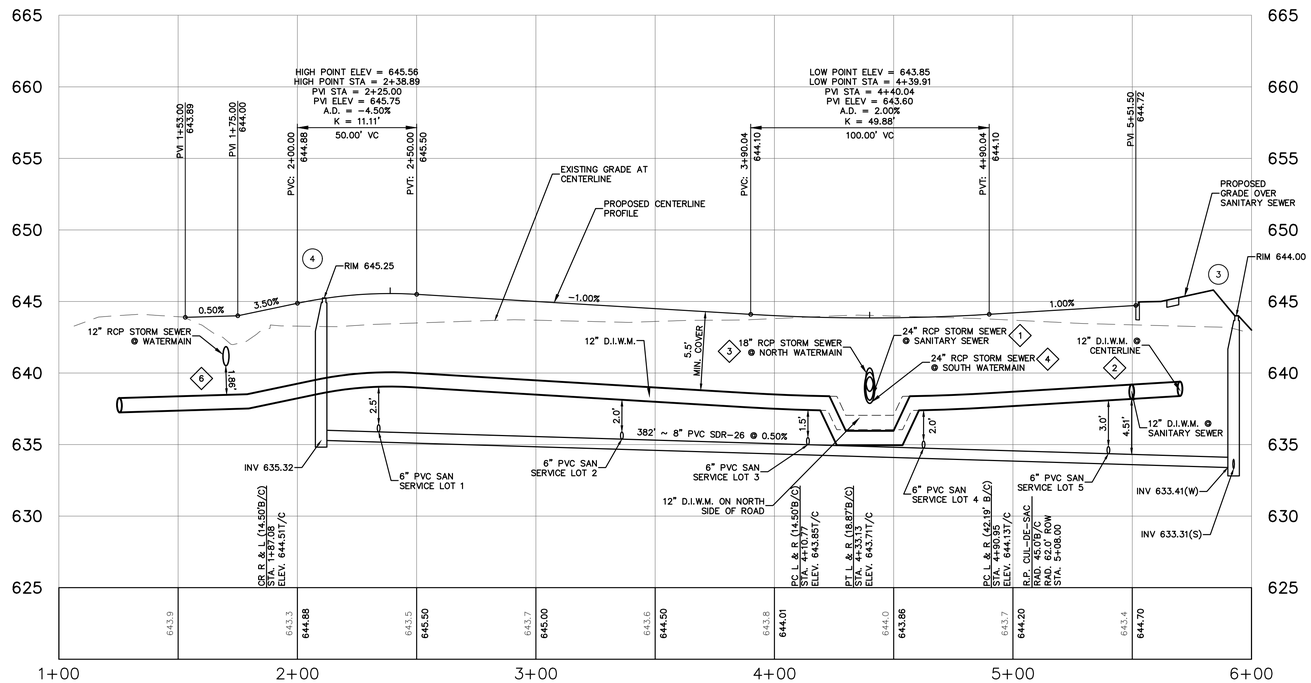


ENCLAVE COURT

STATION: 1+34.04 TO 6+00.00

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

PLAN & PROFILE: ENCLAVE COURT & SANITARY SEWER MANHOLE #1,2, 3 & 5

DESIGNTEK ENGINEERING, INC.
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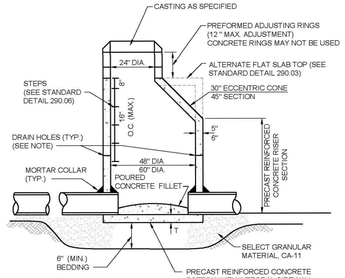
IL PROF. LIC. NO.: 184-003740

DEI

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

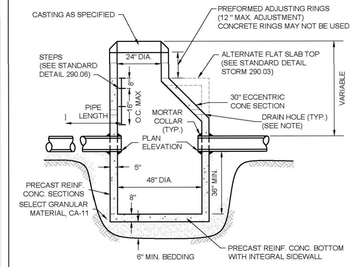
WHEN MANHOLE DEPTH IS 12 FT OR LESS T = 8 INCHES
WHEN MANHOLE DEPTH IS OVER 12 FT. T = 10 INCHES



NOTE:

A MINIMUM OF 4 PRECAST OR DRILLED 1" DIAMETER HOLES SHALL BE PROVIDED WITHIN 1' OF THE LOWEST PIPE INVERT. THE HOLES SHALL BE DISTRIBUTED EQUIDISTANT AROUND THE PERIMETER OF THE STRUCTURE. A 1' BY 1' SQUARE OF UNDERDRAIN FILTER CLOTH MATERIAL SHALL BE FIXED OVER EACH DRAIN HOLE ON THE OUTSIDE OF THE STRUCTURE WITH MASTIC MATERIAL TO PREVENT SLIPPAGE DURING BACKFILLING.

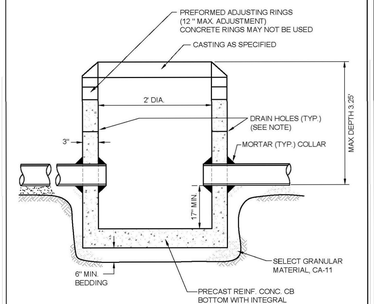
City of Naperville STANDARD DETAIL | STORM MANHOLE-TYPE A | REVISED: 08/01/2018 | SHEET 1 OF 1 | STORM 1 | 290.01



NOTE:

A MINIMUM OF 4 PRECAST OR DRILLED 1" DIAMETER HOLES SHALL BE PROVIDED WITHIN 1' OF THE LOWEST PIPE INVERT. THE HOLES SHALL BE DISTRIBUTED EQUIDISTANT AROUND THE PERIMETER OF THE STRUCTURE. A 1' BY 1' SQUARE OF UNDERDRAIN FILTER CLOTH MATERIAL SHALL BE FIXED OVER EACH DRAIN HOLE ON THE OUTSIDE OF THE STRUCTURE WITH MASTIC MATERIAL TO PREVENT SLIPPAGE DURING BACKFILLING.

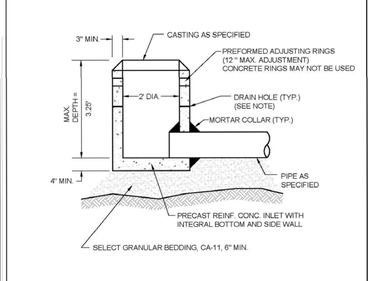
City of Naperville STANDARD DETAIL | CATCH BASIN - TYPE A | REVISED: 08/01/2018 | SHEET 1 OF 1 | STORM 2 | 290.02



NOTE:

A MINIMUM OF 4 PRECAST OR DRILLED 1" DIAMETER HOLES SHALL BE PROVIDED WITHIN 1' OF THE LOWEST PIPE INVERT. THE HOLES SHALL BE DISTRIBUTED EQUIDISTANT AROUND THE PERIMETER OF THE STRUCTURE. A 1' BY 1' SQUARE OF UNDERDRAIN FILTER CLOTH MATERIAL SHALL BE FIXED OVER EACH DRAIN HOLE ON THE OUTSIDE OF THE STRUCTURE WITH MASTIC MATERIAL TO PREVENT SLIPPAGE DURING BACKFILLING.

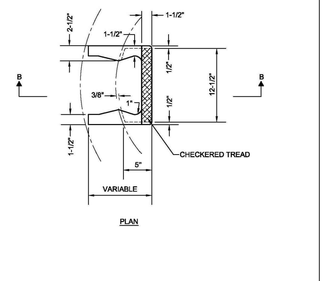
City of Naperville STANDARD DETAIL | CATCH BASIN - TYPE C | REVISED: 08/01/2018 | SHEET 1 OF 1 | STORM 4 | 290.04



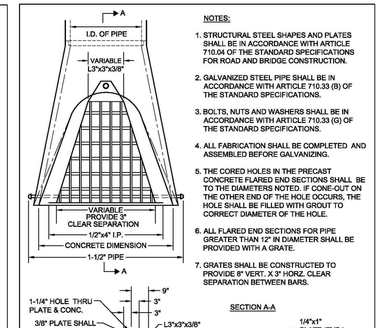
NOTE:

IN PAVED AREAS A MINIMUM OF 4 PRECAST OR DRILLED 1" DIAMETER HOLES SHALL BE PROVIDED WITHIN 1' OF THE LOWEST PIPE INVERT. THE HOLES SHALL BE DISTRIBUTED EQUIDISTANT AROUND THE PERIMETER OF THE STRUCTURE. A 1' BY 1' SQUARE OF UNDERDRAIN FILTER CLOTH MATERIAL SHALL BE FIXED OVER EACH DRAIN HOLE ON THE OUTSIDE OF THE STRUCTURE WITH MASTIC MATERIAL TO PREVENT SLIPPAGE DURING BACKFILLING.

City of Naperville STANDARD DETAIL | INLET - TYPE A | REVISED: 08/01/2018 | SHEET 1 OF 1 | STORM 5 | 290.05



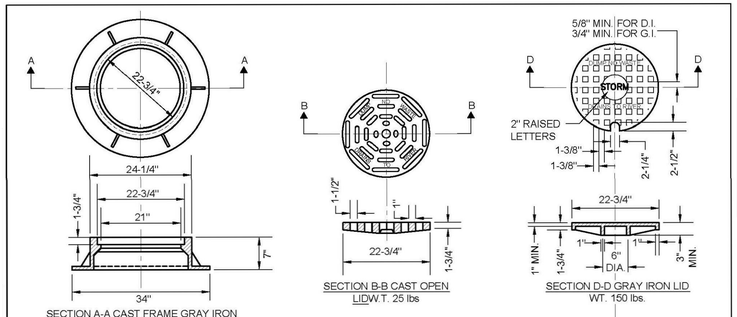
City of Naperville STANDARD DETAIL | CAST IRON STEPS | REVISED: 01/01/2013 | SHEET 1 OF 1 | STORM 6 | 290.06



NOTES:

1. STRUCTURAL STEEL SHAPES AND PLATES SHALL BE IN ACCORDANCE WITH ARTICLE 710.04 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. GALVANIZED STEEL PIPE SHALL BE IN ACCORDANCE WITH ARTICLE 710.33 (B) OF THE STANDARD SPECIFICATIONS.
3. BOLTS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH ARTICLE 710.33 (G) OF THE STANDARD SPECIFICATIONS.
4. ALL FABRICATION SHALL BE COMPLETED AND ASSEMBLED BEFORE GALVANIZING.
5. THE CORED HOLES IN THE PRECAST CONCRETE FLARED END SECTIONS SHALL BE TO THE DIAMETERS NOTED. IF CONE-OUT ON THE OTHER END OF THE HOLE OCCURS, THE HOLE SHALL BE FILLED WITH GROUT TO CORRECT DIAMETER OF THE HOLE.
6. ALL FLARED END SECTIONS FOR PIPE GREATER THAN 12" IN DIAMETER SHALL BE PROVIDED WITH A GRATE.
7. GRATES SHALL BE CONSTRUCTED TO PROVIDE 8" VERT. X 3" HORZ. CLEAR SEPARATION BETWEEN BARS.

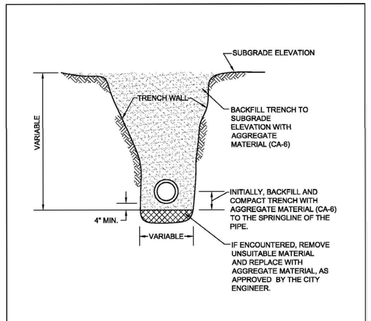
City of Naperville STANDARD DETAIL | GRATING FOR CONCRETE FLARED END SECTION | REVISED: 01/01/2013 | SHEET 1 OF 1 | STORM 22 | 290.22



NOTES:

1. FRAME AND GRATE (LID) SHALL BE NEENAH R-2502 FOR OPEN GRATES, R-1772 FOR CLOSED LIDS; EAST JORDAN 1022-2 WITH M-1 GRATE OR TYPE A SOLID COVER, OR EQUAL APPROVED BY THE CITY ENGINEER.
2. ALL LIDS AND COVERS SHALL HAVE MACHINED SURFACES AND SEATS.
3. ALL CASTINGS SHALL BE SHOP PAINTED WITH AN ASPHALTIC BASE PAINT.
4. ALL CASTINGS SHALL INCLUDE "DUMP NO WASTE. DRAINS TO RIVER".

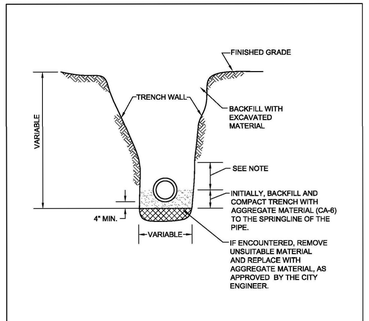
City of Naperville STANDARD DETAIL | FRAME & LID OR GRATE | REVISED: 05/15/2015 | SHEET 1 OF 1 | STORM 10 | 290.10



NOTES:

1. TRENCH BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 550.07 OF THE DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. THIS DETAIL SHALL BE USED WHEREVER THE TRENCH IS MADE IN THE PROPOSED ROADWAY SUBGRADE, AND WHEREVER THE INNER EDGE OF THE TRENCH IS CLOSER THAN 2' TO THE EDGE OF THE PROPOSED PAVEMENT, CURB AND GUTTER, AND SIDEWALK.

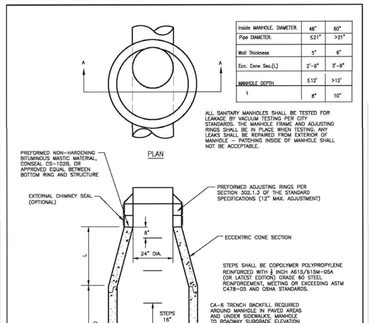
City of Naperville STANDARD DETAIL | STORM SEWER TRENCH SECTION IN PAVED AREAS | REVISED: 01/01/2013 | SHEET 1 OF 1 | STORM 20 | 290.20



NOTE:

FOR PVC AND HDPE PIPE, BACKFILL WITH AGGREGATE MATERIAL (CA-6) TO 6" ABOVE THE TOP OF PIPE.

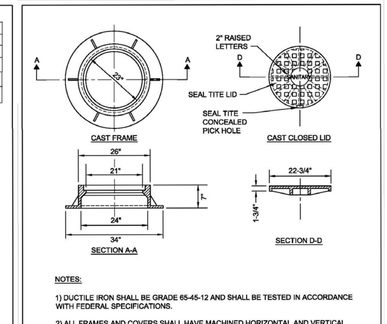
City of Naperville STANDARD DETAIL | STORM SEWER TRENCH SECTION IN NON-PAVED AREAS | REVISED: 01/01/2013 | SHEET 1 OF 1 | STORM 21 | 290.21



Inside MANHOLE DIAMETER	48"	60"
Pipe DIAMETER	≤21"	>21"
Wall Thickness	5"	6"
Eccentric Cone Sec.(L)	2'-6"	3'-9"
MANHOLE DEPTH	≤12'	>12'
t	8"	10"

ALL SANITARY MANHOLES SHALL BE TESTED FOR LEAKAGE BY VACUUM TESTING PER CITY STANDARDS. THE MANHOLE FRAME AND ADJUSTING RINGS SHALL BE IN PLACE WHEN TESTING. ANY LEAKAGE SHALL BE REPAIRED FROM EXTERIOR OF MANHOLE – PATCHING INSIDE OF MANHOLE SHALL NOT BE ACCEPTABLE.

City of Naperville STANDARD DETAIL | SANITARY SEWER MANHOLE | REVISED: 08/01/2018 | SHEET 1 OF 1 | SANITARY 1 | 390.01



NOTES:

1) DUCTILE IRON SHALL BE GRADE 65-45-12 AND SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.

2) ALL FRAMES AND COVERS SHALL HAVE MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES. PICK HOLES SHALL NOT CREATE OPENINGS IN THE COVER.

3) THE MANHOLE COVERS SHALL HAVE 2" RAISED LETTERS AS SHOWN.

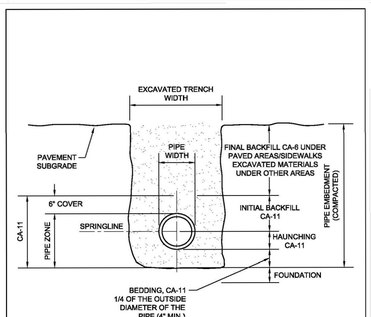
4) ALTERNATIVE TO DUCTILE IRON LID, GREY IRON CL 35 LID MAY BE USED.

5) CASTINGS ARE SHALL BE EAST JORDAN 1022-Z3; NEENAH R-1772 OR APPROVED EQUAL.

6) WATERPROOF, BOLTDOWN FRAME AND COVER SHALL BE USED IN FLOOD PLAIN AREA, AND AS NOTED ON THE PLANS. NEENAH R-1916-F1, EAST JORDAN IRON WORKS 1022-Z1PT OR APPROVED EQUAL.

7. LIDS AND FRAMES TO MEET ASSHTO M306 PROOF LOADING SPECIFICATIONS

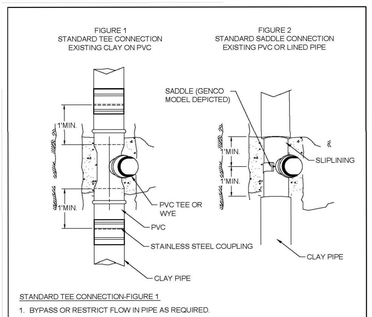
City of Naperville STANDARD DETAIL | SANITARY MANHOLE - FRAME & COVER | REVISED: 01/01/2013 | SHEET 1 OF 1 | SANITARY 6 | 390.06



NOTES:

1. IN PAVED AREAS, ALL TRENCHES MUST BE COMPACTED IN CONFORMANCE WITH SECTION 550.07 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.
2. IF FOUNDATION IS UNSUITABLE TO BED PIPE, UNDERCUTS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

City of Naperville STANDARD DETAIL | TRENCH SECTION FOR PVC PIPE | REVISED: 01/01/2013 | SHEET 1 OF 1 | SANITARY 10 | 390.10



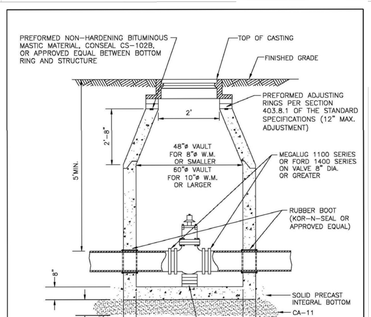
STANDARD TEE CONNECTION-FIGURE 1

1. BYPASS OR RESTRICT FLOW IN PIPE AS REQUIRED.
2. SAW CUT AND REMOVE EXISTING PIPE TO MINIMUM EXTENT SHOWN IN FIGURE 1.
3. INSTALL STANDARD PVC TEE AND PIPE AS SHOWN. PVC SHALL BE SDR26, ASTM 2241.
4. FLEXIBLE COUPLING SHALL BE A NON-SHEARING TYPE TRANSITION COUPLING: FERNCO STRONG BACK RC 1000 SERIES, CASCADE STYLE CSS COUPLING, OR APPROVED EQUAL.

STANDARD SADDLE CONNECTION FIGURE 2

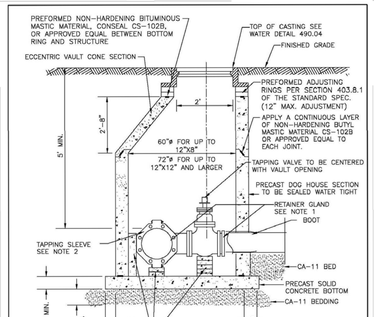
1. FOR LINED PIPE CAREFULLY REMOVE OLD CLAY PIPE TO MINIMUM EXTENT SHOWN WITHOUT DAMAGING LINER PIPE.
2. HOLES FOR SADDLE INLET SHALL BE LAID OUT USING SADDLE AS TEMPLATE AND CUT WITH APPROPRIATE EQUIPMENT NOT DAMAGE THE PIPE TO REMAIN. HOLE TO BE BE DE BURRED AND BEVELED WHERE REQUIRED TO PROVIDE HOLE SLOPE TO CONFORM TO THE FITTING.
3. SADDLE SHALL BE SEALTITE TEE "U" MODEL 40 BY GENCO, CASCADE STYLE CSWRY OR CSWRT, OR APPROVED EQUAL.

City of Naperville STANDARD DETAIL | SANITARY SEWER SERVICE CONNECTION | REVISED: 08/01/2018 | SHEET 1 OF 1 | SANITARY 21 | 390.21



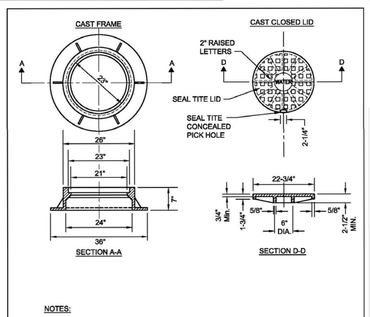
1. VALVE MUST ALIGN WITH THE CENTER OF VAULT OPENINGS.
2. CONCENTRIC CONES TO BE USED FOR VALVES 12" AND SMALLER.
3. VALVES SHALL BE RESILIENT WEDGE GATE VALVES WITH MECHANICAL JOINT ENDS TO COMPLY WITH ANSI/AWWA C515–09 OR LATEST VERSION VALVES TO BE CLOW, AMERICAN, WATEROUS, KENNEDY OR APPROVED EQUAL.

City of Naperville STANDARD DETAIL | VALVE VAULT | REVISED: 08/01/2018 | SHEET 1 OF 1 | WATER 1 | 490.01



1.) USE MEGALUG SERIES 1100 OR FORD UNI-FLANGE SERIES 1400 RETAINER GLANDS WITH STAINLESS STEEL T-BOLTS COATED WITH ANTI-SIEZE COMPOUND.
2) TAPPING SLEEVES SHALL BE CAST OF DUCTILE IRON MECHANICAL JOINT CONFORMING TO ANSI/AWWA C110/A21.10–82 (TYLER/UNION OR APPROVED EQUAL). EXISTING PIPE TO BE DISINFECTED PRIOR TO INSTALLATION OF TAPPING SLEEVE. TAPPING SLEEVE TO BE PRESSURE TESTED HYDROSTATICALLY TO OPERATING PRESSURE PLUS 50 PERCENT PRIOR TO MAKING PRESSURE CONNECTION.
3) EXISTING PIPE TO BE DISINFECTED PRIOR TO INSTALLATION OF TAPPING SLEEVE AND TAPPING SLEEVE IS TO BE PRESSURE TESTED TO OPERATING PRESSURE PLUS 50 PERCENT PRIOR TO MAKING PRESSURE CONNECTION.
4) DO NOT USE STAINLESS STEEL SLEEVE ON SIZE TAPS OR PIPES LARGER THAN 12" DIAMETER
5) IN THE EVENT IT IS NECESSARY TO USE A PRECAST SPLIT BOTTOM FLOOR DUE TO SPACE CONSTRAINTS THE FLOOR MUST BE GROUTED WATER TIGHT.
6) TAPPING VALVES SHALL CONFORM TO C515–09 OR LATEST REVISION: AMERICAN SERIES 2500 RESILIENT WEDGE TAPPING VALVES WITH FLANGED X MECHANICAL JOINT ENDS OR APPROVED EQUAL.

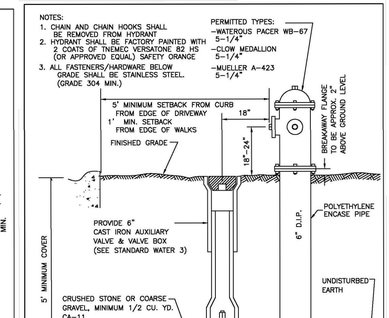
City of Naperville STANDARD DETAIL | VALVE VAULT WITH CAST/DUCTILE IRON SLEEVE PRESSURE TAP | REVISED: 01/01/2013 | SHEET 1 OF 1 | WATER 2 | 490.02



NOTES:

1. DUCTILE IRON SHALL BE GRADE 65-45-12 AND SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
2. ALL FRAMES AND COVERS SHALL HAVE MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES. PICK HOLES SHALL NOT CREATE OPENINGS IN THE COVER.
3. THE MANHOLE COVERS SHALL HAVE RAISED LETTERS AS SHOWN.
4. ALTERNATIVE TO DUCTILE IRON LID, GREY IRON CL 35 LID MAY BE USED.
5. DIMENSIONS FOR CASTINGS ARE COMPARABLE TO EAST JORDAN 1022 OR NEENAH R-1772-C, HEAVY DUTY.
6. LIDS AND FRAMES TO MEET AASHTO M306 PROOF LOADING SPECIFICATIONS.

City of Naperville STANDARD DETAIL | VALVE VAULT - FRAME & COVER | REVISED: 01/01/2013 | SHEET 1 OF 1 | WATER 4 | 490.04



City of Naperville STANDARD DETAIL | HYDRANT | REVISED: 05/15/2015 | SHEET 1 OF 1 | WATER 6 | 490.06

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 OF BOOK ROAD
BOOK ROAD
NAPERVILLE, ILLINOIS

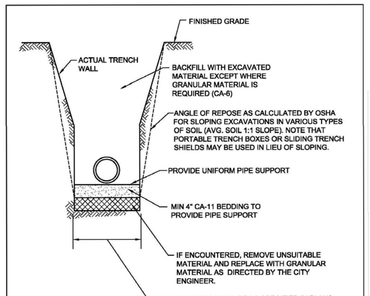
DESIGNTEK ENGINEERING, INC.
CONSULTING CIVIL ENGINEERING & LAND SURVEYING
9930 W. 190TH STREET, SUITE L
MOKENA, ILLINOIS 60448
(708) 326-4961
FAX: (708) 326-4962
IL PROF. LIC. NO.: 184-003740

PROJECT INFORMATION

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

10 OF 13

CONSTRUCTION DETAILS



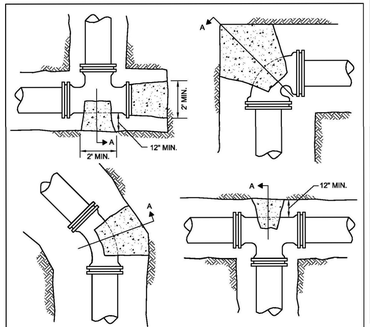
NOTES:

1. IN PAVED AREAS ALL TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 550.07 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. METHOD 1, 95% MINIMUM STANDARD PROCTOR.

2. DUCTILE IRON WATER MAIN TO BE CLASS 52. ALL DUCTILE IRON PIPE IS TO BE ENCASED IN POLYETHYLENE FILM. POLYETHYLENE ENCASEMENT TO BE INSTALLED IN ACCORDANCE WITH AWWAC105A21.5-99.(OR LATEST EDITION)

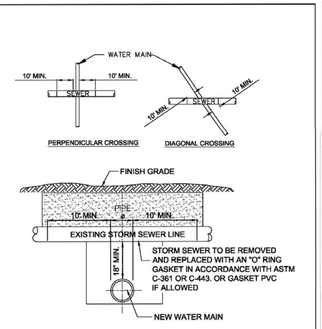
3. STAINLESS STEEL NUTS, BOLTS/T-BOLTS, AND WASHERS, TYPE 304 OR BETTER, WILL BE REQUIRED ON ALL WATER MAIN INSTALLATIONS. THIS WOULD APPLY TO HYDRANTS, TAPPING SLEEVES, VALVES, FITTINGS, RESTRAINT, AND OTHER APPURTENANCES BURIED OR IN VALVE VAULTS. MECHANICAL JOINTS AND RESTRAINT GLANDS REQUIRE 304 STAINLESS STEEL T-BOLTS. AN ANTI-SEIZE COMPOUND SHALL BE FACTORY APPLIED TO NUTS OR BOLTS - ANY DAMAGE TO THIS COATING SHALL BE REPAIRED WITH FIELD-APPLIED, APPROVED ANTI-SEIZE COMPOUND THAT IS A MOLYBDENUM-BASE LUBRICANT, BOSTIK NEVER-SEEZ OR APPROVED EQUAL.

City of Naperville STANDARD DETAIL	WATER MAIN TRENCH SECTION	WATER 10
	REVISED: 01/01/2013 SHEET 1 OF 1	490.10



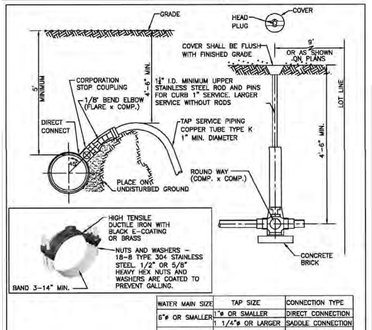
1. THRUST BLOCKING TO PREVENT MOVEMENT OF LINES UNDER PRESSURE AT BENDS, TEES, CAPS, VALVES, HYDRANTS, & AT POINTS SPECIFIED BY THE ENGINEER SHALL BE CLASS "B".
2. CONCRETE A MINIMUM OF 12" THICK, PLACED BETWEEN SOLID GROUND & THE FITTING, AND SHALL BE ANCHORED IN SUCH A MANNER THAT THE PIPE AND FITTING WILL BE ACCESSIBLE FOR REPAIRS.
3. THRUST BLOCKS SHALL BE PLACED AT BENDS OF 11-1/4° OR MORE.
4. PIPE BENDS TO BE POLYETHYLENE ENCASED.
5. JOINT RESTRAINT AT BEND AND LENGTH OF PIPE EACH DIRECTION FROM BENDS AS REQUIRED BY THE CITY OF NAPERVILLE IF UNDISTURBED SOIL NOT AVAILABLE.
6. THRUST BLOCK FOR PIPES LARGER THAN 12"ø MUST BE POURED IN PLACE

City of Naperville STANDARD DETAIL	THRUST BLOCK	WATER 11
	REVISED: 05/15/2015 SHEET 1 OF 1	490.11



NOTE:
NEW STORM SEWER INSTALLATION SHALL BE GASKETED STRUCTURE TO STRUCTURE

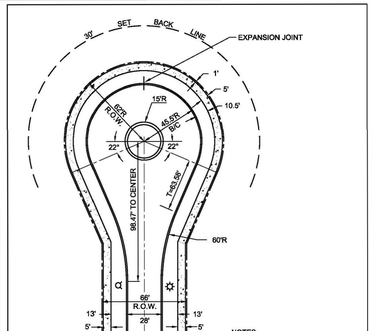
City of Naperville STANDARD DETAIL	WATER MAIN PROTECTION FROM EXISTING STORM SEWER PIPE	WATER 14
	REVISED: 01/01/2013 SHEET 1 OF 1	490.14



WATER MAIN SIZE	TAP SIZE	CONNECTION TYPE
6"ø OR SMALLER	1"ø OR SMALLER	DIRECT CONNECTION
	1 1/4"ø OR LARGER	SADDLE CONNECTION
8"ø OR LARGER	1 1/4"ø OR SMALLER	DIRECT CONNECTION
	1 1/2"ø OR LARGER	SADDLE CONNECTION

NOTES:
1. CORPORATION IS TO BE FLARING TYPE (FORD F-600 OR EQUAL BY MUELLER OR A.Y. MCDONALD). FOR SERVICE SIZE 1 1/2" A.Y. MCDONALD 4701Q COMP STOP THREADED INLET TO COMPRESSION OUTLET OR EQUAL.
2. 1/2" BEND ELBOW (FLARE x COMPRESSION), FORD LA34. OR AN APPROVED EQUAL BY MUELLER, OR A.Y. MCDONALD (NOT ALLOWABLE IN 18" SIZED SEE NOTE 7).
3. CURB STOP IS TO BE FLARING TYPE (FORD B44-444Q) WITH 1-1/4" BRASS PENTAGON PLUG.
4. CURB STOP IS TO BE COMPRESSION OUTLET (FORD G44-444Q) FOR FORD B44 CURB STOP, OR EQUAL BY MUELLER, OR A.Y. MCDONALD.
5. S-BOX HAS 18" THREADED BRASS PENTAGON PLUG WITH THE WORD "WATER" IN RAISED LETTERS ON CAP. (1-1/4" PENT. PLUG FOR 1-1/4" ID. S-BOXES).
6. CORPORATION STOPS SHALL BE INSTALLED A MINIMUM OF 18" FROM PIPE JOINTS AND ENDS. MULTIPLE INSTALLATIONS SHOULD BE STAGGERED AROUND THE MAIN BY 22-1/2° AND SEPARATED FROM EACH OTHER BY 18".
7. WATER SERVICE LINE SMALLER THAN 2" SHALL BE TYPE K COPPER. IF JOINTS ARE REQUIRED DUE TO LENGTH OF SERVICE, THEN ONLY COMPRESSION TYPE COUPLING SHALL BE PERMITTED. NO SOLDERED OR FLARED TYPE JOINTS ARE ALLOWED.
8. SERVICE TAPS SHALL REQUIRE SADDLES IN ACCORDANCE WITH CHART BELOW. SADDLES SHALL BE STAINLESS STEEL DUAL BANDED, DUCTILE IRON OR BRASS SADDLE (FORD FS202, 202BS OR APPROVED EQUAL). REZEO FOR TAPS.
9. ALL WATERMAIN AND APPURTENANCES MUST COMPLY WITH SECTION 1417 (A)(7)OF THE SAFER DRINKING WATER ACT (SDWA). ALL PRODUCT USED FOR DISPENSING POTABLE WATER MUST MEET BOTH THE NSF 61 AND NSF 372 TEST OF STANDARD VIA THIRD PARTY TESTING AND CERTIFICATIONS.

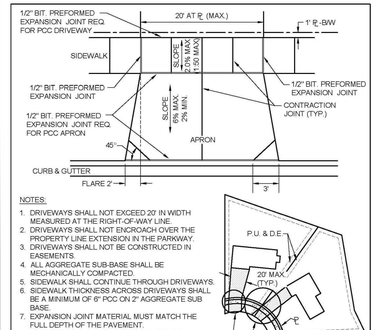
City of Naperville STANDARD DETAIL	SERVICE TAP AND CONNECTION	WATER 20
	REVISED: 05/15/2015 SHEET 1 OF 1	490.20



NOTES:

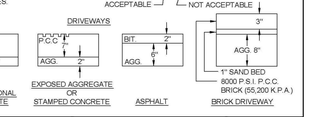
1. FIRE HYDRANTS AND STREET LIGHTS SHALL BE PLACED IN THE CUL-DE-SAC THROAT (NOT BULB).
2. MINIMUM REQUIRED LOT FRONTAGE:
   50' AT PROPERTY LINE
   36.7' AT GUTTER FLOWLINE.
3. MINIMUM PARKWAY WIDTH SHALL BE 10.5'.

City of Naperville STANDARD DETAIL	CONCENTRIC CUL-DE-SAC	PAVEMENT 2
	REVISED: 01/01/2013 SHEET 1 OF 1	590.02

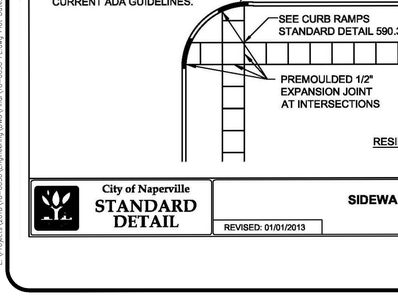


NOTES:

1. DRIVEWAYS SHALL NOT EXCEED 20' IN WIDTH MEASURED AT THE RIGHT-OF-WAY LINE.
2. DRIVEWAYS SHALL NOT ENCROACH OVER THE PROPERTY LINE EXTENSION IN THE PARKWAY.
3. DRIVEWAYS SHALL NOT BE CONSTRUCTED IN EASEMENTS.
4. ALL AGGREGATE SUB-BASE SHALL BE MECHANICALLY COMPACTED.
5. SIDEWALK SHALL CONTINUE THROUGH DRIVEWAYS.
6. SIDEWALK THICKNESS ACROSS DRIVEWAYS SHALL BE A MINIMUM OF 6" PCC ON 2" AGGREGATE SUB BASE.
7. EXPANSION JOINT MATERIAL MUST MATCH THE FULL DEPTH OF THE PAVEMENT.
8. SIDEWALK CONSTRUCTION SHALL FOLLOW APPLICABLE IDOT STANDARDS.
9. SIDEWALKS SHALL FOLLOW CURRENT ADA GUIDELINES.



City of Naperville STANDARD DETAIL	TYPICAL RESIDENTIAL DRIVEWAY DETAIL	PAVEMENT 6
	REVISED: 08/01/2018 SHEET 1 OF 2	590.06

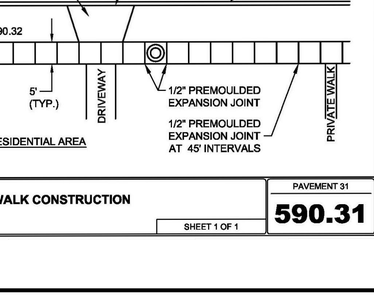


FOR MULTIPLE DRIVEWAYS TO BE PERMITTED, THE FOLLOWING CONDITIONS MUST BE MET:

1. THE PROPERTY WIDTH (F) MUST BE GREATER THAN 75'.
2. (F/75)(20) ≥ W1+W2

RESIDENTIAL DRIVEWAY NEAR INTERSECTION

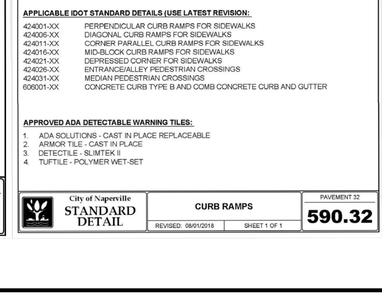
City of Naperville STANDARD DETAIL	TYPICAL RESIDENTIAL DRIVEWAY DETAIL	PAVEMENT 8
	REVISED: 08/01/2018 SHEET 2 OF 2	590.06



FLEXIBLE PAVEMENT

RIGID PAVEMENT

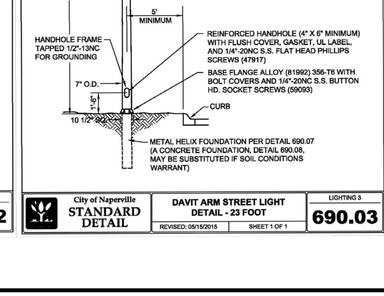
City of Naperville STANDARD DETAIL	TYPICAL PAVEMENT DETAILS	PAVEMENT 10
	REVISED: 01/01/2013 SHEET 1 OF 1	590.10



NOTES:

1. THE TRENCH SHALL BE BACKFILLED WITH AGGREGATE (CA-6) AND COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY. TRENCH SPOILS OR EXCAVATED MATERIAL SHALL BE DISCARDED BY THE CONTRACTOR, AT HIS EXPENSE, AT DUMP SITES OR IN A SUITABLE FASHION AS APPROVED BY THE CITY ENGINEER.
2. PRIOR TO PLACING OF P.C.C. CONCRETE, THE EXPOSED EDGES OF ALL EXISTING PAVEMENT SHALL BE SAW CUT TO PROVIDE A SMOOTH, CLEAN EDGE, FREE OF LOOSE MATERIAL.
3. EXCAVATIONS SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS. A 1" STEEL PLATE SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR AT LOCATIONS WHERE ADJUSTMENTS ARE LOCATED IN TRAVEL LANES UNTIL THE SURFACE RESTORATION IS COMPLETE. THE PLATE SHALL BE PROTECTED FROM SLIDING AND PROVIDED WITH BITUMINOUS RAMPS.
4. TRENCH TO BE COMPACTED IN CONFORMANCE WITH ARTICLE 603.08 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

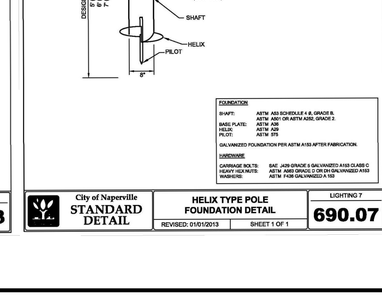
City of Naperville STANDARD DETAIL	UTILITY TRENCH PAVING SECTION (RIGID PAVEMENTS)	PAVEMENT 12
	REVISED: 01/01/2013 SHEET 1 OF 1	590.12



NOTES:

1. THE TRENCH SHALL BE BACKFILLED WITH AGGREGATE (CA-6) AND COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY. TRENCH SPOILS OR EXCAVATED MATERIAL SHALL BE DISCARDED BY THE CONTRACTOR, AT HIS EXPENSE, AT DUMP SITES OR IN A SUITABLE FASHION AS APPROVED BY THE CITY ENGINEER.
2. PRIOR TO PLACING OF P.C.C. CONCRETE, THE EXPOSED EDGES OF ALL EXISTING PAVEMENT SHALL BE SAW CUT TO PROVIDE A SMOOTH, CLEAN EDGE, FREE OF LOOSE MATERIAL.
3. EXCAVATIONS SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS. A 1" STEEL PLATE SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR AT LOCATIONS WHERE ADJUSTMENTS ARE LOCATED IN TRAVEL LANES UNTIL THE SURFACE RESTORATION IS COMPLETE. THE PLATE SHALL BE PROTECTED FROM SLIDING AND PROVIDED WITH BITUMINOUS RAMPS.
4. TRENCH TO BE COMPACTED IN CONFORMANCE WITH ARTICLE 603.08(METHOD 3) OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

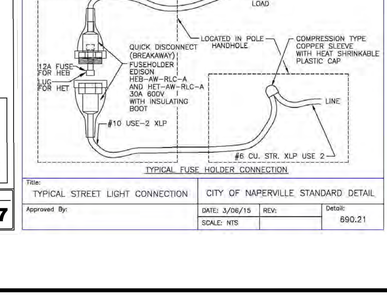
City of Naperville STANDARD DETAIL	UTILITY TRENCH PAVING SECTION (FLEXIBLE PAVEMENTS)	PAVEMENT 13
	REVISED: 01/01/2013 SHEET 1 OF 1	590.13



NOTES:

1. 3/4" PREFORMED BITUMINOUS EXPANSION JOINT WITH TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIA. X 18") WITH GREASE CAPS SHALL BE PLACED EVERY 150', 10' EITHER SIDE OF DRAINAGE STRUCTURES, P.C.'S, RADIUS POINTS AND BACK OF CUL-DE-SACS. WHEN EXPANSION JOINTS ARE CONSTRUCTED ADJACENT TO EXISTING CURB & GUTTER THE EXISTING CURB SHALL BE DRILLED AND TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" X 18") GROUTED IN PLACE. GREASE CAPS SHALL BE PLACED ON THE SIDE OF THE NEW CURB AND GUTTER SHALL HAVE A PINCHED STOP THAT WILL PROVIDE A MINIMUM 1" EXPANSION.
2. TOOLED CONTROL JOINTS OR SAWCUTS SHALL BE MADE EVERY 15'.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS AND SEALED WITH A CITY APPROVED JOINT SEALANT. JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.
4. FOR CURB AND GUTTER CONSTRUCTED OVER UTILITY TRENCHES, TWO (2) EPOXY COATED REINFORCING BARS (NO. 4) SHALL BE PLACED IN THE CURB AND GUTTER, CENTERED OVER THE TRENCH.

City of Naperville STANDARD DETAIL	M3.12 MOUNTABLE CURB & GUTTER	PAVEMENT 22
	REVISED: 01/01/2013 SHEET 1 OF 1	590.22



NOTES:

1. CONCRETE SHALL BE IDOT CLASS SI.
2. MINIMUM SIDEWALK THICKNESS SHALL BE 4".
3. SIDEWALK THICKNESS ACROSS DRIVEWAYS SHALL BE AT A MINIMUM 6" FOR RESIDENTIAL DRIVEWAYS AND 8" FOR COMMERCIAL DRIVEWAYS.
4. MAXIMUM LONGITUDINAL SLOPE SHALL NOT EXCEED 5% (20:1). FOR ANY SLOPE IN EXCESS OF 5%, ALL REQUIREMENTS OF THE ILLINOIS ACCESSIBILITY CODE (LATEST EDITION) SHALL BE MET.
5. MINIMUM TRANSVERSE SLOPE SHALL BE 1.0% (1:100). MAXIMUM TRANSVERSE SLOPE SHALL BE 2.0% (1:50).
6. A MINIMUM 2" AGGREGATE SUBBASE (CA-6) SHALL BE PROVIDED. (4" THROUGH COMMERCIAL DRIVEWAYS).
7. AGGREGATE SUBBASE SHALL BE MECHANICALLY COMPACTED.
8. ALL SIDEWALKS SHALL BE PROMPTLY BACKFILLED AND PROTECTED FROM DAMAGE.
9. SIDEWALK CONSTRUCTION SHALL FOLLOW APPLICABLE IDOT STANDARDS.
10. SIDEWALKS SHALL FOLLOW CURRENT ADA GUIDELINES.

City of Naperville STANDARD DETAIL	SIDEWALK	PAVEMENT 30
	REVISED: 01/01/2013 SHEET 1 OF 1	590.30

NOTES:

1. ALL AGGREGATE SUB-BASE SHALL BE MECHANICALLY COMPACTED.
2. SIDEWALK THICKNESS AT CURB RAMPS SHALL BE A MINIMUM OF 6" PCC ON 2" AGGREGATE SUB BASE.
3. SIDEWALK CONSTRUCTION SHALL FOLLOW APPLICABLE IDOT STANDARDS.
4. SIDEWALKS SHALL FOLLOW CURRENT ADA GUIDELINES.

City of Naperville STANDARD DETAIL	SIDEWALK CONSTRUCTION	PAVEMENT 31
	REVISED: 01/01/2013 SHEET 1 OF 1	590.31

ISOMETRIC VIEW

NOTES:

1. ALL AGGREGATE SUB-BASE SHALL BE MECHANICALLY COMPACTED.
2. SIDEWALK THICKNESS AT CURB RAMPS SHALL BE A MINIMUM OF 6" PCC ON 2" AGGREGATE SUB BASE.
3. SIDEWALK CONSTRUCTION SHALL FOLLOW APPLICABLE IDOT STANDARDS.
4. SIDEWALKS SHALL FOLLOW CURRENT ADA GUIDELINES.

APPLICABLE IDOT STANDARD DETAILS (USE LATEST REVISION:

424001-XX	PERPENDICULAR CURB RAMPS FOR SIDEWALKS
424006-XX	DIAGONAL CURB RAMPS FOR SIDEWALKS
424011-XX	CORNER PARALLEL CURB RAMPS FOR SIDEWALKS
424016-XX	MID-BLOCK CURB RAMPS FOR SIDEWALKS
424021-XX	DEPRESSED CORNER FOR SIDEWALKS
424026-XX	ENTRANCE/ALLEY PEDESTRIAN CROSSINGS
424031-XX	MEDIAN PEDESTRIAN CROSSINGS
606001-XX	CONCRETE CURB TYPE B AND COMB CONCRETE CURB AND GUTTER

APPROVED ADA DETECTABLE WARNING TILES:

1. ADA SOLUTIONS - CAST IN PLACE REPLACEABLE
2. ARMOR TILE - CAST IN PLACE
3. DETECTILE - SLIMTEK II
4. TUFTILE - POLYMER WET-SET

City of Naperville STANDARD DETAIL	CURB RAMPS	PAVEMENT 32
	REVISED: 08/01/2018 SHEET 1 OF 1	590.32

NOTES:

1. COMPLETE ASSEMBLY POWDER COATED TEXTURED DARK BRONZE, HAPCO 73737-T31 WITH 5 YEAR WARRANTY.
2. POLE IS UL CLASSIFIED WITH UL LABEL AND HANDHOLE COVER GASKET COMPLYING WITH UL 1572.
3. POLE DESIGN MEETS 1994 AASHTO SPECIFICATION FOR 80 MPH WIND WITH A LUMINAIRE HAVING A MAXIMUM EPA OF 1.6 SQ. FT. AND WEIGHING 75 LBS.
4. BOLT CIRCLE IS 11" - 12".

City of Naperville STANDARD DETAIL	DAVIT ARM STREET LIGHT DETAIL - 23 FOOT	LIGHTING 3
	REVISED: 05/15/2015 SHEET 1 OF 1	690.03

NOTES:

1. FOUNDATION MUST BE INSTALLED PRIOR TO TRENCHING AND WITHOUT PILOT HOLE.
2. FOUNDATION MUST BE INSTALLED WITH BASEPLATE LEVEL.
3. ANY DEVIATION FROM ABOVE INSTALLATION PROCEDURES MUST BE APPROVED BY ENGINEER.

FOUNDATION

SHAFT:	ASTM A53 SCHEDULE 4 /B, GRADE B,
BASE PLATE:	ASTM A36
HELIX:	ASTM A36
PILOT:	ASTM 575
GALVANIZED FOUNDATION PER ASTM A153 AFTER FABRICATION.	
HARDWARE	
CARRIAGE BOLTS:	BAC J429 GRADE 5 GALVANIZED A153 CLASS C
HEAVY HEX NUTS:	ASTM A563 GRADE D OR DH GALVANIZED A153
WASHERS:	ASTM F436 GALVANIZED A 153

City of Naperville STANDARD DETAIL	HELIX TYPE POLE FOUNDATION DETAIL	LIGHTING 7
	REVISED: 01/01/2013 SHEET 1 OF 1	690.07

NOTES:

1. EXACT LOCATION OF TERMINALS MAY VARY.
2. CONNECTED TO ALTERNATE PHASES.
3. FOR SHEPHERD CROOK INSTALLATIONS ALL ELECTRICAL CONNECTIONS REQUIRE A BREAKAWAY CONNECTION. 12A FUSE FOR THE LIGHT AND A 30A FUSE FOR THE RECEPTACLE.

TYPICAL STREET LIGHT CONNECTIONS

TYPICAL FUSE HOLDER CONNECTION

Title: TYPICAL STREET LIGHT CONNECTION	CITY OF NAPERVILLE STANDARD DETAIL	
Approved: By:	DATE: 3/06/15 REV:	Detail: 690.21
	SCALE: NTS	

REVISIONS

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

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

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

DESIGNTEK ENGINEERING, INC.
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(708) 326-4961
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IL PROF. LIC. NO.: 184-003740

DEI

PROJECT INFORMATION

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

11 OF 13

CONSTRUCTION DETAILS

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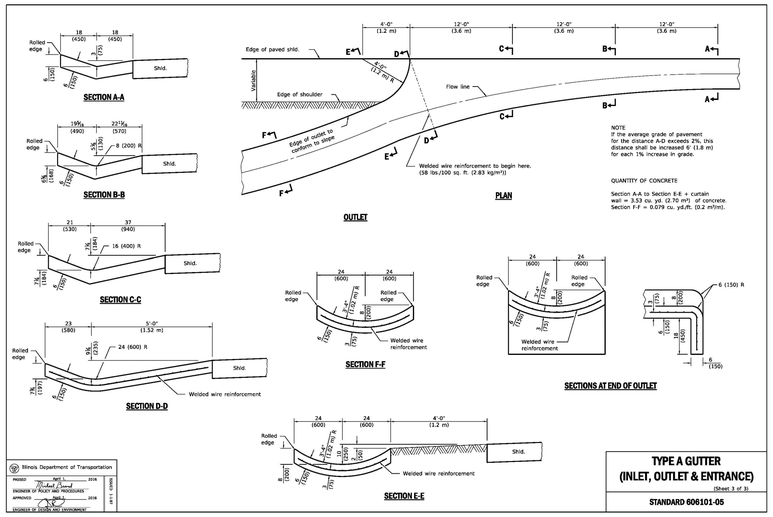
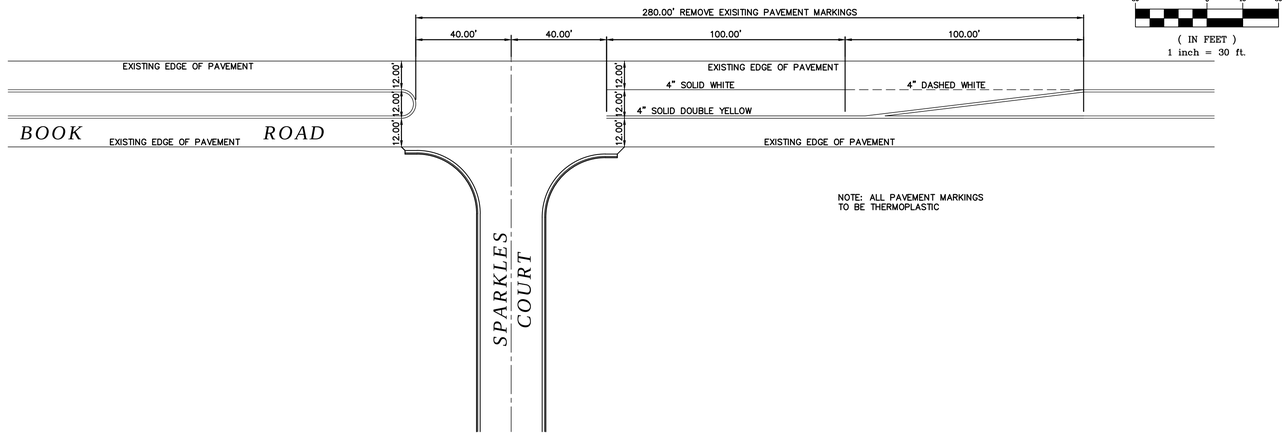


Illinois Department of Transportation

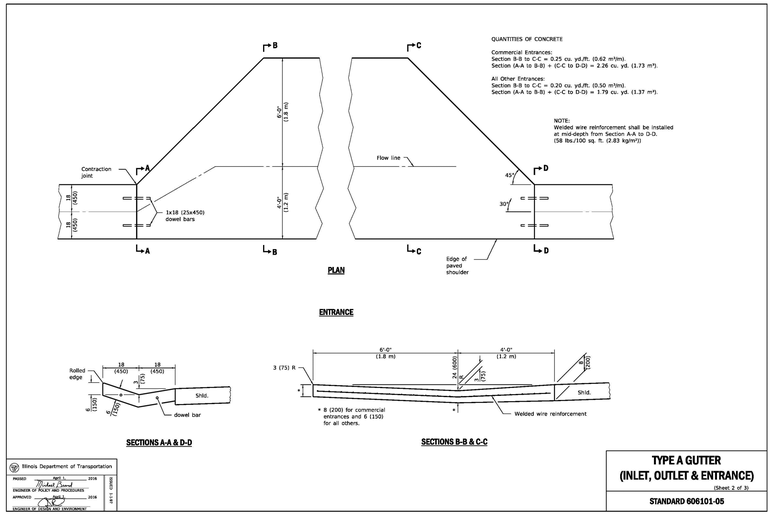
TYPE A GUTTER (INLET, OUTLET & ENTRANCE)
(Sheet 3 of 3)
STANDARD 606101-05

BOOK ROAD PAVEMENT MARKING PLAN



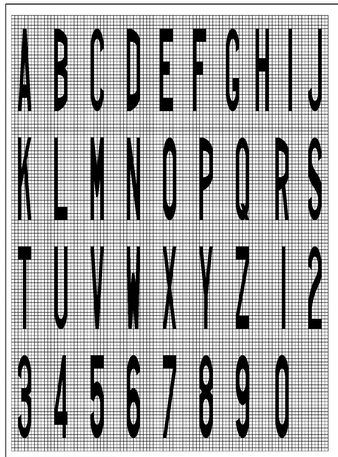
NOTE: ALL PAVEMENT MARKINGS TO BE THERMOPLASTIC

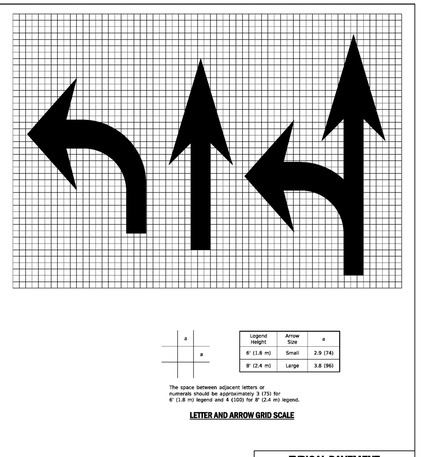
GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.



Illinois Department of Transportation

TYPE A GUTTER (INLET, OUTLET & ENTRANCE)
(Sheet 2 of 3)
STANDARD 606101-05

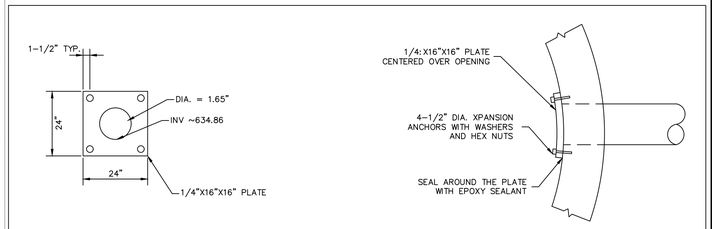




LETTER AND ARROW GRID SCALE

Illinois Department of Transportation

TYPICAL PAVEMENT MARKINGS
(Sheet 2 of 3)
STANDARD 780001-05

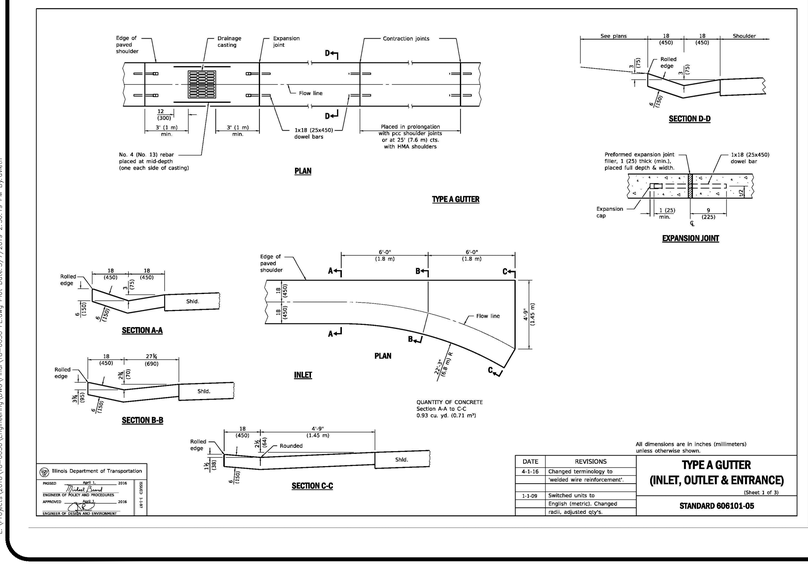


NOTE:
PLATE SHALL BE FLAT.

ELEVATION SECTION

RESTRICTOR PLATE DETAIL

NOT TO SCALE

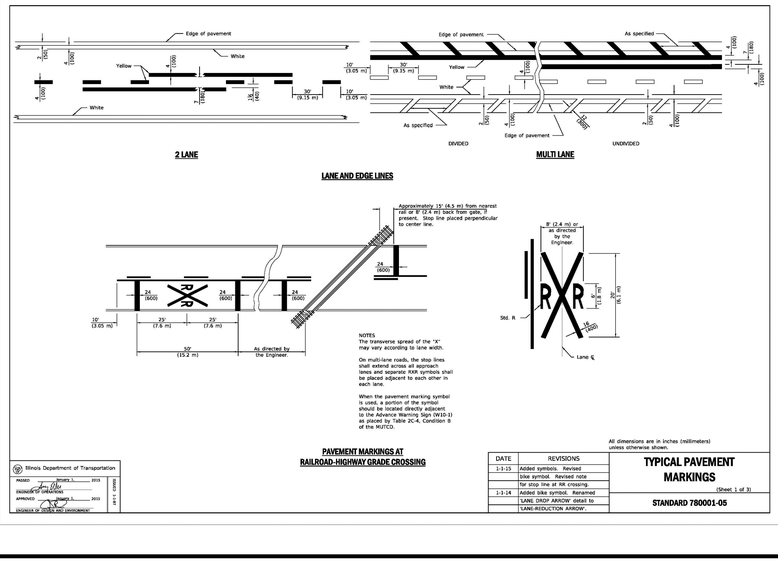


DATE	REVISIONS
4-1-16	Changed terminology to 'welded wire reinforcement'.
1-1-09	Switched units to English (metric). Changed radii, adjusted sty's.

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

Illinois Department of Transportation

TYPE A GUTTER (INLET, OUTLET & ENTRANCE)
(Sheet 1 of 3)
STANDARD 606101-05



PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

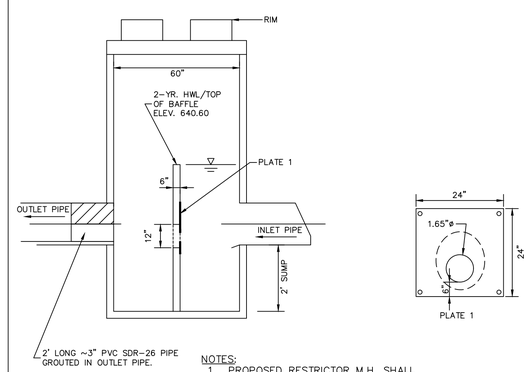
DATE	REVISIONS
1-1-15	Added symbols. Revised bike symbol. Revised note for stop line at RR crossing.
1-1-14	Added bike symbol. Renamed 'LANE DROP ARROW' detail to 'LANE-REDUCTION ARROW'.

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

Illinois Department of Transportation

TYPICAL PAVEMENT MARKINGS
(Sheet 1 of 3)
STANDARD 780001-05

NOTE:
THE RESTRICTOR PLATE AND FASTENERS SHALL BE FABRICATED IN STAINLESS STEEL OR DUCTILE IRON



NOTES:
1. PROPOSED RESTRICTOR M.H. SHALL MEET THE REQUIREMENT OF "STORM C.B. TYPE A," BUT SHALL BE 60"
2. SEE GRADING PLAN FOR ELEVATIONS .

RESTRICTOR DETAIL WITH BAFFLE PLATE

NOT TO SCALE

NO.	DATE	DESCRIPTION	BY
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McNAUGHTON DEVELOPMENT
11S220 JACKSON ST. SUITE 101
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FINAL ENGINEERING PLANS
FOR
THE ENCLAVE ON BOOK
BOOK ROAD
NAPERVILLE, ILLINOIS

DESIGNTEK ENGINEERING, INC.
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12
OF
13

CONSTRUCTION DETAILS

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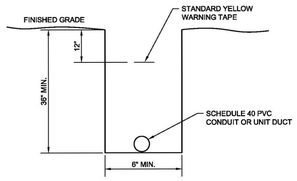
UNDERGROUND ELECTRIC CONDUIT



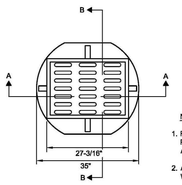
City of Naperville STANDARD DETAIL

TYPICAL TRENCH DETAIL

REVISED: 01/01/2013 | SHEET 1 OF 1

LIGHTING 31

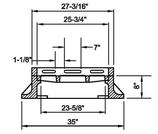
690.31



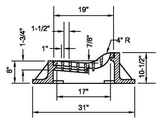
PLAN

NOTES:

1. FRAME AND GRATE SHALL BE NEENAH R-3501-P, EAST JORDAN 7525, OR EQUAL APPROVED BY THE CITY ENGINEER.
2. ALL CASTING SHALL BE SHOP PAINTED WITH AN ASPHALTIC BASE PAINT.
3. ALL CASTINGS SHALL INCLUDE "DUMP NO WASTE. DRAINS TO RIVER".



SECTION A-A



SECTION B-B

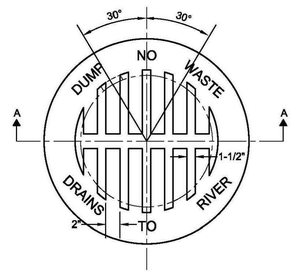
City of Naperville STANDARD DETAIL

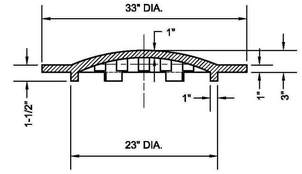
FRAME & GRATE FOR M-3.12 CURB & GUTTER

REVISED: 05/15/2015 | SHEET 1 OF 1

STORM 13

290.13





SECTION A-A

NOTES:

1. BEEHIVE GRATE SHALL BE NEENAH R4340B, EAST JORDAN 6527, OR EQUAL APPROVED BY THE CITY ENGINEER.
2. ALL CASTINGS SHALL BE SHOP PAINTED WITH AN ASPHALTIC BASE PAINT.
3. ALL CASTINGS SHALL INCLUDE "DUMP NO WASTE. DRAINS TO RIVER".

City of Naperville STANDARD DETAIL

BEEHIVE GRATE

REVISED: 05/15/2015 | SHEET 1 OF 1

STORM 14

290.14

CUT A SECTION OF POLYETHYLENE TUBE APPROXIMATELY TWO FEET LONGER THAN THE PIPE SECTION. REMOVE ALL LUMPS OF CLAY, MUD, CINDERS, OR OTHER MATERIAL THAT MIGHT HAVE ACCUMULATED ON THE PIPE SURFACE DURING STORAGE. SLIP THE POLYETHYLENE TUBE AROUND THE PIPE, STARTING AT THE SPIGOT END. BUNCH THE TUBE ACCORDION-FASHION ON THE END OF THE PIPE. PULL BACK THE OVER-HANGING END OF THE TUBE UNTIL IT CLEARS THE PIPE END.

MAKE THE OVERLAP OF THE POLYETHYLENE TUBE BY PULLING BACK THE BUNCHED POLYETHYLENE FROM THE PRECEDING LENGTH OF PIPE AND SECURING IT IN PLACE. NOTE: THE POLYETHYLENE MAY BE SECURED IN PLACE BY USING TAPE, STRING, PLASTIC TIE STRAPS, OR ANY OTHER MATERIAL CAPABLE OF HOLDING THE POLYETHYLENE ENCASEMENT SNUGLY AGAINST THE PIPE.

TAKE UP SLACK IN THE TUBE ALONG THE BARREL OF THE PIPE TO MAKE A SNUG, BUT NOT TIGHT, FIT. FOLD EXCESS POLYETHYLENE BACK OVER THE TOP OF THE PIPE.

REPAIR ALL SMALL RIPS, TEARS OR OTHER TUBE DAMAGE WITH MANUFACTURER APPROVED ADHESIVE TAPE.

1. COVER BENDS, REDUCERS AND OTHER PIPE-SHAPED APPURTENANCES WITH POLYETHYLENE IN THE SAME MANNER AS THE PIPE.

2. WRAP VALVES, TEES AND OTHER ODD-SHAPED APPURTENANCES WITH A FLAT SHEET OR SPLIT LENGTH OF POLYETHYLENE TUBE BY PASSING THE SHEET UNDER THE APPURTENANCES AND BRINGING IT UP AROUND THE BODY. MAKE SEAMS BY BRINGING THE EDGES OF THE POLYETHYLENE SHEET TOGETHER, FOLDING OVER TWICE, AND TAPING DOWN.

3. POLYETHYLENE ENCASEMENT TO BE IN ACCORDANCE WITH A.W.W.A. C105-99OR LATEST VERSION.

4. COPPER SERVICE TAPS ARE TO BE WRAPPED WITH POLYETHELENE OR A SUITABLE DIELECTRIC APE FOR A MINIMUM CLEAR DISTANCE OF 3' AWAY FROM THE MAIN.

City of Naperville STANDARD DETAIL

POLYETHYLENE ENCASEMENT

REVISED: 01/01/2019 | SHEET 1 OF 1

WATER 19

490.15

REVISIONS

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DEI

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13 OF 13

CONSTRUCTION DETAILS