FINAL
ENGINEERING
FOR

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, ILLINOIS

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LEGAL DESCRIPTION

LOT 26 IN EAGLE'S NEST UNIT 2 RESUBDIVISION OF OUTLOT A IN EAGLE'S NEST OF TINLEY PARK UNIT 1 BEING A SUBDIVISION OF PART OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 31, TOWNSHIP 36 NORTH, RANGE 13, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

SAID PARCEL OF LAND CONTAINING 96,811 SQUARE FEET OR 2.22 ACRES, MORE OR LESS.

SITE BENCHMARK

ON-SITE BENCHMARKS:

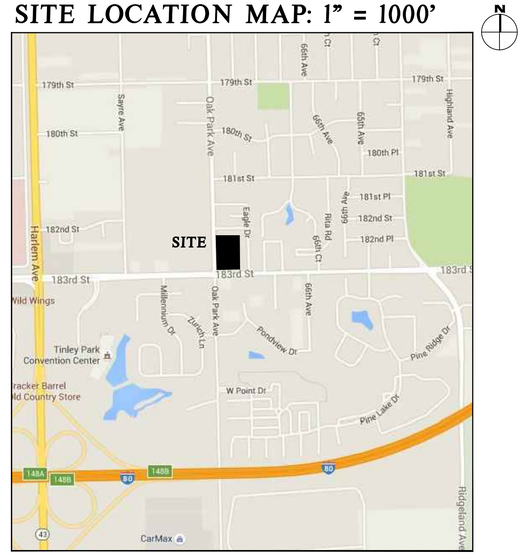
BENCHMARK #1

SET PK NAIL ON NORTH SOUTH BITUMINOUS WALK, ON THE WEST SIDE OF OAK PARK AVENUE, 73 FEET SOUTH OF THE NORTHEAST CORNER OF LOT 26
ELEVATION = 698.70 (NAVD 88)

BENCHMARK #2

SET PK NAIL ON BITUMINOUS WALK, ON THE NORTH SIDE OF 183RD STREET, 105 FEET WEST OF THE SOUTHEAST CORNER
ELEVATION = 697.75 (NAVD 88)

SITE LOCATION MAP: 1" = 1000'



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LEGEND

0.00'	MEASURED DATA
(0.00')	RECORD DATA
	LIMIT OF SURVEY
	SECTION LINE
	EXISTING RIGHT-OF-WAY LINE
	EXISTING CENTER LINE
	EXISTING EASEMENT LINE
	EXISTING SETBACK LINE
	EXISTING CONTOUR LINE
632	PROPOSED CONTOUR
TV	EXISTING UNDERGROUND CATV LINE
E	EXISTING UNDERGROUND ELECTRIC LINE
G	EXISTING UNDERGROUND GAS LINE
OH	EXISTING OVERHEAD WIRE
S	EXISTING UNDERGROUND SANITARY LINE
S	PROPOSED SANITARY
S	EXISTING UNDERGROUND STORM LINE
S	PROPOSED STORM
T	EXISTING UNDERGROUND TELEPHONE LINE
W	EXISTING UNDERGROUND WATER LINE
8"W	PROPOSED WATERMAIN
	EXISTING MONUMENTATION
	SET MONUMENTATION
NWL	HIGH WATER LEVEL
	PROPOSED SILT FENCE
	EXISTING AIR CONDITIONING UNIT
	EMERGENCY FLOOD ROUTE
	EXISTING B-BOX
	EXISTING BOLLARD
	EXISTING BORING
	EXISTING BUSH
	EXISTING CABLE PEDESTAL
	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	EXISTING CLEAN OUT
	EXISTING CULVERT
	EXISTING DRAIN
	EXISTING ELECTRIC MANHOLE
	EXISTING ELECTRIC METER
	EXISTING ELECTRIC PEDESTAL
	PROPOSED FIRE HYDRANT
	EXISTING FIRE HYDRANT
	EXISTING FLAG POLE
	PROPOSED FLARED END SECTION
	EXISTING FLARED END SECTION
	EXISTING GAS METER
	EXISTING GAS VALVE
	EXISTING GROUND LIGHT
	EXISTING GUY WIRE
	EXISTING HAND HOLE
	EXISTING HANDICAPPED PARKING SPACE
	PROPOSED INLET
	EXISTING INLET
	EXISTING LIGHT STANDARD
	EXISTING MAILBOX
	PROPOSED MANHOLE
	EXISTING MANHOLE
	EXISTING POWER POLE
	EXISTING POWER POLE W/ LIGHT
	EXISTING POWER POLE W/ TRANSFORMER
	EXISTING SIGN
	EXISTING STUMP
	EXISTING TELEPHONE MANHOLE
	EXISTING TELEPHONE PEDESTAL
	EXISTING TRAFFIC LIGHT
	EXISTING TRAFFIC PEDESTAL
	EXISTING TRANSFORMER
	EXISTING TREE
	EXISTING VALVE BOX
	PROPOSED VALVE AND VAULT
	EXISTING VALVE VAULT
	PROPOSED VALVE BOX
	EXISTING WATER VALVE
	EXISTING WELL
	EXISTING WETLAND FLAGS

CURRENT REVISION DATE: *JANUARY 27, 2016*

I, CHRISTOPHER M. LAVOIE, A REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS, HEREBY CERTIFY THAT THESE PLANS HAVE BEEN PREPARED BY C.M. LAVOIE AND ASSOCIATES, INC. UNDER MY PERSONAL DIRECTION.

REGISTERED CIVIL ENGINEER No. 062-049582 CHRISTOPHER M. LAVOIE PLAINFIELD, ILLINOIS STATE OF ILLINOIS

ILLINOIS PROFESSIONAL ENGINEER NO. 062-049582
(EXPIRES 11/30/17)

TO ENSURE AUTHENTICITY OF THIS DRAWING, IT MUST BEAR THE EMBOSSED SEAL OF THE LICENSEE WHO PREPARED THE DRAWING.

PROJECT NUMBER: 15-140

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VILLAGE OF TINLEY PARK, ORLAND TOWNSHIP, COOK COUNTY

CALL JULIE
48 Hours (2 working days) Before You Dig.
1-800-892-0123

GENERAL NOTES

1. PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL REVIEW THE ENGINEERING PLANS AND SPECIFICATIONS AND EXAMINE THE EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT ONCE IF ANY DISCREPANCIES ARE FOUND.

2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS NOT PREVIOUSLY APPLIED FOR BY THE OWNER AND POSTING OF THE NECESSARY BONDS.

3. THE STANDARD SPECIFICATIONS, ENGINEERING PLANS AND SUBSEQUENT DETAILS ARE ALL CONSIDERED PARTS OF THE CONTRACT. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED, BUT ARE ALSO PART OF THE CONTRACT.

4. PRIOR TO THE START OF THEIR WORK, EACH CONTRACTOR SHALL COMPARE PLAN DIMENSIONS AND CONDITIONS TO THE ACTUAL CONDITIONS AT THE JOB SITE. THE CONTRACTOR SHALL VERIFY THE LINE AND GRADES. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSION OR DISCREPANCIES. NO WORK SHALL BE DONE UNTIL THE DISCREPANCIES ARE RESOLVED. IF A CONTRACTOR PROCEEDS WITHOUT SUCH INSTRUCTION, HE WILL DO SO AT HIS OWN RISK AND EXPENSE.

5. PRIOR TO THE START OF THEIR WORK, EACH CONTRACTOR SHALL DETERMINE AND STAKE THE EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES. THEIR LOCATIONS ARE ONLY APPROXIMATE ON THE PLANS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR HIS REPRESENTATIVE. EACH CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY DAMAGES DUE TO HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY UNDERGROUND UTILITIES.

6. IF A QUESTION ARISES REGARDING THE ENGINEERING PLANS OR SPECIFICATIONS, THE ENGINEER'S DECISION SHALL BE FINAL AND CONCLUSIVE. GENERALLY, THE MORE RESTRICTIVE OR MORE SPECIFIC PROVISION SHALL GOVERN.

7. THE VILLAGE OF TINLEY PARK SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS AND PRIVATE SITE DEVELOPMENT SHALL APPLY TO ALL CONSTRUCTION WORK.

8. ALL CONTRACTORS SHALL NOTIFY J.U.L.I.E., THE SANITARY DISTRICT, AND ANY APPLICABLE ENGINEERING OR BUILDING DEPARTMENTS TWO (2) WORKING DAYS MINIMUM PRIOR TO THE START OF THEIR WORK. AS REQUIRED, THE UTILITY COMPANIES WILL ESTABLISH THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS OR CABLES ADJOINING OR CROSSING PROPOSED CONSTRUCTION.

9. ALL UNDERGROUND CONSTRUCTION SHALL COMPLY WITH "THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", ADOPTED JULY 2012 OR LATEST REVISION.

10. ALL EXCAVATION WORK SHALL COMPLY WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION "SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2012 OR LATEST REVISION.

11. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, THE VILLAGE AND THEIR AGENTS FROM ALL LIABILITY INVOLVED IN THE CONSTRUCTION, INSTALLATION AND TESTING OF THE WORK ON THIS PROJECT.

12. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL AREAS AFFECTED BY EQUIPMENT OR LABORERS TO EXISTING CONDITIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROTECTING ALL NEW WORK UNTIL THE CONTRACT IS COMPLETE.

13. ANY SOIL OR DEBRIS FROM THE SITE DEPOSITED ON ANY PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BY SWEEPING A MINIMUM OF ONCE DAILY OR AS REQUIRED.

14. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING TRAFFIC CONTROL AND PROTECTION MEASURES WITHIN PUBLIC RIGHTS-OF-WAY. THOSE MEASURES SHALL COMPLY WITH APPLICABLE ARTICLES OF SECTIONS 100 AND 700 OF THE CURRENT "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".

15. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ADEQUATE SIGNS, TRAFFIC CONTROL DEVICES, AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL SAFETY REQUIREMENTS PROVIDED BY THE VILLAGE AND/OR OSHA DURING CONSTRUCTION OPERATIONS.

16. ANY LOOSE MATERIAL OBSTRUCTING THE NATURAL FLOW LINE OF WATER IN DRAINAGE FACILITIES (GUTTERS, STRUCTURES, DITCHES, ETC.) SHALL BE REMOVED AT THE CLOSE OF EACH WORK DAY. ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS AT THE CONCLUSION OF CONSTRUCTION OPERATIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

17. THE CONTRACTOR SHALL INSURE POSITIVE SITE DRAINAGE AT THE CONCLUSION OF EACH WORK DAY. THE CONTRACTOR SHALL PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. SITE DRAINAGE MAY BE ACHIEVED BY DITCHING, PUMPING, OR ANY OTHER METHOD ACCEPTABLE TO THE ENGINEER. FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF.

18. ALL CONSTRUCTION WILL BE INSPECTED BY THE VILLAGE ENGINEER OR HIS REPRESENTATIVE. ALL TRENCHES AND SEWERS SHALL BE LEFT OPEN BUT SAFELY BARRICADED UNTIL INSPECTED AND APPROVED BY THE VILLAGE ENGINEER. THE ENGINEER MUST INSPECT THE PAVEMENT SUBBASE, BASE, AND SURFACE BEFORE THE NEXT PHASE OF WORK BEGINS. PROOF ROLLING AND NUCLEAR DENSITY TESTING WILL BE UTILIZED.

19. UNSUITABLE MATERIAL IS UNABLE TO SUPPORT PAVEMENT, BUILDING, AND/OR LOAD BEARING STRUCTURES. THE SOILS ENGINEER SHALL DETERMINE WHAT MATERIALS ARE UNSUITABLE. ALL SHRUBS, TOPSOIL, EXCAVATION MATERIAL, AND ANY OTHER UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF AT AN OFF-SITE LOCATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.

20. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MAXIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED AASHO COMPACTION TEST (T-180-74 / ASTM D-1557) IN PAVED AREAS. THE OWNER'S SOILS ENGINEER SHALL EVALUATE AND APPROVE THE EXCAVATION, FILL PLACEMENT, AND COMPACTION PRIOR TO PAVEMENT PLACEMENT.

21. ANY WATER AND WASTEWATER UTILITIES AFFECTED BY CONSTRUCTION, INCLUDING GRADES, MUST BE BROUGHT TO CURRENT VILLAGE STANDARDS AT THE CONTRACTOR'S EXPENSE.

22. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES, TREES, STREET, AND PRIVATE PROPERTY DURING CONSTRUCTION. ANY DAMAGES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

23. THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AT AREAS DESIGNATED ON THE SITE PLAN. ADDITIONAL MEASURES SHALL BE PROVIDED AS DEEMED NECESSARY BY THE VILLAGE OR THE DESIGN ENGINEER AT CONTRACTOR'S EXPENSE.

24. ALL HANDICAP PROVISIONS SHALL BE IN ACCORDANCE WITH THE "AMERICANS WITH DISABILITIES ACT" (ADA) DATED SEPTEMBER 15, 2010 OR LATEST REVISION.

25. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES WHICH MAY BE SUSPECTED IN LINES AND GRADES ESTABLISHED BY THE OWNER. NO WORK SHALL BE DONE UNTIL THE DISCREPANCIES ARE RESOLVED. ADDITIONAL STAKING DUE TO CONTRACTOR NEGLIGENCE SHALL BE PAID FOR BY THE CONTRACTOR.

26. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFE WORKING CONDITIONS THROUGHOUT THE PROSECUTION OF THE CONSTRUCTION WORK. THESE MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO: REMOVING DEBRIS, PROTECTING CONSTRUCTION BARRICADES, CLEANING CONSTRUCTION DIRT AND DEBRIS FROM PUBLIC STREET PAVEMENTS, SECURING OPEN EXCAVATIONS, AND FOLLOWING ALL SAFETY MEASURES REQUIRED BY THE GOVERNING AUTHORITIES.

27. EACH CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY OFF-SITE AREAS HE DAMAGED DURING CONSTRUCTION TO THE ORIGINAL CONDITION OR BETTER .

28. THE CONTRACTOR IS RESPONSIBLE FOR THE TESTING OF MATERIALS, IF REQUIRED BY THE OWNER AND/OR THE JURISDICTIONAL AGENCIES.

29. THE CONTRACTOR IS RESPONSIBLE FOR GUARANTEEING ALL MATERIALS AND WORKMANSHIP FOR ONE (1) YEAR UPON FINAL ACCEPTANCE BY THE OWNER AND THE JURISDICTIONAL AGENCIES.

30. ALL LANDSCAPE, SOD AND SEEDING AREAS SHALL RECEIVE A MINIMUM OF SIX INCHES (6") OF TOPSOIL TO ACHIEVE THE FINAL GRADES SHOWN ON THE FINAL ENGINEERING PLANS.

31. CONDUIT SHALL BE PROVIDED UNDER PAVEMENT FOR UTILITIES SUCH AS, BUT NOT LIMITED TO GAS, ELECTRIC, TELEPHONE, AND CABLE, AS DEEMED NECESSARY BY THE OWNER. ALL CONDUIT SHALL MEET UTILITY COMPANY SPECIFICATIONS. ALL SPECIFICATIONS SHALL BE CONFIRMED WITH THE UTILITY COMPANY PRIOR TO INSTALLATION. CONDUIT SHOWN HEREON IS APPROXIMATE IN SIZE AND LOCATION.

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EARTHWORK IMPROVEMENTS

1. ALL FILL MATERIAL IMPORTED ON-SITE MUST MEET THE FOLLOWING REQUIREMENTS:
   - 1.1. FILL MUST BE IMPORTED FROM ONE LOCATION.
   - 1.2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE FOLLOWING DOCUMENTATION FOR EACH LOAD OF CLEAN CONSTRUCTION OR DEMOLITION DEBRIS (CCDD) OR UNCONTAMINATED SOIL RECEIVED:
     - 1.2.1. HAULER NAME, SITE OF ORIGIN, ADDRESS, OWNER OR OPERATOR OF THE SITE OF ORIGIN;
     - 1.2.2. WEIGHT IN TONS OR VOLUME IN CUBIC YARDS;
     - 1.2.3. DATE RECEIVED.
   - 1.3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ONE OF THE FOLLOWING FOR ALL SOILS:
     - 1.3.1. CERTIFICATION FROM THE OWNER OR OPERATOR OF THE SITE OF ORIGIN THAT THE SITE HAS NEVER BEEN USED FOR COMMERCIAL OR INDUSTRIAL PURPOSES AND IS PRESUMED TO BE UNCONTAMINATED SOIL;
     - 1.3.2. CERTIFICATION FROM A LICENSED PROFESSIONAL ENGINEER THAT THE SOIL IS UNCONTAMINATED.
   - 1.4. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT THE CCDD OR UNCONTAMINATED SOIL WAS NOT REMOVED FROM A SITE AS PART OF A CLEAN-UP OR REMOVAL.
   - 1.5. THE CONTRACTOR IS RESPONSIBLE FOR VISUALLY INSPECTING AND SCREENING EACH LOAD OF SOIL WITH A PHOTO IONIZATION DETECTOR, FLAME IONIZATION DETECTOR OR ANOTHER DEVICE APPROVED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, BUREAU OF LAND, THAT DETECTS VOLATILE ORGANIC COMPOUNDS (ALREADY REQUIRED OF PERMITTED CCDD FILL OPERATIONS).
   - 1.6. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING ALL CHEMICAL ANALYSIS ACTIVITIES ASSOCIATED WITH TESTING OF THE CCDD OR UNCONTAMINATED SOIL. THESE MUST INCLUDE, BUT ARE NOT LIMITED TO:
     - 1.6.1. COPY OF THE LAB ANALYSIS;
     - 1.6.2. LABORATORY ACCREDITATION STATUS;
     - 1.6.3. LABORATORY AUTHORIZED AGENT CERTIFICATION.

2. EXCESS MATERIALS SHALL BE COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR.

3. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR CERTIFYING THAT ANY SOIL EXPORTED OFF-SITE IS CCDD. IF THE SOIL IS NOT CCDD, THEN THE CONTRACTOR IS RESPONSIBLE FOR ITS PROPER DISPOSAL.

TOPSOIL EXCAVATION

1. IN AREAS REQUIRING EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL, THIS ITEM INCLUDES THE EXCAVATION OF TOPSOIL AND OTHER STRUCTURALLY UNSUITABLE MATERIALS TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS.

2. IN LANDSCAPED AREAS AND AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL, THIS ITEM INCLUDES PLACEMENT OF EXCAVATED MATERIAL IN OWNER-DESIGNATED AREAS FOR FUTURE USE. IN THESE AREAS, THE COMPACTION OF EXCAVATED MATERIAL SHALL BE MODERATE.

EARTH EXCAVATION

1. THIS ITEM INCLUDES THE EXCAVATION OF EARTH AND OTHER MATERIALS THAT ARE SUITABLE AS STRUCTURAL FILL. THE EXCAVATION SHALL BE WITHIN ±0.3 FEET OF THE PLAN SUBGRADE ELEVATIONS. THE TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIAL SHALL "BALANCE" AS PART OF THE FINE GRADING OPERATION.

2. STRUCTURAL FILL AREAS:
   - 2.1. EARTH EXCAVATION INCLUDES THE PLACEMENT OF EARTH AND OTHER SUITABLE MATERIALS TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS WITHIN ±0.3 FEET. THE MATERIAL SHALL BE EIGHT INCHES (8") IN THICKNESS, AND THE WATER CONTENT SHALL BE ADJUSTED TO ACHIEVE THE REQUIRED COMPACTION.
   - 2.2. 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. IN AREAS OF THE BUILDING SITE NOT REQUIRING STRUCTURAL FILL, THE EARTH MATERIAL MAY BE PLACED WITHIN SIX INCHES (6") OF THE PLAN FINISHED GRADE ELEVATION.

4. COMPACTION
   - 4.1. PROPOSED PAVEMENT AND BUILDING AREAS: AT LEAST 95% OF THE STANDARD PROCTOR DRY DENSITY (ASTM D698)
   - 4.2. ALL OTHER AREAS: MODERATE COMPACTION IS REQUIRED.

GRADING CONTRACTOR TASKS

1. AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS, SPREAD AND COMPACT UNIFORMLY ALL EXCESS TRENCH SPOIL TO THE DEGREE SPECIFIED.

2. IN ALL CUT AND FILL AREAS THAT MAY BE SOFT DUE TO EXCESS MOISTURE CONTENT, SCARIFY AND COMPACT TO THE DEGREE SPECIFIED THE UPPER TWELVE INCHES (12") OF THE SUITABLE SUBGRADE MATERIAL.

3. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT TO ACHIEVE THE SPECIFIED COMPACTION.

4. GRADE PUBLIC UTILITY EASEMENTS TO MEET THE REQUIREMENTS OF THE LOCAL PUBLIC UTILITY COMPANIES.

TESTING AND FINAL ACCEPTANCE

1. AS A MINIMUM, THE CONTRACTOR SHALL PROVIDE A FULLY LOADED SIX-WHEEL TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE BASE MATERIAL AND THE CURB AND GUTTER.

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 SPECIFICATION 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 PAVEMENT.

METHOD OF MEASUREMENT

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.

PAVING IMPROVEMENTS

1. FINE GRADING SHALL BE COMPLETED 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 THE FINAL SUBGRADE ELEVATION, TO A POINT TWO FEET (2') BEYOND THE BACK OF THE PROPOSED CURB.

2. CURB AND GUTTER SHALL BE THE TYPE AS DETAILED ON THE ENGINEERING PLANS. THE CURB SHALL BE BACKFILLED AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE.

3. PAVEMENT MATERIALS SHALL BE AS DETAILED ON THE ENGINEERING PLANS. THICKNESSES SPECIFIED SHALL BE CONSIDERED TO BE THE MINIMUM COMPACTED THICKNESS.

PAVING CONTRACTOR TASKS

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. BY PRIOR AGREEMENT WITH THE OWNER, ANY REQUIRED EXCESSIVE CLEANING OF THE BINDER COURSE THAT IS NOT THE FAULT OF THE PAVING CONTRACTOR SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS.

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 IMPROVEMENTS.)

2. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE, THE CONTRACTOR, IF REQUESTED TO 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 ARTICLE 406.16 OF THE "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. THE CONTRACTOR SHALL ADJUST FOR DEFICIENCIES IN THE BITUMINOUS CONCRETE BINDER COURSE BY INCREASING THE PLAN THICKNESS OF THE SURFACE COURSE AT 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.

METHOD OF MEASUREMENT

1. 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. DOCUMENTATION FOR THE INSTALLED BASE COURSE, BITUMINOUS CONCRETE BINDER, AND SURFACE COURSE, SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION WHEN REQUESTED. DEFICIENCIES IN TOTAL BITUMINOUS CONCRETE PAVEMENT THICKNESS SHALL BE ADJUSTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE JURISDICTIONAL AUTHORITY.

SANITARY SEWER

GENERAL

1. ALL DEVELOPMENT SHALL INCLUDE PROVISIONS FOR THE CONSTRUCTION OF SANITARY SEWERS AND APPURTENANCES DESIGNED TO COMPLY WITH THIS SECTION. DEVELOPERS SHALL USE EITHER THE PUBLIC SEWER SYSTEM OR AN ALTERNATIVE SEWER SYSTEM, CERTIFIED BY THE AGENCY OR MUNICIPALITY WITH JURISDICTIONAL AUTHORITY, PROVIDED THAT THE DEVELOPMENT IS CLOSE TO A TRANSMISSION LINE THAT HAS ADEQUATE CAPAVILLAGE TO HANDLE THE PROPOSED DEVELOPMENT.

2. ALL SANITARY IMPROVEMENTS SHALL COMPLY WITH THE MATERIAL INSTALLATION AND TESTING REQUIREMENTS OF THE "STANDARD SPECIFICATION FOR THE WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS," LATEST EDITION, UNLESS OTHERWISE MODIFIED IN THIS SECTION.

PROTECTION OF WATER MAINS

WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH THE APPLICABLE ILLINOIS POLLUTION CONTROL BOARD REGULATIONS AND THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, DIVISION OF PUBLIC WATER SUPPLIES, TECHNICAL POLICY STATEMENTS. WHEREVER THE SANITARY SEWER MAIN, BUILDING SERVICE SEWER OR ANY STORM DRAIN CROSSES A WATER MAIN, A MINIMUM EIGHTEEN INCHES (18") OF VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN THE TOP OF THE LOWER PIPE AND THE BOTTOM OF THE UPPER PIPE. IF THAT VERTICAL SEPARATION CANNOT BE MAINTAINED, THE SANITARY OR STORM SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY PIPE FOR A MINIMUM DISTANCE OF TEN FEET (10') ON EACH SIDE OF THE WATER MAIN. IF STORM OR SANITARY SEWER CROSSES ABOVE A WATER MAIN AND EIGHTEEN INCHES (18") OF CLEARANCE CANNOT BE MAINTAINED, BOTH SEWER AND WATER PIPES MUST BE OF THE SAME PIPE MATERIAL AS THE WATER MAIN.

INSPECTION AND TESTING

1. GENERAL: ALL REQUIRED TESTING AND CORRECTION OF ANY DEFECTS OF THE SANITARY SEWER SYSTEM SHALL BE COMPLETED BEFORE CURB AND GUTTER OR OTHER ROADWAY WORK BEGINS.

2. CLEANING: ALL SEWERS AND APPURTENANCES SHALL BE HIGH-PRESSURE CLEANED PRIOR TO INSPECTION AND TESTING REQUIRED BY THIS SECTION.

3. AIR TEST: ALL SANITARY SEWER PIPES SHALL BE LOW-PRESSURE AIR TESTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", EXCEPT THAT ALL SECTIONS OF SEWER MAIN SHALL BE TESTED.

4. FORCE MAIN: HYDROSTATIC PRESSURE TEST
   - 4.1. ALL NEWLY LAID FORCE MAIN SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF FIFTY POUNDS PER SQUARE INCH (50 PSI).
   - 4.2. EACH TEST SHALL LAST FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS.
   - 4.3. BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. EACH VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER AND THE SPECIFIED TEST PRESSURE SHALL BE APPLIED BY A PUMP CONNECTED TO THE PIPE. ALL LEAKS SHALL BE REPAIRED UNTIL TIGHT. ANY CRACKED OR DEFECTIVE PIPES DISCOVERED AS A RESULT OF THIS PRESSURE TEST SHALL BE REMOVED AND REPLACED AND THE TEST REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.

5. DEFLECTION TESTING: ALL FLEXIBLE THERMOPLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED BY PULLING A MANDREL THROUGH THE PIPE FROM MANHOLE TO MANHOLE. DEFLECTION TESTING SHALL BE PERFOMED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", EXCEPT THAT ALL SECTIONS OF SEWER MAIN SHALL BE TESTED.

6. TELEVISING: ALL SANITARY SEWER MAIN SHALL BE TELEVISED. TWO (2) COPIES OF THE WRITTEN REPORT AND VIDEOTAPE OF THE TELEVISED MAIN SHALL BE PROVIDED TO THE VILLAGE.

7. DEFECTS: ANY PIPING WITH DIPS, CRACKS, IMPROPERLY SEALED JOINTS, OR VARIATIONS FROM THE APPROVED GRADES AND ALIGNMENT SHALL REPAIRED BY REMOVING AND REPLACING THE INVOLVED SECTIONS OF PIPE. THE REPAIRED SECTION OF PIPE SHALL THEN BE RE-TESTED. THE VILLAGE ENGINEER MAY ALSO REQUEST OTHER TYPES OF TESTING ON THE SANITARY SEWER INSTALLATION AS A CONDITION OF INITIAL ACCEPTANCE.

8. RECORD DRAWINGS: PRIOR TO FINAL ACCEPTANCE OF WORK, "RECORD" DRAWINGS SHALL BE SUBMITTED TO THE VILLAGE. ONE MYLAR REPRODUCIBLE AND FOUR (4) BLUELINE COPIES SHALL BE SUBMITTED.

9. ACCEPTANCE: ALL CONSTRUCTION SHALL MEET THE REQUIREMENTS AND ACCEPTANCE BY METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRDGC) PRIOR TO THE ACCEPTANCE BY THE DIRECTOR OF ENGINEERING.

STORM SEWER

GENERAL

1. ALL DEVELOPMENT SHALL INCLUDE PROVISIONS FOR THE CONSTRUCTION OF STORM SEWERS AND APPURTENANCES DESIGNED IN ACCORDANCE WITH THIS SECTION. DEVELOPERS SHALL USE EITHER THE PUBLIC SEWER SYSTEM OR AN ALTERNATIVE SEWER SYSTEM, CERTIFIED BY AN AGENCY OR MUNICIPALITY WITH JURISDICTIONAL AUTHORITY, PROVIDED THAT THE DEVELOPMENT IS CLOSE TO A TRANSMISSION LINE THAT HAS ADEQUATE CAPAVILLAGE TO HANDLE THE PROPOSED DEVELOPMENT.

2. STORM SEWER SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 600 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION," AND "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS," LATEST EDITION, UNLESS OTHERWISE MODIFIED IN THE SECTION.

3. STORMWATER SYSTEM DESIGN SHOULD BE IN CONFORMANCE WITH ILLINOIS EPA STORMWATER PERMITTING REQUIREMENTS. IN PARTICULAR, A STATE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR CONSTRUCTION SITE ACTIVITIES IS REQUIRED FOR LAND DISTURBANCES OF FIVE OR MORE ACRES. PERMIT REQUIREMENTS FOR A "STORMWATER POLLUTION PREVENTION PLAN" SPECIFICALLY REFERENCE THE NEED FOR STORMWATER DETENTION, VEGETATED SWALES AND NATURAL DEPRESSIONS, INFILTRATION MEASURES, AND VELOVILLAGE DISSIPATION DEVICES TO CONTROL RUNOFF POLLUTANTS AND TO MAINTAIN PRE-DEVELOPMENT HYDROLOGIC CONDITIONS.

SEWER PIPE CLASS

THE CLASS OF SEWER PIPE SHALL BE DETERMINED BASED UPON SECTION 603 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.

MATERIAL SPECIFICATION

ALL STORM SEWER SYSTEM ELEMENTS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

1. PIPE
   - 1.1. REINFORCED CONCRETE (12" DIAMETER AND LARGER): CIRCULAR REINFORCEMENT, MINIMUM CLASS 3, WALL B, ASTM C-76.
   - 1.2. REINFORCED CONCRETE ARCH CULVERT: MINIMUM CLASS HE-III OR VE-III, ASTM C-507.
   - 1.3. PVC UNDERDRAIN (4", 6", AND 8"): ASTM D-3212, SDR26.

2. PIPE JOINTS
   - 2.1. PVC PIPE: ASTM D-3212, PUSH-ON TYPE, EXCEPT UNDERDRAIN PIPE WHICH SHALL HAVE SOLVENT WELDED JOINTS.
   - 2.2. REINFORCED CONCRETE PIPE: ASTM C-443. ("O" RING)
   - 2.3. REINFORCED ARCH OR ELLIPTICAL PIPE: ASTM C877

3. STEEL CASING PIPES FOR AUGURED SLEEVES: ASTM A120, ⅜" MINIMUM THICKNESS.

4. MANHOLES AND CATCH BASINS
   - 4.1. PRECAST REINFORCED CONCRETE: ASTM C-478 AND ASTM C-443
   - 4.2. SIZE
     - 4.2.1. 18" DIAMETER OR LESS: MANHOLE SHALL HAVE A 48" INSIDE DIAMETER.
     - 4.2.2. 21"-36" DIAMETER: MANHOLE SHALL HAVE A 60" INSIDE DIAMETER.
     - 4.2.3. GREATER THAN 36" DIAMETER: MANHOLE SHALL HAVE AN OFFSET RISER PIPE OF 48" INSIDE DIAMETER.
   - 4.3. ADJUSTMENT: NO MORE THAN TWO (2) PRECAST CONCRETE ADJUSTING RINGS WITH SIX INCH (6") MAXIMUM HEIGHT ADJUSTMENT SHALL BE ALLOWED.
   - 4.4. PIPE AND FRAME SEALS: ALL PIPE CONNECTION OPENINGS SHALL BE PRECAST WITH PORTLAND CEMENT MORTAR, O-RING GASKETS OR MASTIC MATERIAL.
   - 4.5. BOTTOM SECTIONS: ALL BOTTOM SECTIONS SHALL BE MONOLITHICALLY PRECAST, INCLUDING BASES AND INVERT FLOWLINES.
   - 4.6. MANHOLE STEPS: EAST JORDAN IRON WORKS, INC. (EJIW) #8518. STEPS SHALL BE INSTALLED IN ALL STRUCTURES AT SIXTEEN INCH (16") CENTERS, WHERE THE DEPTH BETWEEN THE RIM AND THE BOTTOM OF THE STRUCTURE EXCEEDS FOUR FEET (4').

5. INLETS
   - 5.1. PRECAST REINFORCED CONCRETE: ASTM C478 AND ASTM C443
   - 5.2. SIZE: INLETS SHALL HAVE 24" INSIDE DIAMETER AND A MAXIMUM DEPTH OF FOUR FEET (4').
   - 5.3. ADJUSTMENT: NO MORE THAN TWO (2) PRECAST CONCRETE ADJUSTING RINGS WITH SIX INCH (6") MAXIMUM HEIGHT ADJUSTMENT SHALL BE ALLOWED.
   - 5.4. ONLY ONE (1) PIPE CONNECTION IS ALLOWED AND IT SHALL BE PRECAST WITH PORTLAND CEMENT MORTAR, O-RING GASKETS OR MASTIC MATERIAL.
   - 5.5. BOTTOM SECTIONS: ALL BOTTOM SECTIONS SHALL BE MONOLITHICALLY PRECAST, INCLUDING BASES AND INVERT FLOWLINES.

6. CASTINGS
   UNLESS OTHERWISE NOTED ON THE PLANS, THE FOLLOWING SHALL BE USED:
   - 6.1. MANHOLE FRAME AND COVER: EJIW #1058 / NEENAH R-1550, EMBOSSED "STORM" WITH TYPE A HEAVY DUTY COVER.
   - 6.2. SIX INCH (6") CURB AND GUTTER INLET: EJIW #7210 WITH TYPE M1 GRATE / NEENAH R-3281 A.
   - 6.3. ROLLED CURB AND GUTTER INLET: EJIW #7525 / NEENAH R-3501 P.
   - 6.4. DEPRESSED CURB AND GUTTER: EJIW #7210 WITH TYPE M3 GRATE.
   - 6.5. YARD INLET: EJIW #1020 WITH TYPE M2 FLAT GRATE / NEENAH R-4340 B.

7. CRUSHED GRANULAR BEDDING: BEDDING, HAUNCHING AND COVER SHALL BE PER IDOT SPECIFICATIONS.

8. HEADWALLS AND PRECAST END SECTIONS: ALL PIPES SHALL TERMINATE AT REINFORCED CONCRETE HEADWALLS OR PRECAST END SECTIONS.

INSPECTION AND TESTING

1. GENERAL: ALL REQUIRED TESTING AND CORRECTION OF DEFECTS OF THE STORM SEWER SYSTEM SHALL BE COMPLETED BEFORE CURB AND GUTTER OR OTHER ROADWAY WORK BEGINS.

2. CLEANING: ALL SEWER PIPES AND APPURTENANCES SHALL BE CLEANED PRIOR TO THE INSPECTION AND TESTING REQUIRED BY THIS SECTION.

3. DEFLECTION TESTING: ALL FLEXIBLE THERMOPLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED BY PULLING A MANDREL THROUGH THE PIPE FROM MANHOLE TO MANHOLE. DEFLECTION TESTING SHALL BE PERFOMED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", EXCEPT THAT ALL SECTIONS OF SEWER MAIN SHALL BE TESTED.

4. TELEVISING: TELEVISING OF STORM SEWER SHALL BE PERFORMED AS REQUESTED BY THE VILLAGE. A WRITTEN REPORT AND VIDEOTAPE COPY OF THE TELEVISED SEWER SHALL BE PROVIDED TO THE VILLAGE.

5. DEFECTS: ANY PIPING WITH DIPS, CRACKS, IMPROPERLY SEALED JOINTS, OR VARIATIONS FROM THE APPROVED GRADES AND ALIGNMENT SHALL REPAIRED BY REMOVING AND REPLACING THE INVOLVED SECTIONS OF PIPE. THE REPAIRED SECTION OF PIPE SHALL THEN BE RE-TESTED. THE VILLAGE ENGINEER MAY ALSO REQUEST OTHER TYPES OF TESTING ON THE STORM SEWER INSTALLATION AS A CONDITION OF INITIAL ACCEPTANCE.

WATER MAIN

GENERAL

1. ALL DEVELOPMENT SHALL INCLUDE PROVISIONS FOR THE CONSTRUCTION OF WATER DISTRIBUTION FACILITIES COMPLETE WITH VALVES, FIRE HYDRANTS, AND OTHER APPURTENANCES DESIGNED IN ACCORDANCE WITH THIS SECTION. AS A MINIMUM, THE WATER DISTRIBUTION SYSTEM SHALL PROVIDE A SERVICE CONNECTION AT THE APPROXIMATE MIDPOINT OF THE PROPERTY LINE OF EACH INDIVIDUAL LOT OR PARCEL WITHIN THE DEVELOPMENT. WHERE MORE THAN ONE BUILDING IS LOCATED OR PLANNED ON ONE LOT OR PARCEL PER PROPERTY, OR WHEN WATER MAIN CONSTRUCTION IS REQUIRED ON THE PROPERTY FOR FIRE PROTECTION, THE PROPOSED CONSTRUCTION SHALL ALSO INCLUDE ALL WATER MAIN CONSTRUCTION AND APPURTENANCES WITHIN THE LOT OR PARCEL EXCEPT SERVICE LINES.

2. SPECIFICATION REFERENCES MADE HEREIN FOR MANUFACTURED MATERIALS SUCH AS PIPE, HYDRANTS, VALVES AND FITTINGS REFER TO DESIGNATION THE AMERICAN WATER WORKS ASSOCIATION (AWWA) OR OF THE AMERICAN NATIONAL STANDARD INSTITUTE (ANSI). WATER DISTRIBUTION SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS," LATEST EDITION, UNLESS OTHERWISE MODIFIED IN THIS SECTION.

MATERIAL SPECIFICATION AND DETAILS

ALL WATER DISTRIBUTION SYSTEM ELEMENTS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

1. DUCTILE IRON PIPE
   - 1.1. PIPE CLASS/THICKNESS: ANSI A21.50 (AWWA C150), MINIMUM THICKNESS, CLASS 52
   - 1.2. PIPE: ANSI A21-51 (AWWA C151).
   - 1.3. PIPE LINING: ANSI A21.4 (AWWA C104).
   - 1.4. FITTINGS: ANSI 21.10 (AWWA C110).
   - 1.5. JOINTS: MECHANICAL AND PUSH-ON, ANSI A21.11 (AWWA C111).
   - 1.6. POLY WRAP OF ALL WATERMAINS IS REQUIRED BY THE VILLAGE.

2. VALVES
   - 2.1. TWELVE INCH (12") AND SMALLER: IRON BODY, BRONZE MOUNTED, RESILIENT WEDGE VALVE, PARALLEL SEAT, NON-RISING STEM GATE VALVES, COUNTER CLOCKWISE TO OPEN, AWWA C500.
   - 2.2. FOURTEEN INCH (14") AND LARGER: IRON BODY, RUBBER SEAT, CLASS 150B, COUNTER CLOCKWISE TO OPEN; AWWA C504.
   - 2.3. JOINT END: MECHANICAL; AWWA C111.

△3 3. FIRE HYDRANT ASSEMBLY
   - 3.1. HYDRANT: EJIW #5BR-250 OR EQUAL, AS APPROVED BY THE TINLEY PARK WATER DEPARTMENT AND THE TINLEY PARK FIRE CHIEF.
   - 3.2. HYDRANT TO BE PAINTED AS DIRECTED BY TINLEY PARK WATER DEPARTMENT.
   - 3.3. HYDRANT TO HAVE A BREAKAWAY FLANGE, 7" MINIMUM BARREL, AND 5" OPERATING VALVE AND ONE (1) STEAMER CONNECTION.
   - 3.4. VALVE SIZE: FIVE INCH (5"), COUNTERCLOCKWISE TO OPEN.
   - 3.5. NOZZLES: TWO AT TWO AND ONE-HALF INCHES (2 ½") AND ONE AT FOUR AND ONE-HALF INCHES (4 ½"), WITH THREADS CONFORMING TO NATIONAL STANDARD SPECIFICATIONS.
   - 3.6. FRANGIBLE SECTIONS (BREAKAWAY TAPE) WITH THE BREAK LINE FLANGE LOCATED A MINIMUM OF TWO INCHES (2") ABOVE FINISHED GRADE.
   - 3.7. THE HYDRANT SHALL BE INSTALLED WITH AN MJ SWIVEL TEE WITH A SWIVEL MJ GLAND. THE AUXILIARY GATE VALVE SHALL BE A FLANGED ATTACHMENT TO THE HYDRANT.

△3 4. HYDRANT VALVE BOX TO BE A 3-PIECE SCREW TYPE, 5 ¼" SHAFT WITH NO. 6 ROUND BASE MUELLER NO. H-10357 OR VILLAGE APPROVED EQUAL.. THE LID SHALL BE EMBOSSED "WATER".

5. AIR RELEASE VALVES: APLO, TYPE 200A, 2-INCH OR VALVEMATIC.

6. CORPORATION STOPS: MUELLER H1500 OR FORD F-600, 2 INCH MINIMUM; AWWA C800.

7. SERVICE PIPE
   - 7.1. COPPER TUBE, 2 INCH (2") AND SMALLER: ASTM B88, TYPE K (2" MINIMUM).
   - 7.2. DUCTILE IRON, LARGER THAN 2 INCH (2"): CONFORM TO SECTION 1 ABOVE.

8. CURB STOP
   - 8.1. COPPER SERVICE: MUELLER H-15154 OR FORD B44-444.
   - 8.2. DUCTILE IRON SERVICE: CONFORM TO SECTIONS 2.1 AND 2.3 ABOVE.

9. CURB BOX
   - 9.1. COPPER SERVICE: MUELLER H-10302 OR H-10304 OR FORD EA 26040.
   - 9.2. DUCTILE IRON SERVICE
     - 9.2.1. 4 INCH (4") AND SMALLER: CONFORM TO SECTION 4 ABOVE.
     - 9.2.2. 6 INCH (6") AND LARGER: CONFORM TO SECTION 12 BELOW.

10. CONCRETE THRUST RESTRAINTS
    - 10.1. HORIZONTAL REACTION: THRUST AT ALL TREES, PLUGGED ENDS, HYDRANTS, AND BENDS BETWEEN 11 ¼° AND 90° SHALL CONFORM TO EXHIBIT NO WM10 SPECI
    - 10.2. VERTICAL REACTION: THE ENGINEER SHALL SUBMIT INDIVIDUAL DESIGNS FOR EACH LOCATION AND COMPLY WITH AWWA C600, SECTION 3.8.
    - 10.3. MATERIAL: PRECAST OR POURED CLASS SI CONCRETE.
    - 10.4. WHERE UNDISTURBED EARTH IS NOT AVAILABLE OR NOT LIKELY TO BE AVAILABLE TO BACK UP PRESSURE TYPE CONCRETE THRUST BLOCKS, THE ENGINEER SHALL SPECIFY TIE ROD WITH OR WITHOUT ANCHOR TYPE CONCERT THRUST BLOCKS AND SUBMIT DESIGN DATA FOR SUCH SPECIFICATION. CARE SHALL BE TAKEN WHEN POURING CONCRETE SO THAT THE MIX WILL NOT INTERFERE WITH ACCESS TO JOINTS OR WITH HYDRANT DRAINAGE.
    - 10.5. ALL THRUST RESTRAINTS ARE TO BE CAST-IN PLACE CONCRETE, EXCEPT FOR HYDRANT RESTRAINTS. HYDRANT RESTRAINTS SHALL BE PRECAST BLOCKS.

11. CASING PIPES
    - 11.1. 2" WATER SERVICES: PVC SCHEDULE 40 WITH A MINIMUM DIAMETER OF 4-INCHES
    - 11.2. 8" WATER MAIN: 16" STEEL CASING PIPE WITH A MINIMUM THICKNESS OF 0.219'.

12. VALVE BOXES
    - 12.1. ALL VALVES SHALL BE INSTALLED IN VALVE BOXES, EXCEPT FOR VALVES 12 INCHES AND LARGER AND PRESSURE CONNECTION VALVES.
    - 12.2. TYPE TYLER 664-S WITH LID EMBOSSED WITH "WATER" AND SHALL BE PROVIDED WITH STABILIZERS.

13. VALVES, TWELVE (12) INCHES AND SMALLER: EPOXY-COATED RESILIENT WEDGE VALVES WITH NON-RISING STEM GATE VALVES, COUNTER-CLOCKWISE TO OPEN, AWWA C-509, CLOW, MUELLER OR EQUAL.

14. VALVE VAULTS
    - 14.1. PRECAST REINFORCED CONCRETE: ASTM C478 AND ASTM C443.
    - 14.2. SIZE
      - 14.2.1. FOR 12" DIAMETER VALVES: VAULTS SHALL HAVE A 48" INSIDE DIAMETER.
      - 14.2.2. FOR PRESSURE CONNECTIONS AND VALVES 16" AND LARGER IN DIAMETER: VAULTS SHALL HAVE A 60" INSIDE DIAMETER.
    - 14.3. ADJUSTMENTS: NO MORE THAN TWO (2) PRECAST CONCRETE ADJUSTING RINGS WITH SIX (6) INCH MAXIMUM HEIGHT ADJUSTMENT SHALL BE ALLOWED.

15. CASTINGS
    - 15.1. MANHOLE FRAME AND COVER: EAST JORDAN IRON WORKS, INC. #1022, TY A EMBOSSED "WATER".
    - 15.2. MANHOLE STEPS, EAST JORDAN IRON WORKS, INC. #8518.406.

16. CRUSHED GRANULAR BEDDING: HAUNCHING AND COVER SHALL BE CA-11 OR CA-13 PER THE VILLAGE REQUIREMENTS.

17. WATER METERS SHALL BE INSTALLED ON ALL SERVICE PIPES SUPPLYING VILLAGE WATER. METER AND APPURTENANCES SHALL BE OF A TYPE, DESIGN AND SIZE RECOMMENDED BY THE VILLAGE ENGINEER AND APPROVED BY THE PRESIDENT AND BOARD OF TRUSTEES.

PRESSURE TEST

1. AS PART OF THE CONSTRUCTION, THE WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THIS SECTION.

2. ALL NEWLY LAID PIPE SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF FIFTY (50) PERCENT MORE THAN THE OPERATING PRESSURE AT THE LOWEST ELEVATION OF THE PIPE SECTION, BUT NOT TO EXCEED THE PRESSURE RATING OF THE PIPE SPECIFIED. THE DURATION OF EACH TEST SHALL BE FOR A PERIOD OF NOT LESS THAN ONE HOUR AND NOT MORE THAN SIX HOURS.

3. EACH VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER AND THE SPECIFIED TEST PRESSURE SHALL BE APPLIED BY A PUMP CONNECTED TO THE PIPE. BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. ALL LEAKS SHALL BE REPAIRED UNTIL TIGHT. ANY CRACKED OR DEFECTIVE PIPES, FITTINGS, VALVES, OR HYDRANTS DISCOVERED IN CONSEQUENCE OF THIS PRESSURE TEST SHALL BE REMOVED AND REPLACED AND THE TEST REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.

LEAKAGE TEST

1. AFTER THE PRESSURE TEST, A LEAKAGE TEST SHALL DETERMINE THE QUANTITY OF WATER LOST BY LEAKAGE UNDER THE SPECIFIED TEST PRESSURE. THE TEST SHALL CONSIST OF THE WATER MAIN ISOLATED AT MAXIMUM OPERATING PRESSURE FOR A MINIMUM OF TWO (2) HOURS IN ADDITION TO THE PRESSURE TEST PERIOD.

2. ALL TESTING SHALL BE DONE BEFORE THE INSTALLATION OF SERVICE LINES. SUITABLE MEANS SHALL BE PROVIDED FOR DETERMINING THE QUANTITY OF WATER LOST BY LEAKAGE UNDER THE SPECIFIED TEST PRESSURE. ALLOWABLE LEAKAGE SHALL NOT BE GREATER THAN THAT COMPUTED AS FOLLOWS:

   $$L = \frac{(SD)*SQRT(P)}{148,000}$$, WHERE

   L= ALLOWABLE LEAKAGE (GALLONS PER HOUR)
   S= LENGTH OF PIPE TESTED (FEET)
   D= NOMINAL DIAMETER OF THE PIPE (INCHES)
   P= AVERAGE TEST PRESSURE DURING LEAKAGE TEST (POUNDS PER SQUARE INCH (GAUGE))

   LEAKAGE IS DEFINED AS THE QUALITY OF WATER REQUIRED TO BESUPPLIED TO THE NEWLY LAID PIPE NECESSARY TO MAINTAIN THE SPECIFIED LEAKAGE TEST PRESSURE.

PRELIMINARY FLUSHING

PRIOR TO CHLORINATION, THE MAIN SHALL BE FLUSHED AS THOROUGHLY AS POSSIBLE WITH THE WATER PRESSURE AND OUTLETS AVAILABLE. FLUSHING SHALL BE DONE AFTER THE PRESSURE TEST IS MADE. BECAUSE SUCH FLUSHING REMOVES ONLY THE LIGHTER SOLIDS, IT CANNOT BE RELIED UPON TO REMOVE HEAVY MATERIAL ALLOWED TO GET INTO THE MAIN DURING LAYING. IF NO HYDRANT IS INSTALLED AT THE END OF THE MAIN, A TAP SHOULD BE PROVIDED LARGE ENOUGH TO AFFECT A VELOCITY IN THE MAIN OF AT LEAST TWO AND ONE-HALF (2½) FEET PER SECOND.

DISINFECTION

1. THE PREFERRED POINT OF APPLICATION OF THE CHLORINATING AGENT SHALL BE AT THE BEGINNING OF THE PIPELINE EXTENSION OR ANY VALVED SECTION OF IT AND THROUGH A CORPORATION STOP IN THE TOP OF THE NEWLY LAID PIPE. THE INJECTOR FOR DELIVERING THE CHLORINE-GAS INTO THE PIPE SHOULD BE SUPPLIED FROM A TAP ON THE PRESSURE SIDE OF THE GATE VALVE CONTROLLING THE FLOW INTO THE PIPELINE EXTENSION.

2. WATER FROM THE EXISTING DISTRIBUTION SYSTEM OR OTHER SOURCE OF SUPPLY SHALL BE CONTROLLED SO AS TO FLOW SLOWLY INTO THE NEWLY LAID PIPELINE DURING THE APPLICATION OF CHLORINE-GAS. THE RATE OF CHLORINE MIXTURE FLOW SHALL BE IN SUCH PROPORTION TO THE RATE OF WATER ENTERING THE PIPE THAT THE CHLORINE DOSE APPLIED TO THE WATER ENTERING THE NEWLY LAID PIPE SHALL BE AT LEAST FIFTY (50) mg/L, OR ENOUGH TO MEET THE REQUIREMENTS DURING THE RETENTION PERIOD. THIS MAY REQUIRE AS MUCH AS ONE HUNDRED (100) mg/L OF CHLORINE IN THE WATER LEFT IN THE LINE AFTER CHLORINATION.

3. VALVES SHALL BE MANIPULATED SO THAT THE STRONG CHLORINE SOLUTION IN THE LINE BEING TREATED SHALL NOT FLOW BACK INTO THE LINE SUPPLYING THE WATER.

4. TREATED WATER SHALL BE RETAINED IN THE PIPE LONG ENOUGH TO DESTROY ALL SPORE-FORMING BACTERIA. THIS RETENTION PERIOD SHALL BE AT LEAST TWENTY-FOUR (24) HOURS. AFTER THE CHLORINE-TREATED WATER HAS BEEN RETAINED FOR THE REQUIRED TIME, THE CHLORINE RESIDUAL AT THE PIPE EXTREMITIES AND AT OTHER REPRESENTATIVE POINTS SHOULD BE AT LEAST 25 mg/L.

5. IN THE PROCESS OF CHLORINATING NEWLY LAID PIPE, ALL VALVES OR OTHER APPURTENANCES SHALL BE OPERATED WHILE THE PIPELINE IS FILLED WITH THE CHLORINATING AGENT.

6. ALL WATER MAINS SHALL BE DISINFECTED AND TESTED ACCORDING TO REQUIREMENTS OF AWWA STANDARD C651, AND AS REQUIRED BY THIS SECTION. ALL DISINFECTION, AS REQUIRED BY THIS SECTION, SHALL BE PERFORMED BY AN INDEPENDENT FIRM EXHIBITING EXPERIENCE IN THE METHODS AND TECHNIQUES OF THIS OPERATION, AND SHALL BE APPROVED BY THE VILLAGE ENGINEER.

FINAL FLUSH AND TESTING

1. FOLLOWING CHLORINATION, ALL TREATED WATER SHALL BE THOROUGHLY FLUSHED FROM THE NEWLY LAID PIPELINE AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER, THROUGHOUT ITS LENGTH SHALL, UPON TEST, SHOW A CHLORINE RESIDUAL OF LESS THAN 1 mg/L OR MEET THE CRITERIA SET BY THE VILLAGE ENGINEER. THIS QUALITY OF WATER DELIVERED BY THE NEW MAIN SHOULD CONTINUE FOR A PERIOD OF AT LEAST TWO (2) FULL DAYS AS DEMONSTRATED BY LABORATORY EXAMINATION OF SAMPLES TAKEN FROM A TAP LOCATED AND INSTALLED IN SUCH A WAY AS TO PREVENT OUTSIDE CONTAMINATION. SAMPLES SHOULD NEVER BE TAKEN FROM AN UNSTERILIZED HOSE OR FROM A FIRE HYDRANT BECAUSE SUCH SAMPLES SELDOM MEET CURRENT BACTERIOLOGICAL STANDARDS.

2. AFTER DISINFECTING AND FLUSHING, A MINIMUM OF TWO (2) WATER SAMPLES SHALL BE COLLECTED BY THE VILLAGE ENGINEER ON TWO SUCCESSIVE DAYS. BACTERIOLOGICAL SAMPLING AND ANALYSIS OF THE SAMPLES SHALL BE PERFORMED BY A LABORATORY APPROVED BY THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH AND THE VILLAGE ENGINEER. THE VILLAGE ENGINEER WILL DELIVER TEST SAMPLES TO THE TEST LAB. THE DEVELOPER SHALL BE RESPONSIBLE FOR REIMBURSING THE VILLAGE FOR ALL COSTS INCURRED FOR LABORATORY TESTING. SHOULD THE INITIAL TREATMENT RESULT IN AN UNSATISFACTORY BACTERIAL TEST, THE PROCEDURE SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED. THE CONTRACTOR OR DEVELOPER SHALL PAY FOR THE SAMPLING AND ANALYSIS. RESULTS OF THE ANALYSIS SHALL BE TRANSMITTED BY THE LABORATORY DIRECTLY TO THE VILLAGE ENGINEER. TEST RESULTS SHALL INDICATE THE DATE THE SAMPLE WAS COLLECTED, THE DATE THE ANALYSIS WAS MADE, THE EXACT LOCATION AT WHICH SAMPLES WERE TAKEN, THE FIRM SUBMITTING THE SAMPLE, AND THE PROJECT AT WHICH THE SAMPLES WERE COLLECTED. SUFFICIENT SAMPLES SHALL BE COLLECTED IN ORDER TO INSURE THAT THE SYSTEM IS BACTERIOLOGICALLY SAFE.

3. SATISFACTORY DISINFECTION IS DEMONSTRATED WHEN TWO CONSECUTIVE WATER SAMPLES, COLLECTED AT LEAST TWENTY-FOUR (24) HOURS APART, INDICATE NO BACTERIAL CONTAMINATION. THIS REQUIREMENT MAY BE MODIFIED FOR EXISTING WATER SUPPLIES THAT PRACTICE CHLORINATION AND MAINTAIN ADEQUATE CHLORINE RESIDUAL AT THE POINT OF CONNECTION TO THE NEW WATER MAIN. IN THOSE SITUATIONS, SATISFACTORY DISINFECTION IS DEMONSTRATED BY A SINGLE SAMPLE SET THAT SHOWS NO BACTERIAL CONTAMINATION.

STANDARD SPECIFICATIONS

THE STANDARD SPECIFICATIONS WHICH APPLY TO THE CONSTRUCTION WORK AS SHOWN ON THE ENGINEERING PLANS, ARE CONTAINED IN THE FOLLOWING DOCUMENTS:

1. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS ADOPTED JANUARY 1, 2007 BY THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION AND ALL SUBSEQUENT REVISIONS.

2. STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS FIFTH EDITION, AS ADOPTED JULY 2009 BY THE ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, ET AL., AND ALL SUBSEQUENT REVISIONS.

3. STANDARD SPECIFICATIONS AS CURRENTLY IN EFFECT BY THE VILLAGE/ VILLAGE, AND ALL SUBSEQUENT REVISIONS.

4. PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS, LATEST EDITION AND ALL SUBSEQUENT REVISIONS.

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:

1. SPECIAL PROVISIONS
2. GENERAL NOTES
3. NOTES AND DETAILS ON THE ENGINEERING PLAN
4. STANDARD SPECIFICATIONS, AS DEFINED IN PARAGRAPH 1 ABOVE.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO LOCAL SEWER SYSTEMS SECTION

TYPICAL GENERAL NOTES	COMMENTS
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).	1. REQUIRED IN ALL CASES.
2. ELEVATION DATUM IS NAVD 88, 2011 ADJUSTMENT. CONVERSION EQUATION: N/A.	2. STATE IF CCD OR USGS, OR PROVIDE CONVERSION EQUATION IF OTHER DATUM IS USED.
3. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.	3. IF NONE, STATE "NO FLOOR DRAINS".
4. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.	4. IF NONE, STATE "NO FOOTING DRAINS AND DOWNSPOUTS".
5. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS: (see table below)	5. REQUIRED IN ALL CASES. SPECIFY PIPE MATERIAL AND JOINT SPECIFICATIONS. IF PROJECT IS IN A COMBINED SEWER AREA, INCLUDE STORM SEWER. THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS: (WHEN ONE OF THESE MATERIALS IS USED FOR SEWER CONSTRUCTION, A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT.) (see table below)

PIPE MATERIAL	SPEC.	JOINT SPEC.
VITRIFIED CLAY		
VCP	C-700	C-425
VCP (NO-BEL)	C-700	C-425
CONCRETE	C-14	C-443
RCP	C-76	C-443
ACP	C-428	D-1869
ABS SEWER: SOLID WALL 6" DIA SDR 23.5	D-2751	D-2751
ABS COMPOSITE/TRUSS PIPE, 8-15" DIA.	D-2680	D-2680
PVC GRAVITY SEWER 6-15" DIA. SDR 26	D-3034	D-3212 OR D-2855
18-27" DIA. F/DY=46	F-679	D-3212 OR D-2855
CISP	A-74	C-564
DIP	A-21.51	A-21.11

NOTE: THE DISTRICT HAS APPROVED LESS COMMON PIPE MATERIALS ON A QUALIFIED BASIS IN ADDITION TO THOSE ABOVE. PLEASE CONTACT THE DISTRICT IF CONSIDERING USING PIPE NOT LISTED ABOVE.

PIPE MATERIAL	SPEC.	JOINT SPEC.
PVC CORRUGATED W/SMOOTH INTERIOR, 4-18" DIA.	F-949	D-3212 OR D-2855
PVC PROFILE GRAVITY SEWER	F-794	D-3212 OR D-2855
PVC COMPOSITE/TRUSS PIPE, 8-15" DIA.	D-2680	D-3212 OR D-2855
PVC GRAVITY SEWER, TYPE PS-46 (MUST MEET D-3034, SDR 26)	F-789	D-3212 OR D-2855
HDPE, TYPE III, CLASS B (OR BETTER), CATEGORY 5, GRADE P34, CELL CLASSIFICATION PE 345434 OR HIGHER	D-1248 OR D-3350	D-2657

TYPICAL GENERAL NOTES	COMMENTS
6. 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-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.	6. CAN BE OMITTED IF IDOT EQUIVALENT (CA-11 OR 13) BEDDING DETAIL IS SUBMITTED. ALTERNATELY, IF A DETAIL IS PROVIDED, THE GENERAL NOTE SHOULD MAKE A REFERENCE TO THAT DETAIL. NOT REQUIRED FOR DUCTILE IRON PIPE. CAN ALSO BE CONCRETE EMBEDMENT.
7. "BAND SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR MATERIALS.	7. REQUIRED IN ALL CASES. ALTERNATELY, IF A DETAIL IS PROVIDED, THE GENERAL NOTE SHOULD MAKE REFERENCE TO THAT DETAIL.
8. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAT AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED: 8.1 CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SHEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUB-WYE SADDLE OR HUB-TEE SADDLE. 8.2 REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION. 8.3 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.	8. REQUIRED IN ALL CASES. ALTERNATELY, IF A DETAIL IS PROVIDED, THE GENERAL NOTE SHOULD MAKE REFERENCE TO THAT DETAIL.
9. WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATER MAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATER MAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATER MAINS SHALL BE MAINTAINED UNLESS: 9.1 THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR 9.2 THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATER MAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. 9.3 IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CAN NOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATER MAIN, THE SEWER SHALL BE CONSTRUCTED TO WATER MAIN STANDARDS.	9. REQUIRED IN ALL CASES. ALTERNATELY, IF A DETAIL IS PROVIDED, THE GENERAL NOTE SHOULD MAKE REFERENCE TO THAT DETAIL.
10. ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.	10. USE WHEN EXISTING SEPTIC SYSTEM IS TO BE ABANDONED.
11. 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.	11. REQUIRED IN ALL CASES. ALTERNATELY, IF A DETAIL IS PROVIDED, THE GENERAL NOTE SHOULD MAKE REFERENCE TO THAT DETAIL.

GEOTECHNICAL NOTES

1. SEECO CONSULTANTS, INC. TO BE PRESENT FOR ALL EARTHWORK, STRIPPING, AND COMPACTING.

2. EXCAVATING PER OSHA 1/2H:1V @ 4-12 FT. DEEP, DUE TO STIFF TYPE A SOILS FOUND ON SITE.

3. PARKING LOT AREA TO HAVE CA-6 FOR AGGREGATE BASE COURSE IN 8" LIFTS TO 90% MODIFIED PROCTOR. HMA SURFACE COMPACTED TO 93% MINIMUM AND BINDER TO 97% MAXIMUM THEORETICAL DENSITY PER IDOT #D

4. BOTTOM OF FOOTING EXCAVATIONS TO BE AT ELEVATION 693.00, ASSUMING CONVENTIONAL WALL FOOTINGS AND SPREAD FOOTINGS ON VIRGIN CLAY SOILS.

5. ALSO RECOMMENTDED THAT ALL PROPOSED EXTERIOR FOOTINGS ARE PROVIDED WITH A MINUMUM 3.5' OF FROST PROTECTION IN COORDINATION WITH FINAL GRADING ELEVATIONS.

△3 REVISED PLANS PER VILLAGE AND MWRD DATED 01-27-16.
1. FIRE HYDRANT SPECIFICATIONS.

△2 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.
1. SPELLING CHANGES THIS SHEET.

△1 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. NO CHANGES THIS SHEET.

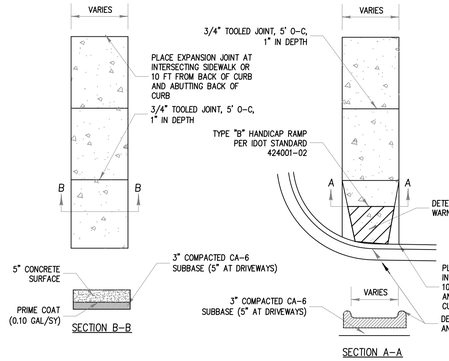
THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

GENERAL NOTES	DRAWN BY: TP	CHECKED BY: CML
	SCALE: N.T.S.	DATE: 10/27/2015
	JOB NUMBER: 15-140	SHEET: C 2.0

C.M. Lavoie & Associates, INC.
Consulting Civil Engineering
Land Planning & Surveying
1050 State Route 126
Plainfield, Illinois 60544
voice 815-254-0505
fax 815-436-5158

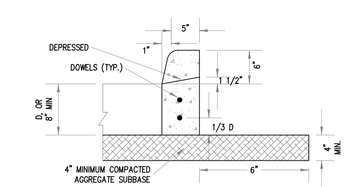
#	DATE	DESCRIPTION
1	12-11-2015	PER VILLAGE
2	01-11-2016	PER VILLAGE AND IDOT
3	01-27-2016	PER VILLAGE AND MWRD
4		
5		
6		
7		
8		



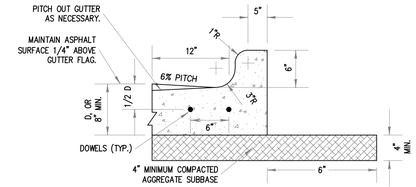
NOTES:

1. ALL CONSTRUCTION MATERIALS AND METHODS SHALL COMPLY WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" IN ILLINOIS ADOPTED JANUARY 1, 2012 BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION UNLESS OTHERWISE SPECIFIED HEREIN.
2. ALL CONCRETE SHALL BE IDOT CLASS SI, 6 BAG MIX, 5-8% ENTRAINED AIR, 2"-4" MAXIMUM SLUMP WITH A BROOMED FINISH.
3. SAWCUT EXISTING CURB PERPENDICULAR TO BACK 6" FOR THE EDGE OF WALK UNLESS CUT FALLS WITHIN 5 FEET OF EXISTING JOINT. REMOVE TO EXISTING JOINT. FOR FURTHER INFORMATION, REFER TO CURB AND GUTTER DETAIL.
4. PLACE TYPE II BARRICADES WITH FLASHING LIGHTS ON ALL SIDES OF EXCAVATIONS. MAINTAIN BARRICADES FOR A MINIMUM OF 72 HOURS AFTER POUR.
5. PLACE 3/4" PREMOLDED EXPANSION JOINTS WHERE ABUTTING EXISTING CONCRETE AND ON BOTH SIDES OF UTILITY STRUCTURE AND EVERY 50' O-C.
6. MINIMUM TRANSVERSE SLOPE SHALL BE 1/8" PER FOOT (1%) AND THE MAXIMUM SHALL BE 1/4" PER FOOT (2%).
7. MAXIMUM LONGITUDINAL SLOPE SHALL NOT EXCEED 5% (20:1)
8. SIDEWALK SHALL BE 5 INCH THICK P.C. CONCRETE AS SPECIFIED ABOVE. AT COMMERCIAL DRIVEWAY CROSSINGS, THE THICKNESS SHALL BE 8 INCHES.
9. ALL SIDEWALKS SHALL BE PROMPTLY BACKFILLED AND PROTECTED FROM DAMAGE.

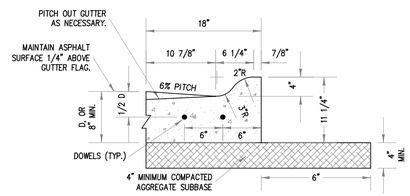
PCC SIDEWALK DETAIL



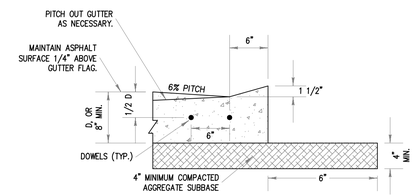
6" BARRIER CURB



B6.12 CURB & GUTTER



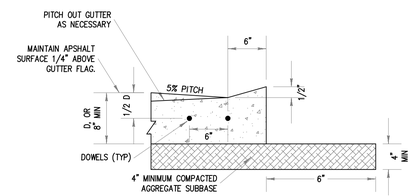
M4.12 CURB & GUTTER ON RI/RO ISLAND



DEPRESSED CURB & GUTTER

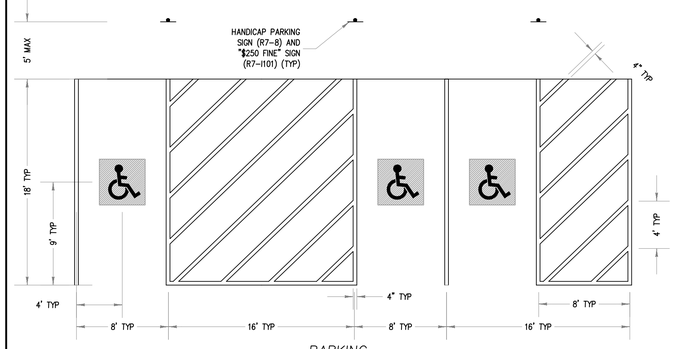
NOTES:

1. 3/4" PREFORMED BITUMINOUS EXPANSION JOINT MATERIAL WITH TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIAMETER X 18") WITH GREASE CAPS SHALL BE PLACED EVERY 150', 10' EITHER SIDE OF DRAINAGE STRUCTURES, P.C.'S, RADIUS POINTS AND BACK OF CUL-DE-SACS. WHEN EXPANSION JOINTS ARE CONSTRUCTED ADJACENT TO EXISTING CURB AND GUTTER, THE EXISTING CURB SHALL BE DRILLED AND TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIAMETER X 18") GROUTED IN PLACE. GREASE CAPS SHALL BE PLACED ON THE SIDE OF THE NEW CURB AND GUTTER AND SHALL HAVE A PINCHED STOP THAT WILL PROVIDE A MINIMUM 1" EXPANSION.
2. TOOLED CONTROL JOINTS OR SAWCUTS SHALL BE MADE EVERY 15'.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS AND SEALED WITH A CITY APPROVED JOINT SEALANT. JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.
4. ALL CONCRETE SHALL BE CLASS SI, 6 BAG MIX, 5-8% AIR ENTRAINMENT, 2"- 4" MAXIMUM SLUMP, LIGHT BROOM FINISH WITH TWO COATS OF APPROVED CURING SOLUTION.
5. 3/4" PREMOLDED JOINTS SHALL BE PLACED AT ALL ABUTTING CONCRETE.
6. 'D' DENOTES PAVEMENT THICKNESS (FULL DEPTH)

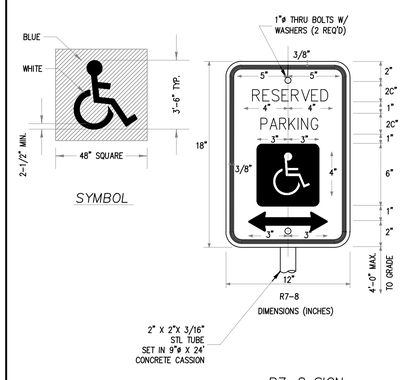


DEPRESSED CURB & GUTTER ADJACENT TO HANDICAP ACCESS

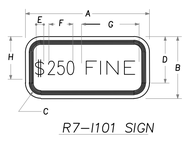
CURB AND GUTTER DETAIL



PARKING



R7-8 SIGN



R7-1101 SIGN

COLORS
LEGEND AND BORDER - GREEN NON-REFLECTORIZED
BACKGROUND - WHITE REFLECTORIZED

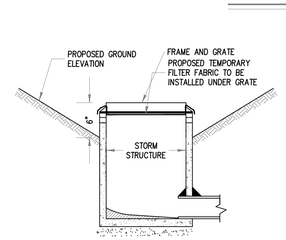
SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	H
6 x 12	12.0	6.0	1.5	4.5	1.1	3.0	5.5	3.0

SIGN SIZE	SERIES LINES	MARGIN	BORDER	BLK STD
6x12	*2c/3b	0.37	0.37	B5-126

NOTES:
1. ALL DIMENSIONS IN INCHES.
2. TO BE USED WITH R7-8.

COLORS
LEGEND AND BORDER - GREEN WHITE
SYMBOL ON BLUE BACKGROUND
BACKGROUND - WHITE

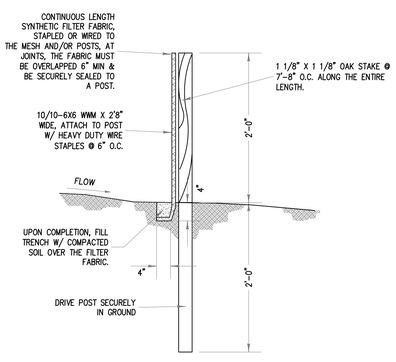
HANDICAP PARKING



NOTES:
1. FILTER FABRIC SHALL MEET THE REQUIREMENTS IN MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS 1 WITH A MINIMUM APPARENT OPENING SIZE (AOS) OF 30 FOR NON-WOVEN AND 50 FOR WOVEN, AS DESCRIBED IN THE "ILLINOIS URBAN MANUAL", ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, 1996.
2. FILTER FABRIC SHALL BE INSPECTED, AND CLEANED OR REPLACED AFTER EVERY RAINFALL EVENT.

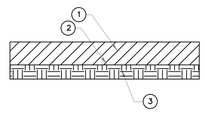
FILTER FABRIC INLET PROTECTION

N.T.S.



NOTES:
THE FILTER FABRIC SHALL BE CONTECH C200 FABRIC OR APPROVED EQUAL & SHALL BE CERTIFIED TO MEET THE FOLLOWING:
1. 75% FILTERING EFFICIENCY
2. TENSILE STRENGTH OF 30 LB/LIN. INCH TENSILE STRENGTH (20%)
3. 0.30 GAL/SQ FT MINIMUM FLOW RATE.

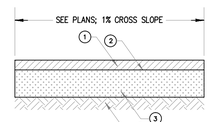
SILT FENCE DETAIL N.T.S.



1. CA-3 STONE BASE, 8" DEPTH MINIMUM
2. FILTER FABRIC
3. COMPACTED SUBGRADE

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED TO MINIMIZE ANY TRACKING OF DEBRIS AND/OR SEDIMENT IN THE PUBLIC R.O.W.
2. ANY SEDIMENT OR DEBRIS THAT SPILLS ONTO THE PUBLIC R.O.W. SHALL BE REMOVED IMMEDIATELY.
3. THE ENTRANCE SHALL BE A MINIMUM OF 100 FEET LONG AND 20 FEET WIDE.

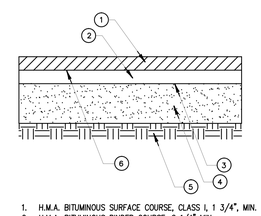
STABILIZED ENTRANCE DETAIL N.T.S.



1. HOT MIX ASPHALT, MIX D, N50 (L-9.5mm), 2" MIN.
2. PRIME COAT, (0.40 GAL/SY)
3. AGGREGATE BASE COURSE TY B, CA-6, 6" MIN.
4. COMPACTED SUBGRADE
5. 4% AIR VOIDS @ 50 GYR.

3 BITUMINOUS BIKE PATH

N.T.S.

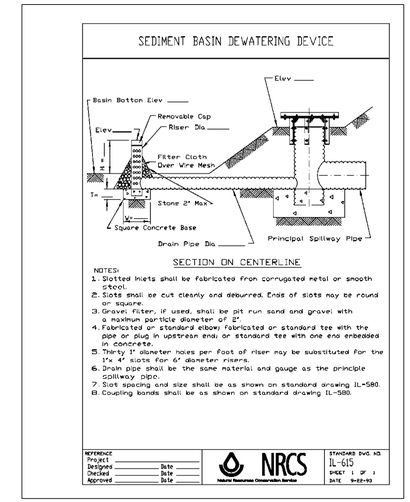


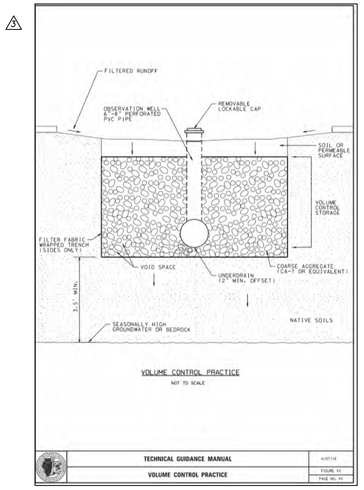
1. H.M.A. BITUMINOUS SURFACE COURSE, CLASS I, 1 3/4", MIN.
2. H.M.A. BITUMINOUS BINDER COURSE, 2 1/4" MIN.
3. PRIME COAT (0.40 GAL/SY)
4. COMPACTED AGGREGATE, TY B BASE COURSE, 8" (CA-6), 90% MODIFIED PROCTOR, PER SEECO SOILS REPORT.
5. COMPACTED SUBGRADE, 95% MODIFIED PROCTOR
6. PRIME COAT (0.10 GAL/SY)

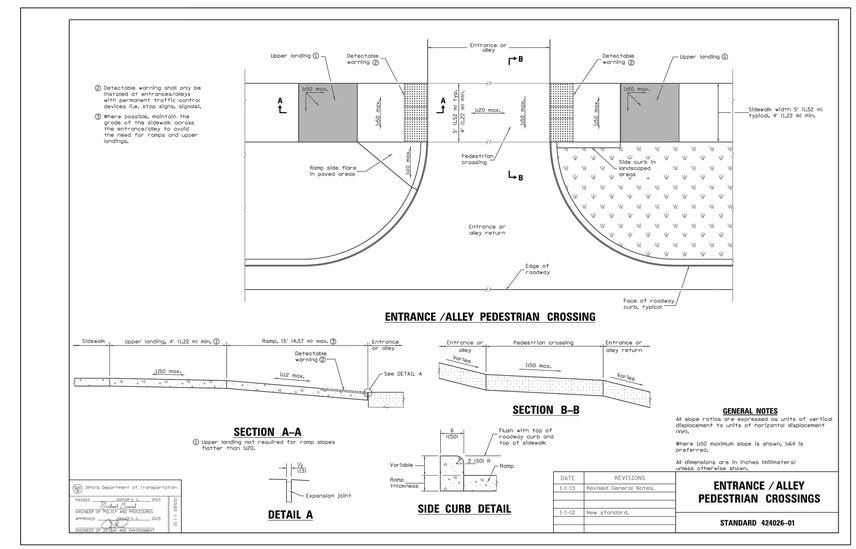
(PARKING LOT)

H.M.A. = HOT MIX ASPHALT
NOTES:
1. SEE SOILS REPORT FOR INFORMATION REGARDING PAVEMENT SECTION. IF SOILS REPORT IS MORE STRINGENT, USE THAT SECTION.
2. ALL COMPACTION SHALL BE 95% MAXIMUM DRY DENSITY, AS DETERMINED BY MODIFIED PROCTOR TEST, ASTM D1557.

TYPICAL PAVEMENT SECTION







3 REVISED PLANS PER VILLAGE AND MWRD DATED 01-27-16.

1. REVISIONS THIS SHEET.

2 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.

1. REVISIONS THIS SHEET.

1 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.

1. PAVEMENT SECTION.

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

DETAILS

DRAWN BY: TP | CHECKED BY: CML
SCALE: N.T.S. | DATE: 10/27/2015
JOB NUMBER: 15-140 | SHEET: C 3.0

Consulting Civil Engineering
Land Planning & Surveying
1050 State Route 126
Plainfield, Illinois 60544
voice 815-254-0505
fax 815-436-5158
C.M. Lavoie & Associates, INC.

#	DATE	DESCRIPTION
1	12-11-2015	PER VILLAGE
2	01-11-2016	PER VILLAGE AND IDOT
3	01-27-2016	PER VILLAGE AND MWRD
4		
5		
6		
7		
8		

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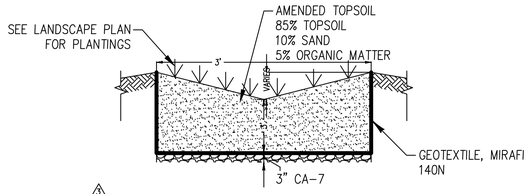
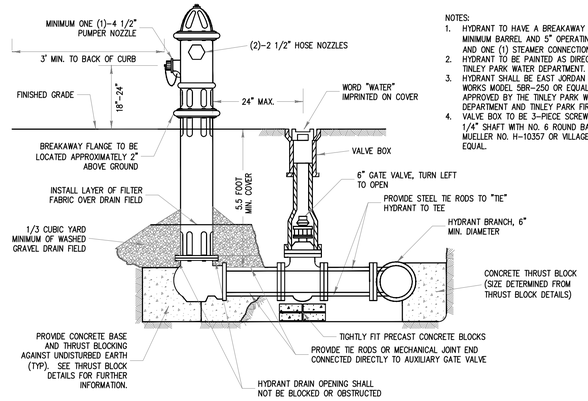


3 BIOSWALE DETAIL

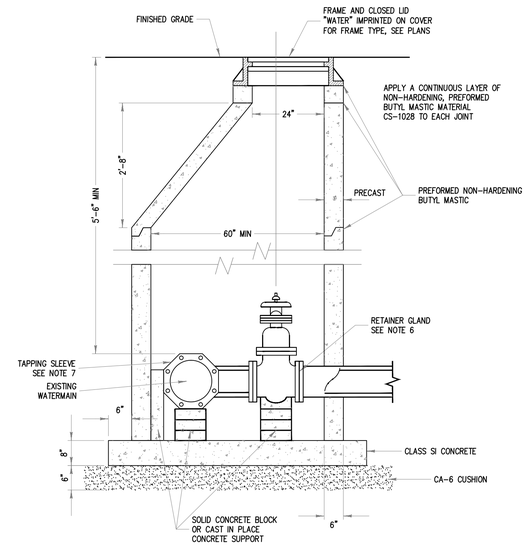
N.T.S.



NOTES:
1. HYDRANT TO HAVE A BREAKAWAY FLANGE, 7" MINIMUM BARREL AND 5" OPERATING VALVE AND ONE (1) STEAMER CONNECTION.
2. HYDRANT TO BE PAINTED AS DIRECTED BY TINLEY PARK WATER DEPARTMENT.
3. HYDRANT SHALL BE EAST JORDAN IRON WORKS MODEL 5BR-250 OR EQUAL, AS APPROVED BY THE TINLEY PARK WATER DEPARTMENT AND TINLEY PARK FIRE CHIEF.
4. VALVE BOX TO BE 3-PIECE SCREW TYPE, 5 1/4" SHAFT WITH NO. 6 ROUND BASE MUELLER NO. H-10357 OR VILLAGE APPROVED EQUAL.

FIRE HYDRANT AND VALVE

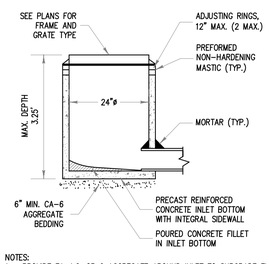
N.T.S.



NOTES:
1. WHEN THE FRAME DOES NOT MEET PROPOSED ELEVATION, A MAXIMUM OF TWO PRECAST CONCRETE RINGS MAY BE USED TO A MAXIMUM OF 12 INCHES. THE RING(S) SHALL BE SET IN A BED OF NON-HARDENING MASTIC (RUB-R-NEK OR EQUAL).
2. THE VALVE MUST ALIGN WITH THE CENTER OF VAULT OPENING.
3. CONES MUST BE ECCENTRIC.
4. BUTTERFLY VALVES REQUIRE ECCENTRIC CONES.
5. WHEN ADJUSTMENTS ARE NECESSARY, THEY WILL BE PREFORMED WITH A MAXIMUM OF TWO (2) PRECAST CONCRETE RINGS SET IN A BED OF PREFORMED NON-HARDENING MASTIC. (CS-1028 OR APPROVED EQUAL) TO A MAXIMUM HEIGHT OF 12".
6. USE MEGALUG SERIES 1100 OR FORD UNIFLANGE SERIES 1400 RETAINER GLANDS.
7. TAPPING SLEEVES SHALL BE CAST IRON MECHANICAL JOINT (CLOW F-5205 OR EQUAL)
8. CONTRACTOR TO COORDINATE WITH TINLEY PARK WATER DEPARTMENT TO SHUT OFF SYSTEM. WORK MAY NEED TO BE PERFORMED DURING NON-PEAK, AFTER HOUR PERIODS.
9. CONTRACTOR TO COORDINATE WITH TINLEY PARK WATER DEPARTMENT FOR TEE LOCATION ALONG OAK PARK AVENUE.

CAST IRON SLEEVE PRESSURE TAP VALVE VAULT DETAIL

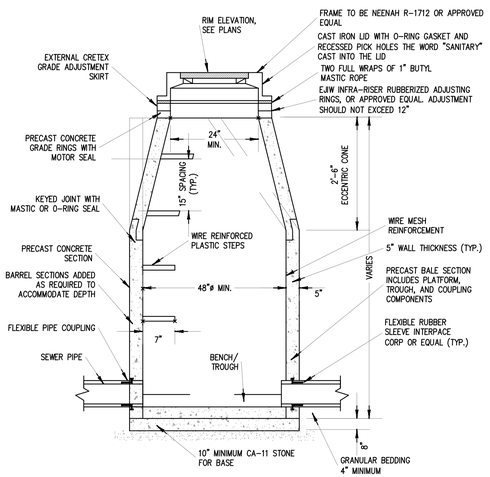
N.T.S.



NOTES:
1. PROVIDE FA-1,2, OR 6 AGGREGATE AROUND INLET TO SUBGRADE ELEVATION.
2. ALTERNATE INLET BOTTOM: PRECAST REINFORCED CONCRETE BASIN.
3. NO MORE THAN TWO ADJUSTING RINGS SHALL BE PERMITTED. TWO INCH ADJUSTING RINGS SHALL ONLY BE USED ON ADJUSTMENTS LESS THAN THREE INCHES.
4. CONCRETE FILLETS SHALL BE MADE WITH ADDITIONAL MORTAR TO PROVIDE A SMOOTH TRANSITION BETWEEN THE CASTING AND THE ADJUSTING RINGS.
5. DRESS UP INTERIOR JOINTS WITH HYDRAULIC CEMENT. APPLY A CONTINUOUS LAYER OF NON-HARDENING PREFORMED MASTIC MATERIAL (RUB R NEK OR EZ STICK) TO PREVENT INFLOW.
6. PRECAST REINFORCED CONCRETE SHALL CONFORM TO ASTM C-478 FOR ALL MANHOLES

INLET (TYPE A)

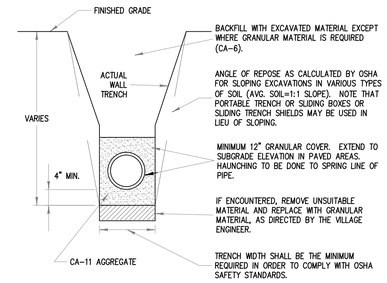
N.T.S.



NOTES:
1. FOR ABS, ADS, OR PVC PIPE, AN APPROVED MANHOLE SLEEVE SHALL BE USED TO ASSURE A WATER-TIGHT CONNECTION BETWEEN THE PIPE AND THE MANHOLE WALL.
2. FOR 18" DIAMETER AND SMALLER PIPES, USE A 48" DIAMETER MANHOLE. FOR PIPES LARGER THAN 18", USE A 60" DIAMETER MANHOLE.
3. FOR ALL MANHOLES, PRECAST CONCRETE SHALL CONFORM TO ASTM C-478.
4. FOR FRAME AND GRATE TYPES, SEE CALLOUTS ON ENGINEERING PLANS.

SANITARY MANHOLE (TYPE A)

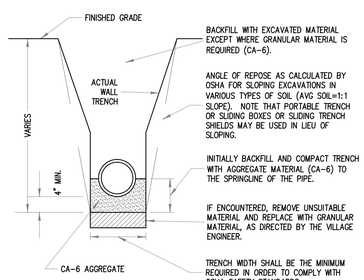
N.T.S.



NOTES:
1. IN PAVED AREAS, ALL TRENCHES SHALL BE JETTED IN CONFORMANCE WITH SECTION 550.07 (METHOD 3) OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2012.
2. PVC PIPE SHALL HAVE A MINIMUM COVER OF AT LEAST 5' UNDER PAVED AREAS.
3. INITIAL BACKFILL SHALL CONSIST OF CA-11 AND EXTEND TO 12" ABOVE SANITARY SEWER. INITIAL BACKFILL SHALL BE COMPACTED TO SPRING LINE (HAUNCHING).
4. COMPACTION
   4.1. FOR HARDSCAPE AREAS, TRENCH BACKFILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.
   4.2. FOR AREAS OUTSIDE HARDSCAPES, TRENCH BACKFILL SHALL BE COMPACTED TO 90% MODIFIED PROCTOR.

TRENCH SECTION (SANITARY SEWER)

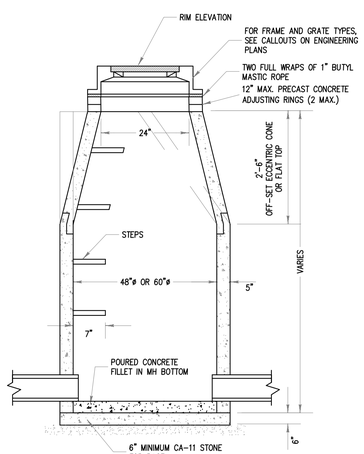
N.T.S.



NOTES:
1. IN PAVED AREAS, ALL TRENCHES SHALL BE JETTED IN CONFORMANCE WITH SECTION 550.07 (METHOD 3) OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2012.
2. COMPACTION
   2.1. FOR HARDSCAPE AREAS, TRENCH BACKFILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.
   2.2. FOR AREAS OUTSIDE OF HARDSCAPES, TRENCH BACKFILL SHALL BE COMPACTED TO 90% MODIFIED PROCTOR.

TRENCH SECTION (STORM SEWER)

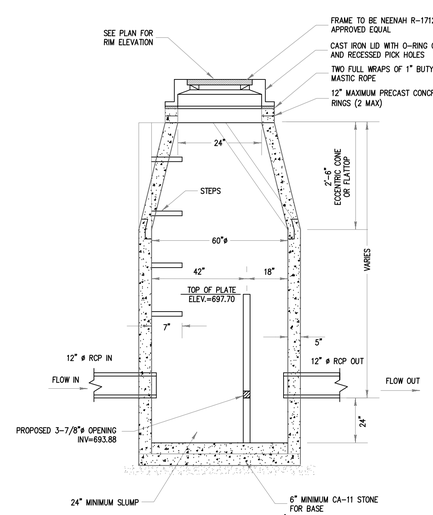
N.T.S.

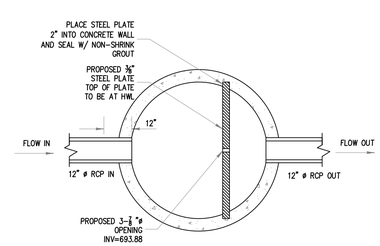


NOTES:
1. FOR ABS, ADS, OR PVC PIPE AN APPROVED MANHOLE SLEEVE SHALL BE USED TO ASSURE A WATER TIGHT CONNECTION BETWEEN PIPE AND MANHOLE WALL.
2. FOR 18" DIAMETER AND SMALLER PIPE USE 48" DIAMETER MANHOLE. FOR PIPE LARGER THAN 18", USE 60" DIAMETER MANHOLE.
3. PRECAST REINFORCED CONCRETE SHALL CONFORM TO ASTM C-478 FOR ALL MANHOLES.

STORM MANHOLE (TYPE A)

N.T.S.

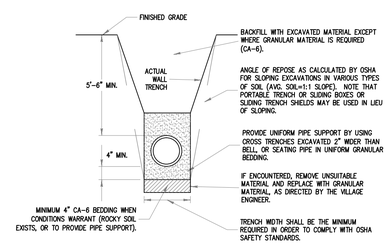




NOTES:
1. FOR ABS, ADS, OR PVC PIPE AN APPROVED MANHOLE SLEEVE SHALL BE USED TO ASSURE A WATER TIGHT CONNECTION BETWEEN PIPE AND MANHOLE WALL.
2. PRECAST CONCRETE SHALL CONFORM TO ASTM C-478 FOR ALL MANHOLES.
3. FOR FRAME AND GRATE TYPES, SEE CALLOUTS ON ENGINEERING PLANS.
4. COST FOR ORIFICE AND PLATE INSTALLATION SHALL BE INCIDENTAL TO MANHOLE CONSTRUCTION.
5. RIM OF STRUCTURE TO BE FLUSH WITH FINAL GRADE OR AS SPECIFIED IN GRADING PLAN. CONTRACTOR MAY NEED TO USE FLATTOP TO ACHIEVE GRADE.

3 RESTRICTOR MANHOLE

N.T.S.



NOTES:
1. IN PAVED AREAS, ALL TRENCHES SHALL BE JETTED IN CONFORMANCE WITH SECTION 550.07 (METHOD 3) OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2012.
2. INITIAL BACKFILL SHALL CONSIST OF CA-11 AND EXTEND TO 12" ABOVE WATER MAIN. INITIAL BACKFILL SHALL BE COMPACTED TO SPRING LINE (HAUNCHING).
3. COMPACTION
   3.1. FOR HARDSCAPE AREAS, TRENCH BACKFILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.
   3.2. FOR AREAS OUTSIDE HARDSCAPES, TRENCH BACKFILL SHALL BE COMPACTED TO 90% MODIFIED PROCTOR.

TRENCH SECTION (WATER MAIN)

N.T.S.

3 REVISED PLANS PER VILLAGE AND MWRD DATED 01-27-16.
1. REVISIONS THIS SHEET.

2 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.
1. NO CHANGES THIS SHEET.

1 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. FIRE HYDRANT DETAIL.

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THE RESERVE AT TINLEY PARK

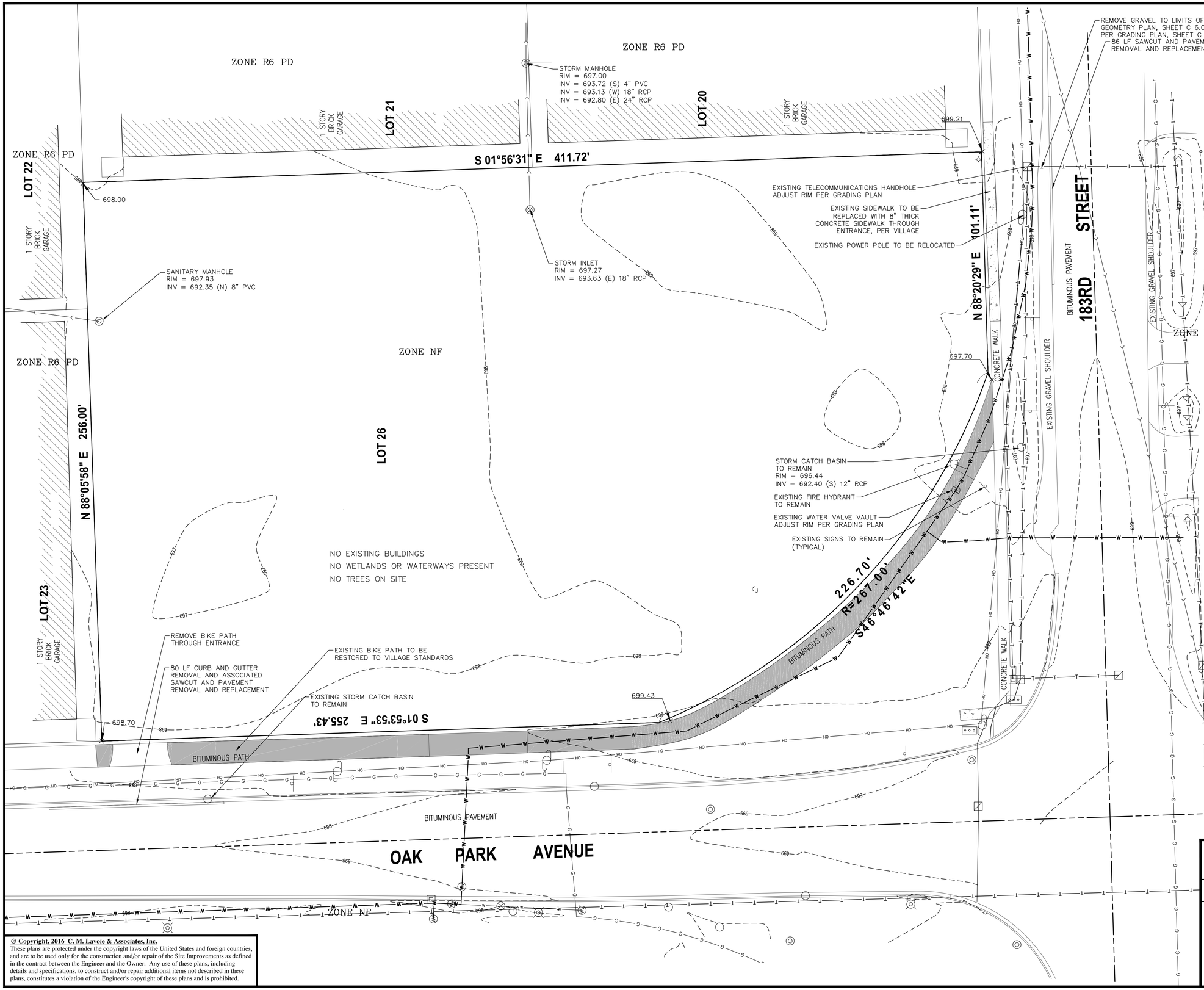
18299 S. OAK PARK AVENUE
TINLEY PARK, IL

DETAILS

DRAWN BY: TP | CHECKED BY: CML
SCALE: N.T.S. | DATE: 10/27/2015
JOB NUMBER: 15-140 | SHEET: C 4.0

C.M. Lavoie & Associates, INC.
Consulting Civil Engineering
Land Planning & Surveying
1050 State Route 126
Plainfield, Illinois 60544
voice 815-254-0505
fax 815-436-5158

#	DATE	DESCRIPTION
1	12-11-2015	PER VILLAGE
2	01-11-2016	PER VILLAGE AND IDOT
3	01-27-2016	PER VILLAGE AND MWRD
4		
5		
6		
7		
8		



GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

ON-SITE BENCHMARKS:

BENCHMARK #1

SET PK NAIL ON NORTH SOUTH BITUMINOUS WALK, ON THE WEST SIDE OF OAK PARK AVENUE, 73 FEET SOUTH OF THE NORTHEAST CORNER OF LOT 26.
ELEVATION = 698.70 (NAVD 88)

BENCHMARK #2

SET PK NAIL ON BITUMINOUS WALK, ON THE NORTH SIDE OF 183RD STREET, 105 FEET WEST OF THE SOUTHEAST CORNER
ELEVATION = 697.75 (NAVD 88)

LEGEND

RESTORE EXISTING BIKE PATH TO VILLAGE STANDARDS SEE DETAIL

RESTORE EXISTING SIDEWALK TO VILLAGE STANDARDS, EXCEPT WHERE NOTED. SEE DETAIL

NOTE:
ALL DIMENSIONING TO BACK OF CURB, UNLESS OTHERWISE NOTED.

SURVEYOR'S NOTES

1. DIMENSIONS SHOWN THUS: 50.25' ARE FEET AND DECIMAL PARTS THEREOF. ANGULAR DATA SHOWN THUS: 90°00'00" INDICATES DEGREES, MINUTES AND SECONDS.
2. NORTH ARROW AND BEARINGS BASED ON ILLINOIS STATE PLANE COORDINATE SYSYTEM ZONE EAST NAD83 2011 ADJUSTMENT.
3. IMPROVEMENT LOCATIONS ARE BASED ON A FIELD SURVEY BY C.M. LAVOIE AND ASSOCIATES, INC. ON 5/14/2015.
4. COMPARE YOUR POINTS BEFORE USING SAME AND REPORT ANY DIFFERENCES IMMEDIATELY.
5. CHECK LEGAL DESCRIPTION WITH DEED OR TITLE POLICY AND REPORT ANY DISCREPANCY IMMEDIATELY. BUILDING LINES AND EASEMENTS, IF ANY, SHOWN HEREON ARE AS SHOWN ON THE RECORDED SUBDIVISION OR AS INDICATED.
6. THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND COMPLIED FROM FIELD SURFACE OBSERVATIONS, UTILITY MARKINGS LOCATED IN THE FIELD AND UTILITY ATLASES. SOME OF THE PROVIDED ATLASES INDICATE LOCATIONS BY GRAPHIC REPRESENTATION ONLY AND THESE ARE SHOWN TO THE BEST OF OUR ABILITY. UNDERGROUND UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. ANY CONTRACTOR CONTEMPLATING WORK ON THIS SITE SHOULD CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION.
7. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES WHICH MAY AFFECT THE USE OR DEVELOPMENT OF THIS PROPERTY.

2 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.
1. THIS SHEET CREATED

1 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. THIS SHEET NOT INCLUDED

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

EXISTING CONDITIONS AND DEMOLITION PLAN

DRAWN BY: APK	CHECKED BY: CML
SCALE: 1" = 20'	DATE: 10/27/2015
JOB NUMBER: 15-140	SHEET: C 5.0

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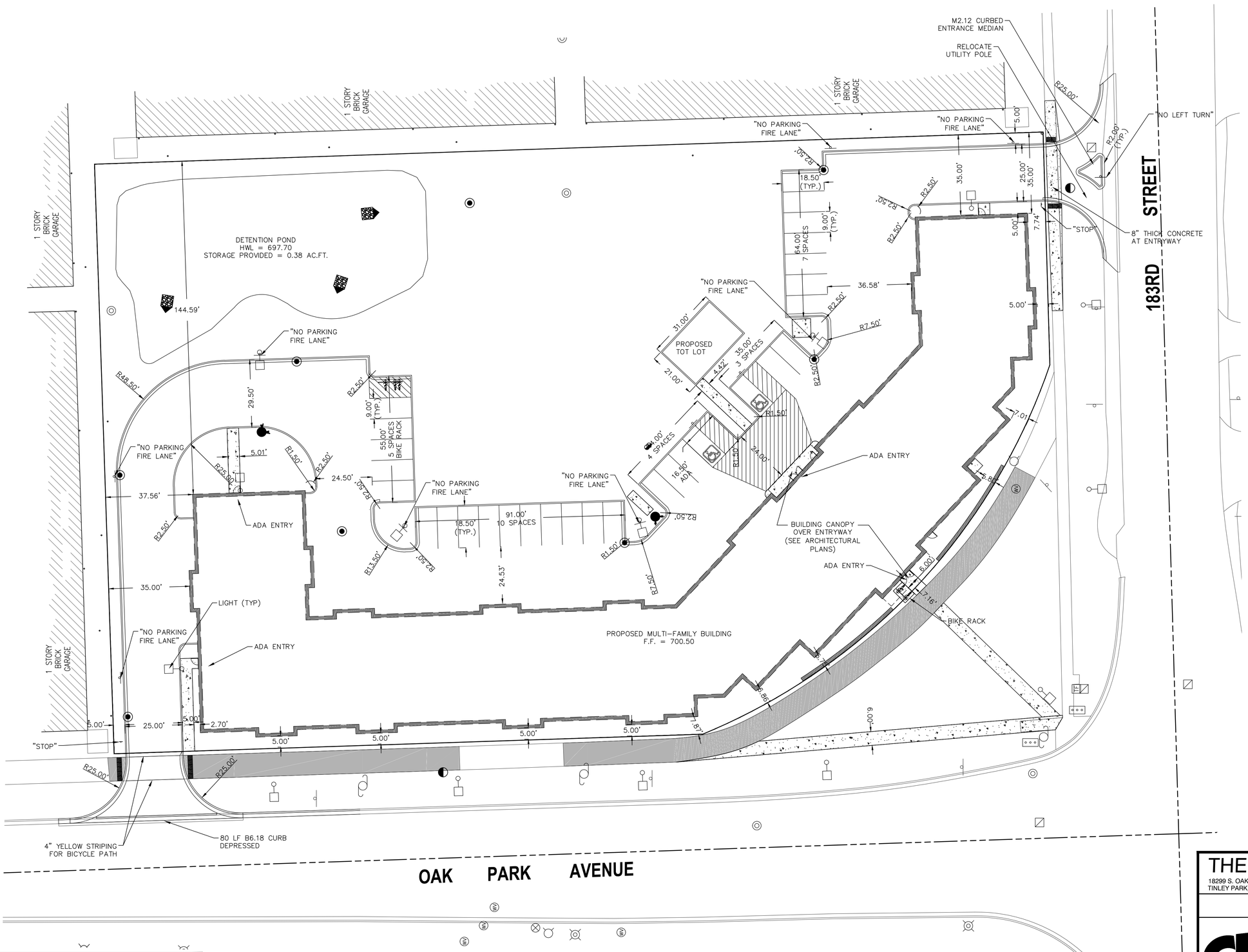

NOTE:
ALL DIMENSIONING TO BACK OF CURB, UNLESS OTHERWISE NOTED.

2 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.
1. REVISED BUILDING DIMENSIONS

1 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. SETBACK DIMENSIONS AND POND LOCATION

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

GEOMETRY PLAN

DRAWN BY: APK	CHECKED BY: CML
SCALE: 1" = 20'	DATE: 10/27/2015
JOB NUMBER: 15-140	SHEET: C 6.0

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Land Planning & Surveying
1050 State Route 126
Plainfield, Illinois 60544
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fax 815-436-5158

#	DATE	DESCRIPTION
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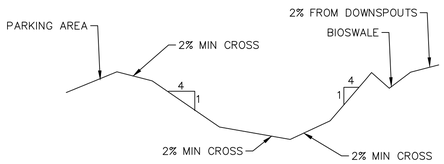
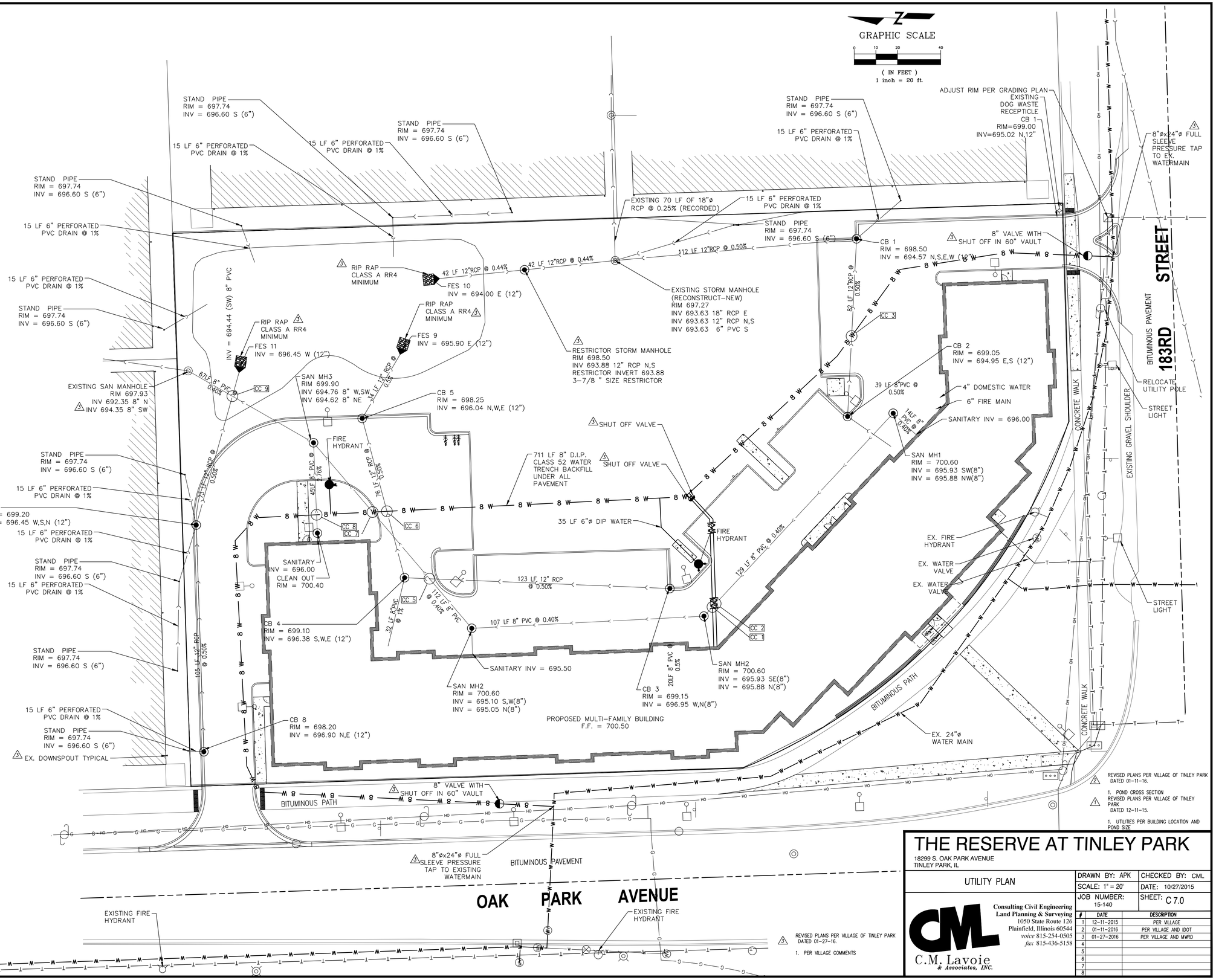


POND CROSS SECTION: DETAIL

N.T.S.



NOTE:

1. SANITARY SEWER LINES TO BE 10 FT. MINIMUM FROM WATER MAINS. ALL SANITARY, STORM, AND WATER SERVICES TO BE 10 FEET FROM BUILDING, MINIMUM.

2. SANITARY SEWER LINES TO BE INSTALLED PRIOR TO PAVEMENT INSTALLATION.

3. ALL DRAINTILES ENCOUNTERED, CUT, OR DAMAGED SHALL BE EITHER REROUTED OR REPAIRED TO VILLAGE/DESIGN ENGINEER APPROVAL

NOTE:
ALL DIMENSIONING TO BACK OF CURB, UNLESS OTHERWISE NOTED.

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REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.

1. POND CROSS SECTION REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.

1. UTILITIES PER BUILDING LOCATION AND POND SIZE

REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-27-16.

1. PER VILLAGE COMMENTS

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

UTILITY PLAN

DRAWN BY: APK	CHECKED BY: CML
SCALE: 1" = 20'	DATE: 10/27/2015
JOB NUMBER: 15-140	SHEET: C 7.0

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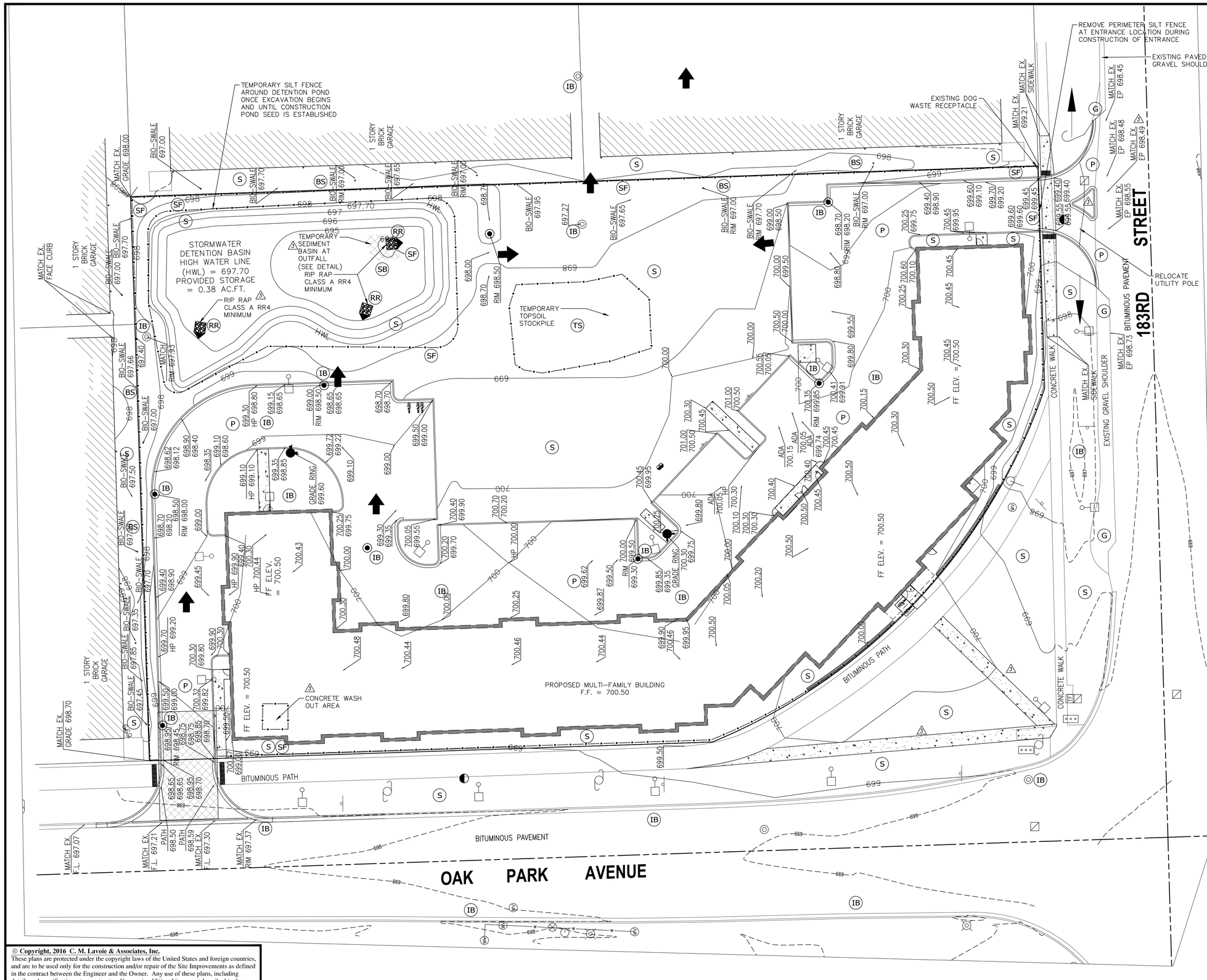

LEGEND

- PROPOSED CONTOUR
- PROPOSED SILT FENCE
- (S) SOD
- (BS) BIOSWALE
- (G) GRAVEL
- (IB) INLET BASKET/PROTECTION
- (SE) STABLIZED ENTRANCE
- (C) CONCRETE
- (RR) RIP RAP
- (P) PAVEMENT
- (SB) SILTATION BASIN
- SILTATION BASIN AND STABILIZED ENTRANCE AREAS
- RUNOFF CONTROL AND BIO-SWALE LOCATIONS SEE DETAIL THIS PAGE

ELEVATION TABLE

PROPOSED GRADES =	620.75 / 620.25	TOP OF CURB / EDGE OF PVMT
MATCH	= MATCH EXISTING ELEVATION	
EXISTING SPOT GRADES =	+xxx.x	
PROPOSED SPOT GRADES W/ FLOW LINES =	—x620.75	
(TS) TOPSOIL STOCKPILE		

GENERAL AND MWRD NOTES

1. THE MWRD SEWER PERMIT SECTION MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK.
2. THE VILLAGE OF TINLEY PARK IS TO BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE INTO THE STORM WATER DRAINAGE SYSTEM.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS."
5. ALL SUCH INTERIM SOIL STABILIZATION DEVICES AND PROPOSED MEASURES FOR EROSION AND SEDIMENTATION CONTROL SHALL BE BASED UPON THE STANDARDS AND REQUIREMENTS CONTAINED IN THE LATEST EDITION OF THE "ILLINOIS URBAN MANUAL" COMPILED BY THE IEPA & THE USDA, NATURAL RESOURCE CONSERVATION SERVICE.

SITE AREA AND VOLUME CONTROL CALCULATIONS

PER MWRD: SITE MUST PROVIDE VOLUME CONTROL FOR 1" OVER IMPERVIOUS AREA:

PROPOSED IMPERVIOUS AREA = 1.23 AC

VOLUME CONTROL STORAGE REQUIRED = (1.23 AC/12"/1') = 0.10 AC.FT.

NEW BIOSWALE PERVIOUS AREA = 0.072 AC.FT. @ 1.3 FT. DEEP = 0.093 AC.FT.

VOLUME CONTROL PROVIDED IN PIPE SYSTEM = 0.007 AC.FT.

TOTAL VOLUME CONTROL PROVIDED = 0.093 + 0.007 = 0.10 AC.FT.

SITE DETENTION REQUIRED

VOLUME REQUIRED: 0.685 AC.FT.

OFF SITE VOLUME PROVIDED: 0.32 AC.FT.
(AS PART OF MWRDGC PERMIT 92-132; 9% OF 3.62 AC.FT.)

ON SITE VOLUME REQUIRED: 0.37 AC.FT.

ON SITE VOLUME PROVIDED: 0.38 AC.FT.

3 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-27-16.
1. PER VILLAGE COMMENTS

2 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-11-16.
1. EROSION CONTROL MEASURES

1 REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. REVISED PER POND SIZE REDUCTION

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

GRADING AND EROSION CONTROL PLAN

DRAWN BY: APK	CHECKED BY: CML
SCALE: 1" = 20'	DATE: 10/27/2015
JOB NUMBER: 15-140	SHEET: C 8.0

C.M. Lavoie & Associates, INC.
Consulting Civil Engineering
Land Planning & Surveying
1050 State Route 126
Plainfield, Illinois 60544
voice 815-254-0505
fax 815-436-5158

#	DATE	DESCRIPTION
1	12-11-2015	PER VILLAGE
2	01-11-2016	PER VILLAGE AND IDOT
3	01-27-2016	PER VILLAGE AND MWRD
4		
5		
6		
7		
8		

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Reserve at Tinley Park
Landscape Plant Information

CODE	QTY	SIZE	SCIENTIFIC NAME	COMMON NAME	NOTES
SHADE/ORNAMENTAL TREES					
Acar	11	2.5" Cal.	Acer rubrum 'Armstrong'	Armstrong Upright Maple	Single leader
Acgi	5	6 ft.	Acer ginnala	Amur Maple	Full clump
Acru	8	2.5" Cal.	Acer rubrum 'October Glory'	October Glory Red Maple	Balled and Burlapped
Acsa	6	2.5" Cal.	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	Balled and Burlapped
Amla	8	6 ft.	Amelanchier laevis	Serviceberry	Full clump
Beni	6	6 ft.	Betulus nigra 'Heritage'	Heritage River Birch	At least 3 stems
Ceca	11	6 ft.	Cercis canadensis	Redbud	Northern Illinois grown
Coma	7	6 ft.	Cornus mas	Corneliancherry Dogwood	Full clump
Litu	5	2.5" Cal.	Liriodendron tuliperfa	Tuliptree	Balled and Burlapped
Masa	14	6 ft.	Malus sargentii	Sargent Crabapple	Full clump
Mast	8	6 ft.	Magnolia stellata	Star Magnolia	Full clump
Pyfa	5	2.5" Cal.	Pyrus fauriei	Koreansun Pear	Straight leader
Qubi	5	2.5" Cal.	Quercus bicolor	Swamp White Oak	Balled and Burlapped
Quma	6	2.5" Cal.	Quercus macrocarpa	Bur Oak	Balled and Burlapped
Quro	8	2.5" Cal.	Quercus robur 'Fastigata'	Upright English Oak	Matched
Syre	7	2.5" Cal.	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	Straight leader
EVERGREEN TREES					
Abco	2	6 ft.	Abies concolor	Concolor Fir	Straight leader
Piab	1	6 ft.	Picea abies	Norway Spruce	Single leader
Tadi	3	6 ft.	Taxodium distichum	Bald Cypress	Single, Straight leader
SHRUBS					
Arme	13	5 Gal.	Aronia melanocarpa	Black Chokeberry	24" tall; full plants
Cose	37	5 Gal.	Cornus sericea 'Isanti'	Isanti Redtwig Dogwood	24" tall
Hypa	40	3 Gal.	Hydrangea paniculata 'Tardiva'	Panicle Hydrangea	Full plant
Rhar	11	2 Gal.	Rhus aromatica 'Gro Lo'	Gro Low Fragrant Sumac	Full container
Saca	26	5 Gal.	Sambucus canadensis 'Black Lace'	Black Lace Elderberry	Full plant
Spbu	20	5 Gal.	Spirea x bumalda 'Anthony Waterer'	Anthony Waterer Spirea	24" wide
Sypa	42	5 Gal.	Syringa patula	Miss Kim Lilac	24" tall
Vila	26	5 Gal.	Viburnum lantana 'Mohican'	Mohican Viburnum	24" tall
Vitr	19	5 Gal.	Viburnum trilobum	Highbush Cranberry Viburnum	24" tall
Vide	32	5 Gal.	Viburnum dentatum	Arrowwood Viburnum	30" tall
EVERGREEN SHRUBS					
Juch	24	5 Gal.	Juniperus chinensis 'Sea Green'	Sea Green Juniper	24" wide
Pimu	26	3 Gal.	Pinus mugo 'Slowmound'	Dwarf Mugo Pine	Full plant
Tame	30	5 Gal.	Taxus media 'Everlow'	Everlow Dense Yew	24" wide
PERENNIALS					
Assorted	85	1 Gal.	Assorted Perennials (to be chosen)	Perennial Flowers	Hardy, Disease Resistant

DETENTION BASIN MAINTENANCE:

1. DRY BOTTOM DETENTION BASIN TO BE SEEDED WITH IDOT CLASS 1B SEED MIX TO ELEVATION 695.10.
2. OTHER AREAS TO BE SEEDED WITH IDOT CLASS 1 SEED MIX
3. INSTALL SINGLE STITCH STRAW EROSION BLANKET WITH BIODEGRADABLE STAKES OVER SEEDED AREAS.
4. CONTRACTOR TO REPAIR AND RESEED ANY BARE AREAS GREATER THAN 1 SQ. FT.
5. MAINTENANCE TO INCLUDE WEED CONTROL
6. DETENTION BASIN BOTTOM TO BE MOWED ON A BI-MONTHLY SCHEDULE OR AS NEEDED TO MAINTAIN LAWN HEIGHT TO 3 INCHES. DO NOT MOW WHEN STANDING WATER IS PRESENT OR IF RUTTING WILL OCCUR.

SITE DISTANCE TRIANGLES:

LEGACY DISTRICT LANDSCAPE CODE
TABLE 3.F.1

BUFFER ZONE (NORTH AND EAST)

5 FT. BUFFER STRIPS; PER 50 FT.
REQUIRED PLANTINGS
2 CANOPY TREES
1 ORNAMENTAL TREE
20 SHRUBS

NORTH SIDE; 5 FT. MINIMUM (256 LF)
11 CANOPY REQUIRED
11 CANOPY PROVIDED
6 ORNAMENTALS REQUIRED
6 PROVIDED
103 SHRUBS REQUIRED
103 SHRUBS PROVIDED

EAST SIDE (410 LF)
17 CANOPY REQUIRED
17 CANOPY PROVIDED
9 ORNAMENTALS REQUIRED
9 ORNAMENTALS PROVIDED
164 SHRUBS REQUIRED
164 SHRUBS PROVIDED

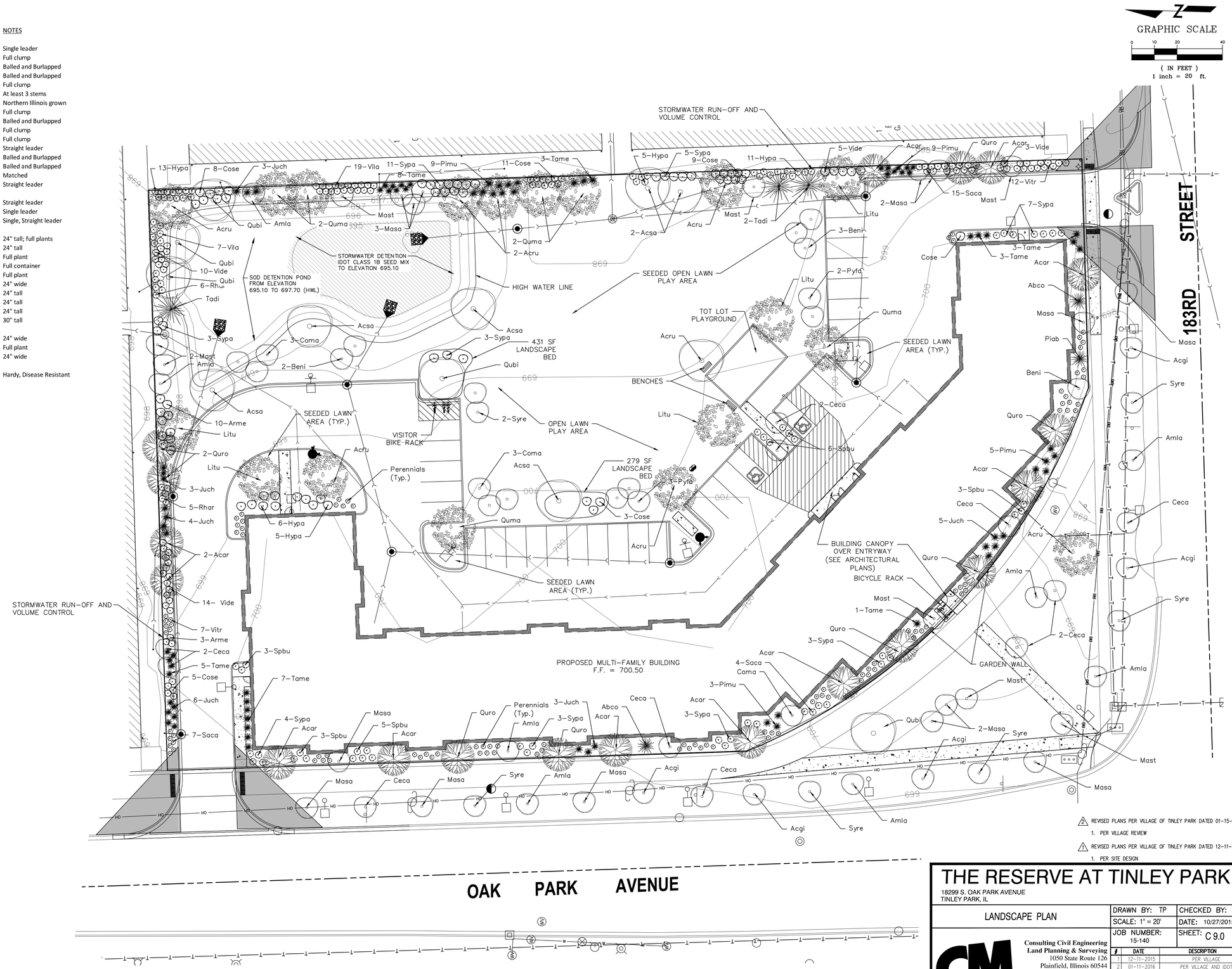
PARKWAY TREES
1 TREE PER 25 LF.
575 LF FRONTAGE (575 LF/25 = 23)
23 TREES REQUIRED; 23 TREES PROVIDED

PARKING LOT GREEN SPACE
CALCULATIONS (SECTION 158.20)

AREA OF PARKING LOT	21,815 SF
REQUIRED 15% MINIMUM	(21,815 x 0.15 = 3,272 SF)
PROVIDED GREENSPACE AND LANDSCAPE BEDS	3,320 SF (15.2%)

LANDSCAPE ORDINANCE 158.14

1 TREE PER DWELLING UNIT
47 UNITS = 47 TREES
47 TREES PROVIDED



REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-15-16.
1. PER VILLAGE REVIEW

REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. PER SITE DESIGN

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

LANDSCAPE PLAN

DRAWN BY: TP	CHECKED BY: CML
SCALE: 1" = 20'	DATE: 10/27/2015
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LANDSCAPE REVISION 1-27-16

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LANDSCAPE NOTES:

1. FOR MASTER LEGEND SEE COVER SHEET C0.0.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, SUCH AS WATER MAINS, SEWERS, GAS LINES, ELECTRIC LINES, TELEPHONE LINES, ETC., AS SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND IS GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. HOWEVER, THE ENGINEER AND OWNER DO NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OF THE LOCATIONS SHOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES AND THEIR FACILITIES SHALL BE LOCATED PRIOR TO ANY WORK.
3. NORTH ARROW AND BEARINGS BASED ON ILLINOIS STATE PLANE COORDINATES, NAD83 (2007), EAST ZONE.
4. ALL ALTERATIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT OR DESIGN ENGINEER.
5. CONTRACTOR MUST VERIFY ALL QUANTITIES AND OBTAIN ALL PROPER PERMITS AND LICENSES FROM THE PROPER AUTHORITIES.
6. ALL LANDSCAPE IMPROVEMENTS SHALL MEET MUNICIPALITY REQUIREMENTS AND GUIDELINES, WHICH SHALL BE VERIFIED BY MUNICIPAL AUTHORITIES.
7. ALL MATERIAL MUST MEET INDUSTRY STANDARDS AND THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REFUSE ANY POOR MATERIAL OR WORKMANSHIP.
8. LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR UNSEEN SITE CONDITIONS.
9. ALL PLANTING SHALL BE SPACED EQUAL DISTANT, BACKFILLED AND THE SOIL COMPACTED, WATERED, FERTILIZED, AND PRUNED.
10. TREES MAY BE STAKED AND GUYED, WILL HAVE A WATERING SAUCER AT BASE, AND WILL HAVE NURSERY TAGS WITH THE SPECIES NAME FOR FUTURE IDENTIFICATION.
11. ALL BEDS TO BE BERMED 12" TO 24" ABOVE GRADE AND MEET DRAINAGE REQUIREMENTS.
12. LAWN AND BED AREAS SHALL BE ROTOTILLED, RAKED FREE OF CLUMPS AND DEBRIS.
13. SOD SHALL BE ROLLED AFTER LAYING, WATERED IMMEDIATELY WHEN A LARGE ENOUGH AREA AVAILABLE, AND STAKED ON SLOPES GREATER THAN 4:1.
14. ALL BEDS SHALL BE SPADE EDGED, HAVE WEED PRE-EMERGENTS APPLIED AT THE RECOMMENDED RATE, AND SHREDDED HARDWOOD MULCH SPREAD AT MINIMUM OF 3" DEEP.
15. ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
16. ALL PARKWAYS AND PARKING LOT ISLANDS SHALL HAVE LAWN AS A GROUND COVER, UNLESS OTHERWISE NOTED.
17. ALL EXISTING TREES OF HIGH QUALITY, LOCATED OUTSIDE OF THE CONSTRUCTION ZONE, SHALL BE SAVED.
18. SIZE AND GRADING STANDARDS OF PLANT MATERIAL SHALL CONFORM TO THE LATEST EDITION OF ANSI Z60 1, AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
19. ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE OF ANY DEFORMITIES, DISEASES OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR CROOKED DISFIGURED LEADERS, BARK ABRASION, SUNSCALD, INSECT DAMAGE, ETC. ARE NOT ACCEPTABLE AND WILL BE REJECTED.
20. TREES NOT EXHIBITING A CENTRAL (OR SINGLE) LEADER WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT LIST AS MULTISTEM.
21. ALL TREES MUST BE UPRIGHT AND STRAIGHT AND FIRMLY ROOTED INTO THE ROOTBALL AT THE END OF THE WARRANTY PERIOD. IF STAKING IS USED, CONTRACTOR TO REMOVE AND DISPOSE OF STAKING MATERIALS.
22. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO ANY UTILITIES CAUSED BY HIS WORK ON THE SITE TO THE UTILITY OWNER SATISFACTION.
23. TREE PROTECTION SHALL MEET THE VILLAGE OF TINLEY PARK TREE PROTECTION STANDARDS.
24. ALL LANDSCAPE AND LAWN AREAS TO BE FERTILIZED WITH 10-10-10 STARTER FERTILIZER AND ROTOTILLED INTO SOIL BEFORE PLANTING OPERATIONS.
25. ALL LAWN AREAS TO BE EITHER HYDROSEEDED OR SEEDED AND COVERED WITH BIODEGRADABLE EROSION CONTROL BLANKET (NO NETTING). ALL BARE AREAS BIGGER THAN 1 SF IN DIAMETER ARE TO BE SCARIFIED AND RESEEDED, AFTER 6 MONTHS OF INITIAL GROWTH. ALL LAWN AREAS TO EXHIBIT AN SATISFACTORY STAND OF LAWN GRASS AT THE END OF THE WARRANTY PERIOD.
26. LAWN SEED TO BE 50% BLUEGRASS/50% TURF TYPE PERENNIAL RYEGRASS. CONTRACTOR TO SUPPLY SEED LABEL PRIOR TO ORDERING SEED. ALL SEED LABELS AND BAGS AFTER SEEDING ARE TO BE SUBMITTED TO LANDSCAPE ARCHITECT OR DESIGN ENGINEER FOR CONFIRMATION.
27. (3) DETENTION BASIN TO BE SEEDED WITH I.D.O.T CLASS 1B TO ELEVATIONS AS SHOWN ON LANDSCAPE PLANS. INSTALL EROSION CONTROL BLANKET TO PROTECT SEED BED. AREAS FROM ELEVATION 695.10 TO HWL TO BE SODDED AND STAKED. USE BIODEGRADABLE SOD STAKES (NOT STEEL) TO ANCHOR SOD TO SIDE SLOPES.

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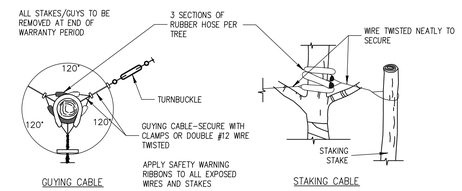
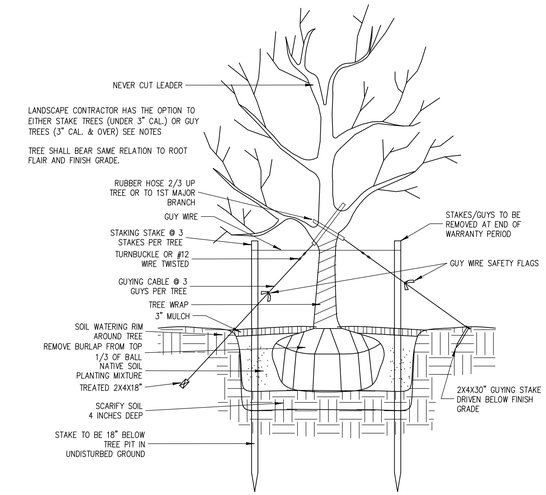
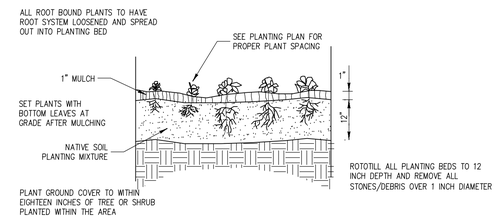


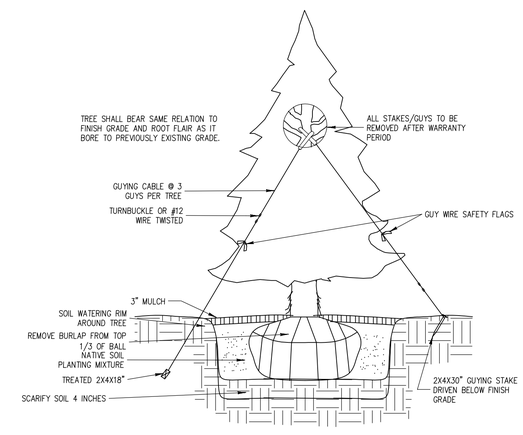
GUYING AND STAKING CABLE N.T.S.



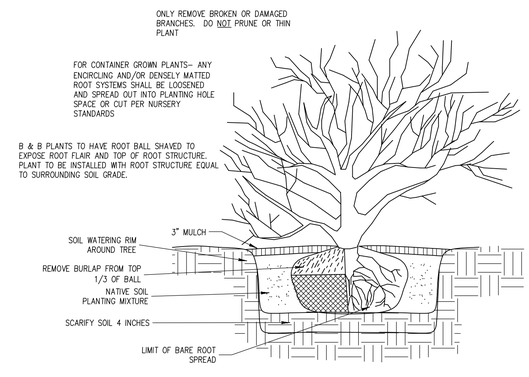
DECIDUOUS TREE PLANTING N.T.S.



GROUNDCOVER-PERENNIAL PLANTING N.T.S.



EVERGREEN TREE PLANTING N.T.S.



SHRUB PLANTING N.T.S.

(3) REVISED PLANS PER VILLAGE AND MWRD DATED 01-27-16.
1. REVISIONS THIS SHEET.

(2) REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-15-16.
1. PER VILLAGE REVIEW

(1) REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. PER SITE DESIGN

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

LANDSCAPE DETAILS

DRAWN BY: TP	CHECKED BY: CML
SCALE: 1" = 20'	DATE: 10/27/2015
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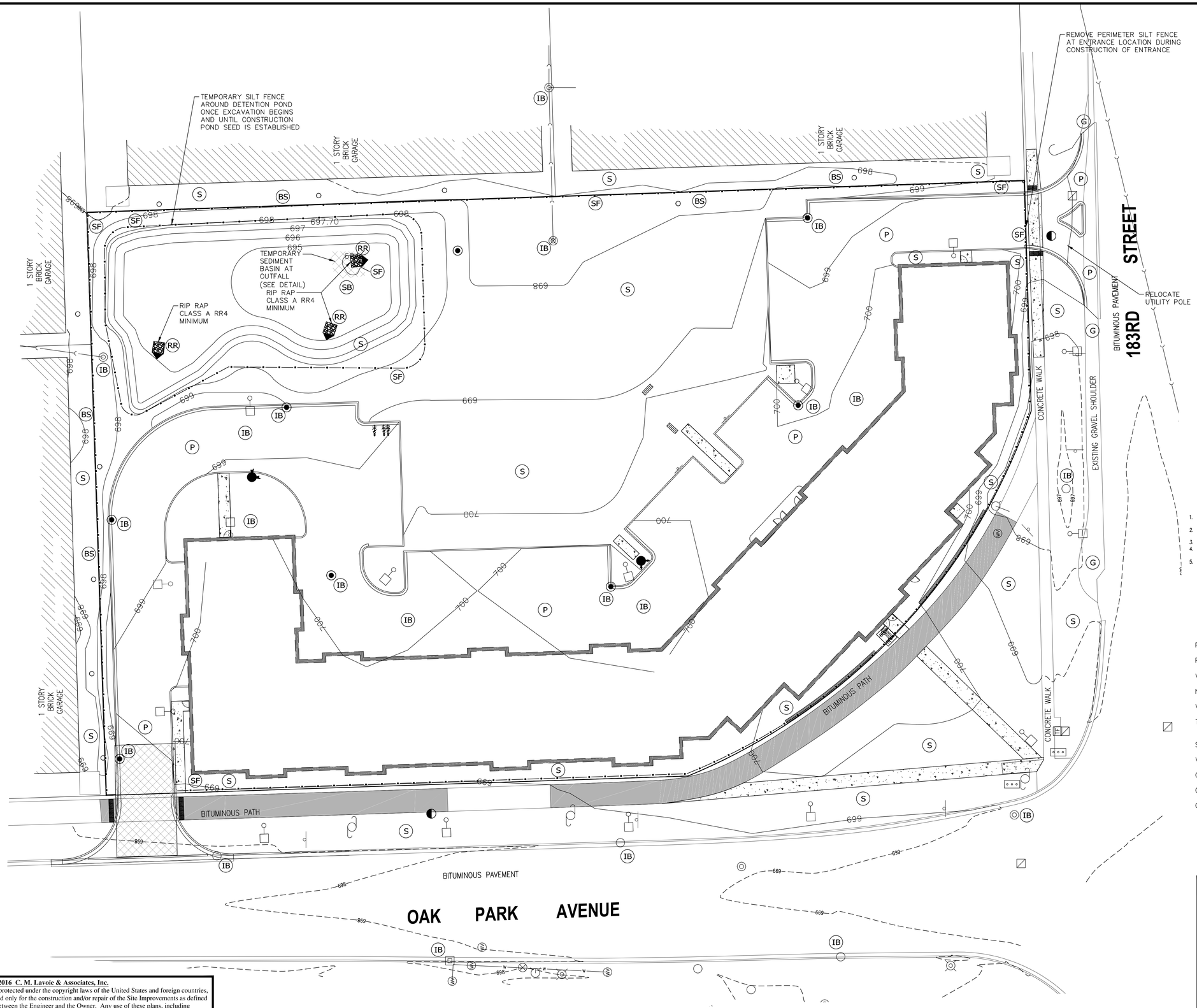

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

LEGEND

- PROPOSED CONTOUR
- SF — PROPOSED SILT FENCE
- S — SOD
- BS — BIOSWALE
- G — GRAVEL
- IB — INLET BASKET/PROTECTION
- SE — STABLIZED ENTRANCE
- C — CONCRETE
- RR — RIP RAP
- P — PAVEMENT
- SB — SILTATION BASIN
- SILTATION BASIN AND STABILIZED ENTRANCE AREAS
- RUNOFF CONTROL AND BIO-SWALE LOCATIONS SEE DETAIL THIS PAGE

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3 THIS SHEET CREATED DATED 01-27-15

1. PER SITE DESIGN

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

STORMWATER POLLUTION PREVENTION AND NPDES PLAN

DRAWN BY: APK	CHECKED BY: CML
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Spbu	20	5 Gal.	Spirea x bumalda 'Anthony Waterer'	Anthony Waterer Spirea	24" wide
Sypa	42	5 Gal.	Syringa patula	Miss Kim Lilac	24" tall
Vila	26	5 Gal.	Viburnum lantana 'Mohican'	Mohican Viburnum	24" tall
Vitr	19	5 Gal.	Viburnum trilobum	Highbush Cranberry Viburnum	24" tall
Vide	32	5 Gal.	Viburnum dentatum	Arrowwood Viburnum	30" tall
EVERGREEN SHRUBS					
Juch	24	5 Gal.	Juniperus chinensis 'Sea Green'	Sea Green Juniper	24" wide
Pimu	26	3 Gal.	Pinus mugo 'Slowmound'	Dwarf Mugo Pine	Full plant
Tame	30	5 Gal.	Taxus media 'Everlow'	Everlow Dense Yew	24" wide
PERENNIALS					
Assorted	85	1 Gal.	Assorted Perennials (to be chosen)	Perennial Flowers	Hardy, Disease Resistant

DETENTION BASIN MAINTENANCE:

1. DRY BOTTOM DETENTION BASIN TO BE SEEDED WITH IDOT CLASS 1B SEED MIX TO ELEVATION 695.10.
2. OTHER AREAS TO BE SEEDED WITH IDOT CLASS 1 SEED MIX
3. INSTALL SINGLE STITCH STRAW EROSION BLANKET WITH BIODEGRADABLE STAKES OVER SEEDED AREAS.
4. CONTRACTOR TO REPAIR AND RESEED ANY BARE AREAS GREATER THAN 1 SQ. FT.
5. MAINTENANCE TO INCLUDE WEED CONTROL
6. DETENTION BASIN BOTTOM TO BE MOWED ON A BI-MONTHLY SCHEDULE OR AS NEEDED TO MAINTAIN LAWN HEIGHT TO 3 INCHES. DO NOT MOW WHEN STANDING WATER IS PRESENT OR IF RUTTING WILL OCCUR.

SITE DISTANCE TRIANGLES:

LEGACY DISTRICT LANDSCAPE CODE
TABLE 3.F.1

BUFFER ZONE (NORTH AND EAST)

5 FT. BUFFER STRIPS; PER 50 FT.
REQUIRED PLANTINGS
2 CANOPY TREES
1 ORNAMENTAL TREE
20 SHRUBS

NORTH SIDE; 5 FT. MINIMUM (256 LF)
11 CANOPY REQUIRED
11 CANOPY PROVIDED
6 ORNAMENTALS REQUIRED
6 PROVIDED
103 SHRUBS REQUIRED
103 SHRUBS PROVIDED

EAST SIDE (410 LF)
17 CANOPY REQUIRED
17 CANOPY PROVIDED
9 ORNAMENTALS REQUIRED
9 ORNAMENTALS PROVIDED
164 SHRUBS REQUIRED
164 SHRUBS PROVIDED

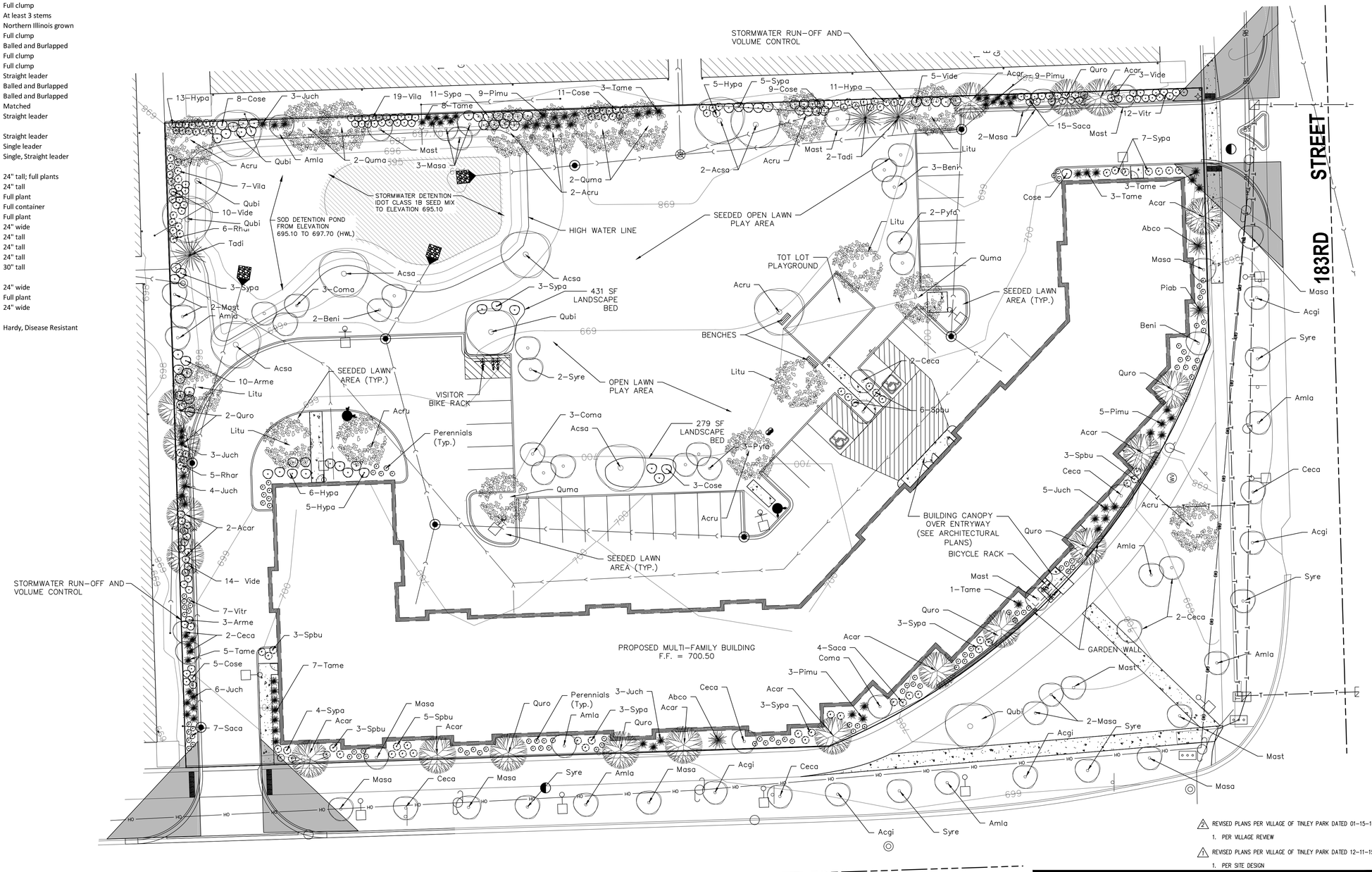
PARKWAY TREES
1 TREE PER 25 LF.
575 LF FRONTAGE (575 LF/25 = 23)
23 TREES REQUIRED; 23 TREES PROVIDED

PARKING LOT GREEN SPACE
CALCULATIONS (SECTION 158.20)

AREA OF PARKING LOT	21,815 SF
REQUIRED 15% MINIMUM	(21,815 x 0.15 = 3,272 SF)
PROVIDED GREENSPACE AND LANDSCAPE BEDS	3,320 SF (15.2%)

LANDSCAPE ORDINANCE 158.14

1 TREE PER DWELLING UNIT
47 UNITS = 47 TREES
47 TREES PROVIDED



REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-15-16.
1. PER VILLAGE REVIEW

REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. PER SITE DESIGN

THE RESERVE AT TINLEY PARK

18299 S. OAK PARK AVENUE
TINLEY PARK, IL

LANDSCAPE PLAN

DRAWN BY: TP | CHECKED BY: CML
SCALE: 1" = 20' | DATE: 10/27/2015
JOB NUMBER: 15-140 | SHEET: C 9.0

Consulting Civil Engineering
Land Planning & Surveying
1050 State Route 126
Plainfield, Illinois 60544
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C.M. Lavoie & Associates, INC.

#	DATE	DESCRIPTION
1	12-11-2015	PER VILLAGE
2	01-11-2016	PER VILLAGE AND IDOT
3	01-27-2016	PER VILLAGE AND MWRD
4		
5		
6		
7		
8		

LANDSCAPE REVISION 1-27-16

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LANDSCAPE NOTES:

1. FOR MASTER LEGEND SEE COVER SHEET C0.0.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, SUCH AS WATER MAINS, SEWERS, GAS LINES, ELECTRIC LINES, TELEPHONE LINES, ETC., AS SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND IS GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. HOWEVER, THE ENGINEER AND OWNER DO NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OF THE LOCATIONS SHOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES AND THEIR FACILITIES SHALL BE LOCATED PRIOR TO ANY WORK.
3. NORTH ARROW AND BEARINGS BASED ON ILLINOIS STATE PLANE COORDINATES, NAD83 (2007), EAST ZONE.
4. ALL ALTERATIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT OR DESIGN ENGINEER.
5. CONTRACTOR MUST VERIFY ALL QUANTITIES AND OBTAIN ALL PROPER PERMITS AND LICENSES FROM THE PROPER AUTHORITIES.
6. ALL LANDSCAPE IMPROVEMENTS SHALL MEET MUNICIPALITY REQUIREMENTS AND GUIDELINES, WHICH SHALL BE VERIFIED BY MUNICIPAL AUTHORITIES.
7. ALL MATERIAL MUST MEET INDUSTRY STANDARDS AND THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REFUSE ANY POOR MATERIAL OR WORKMANSHIP.
8. LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR UNSEEN SITE CONDITIONS.
9. ALL PLANTING SHALL BE SPACED EQUAL DISTANT, BACKFILLED AND THE SOIL COMPACTED, WATERED, FERTILIZED, AND PRUNED.
10. TREES MAY BE STAKED AND GUYED, WILL HAVE A WATERING SAUCER AT BASE, AND WILL HAVE NURSERY TAGS WITH THE SPECIES NAME FOR FUTURE IDENTIFICATION.
11. ALL BEDS TO BE BERMED 12" TO 24" ABOVE GRADE AND MEET DRAINAGE REQUIREMENTS.
12. LAWN AND BED AREAS SHALL BE ROTOTILLED, RAKED FREE OF CLUMPS AND DEBRIS.
13. SOD SHALL BE ROLLED AFTER LAYING, WATERED IMMEDIATELY WHEN A LARGE ENOUGH AREA AVAILABLE, AND STAKED ON SLOPES GREATER THAN 4:1.
14. ALL BEDS SHALL BE SPADE EDGED, HAVE WEED PRE-EMERGENTS APPLIED AT THE RECOMMENDED RATE, AND SHREDDED HARDWOOD MULCH SPREAD AT MINIMUM OF 3" DEEP.
15. ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
16. ALL PARKWAYS AND PARKING LOT ISLANDS SHALL HAVE LAWN AS A GROUND COVER, UNLESS OTHERWISE NOTED.
17. ALL EXISTING TREES OF HIGH QUALITY, LOCATED OUTSIDE OF THE CONSTRUCTION ZONE, SHALL BE SAVED.
18. SIZE AND GRADING STANDARDS OF PLANT MATERIAL SHALL CONFORM TO THE LATEST EDITION OF ANSI Z60 1, AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
19. ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE OF ANY DEFORMITIES, DISEASES OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR CROOKED DISFIGURED LEADERS, BARK ABRASION, SUNSCALD, INSECT DAMAGE, ETC. ARE NOT ACCEPTABLE AND WILL BE REJECTED.
20. TREES NOT EXHIBITING A CENTRAL (OR SINGLE) LEADER WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT LIST AS MULTISTEM.
21. ALL TREES MUST BE UPRIGHT AND STRAIGHT AND FIRMLY ROOTED INTO THE ROOTBALL AT THE END OF THE WARRANTY PERIOD. IF STAKING IS USED, CONTRACTOR TO REMOVE AND DISPOSE OF STAKING MATERIALS.
22. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO ANY UTILITIES CAUSED BY HIS WORK ON THE SITE TO THE UTILITY OWNER SATISFACTION.
23. TREE PROTECTION SHALL MEET THE VILLAGE OF TINLEY PARK TREE PROTECTION STANDARDS.
24. ALL LANDSCAPE AND LAWN AREAS TO BE FERTILIZED WITH 10-10-10 STARTER FERTILIZER AND ROTOTILLED INTO SOIL BEFORE PLANTING OPERATIONS.
25. ALL LAWN AREAS TO BE EITHER HYDROSEEDED OR SEEDED AND COVERED WITH BIODEGRADABLE EROSION CONTROL BLANKET (NO NETTING). ALL BARE AREAS BIGGER THAN 1 SF IN DIAMETER ARE TO BE SCARIFIED AND RESEEDED, AFTER 6 MONTHS OF INITIAL GROWTH. ALL LAWN AREAS TO EXHIBIT AN SATISFACTORY STAND OF LAWN GRASS AT THE END OF THE WARRANTY PERIOD.
26. LAWN SEED TO BE 50% BLUEGRASS/50% TURF TYPE PERENNIAL RYEGRASS. CONTRACTOR TO SUPPLY SEED LABEL PRIOR TO ORDERING SEED. ALL SEED LABELS AND BAGS AFTER SEEDING ARE TO BE SUBMITTED TO LANDSCAPE ARCHITECT OR DESIGN ENGINEER FOR CONFIRMATION.
27. (3) DETENTION BASIN TO BE SEEDED WITH I.D.O.T CLASS 1B TO ELEVATIONS AS SHOWN ON LANDSCAPE PLANS. INSTALL EROSION CONTROL BLANKET TO PROTECT SEED BED. AREAS FROM ELEVATION 695.10 TO HWL TO BE SODDED AND STAKED. USE BIODEGRADABLE SOD STAKES (NOT STEEL) TO ANCHOR SOD TO SIDE SLOPES.

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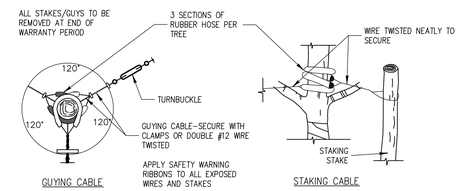
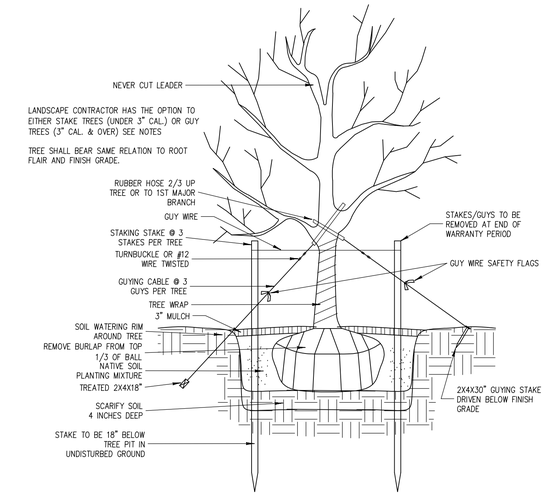
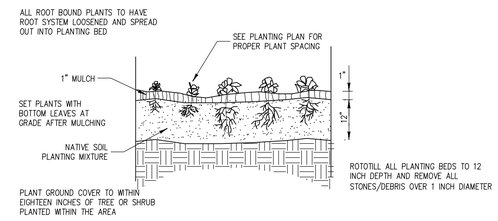


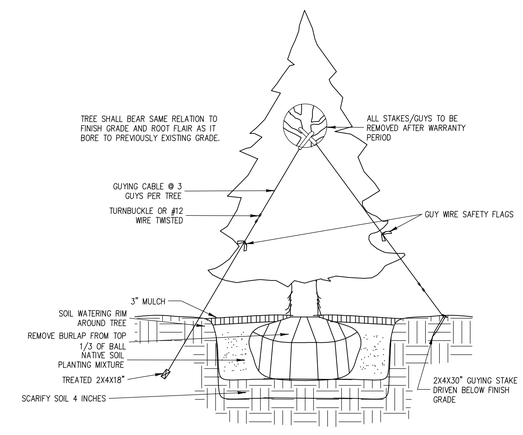
GUYING AND STAKING CABLE N.T.S.



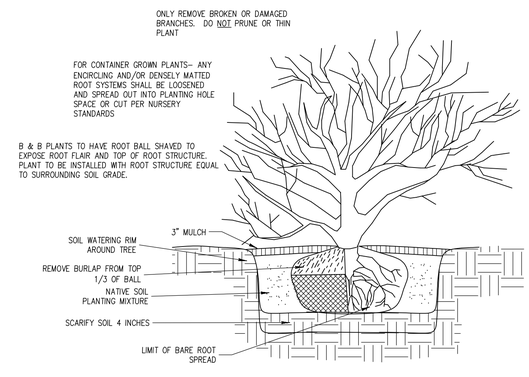
DECIDUOUS TREE PLANTING N.T.S.



GROUNDCOVER-PERENNIAL PLANTING N.T.S.



EVERGREEN TREE PLANTING N.T.S.



SHRUB PLANTING N.T.S.

(3) REVISED PLANS PER VILLAGE AND MWRD DATED 01-27-16.
1. REVISIONS THIS SHEET.

(2) REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 01-15-16.
1. PER VILLAGE REVIEW

(1) REVISED PLANS PER VILLAGE OF TINLEY PARK DATED 12-11-15.
1. PER SITE DESIGN

THE RESERVE AT TINLEY PARK

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TINLEY PARK, IL

LANDSCAPE DETAILS

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SCALE: 1" = 20'	DATE: 10/27/2015
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LUMINAIRE SCHEDULE

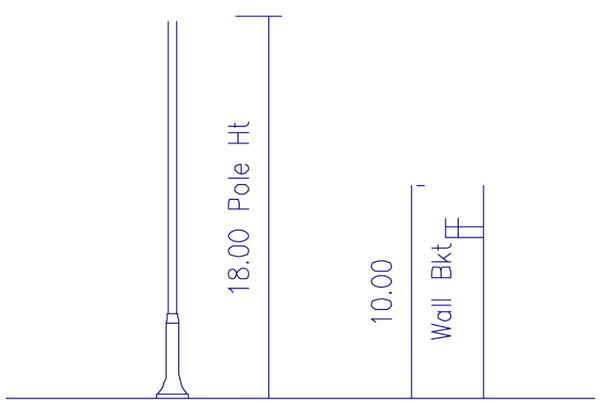
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	PT1	4	6130C 53002A	CAST ALUMINUM HOUSING, FORMED SEGMENTED SPECULAR AND SEMI-SPECULAR ALUMINUM REFLECTOR WITH BLACK ENAMEL SECTION IN FRONT OF LAMP AND WHITE ENAMEL SECTION ABOVE LAMP, CLEAR ACRYLIC ENCLOSURES.	ONE CLEAR HORIZONTAL S55 100 WATT HPS LAMP	6130-RO3-150HPS.IES	9500	0.81	135
	WM1	4	6130C 53002A	CAST ALUMINUM HOUSING, FORMED SEGMENTED SPECULAR AND SEMI-SPECULAR ALUMINUM REFLECTOR WITH BLACK ENAMEL SECTION IN FRONT OF LAMP AND WHITE ENAMEL SECTION ABOVE LAMP, CLEAR ACRYLIC ENCLOSURES.	ONE CLEAR HORIZONTAL S55 100 WATT HPS LAMP	6130-RO3-150HPS.IES	9500	0.81	135

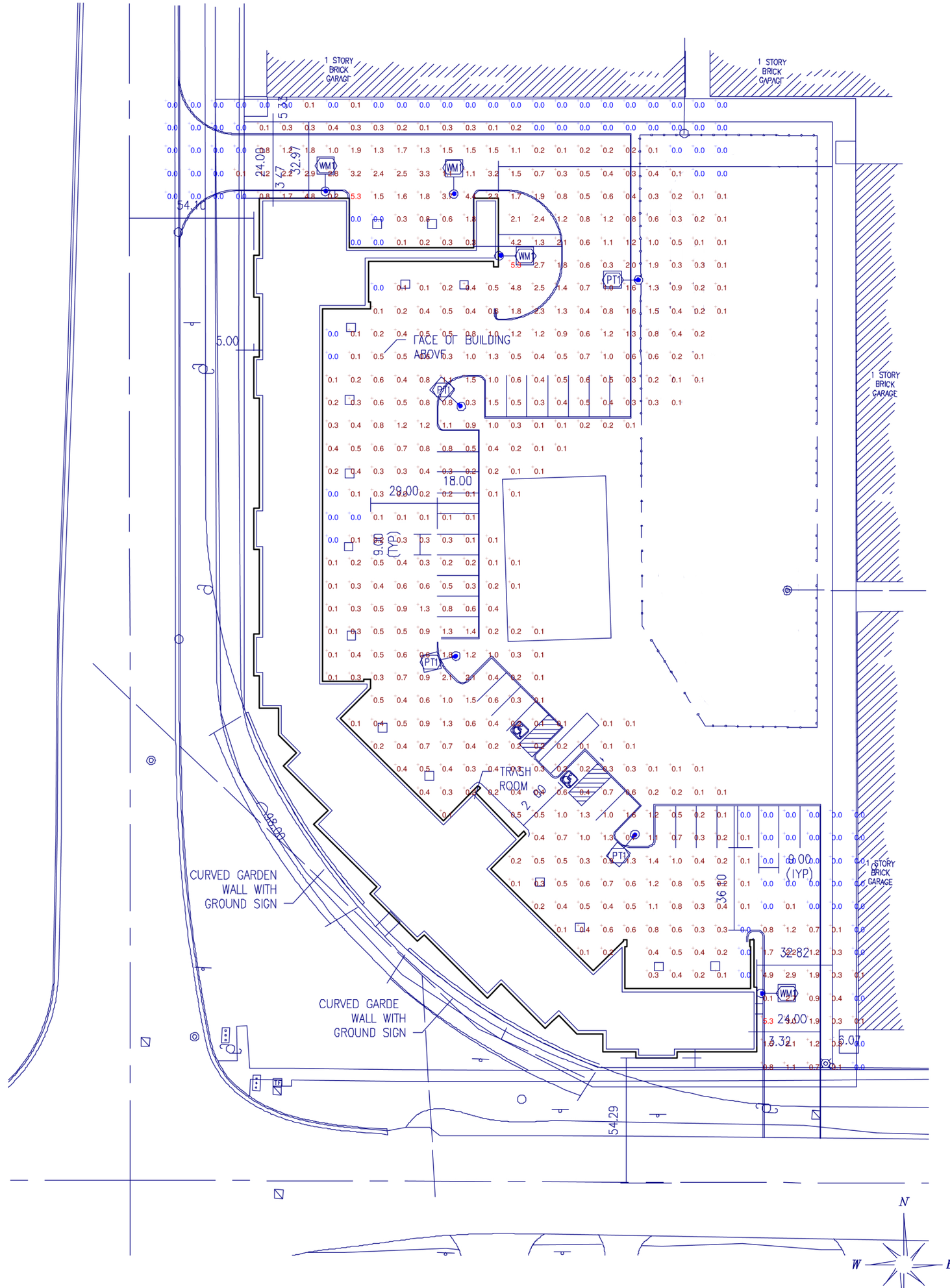
STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	0.6 fc	5.3 fc	0.0 fc	N / A	N / A

LUMINAIRE LOCATIONS

No.	Label	Location X	Location Y	MH	Orientation	Tilt
1	PT1	276.1	621.6	18.0	270.0	0.0
2	PT1	198.5	566.7	18.0	-45.0	0.0
3	PT1	196.4	457.4	18.0	260.0	0.0
4	PT1	274.6	379.3	18.0	225.0	0.0
5	WM1	139.7	660.6	10.0	0.0	0.0
6	WM1	195.8	659.2	10.0	0.0	0.0
7	WM1	216.3	632.3	10.0	90.0	0.0
8	WM1	330.3	310.2	10.0	90.0	0.0





Plan View
Scale 1" = 30'