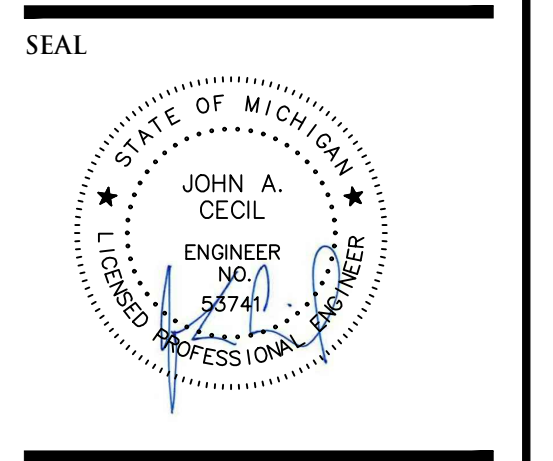


NF ENGINEERS
 CIVIL ENGINEERS
 LAND SURVEYORS
 LAND PLANNERS

NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVE.
 PONTIAC, MI 48342-5032
 TEL. (248) 332-7931
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Storm Sewer Structure Schedule

Structure Name	Structure Details
EX 1 4' DIA. MANHOLE EJ 1040 TYPE "B" SOLID COVER	EX. RIM 137.72 EX. 6" N. INV. 131.72 EX. 8" W. INV. 132.02 EX. 8" SW INV 131.52 PR. 8" NE INV 134.50
#1 2' DIA. CATCH BASIN ADS STRUCTURE WITH METAL GRATE	PR. RIM 139.30 PR. 8" SW INV. 135.31



PROJECT
 Crystal Loft Parking Lot

CLIENT
 3100 Woodward 2014 LLC
 c/o American Community Developers
 20250 Harper, Detroit MI 48225

QUANTITY NOTE:
 CONTRACTOR SHALL CALCULATE HIS/HER OWN QUANTITIES FOR ALL ITEMS OF WORK WHETHER OR NOT INDICATED ON THESE PLANS. THE OWNER OR ENGINEER IS NOT RESPONSIBLE FOR ANY DIFFERENCES IN QUANTITIES. (INCIDENTAL TO CONTRACT)

ESTIMATED QUANTITIES

STORM SEWER

DESCRIPTION	QUANTITY	UNITS
6" PVC SCH 40, SEWER PIPE	161	L.F.
2' DIA. INLET	1	E.A.
TAP/CONNECTION	1	E.A.

Phone: 313.881.8150

ESTIMATED QUANTITIES

PAVING

DESCRIPTION	QUANTITY	UNITS
8" AGGREGATE BASE, 21AA, CRUSHED CONCRETE (SUPPLEMENTAL AGGREGATE)	55	TON
1.5" SE1, HMA	25	TON
2.5", 4E1, HMA	90	TON
SE1, HMA (OVERLAY)	25	TON
CONCRETE PARKING BLOCKS	19	E.A.
SUBGRADE UNDERCUTTING, TYPE IV	30	C.Y.
8" AGGREGATE BASE AND HMA PAVEMENT	50	C.Y.
PARKING LOT STRIPING	1	LSUM
REMOVE AND REPLACE FENCE	1	LSUM

PROJECT LOCATION
 3100 Woodward Ave. & 47 & 57 Watson Street

City of Detroit, Wayne County, MI

SHEET
 Paving & Grading Plan



DATE	ISSUED/REVISED
11-11-21	ISSUED FOR PERMITS

DRAWN BY:
 J. Cecil

DESIGNED BY:
 J. Cecil

APPROVED BY:
 J. Cecil

DATE:
 November 2, 2021

SCALE: 1" = 20'

NFE JOB NO. SHEET NO.
E326-10 C4

NOTES

THE CONTRACTOR SHALL FIELD VERIFY ALL CONNECTION POINTS TO THE EXISTING SEWER PRIOR TO STORM DRAIN INSTALLATION TO DETERMINE PIPE SIZE AND ELEVATION. CONTACT ENGINEER WITH ANY MODIFICATIONS.

STORM DRAINAGE NOTES

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY. THE MUNICIPALITY STANDARD NOTES, DETAILS AND SPECIFICATIONS SHALL BE INCORPORATED AS PART OF THEIR PLANS.

ALL STORM SEWER TRENCHES UNDER OR WITHIN THREE (3) FEET OF EXISTING OR PROPOSED PAVEMENT SHOULD BE BACKFILLED WITH MDT CLASS II MATERIAL (SAND) AND BE MACHINE COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S MAXIMUM DENSITY. PAVEMENT SHALL INCLUDE PARKING LOTS, DRIVE APPROACHES, CURB & GUTTER AND ADJACENT WALLS.

ALL STORM SEWER PIPE SHALL BE INSTALLED ON CLASS "B" BEDDING OR BETTER UNLESS OTHERWISE INDICATED ON THE PLANS.

STORM SEWER SHALL BE OF THE TYPE, SIZE & CLASS DESIGNATION INDICATED ON THE PLANS AND SHALL BE INSTALLED AT THE PROPOSED LINE AND GRADE INDICATED.

ALL STORM SEWER PIPE SHALL BE PVC SCH 40 OR APPROVED EQUAL. THE CONTRACTOR SHALL FOLLOW ALL NYOPLAST ADS STANDARDS FOR INSTALLATION.

ALL MANHOLE, CATCH BASIN, INLET, REAR YARD DRAIN FRAMES AND COVERS SHALL BE AS INDICATED ON THE PLANS IN ACCORDANCE WITH MUNICIPALITY STANDARDS, AND ADS MANUFACTURERS STANDARDS.

THE CONTRACTOR SHALL NOTIFY MISS DIG (1-800-482-7171) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

EXACT GRADES AND INVERTS OF PROPOSED STORM SEWER ARE TO BE CHECKED WITH THE FIELD ENGINEER PRIOR AND DURING INSTALLATION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER OF ANY PLAN INCONSISTENCY AN/OR UTILITY CONFLICTS.

ALL STORM SEWER PIPE JOINTS SHALL BE "PREMIUM JOINT" MODIFIED GROOVED TONGUE, (M.G.T.) WITH SYNTHETIC RUBBER GASKETS CONFORMING TO ASTM SPECIFICATION C-443 & C-361 UNLESS OTHERWISE INDICATED ON THE PLANS. ALTERNATE JOINT CONNECTION MAY BE STANDARD GROOVED TONGUE WITH COLD MASTIC (DEWITT #10 JOINT COMPOUND OR EQUAL).

FACTORY MANUFACTURED PRECAST TEE SECTIONS SHALL BE USED FOR ROOF DRAINS AND/OR SUMP PUMP LEADS AND LATERALS WHERE INDICATED ON THE PLANS. BLIND TOP CONNECTIONS INTO STORM SEWER WILL NOT BE PERMITTED BY BREAKING PIPE WALL.

THE UNDERGROUND SITE CONTRACTOR SHALL INSTALL ALL STORM SEWER BUILDING LEADS TO WITHIN FIVE (5) FEET OF PROPOSED BUILDING.

GROUDED RIP RAP SHALL BE INSTALLED AT THE ENDS OF ALL CULVERTS AND END SECTIONS. GROUDED RIP RAP SHALL LIKEWISE BE INSTALLED AT OUTLET POINTS IN DETENTION AND SEDIMENTATION FACILITY. THE MINIMUM WIDTH OF THE RIP RAP SHALL BE TWICE THE OUTSIDE DIAMETER OF THE PIPE. THE RIP RAP SHALL EXTEND FROM THE BOTTOM OF THE SLOPE TO THE PIPE INVERT.

THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL SITE INSPECTION.

GENERAL PAVING NOTES

PAVEMENT SHALL BE OF THE TYPE, THICKNESS AND CROSS SECTION AS INDICATED ON THE PLANS AND AS FOLLOWS:

CONCRETE: PORTLAND CEMENT TYPE IA (AIR-ENTRAINED) WITH A MINIMUM CEMENT CONTENT OF SIX SACKS PER CUBIC YARD, MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND A SLUMP OF 1 1/2 TO 3 INCHES.

ASPHALT: BASE COURSE - MDT BITUMINOUS MIXTURE HMA 4E1, 20AA; SURFACE COURSE - MDT BITUMINOUS MIXTURE HMA SE1, 20AA; ASPHALT CEMENT PENETRATION GRADE 85-100, BOND COAT - MDT SS-1H EMULSION AT 0.10 GALLON PER SQUARE YARD; MAXIMUM 2 INCH LIFT.

PAVEMENT BASE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT. EXISTING SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE ENGINEER TO DETERMINE STABILITY.

ALL CONCRETE PAVEMENT, DRIVEWAYS, CURB & GUTTER, ETC., SHALL BE SPRAY CURED WITH WHITE MEMBRANE CURING COMPOUND IMMEDIATELY FOLLOWING FINISHING OPERATION.

ALL CONCRETE PAVEMENT JOINTS SHALL BE FILLED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALING COMPOUND IMMEDIATELY AFTER SAWCUT OPERATION. FEDERAL SPECIFICATION SS-S164.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION.

FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL INSPECTION.

ALL PAVEMENT AREAS SHALL BE PROOF-ROLLED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF BASE MATERIALS AND PAVING MATERIALS.

FILL AREAS SHALL BE MACHINE COMPACTED IN UNIFORM LIFTS NOT EXCEEDING 9 INCHES THICK TO 98% OF THE MAXIMUM DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT.

PAVING LEGEND

	PROPOSED 2 INCH ASPHALT OVERLAY
	PROPOSED FULL DEPTH ASPHALT PAVEMENT

LEGEND

	MANHOLE	EXISTING SANITARY SEWER
	HYDRANT	SAN. CLEAN OUT
	GATE VALVE	EXISTING WATERMAIN
	MANHOLE CATCH BASIN	EXISTING STORM SEWER
	EX. R. Y. CATCH BASIN	EXISTING BURIED CABLES
	UTILITY POLE	OVERHEAD LINES
	GUY POLE	LIGHT POLE
	GUY WIRE	SIGN
	EXISTING GAS MAIN	PR. SANITARY SEWER
	C.O. MANHOLE	PR. WATER MAIN
	HYDRANT	PR. STORM SEWER
	INLET	PR. R. Y. CATCH BASIN
	C.B. MANHOLE	PROPOSED LIGHT POLE
	PROPOSED LIGHT POLE	PR. TOP OF CURB ELEVATION
	PR. GUTTER ELEVATION	PR. TOP OF WALK ELEVATION
	PR. TOP OF P.V.M. ELEVATION	FINISH GRADE ELEVATION