PRELIMINARY ENGINEERING PLANS

FOR

PROPOSED FUEL CENTER - ARLINGTON HEIGHTS, IL

AT

1650 W. ALGONQUIN ROAD
CITY OF ARLINGTON HEIGHTS
COOK COUNTY, ILLINOIS

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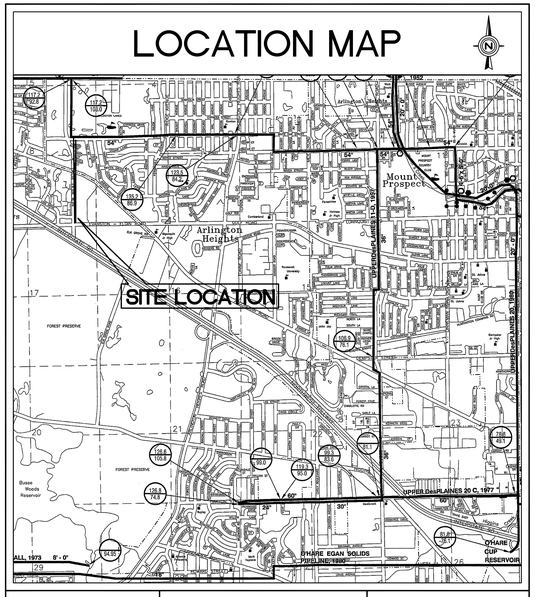
NOTE: THE DESIGNS CONTAINED IN THE ABOVE PLANS AND SUPPORTING DOCUMENTS WERE PREPARED WITH THE UNDERSTANDING THAT THEY WOULD BE USED AS A WHOLE PLAN SET. EACH CONSTRUCTION DISCIPLINE IS TO USE ALL THE PLANS AND SUPPORTING DOCUMENTS TOGETHER AS A WHOLE AND NOT AS SEPARATE DOCUMENTS. EACH CONTRACTOR IS TO BECOME COMPLETELY FAMILIAR WITH THE WHOLE PLAN SET AND THE EXISTING SITE CONDITIONS. SHOULD ANYTHING WITH ALL THESE PLANS AND SUPPORTING DOCUMENTS BE INCONSISTENT WITH THE SITE CONDITIONS THEN THE CONTRACTOR IS TO CONTACT THE ENGINEER IMMEDIATELY BEFORE ANY CONSTRUCTION IS STARTED.

LOCATION MAP



SECTION: 8	TOWNSHIP: 41N	RANGE: 11E

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	CATCH BASIN	
	INLET	
	STORM MANHOLE	
	SANITARY MANHOLE	
	VALVE VAULT	
	FIRE HYDRANT	
	FLARED END SECTION	
	ELECTRICAL POWER POLE	
	OVERHEAD TRAFFIC SIGNAL	
	TRAFFIC SIGNAL MANHOLE	
-OHW-	OVERHEAD ELECTRIC WIRES	-OHW-
	TRANSFORMER PAD	
	TELEPHONE PEDESTAL	
	TELEPHONE MANHOLE	
	CABLE TELEVISION PEDESTAL	
	COMMONWEALTH EDISON MANHOLE	
	B/BOX	
	LIGHT POLE	
	SIGN	
	BOLLARD POLE	
	GAS MARKER	
	ELECTRIC MARKER	
	TELEPHONE MARKER	
W	WATER MAIN	W
G	GAS MAIN	G
E	ELECTRIC LINE	E
T	TELEPHONE LINE	T
C	CABLE TV LINE	C
SAN	SANITARY SEWER	SAN
STM	STORM SEWER	STM
	GUY POLE	
8	CONIFEROUS TREE W/DIAMETER	
18	DECIDUOUS TREE W/DIAMETER	
	WOOD FENCE	
	CHAIN LINK FENCE	
	METAL GUARDRAIL	
	CONCRETE SURFACE	
XXX	CONTOUR LINE	
	FINISHED FLOOR ELEVATION	FF
	PAVEMENT ELEVATION	P
	MATCH EXISTING ELEVATION	ME
	GROUND ELEVATION	G
	TOP OF WALK ELEVATION	TW
	TOP OF RETAINING WALL ELEVATION	TRW
	FLOW LINE ELEVATION	FL
	TOP OF CURB ELEVATION	TC
	RIM ELEVATION	R
	DOWNSPOUT LOCATION	D.S.
	PERVIOUS AREA SLOPE DIRECTION	
	PAVEMENT SLOPE DIRECTION	
	OVERLAND OVERFLOW DIRECTION	
	INLET PROTECTION	
	INLET BASKET FILTER	

BENCHMARK

REFERENCE BENCHMARK
NATIONAL GEODETIC SURVEY MONUMENT #DM3900

DISK LOCATED APPROXIMATELY 3.0 MILES SOUTH-SOUTHWEST OF ARLINGTON HEIGHTS, ON TOP OF THE SOUTH END OF EAST ABUTMENT ON GOLF ROAD BRIDGE OVER SALT CREEK.

DATUM: NAVD88 ELEVATION = 696.09

SITE BENCHMARK
1. SITE BENCHMARK #1 - CUT SQUARE ON LIGHT POLE BASE AT NORTHWEST CORNER OF SITE ELEVATION = 695.25
2. SITE BENCHMARK #2 - NORTHEAST BOLT ON FIRE HYDRANT NEAR SOUTHWEST CORNER OF SITE ELEVATION = 698.65

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NO.	REVISIONS	DATE
1	REVISIONS PER VILLAGE REVIEW COMMENTS	1/15/19
2	REVISIONS PER VILLAGE REVIEW COMMENTS DATED 1/22/19	1/31/19

Prepared For:

Vequity
400 N. State St
Chicago, IL 60654

PROPOSED FUEL CENTER
1650 W. Algonquin Road
Arlington Heights, Illinois

Prepared By:

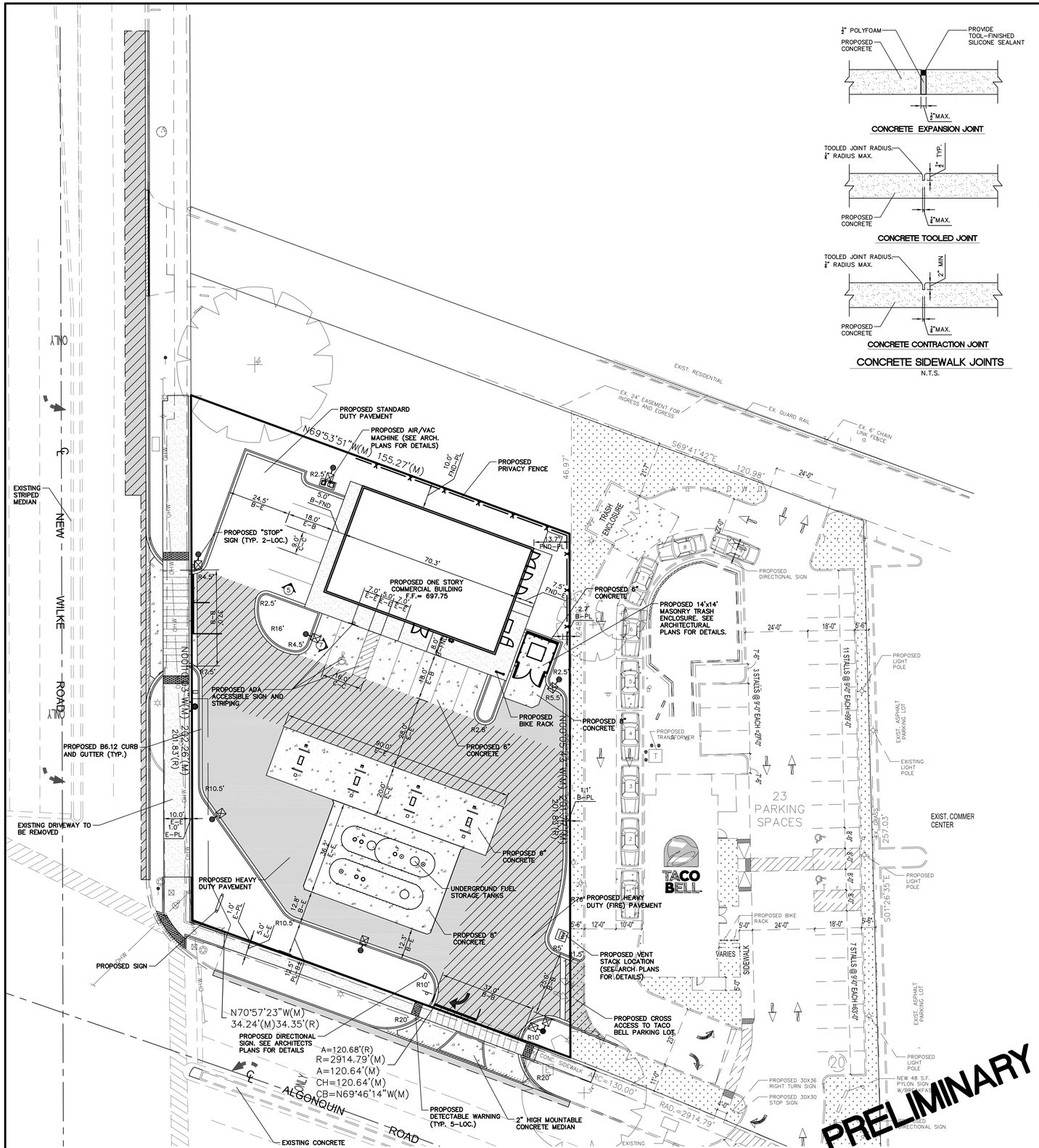
Watermark Engineering Resources, LTD
2631 Ginger Woods Parkway, Suite 100, Aurora, IL 60502
phone 630-375-1800 fax 630-236-9800 www.watermark-engineering.com

CHECKED BY: B. PERRY	
DESIGN BY: S. SIMAK	
DRAWN BY: S. SIMAK	
DATE: DECEMBER 7, 2018	
SCALE: NONE	
PROJECT NO.: 18-123	

COVER SHEET

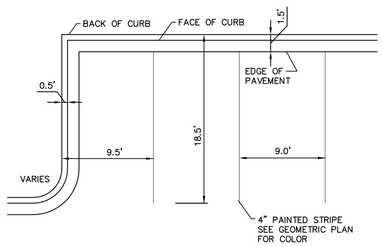
COVER SHEET

C-1



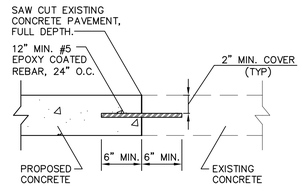
CONCRETE SIDEWALK JOINTS

N.T.S.



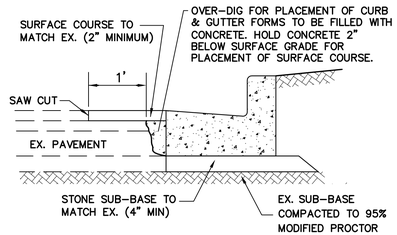
PARKING STALLS WITH CURB AND GUTTER (TYP.)

NOTES:
1. PARKING STALLS ARE 9' APART, STARTING FROM FACE OF CURB TO PAINTED STRIPE.
2. FACE OF CURB DIMENSION IS 6" FROM BACK OF CURB. THE EDGE OF PAVEMENT IS 12" FROM FACE OF CURB.



CONCRETE PAVEMENT BUTT JOINT

CURB JOINT SIMILAR



PAVEMENT PATCH DETAIL AT NEW CURB AND GUTTER

NOTE: IF CONCRETE BASE IS ENCOUNTERED, IT IS TO BE DOWELED INTO THE PROPOSED CURB AS WELL AS THE ADJACENT CONCRETE PAVEMENT.

DIMENSION LEGEND

F	= FACE	FNC	= FENCE
FND	= FOUNDATION	R	= RADIUS
B	= BACK	C	= CENTER
E	= EDGE	PL	= PROPERTY LINE

GENERAL NOTES:

THESE PLANS ARE BASED ON THE ALTA/NSPS LAND TITLE AND TOPOGRAPHIC SURVEY (SURVEY PROJECT #18.0366 DATED 11/5/18)
PREPARED BY: COMPASS SURVEYING LTD
2631 GINGER WOODS PARKWAY, STE 100, AURORA, IL 60502
(630) 820-9100

1. PRIOR TO CONSTRUCTION, CONTRACTOR TO CONTACT THE DESIGN ENGINEER AND ARCHITECT TO VERIFY THAT THEY ARE WORKING FROM THE MOST CURRENT SET OF PLANS AND SPECIFICATIONS.

ON SITE PARKING DATA

REGULAR SPACES	11
ADA ACCESSIBLE SPACES	1
TOTAL SPACES	12

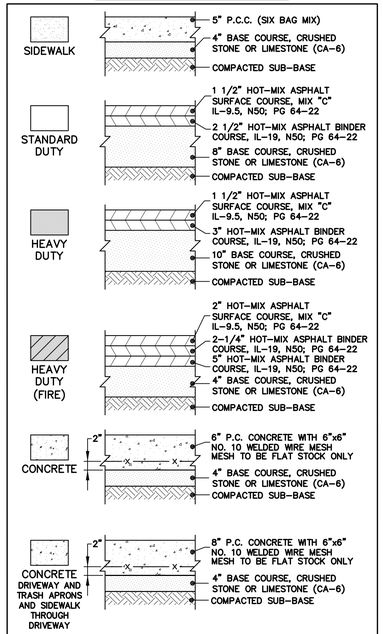
SITE DATA

LOT AREA	=	29,310 S.F. (0.67 AC.)
IMPERVIOUS AREA	=	23,484 S.F. (0.54 AC.)(81%)
PERVIOUS AREA	=	5,826 S.F. (0.13 AC.)(19%)
BUILDING AREA	=	3,060 S.F.
F.A.R.	=	0.10

GEOMETRIC PLAN NOTES:

1. ALL RADIUS DIMENSIONS ARE TO BACK OF CURB.
2. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
3. ALL STRIPING TO BE DOUBLE COATED 4" YELLOW PAINT UNLESS OTHERWISE NOTED.
4. WHERE PEDESTRIANS HAVE TO CROSS A TAPERING RAMP OR CURB RAMP THE FACE AND TOP OF CURB ARE TO BE PAINTED USING YELLOW, SLIP RESISTANT PAINT.

PAVEMENT LEGEND



NOTES:
1. REFERENCE I.D.O.T. STANDARD SPECIFICATIONS (LATEST EDITION) SECTION 406 FOR BINDER & SURFACE COURSES AND SECTION 351 FOR AGGREGATE BASE COURSE.
2. THE APPLICATION RATES FOR THE PRIME COAT AND TACK COAT ARE TO BE 0.30 AND 0.10 GALLONS PER SQUARE YARD, RESPECTIVELY.
3. SEE PROJECT SPECIFICATIONS FOR SUB-BASE AND BASE COURSE COMPACTION.
4. ALL CONCRETE FLATWORK TO INCLUDE A JOINTING PATTERN SUBMITTAL TO THE CONSTRUCTION MANAGER. CONTRACTOR TO STAY AS CLOSE TO 9'x9' SQUARE PANELS IN LARGE CONCRETE FLATWORK AREAS AS POSSIBLE.
5. FOR SIDEWALKS, PROVIDE TOOLED JOINTS AT 5' O.C., CONTRACTION JOINTS AT 15' O.C., EXPANSION JOINTS AT 45' O.C.
6. PROVIDE AN EXPANSION JOINT ADJACENT TO ALL STRUCTURES. THESE JOINTS SHOULD BE SEALED WITH A TOOL-FINISHED SILICONE SEALANT PER I.D.O.T. STANDARD.

GEOMETRIC PLAN

NO.	REVISIONS	DATE
1	REVISIONS PER VILLAGE REVIEW COMMENTS	1/15/19
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CHECKED BY: B. PERRY
DESIGN BY: S. SIMAK
DRAWN BY: S. SIMAK
DATE: DECEMBER 7, 2018
SCALE: 1" = 20'
PROJECT NO.: 18-123

C-2

GEOMETRIC PLAN

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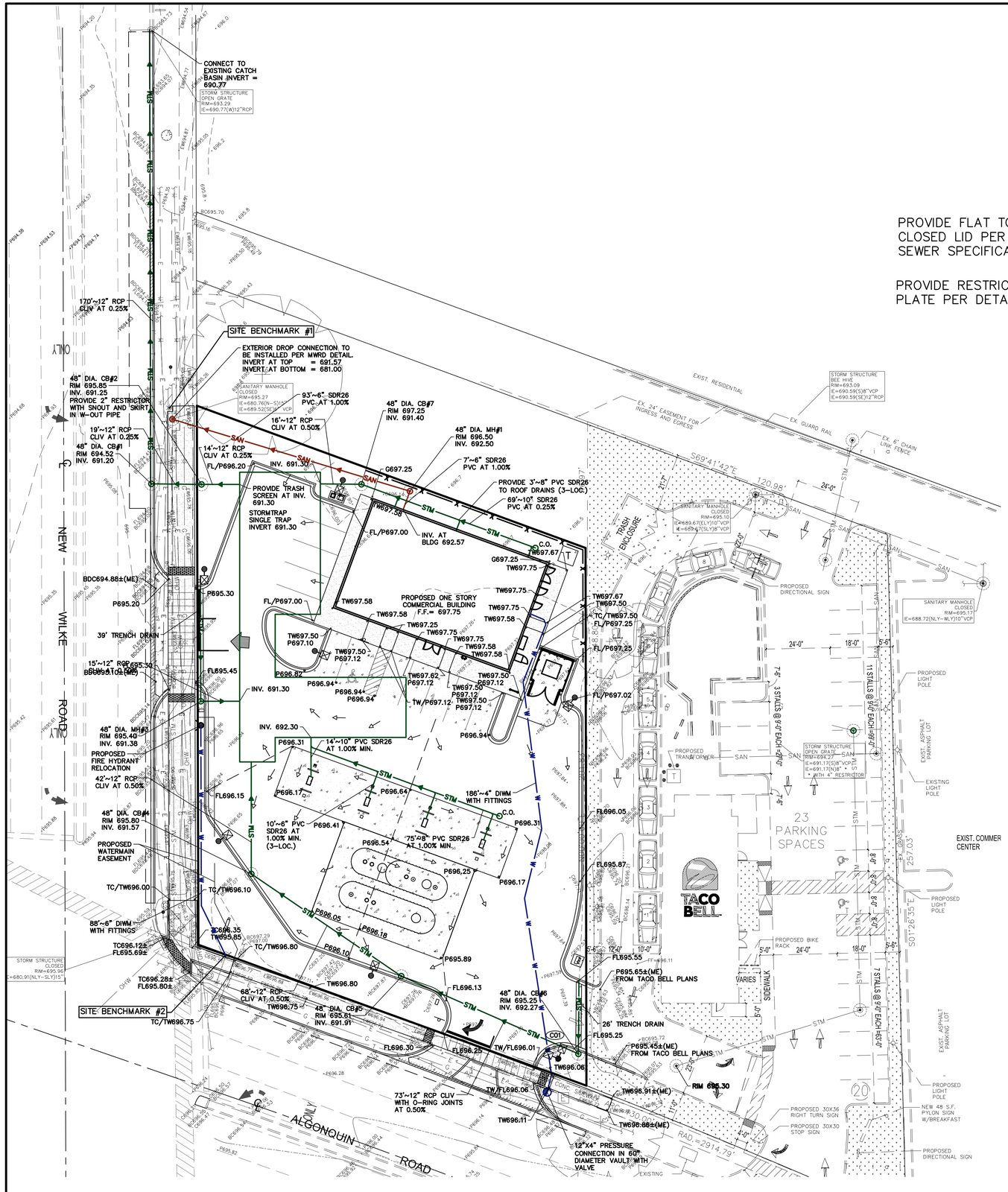


DETENTION CALCULATIONS:
HWL = 695.20
INVERT = 691.30
AREA = .67 ACRES
Cd = 0.86

REQUIRED STORAGE PER CODE (Q=0.18) = 9,311 FT^3 (0.21 AC-FT)
REQUIRED STORAGE WITH 2" RESTRICTOR = 7,939 FT^3 (0.18 AC-FT)

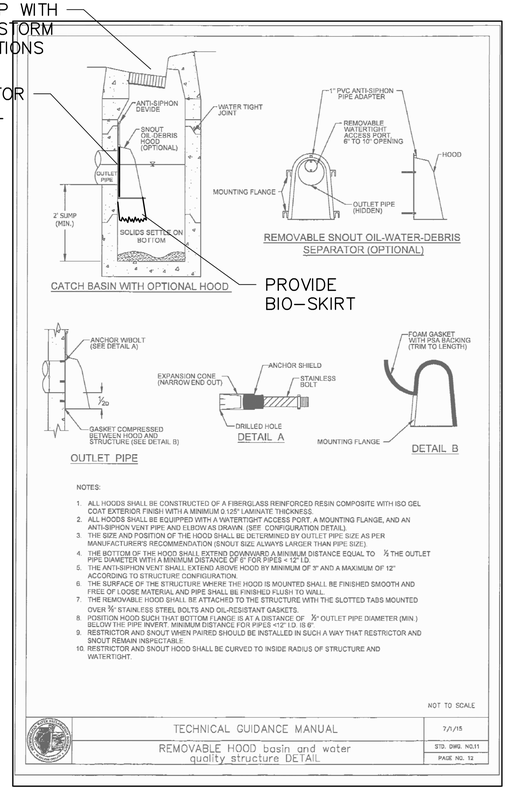
FEE IN LIEU OF STORAGE TO PUT IN A 2" RESTRICTOR
FEE = $1.00/FT^3
VOLUME = 1372.46 FT^3
COST = $1,372.46

STORAGE PROVIDED IN STORMTRAP UNIT UNDER PAVEMENT

FLOW THROUGH UNIT PROVIDED TO MEET VOLUME CONTROL REQUIREMENTS DUE TO CONTAMINATED SOILS AND FUEL CENTER USE

PROVIDE FLAT TOP WITH CLOSED LID PER STORM SEWER SPECIFICATIONS

PROVIDE RESTRICTOR PLATE PER DETAIL



NOTES:
1. ALL HOODS SHALL BE CONSTRUCTED OF A FIBERGLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
2. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN (SEE CONFIGURATION DETAIL).
3. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
4. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO ½ THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES = 12" I.D.
5. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
6. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
7. THE REMOVABLE HOOD SHALL BE ATTACHED TO THE STRUCTURE WITH THE SLOTTED TABS MOUNTED OVER ⅜" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKETS.
8. POSITION HOOD SUCH THAT BOTTOM FLANGE IS AT A DISTANCE OF ½" OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR PIPES =12" I.D. IS 6".
9. RESTRICTOR AND SNOUT WHEN PAIRED SHOULD BE INSTALLED IN SUCH A WAY THAT RESTRICTOR AND SNOUT REMAIN INSPECTABLE.
10. RESTRICTOR AND SNOUT HOOD SHALL BE CURVED TO INSIDE RADIUS OF STRUCTURE AND WATERTIGHT.

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL	7/1/15
REMOVABLE HOOD basin and water quality structure DETAIL	STD. DWG. NO.11
	PAGE NO. 12

GENERAL NOTES:
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REFERENCE BENCHMARK
NATIONAL GEODETIC SURVEY MONUMENT #DM3900

DISK LOCATED APPROXIMATELY 3.0 MILES SOUTH-SOUTHWEST OF ARLINGTON HEIGHTS, ON TOP OF THE SOUTH END OF EAST ABUTMENT ON GOLF ROAD BRIDGE OVER SALT CREEK

DATUM: NABD 88 ELEVATION = 696.09

SITE BENCHMARKS
1. SITE BENCHMARK #1 – CUT SQUARE ON LIGHT POLE BASE AT NORTHWEST CORNER OF SITE ELEVATION = 695.25

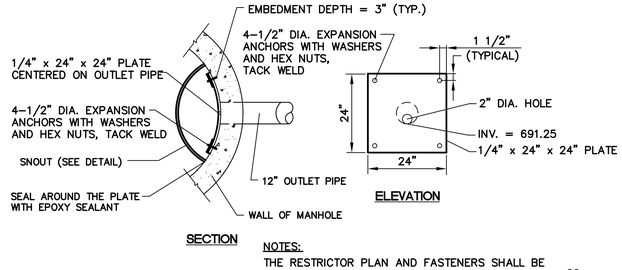
2. SITE BENCHMARK #2 – NORTHWEST BOLT ON FIRE HYDRANT NEAR SOUTHWEST CORNER OF SITE ELEVATION = 698.65

GRADING PLAN NOTES:
1. UNLESS OTHERWISE SPECIFIED, TOP OF CURB (TC) AND/OR TOP OF WALK ELEVATIONS ARE 0.5' HIGHER THAN THE ADJACENT FLOW LINE (FL) OR PAVEMENT (P) ELEVATIONS.
2. IN ALL LOCATIONS WHERE ELEVATIONS ARE SHOWN AS ±, THE ELEVATION HAS BEEN DETERMINED BASED ON INTERPOLATED GRADES FROM THE SURVEY. CONTRACTOR IS TO VERIFY THESE GRADES PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS WITHIN THE PROXIMITY OF THESE INTERPOLATED GRADES AND REPORT THEM TO THE DESIGN ENGINEER FOR VERIFICATION OF PROPOSED SLOPES PRIOR TO INSTALLATION OF PROPOSED IMPROVEMENTS. DESIGN ENGINEER IS NOT RESPONSIBLE FOR SLOPES OF PROPOSED IMPROVEMENTS BASED ON THESE ± GRADES WITHOUT CONFIRMATION OF EXISTING ELEVATIONS AT TIME OF CONSTRUCTION.
3. PAVING, SIDEWALK, AND CURBING IS NOT TO BE INSTALLED IN SUCH A WAY THAT IT WILL BLOCK THE FLOW OF WATER AWAY FROM THE BUILDING INCLUDING BUT NOT LIMITED TO WEEP HOLES, WICKS, DRAINAGE SCUPPERS OR PIPES, AND LANDSCAPING.
4. ALL RETAINING AND/OR DECORATIVE LANDSCAPE WALLS OR CURBS SHOWN ON THIS PLAN, INCLUDING DETAILS AND SECTIONS, ARE TO ILLUSTRATE GENERAL LOCATION, LENGTH, AND HEIGHT. STRUCTURAL DESIGN, INCLUDING PROPER DRAINAGE, TIE-BACKS, AND SHORING AS WELL AS CONSTRUCTION MEANS ARE NOT ADDRESSED AS PART OF THESE PLANS. A STRUCTURAL ENGINEER SHOULD BE ENGAGED BY THE GENERAL CONTRACTOR AS THEY DEEM NECESSARY. WATERMARK ENGINEERING RESOURCES ASSUMES NO LIABILITY FOR THE DESIGN OR CONSTRUCTION OF ANY STRUCTURAL ELEMENT.

UTILITY PLAN NOTES:
1. PRIOR TO CONSTRUCTION OF ANY UTILITIES, CONTRACTOR IS TO VERIFY THAT THE PROPOSED UTILITIES SHOWN ON THIS PLAN THAT ENTER THE PROPOSED BUILDING(S) CORRESPOND WITH THE UTILITIES ON THE PLUMBING PLANS AS THEY EXIT THE BUILDING(S). CONTRACTOR TO REPORT IN WRITING ANY DISCREPANCIES IN SIZE, LOCATION, OR INVERT ELEVATION TO THE DESIGN ENGINEER IMMEDIATELY FOR RESOLUTION OF THE CONFLICT IN WRITING.
2. GENERAL CONTRACTOR TO COORDINATE THE INSTALLATION AND PERMITTING OF THE PUBLIC UTILITIES, SUCH AS GAS, ELECTRIC, TELEPHONE, CABLE AND FIBER OPTICS, WITH THE PUBLIC UTILITY COMPANIES AND ARCHITECT PRIOR TO CONSTRUCTION. THE INSTALLATION OF THE PUBLIC UTILITIES AND NECESSARY SLEEVING TO BE INCLUDED AS PART OF GENERAL CONTRACTOR'S SCOPE OF WORK FOR THIS PROJECT.

UTILITY CROSSINGS

C01 BOTTOM OF 12" STORM = 692.00*
TOP OF 8" WATER = 690.50
*PROVIDE O-RING JOINTS



NOTES:
THE RESTRICTOR PLAN AND FASTENERS SHALL BE FABRICATED IN STAINLESS STEEL OR DUCTILE IRON.
THE PLATE SHALL BE CURVED TO MATCH THE INSIDE RADIUS OF THE CATCH BASIN.

RESTRICTOR PLATE DETAIL IN CB#2

PRELIMINARY

20 0 10 20 40 80

GRADING AND UTILITY PLAN

NO.	REVISIONS	DATE
1	REVISIONS PER VILLAGE REVIEW COMMENTS	1/15/19
2	REVISIONS PER VILLAGE REVIEW COMMENTS DATED 1/22/19	1/31/19

Prepared For:

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Chicago, IL 60654

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CHECKED BY:	B. PERRY
DESIGN BY:	S. SIMAK
DRAWN BY:	S. SIMAK
DATE:	DECEMBER 7, 2018
SCALE:	1" = 20'
PROJECT NO.:	18-123

C-3

GRADING AND UTILITY PLAN

PROJECT SPECIFICATIONS

1. CONTRACTOR IS TO FOLLOW ALL ORDINANCES AND REQUIREMENTS OF THE STATE, COMMUNITY, LOCAL DISTRICTS AND THE ILLINOIS ACCESSIBILITY CODE (IAC). ALL PROPOSED IMPROVEMENTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS WELL AS THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS" CURRENT EDITIONS.
2. THE CONTRACTOR SHALL INDEMNIFY WATERMARK ENGINEERING RESOURCES, LTD (THE DESIGN ENGINEER), ARCHITECT AND OWNER, THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONDUCTING WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, SPECIFICATIONS, AND ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THIS DEVELOPMENT.
3. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS THAT ARE REQUIRED BY THE LOCAL AGENCIES.
4. PRIOR TO BID AND PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL INSPECT THE SITE TO VERIFY THAT THERE ARE NO DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL CONDITIONS AT THE SITE. IF ANY DISCREPANCIES ARE FOUND, AT ANY TIME BEFORE OR DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY (BEFORE ANY ADDITIONAL IMPROVEMENTS ARE INSTALLED) IN ORDER TO OBTAIN WRITTEN CONFIRMATION BY THE DESIGN ENGINEER AS TO ANY REVISIONS THAT MAY NEED TO BE MADE TO THE PLANS.
5. PRIOR TO CONSTRUCTION, CONTRACTOR IS TO CONTACT THE DESIGN ENGINEER AND ARCHITECT TO VERIFY THAT THEY ARE WORKING FROM THE MOST CURRENT SET OF PLANS AND SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER, ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION, AND ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION 2 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE APPROPRIATE CONSTRUCTION INSPECTIONS.
7. THE MUNICIPALITY SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF THE IMPROVEMENTS.
8. PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS, THE CONTRACTOR MUST CALL J.U.L.I.E. FOR THE LOCATION AND STAKING OF EXISTING UNDERGROUND UTILITIES (GAS, ELECTRIC, TELEPHONE) AT 1-800-892-0123, 48 HOURS PRIOR TO DIGGING.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING RECORD DRAWINGS PER THE MUNICIPALITY AND/OR ANY OTHER AGENCY REQUIREMENTS. ANY CHANGES TO THE DRAWINGS MUST BE REPORTED TO THE DESIGN ENGINEER BEFORE WORK PROGRESSES.
10. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY THE MUNICIPALITY.
11. ALL QUANTITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE TO BE VERIFIED PRIOR TO CONSTRUCTION. IF DISCREPANCIES OCCUR, THE CONTRACTOR IS TO CONTACT THE DESIGN ENGINEER IMMEDIATELY AND NO WORK IS TO BE DONE UNTIL APPROVED BY THE DESIGN ENGINEER.
12. ANY RESTORATION NEEDED BECAUSE OF CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.
13. TRENCH BACKFILL MATERIAL, CRUSHED STONE OR LIMESTONE (CA-6) IS REQUIRED UNDER AND WITHIN TWO FEET (2') OF SIDEWALKS AND PAVED AREAS. THIS BACKFILL SHALL BE IN SIX INCH (6") LIFTS AND COMPACTED TO 95% STANDARD PROCTOR.
14. CONTRACTOR IS TO PROVIDE ALL TEMPORARY SIGNAGE AS REQUIRED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND LOCAL MUNICIPALITIES.
15. ALL EXISTING DRAIN TILES THAT ARE ENCOUNTERED ARE TO BE RESTORED TO THEIR ORIGINAL CONDITION OR REROUTED TO THE PROPOSED STORM SEWER SYSTEM.
16. RESTORATION OF EXISTING RIGHT-OF-WAYS IS TO BE COMPLETED WITH FOUR INCH (4") MINIMUM TOPSOIL AND SALT TOLERANT SOD UNLESS OTHERWISE NOTED.
17. THE WATER SYSTEM CANNOT BE SHUT DOWN WITHOUT CONSENT BY THE OWNER OF THE SYSTEM.
18. ALL FRAME ADJUSTMENTS SHALL BE MADE WITH PRE-CAST CONCRETE RINGS CONFORMING TO ASTM C-39 AND CANNOT EXCEED TWELVE INCHES (12").
19. FRAMES SHALL BE SET WITH EZ STIK8 (OR EQUAL) MATERIAL TO PREVENT LEAKAGE.
20. THE REINFORCED CONCRETE SECTIONS SHALL BE LAID IN MORTAR, SEALED WITH EXTERNAL SEALING BANDS, OR SEALED USING MASTIC JOINT SEALER. WHEN MASTIC JOINT SEALER IS USED, THE MATERIAL SHALL COMPLETELY FILL THE JOINT AFTER THE UNITS HAVE BEEN BROUGHT TOGETHER.
21. STEPS IN STRUCTURES SHALL BE MADE OF COPOLYMER POLYPROPYLENE PLASTIC WITH CONTINUOUS ONE HALF INCH (1/2") GRADE SIXTY (60) STEEL REINFORCEMENT, STEP PSI-PF, AS MANUFACTURED BY M.A. INDUSTRIES, INC., OR APPROVED EQUAL. STEPS TO BE SPACED SIXTEEN INCHES (16") ON-CENTER.
22. ALL INSTRUMENTS ARE TO BE PROPERLY CALIBRATED PRIOR TO CONSTRUCTION USE.
23. ALL PARKING LOT LIGHT POLES ARE TO BE CONSTRUCTED AT THE INTERSECTION OF PARKING LOT STRIPING OR IN LANDSCAPE AREAS WITH A MINIMUM OF 2' CLEARANCE BETWEEN THE BACK OF CURB AND THE EDGE OF THE PARKING LOT LIGHT BASE UNLESS OTHERWISE SPECIFIED.
24. GENERAL CONTRACTOR TO BECOME FAMILIAR WITH AND APPLY THE ADA MINIMAL REQUIREMENTS AND REPORT TO ARCHITECT/DESIGN ENGINEER ANY DISCREPANCIES BEFORE CONSTRUCTION. THIS INCLUDES, BUT NOT LIMITED TO, TRANSITIONS TO EXISTING CONDITIONS.
25. CONSTRUCTION MEANS, METHODS AND JOB SITE SAFETY IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
26. PAVING, SIDEWALK, AND CURBING IS NOT TO BE INSTALLED IN SUCH A WAY THAT IT WILL BLOCK THE FLOW OF WATER AWAY FROM THE BUILDING INCLUDING BUT NOT LIMITED TO WEEP HOLES, WICKS, DRAINAGE SCUPPERS OR PIPES, AND LANDSCAPE.

PAVEMENT

1. ALL PAVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING REFERENCES AS THEY APPLY: STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ILLINOIS DEPARTMENT OF TRANSPORTATION, LATEST EDITION; MANUAL FOR STRUCTURAL DESIGN OF PORTLAND CEMENT CONCRETE PAVEMENT, ILLINOIS DEPARTMENT OF TRANSPORTATION, LATEST EDITION; DESIGN MANUAL, ILLINOIS DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
2. ALL BASE COURSE AND SUB-BASE AREAS SHALL BE COMPACTED TO 95% STANDARD LABORATORY DENSITY, PER I.D.O.T. SECTION 301. BEFORE THE BASE COURSE MATERIALS ARE INSTALLED, THE SUB-BASE SHALL BE PROOF-ROLLED TO THE SATISFACTION OF THE ENGINEER, HIS AGENT, AND/OR THE SOILS ENGINEER. COMPACTION AND DENSITY TESTS SHALL BE TAKEN AT THE OWNER'S OPTION.
3. ALL CONCRETE TO BE MINIMUM 3500 PSI, SALT TOLERANT, 6 BAG MIX WITH A SPRAY ON SEALER.
4. EXPANSION AND CONTRACTION JOINTS SHALL BE TOOL FINISHED.
5. BINDER COURSE TO BE PLACED WHEN TEMPERATURE IS AT LEAST 40°F AND RISING. SURFACE COURSE TO BE PLACED WHEN TEMPERATURE IS AT LEAST 45° AND RISING.
6. ALL PROPOSED PAVEMENT, SIDEWALKS, AND CURBS ARE TO BE CONSTRUCTED TO WITHIN A TOLERANCE OF 0.05' OF THE PROPOSED ELEVATIONS EXCEPT IN THE ACCESSIBLE STALLS OR ACCESSIBLE ROUTES.
7. PRIOR TO SEAL COATING, ALL ASPHALT AREAS ARE TO BE CLEAN AND DRY. ALL LOOSE MATERIALS ARE TO BE REMOVED. ALL GREASE TO BE REMOVED. ALL CRACKS ARE TO BE FILLED PER IDOT STANDARDS. ALL PAINTED STRIPING TO BE MODIFIED SHALL BE "BLACKED OUT" WITH BLACK PAINT (1 COAT MINIMUM, 2 COATS IF NECESSARY), ALLOWED TO THOROUGHLY DRY PER PAINT MANUFACTURER, PRIOR TO SEAL COATING. ALL AREAS THAT ARE ADJACENT TO THE SEAL COATED AREA ARE TO BE MASKED (I.E. SIDEWALKS, CONCRETE SURFACES, BRICK SURFACES, GUTTERS, CATCHBASINS/INLETS, ETC.) PRIOR TO SEAL COATING TO BE APPLIED. AIR TEMPERATURE TO BE 50°F AND RISING. APPLICATION RATE TO BE SUCH THAT ALL SURFACES OF THE ASPHALT BEING COATED IS THOROUGHLY COVERED IN ONE COAT. SPRAYING IS NOT ALLOWED. ALL SEAL COATING SHOULD BE APPLIED BY SQUEEGEE OR BRUSHES. THE BITUMINOUS SEAL COATING MATERIAL SHOULD NOT BE ALLOWED TO ENTER STORM SEWERS AND SHOULD BE ALLOWED TO DRY AT LEAST 18 HOURS PRIOR TO VEHICULAR USE. CRACK FILLER AND SEAL COATING MATERIALS ARE TO BE FREE OF COAL TAR.

GRADING

1. GEOTECHNICAL REPORTS AS PREPARED BY OWNER (OR REPRESENTATIVE) SHALL BE REFERRED TO PRIOR TO EARTH MOVING AND/OR UTILITY CONSTRUCTION.
2. UNSTABLE SOIL SHALL BE REMOVED OR STABILIZED.
3. CONTRACTOR IS TO MAINTAIN A POSITIVE DRAINAGE PATTERN AT THE END OF EACH DAY. CARE SHOULD BE TAKEN TO INSURE THAT DRAINAGE IS NOT REROUTED OR BLOCKED IN A WAY THAT MAY BE INJURIOUS TO ADJACENT LAND.
4. THE SUB-BASE BELOW STRUCTURES, PAVEMENTS OR NEW STRUCTURAL FILL SHALL BE PROOF ROLLED. IF SOIL RUTS, PUMPS, DEFLECTS EXCESSIVELY OR EXHIBITS EXCESSIVE MOVEMENT OR MOISTURE, THEN THE UNSTABLE SOIL SHALL BE UNDERCUT AND REPLACED WITH STRUCTURAL FILL OR DISCING AND DRYING TO NEAR OPTIMUM MOISTURE SO SOIL CAN BE PROPERLY COMPACTED. THIS PROCESS IS TO BE OBSERVED BY A GEOTECHNICAL ENGINEER.
5. ALL FILLS SHALL BE PLACED IN 8" LIFTS COMPACTED TO A MINIMUM OF 98% STANDARD LABORATORY DENSITY PER ASTM D698 UNDER AND WITHIN INFLUENCE OF THE BUILDING, A MINIMUM OF 95% STANDARD LABORATORY DENSITY PER ASTM D698 UNDER AND WITHIN THE INFLUENCE OF ALL OTHER IMPERVIOUS AREAS, AND A MINIMUM OF 90% STANDARD LABORATORY DENSITY PER ASTM D698 IN ALL LANDSCAPE AREAS.
6. EROSION CONTROL SHALL BE PROVIDED PRIOR TO ANY DISTURBANCES. SEE EROSION CONTROL PLANS FOR ADDITIONAL SPECIFICATIONS AND DETAILS.
7. PROVIDE TOPSOIL RESPREAD PER THE FOLLOWING UNLESS OTHERWISE NOTED:
   A. 4" MINIMUM IN GRASS OR SOD AREAS.
   B. 6" MINIMUM IN PLANTING AREAS.
   C. 12" MINIMUM IN LANDSCAPE ISLANDS.
8. ALL TOPSOIL TO BE FRIABLE (NOT COHESIVE), WEED FREE, AND FREE OF ROCKS, LARGE ROOTS AND UNNATURAL DEBRIS.
9. ALL GRADING IS TO BE CONSTRUCTED TO WITHIN A TOLERANCE OF 0.10' OF THE PROPOSED ELEVATIONS. SEE PAVEMENT SPECIFICATIONS FOR PAVEMENT TOLERANCES.

SANITARY SEWER SPECIFICATIONS

1. ALL SANITARY SEWER PIPE SHALL BE EXTRA STRENGTH V.C.P. CONFORMING TO ASTM C-700 SPECIFICATIONS WITH ASTM C-425 JOINTS; OR D.I.P., MIN. CLASS 50, CONFORMING TO ANSI A-21.51 WITH ANSI A-21.11 JOINTS; OR P.V.C. PIPE CONFORMING TO ASTM D-3034 SPECIFICATIONS, SDR26 WALL THICKNESS AND ASTM D-3212 GASKET TYPE JOINTS OR ASTM D-2855 SOLVENT WELDED JOINTS.
2. ALL WATERMAIN QUALITY PLASTIC PIPE SHALL BE P.V.C. CONFORMING TO NSF STANDARD 14 AND: ASTM STANDARD D 1784 OR AWWA STANDARD C900 OR C905. JOINTING SHALL BE PRESSURE SLIP JOINTED. ELASTOMERIC SEALS (GASKETS) USED FOR PUSH-ON JOINTS SHALL COMPLY WITH ASTM STANDARD F477, AND SHALL BE PRESSURE RATED IN ACCORDANCE WITH ASTM D3139.
3. DEFLECTION OF POLYVINYL CHLORIDE (PVC) PIPE SHALL NOT EXCEED 5.0% OF THE "BASE I.D." (INTERNAL DIAMETER) OF THE PIPE. "BASE I.D." SHALL BE CALCULATED IN ACCORDANCE WITH THE FOLLOWING:

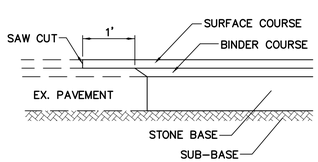
   AVG ID = AVG OD − 2(1.06)T

   TOLERANCE PACKAGE = (A^2 + B^2 + C^2)^(1/2)

   WHERE:

   A = OD TOLERANCE (ASTM D-3034)
   B = EXCESS WALL THICKNESS TOLERANCE = 0.06T
   C = OUT-OF-ROUNDNESS TOLERANCE = 0.015 (AVG OD)
   T = MINIMUM WALL THICKNESS (ASTM D-3034)
   BASE ID = AVG ID − TOLERANCE PACKAGE

   DEFLECTION OF COMPOSITE PIPE ("TRUSS" PIPE) SHALL NOT EXCEED 3.0% OF THE AVERAGE INSIDE DIAMETER (ID) OF THE PIPE IN ACCORDANCE WITH ASTM D-2680. THE PIPE LINE SHALL BE TESTED FOR EXCESS DEFLECTING BY PULLING A "GO − NO GO" MANDREL THROUGH THE PIPE FROM MANHOLE TO MANHOLE. THE MANDREL SHALL BE SIZED IN ACCORDANCE WITH SECTION 31-1.11C (4), AND AS SPECIFIED IN THE SPECIAL PROVISIONS. A "DEFLECTOMETER" MAY ALSO BE USED TO CHECK AND RECORD DEFLECTION. WHENEVER POSSIBLE AND PRACTICAL, THE TESTING SHALL INITIATE AT THE DOWNSTREAM LINES AND PROCEED TOWARDS THE UPSTREAM LINES. WHERE THE DEFLECTION IS FOUND TO BE IN EXCESS OF ALLOWABLE TESTING LIMITS, THE CONTRACTOR SHALL EXCAVATE TO THE POINT OF EXCESS DEFLECTION AND CAREFULLY COMPACT AROUND THE POINT WHERE EXCESS DEFLECTION WAS FOUND. THE LINE SHALL THEN BE RETESTED FOR DEFLECTION. HOWEVER, SHOULD AFTER THE INITIAL TESTING THE DEFLECTED PIPE FAIL TO RETURN TO THE ORIGINAL SIZE (INSIDE DIAMETER) THE LINE SHALL BE REPLACED.
4. INFILTRATION OR EXFILTRATION SHALL NOT EXCEED 100 GALLONS PER TWENTY-FOUR (24) HOURS PER MILE PER INCH-DIAMETER OF THE SEWER PIPE, FOR ANY SECTION OF THE SYSTEM AND AT ANY TIME DURING ITS SERVICE LIFE. TESTING IS REQUIRED PER THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS" CURRENT EDITIONS.
5. LEAKAGE TESTING FOR MANHOLES FOR WATER TIGHTNESS SHALL BE DONE IN ACCORDANCE WITH ASTM C969-94--"STANDARD PRACTICE FOR INFILTRATION AND EXFILTRATION ACCEPTANCE TESTING OF INSTALLED PRECAST CONCRETE PIPE SEWER LINES", VOL. 04.05, CHEMICAL RESISTANT MATERIALS, VITRIFIED CLAY, CONCRETE, FIBER-CEMENT PRODUCTS; MORTARS; MASONRY (1996)(NO LATER EDITIONS OR AMENDMENTS) OR ASTM C1244-93 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE PRESSURE (VACUUM) TEST", VOL. 04.05, CHEMICAL RESISTANT MATERIALS, VITRIFIED CLAY, CONCRETE, FIBER-CEMENT PRODUCTS; MORTARS; MASONRY (1996)(NO LATER EDITIONS OR AMENDMENTS) PRIOR TO PLACING INTO SERVICE.
6. ALL STRUCTURE LIDS SHALL BE IMPRINTED "SANITARY".
7. ALL WATERTIGHT FRAMES AND LIDS SHALL BE NEENAH R-1916-C. ALL OTHER FRAMES AND LIDS SHALL BE NEENAH R-1550-A WITH A CONCEALED PICK HOLE.
8. ALL FRAMES AND LIDS SHALL CONFORM TO ASTM A-48.
9. ALL SEWERS ARE TO BE INSTALLED FROM THE DOWNSTREAM END UPSTREAM. IF ANY CONFLICTS ARE ENCOUNTERED, THE DESIGN ENGINEER IS TO BE CONTACTED PRIOR TO TO THE INSTALLATION OF ANY PIPE.
10. FOR A DROP CONNECTION, THE DIAMETER OF THE DROP PIPE SHALL PREFERABLY BE LARGER THAN, OR OF THE SAME DIAMETER AS, THE ENTERING SEWER. THE MINIMUM DIAMETER OF THE DROP PIPE SHALL NOT BE SMALLER THAN THE DIAMETER OF THE ENTERING SEWER BY MORE THAN TWO NOMINAL DIAMETERS, PROVIDED THAT THE MINIMUM DIAMETER OF THE DROP PIPE SHALL NOT BE LESS THAN EIGHT INCHES (8").
11. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER.
12. ALL SANITARY SEWER BEDDING SHALL BE IN ACCORDANCE WITH THE TRENCH DETAIL AS INCLUDED IN THE PLANS.



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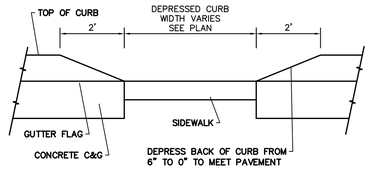


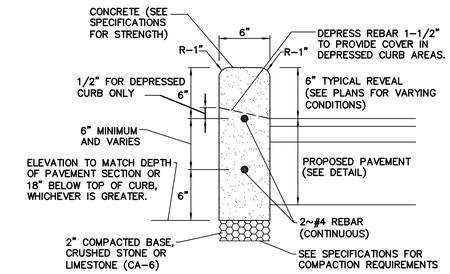
DROP CURB AT SIDEWALK

STORM SEWER SPECIFICATIONS

1. ALL REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C-76 SPECIFICATIONS WITH ASTM C-443 FLAT GASKET JOINTS, OR ASTM C-361 "O-RING" JOINTS WHEN WATER MAIN QUALITY JOINTS ARE REQUIRED.
2. ALL PLASTIC PIPE SHALL BE P.V.C. WITH SDR26 WALL THICKNESS AND CONFORM TO D-3034 SPECIFICATIONS WITH ASTM D-3212 GASKET TYPE JOINTS.
3. ALL WATERMAIN QUALITY PLASTIC PIPE SHALL BE P.V.C. CONFORMING TO NSF STANDARD 14 AND: ASTM STANDARD B 1784 OR AWWA STANDARD C900 OR C905. JOINTING SHALL BE PRESSURE SLIP JOINTED. ELASTOMERIC SEALS (GASKETS) USED FOR PUSH-ON JOINTS SHALL COMPLY WITH ASTM STANDARD F477, AND SHALL BE PRESSURE RATED IN ACCORDANCE WITH ASTM D3139.
4. ALL STRUCTURE LIDS SHALL BE IMPRINTED "STORM".
5. ALL FRAMES AND LIDS SHALL CONFORM TO ASTM A-48.
6. ALL SEWERS ARE TO BE INSTALLED FROM THE DOWNSTREAM END UPSTREAM. IF ANY CONFLICTS OR INFORMATION INCONSISTENT WITH SITE CONDITIONS ARE ENCOUNTERED, THE DESIGN ENGINEER IS TO BE CONTACTED PRIOR TO THE INSTALLATION OF ANYTHING.
7. IN PAVED AREAS, ALL FRAMES AND LIDS SHALL BE: NEENAH R-2050 OR R-2502 WITH TYPE D GRATE AT LOW POINTS; OR NEENAH R-3281-A IN CURB AND GUTTER; OR NEENAH R-1550-A WITH SOLID LID, UNLESS OTHERWISE SPECIFIED.
8. IN NON-PAVED AREAS, ALL FRAMES AND LIDS SHALL BE: NEENAH R-2090 OR R-2060 WITH TYPE B GRATE AT LOW POINTS; OR NEENAH R-1550-A WITH SOLID LID, UNLESS OTHERWISE SPECIFIED.
9. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER.
10. ALL FLARED END SECTIONS (FES) ARE TO BE INSTALLED WITH TRASH GRATES.

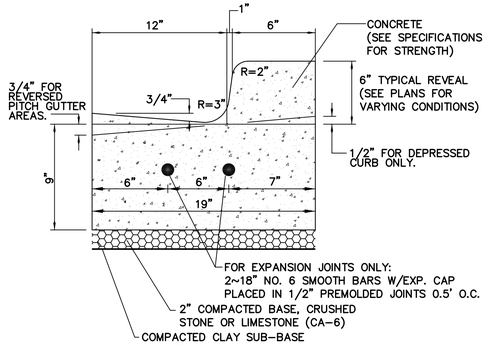
WATER MAIN SPECIFICATIONS

1. HORIZONTAL SEPARATION
   A. WATER MAINS AND SEWERS: WATER MAINS SHALL BE LAID AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER, COMBINED SEWER OR SEWER SERVICE CONNECTION.
   B. WATER MAINS MAY BE LAID CLOSER THAN TEN FEET TO A SEWER LINE OR SEWER SERVICE CONNECTION WHEN:
      i) LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF TEN FEET;
      ii) THE WATER MAIN INVERT IS AT LEAST EIGHTEEN INCHES (18") ABOVE THE CROWN OF THE SEWER; AND
      ii) THE WATER MAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER.
   C. BOTH THE WATER MAIN AND SEWER PIPE SHALL BE CONSTRUCTED OF PUSH JOINT OR MECHANICAL JOINT DUCTILE IRON PIPE, PRESSURE PIPE, OR PRESTRESSED CONCRETE PIPE MEETING THE REQUIREMENTS OF SECTION 653.111 OF THE IEPA'S TITLE 35 SUBTITLE F, WHEN IT IS IMPOSSIBLE TO MEET (A) OR (B) ABOVE. THE DRAIN OR SEWER SHALL BE PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.
2. VERTICAL SEPARATION
   A. A WATER MAIN SHALL BE LAID SO THAT ITS INVERT IS EIGHTEEN INCHES (18") ABOVE THE CROWN OF THE DRAIN OR SEWER WHENEVER WATER MAINS CROSS STORM SEWERS, SANITARY SEWERS OR SEWER SERVICE CONNECTIONS. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER MAIN LOCATED WITHIN TEN FEET HORIZONTALLY OF ANY SEWER OR DRAIN CROSSED. A LENGTH OF WATER MAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANT FROM THE SEWER OR DRAIN.
   B. BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF PUSH JOINT OR MECHANICAL JOINT DUCTILE PIPE, PRESTRESSED CONCRETE PIPE, OR PVC PIPE MEETING THE REQUIREMENTS OF SECTION 635.111 OF THE IEPA'S TITLE F, SUBTITLE F, AND CONSTRUCTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE PERPENDICULAR DISTANCE FROM THE WATER MAIN TO THE SEWER DRAIN LINE IS AT LEAST TEN FEET (10') WHEN:
      i) IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED IN (A) ABOVE; OR
      ii) THE WATER MAIN PASSES UNDER A SEWER OR DRAIN.
   C. A VERTICAL SEPARATION OF EIGHTEEN INCHES (18") BETWEEN THE INVERT OF THE SEWER OR DRAIN AND THE CROWN OF THE WATER MAIN SHALL BE MAINTAINED WHERE A WATER MAIN CROSSES UNDER A SEWER. SUPPORT THE SEWER OR DRAIN LINES TO PREVENT SETTLING AND BREAKING THE WATER MAIN.
3. WATER MAINS AND SERVICES SHALL BE CONSTRUCTED SO THAT THE MINIMUM DEPTH IS FIVE AND ONE HALF FEET (5 1/2') MEASURED FROM FINISHED GRADE TO THE TOP OF THE PIPE, UNLESS OTHERWISE SPECIFIED AND/OR APPROVED BY THE REVIEW ENGINEER.
4. ALL WATER MAIN FITTINGS MAY OR MAY NOT BE SHOWN ON THE PLANS AND SHOULD BE INCLUDED IN THE COST OF THE WATER MAIN ITSELF FOR BIDDING PURPOSES. ALL WATER MAIN SHALL BE DUCTILE IRON CLASS 52 CEMENT LINED CONFORMING TO ANSI A-21.51 WITH ANSI A-21.11 JOINTS, OR TYPE "K" COPPER PIPE WITH SWEATED JOINTS.
5. FIRE HYDRANTS SHALL MEET AWWA C-502 AND BE EAST JORDAN 5 BR, OR APPROVED EQUAL, WITH FIVE AND ONE QUARTER INCH (5 1/4")VALVE OPENING, TWO TWO AND ONE HALF INCH (2 1/2") HOSE NOZZLES AND ONE FIVE INCH (5") PUMPER NOZZLE. FIRE HYDRANT SHALL BE EQUIPPED WITH AN AUXILIARY RESILIENT SEAL GATE VALVE COMPLETE WITH ROADWAY BOX, TYLER, 6850 SERIES, ITEM 668-S. FIRE HYDRANTS MUST HAVE THEIR DISCHARGE AT LEAST 18 INCHES BUT NOT MORE THAN TWENTY-FOUR INCHES (24") FROM THE SURFACE OF THE ADJACENT GROUND.
6. HYDRANTS SHALL BE INSTALLED NO CLOSER THAN THREE FEET (3') NOR FURTHER THAN EIGHT FEET (8') FROM THE BACK OF CURB OR EDGE OF PAVEMENT TO THE FIVE INCH (5") STEAMER NUT. NO BARRIERS, TREES, SHRUBS, WALLS OR OTHER OBSTACLES WHICH MAY HIDE OR IMPEDE THE USE OF A FIRE HYDRANT SHALL BE INSTALLED, MAINTAINED, CONSTRUCTED, OR ENLARGED, WITHIN FORTY-EIGHT INCHES (48") OF A HYDRANT.
7. ALL STRUCTURE LIDS SHALL BE IMPRINTED "WATER".
8. ALL WATERTIGHT FRAMES AND LIDS SHALL BE NEENAH R-1916-C. ALL OTHER FRAMES AND LIDS SHALL BE NEENAH R-1550-A WITH A CONCEALED PICK HOLE.
9. ALL FRAMES AND LIDS SHALL CONFORM TO ASTM A-48.
10. BEFORE BEING PLACED INTO SERVICE, ALL NEW MAINS AND REPAIRED PORTIONS OF, OR EXTENSIONS TO EXISTING MAINS SHALL BE CHLORINATED SO THAT THE INITIAL CHLORINE RESIDUAL IS NOT LESS THAN FIFTY (50) mg/L AND THAT A CHLORINE RESIDUAL OF NOT LESS THAN TWENTY-FIVE (25) mg/L REMAINS IN THE WATER AFTER STANDING TWENTY-FOUR (24) HOURS IN THE PIPE.



TYPE "C" BARRIER CURB

1. PROVIDE 1/2" EXPANSION JOINTS EVERY 45' O.C.
2. PROVIDE HAND TOOLED CONTRACTION JOINTS EVERY 15' O.C.



B-6.12 CURB AND GUTTER

NOTES:
1. PROVIDE 1/2" EXPANSION JOINTS EVERY 45' O.C.
2. PROVIDE HAND TOOLED CONTRACTION JOINTS EVERY 15' O.C.
3. THE MINIMUM LONGITUDINAL CURB SLOPE SHALL BE 0.3%.

NO.	REVISIONS	DATE
1	REVISIONS PER VILLAGE REVIEW COMMENTS	1/15/19
2	REVISIONS PER VILLAGE REVIEW COMMENTS DATED 1/22/19	1/31/19

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DATE:	DECEMBER 7, 2018
SCALE:	NONE
PROJECT NO.:	18-123

PROJECT DETAILS AND SPECIFICATIONS

C-4

PROJECT DETAILS AND SPECIFICATIONS

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A. REFERENCED SPECIFICATIONS

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

B. NOTIFICATIONS

1. THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-588-4055).
2. THE VILLAGE OF FRANKLIN PARK ENGINEERING DEPARTMENT AND PUBLIC MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.
3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

C. GENERAL NOTES

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

D. SANITARY SEWER

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

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425
REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443
CAST IRON SOIL PIPE	ASTM A-74	ASTM C-564
DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11
POLYVINYL CHLORIDE (PVC) PIPE		
6-INCH TO 15-INCH DIAMETER SDR 26	ASTM D-3034	ASTM D-3212
18-INCH TO 27-INCH DIAMETER F/DY=46	ASTM F-679	ASTM D-3212
HIGH DENSITY POLYETHYLENE (HDPE)	ASTM D-3350 ASTM D-3035	ASTM D-3261,F-2620 (HEAT FUSION) ASTM D-3212,F-477 (GASKETED)
WATER MAIN QUALITY PVC		
4-INCH TO 36-INCH	ASTM D-2241	ASTM D-3139
4-INCH TO 12-INCH	AWWA C900	ASTM D-3139
14-INCH TO 48-INCH	AWWA C905	ASTM D-3139

THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS SUBJECT TO DISTRICT REVIEW AND APPROVAL PRIOR TO PERMIT ISSUANCE. A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT WHEN THE PIPE MATERIAL BELOW IS USED FOR SEWER CONSTRUCTION OR A CONNECTION IS MADE.

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
POLYPROPYLENE (PP) PIPE		
12-INCH TO 24-INCH DOUBLE WALL	ASTM F-2736	D-3212, F-477
30-INCH TO 60-INCH TRIPLE WALL	ASTM F-2764	D3212, F-477

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

E. EROSION AND SEDIMENT CONTROL

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

MWRD SPECIFICATIONS

NO.	REVISIONS	DATE
1	NO REVISIONS	1/15/19
2	NO REVISIONS	1/31/19

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DRAWN BY: S. SMAK	
DATE: DECEMBER 7, 2018	
SCALE: NONE	
PROJECT NO.: 18-123	

C-5

MWRD SPECIFICATIONS

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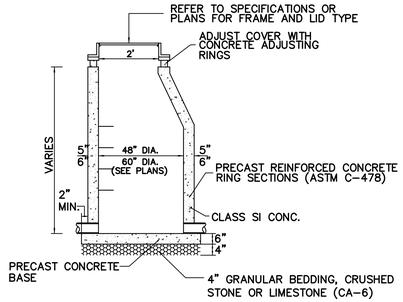
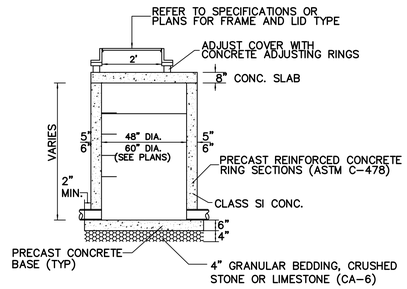
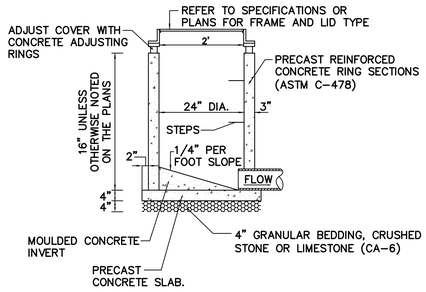


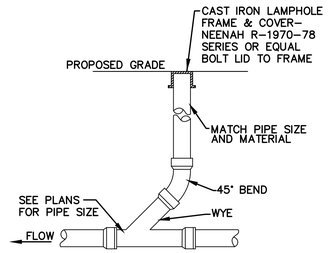
STORM MANHOLE (I.D.O.T TYPE "A")



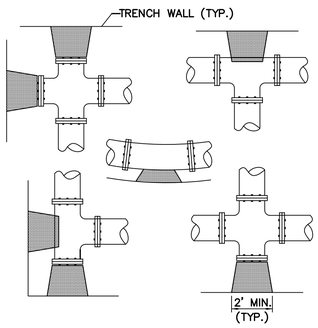
STORM MANHOLE (FLAT TOP)



24" INLET (I.D.O.T TYPE "A")

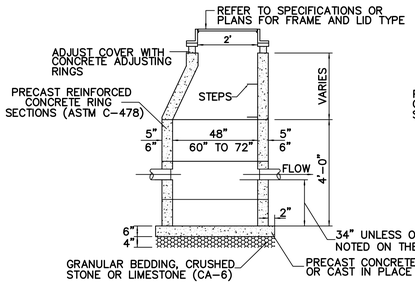


CLEANOUT DETAIL

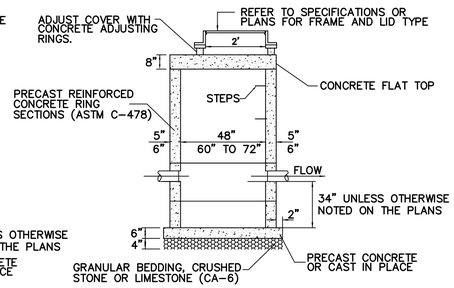


NOTES:
1. ALL BLOCKS SHALL BE WITH POURED CONCRETE AGAINST UNDISTURBED EARTH.
2. AREA OF UNDISTURBED EARTH SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS AND THE SOILS ENGINEERS INSTRUCTIONS.

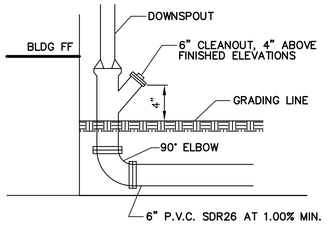
THRUST BLOCK INSTALLATION



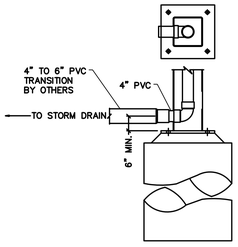
CATCHBASIN 48" TO 72" (I.D.O.T TYPE "A")



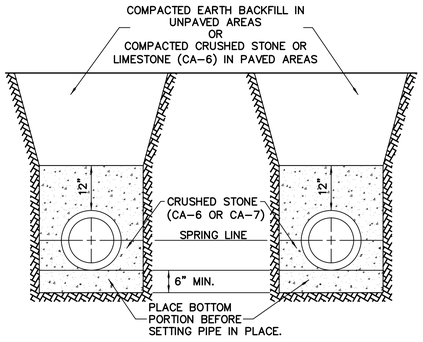
CATCHBASIN 48" TO 72" (FLAT TOP)



DOWNSPOUT CONNECTION DETAIL



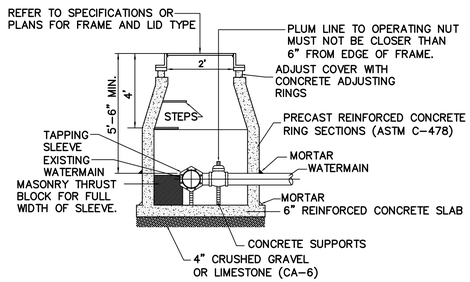
CANOPY COLUMN CONNECTION



CLASS 1A (FLEXIBLE PIPE, ASTM 2321-89) TYPE B (RIGID PIPE)

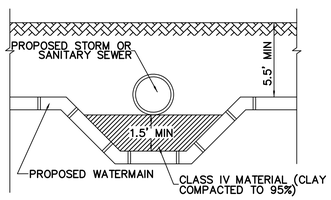
NOTES:
1. GRANULAR BEDDING IS NOT REQUIRED FOR WATER MAIN; HOWEVER, SOIL BASE BEDDING MUST BE COMPACTED AND STABLE MATERIAL.
2. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION.
3. MAXIMUM WIDTH OF TRENCH AT TOP OF PIPE FOR ALL CLASSES IS TO BE 4/3 INTERNAL DIAMETER PLUS 10" UNLESS SHEETING IS USED.
4. MINIMUM COVER FOR PVC, HDPE, AND CMP IS 12" FROM THE TOP OF THE PIPE TO THE BOTTOM OF ASPHALT/OR TO BOTTOM OF CONCRETE PAVEMENT, OR TO FINISHED GRADE ELEVATION IN LANDSCAPED AREAS.
5. TRENCH BACKFILL MUST BE WELL SPADED ON BOTH SIDES OF PIPE.
6. TRENCH BACKFILL AND BEDDING MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD LABORATORY DENSITY PER ASTM D698.

TRENCH DETAIL



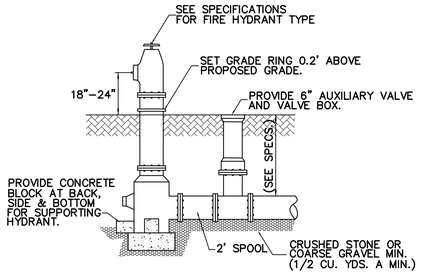
PRESSURE CONNECTION

NOTES:
1. 60" MINIMUM DIAMETER FOR ALL PRESSURE CONNECTIONS.
2. PIPE OPENINGS TO BE CAST INTO WALL.



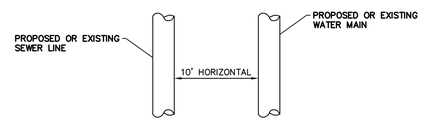
WATER MAIN CROSSING

NOTE:
1. USE MIN. 21 L.F. OF WATERMAIN CLASS PIPES (MIN. 10' ON EACH SIDE OF THE CROSSING). SEE SPECIFICATIONS FOR PIPE AND JOINT SPECIFICATIONS.



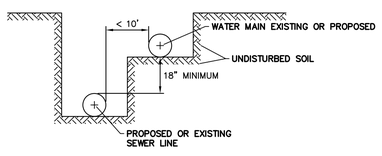
FIRE HYDRANT

WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10 FEET OR MORE FROM EXISTING WATER (OR SEWER), NO SPECIAL CONSTRUCTION REQUIRED. SEE ARTICLE 41-2.01A (1)

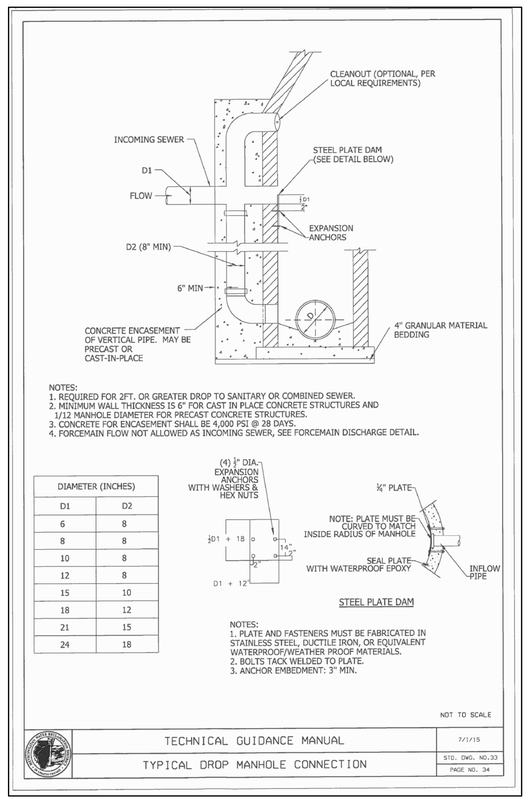


PLAN VIEW

WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10 FEET FROM EXISTING WATER (OR SEWER), DETAILS BELOW SHALL APPLY. SEE ARTICLE 41-2.01B (2)



WATER AND SEWER SEPARATION REQUIREMENTS
HORIZONTAL SEPARATION



NOTES:
1. REQUIRED FOR 2FT. OR GREATER DROP TO SANITARY OR COMBINED SEWER.
2. MINIMUM WALL THICKNESS IS 6" FOR CAST IN PLACE CONCRETE STRUCTURES AND 1/12 MANHOLE DIAMETER FOR PRECAST CONCRETE STRUCTURES.
3. CONCRETE FOR ENCASEMENT SHALL BE 4,000 PSI @ 28 DAYS.
4. FORCEMAIN FLOW NOT ALLOWED AS INCOMING SEWER, SEE FORCEMAIN DISCHARGE DETAIL.

DIAMETER (INCHES)	
D1	D2
6	8
8	8
10	8
12	8
15	10
18	12
21	15
24	18

STEEL PLATE DAM

NOTES:
1. PLATE AND FASTENERS MUST BE FABRICATED IN STAINLESS STEEL, DUCTILE IRON, OR EQUIVALENT WATERPROOF/WEATHER PROOF MATERIALS.
2. BOLTS TACK WELDED TO PLATE.
3. ANCHOR EMBEDMENT: 3" MIN.

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 7/1/15
TYPICAL DROP MANHOLE CONNECTION — STD. DWG. NO.33 — PAGE NO. 34

NO.	REVISIONS	DATE
1	NO REVISIONS	1/15/19
2	REVISIONS PER VILLAGE REVIEW COMMENTS DATED 1/22/19	1/31/19

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CHECKED BY: B. PERRY
DESIGN BY: S. SIMAK
DRAWN BY: S. SIMAK
DATE: DECEMBER 7, 2018
SCALE: NONE
PROJECT NO.: 18-123

PROJECT DETAILS

PROJECT DETAILS

C-6

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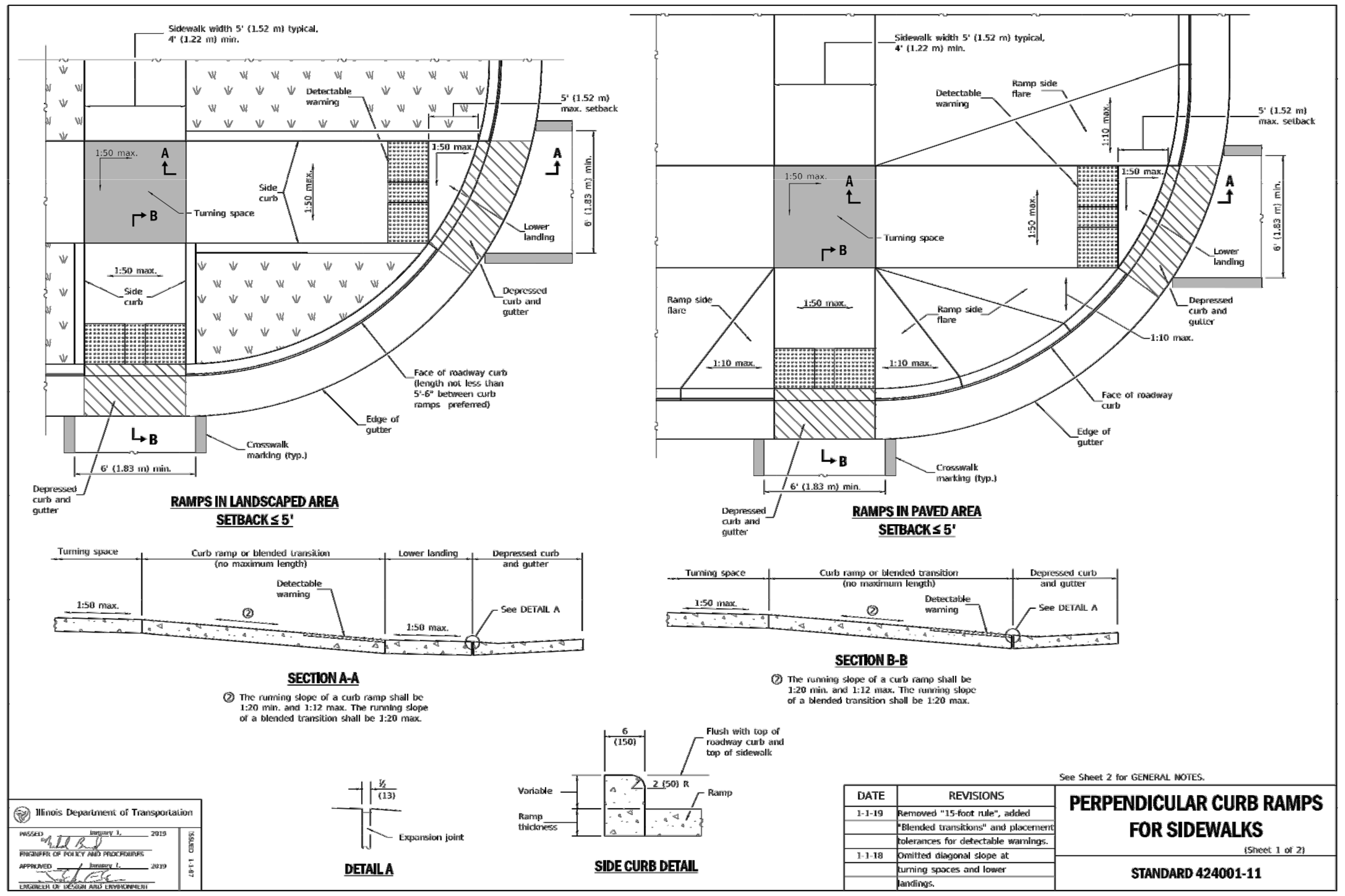
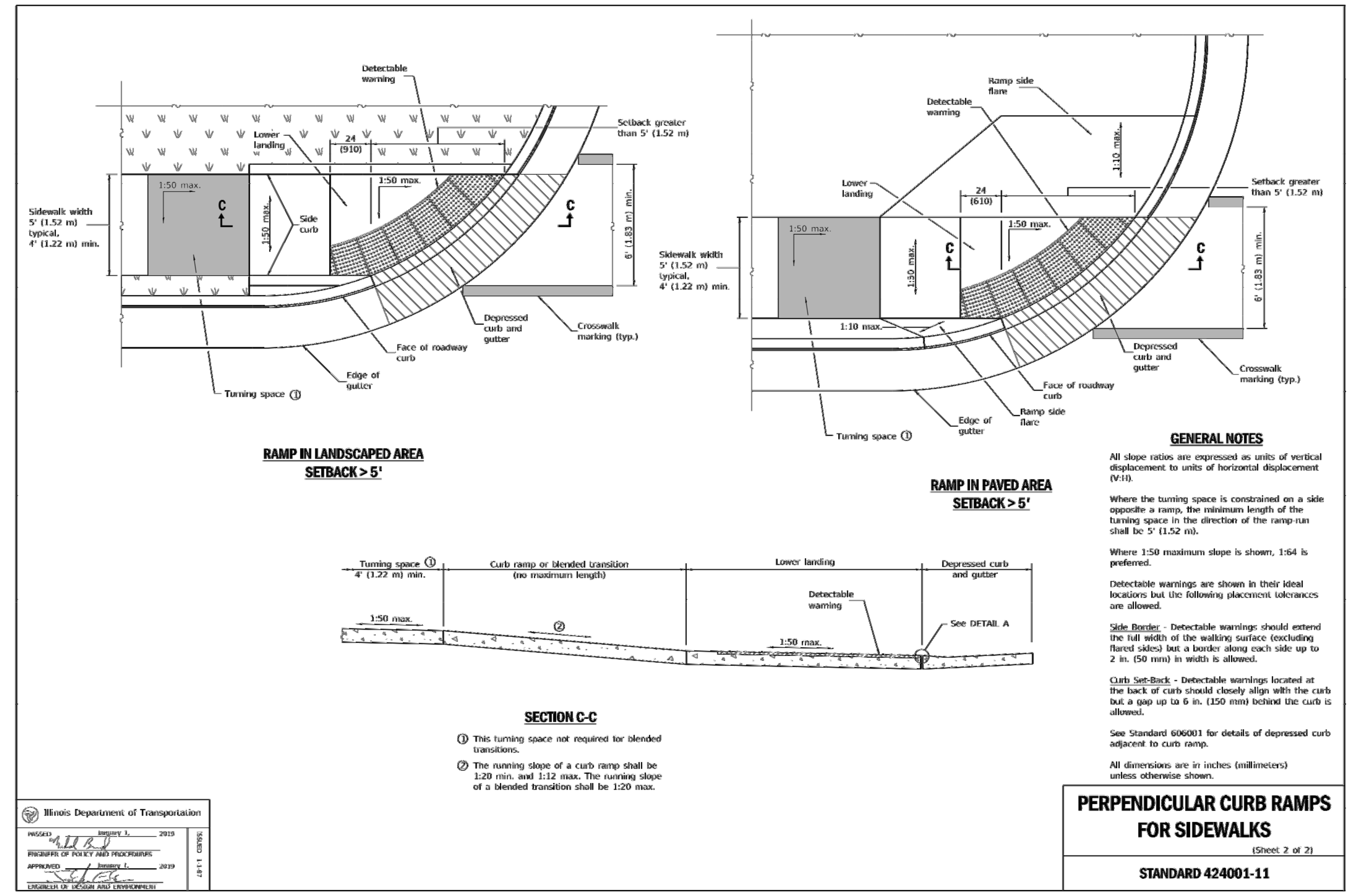


RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'
RAMPS IN PAVED AREA
SETBACK ≤ 5'
SECTION A-A
② The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.
SECTION B-B
② The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.
DETAIL A
SIDE CURB DETAIL
See Sheet 2 for GENERAL NOTES.
Illinois Department of Transportation
PERPENDICULAR CURB RAMPS FOR SIDEWALKS
(Sheet 1 of 2)
STANDARD 424001-11



RAMP IN LANDSCAPED AREA
SETBACK > 5'
RAMP IN PAVED AREA
SETBACK > 5'
SECTION C-C
① This turning space not required for blended transitions.
② The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.
GENERAL NOTES
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).
Where 1:50 maximum slope is shown, 1:64 is preferred.
Detectable warnings are shown in their ideal locations but the following placement tolerances are allowed.
Side Border - Detectable warnings should extend the full width of the walking surface (excluding flared sides) but a border along each side up to 2 in. (50 mm) in width is allowed.
Curb Set-Back - Detectable warnings located at the back of curb should closely align with the curb but a gap up to 6 in. (150 mm) behind the curb is allowed.
See Standard 606001 for details of depressed curb adjacent to curb ramp.
All dimensions are in inches (millimeters) unless otherwise shown.
Illinois Department of Transportation
PERPENDICULAR CURB RAMPS FOR SIDEWALKS
(Sheet 2 of 2)
STANDARD 424001-11

NO.	REVISIONS	DATE
1	NO REVISIONS	1/15/19
2	REVISIONS PER VILLAGE REVIEW COMMENTS DATED 1/22/19	1/31/19

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IDOT DETAILS

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IDOT DETAILS

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