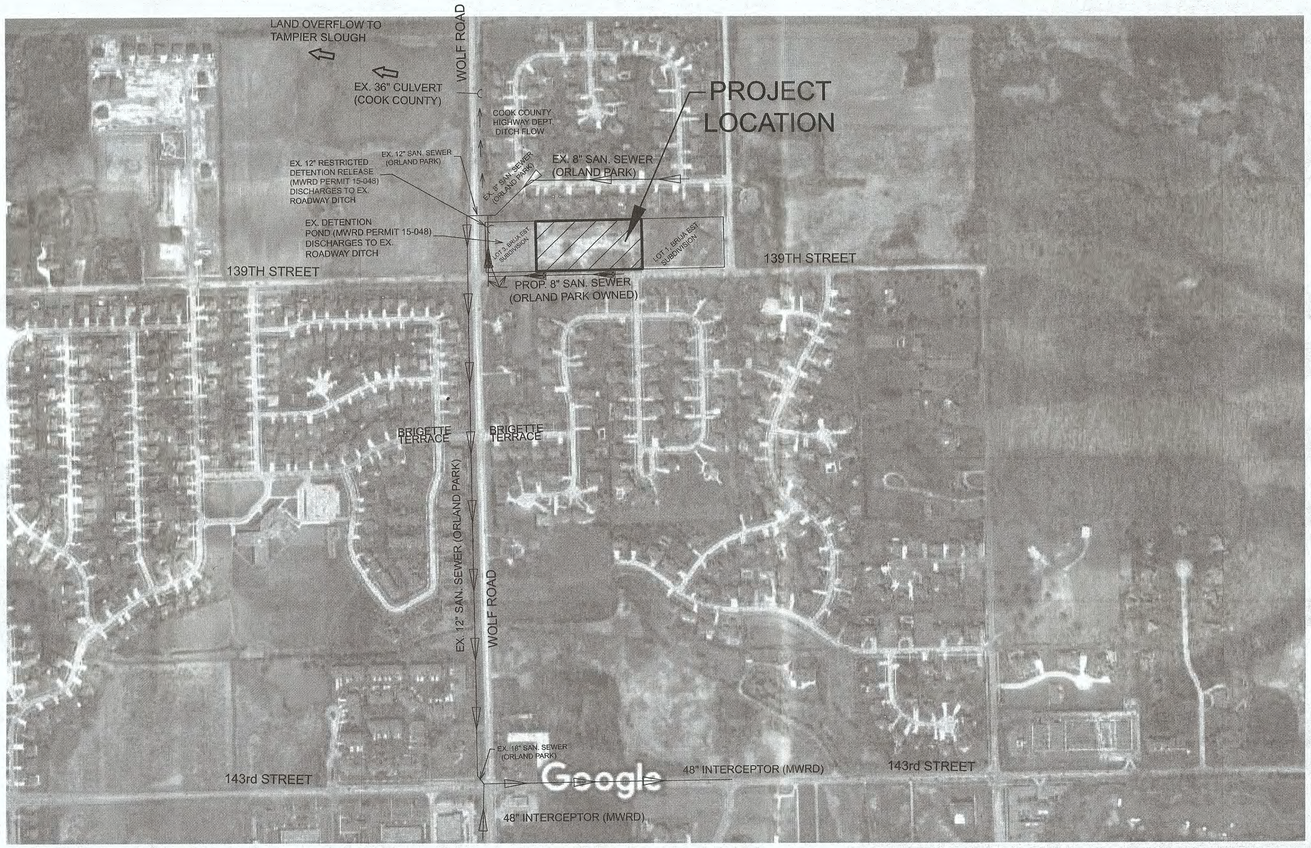
DEVELOPMENT PLANS FOR HARVEST GLEN ESTATES

A RESUBDIVISION OF LOT 2 BRIJA ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

DEVELOPER:
HARVEST GLEN ESTATES, LLC
200 E. Fifth Avenue
Naperville, IL 60565
(630) 277-7195
Contact:
Frank Dimperio

ENGINEER & SURVEYOR:
ROGINA Engineers & Surveyors, LLC
1225 Channahon Road
Joliet, IL 60436
(815) 729-0777 phone
815) 729-0782 fax



MWRDGC ROUTING MAP

SCALE: 1" = 300'

SYMBOL INDEX
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED PROJECT LIMITS

LEGEND

PROPOSED		EXISTING
	BOUNDARY LINE	
	SECTION LINE	
	LOT LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MANHOLE USE NOTED	
OR	CATCH BASIN	OR
OR	INLET	OR
	FLARED END SECTION	
	WATER VALVE IN BOX	
	WATER VALVE VAULT	
	FIRE HYDRANT	
	SANITARY CLEAN OUT	
	GAS VALVE	
	TELEPHONE PEDISTAL	
	ELECTRIC TRANSFORMER	
	STREET LIGHT	
	PARKING LOT LIGHT	
	SIGN	
	DOUBLE SIGN	
	STORM SEWER	
	UNDER DRAIN	
	SANITARY SEWER	
	SANITARY SERVICE	
	WATER MAIN	
	GAS MAIN	
	ELECTRIC LINE	
	TELEPHONE LINE	
	CURB	
	CURB & GUTTER	
	DEPRESSED CURB	
	SIDEWALK	
644	1 FOOT CONTOURS	644
+ 644.05	SPOT ELEVATION	+ 644.25
	OVERLAND FLOW	
	SWALE OR DITCH	
	TREE	
SF	SILT FENCE	
	INLET PROTECTION	
	TRENCH BACKFILL	
DIP	DUCTILE IRON PIPE	DIP
RCP	REINFORCED CONCRETE PIPE	RCP
	FLARED END SECTION	FES
TC	TOP CURB	TC
BC	BOTTOM CURB	BC
FG	FINISHED GRADE	STM MH., FG/ 1 F & O R=724.50 FF=721.54 1 I=720.10 1
FF	FINISHED FLOOR	

811 Know what's below. Call before you dig.
CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG (EXCLUDING SAT., SUN. & HOL.)
CALL 811 or 1-800-892-0123

BENCHMARKS
(FROM SPACECO INC. BRIJA ESTATES PLANS, LAST REVISED 4-25-15)

SOURCE BENCHMARK:
DUPAGE COUNTY CORS - STATION KNOLLWOOD "DP4B"
ELEVATION = 635.7573 NAVD88

SITE BENCHMARK
BONNET BOLT ON FIRE HYDRANT AT WEST SIDE OF 110TH AVENUE +/- 300 FEET NORTH OF THE INTERSECTION OF 139TH STREET AND 110TH AVENUE
ELEVATION = 742.28 NAVD88

NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE VILLAGE OF ORLAND PARK BUILDING DEPARTMENT AT TELEPHONE: (708) 403-5300 AT LEAST TWO (2) WORKING DAYS IN ADVANCE BEFORE CONSTRUCTING ANY IMPROVEMENTS.

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These plans and/or supporting documents have been reviewed for compliance with the applicable portions of the municipal codes of the City/Village of Orland Park
This approval does not serve to amend, modify or waive any zoning or other development related requirements.
CHRISTOPHER B. BURKE ENGINEERING LTD.
BY: [signature]
DATE: 11-1-2017

No error, omission, or discrepancy of any sort in either the plans and/or supporting documents (whether said plans or documents have been reviewed by the Municipal Engineer or not) shall permit or release the applicant from constructing this work in any other manner than that provided for in the ordinance of this Municipality relating thereto.

ROGINA ENGINEERS & SURVEYORS, LLC

NORTH

PERMIT NO.
№ 17 0001#
AM - WMO

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DATED THIS 20th DAY OF OCTOBER, 2017

LICENSED PROFESSIONAL ENGINEER
MICHAEL R. ROGINA
062-052132
STATE OF ILLINOIS

MICHAEL R. ROGINA ILLINOIS PROFESSIONAL ENGINEER NO. 52132
LICENSE EXPIRES 11/30/2017

COMPARE DESCRIPTION AND POINTS BEFORE BUILDING AND REPORT ANY APPARENT DIFFERENCE TO THE ENGINEER.

REFER TO DEED OR GUARANTEE TITLE POLICY FOR BUILDING LINE RESTRICTIONS OR EASEMENTS NOT SHOWN ON PLANS.

04/27/16

REV. NO. 8 - PER CCHD, MWRD & IEPA REVIEW 10/13/17
REV. NO. 7 - PER VILLAGE REVIEW 8/28/17
REV. NO. 6 - PER VILLAGE REVIEW 6/22/17
REV. NO. 5 - PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
REV. NO. 4 - PER VILLAGE ENGINEER REVIEW 2/13/17
REV. NO. 3 - REV POND GEOMETRY/OUTLET DISCHARGE 12/28/16
REV. NO. 2 - PER VILLAGE ENGINEER REVIEW 12/05/16
REV. NO. 1 - PER VILLAGE ENGINEER REVIEW 7/12/16

PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, L.L.C.
1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

STANDARD SPECIFICATIONS

1. The Standard Specifications which apply to the construction work as shown on the Engineering Plans, are contained in the following documents:
   a. Standard Specifications for Road and Bridge Construction, latest edition, as adopted by the State of Illinois, Department of Transportation.
   b. Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition, by the Illinois Society of Professional Engineers, et al.
   c. Subdivision Regulations for the VILLAGE OF ORLAND PARK
   d. Standard Specifications for Water and Sewer Main Construction in the VILLAGE OF ORLAND PARK, Illinois.
2. In the event of a conflict between statements which apply to the construction work, the statement contained within the document first enumerated below shall govern:
   a. Special Provisions
   b. General Notes
   c. Notes and Details on the Engineering Plans
   d. Standard Specifications, as defined in Paragraph 1 above.
3. The Village of ORLAND PARK Standard Detail Govern.

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 Special Provisions shall be the OWNER'S representative.
   d. The MUNICIPALITY is the Village of ORLAND PARK.
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 all jurisdictional agencies, utility companies, and the ENGINEER, at least two (2) working days prior to said start. All existing utilities must be staked prior to construction.
   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 the 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 offsite 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 the jurisdictional agencies.
   i. The Traffic Control and Protection of all work conducted within public rights-of-way, shall be in accordance with the applicable articles of Section 107 and Division 700 of the 'Standard Specifications for Road and Bridge Construction' adopted January 1, 2012 and the latest edition of the 'Illinois Manual on Uniform Traffic Control Devices for Streets and Highways'.
3. The OWNER shall be responsible for the following:
   a. Scheduling the necessary preconstruction meetings(s) with the jurisdictional agencies.
   b. 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.
   c. Applying for IEPA and IDOWR 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 Contractors's' failure to furnish and perform their work in accordance with the Contract Documents.

SPECIAL PROVISIONS

1. EARTHWORK IMPROVEMENTS
   a. Topsoil Excavation includes:
      1. 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 plans subgrade elevations.
      2. 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.
      3. Compaction of the excavated material where placed in areas not requiring structural fill material, shall be moderate.
      4. 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.
   b. Earth Excavation includes:
      1. Excavation of earth and other materials which are suitable for use as structural fill. The excavation shall be within a tolerance of 0.3 feet (+/-) of the plans subgrade elevations. The (+/-) tolerance within pavement areas shall be such that the earth material shall 'balance' as part of the fine grading operation.
      2. Placement of the earth and other suitable materials shall be within those areas requiring structural fill in order to achieve the plans 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 six (6) 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.
      3. Compaction of the earth and other suitable materials, shall be to at least 90% of the Modified Proctor Dry density, ASTM 1557 within proposed pavement and building areas. Moderate compaction is required elsewhere.
      4. Excess materials, if not utilized as fill, shall be completely removed from the construction site and disposed of by the CONTRACTOR.
   c. Unsuitable Material
      1. 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.
   d. GENERAL
      The Grading CONTRACTOR shall:
      1. Maintain proper site drainage at all times during the course of construction, and prevent storm water from running into or standing in excavated areas.
      2. Spread and compact uniformly to the degree specified all excess trench spoil after completion of the underground improvements.
      3. 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.
      4. Provide water to add to dry material in order to adjust the moisture content for the purpose of achieving the specified compaction.
      5. Be responsible for implementation of the 'Soil Erosion and Sedimentation Control Measures' as assigned to the grading CONTRACTOR on the Engineering Plans.
   e. Testing and Final Acceptance
      1. The CONTRACTOR shall provide as a minimum, a fully loaded six-wheel truck for proof rolling the pavement subgrade prior to the placement of the curb and gutter and the base material.
      2. 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 specifications as well as the responsibility and cost for the necessary correction(s).
      3. Approval of the pavement subgrade by the OWNER shall be required prior to the placement of the pavement materials.
   f. Method of Measurement
      1. 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.
      2. The quantities as shown in the Engineer's 'Quantity Estimate' are those estimated b 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.
      3. Prior to the removal of unsuitable material, the CONTRACTOR shall notify the OWNER for authorization to remove said material. Upon authorization and removal, the unsuitable material shall be field measured by the ENGINEER in place.
   g. Basis of Payment
      1. Payment for all earthwork shall be 'unit price'. The CONTRACTOR shall provide unit prices for earthwork for the purpose of contract adjustment, if required.
      2. 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.
2. PAVING IMPROVEMENTS
   a. Fine Grading
      1. 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.
   b. Curb and Gutter
      1. The curb and gutter shall be the type(s) as detailed on the Engineering Plans. The Aggregate Base Course under curb and gutter is incidental to paving contractor's Aggregate Base Course unit price.
      2. The curbs shall be backfilled after their construction and prior to the placement of the base course.
   c. Pavement
      1. The pavement materials shall be as detailed on the Engineering Plans. Thicknesses specified shall be considered to be the minimum compacted thickness.
   d. General
      The Paving Contractor shall:
      1. Repair any base course and binder course failures prior to the installation of the final bituminous concrete surface course.
      2. 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.
      3. Permit the bituminous concrete binder course to weather one (1) winter season prior to the installation of the bituminous concrete surface course.
   e. Testing and Final Acceptance
      1. Prior to placement of the base course, the subgrade must be approved by the local jurisdictional authority. (See 'Testing and Final Acceptance for Earthwork')
      2. 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 are less than the minimum thickness specified shall be borne by the CONTRACTOR. The cost for obtaining cores which meet or exceed the specification shall be borne by the OWNER.
      3. 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.
      4. Final acceptance of the total pavement installation shall be subject to the testing and checking requirements cited above.
   f. Method of Measurement
      1. Combination concrete curb and gutter, and base course shall be measured in the field by the CONTRACTOR. The quantities shall be submitted to the ENGINEER for verification.
      2. When requested, documentation for the installed base course, bituminous concrete binder, and surface course, 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.
   g. Basis of Payment
      1. Combination concrete curb and gutter shall be paid for at the contract unit price per LINEAL FOOT.
      2. Prime Coat material shall be paid for at the contract unit price per GALLON.
      3. Aggregate Base Course shall be paid for at the contract unit price per SQUARE YARD.
      4. Bituminous Concrete shall be paid for at the contract unit price per SQUARE YARD.
3. UNDERGROUND IMPROVEMENTS
   a. Storm Sewer
      1. Material shall be:
         a. reinforced concrete pipe (RCP), which shall meet or exceed the performance requirements of ASTM C 76.
      2. Joints shall be:
         a. For RCP; bell and spigot type ASTM C 361 gasketed joints.
      3. Bedding shall be as detailed on the Engineering Plans.
      4. Size (12" RCP minimum) shall be as indicated on the Engineering Plans and pipe shall be Strength Class IV.
   b. Trench Backfill Material
      1. Trench backfill material shall consist of CA-7 coarse aggregate.
      2. All trenches under or within 5' of an existing or proposed curb and/or pavement are to be backfilled with trench backfill material.
   c. Testing and Final Acceptance
      1. Storm sewer and all storm structures shall be clean and debris prior to their final acceptance.
   d. Method of Measurement
      1. All appurtenances such as manholes, catch basins, inlets, valves and valve vaults, valve boxes, and fire hydrants, shall be paid for on the basis of in-place quantities.
      2. Trench backfill material shall be measured by multiplying the maximum width of trench (which shall not exceed that indicated in the General Specification - 'Standard Specifications for Water and Sewer Construction in Illinois') by the actual depth of the trench backfill above the center of pipe, with a deduction for the volume of one-half of the pipe.
   e. Basis of Payment
      1. All storm sewer pipeshall be paid for at the contract unit price per LINEALFOOT. The price shall include the necessary labor and material for a complete in-place installation, as well as all incidental construction, testing approvals, acceptances, bedding material, and connections to existing utilities.
      2. 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 an in-place installation. The price for manholes, inlets, and catch basins 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. The price for water main shall also include bends and other fittings.
      3. Trench backfill material shall be paid for at the contract unit price per CUBIC YARD, and shall include necessary jetting of the in-place material.
   b. Water Main and Services
      1. Material for the water main shall be ductile iron pipe (DIP), CLASS 52, which shall meet or exceed the performance requirements of ANSI A21.51.
         Water service material shall be type "K" copper.
      2. Joints for DIP; push-on (bell-tite) type, ANSI A21.11.
      3. Cover over the pipe shall be as indicated on the Engineering Plans.
      4. Services shall terminate at the valve box (single family development). The termination points shall be clearly located with a blue-topped 4 inch x 4 inch stake.
      5. Sizes shall be as indicated on the Engineering Plans.
      6. All gate valve hydrants and fittings shall be mechanical joint supplied with set screw type retainer glands.
   c. Sanitary Sewer Mains and Services
      1. Material shall be:
         a. polyvinyl chloride pipe (PVC) SDR26, where indicated on the plans, which shall meet or exceed the performance requirements of ASTM D 3034 and be in accordance with jurisdictional agency's specifications for construction and installation. (For depths 0-15' as measured from top of pipe; PVC SDR26 for depths 15-20'; PVC SDR21 for depths 20-25').
         b. ductile iron pipe (DIP), where indicated on the plans, which shall meet or exceed the performance requirements of ANSI A21.51, cement-lined.
      2. Joints shall be:
         a. For PVC; ring-tite type, ASTM D 3212.
         b. For DIP; push-on (bell-tite) type, ANSI A21.11.
      3. Bedding shall be as detailed on the Engineering Plans.
      4. Cover over the pipe shall generally be a minimum of seven (7) feet.
      5. Slope for an 8-inch diameter pipe shall be a minimum of 0.40%. For a 6-inch diameter pipe, a minimum of 1.00%.
      6. Wyes 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.
      7. 'Band Seal' or similar couplings shall be used when joining pipes of dissimilar materials.
      8. Services shall extend to the property line or five (5) feet beyond any utility located in the front yard of a lot being served (single family development). The termination points shall be clearly located with a green-topped 4 inch x 4 inch stake.
      9. Sizes shall be as indicated on the Engineering Plans.
   d. Method of Measurement
      1. All sanitary sewer and water main pipes and services shall be measured in the field after its installation. Payment shall be based on these field measurements.
      2. All appurtenances such as manholes, valves and valve vaults, valve boxes, and fire hydrants, shall be paid for on the basis of in-place quantities.
      3. Water services, shall be paid by lineal foot including the necessary length of type 'K' copper water tube of the size shown on the plans. Corporation stop, curb stop, and service box shall include 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.
      4. Trench backfill material shall be measured by multiplying the maximum width of trench (which shall not exceed that indicated in the General Specification - 'Standard Specifications for Water and Sewer Construction in Illinois') by the actual depth of the trench backfill above the center of pipe, with a deduction for the volume of one-half of the pipe.
   e. Basis of Payment
      1. All sanitary sewer, water main and services 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, approvals, acceptances, bedding material and connections to existing utilities
      2. 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 an in-place installation. The price for manholes, inlets, and catch basins 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. The price for water main shall also include bends and other fittings.
      3. Trench backfill material shall be paid for at the contract unit price per CUBIC YARD, and shall include necessary jetting of the in-place material.
   b. Incidental to Construction
      The Underground CONTRACTOR shall:
      1. Adhere to the criteria for the separation between water mains and the storm and sanitary sewer lines as described in the 'Technical Policy Statements', Division of Public Water Supplies, Illinois Environmental Protection Agency (See General Specifications).
      2. Be responsible to place on grade, and coordinate with other CONTRACTORS, all underground utility structure frames such as manholes, catch basins, and inlets.
      3. 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.
      4. Provide poured concrete fillets conforming to the shape of the pipe in all sanitary and storm manholes, and inlets.
      5. Endeavor to maintain the top of any utility trench at least two (2) feet away from any existing or proposed curb or pavement, in those instances where the trench runs parallel to said curb or pavement.
      6. Be responsible for the de-watering of utility trenches during construction and providing the necessary trench bracing that may be required in order to adhere to the current OSHA safety standards.
      7. Remove soft materials 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.
      8. Not damage 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).
      9. 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.
      10. Furnish one (1) set of Record drawings to the ENGINEER upon completion of the sanitary sewers and water mains. Drawings shall show the location of all sanitary sewer wyes (measured from the nearest downstream manhole), hydrants, valves, and individual service boxes.
      11. Be responsible for implementation of the 'Soil Erosion and Sedimentation Control Measures' as applicable.
      12. The Storm Sewer and Sanitary Sewers shall be televised and Sedimentation Control Measures' as applicable.

PROTECTION OF WATER MAIN AND WATER SERVICE

Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows:

A. Water Mains:

1. Horizontal Separation
   a. Water mains shall be laid at least ten feet horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.
   b. Water mains may be laid closer than ten feet to sewer line when:
      i. Local conditions prevent a lateral separation of ten feet;
      ii. The water main pipe bottom is at least 18 inches above the crown of the sewer; and
      iii. The water main is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.
   c. Both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, pre-stressed concrete pipe (storm sewer only), or PVC pipe meeting the requirements of Section 693.111 of the I.E.P.A. Technical Policy Statements, when it is impossible to meet (a) or (b) above. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling.
2. Vertical Separation:
   a. Water main shall be laid so that its pipe bottom is 18 inches above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within ten feet horizontally of any sewer drain crossed. A length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.
   b. Both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast of ductile iron pipe, pre-stressed concrete pipe, (storm sewers only), or PVC pipe meeting the meeting the requirements of Section 693.111 or the drain or sewer shall be sleeved with steel pipe or reinforced concrete pipe conforming to ASTM C-361 with gasketed joints conforming to ASTM C-443 (storm sewer only), when:
      i. It is impossible to obtain the proper vertical separation as described in (a) above; or
      ii. The water main passes under a sewer or drain.
   c. A vertical separation of 18 inches between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the water main.
   d. Construction shall extend on each side of the crossing until the normal distance from the water main to the sewer or drain line is at least ten feet.

B. Water Service Lines:

1. The horizontal and vertical separation between water service and all storm sewers, sanitary sewers, combined sewers or any drain or sewer service connection shall be the same as water main separation described in (a) above.
2. Water pipe described in (a) above shall be used for sewer service lines when minimum horizontal and vertical separation cannot be maintained.

NOTE:
FA-6 TRENCH BACKFILL IS REQUIRED FOR TRENCHES WITHIN THE THE COOK COUNTY-DOTH RIGHT-OF-WAY.

811 Know what's below. Call before you dig.
CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG (EXCLUDING SAT., SUN. & HOL.)
CALL 811 or 1-800-892-0123

REVISIONS			
1	PER VILLAGE ENGINEER REVIEW 7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	PER VILLAGE ENGINEER REVIEW 12/05/16	6	
3		7	
4		8	PER CCHD, MWRD & IEPA REVIEW 10/13/17

Y:\R800\R850\R851371Design\Specs1fications.pln 10/24/2017

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Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
SCALE:	CHECKED BY:
	MRR

CONSTRUCTION SPECIFICATIONS

SHEET NO. 2 OF 14

PLOTTED By:rogina 8:45:33 AM

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A. REFERENCED SPECIFICATIONS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:
   * STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   * STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   * VILLAGE OF ORLAND PARK MUNICIPAL CODE;
   * THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;
   * IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

B. NOTIFICATIONS

1. THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-588-4055).
2. THE VILLAGE OF ORLAND PARK ENGINEERING DEPARTMENT AND PUBLIC WORKS DEPARTMENT MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO THE START OF CONSTRUCTION OF EACH WORK PHASE.
3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

C. GENERAL NOTES

1. ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR IS 0.0 FT.
2. MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.
3. THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD, THE MUNICIPALITY, OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.
5. THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.
6. ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
7. MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.
8. THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.
9. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.
10. RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.

D. SANITARY SEWER

1. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.
2. A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.
3. DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.
4. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).
5. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.
6. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.
7. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
POLYVINYL CHLORIDE (PVC) PIPE 6-INCH TO 15-INCH DIAMETER SDR 26	ASTM D-3034	ASTM D-3212
WATER MAIN QUALITY PVC 4-INCH TO 36-INCH 4-INCH TO 12-INCH	ASTM D-2241 AWWA C900	ASTM D-3139 ASTM D-3139

8. ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE ¼ " TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO ¼ THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-7, CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.
9. NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR PIPE MATERIALS.
10. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS. SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND WATERTIGHT GASKET WITH THE WORD "SANITARY" CAST INTO THE LID.
11. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
    a) A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SHEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.
    b) REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.
    c) WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.
12. WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMAINS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATER MAIN, THE SEWER SHALL BE CONSTRUCTED TO WATER MAIN STANDARDS OR IT SHALL BE ENCASED WITH A WATER MAIN QUALITY CARRIER PIPE WITH THE ENDS SEALED.
13. ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.
14. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.
15. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST "RUBBER BOOTS" THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.
16. ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.
17. EXCEPT FOR FOUNDATION/FOOTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED; AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.
18. A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTERS SHALL BE INSPECTED AND EXERCISED ANNUALLY BY THE PROPERTY OWNER TO ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCES SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.

E. EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
2. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.
3. ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.
4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
5. INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:
   a) UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.
   b) ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.
6. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.
7. A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
8. CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.
9. MORTAR WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ADDITION TO CONCRETE WASHOUT FACILITIES FOR ANY BRICK AND MORTAR BUILDING ENVELOPE CONSTRUCTION ACTIVITIES.
10. TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.
12. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.
13. ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).
14. VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
15. SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR THEIR BUFFERS.
16. EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.
17. STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.
18. THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCORPORATE THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER. DRAIN TILES ALLOWED IN COMBINED SEWER AREA FOR GREEN INFRASTRUCTURE PRACTICES.
19. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.
20. THE CONTRCTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMAINS AS WELL AS THEIR SERVICES AND OTHER APPURTENANCES. ANY TRENCH DEWATERING, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO A SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATERS SHALL NOT BE DISCHARGE TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.
21. ALL PERMANENT EROSION CONTROL PRACTICES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.
22. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PERIODS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.
23. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.
24. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWRD.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

TECHNICAL GUIDANCE MANUAL

07/12/2016

MWRD GENERAL NOTES

STD. DWG. NO.18

PAGE NO. 19

REVISIONS			
1	PER VILLAGE ENGINEER REVIEW	5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	PER VILLAGE ENGINEER REVIEW	6	12/05/16
3		7	
4		8	

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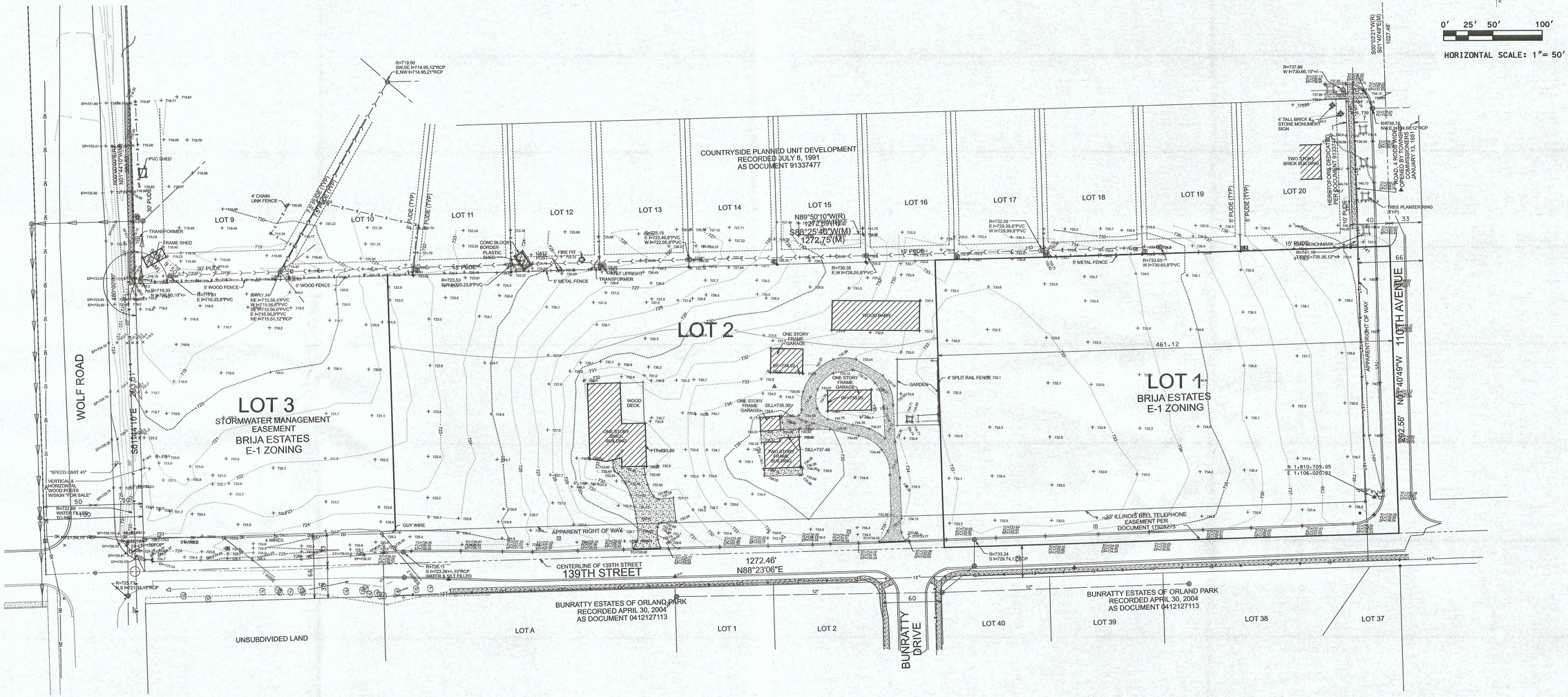
PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
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	MRR

MWRD GENERAL NOTES

SHEET NO. 3 OF 14

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0′ 25′ 50′ 100′

HORIZONTAL SCALE: 1″= 50′

NORTH

ROGINA ENGINEERS & SURVEYORS, LLC

BENCHMARKS
(FROM SPACECO INC. BRIJA ESTATES PLANS, LAST REVISED 4-25-15)

SOURCE BENCHMARK:
DUPAGE COUNTY CORS - STATION KNOLLWOOD "DP4B"
ELEVATION = 635.7573 NAVD88

SITE BENCHMARK
BONNET BOLT ON FIRE HYDRANT AT WEST SIDE OF 110TH AVENUE +/- 300 FEET NORTH OF THE INTERSECTION OF 139TH STREET AND 110TH AVENUE
ELEVATION = 742.28 NAVD88

NOTE:

EXISTING SITE TOPOGRAPHY OBTAINED FROM SPACECO INC. BRIJA ESTATES PLANS, LAST REVISED 4-25-15

EXISTING TOPOGRAPHY SHOT: OCTOBER 10, 2013

REVISIONS			
1		5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2		6	
3		7	
4		8	

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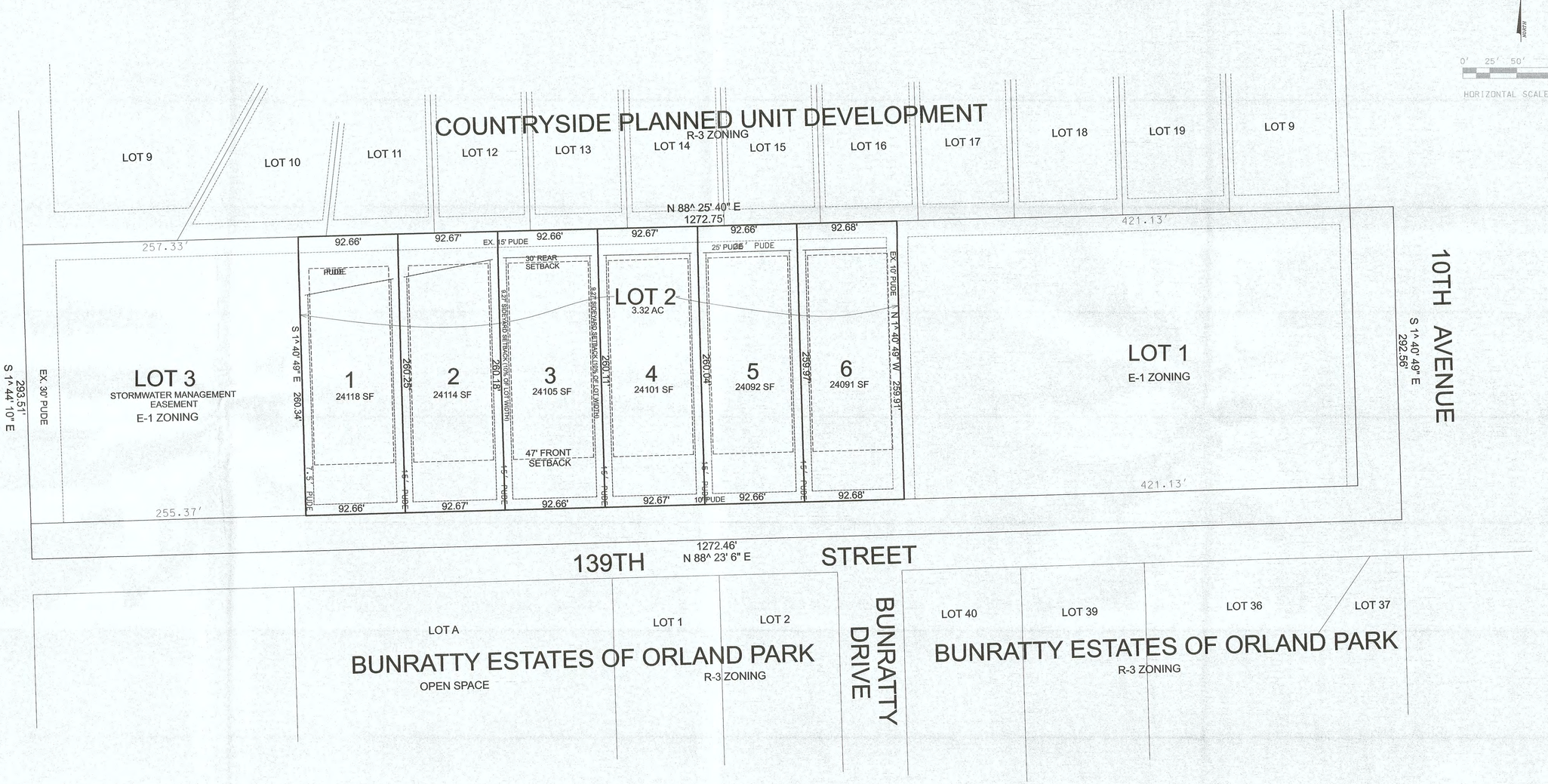
CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
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	MRR

EXISTING CONDITIONS

SHEET NO. 4 OF 14



0' 25' 50' 100'

HORIZONTAL SCALE: 1"= 50'

NORTH

LEGAL DESCRIPTION

LOT 2 IN BRIJA ESTATES SUBDIVISION, BEING A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF SECTION 5, TOWNSHIP 36 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED IN THE COOK COUNTY RECORDER'S OFFICE ON OCTOBER 1, 2014, AS DOCUMENT NUMBER 1429516027.

HARVEST GLEN ESTATES SUMMARY TABLE

EXISTING ZONING	E-1
PROPOSED ZONING	R-3
TOTAL AREA	3.32 ACRES
# OF PROPOSED LOTS	6
PROPOSED DENSITY	1.81 UNITS/ACRE
AVERAGE LOT SIZE	24,104 SF

REVISIONS			
1	PER VILLAGE COMMENT	5	7/12/16
2		6	
3		7	
4		8	

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NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO: R851.37	DESIGNED BY: MRR
DATE: 4/27/16	DRAWN BY: JCC
SCALE:	CHECKED BY: MRR

GEOMETRIC PLAN

SHEET NO. 5 OF 14

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8:09:53 AM

LEGEND

PROPOSED		EXISTING
	BOUNDARY LINE	
	SECTION LINE	
	LOT LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MANHOLE USE NOTED	
OR	CATCH BASIN	OR
OR	INLET	OR
	FLARED END SECTION	
	WATER VALVE IN BOX	
	WATER VALVE VAULT	
	FIRE HYDRANT	
	SANITARY CLEAN OUT	
	GAS VALVE	
	TELEPHONE PEDISTAL	
	ELECTRIC TRANSFORMER	
	STREET LIGHT	
	PARKING LOT LIGHT	
	SIGN	
	DOUBLE SIGN	
	STORM SEWER	
	UNDER DRAIN	
	SANITARY SEWER	
	SANITARY SERVICE	
	WATER MAIN	
	GAS MAIN	
	ELECTRIC LINE	
	TELEPHONE LINE	
	CURB	
	CURB & GUTTER	
	DEPRESSED CURB	
	SIDEWALK	
644	1 FOOT CONTOURS	644
+ 644.05	SPOT ELEVATION	+ 644.25
	OVERLAND FLOW	
	SWALE OR DITCH	
	TREE	
SF SF	SILT FENCE	
	INLET PROTECTION	
	TRENCH BACKFILL	

DIP	DUCTILE IRON PIPE	DIP
RCP	REINFORCED CONCRETE PIPE	RCP
	FLARED END SECTION	FES
TC	TOP CURB	TC
BC	BOTTOM CURB	BC
FG	FINISHED GRADE	STM MH., TY. A, W/ FG= 1 F & CL R=724.50
FF	FINISHED FLOOR	FF=721.54 16" S I=720.10 16" N

NOTE: SEE SHEET 7A OF 14 FOR ADDITIONAL DITCH GRADING NORTH ALONG WOLF ROAD

WOLF ROAD

2-4'x1'0 TODOT FRAME WITH TODO TYPE A SOL.10 COVER
RIM=726.30
PRECAST REINFORCED CONCRETE FLAT SLAB TOP, SEE IDOT STD. 602406
STEPS PER ORLAND PARK DETAIL SS-01
MANHOLE, TYPE A, 6' DIA., STANDARD 602406
100-YEAR RESTRICTOR
CATCH BASIN USED TO BE INSTALLED OVER ANY RESTRICTOR HOLE THAT IS LESS THAN 4" NOMINAL TO 3' ON DIAMETER
#8 REINFORCING BARS EACH WAY W.R. GRADE BEAM WITH EXPANSION TIE HOOKS
100-YEAR RESTRICTOR (HOLE IN CONCRETE WALL)
RUBBER BOOT PER ASTM C-923
INFLOW PIPE
OUTFLOW PIPE
INFLOW PIPE
OUTFLOW PIPE
RUBBER BOOT PER ASTM C-923
6" STONE CUSHION
SECTION A-A

TOP OF CONCRETE SLAB ELEVATION
TOP OF WALL
INVERT
INVERT
SIDE VIEW

PLAN VIEW

RESTRICTOR SUMMARY

	2 YR.		100 YR.		T/WALL	RIM
OCS #	INV.	DIA.	INV.	DIA.		
#1	719.58	2.30"	721.03	4.20"	724.10	726.30

DETENTION FACILITY OUTLET STRUCTURE DETAIL
NOT TO SCALE
NOTES:
THE 4'-3(6")1'-0 V.R.I. WILL BE PRECAST WITH 4'-0" I.D. x 1'-0" WALL, 6" FLOOR, 6" TOP SLAB.
THE ORIFICE BARS ARE TO BE MECHANICALLY-HOOK BOLTED (HANDLE-HOOK) TO THE INSIDE OF THE HOOD. THE HOOD IS ALLOWED. HOOD MUST BE READILY REMOVABLE FOR CLEARING A BLOCKAGE OF OUTLET PIPE.

(OUTLET STRUCTURE DETAIL IS EXISTING RESTRICTOR AS PER LOCAL REQUIREMENTS UNDER MWRD PERMIT #15-048.)

COUNTRYSIDE PLANNED UNIT DEVELOPMENT
RECORDED JULY 8, 1991
AS DOCUMENT 91337477

ROGINA ENGINEERS & SURVEYORS, LLC.

NORTH

0' 20' 40' 80'
HORIZONTAL SCALE: 1"= 40'
VERTICAL SCALE: 1"=5'

LOT 9 — OUTLET STRUCTURE, #1 RIM= 726.30 INV.= 719.58 SEE OUTLET DETAIL ABOVE
LOT 10 — STM. MH, TY. A, 5' DIA. #10 W/ TY. 8 GRATE RIM= 724.50 INV.= 719.89 21" SW 720.09 18" NE
LOT 11 — STM. MH, TY. A, #20 W/ TY. 8 GRATE RIM= 725.40 INV.= 720.86
LOT 12 — STM. MH, TY. A, #30 W/ TY. 8 GRATE RIM= 725.70 INV.= 721.7715" E 721.57 18" W
LOT 13
LOT 14 — STM. MH, TY. A, #40 W/ TY. 8 GRATE RIM= 727.50 INV.= 724.01
LOT 15 — N89°50'10"W(R) 1272.69'(R) S88°25'40"W(M) 1272.75'(M)
LOT 16 — STM. MH, TY. A, #50 W/ TY. 8 GRATE RIM= 729.80 INV.= 726.01
LOT 17
LOT 18

4' CHAIN LINK FENCE
75' RADIUS (TYP.)
50' PUDE (TYP.)
5' PUDE (TYP.)
30' PUDE
15' PUDE
5' WOOD FENCE
5' METAL FENCE
PVC SHED
TRANSFORMER
FRAME SHED
EX. SAN. MH. #1.0
CONC BLOCK BORDER PLASTIC SHED
GATE POST
FIRE PIT
AT&T UPRIGHT
5' BUFFER
5' PUDE
30' REAR SETBACK
9.27' SIDEYARD SETBACK (10% OF LOT WIDTH)
10' SEPARATION (MIN.)
GUY WIRE
15 WIRES
2 WIRES
OH
UG
T
G
W
S
X

180'-00"00"E 1289.51' (M)
N01°34'40"W(M)
N01°34'40"W(R)
709.00 PROP. R.
N 89°59'35" E 1319.35'

719.58 PUDE
719.85
719.90
719.95
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734

12" FES W/ GRATE INV.=719.48
RELOCATED 15" FES I=719.50
25' - 12" RCP @ 0.40%
HWL=724.10
38' - 21" RCP @ 0.50%
NWL=719.70
12" FES W/ GRATE INV.=719.70
21" FES W/ GRATE INV.=719.70
86' - 18" RCP @ 0.90%
94' - 18" RCP @ 0.75%
10'- 4" PVC SDR 35 SUMP PUMP SERVICE (TYP.)
30' - 12" RCP @ 0.40%
271' - 8" PVC SDR 26 @ 0.60%
LOT 3
STORMWATER MANAGEMENT EASEMENT
BRIJA ESTATES
E-1 ZONING
PROPOSED 5' W PCC SIDEWALK
"SPEED LIMIT 45"
VERTICAL & HORIZONTAL WOOD POSTS W/SIGN "FOR SALE"
110'-16" DI, CL. 50 @ 0.55% w/ PUSH-ON JOINTS
165'-16" DI, CL. 50 @ 0.15% W/ PUSH-ON JOINTS
64' - 8" PVC SDR 26 @ 1.00%
334' - 8" PVC SDR 26 @ 1.73%
SAN. MH, TY. A, #2 W/ TY. 1 FR. & CL RIM= 724.70 INV.= 710.62 8" E, N
SAN. MH, TY. A, #3 W/ TY. 1 FR. & CL RIM= 727.70 INV.= 716.37 8" W,E
SAN. MH, TY. A, #4 W/ TY. 1 FR. & CL RIM= 734.98 INV.= 723.00 8" W
15'- 6" PVC SDR 26 @ 1.00% (MIN.)
383' - 8" PVC SDR 26 @ 1.73%
47' FRONT SETBACK
RELOCATE 15" FES
SAWCUT CURB TO DEPRESS
36"-15" RCP @ 0.50%
225-15" RCP @ 0.63%
RELOCATE TELEPHONE PED
MIN. 10' SEPARATION
EX. 20" DIWM/16" STORM X-ING
BOT / 16" STM= 712.10
TOP / EX. 20" WM = 717.0
12" DIWM/8" SANITARY X-ING
TOP / 8" SAN = 712.10
BOT / 12" WM = 717.0
5' PCC SIDEWALK EXTENSION
CONNECT TO EX. ST. MH.
PROPOSED 12" D.I.W.M.
20"x12" TAPPING VALVE IN VAULT RIM=725.10
STM. MH., TY. A, #60 W/ TY. 1 FR. & OL RIM= 724.50 INV.= 721.50
CB, TY. C, #70 W/ TY. 1 FR. & OL RIM= 724.35 INV.= 721.78 15" S
UNSUBDIVIDED LAND
CB, TY. C, #69 W/ TY. 1 FR. & OL RIM= 724.35 INV.= 721.60 15"
31.6° B-B
2-30° FITTINGS
8" GATE VALVE IN VAULT RIM=729.00
SAN. MH, TY. A, #2.1 W/ TY. 1 FR. & CL RIM= 727.00 INV.= 711.26 8" N
PROPOSED 5' W PCC SIDEWALK
2" WATER SERVICE DIRECTIONALLY BORED UNDER 139TH ST. (TYP.)
EX. STORM RIM=726.11 INV.=723.00+/-.15"RCP WATER & SILT FILLED
EX. 12" GATE VALVE IN VAULT RIM=726.40
20' - 15" RCP @ 0.45%
STM. MH., TY. A, #61 W/ TY. 1 FR. & OL RIM= 727.50 INV.= 723.90 EX. 12" SE 723.00 EX. 15" NE 722.91 15" W
LOT A
172' - 15" RCP @ 1.30%
182' - 15" RCP @ 1.10%
25' PUDE
LOT 2
3.32 AC
WOOD BARN
ONE STORY FRAME GARAGE
ONE STORY BRICK BUILDING
TWO STORY FRAME BUILDING
GARDEN
SPLIT RAIL FENCE
EX. 10' PUDE
LOT 1
24118 SF
LOT 2
24114 SF
LOT 3
24105 SF
LOT 4
24101 SF
LOT 5
24092 SF
LOT 6
24091 SF
LOT 1
LOT 2
10' PUDE
33' ILLINOIS EAS DOCU
139TH STREET
1272.46' N88°23'06"E
BUNRATTY ESTATES OF ORLAND PARK RECORDED APRIL 30, 2004 AS DOCUMENT 0412127113
BUNRATTY ES RECOR AS DOC
LOT 40
LOT 39
2" WATER SERVICE DIRECTIONALLY BORED UNDER 139TH ST. (TYP.)

NOTE: A SIDEWALK EXTENSION WITH ADA RAMPS AND CURB CUTS REQUIRED TO THE SOUTHWEST CORNER OF WOLF ROAD - 139TH STREET INTERSECTION TO CONNECT TO THE EXISTING BIKE PATH.
FINAL ROUTING OF SIDEWALK EXTENSION IS DEPENDENT ON NEGOTIATIONS WITH SE PROPERTY OWNER TO OBTAIN EASEMENTS/ROW.

- THE CLOUDED IMPROVEMENT SHALL BE CONSTRUCTED BY HARVEST GLEN ESTATES DEVELOPER AND REIMBURSED PER THE DEVELOPMENT AGREEMENT BETWEEN HARVEST GLEN ESTATES AND THE VILLAGE OF ORLAND PARK.

NOTE:
ALL SANITARY SEWER SERVICES SHALL BE 15' - 6" PVC SDR 26 W/ ASTM D-3212 JOINTS. ALL SANITARY SEWER SERVICES SHALL BE INSTALLED AT 1.0% MINIMUM.
TOTAL LENGTH= 60' PVC SDR 26

NOTE:
PROPOSED UTILTIES AND GRADING FOR LOTS 1 & 3, BRIJA ESTATES OBTAINED FROM SPACECO SITE IMPROVEMENT PLANS FOR BRIJA ESTATES, LAST REVISED 4/24/15

STORMWATER DETENTION IMPROVEMENTS ON LOT 3 ARE PERMITTED BY MWRDGC PERMIT NO. 15-048, APPROVED 5/07/15

REVISIONS			
1	REVISE PER VILLAGE ENGINEER 7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	REVISE PER VILLAGE ENGINEER 12/05/16	6	PER VILLAGE REVIEW 6/23/17
3	REV POND GEOMETRY/OUTLET DISCHARGE 12/28/16	7	PER VILLAGE REVIEW 8/28/17
4	REVISE PER VILLAGE ENGINEER 2/13/17	8	PER CCHD, MWRD & IEPA REVIEW 10/13/17

Y:\R800\R850\R8513?\Design\UTILITY PLAN.PLN 10/24/2017

PLOTTED BY:mrrogina 9/13:44 AM

PREPARED BY:
ROGINA
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Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

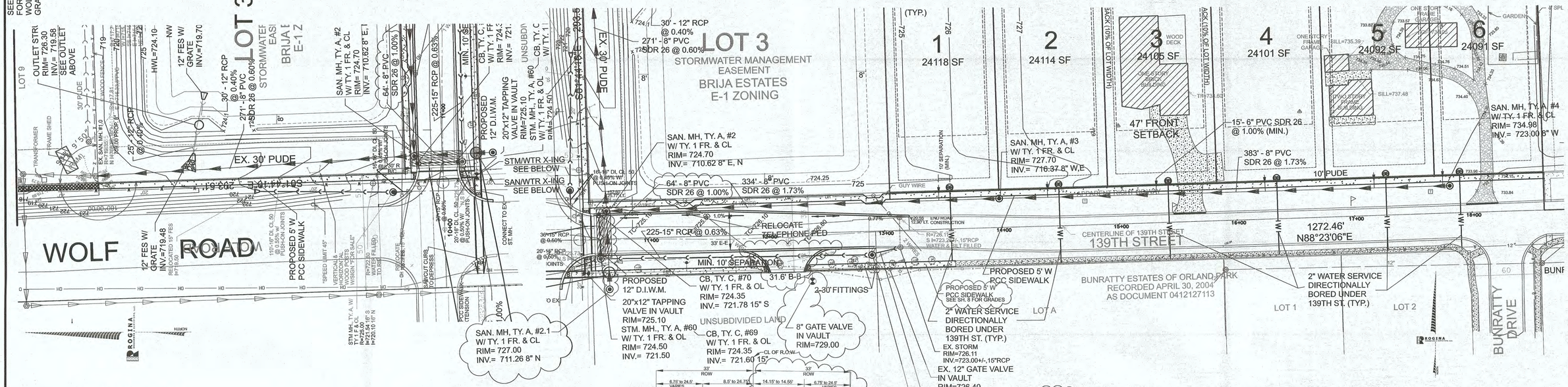
PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
SCALE:	CHECKED BY:
	MRR

UTILITY PLAN

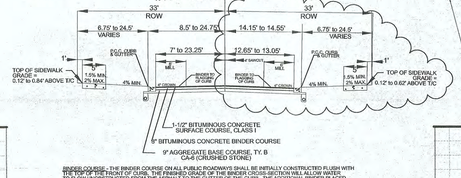
SHEET NO. 6 OF 14

SEE SHEET 7A OF 14 FOR CONTINUATION WOLF ROAD DITCH GRADING



0' 20' 40' 80'
HORIZONTAL SCALE: 1"= 40'
VERTICAL SCALE: 1"=5'

NOTE:
FA-6 TRENCH BACKFILL IS REQUIRED FOR TRENCHES WITHIN THE THE COOK COUNTY-DOTH RIGHT-OF-WAY.



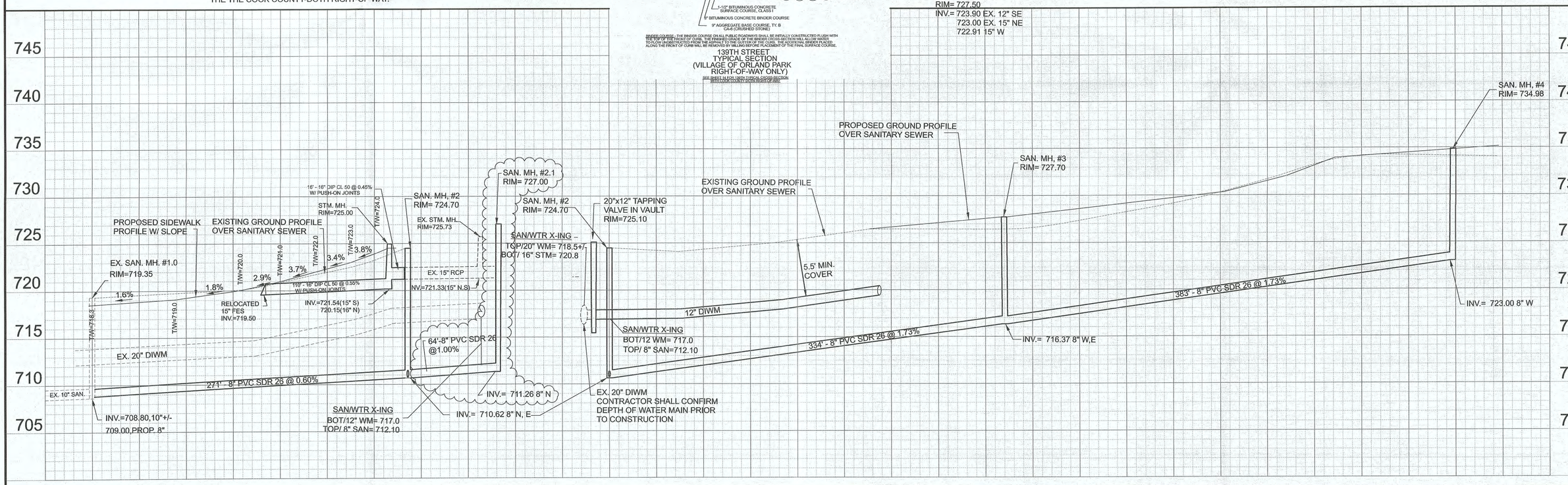
BINDER COURSE - THE BINDER COURSE ON ALL PUBLIC ROADWAYS SHALL BE INITIALLY CONSTRUCTED FLUSH WITH THE TOP OF THE FRONT OF CURB. THE FINISHED GRADE OF THE BINDER CROSS-SECTION WILL ALLOW WATER TO FLOW UNOBSTRUCTED FROM THE ADJACENT PROPERTY TO THE CURB. THE ADDITIONAL BINDER PLACED ALONG THE FRONT OF CURB WILL BE REMOVED BY MILLING BEFORE PLACEMENT OF THE FINAL SURFACE COURSE.

139TH STREET
TYPICAL SECTION
(VILLAGE OF ORLAND PARK RIGHT-OF-WAY ONLY)

SEE SHEET 14 FOR CROSS-SECTION WITH COOK COUNTY RIGHT-OF-WAY

THE CLOUDED IMPROVEMENT SHALL BE CONSTRUCTED BY HARVEST GLEN ESTATES DEVELOPER AND REIMBURSED PER THE DEVELOPMENT AGREEMENT BETWEEN HARVEST GLEN ESTATES AND THE VILLAGE OF ORLAND PARK.

0' 20' 40' 80'
HORIZONTAL SCALE: 1"= 40'
VERTICAL SCALE: 1"=5'



PLOTTED BY: mrogina 8:52:09 AM

REVISIONS			
1	REVISE PER VILLAGE ENGINEER 7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	REVISE PER VILLAGE ENGINEER 12/05/16	6	PER VILLAGE REVIEW 6/23/17
3		7	
4		8	PER CCHD, MWRD & IEPA REVIEW 10/13/17

Y:\R800\R850\R85137\Design\PLAN & PROFILE.PLN 10/24/2017

PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, LLC.
1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

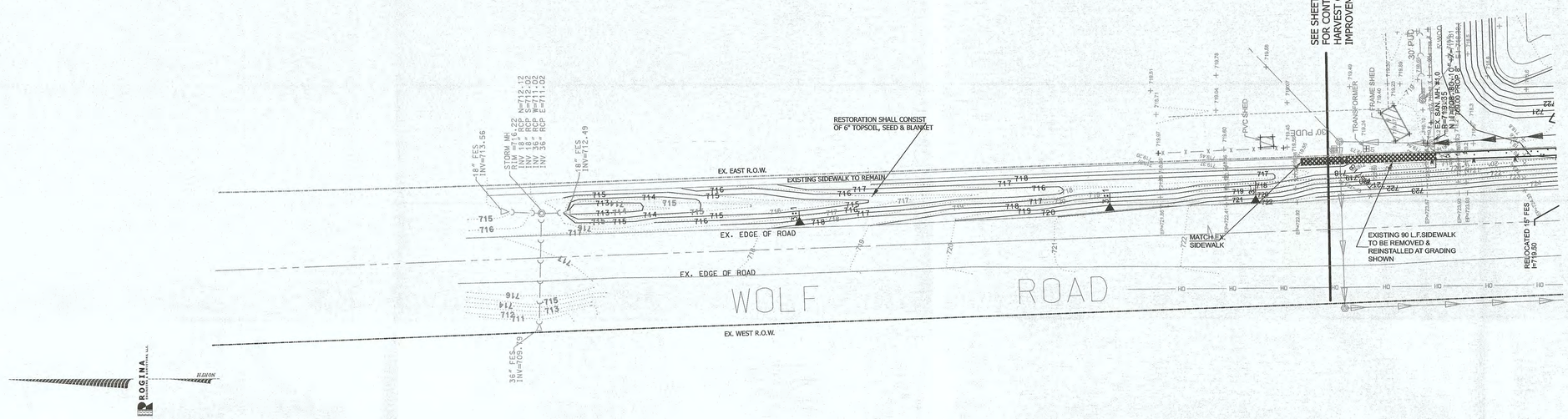
CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
SCALE:	CHECKED BY:
	MRR

PLAN & PROFILE - SANITARY SEWER EXTENSION

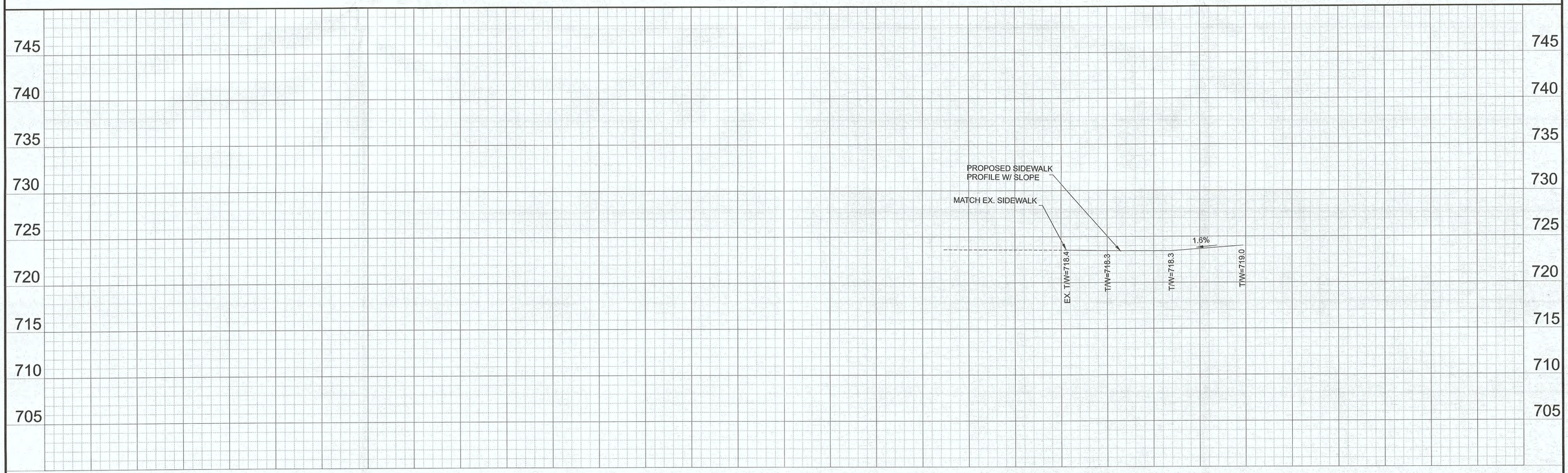
SHEET NO. 7 OF 14



0′ 20′ 40′ 80′

HORIZONTAL SCALE: 1"= 40′
VERTICAL SCALE: 1"=5′

NOTE:
FA-6 TRENCH BACKFILL IS REQUIRED FOR TRENCHES WITHIN THE THE COOK COUNTY-DOTH RIGHT-OF-WAY.



PLOTTED BY:mrogina 8:55:35 AM

REVISIONS			
1 REVISE PER VILLAGE ENGINEER	7/12/16	5 PER VILLAGE ENGINEER/CLIENT REVIEW	5/7/17
2 REVISE PER VILLAGE ENGINEER	12/05/16	6	
3		7	
4 REVISE PER VILLAGE ENGINEER	02/13/17	8 PER CCHD, MWRD & IEPA REVIEW	10/13/17

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PREPARED BY:
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Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE: 4/27/16	DRAWN BY: JCC
SCALE: 1"=40'	CHECKED BY: MRR

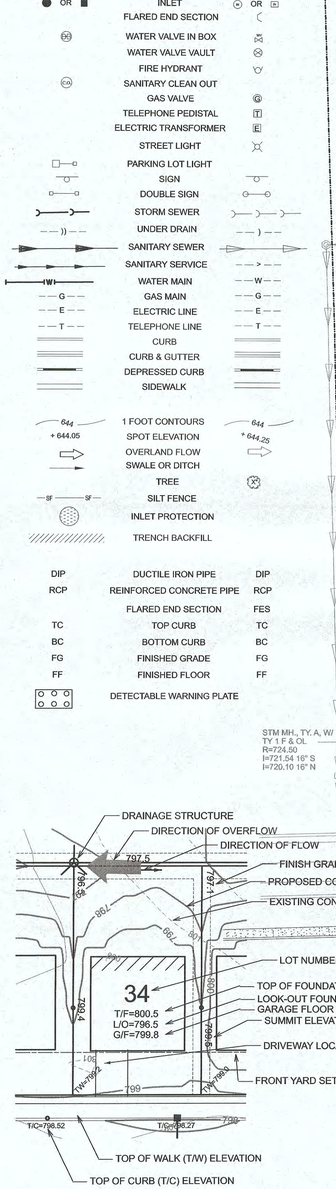
PLAN & PROFILE -
WOLF ROAD DITCH IMPROVEMENT

SHEET NO.
7A OF 14

LEGEND

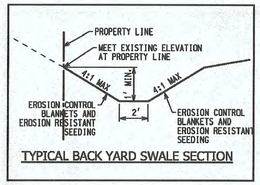
PROPOSED		EXISTING
	BOUNDARY LINE	
	SECTION LINE	
	LOT LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MANHOLE USE NOTED	
OR	CATCH BASIN	OR
OR	INLET	OR
	FLARED END SECTION	
WV	WATER VALVE IN BOX	
	WATER VALVE VAULT	
	FIRE HYDRANT	
CO	SANITARY CLEAN OUT	
	GAS VALVE	
	TELEPHONE PEDISTAL	
	ELECTRIC TRANSFORMER	
	STREET LIGHT	
	PARKING LOT LIGHT	
	SIGN	
	DOUBLE SIGN	
	STORM SEWER	
	UNDER DRAIN	
	SANITARY SEWER	
	SANITARY SERVICE	
W	WATER MAIN	W
G	GAS MAIN	G
E	ELECTRIC LINE	E
T	TELEPHONE LINE	T
	CURB	
	CURB & GUTTER	
	DEPRESSED CURB	
	SIDEWALK	
644	1 FOOT CONTOURS	644
+ 644.05	SPOT ELEVATION	* 644.25
	OVERLAND FLOW	
	SWALE OR DITCH	
	TREE	
SF	SILT FENCE	SF
	INLET PROTECTION	
	TRENCH BACKFILL	

DIP	DUCTILE IRON PIPE	DIP
RCP	REINFORCED CONCRETE PIPE	RCP
	FLARED END SECTION	FES
TC	TOP CURB	TC
BC	BOTTOM CURB	BC
FG	FINISHED GRADE	FG
FF	FINISHED FLOOR	FF
	DETECTABLE WARNING PLATE	



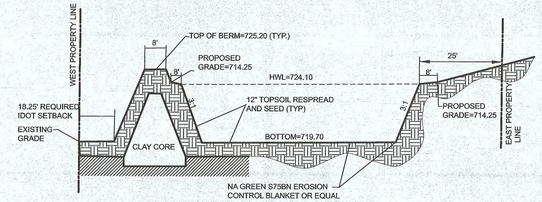
GRADING PLAN LEGEND

N.T.S.



TYPICAL BACK YARD SWALE SECTION

THE CLOUDED IMPROVEMENT SHALL BE CONSTRUCTED BY HARVEST GLEN ESTATES DEVELOPER AND REIMBURSED PER THE DEVELOPMENT AGREEMENT BETWEEN HARVEST GLEN ESTATES AND THE VILLAGE OF ORLAND PARK.



DETENTION BASIN CROSS SECTION A-A

N.T.S.

NOTE: SEE SHEET 7A OF 14 FOR ADDITIONAL DITCH GRADING NORTH ALONG WOLF ROAD

COUNTRYSIDE PLANNED UNIT DEVELOPMENT
RECORDED JULY 8, 1991
AS DOCUMENT 91337477

LOT 1 — T/F= 731.5, 3/4' L/O=727.5/728.5, G/F= 730.8
LOT 2 — T/F= 732.5, L/O= 728.5, G/F= 731.8
LOT 3 — STORMWATER MANAGEMENT EASEMENT, BRIJA ESTATES, E-1 ZONING
LOT 4 — T/F= 735.7, L/O= 731.7, GF= 735.0
LOT 5 — T/F= 737.3, 3' L/O=734.3, G/F= 736.6
LOT 6 — T/F= 737.2, L/O= 733.2, G/F= 736.5

CENTERLINE OF 139TH STREET
139TH STREET

BUNRATTY ESTATES OF ORLAND PARK
RECORDED APRIL 30, 2004
AS DOCUMENT 0412127113

UNSUBDIVIDED LAND

BUNRATTY DRIVE

NOTE:

PROPOSED UTILTIES AND GRADING FOR LOTS 1 & 3, BRIJA ESTATES OBTAINED FROM SPACECO SITE IMPROVEMENT PLANS FOR BRIJA ESTATES, LAST REVISED 4/24/15

STORMWATER DETENTION IMPROVEMENTS ON LOT 3 ARE PERMITTED BY MWRDGC PERMIT NO. 15-048, APPROVED 5/07/15

ROGINA ENGINEERS & SURVEYORS, LLC

NORTH

80'

HORIZONTAL SCALE: 1"= 40'
VERTICAL SCALE: 1"=5'

REVISIONS					
1	REVISE PER VILLAGE ENGINEER	7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW	5/7/17
2	REVISE PER VILLAGE ENGINEER	12/05/16	6	PER VILLAGE REVIEW	6/23/17
3	REV POND GEOMETRY/OUTLET DISCHARGE	12/28/16	7	PER VILLAGE REVIEW	8/28/17
4	REVISE PER VILLAGE ENGINEER	2/13/17	8		

Y:\R800\R850\R85137\Design\GRADING PLAN.PLN — 10/24/2017

PLOTTED BY:mrrogina 8:33:10 AM

PREPARED BY:
ROGINA
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1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
SCALE:	CHECKED BY:
	MRR

GRADING PLAN

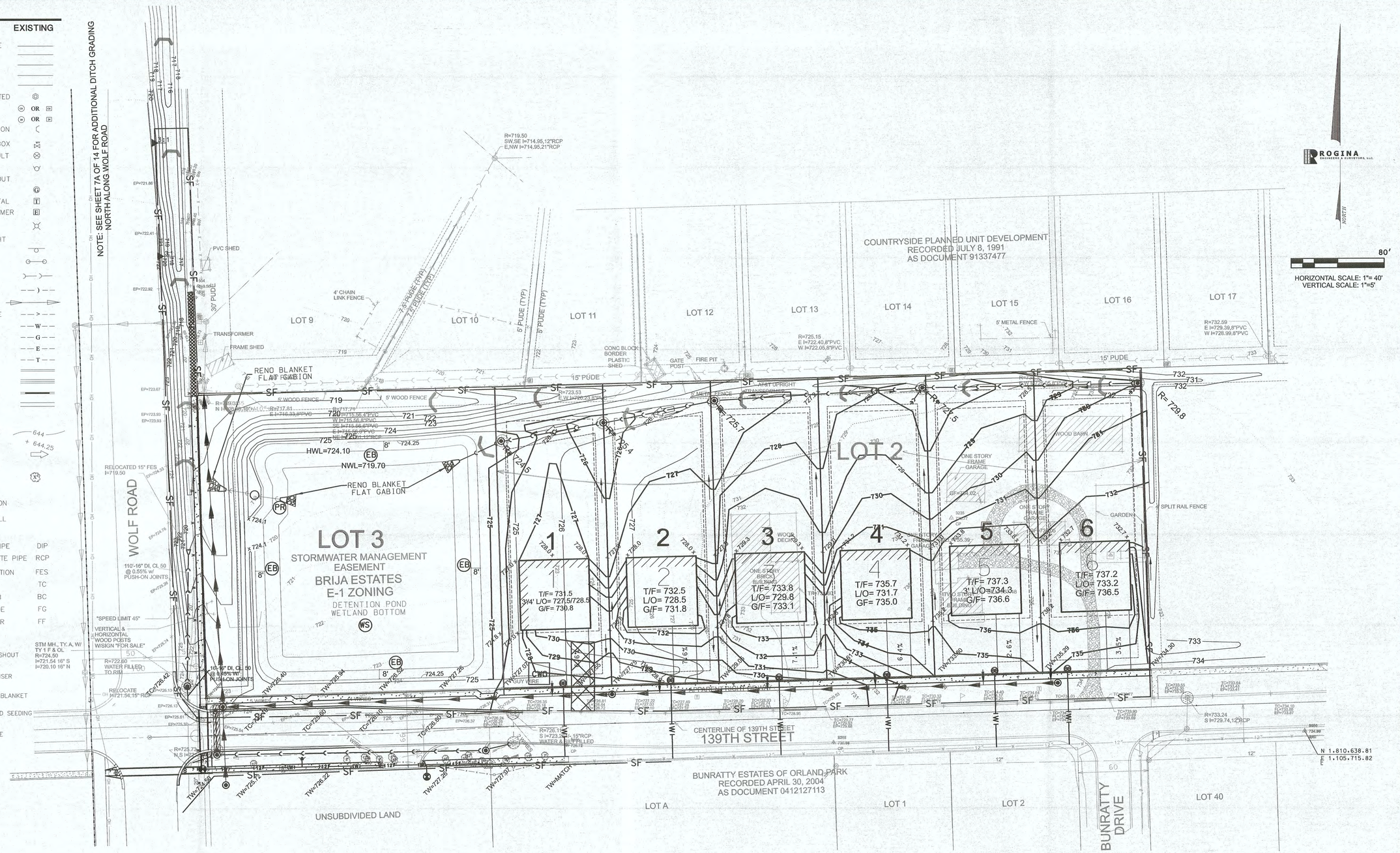
SHEET NO. 8 OF 14

LEGEND

PROPOSED		EXISTING
	BOUNDARY LINE	
	SECTION LINE	
	LOT LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MANHOLE USE NOTED	
OR	CATCH BASIN	OR
OR	INLET	OR
	FLARED END SECTION	
WV	WATER VALVE IN BOX	
	WATER VALVE VAULT	
	FIRE HYDRANT	
SAN	SANITARY CLEAN OUT	
	GAS VALVE	
	TELEPHONE PEDISTAL	
	ELECTRIC TRANSFORMER	
	STREET LIGHT	
	PARKING LOT LIGHT	
	SIGN	
	DOUBLE SIGN	
	STORM SEWER	
	UNDER DRAIN	
	SANITARY SEWER	
	SANITARY SERVICE	
W	WATER MAIN	W
G	GAS MAIN	G
E	ELECTRIC LINE	E
T	TELEPHONE LINE	T
	CURB	
	CURB & GUTTER	
	DEPRESSED CURB	
	SIDEWALK	
644	1 FOOT CONTOURS	644
+ 644.05	SPOT ELEVATION	+ 644.25
	OVERLAND FLOW	
	SWALE OR DITCH	
	TREE	
SF	SILT FENCE	
	INLET PROTECTION	
	TRENCH BACKFILL	

DIP	DUCTILE IRON PIPE	DIP
RCP	REINFORCED CONCRETE PIPE	RCP
	FLARED END SECTION	FES
TC	TOP CURB	TC
BC	BOTTOM CURB	BC
FG	FINISHED GRADE	FG
FF	FINISHED FLOOR	FF
CWO	CONCRETE WASHOUT	
PR	PERFORATED RISER	
EB	EROSION CONTROL BLANKET	
WS	PERMANENT WETLAND SEEDING	
	DITCH WATTLE	

NOTE: SEE SHEET 7A OF 14 FOR ADDITIONAL DITCH GRADING NORTH ALONG WOLF ROAD



NOTE:

PROPOSED UTILTIES AND GRADING FOR LOTS 1 & 3, BRIJA ESTATES OBTAINED FROM SPACECO SITE IMPROVEMENT PLANS FOR BRIJA ESTATES, LAST REVISED 4/24/15

STORMWATER DETENTION IMPROVEMENTS ON LOT 3 ARE PERMITTED BY MWRDGC PERMIT NO. 15-048, APPROVED 5/07/15

REVISIONS				
1	REVISE PER VILLAGE ENGINEER	7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	REVISE PER VILLAGE ENGINEER	12/05/16	6	
3			7	
4	REVISE PER VILLAGE ENGINEER	2/13/17	8	

Y:\R800\R850\R85137\Design\SOIL EROSION CONTROL PLAN.PLN 10/24/2017

PLOTTED BY:rrogina 8:14:17 AM

PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, L.L.C.
1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO: R851.37	DESIGNED BY: MRR
DATE: 4/27/16	DRAWN BY: JCC
SCALE:	CHECKED BY: MRR

SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NO. 9 OF 14

STORMWATER MANAGEMENT SPECIFICATIONS:

1. EROSION CONTROL MEASURES AS INDICATED IN THE EROSION CONTROL PLAN, AND AS DIRECTED BY THE ENGINEER SHALL BE INSTALLED ON THE PROJECT SITE PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES WHICH WILL POTENTIALLY CREATE ERODING CONDITIONS. EROSION CONTROL DEVICES SHALL BE IN PLACE AND APPROVED BY THE ENGINEER AS TO PROPER PLACEMENT AND INSTALLATION PRIOR TO BEGINNING OTHER WORK. EROSION CONTROL PROTECTION SHALL BE INSTALLED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES. THE ILLINOIS URBAN SOIL AND SEDIMENTATION CONTROL MANUAL SHOULD SHOW PRECEDENCE

2. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE SOIL EROSION CONTROL FENCING AND THE STABILIZED CONSTRUCTION ENTRANCE AS INDICATED HEREON SHALL BE INSTALLED TO PROTECT SURROUNDING PROPERTIES.

3. PERIODIC INSPECTION AND MAINTENANCE OF ALL EROSION CONTROL FACILITIES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED.

4. THE PROPOSED STORM WATER DETENTION AREA IS THE MAJOR AREA OF INUNDATION WITHIN THE SITE AND SHALL BE GRADED IN SUCH A MANNER THAT IT WILL FUNCTION AS A SEDIMENTATION BASIN DURING THE SITE GRADING OPERATIONS.

5. STREETS ADJACENT TO THE SITE SHALL BE KEPT FREE OF DIRT, MUD AND DEBRIS.

6. NO SEDIMENT SHALL BE ALLOWED TO ENTER THE EXISTING STORM SEWER SYSTEM.

7. IN ACCORDANCE WITH THESE CONSTRUCTION PLANS, TEMPORARY STAKED HAY OR STRAW BALES SHALL BE INSTALLED AND MAINTAINED AROUND STORM SEWER STRUCTURES, IN SWALE AREAS UNTIL VEGETATION IS ESTABLISHED AND/OR CONSTRUCTION IS COMPLETE.

8. TOPSOIL STOCKPILES SHALL BE LOCATED TO AVOID EROSION OF SAID STOCKPILE ONTO OFFSITE AREAS, I.E. THE STOCKPILE SHALL BE LOCATED SO THAT AN ONSITE DRAINAGE SWALE IS LOCATED BETWEEN THE STOCKPILE AND THE DOWNSTREAM OFFSITE PROPERTY. IF A STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN TWELVE MONTHS, IT IS REQUIRED THAT THE STOCKPILE BE SEEDED SO AS TO MINIMIZE SOIL EROSION BY BOTH WIND AND WATER.

9. WHEN STORM WATER IS TO BE ROUTED THROUGH PROPOSED DETENTION BASINS IN ORDER TO ALLOW SETTLEMENT OF SILT AND DEBRIS, THE BASINS ARE TO BE CONSTRUCTED IMMEDIATELY UPON COMMENCEMENT OF THE PROJECT. BASINS WILL BE PROPERLY OVER-EXCAVATED SO AS TO PROVIDE SUFFICIENT VOLUME FOR DEBRIS AND SETTLEMENT.

10. ALL STORM SEWER, CATCH BASINS, SUMPS AND/OR RETENTION BASINS PROVIDED WITHIN THIS PROJECT ARE TO BE CLEANED AT THE END OF CONSTRUCTION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE. CLEANING MAY ALSO BE REQUIRED DURING THE COURSE OF THE CONSTRUCTION OF THE PROJECT IF IT IS DETERMINED THAT THE SILT AND DEBRIS TRAPS ARE NOT PROPERLY FUNCTIONING AND THEIR PERFORMANCE IS IMPAIRED.

11. A STABILIZED CONSTRUCTION ENTRANCE(S) FOR MUD AND DUST CONTROL SHALL BE ESTABLISHED AT THE ONSET OF CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF THE PROJECT. THE CONSTRUCTION ENTRANCE(S) SHALL BE LOCATED GENERALLY WHERE SHOWN ON THE PLAN, AND AT ANY OTHER POINTS WHERE CONSTRUCTION TRAFFIC FREQUENTLY LEAVES THE PUBLIC ROADWAY TO ENTER THE SITE. THE STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE A MINIMUM OF 30 FEET WIDE, 50 FEET LONG, AND SHALL CONSIST OF A 6" THICK MINIMUM LAYER OF 2" ANGULAR CRUSHED AGGREGATE COMPACTED IN PLACE, UNDERLAIN WITH A GEOTEXTILE FILTER FABRIC.

12. UNLESS SOIL EROSION CONTROL ITEMS ARE SPECIFICALLY REFERRED TO AS BID ITEMS (SUCH AS TOPSOIL RESPREAD, SEEDING, ETC.), THEY ARE TO BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT.

13. UPON COMPLETION OF TOPSOIL RESPREAD OPERATIONS, ALL DISTURBED AREAS SHALL BE SEEDED, SODDED OR LANDSCAPED AS NOTED ON THE PLAN.

14. SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH SECTIONS 642 AND 643 OF THE STANDARD SPECIFICATIONS. SEED MIXTURE SHALL BE CLASS 1.

15. SODDING SHALL BE IN ACCORDANCE WITH SECTION 644 OF THE I.D.O.T. "STANDARD SPECIFICATIONS".

16. SEQUENCE FOR SOIL EROSION CONTROL ITEMS

EACH RESPECTIVE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE AND ANY NECESSARY CORRECTIVE ACTION ASSOCIATED WITH THE EROSION CONTROL MEASURES SO DESIGNATED FOR THAT CONTRACTOR. THE FOLLOWING ITEMS ARE TO BE PROVIDED BY THE DESIGNATED CONTRACTOR AT THE TIME AND IN THE GENERAL SEQUENCE BELOW.

I. MASS GRADING/EARTHWORK CONTRACTOR

A.PROVIDE CONSTRUCTION ENTRANCE AND EROSION CONTROL FABRIC PRIOR TO THE START OF CONSTRUCTION.

B.PROVIDE DIVERSION SWALES AROUND SITE PERIMETER AS NECESSARY TO PREVENT/INTERCEPT STORM WATER RUNOFF TO OFFSITE AREAS. AS PART OF INITIAL MASS GRADE IMPROVEMENTS.

C.PROVIDE DIVERSION DITCH/TOPSOIL BERM IN ACCORDANCE WITH TEMPORARY TOPSOIL STOCKPILE DETAIL FOR ALL STOCKPILES PRIOR TO PLACEMENT OF MATERIAL IN SAID STOCKPILE.

II. UNDERGROUND CONTRACTOR

A.PROVIDE STRAW BALES, SILTATION/DEBRIS COLLECTION "CHANNEL", SYNTHETIC FILTER FABRIC, ETC. AROUND ALL YARD/DETENTION BASIN INLETS IMMEDIATELY UPON INSTALLATION OF SAID INLET(S).

B.PROVIDE CLEANING OF STORM SEWER SYSTEM, CATCH BASINS AND STORM SEWER STRUCTURES IN ACCORDANCE WITH THESE SOIL EROSION CONTROL SPECIFICATIONS.

C.PROVIDE FILTER FABRIC AT ALL CURB INLETS DURING CONSTRUCTION. FABRIC TO BE PLACED BETWEEN GRATE AND CAST IRON FRAME TO ALLOW MAINTENANCE OR REPLACEMENT OF FABRIC BY REMOVING GRATE WITH FRAME TO REMAIN IN PLACE. SAID FILTER FABRIC TO BE MAINTAINED UNTIL ALL "UPSTREAM" AREAS TO A RESPECTIVE INLET HAVE BEEN COMPLETED THROUGH ESTABLISHMENT OF A GRASS TURF.

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (ILR100000) THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION."

CONTRACTOR'S COMPANY NAME: _____

ADDRESS: _____

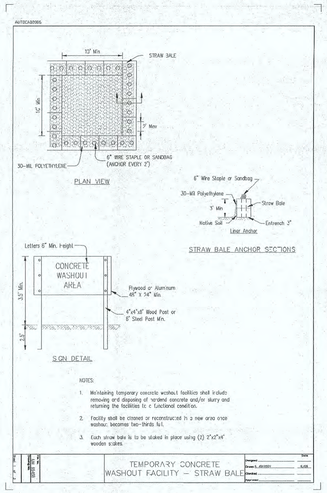
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TITLE: _____

DATE: _____

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SEE LANDSCAPE PLAN FOR ADDITIONAL PLANTING LISTS

R.O.W. & REMAINING GRASSED AREA: CLASS 1 SEEDING MIXTURE

PERMANENT SEEDING MIXTURE – 100 LBS./AC. KENTUCKY BLUEGRASS
60 LBS./AC. PERENNIAL RYEGRASS
40 LBS./AC. CREEPING RED FESCUE

TEMPORARY SEEDING MIXTURE – 90 LBS./AC. CEREAL RYE OR WHEAT
90 LBS./AC. OATS
25 LBS./AC. PERENNIAL RYEGRASS

GRASSED WATERWAY AREA: CLASS 2 SEEDING MIXTURE

PERMANENT SEEDING MIXTURE – 100 LBS./AC. INFERNO TALL FESCUE OR
50 LBS./AC. PERENNIAL RYEGRASS
40 LBS./AC. CREEPING RED FESCUE
10 LBS./AC. RED TOP

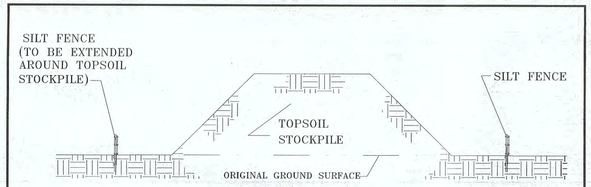
TEMPORARY SEEDING MIXTURE – 90 LBS./AC. CEREAL RYE OR WHEAT
90 LBS./AC. OATS
25 LBS./AC. PERENNIAL RYEGRASS

SEEDING SCHEDULE	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
PERMANENT SEEDING MIXTURE NONIRRIGATED IRRIGATED DORMANT (DOUBLE RATE)												
TEMPORARY SEEDING MIXTURE RYE OR WHEAT OATS												

FERTILIZER MIXTURE FOR PROPOSED SEEDING AREAS
NITROGEN (N) 120 LBS./AC.
PHOSPHORUS (P) 52 LBS./AC./ OR 120 LBS./AC. P_2O_5
POTASSIUM (K) 100 LBS./AC/ OR 120 LBS./AC. K_2O

EROSION CONTROL BLANKET: NORTH AMERICAN GREEN DS75 OR APPROVED EQUAL

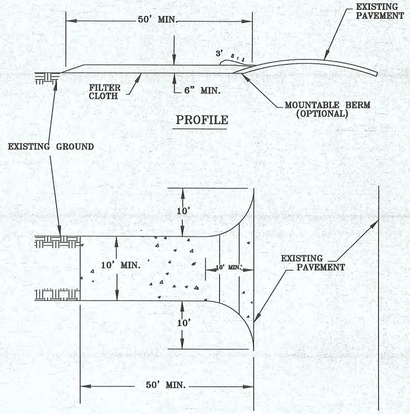
SEEDING SCHEDULE



TEMPORARY TOPSOIL STOCKPILE
FOR SEDIMENT EROSION PREVENTION

STABILIZED CONSTRUCTION ENTRANCE

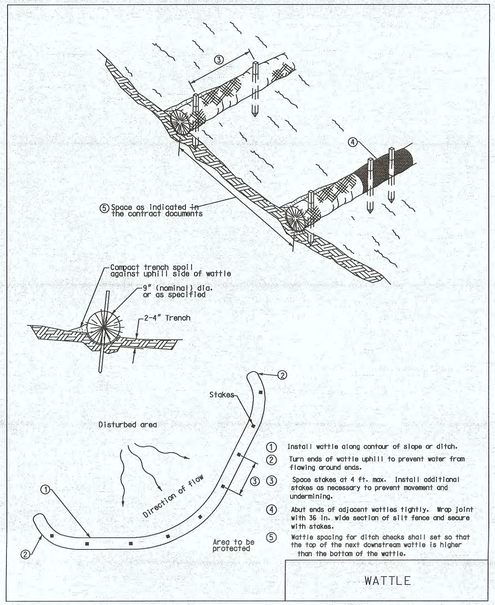
NOT TO SCALE



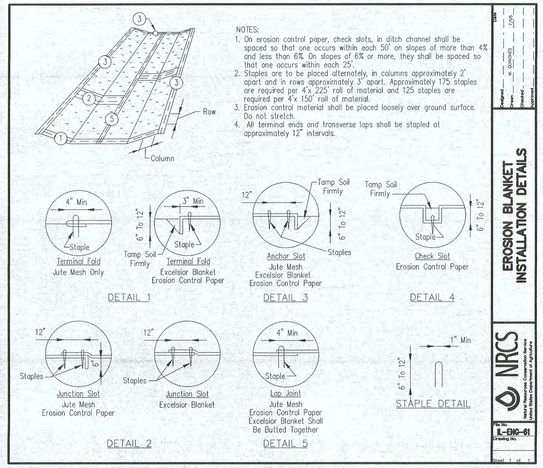
PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5 : 1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND / OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



WATTLE



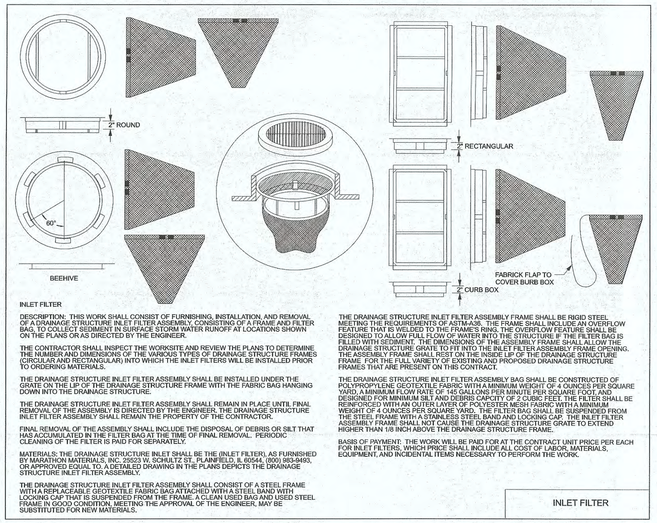
EROSION BLANKET INSTALLATION DETAILS

NRCS Natural Resources Conservation Service

IL-EHC-01

TENTATIVE CONSTRUCTION PHASING SCHEDULE

I. VILLAGE NOTICE TO PROCEED – JANUARY 2017
II. MASS GRADING- JANUARY to APRIL 2017
III. STABILIZE POND BANKS – APRIL 2017
IV. UNDERGROUND UTILITIES – JANUARY to MAY 2017
V. ROADWAY CONSTRUCTION- MAY 2017 to OCTOBER 2017
VI. HOME BUILDING CONSTRUCTION- MAY 2017 to OCTOBER 2019
VII. FINAL HOMESITE LANDSCAPING- SEPTEMBER 2017 to OCTOBER 2019



INLET FILTER

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING, INSTALLATION, AND REMOVAL OF A DRAINAGE STRUCTURE INLET FILTER ASSEMBLY, CONSISTING OF A FRAME AND FILTER BAG, TO CAPTURE SEDIMENT IN SURFACE STORM WATER RUNOFF AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL INSPECT THE WORKSITE AND REVIEW THE PLANS TO DETERMINE THE NUMBER AND DIMENSIONS OF THE VARIOUS TYPES OF DRAINAGE STRUCTURE FRAMES (CIRCULAR AND RECTANGULAR) INTO WHICH THE INLET FILTERS WILL BE INSTALLED PRIOR TO ORDERING MATERIALS.

THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY SHALL BE INSTALLED UNDER THE GRATE ON THE LIP OF THE DRAINAGE STRUCTURE FRAME WITH THE FABRIC BAG HANGING DOWN INTO THE DRAINAGE STRUCTURE.

THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY SHALL REMAIN IN PLACE UNTIL FINAL REMOVAL OF THE ASSEMBLY IS DIRECTED BY THE ENGINEER. THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

FINAL REMOVAL OF THE ASSEMBLY SHALL INCLUDE THE DISPOSAL OF DEBRIS OR SILT THAT HAS ACCUMULATED IN THE FILTER BAG AT THE TIME OF FINAL REMOVAL. PERIODIC CLEANING OF THE FILTER IS PAID FOR SEPARATELY.

MATERIALS: THE DRAINAGE STRUCTURE INLET SHALL BE THE (INLET FILTER), AS FURNISHED BY MARATHON MATERIALS, INC. 25503 W. SCHULTZ ST., PLAINFIELD, IL 60544, (800) 883-4850, OR APPROVED EQUAL TO. A DETAILED DRAWING IN THE PLANS DEPICTS THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY.

THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY SHALL CONSIST OF A STEEL FRAME WITH A REPLACEABLE GEOTEXTILE FABRIC BAG ATTACHED WITH A STEEL BAND WITH LOCKING CAP THAT IS SUSPENDED FROM THE FRAME. A CLEAN USED BAG AND USED STEEL FRAME IN GOOD CONDITION, MEETING THE APPROVAL OF THE ENGINEER, MAY BE SUBSTITUTED FOR NEW MATERIALS.

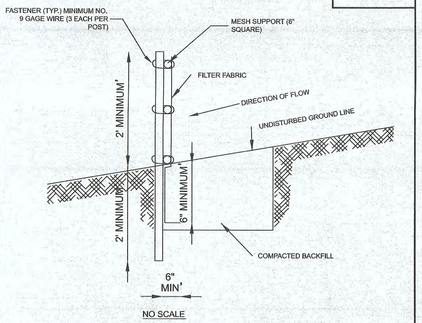
THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY FRAME SHALL BE RIGID STEEL, MEETING THE REQUIREMENTS OF AASHTO M-36. THE FRAME SHALL HAVE AN OVERFLOW FEATURE THAT ALLOWS WATER TO BYPASS THE FRAMES IF THE OVERFLOW FEATURE SHALL BE DESIGNED TO ALLOW FULL FLOW OF WATER INTO THE STRUCTURE IF THE BAG IS FILLED WITH SEDIMENT. THE DIMENSIONS OF THE ASSEMBLY FRAME SHALL ALLOW THE DRAINAGE STRUCTURE GRATE TO FIT INTO THE INLET FILTER ASSEMBLY FRAME OPENING. THE ASSEMBLY FRAME SHALL REST ON THE INSIDE LIP OF THE DRAINAGE STRUCTURE FRAME. FOR THE FULL VARIETY OF EXISTING AND PROPOSED DRAINAGE STRUCTURE FRAMES THAT ARE PRESENT ON THIS CONTRACT.

THE DRAINAGE STRUCTURE INLET FILTER ASSEMBLY BAG SHALL BE CONSTRUCTED OF WOVEN POLYPROPYLENE FABRIC WITH A MINIMUM WEIGHT OF 4 OUNCES PER SQUARE YARD, A MINIMUM FLOW RATE OF 120 GALLONS PER MINUTE PER SQUARE FOOT, AND DESIGNED FOR MINIMUM SILT AND DEBRIS CAPTURE OF 3 CUBIC FEET. THE FILTER SHALL BE REINFORCED WITH AN OUTER LAYER OF POLYESTER MESH FABRIC WITH A MINIMUM WEIGHT OF 4 OUNCES PER SQUARE YARD. THE FILTER BAG SHALL BE SUSPENDED FROM THE STEEL FRAME WITH A STAINLESS STEEL BAND AND LOCKING CAP. THE INLET FILTER ASSEMBLY FRAME SHALL NOT CAUSE THE DRAINAGE STRUCTURE GRATE TO EXTEND HIGHER THAN 1/8 INCH ABOVE THE DRAINAGE STRUCTURE FRAME.

BASIS OF PAYMENT: THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR INLET FILTERS, WHICH PRICE SHALL INCLUDE ALL COST OF LABOR, MATERIALS, EQUIPMENT, AND INCIDENTAL ITEMS NECESSARY TO PERFORM THE WORK.

INLET FILTER

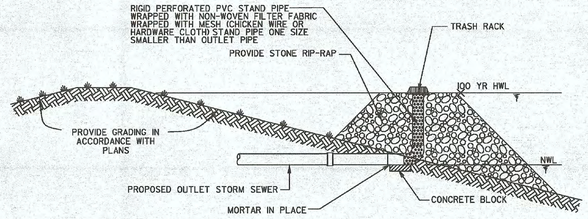
DETAIL NO. 1



NO SCALE

NOTES:
1. TOP AND BOTTOM WIRES OF MESH SUPPORT SHALL BE MINIMUM GAGE NO. 9
2. INTERMEDIATE WIRES OF MESH SUPPORTS SHALL BE MINIMUM GAGE NO. 11
3. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING.
4. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF ILLINOIS URBAN MANUAL MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS T WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
5. FENCE POST SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM SECTIONAL AREA OF 3.0 SQUARE INCHES.
6. THE MESH SUPPORT MAY BE OMITTED IF A MAXIMUM OF 5 FEET IS USED FOR POST SPACING, OTHERWISE, POST SPACING MAY BE UP TO TEN FEET.

STANDARD DETAIL FOR SILT FENCE



PLAN CODE: (PR)

PERFORATED RISER DETAIL

NOT TO SCALE

1. THE PERFORATED RISER SHALL BE PROVIDED AS PART OF THE SEDIMENT AND EROSION CONTROL MEASURES DURING CONSTRUCTION AND IN CONJUCTION WITH THE CONSTRUCTION OF THE DETENTION BASIN.
2. WHEN THE DETENTION BASIN AND UPSTREAM TRIBUTARY DRAINAGE AREAS ARE REVEGETATED, AND WHEN DIRECTED BY THE ENGINEER, THE PERFORATED RISER SHALL BE REMOVED AND THE BASIN OUTFALL STRUCTURES SHALL BE CONSTRUCTED AND THE GRADING RESTORED IN ACCORDANCE WITH THE PLANS.

REVISIONS					
1	REVISE PER VILLAGE ENGINEER	7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW	5/7/17
2	REVISE PER VILLAGE ENGINEER	12/05/16	6		
3			7		
4			8		

Y:#R800#R850#R85137#Design#SOIL EROSION SPECIFICATIONS.PLN 10/24/2017

PLOTTED BY:rrogina 8:39:03 AM

PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, L.L.C.
1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

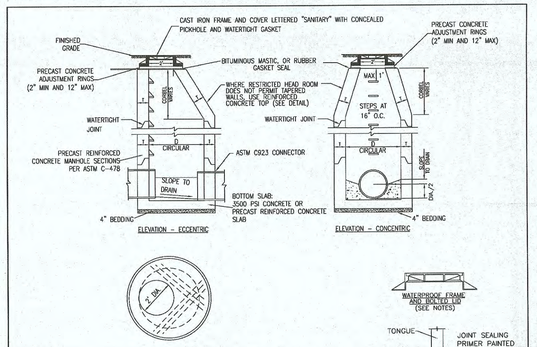
CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
SCALE:	CHECKED BY:
	MRR

SOIL EROSION & SEDIMENT CONTROL DETAILS

SHEET NO. 10 OF 14



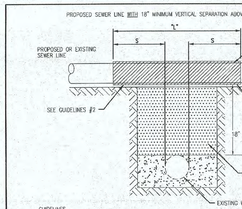
ALT MATERIALS FOR WALLS	D	T (MIN.)
PRECAST REINFORCED CONCRETE SECTION	4 FEET	4 IN
	5 FEET	5 IN
	6 FEET	6 IN
CAST-IN-PLACE CONCRETE	4 FEET	4 IN
	5 FEET	5 IN
	6 FEET	6 IN

NOT TO SCALE

1. MANHOLES TO HAVE PRECAST "RUBBER BOOTS" CONFORMING TO ASTM C-923 AT ALL PIPE CONNECTIONS.
2. SANITARY MANHOLES SUBJECT TO SATURATION SOIL CONDITIONS OR SURFACE SUBMERGENCE SHALL BE EQUIPPED WITH CHIMNEY SEALS AND WATER TIGHT BOLTED DOWN MANHOLE COVERS.
3. MASTIC SEALANT OR RUBBER GASKET SEAL MUST BE APPLIED BETWEEN CONCRETE & FLANGE OF FRAME BEFORE LID BOLTS ARE TIGHTENED.
4. SAFETY LANDINGS REQUIRED FOR MANHOLES GREATER THAN 28 FEET DEPTH (RIM TO INVERT). MAXIMUM VERTICAL SPACING OF SAFETY LANDING IS 20 FEET.
5. FOR DROP CONNECTIONS, USE DROP CONNECTION MANHOLE DETAIL.
6. FOR ONLINE CONNECTIONS GREATER THAN 15 INCHES, USE DOGHOUSE MANHOLE DETAIL.

TECHNICAL GUIDANCE MANUAL	7/1/15
TYPICAL SANITARY MANHOLE "A" AND "B" DETAIL	STD. DWG. NO. 39
	PAGE NO. 40

PROPOSED SEWER LINE WITH 18" MINIMUM VERTICAL SEPARATION ABOVE EXISTING WATER MAIN



GUIDELINES

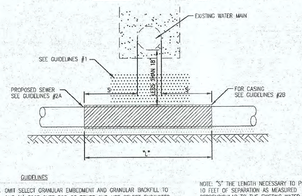
1. IF SELECT GRANULAR BACKFILL EXISTS: REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
2. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF SEWER AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L" FEET.
3. A) CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR;

   B) USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED SEWER AND SEAL ENDS OF CASING.

NOTE: "S" THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING WATER MAIN

*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH LESS THAN 18" MINIMUM VERTICAL SEPARATION



GUIDELINES

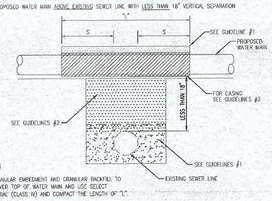
1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF SEWER AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR "S" FEET ON EACH SIDE OF WATER MAIN.
2. A) CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR;

   B) USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED SEWER AND SEAL ENDS OF CASING.
3. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH

NOTE: "S" THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING WATER MAIN

*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

PROPOSED WATER MAIN ABOVE EXISTING SEWER LINE WITH LESS THAN 18" VERTICAL SEPARATION



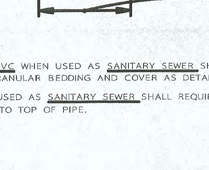
GUIDELINES

1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING AND SEWER

NOTE: "S" THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.

*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH 18" MINIMUM VERTICAL SEPARATION



GUIDELINES

1. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN SO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

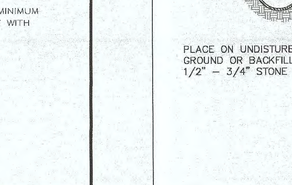
PLACEMENT OF WATER MAIN BELOW EXISTING OR PROPOSED SEWER LINE WITH LESS THAN 18" MINIMUM VERTICAL SEPARATION **NOT ALLOWED.**



NOT ALLOWED*
MUST MAINTAIN 18" VERTICAL SEPARATION

*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM VERTICAL SEPARATION



NOTE: "S" THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.

*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

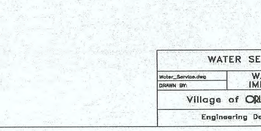
GUIDELINES

1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.

PER IEPA, WHEN **PROPOSED** SEWER (OR WATER) IS LOCATED 10 FEET OR MORE FROM EXISTING WATER (OR SEWER), NO SPECIAL CONSTRUCTION REQUIRED

PLAN VIEW

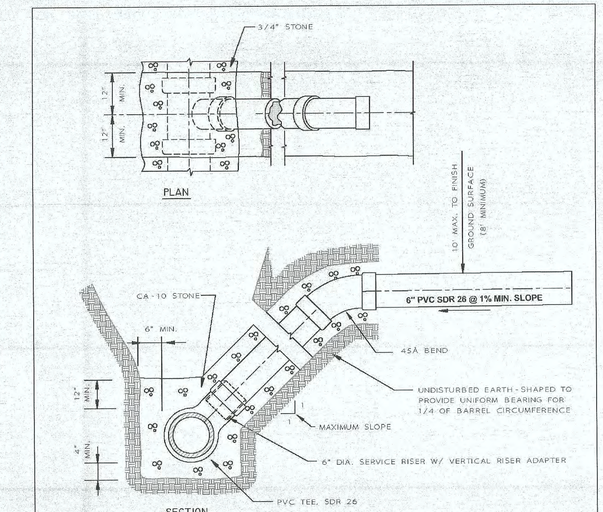
PER IEPA, WHEN **PROPOSED** SEWER (OR WATER) IS LOCATED **LESS THAN 10 FEET** FROM EXISTING WATER (OR SEWER), DETAILS BELOW SHALL APPLY



*BASED ON STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

NOT TO SCALE

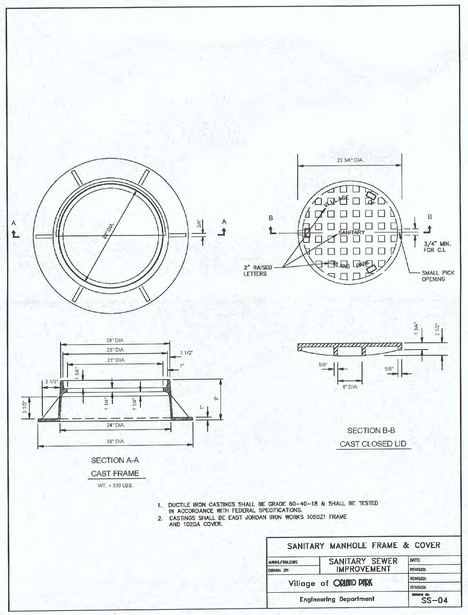
TECHNICAL GUIDANCE MANUAL	7/1/15
WATER AND SEWER SEPARATION REQUIREMENTS (PER IEPA)	STD. DWG. NO. 41
	PAGE NO. 42



NOTES:

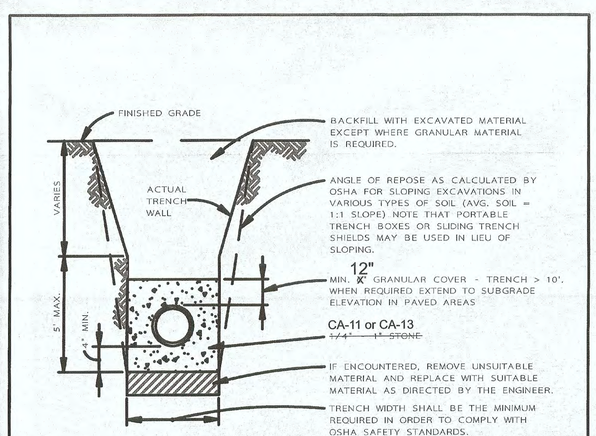
1. IF Φ < 45° USE PVC PUSH-ON JOINT WYE, PVC ELBOW, PVC RISER PIPE & PVC TOP ELBOW.
2. IF Φ > 45° USE DUCTILE IRON M.J. TEE WITH PVC / DUCTILE TRANSITION GASKET, DUCTILE IRON RISER PIPE AND DUCTILE IRON TOP ELBOW COATED WITH PROTECTO 401 OR APPROVED EQUAL.
3. ALL PVC PIPE AND FITTINGS SHALL BE ASTM D3034, SDR 26, WITH ELASTOMERIC GASKET TYPE JOINTS COMPLYING WITH ASTM F477 AND ASTM D3212.
4. A MINIMUM DISTANCE OF 3 FEET IS REQUIRED BETWEEN 45° BENDS.
5. TRENCH BACKFILL SHALL BE INSTALLED PER THE SANITARY SEWER TRENCH DETAIL.

SANITARY SERVICE RISER		
ENGINEERING	SANITARY SEWER IMPROVEMENT	DATED:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED:
		DRAWING NO. SS-05



1. DUCTILE IRON CASTINGS SHALL BE GRADE 80-40-18 & SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
2. CASTINGS SHALL BE EAST JORDAN IRON WORKS 1060ZI FRAME AND 1020A COVER.

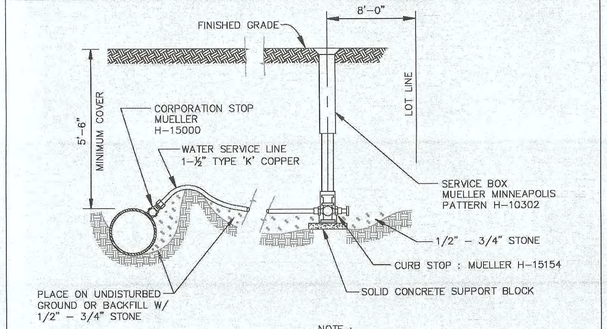
SANITARY MANHOLE FRAME & COVER		
CONSTRUCTION	SANITARY SEWER IMPROVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		DRAWING NO. SS-04



ABS AND PVC WHEN USED AS SANITARY SEWER SHALL REQUIRE GRANULAR BEDDING AND COVER AS DETAILED.

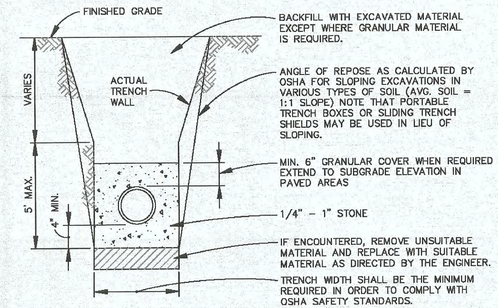
DIP WHEN USED AS SANITARY SEWER SHALL REQUIRE GRANULAR TO TOP OF PIPE.

TRENCH SECTION SANITARY SEWER		
CONSTRUCTION	SANITARY SEWER IMPROVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		DRAWING NO. SS-06



NOTE :
TERMINATE WATER SERVICE AT CURB STOP UNLESS OTHERWISE SHOWN ON THE PLAN.

WATER SERVICE CONNECTION		
Water_Service.dwg	WATER MAIN IMPROVEMENT	DATE: 4/28/08
DRAWN BY:		REVISED: mdc
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED: DRAWING NO. WM-08



DIP AND PVC WHEN USED AS WATER MAIN SHALL NOT REQUIRE GRANULAR BEDDING OR COVER. PROVIDE UNIFORM AND CONTINUOUS SUPPORT OF PIPE BARREL BETWEEN BELL HOLES

TRENCH SECTION (WATER MAIN)		
CONSTRUCTION	WATER MAIN IMPROVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED: DRAWING NO. WM-11

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REVISIONS			
1		5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	REVISE PER VILLAGE ENGINEER 12/05/16	6	
3		7	
4		8	

Y:\R800\R850\R85137\Design\CONSTRUCTION DETAILS-1.pln 10/24/2017

PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, LLC.
1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

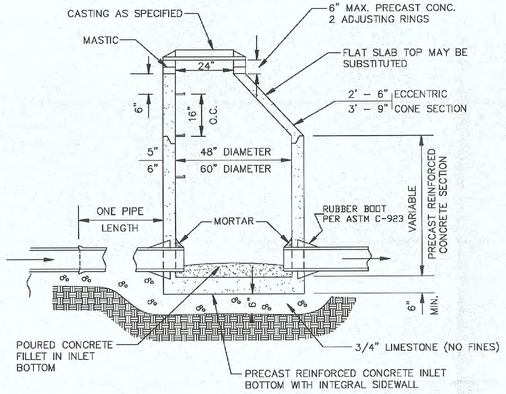
PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO: R851.37	DESIGNED BY: MRR
DATE: 4/27/16	DRAWN BY: JCC
SCALE:	CHECKED BY: MRR

CONSTRUCTION DETAILS

SHEET NO. 11 of 14

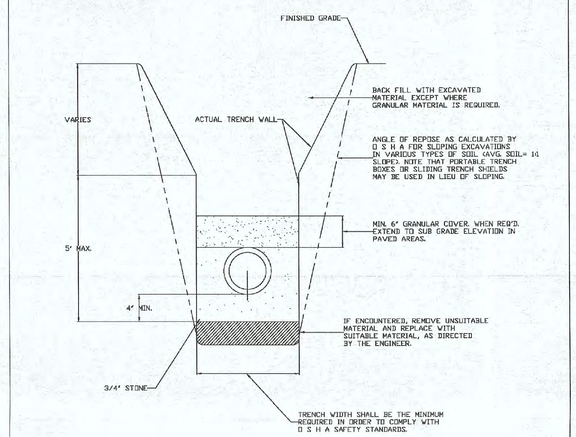
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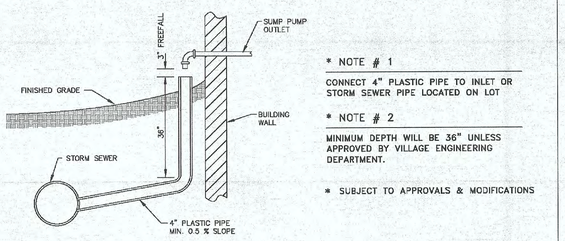
NOTES:

1. Adjustment: Any structure located within pavement shall require the use of at least one (1) rubber adjustment riser, Infra-Riser brand or approved equal, and, if necessary, said riser shall be of the tapered type in order to match the proposed grade of the roadway. No more than two (2) precast concrete adjusting rings with six (6) inch maximum height adjustment shall be allowed. Adjustments within pavement that are less than three (3) inches in height shall consist of only rubber adjustment riser(s). The minimum thickness of a rubber adjustment riser shall be one (1) inch. Adjustments within pavement greater than three (3) inches in height shall use a minimum three (3) inch precast concrete riser for the lower riser, and the final riser shall be of the rubber type.
2. Pipe and frame seals: All pipe connection openings shall be precast with resilient rubber water tight pipe to manhole sleeves or seals conforming to ASTM C-923. Adapter chimney seal with twelve (12) inch sleeve type shall extend from the manhole cone to the manhole frame for all structures in the right-of-way.
3. Sealing: All mating surfaces of adjustment riser(s), structure sections, and frames shall be sealed with a mastic sealant. No concrete mortar or epoxy shall be allowed as a sealant for adjustment risers, structure sections or frames. If multiple adjustment risers are required, a continuous application of sealant shall be applied between each unit.
4. All bottom sections shall be monolithically precast including bases and invert flowlines.
5. Provide CA-6 aggregate backfill around manhole to subgrade elevation in paved areas for subgrade.

STORM MANHOLE		
STORMMH.DWG / DRAWN BY:	STORM SEWER IMPROVEMENT	DATE: / REVISED: / REVISED: / REVISED:
Village of ORLAND PARK		
Engineering Department		DRAWING NO. STS-01



TRENCH SECTION (STORM SEWER)		
STORMTRC.DWG / DRAWN BY:	STORM SEWER IMPROVEMENT	DATE: / REVISED: / REVISED: / REVISED:
Village of ORLAND PARK		
Engineering Department		DRAWING NO. STS-11



* NOTE # 1

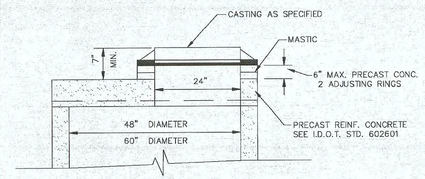
CONNECT 4" PLASTIC PIPE TO INLET OR STORM SEWER PIPE LOCATED ON LOT

* NOTE # 2

MINIMUM DEPTH WILL BE 36" UNLESS APPROVED BY VILLAGE ENGINEERING DEPARTMENT.

* SUBJECT TO APPROVALS & MODIFICATIONS

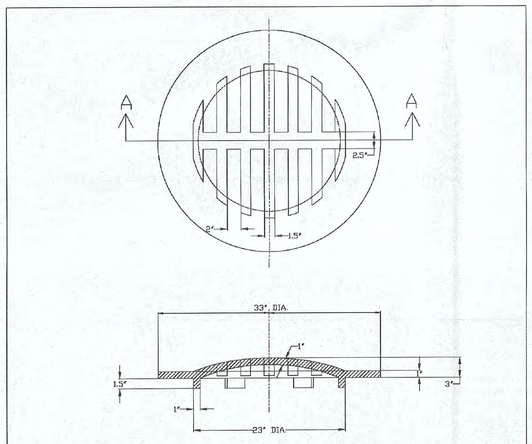
SUMP PUMP DRAIN		
SUMPDRN.DWG / DRAWN BY:	STORM SEWER IMPROVEMENT	DATE: / REVISED: / REVISED: / REVISED:
Village of ORLAND PARK		
Engineering Department		DRAWING NO. STS-12



NOTES:

1. Adjustment: Any structure located within pavement shall require the use of at least one (1) rubber adjustment riser, Infra-Riser brand or approved equal, and, if necessary, said riser shall be of the tapered type in order to match the proposed grade of the roadway. No more than two (2) precast concrete adjusting rings with six (6) inch maximum height adjustment shall be allowed. Adjustments within pavement that are less than three (3) inches in height shall consist of only rubber adjustment riser(s). The minimum thickness of a rubber adjustment riser shall be one (1) inch. Adjustments within pavement greater than three (3) inches in height shall use a minimum three (3) inch precast concrete riser for the lower riser, and the final riser shall be of the rubber type.
2. Sealing: All non-rubber mating surfaces, exterior joints of frames, adjustment riser(s), flat slab top or cone section (if applicable) and structure section shall be sealed with a uniform application of bituminous mastic sealant. The mating surfaces of all rubber adjustment risers shall be sealed with the manufacturer's recommended sealant for rubber adjustment risers. If multiple adjustment risers are required, a continuous application of sealant shall be applied between each unit. Interior surfaces shall be sealed with concrete mortar or epoxy mortar. Concrete mortar or epoxy mortar will not be used on mating surfaces as a sealant between adjustment risers, structure sections or frames.

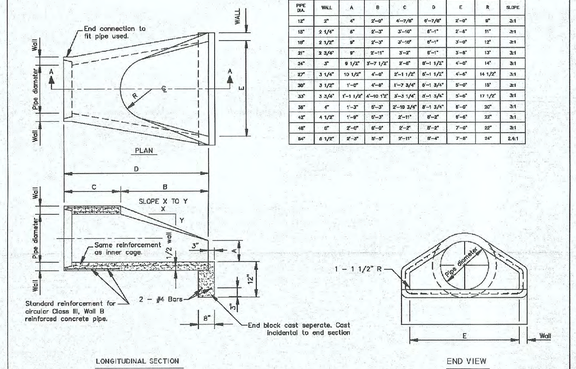
FLAT SLAB TOP		
FLTSLAB.DWG / DRAWN BY:	STORM SEWER IMPROVEMENT	DATE: / REVISED: / REVISED: / REVISED:
Village of ORLAND PARK		
Engineering Department		DRAWING NO. STS-06



SECTION A-A
CAST GRATE
WT. 200 LBS.

THE CAST GRATE MAY BE EITHER GRAY IRON OR DUCTILE IRON CONFORMING TO THE STANDARD SPECIFICATIONS. DUCTILE IRON CASTING SHALL BE GRADE 65-45-12.

GRATE TYPE 8		
GRATE-8.DWG / DRAWN BY:	STORM SEWER IMPROVEMENT	DATE: / REVISED: / REVISED: / REVISED:
Village of ORLAND PARK		
Engineering Department		DRAWING NO. STS-07



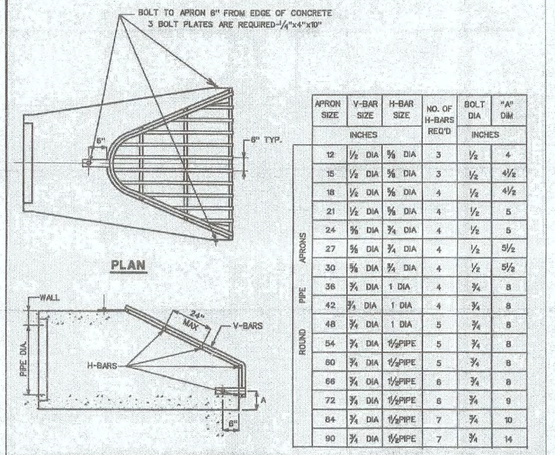
PIPE DIA.	WALL	A	B	C	D	E	R	SLOPE
12"	2"	4"	2'-0"	4'-0 7/8"	6'-7 7/8"	2'-0"	8"	2:1
15"	2 1/4"	5"	2'-3"	2'-10"	6'-1"	2'-3"	11"	2:1
18"	2 1/2"	5"	2'-6"	2'-10"	6'-1"	2'-6"	13"	2:1
21"	2 3/4"	5"	2'-9"	2'-10"	6'-1"	2'-9"	15"	2:1
24"	3"	6 1/2"	3'-0" 1/4"	3'-4"	8'-1 1/2"	4'-0"	14"	2:1
27"	3 1/4"	10 1/2"	4'-0"	3'-1 1/2"	8'-1 1/2"	4'-0"	14 1/2"	3:1
30"	3 1/2"	1'-0"	4'-0"	3'-7 3/4"	8'-1 3/4"	5'-0"	15"	3:1
33"	3 3/4"	1'-1 1/2"	4'-10 1/2"	3'-3 1/4"	8'-1 3/4"	5'-0"	17 1/2"	3:1
36"	4"	1'-3"	5'-0"	3'-10 3/4"	8'-1 3/4"	5'-0"	20"	3:1
42"	4 1/2"	1'-9"	5'-3"	3'-11"	8'-3"	5'-6"	23"	3:1
48"	5"	2'-0"	6'-0"	3'-3"	8'-3"	7'-0"	25"	3:1
54"	6 1/2"	2'-3"	6'-9"	3'-11"	8'-4"	7'-9"	24"	2.5:1

NOTES
PRECAST CONCRETE FLARED END SECTIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF A.A.S.H.O. M-170 CLASS III, WALL B REINFORCED CONCRETE PIPE.

PRECAST CONCRETE FLARED END SECTION FOR PIPE DIAMETER REQUIRED SHALL BE AS INDICATED ON DETAIL PLAN FOR EACH INDIVIDUAL INSTALLATION.

FLARED END SECTIONS 12 INCHES OR GREATER WILL REQUIRE GRATES.

PRECAST REINFORCED CONCRETE FLARED END SECTION		
FLXDCH3.DWG / DRAWN BY:	STORM SEWER IMPROVEMENT	DATE: / REVISED: / REVISED: / REVISED:
Village of ORLAND PARK		
Engineering Department		DRAWING NO. STS-08

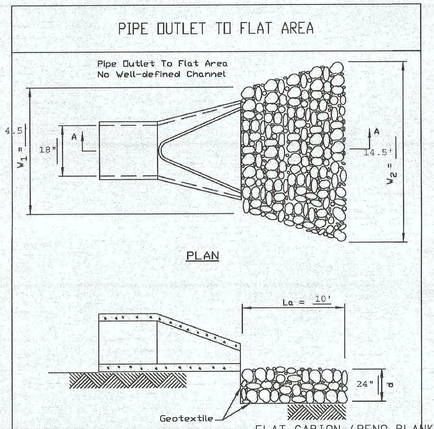


	APRON SIZE	V-BAR SIZE	H-BAR SIZE	NO. OF H-BARS REQ'D	BOLT DIA	"A" DIM
	INCHES				INCHES	
APRONS PIPE ROUND	12	½ DIA	⅝ DIA	3	½	4
	15	½ DIA	⅝ DIA	3	½	4½
	18	½ DIA	⅝ DIA	4	½	4½
	21	½ DIA	⅝ DIA	4	½	5
	24	⅝ DIA	¾ DIA	4	½	5
	27	⅝ DIA	¾ DIA	4	½	5½
	30	⅝ DIA	¾ DIA	4	½	5½
	36	¾ DIA	1 DIA	4	¾	8
	42	⅞ DIA	1 DIA	4	¾	8
	48	¾ DIA	1 DIA	5	¾	8
	54	¾ DIA	1⅛PIPE	5	¾	8
	60	¾ DIA	1⅛PIPE	5	¾	8
	66	¾ DIA	1⅛PIPE	6	¾	8
	72	¾ DIA	1⅛PIPE	6	¾	9
	84	¾ DIA	1⅛PIPE	7	¾	10
	90	¾ DIA	1⅛PIPE	7	¾	14

NOTES:
1. BARS AND PLATES ARE HOT-ROLLED STEEL.
2. BARS, PLATES AND PIPE ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.
3. BOLTS ARE GALVANIZED.

GRATE FOR FLARED END SECTION

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 4 ; Quality ——.
3. The riprap shall be placed according to construction specification 61 LOOSE ROCK RIPRAP. The rock may be equipment placed.

REFERENCE			
Project			NRCS Natural Resources Conservation Service
Designed	Date		STANDARD DWG. NO. IL-610
Checked	Date		SHEET 1 OF 1
Approved	Date		DATE 9-15-93

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REVISIONS					
1	REVISE PER VILLAGE ENGINEER	7/12/16	5	PER VILLAGE ENGINEER/CLIENT REVIEW	5/7/17
2	REVISE PER VILLAGE ENGINEER	12/05/16	6		
3			7		
4			8		

Y:\R800\R850\R85137\Design\CONSTRUCTION DETAILS-2.pln — 10/24/2017

PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, L.L.C.
1225 Channahon Road Joliet, Illinois 815/729-0777 FAX 815/729-0782
Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

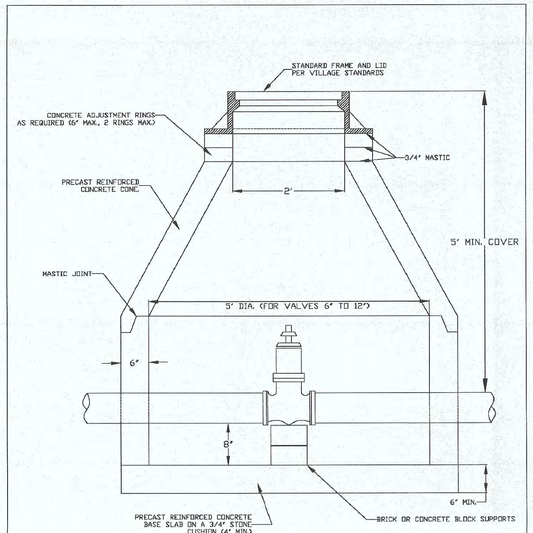
PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE: 4/27/16	DRAWN BY: JCC
SCALE:	CHECKED BY: MRR

CONSTRUCTION DETAILS

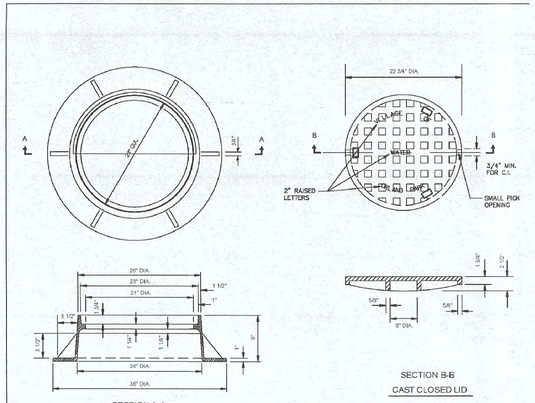
SHEET NO. 12 OF 14

PLOTTED BY:rrcogina 8:30:34 AM



Notes:
1. Adjustments to existing structures should not exceed a total of 12" of adjustment rings. Any adjustment greater than 12" must use a barrel extention.
2. Precast concrete sections shall conform to ASTM C478.

VALVE VAULT		
VALVEVAU.DWG	WATER MAIN IMPROVEMENT	DATE:
DRAWN BY:		REVISED: 11/15/07
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED:
		DRAWING NO. WM-01

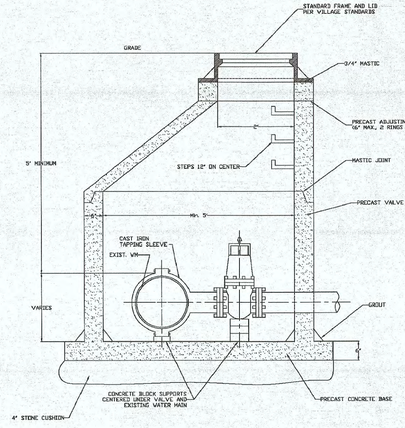


SECTION A-A
CAST FRAME
WT. = 330 LBS.

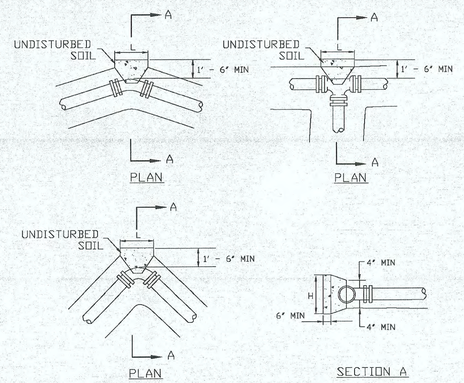
SECTION B-B
CAST CLOSED LID

1. DUCTILE IRON CASTINGS SHALL BE GRADE 60-40-18 & SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
2. ALL LIDS AND COVERS SHALL BE MACHINED
3. THE MANHOLE COVERS SHALL HAVE RAISED LETTERS AS SHOWN.
4. ALTERNATIVE TO DUCTILE IRON LID, GRAY IRON LID MAY BE USED
5. MINIMUM WEIGHTS FOR CASTINGS AS SHOWN
6. CASTINGS SHALL BE EAST JORDAN IRON WORKS 1050Z1 FRAME & 1020A COVER.

VALVE VAULT FRAME & COVER		
VALVEFRM.DWG	WATER MAIN IMPROVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED:
		DRAWING NO. WM-03



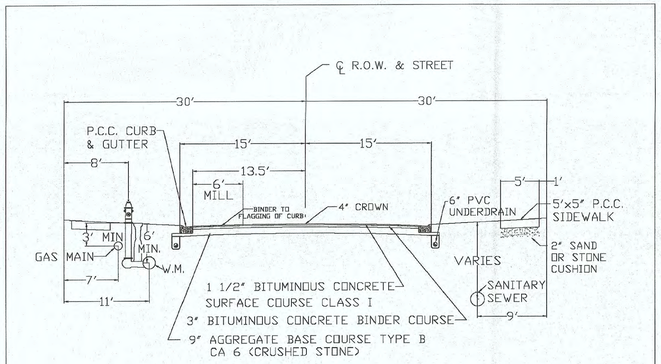
PRESSURE CONNECTION		
PRESSURE.DWG	WATER MAIN IMPROVEMENT	DATE:
DRAWN BY:		REVISED: 2/24/05
Village of ORLAND PARK		REVISED:
Engineering Department		DRAWING NO. WM-05



CONCRETE THRUST BLOCK DIMENSIONS										
PIPE SIZE	11-15° BEND		22-30° BEND		45°-BEND		90°-BEND		TEE & PLUG	
DIAMETER	H	L	H	L	H	L	H	L	H	L
≤ 8"	1'-6"	1'-6"	2'-0"	2'-6"	2'-6"	3'-0"	3'-6"	4'-0"	3'-0"	3'-6"
≤ 12"	1'-6"	2'-0"	2'-3"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	3'-6"	4'-0"
≤ 16"	2'-0"	2'-0"	2'-6"	3'-0"	4'-0"	4'-6"	5'-0"	6'-0"	4'-6"	5'-6"

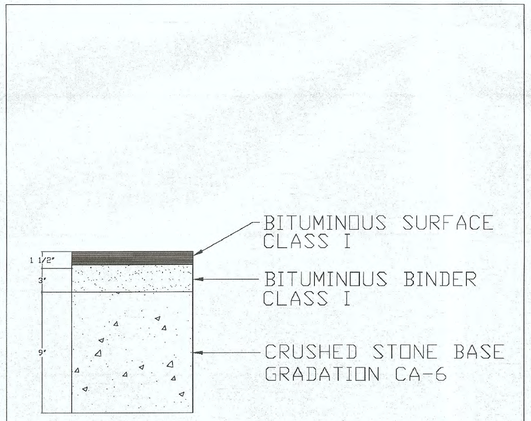
1. ALL BLOCKING SHALL BE CONSTRUCTED WITH POURED CL. X CONCRETE AGAINST UNDISTURBED VERTICAL EARTH FACE WITH A MINIMUM WIDTH OF 12 INCHES.
2. THRUST BLOCKS TO BE USED AT ALL BENDS 11 1/4 DEGREES OR GREATER.
3. MECHANICAL JOINT RETAINER GLANDS MAY BE USED AS AN ALTERNATIVE TO CONCRETE THRUST BLOCK INSTALLATION WHEN APPROVED BY THE VILLAGE ENGINEER.
4. TEST PRESSURE 150 PSI.

CONCRETE THRUST BLOCK DETAILS		
TEE.DWG	WATER MAIN IMPROVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED:
		DRAWING NO. WM-10

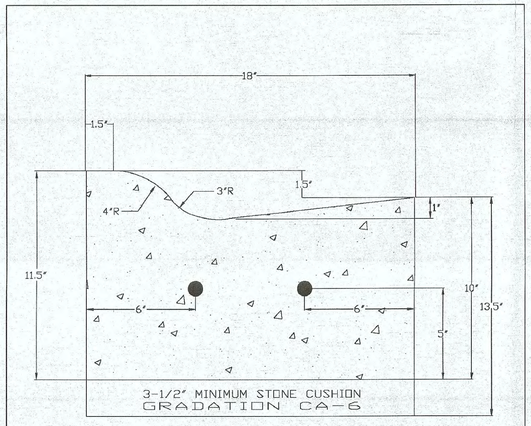


Binder Course The binder course on all public roadways shall be initially constructed flush with the top of the front of the curb. The finished grade of the binder cross-section will allow water to flow unobstructed from the asphalt to the gutter of the curb. The additional binder placed along the front of curb will be removed by milling before placement of the final surface course.

TYPICAL STREET SECTION (RESIDENTIAL)		
Street_Xsection-Res1.dwg	STREET & PAVEMENT	DATE:
DRAWN BY:		REVISED: 11/20/06
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED:
		DRAWING NO. STR-01

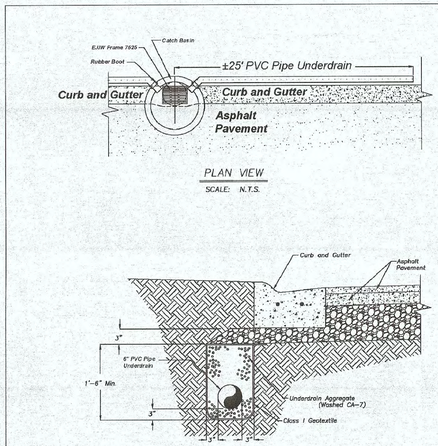


PAVEMENT SECTION 30' B TO B ROADWAY		
PAVE.DWG	STREET & PAVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
Engineering Department		REVISED:
		DRAWING NO. STR-02



NOTES:
1. REINFORCEMENT: PROVIDE TWO (2) #4 REINFORCING BARS CONTINUOUS BETWEEN EXPANSION JOINTS, WITH LOCATION SPACING AS INDICATED ABOVE.
2. EXPANSION JOINT: 3/4" THICK BITUMINOUS FILLER MATERIAL- PROVIDE TWO (2) #6 X 24" SMOOTH BARS WITH EXPANSION CAPS AT EACH EXPANSION JOINT. INSTALL AT ENDS OF ALL RADII AND NO FURTHER THAN SIXTY (60') FEET APART.
3. SAW THREE (3) EQUALLY SPACED CONTRACTION JOINTS AT TWENTY (20') FEET INTERVALS BETWEEN EXPANSION JOINTS. CONTRACTION JOINTS SHALL BE SAW-CUT IN THE UPPER ONE-THIRD OF CURB AND GUTTER WITHIN 3 DAYS OF PLACEMENT.
4. COST OF BARS SHALL BE INCLUDED IN THE UNIT PRICE (PER LINEAL FOOT) FOR CURB AND GUTTER.

CURB AND GUTTER DETAIL (RESIDENTIAL)		
CURB.DWG	STREET & PAVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED: 3-14-08 CF
Engineering Department		REVISED: 8-27-07 MB
		DRAWING NO. STR-03



Underdrain Notes:

1. *The installation of the underdrains shall conform to section 601.04 of the Illinois Department of Transportation Standard peofications for Road and Bridge Construction.*
2. *Pipe material shall be 6" perforated PVC, per article 1040.03 of the IDOT Standard Specifications.*
3. *The underdrains shall be installed with the drain perforations down. All underdrains shall be held in the center of the trench by mechanical means while placing compacted trench backfill of washed CA-7.*
4. *After the underdrain pipe is installed, the geotextile shall be folded over the underdrain aggregate and overlapped a minimum of 12".*
5. *The underdrains shall have watertight joints, and be tied into the nearest storm sewer inlet. The connection to the inlet structure shall conform to ASTM C-923.*

CURB UNDERDRAIN DETAIL – Back of Curb		
Underdrain-Str.dwg	STREET & PAVEMENT	DATE: 11/20/2006
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED: 3-14-08 JF
Public Works Department		REVISED:
		DRAWING NO. STR-20

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REVISIONS			
1		5	PER VILLAGE ENGINEER\CLIENT REVIEW 5/7/17
2	REVISE PER VILLAGE ENGINEER	6	12/05/16
3		7	
4		8	

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PREPARED BY:
ROGINA
ENGINEERS & SURVEYORS, LLC.
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Professional Design Firm License No. 184-006843 - Exp. 4/30/2019

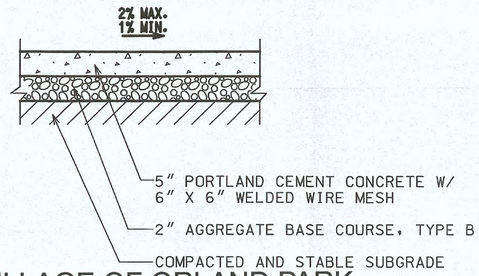
CLIENT:
HARVEST GLEN ESTATES, LLC
200 E. FIFTH STREET
NAPERVILLE, IL 60565

PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE:	DRAWN BY:
4/27/16	JCC
SCALE:	CHECKED BY:
	MRR

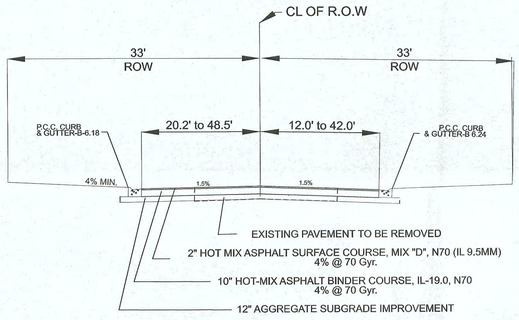
CONSTRUCTION DETAILS

SHEET NO. 13 OF 14



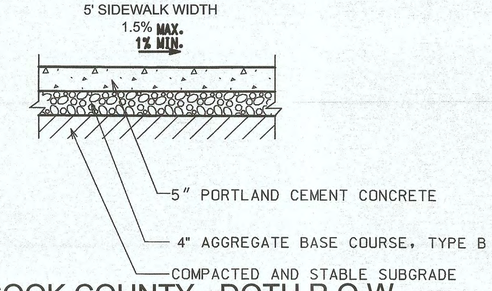
VILLAGE OF ORLAND PARK
TYPICAL SIDEWALK/PEDESTRIAN PATH SECTION

N.T.S.



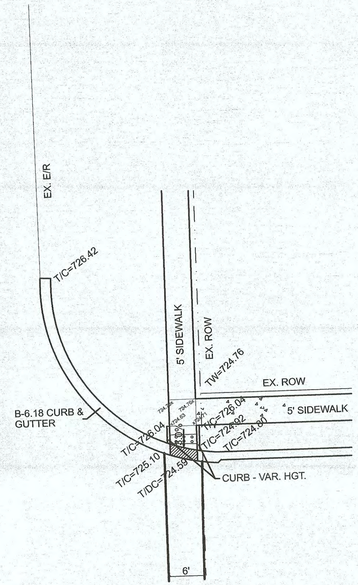
NOTE: COOK COUNTY - DOTH REQUIRES THAT COMBINATION CURB & GUTTER DEPTH SHAL BE EQUIVALENT TO THE DEPTH OF THE ADJACENT PAVEMENT, REGARDLESS OF PAVEMENT COMPOSITION.

139TH STREET WIDENING TYPICAL SECTION (COOK COUNTY - DOTH RIGHT-OF-WAY ONLY)

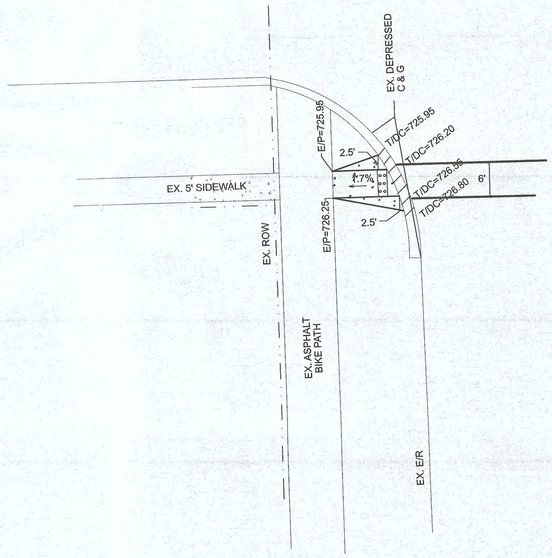


COOK COUNTY - DOTH R.O.W.
TYPICAL SIDEWALK/PEDESTRIAN PATH SECTION

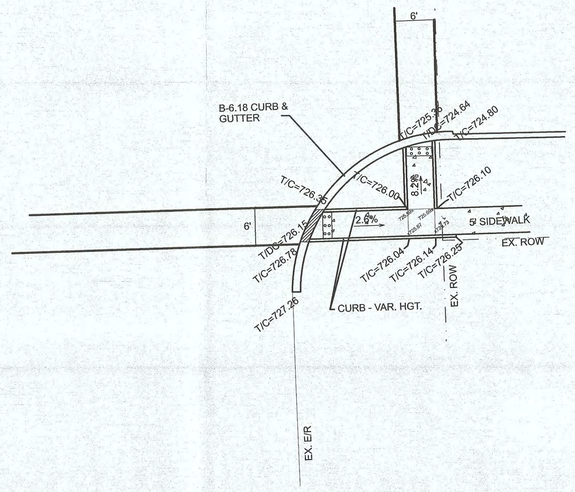
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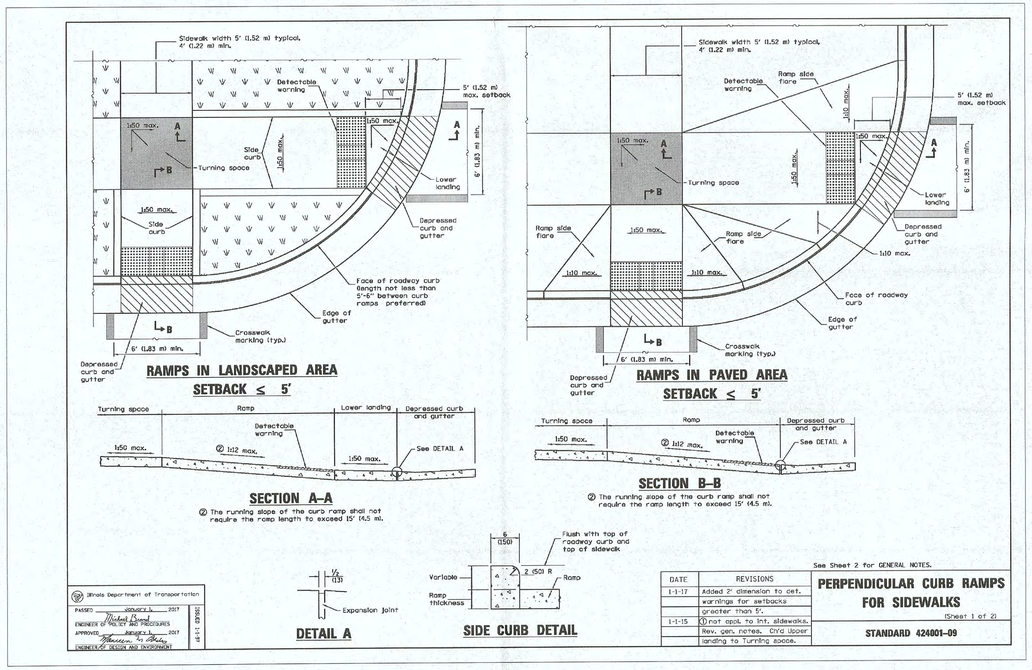
NE CORNER INTERSECTION



SW CORNER INTERSECTION



SE CORNER INTERSECTION



See Sheet 2 for GENERAL NOTES.

DATE	REVISIONS
1-1-17	Added 2' dimension to det. warnings for setbacks greater than 5'.
1-1-15	① not appl. to int. sidewalks. Rev. gen. notes. Cl'd Upper landing to Turning space.

PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

STANDARD 424001-09

NOTE: ALL DETECTABLE WARNINGS SHALL BE VILLAGE OF ORLAND PARK STANDARD CAST IRON DETECTABLE WARNING PLATES.

WOLF ROAD/139TH STREET ADA RAMP DETAILS SCALE: 1" =15'

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REVISIONS			
1		5	PER VILLAGE ENGINEER/CLIENT REVIEW 5/7/17
2	REVISE PER VILLAGE ENGINEER 12/05/16	6	
3		7	
4	REVISE PER VILLAGE ENGINEER 2/13/17	8	PER CCHD, MWRD & IEPA REVIEW 10/13/17
Y:\R800\R850\R85137\Design\CONSTRUCTION dETAILS-4.pln			10/24/2017

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PROJECT:
HARVEST GLEN ESTATES
VILLAGE OF ORLAND PARK, ILLINOIS

PROJECT NO:	DESIGNED BY:
R851.37	MRR
DATE: 4/27/16	DRAWN BY: JCC
SCALE:	CHECKED BY: MRR

CONSTRUCTION DETAILS

SHEET NO. 14 OF 14

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