





PROPRIETARY INFORMATION
 THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CARRIER SERVICES IS STRICTLY PROHIBITED.

NC-MI-DTBUND-TMO
 DEYH006A
 ALPHA CABINET-SE41
 DETROIT, MI



APPLICANT

 3030 Warrenville Rd, Suite 340
 Lisle, IL 60532
 www.extenet.com

ARCHITECT/ENGINEER

VERITÀ
 TELECOMMUNICATIONS CORPORATION
 Verità Telecommunications Corporation
 47059 Five Mile Road
 Plymouth, MI 48170

REVISIONS:

#	DATE	DESCRIPTION	INT.
2	3/2/23	REVISION	MD
1	1/12/23	PERMITTING	MD

PROFESSIONAL STAMP

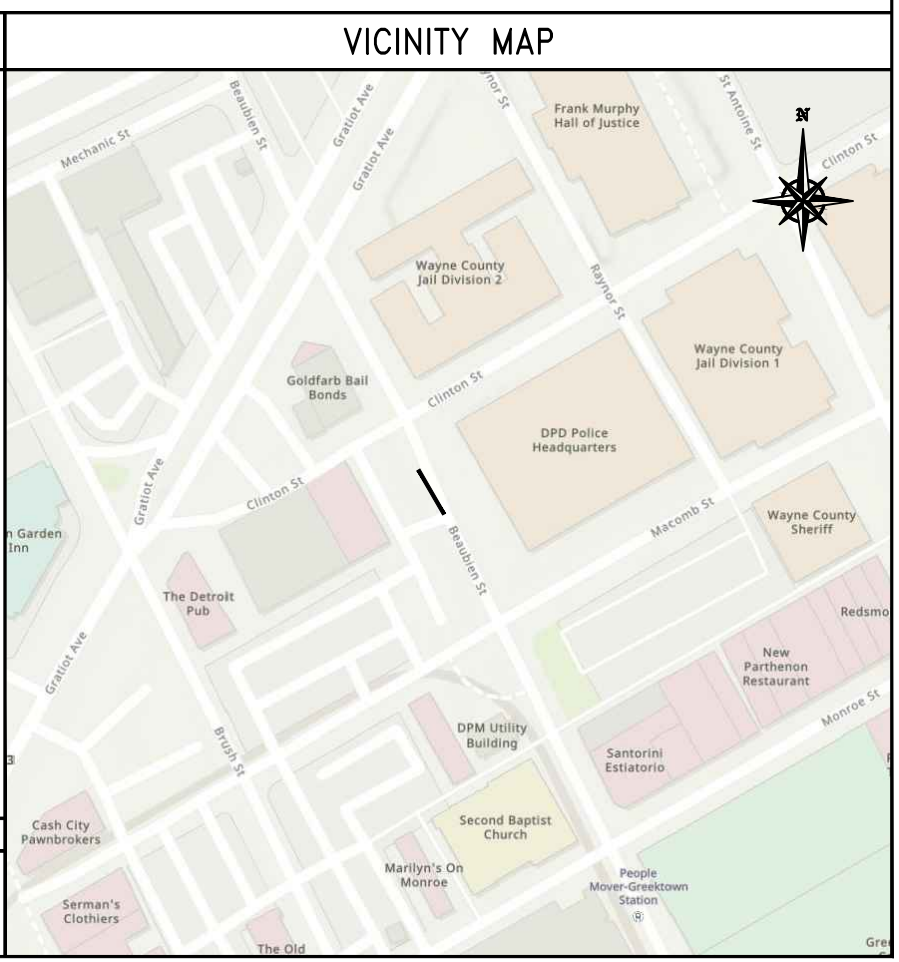
PROJECT NAME:
 NC-MI-DTBUND-TMO
 DEYH006A

PROJECT LOCATION:
 20 W ELIZABETH ST
 DETROIT, MI 48201

SHEET TITLE:
 COVER SHEET &
 PROJECT INFORMATION

SHEET NUMBER:
 C1

EXTENET PROJECT TEAM	PERMITTING AGENCIES	SHEET INDEX
APPLICANT: EXTENET SYSTEMS, INC. 3030 WARRENVILLE ROAD SUITE 340 LISLE, IL 60532 PHONE: (630) 505-3800 FAX: (630) 577-1332 ENGINEER/ARCHITECT: VERITÀ TELECOMMUNICATIONS CORP. 47059 FIVE MILE ROAD PLYMOUTH, MI 48170 CONTACT: BENJAMIN REEVE PHONE: (740) 403-7012 CONSTRUCTION MANAGER: EXTENET SYSTEMS INC. CONTACT: BILL VORCE PHONE: (248) 882-4360 PROJECT MANAGER: EXTENET SYSTEMS INC. 3030 WARRENVILLE ROAD SUITE 340 LISLE, IL 60532 CONTACT: KEVIN TROPECK PHONE: (724) 312-5174 MUNICIPAL AFFAIRS: EXTENET SYSTEMS INC. CONTACT: KEITH DAVIDOW PHONE: (248) 252-2000	UTILITY COMPANY: DTE ENERGY CONTACT: REBECCA PICKLER PHONE: (313) 235-8426 CITY OF DETROIT- ENGINEERING: 2 WOODWARD AVE, SUITE 611 DETROIT, MI 48226 CONTACT: STELLA KULANGARA PHONE: (313) 224-3935 STEKUL@DETROITMI.GOV MDOT: DETROIT TSC CONTACT: OCTAVIA SHAMILY PHONE: (313) 967-5436 SHAMILYO@MICHIGAN.GOV	C1 COVER SHEET & PROJECT INFORMATION C2 PROJECT KEY MAP L1 GENERAL NOTES ABBREVIATIONS & SYMBOLS P1 BEAUBIEN ST & CLINTON ST D1 CABINET DETAIL D2 PLINTH DETAIL D3 CITY OF DETROIT DETAILS D4 CITY OF DETROIT DETAILS D5 CITY OF DETROIT DETAILS D6 CITY OF DETROIT DETAILS D7 CITY OF DETROIT DETAILS D8 CITY OF DETROIT DETAILS D9 CITY OF DETROIT DETAILS D10 CITY OF DETROIT DETAILS D11 CITY OF DETROIT DETAILS D12 CITY OF DETROIT DETAILS D13 CITY OF DETROIT DETAILS D14 CITY OF DETROIT DETAILS D15 CITY OF DETROIT DETAILS
		PROJECT DESCRIPTION THESE DRAWINGS DEPICT A PORTION OF A SMALL CELL SYSTEM TELECOMMUNICATIONS NETWORK, TO BE CONSTRUCTED, OWNED AND OPERATED BY EXTENET SYSTEMS, IN THE PUBLIC RIGHT OF WAY PURSUANT TO AUTHORITY GRANTED BY THE MICHIGAN METRO ACT. THE MAIN COMPONENTS OF THIS INSTALLATION ARE: THE INSTALLATION OF ONE (1) ALPHA SE41 ELECTRICAL CABINET, ASSOCIATED ELECTRICAL COMPONENTS, AND MOUNTING EQUIPMENT AS REQUIRED.





PROJECT KEY MAP

SCALE
NTS 1

APPLICANT



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Blank area for the professional stamp.

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DEYH006A**

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DETROIT, MI 48201**

SHEET TITLE:

PROJECT KEY MAP

SHEET NUMBER:

C2

GENERAL NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION...

SPECIAL NOTES

- 1. INDEMNIFICATION CLAUSE: THE CONTRACTOR AGREES AND SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY OF THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION...

EROSION AND SEDIMENT CONTROL NOTES

- TEMPORARY EROSION/SEDIMENT CONTROL PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW...

ABBREVIATIONS

Table with columns for abbreviations and their corresponding full names, including AL ALUMINUM, ANT ANTENNA, AMSL ABOVE MEAN, etc.

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES...



APPLICANT: extenet SYSTEMS, 3030 Warrenville Rd, Suite 340, Lisle, IL 60532, www.extenet.com. ARCHITECT/ENGINEER: Verità Telecommunications Corporation, 47059 Five Mile Road, Plymouth, MI 48170.

Table with columns for REVISIONS, including columns for revision number, date, description, and initials.

PROFESSIONAL STAMP

GENERAL NOTES

SCALE NTS 3

ROW GROUND CONSTRUCTION NOTES:

- 1. 120V POWER REQUIRED FOR 2-WIRE SERVICE. GC TO REMOVE/CLEAN ALL DEBRIS, NAILS, STAPLES, OR NON-USED VERTICALS OFF THE POLE.

ROW UTILITY POLE CONSTRUCTION NOTES:

- 1. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2". 2. FILL ALL HOLES LEFT IN POLE FROM REARRANGEMENT OF CLIMBERS.

Legend & Symbols section containing various symbols for utility lines (GAS, OIL, WATER, etc.), manholes, valves, and poles, each with a corresponding symbol and description.

STANDARD GROUNDING NOTES:

- 1. GROUND TESTED AT 25 OHMS OR LESS. 2. 5/8"x8" ROD, CAD WELD OR UL LISTED DIRECT BURY CLAMP BELOW GRADE.

STANDARD CONDUIT NOTES:

- 1. FOR UNDERGROUND USE SCHEDULE 40. 2. FOR RISERS USE SCHEDULE 80. 3. PLACE 2" SDR-11 RED CONDUIT FOR UG POWER APPLICATIONS.

STANDARD TRENCHING NOTES:

- 1. MAINTAIN 40" MINIMUM COVER FOR ELECTRICAL CONDUIT. 2. MAINTAIN 40" MINIMUM COVER FOR COMMUNICATIONS CONDUIT.

ROW CONSTRUCTION GENERAL NOTES

SCALE NTS 2

LEGEND & SYMBOLS

SCALE NTS 1

PROJECT NAME:

NC-MI-DTBUND-TMO NC-MI-DTBUND-TMO DEYH006A

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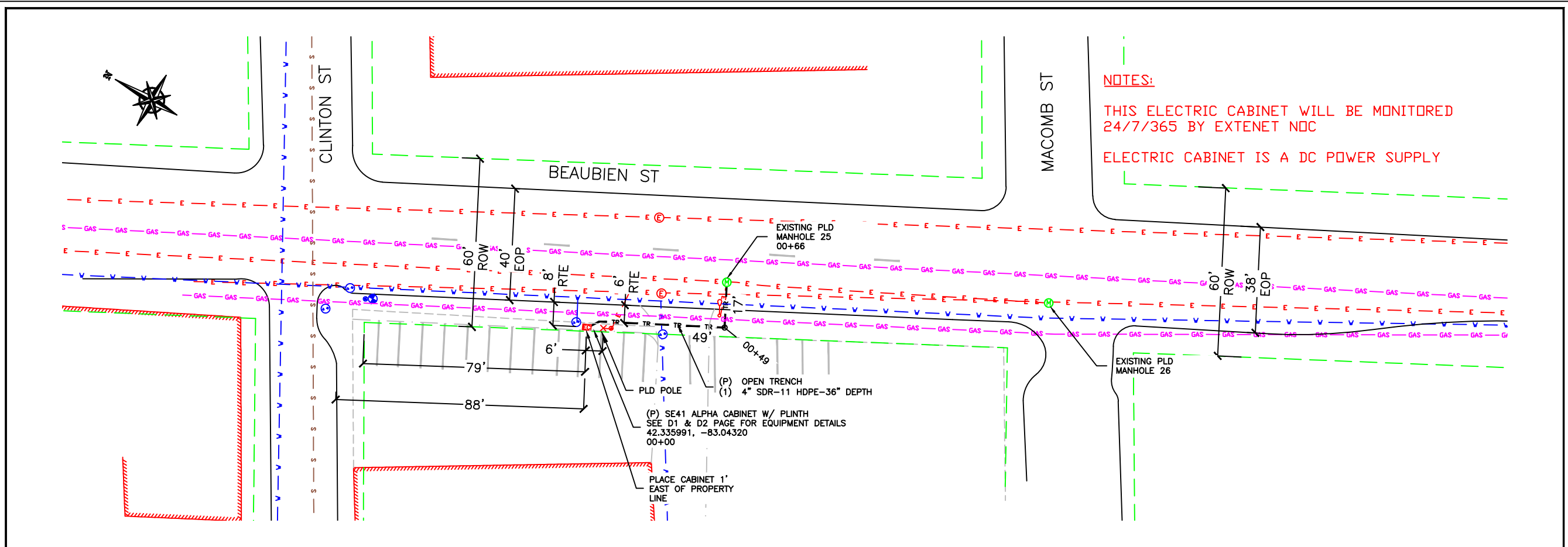
20 W ELIZABETH ST DETROIT, MI 48201

SHEET TITLE:

GENERAL NOTES ABBREVIATIONS & SYMBOLS

SHEET NUMBER:

L1



NOTES:

THIS ELECTRIC CABINET WILL BE MONITORED
24/7/365 BY EXTENET NDC

ELECTRIC CABINET IS A DC POWER SUPPLY

ROUTE PLAN

0' 10' 20' 40'

B-SCALE 1"=40'-0"

D-SCALE 1"=20'-0"

1

APPLICANT

extenet YOUR NETWORK. EVERYWHERE.
SYSTEMS

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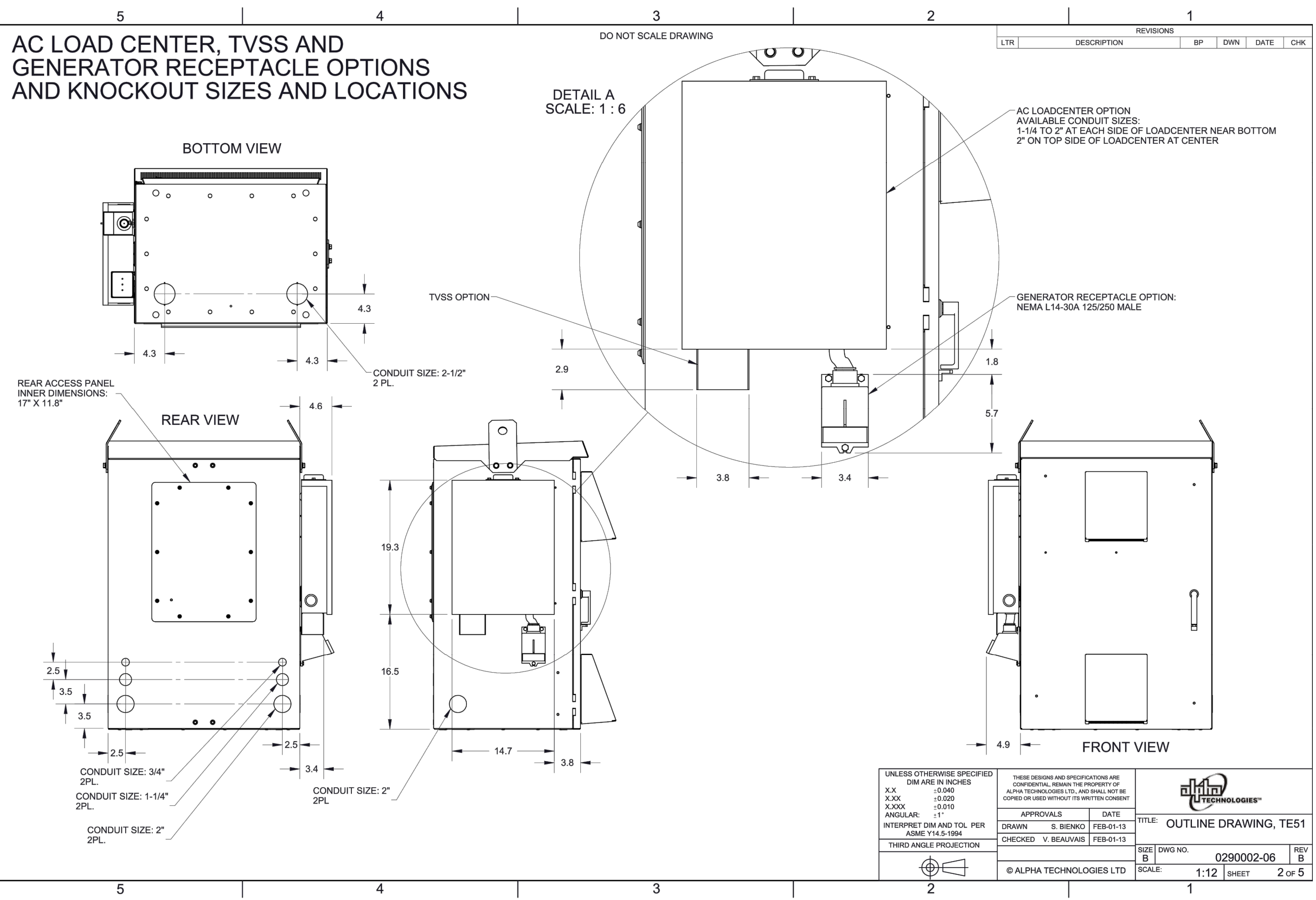
SHEET TITLE:

ROUTE PLAN
BEAUBIEN ST
& CLINTON ST

SHEET NUMBER:

P1

AC LOAD CENTER, TVSS AND GENERATOR RECEPTACLE OPTIONS AND KNOCKOUT SIZES AND LOCATIONS



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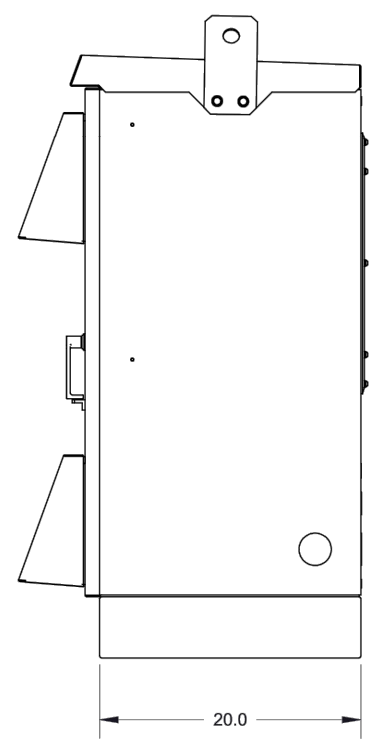
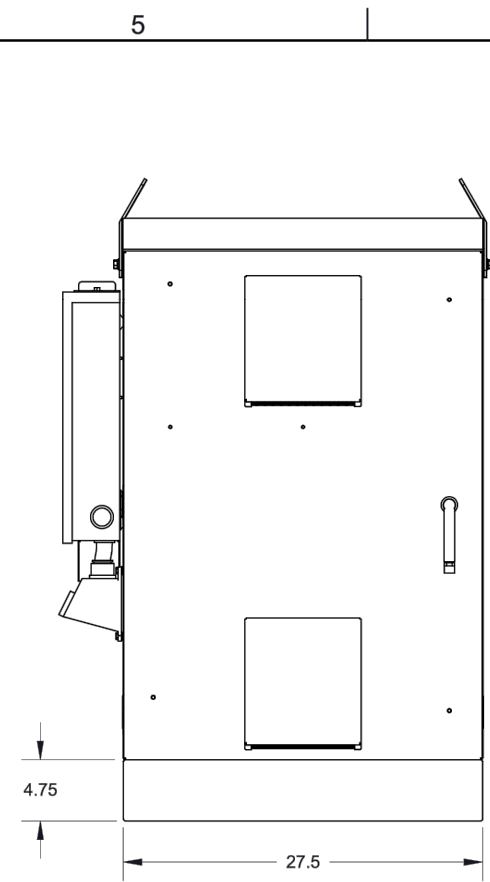
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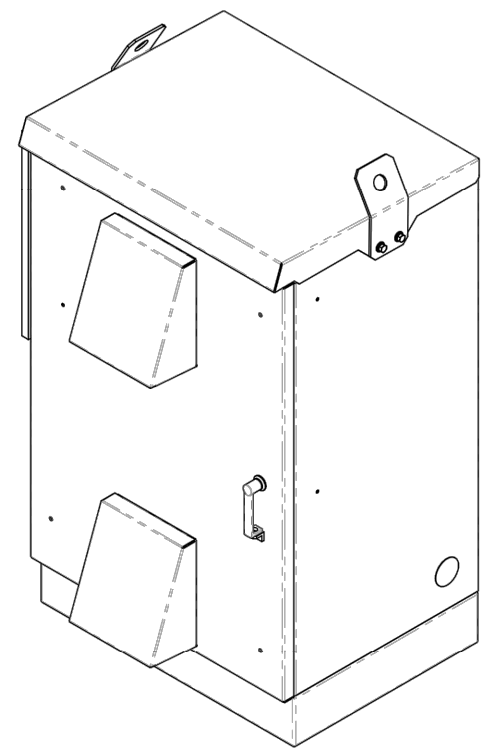
**ROUTE PLAN
E MONTCALM ST
& BRUSH ST**

SHEET NUMBER:

D1

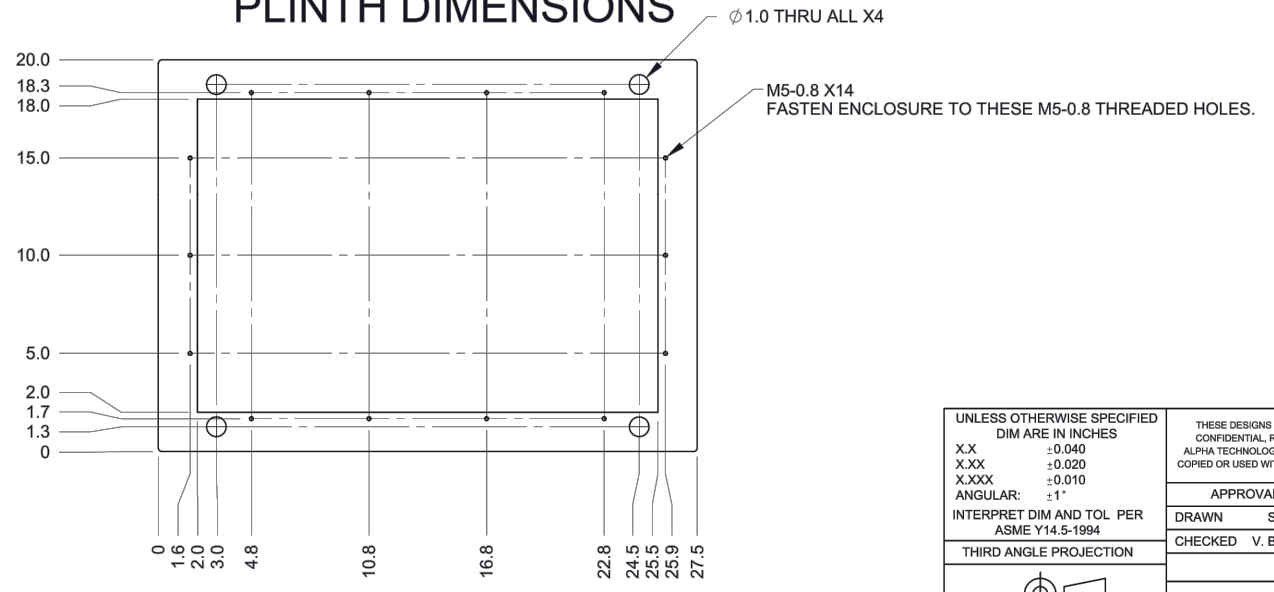


REVISIONS					
LTR	DESCRIPTION	BP	DWN	DATE	CHK



PLINTH OPTION

PLINTH DIMENSIONS



NOTE:
 1. REMOVAL OF THE BATTERY TRAYS (IF INSTALLED) MAY BE REQUIRED TO MOUNT THE ENCLOSURE TO THE PLINTH.
 2. FASTEN ENCLOSURE TO PLINTH WITH PROVIDED M5 SCREWS.

UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES		THESE DESIGNS AND SPECIFICATIONS ARE CONFIDENTIAL, REMAIN THE PROPERTY OF ALPHA TECHNOLOGIES LTD., AND SHALL NOT BE COPIED OR USED WITHOUT ITS WRITTEN CONSENT				
X.X	±0.040	APPROVALS	DATE			TITLE: OUTLINE DRAWING, TE51
X.XX	±0.020	DRAWN S. BIENKO	FEB-01-13	SIZE B	DWG NO. 0290002-06	REV B
X.XXX	±0.010	CHECKED V. BEAUVAIS	FEB-01-13	SCALE: 1:12	SHEET 5 OF 5	
ANGULAR: ±1°		© ALPHA TECHNOLOGIES LTD				
INTERPRET DIM AND TOL PER ASME Y14.5-1994		THIRD ANGLE PROJECTION				

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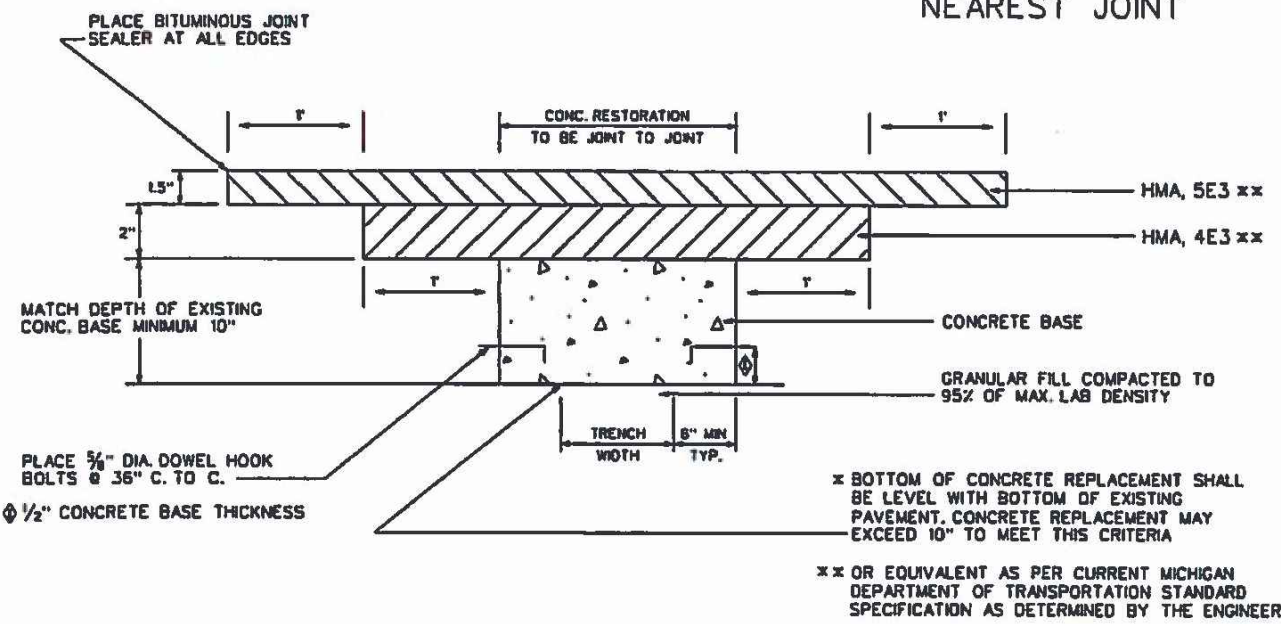
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**ROUTE PLAN
 E MONTCALM ST
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MAJOR STREETS:

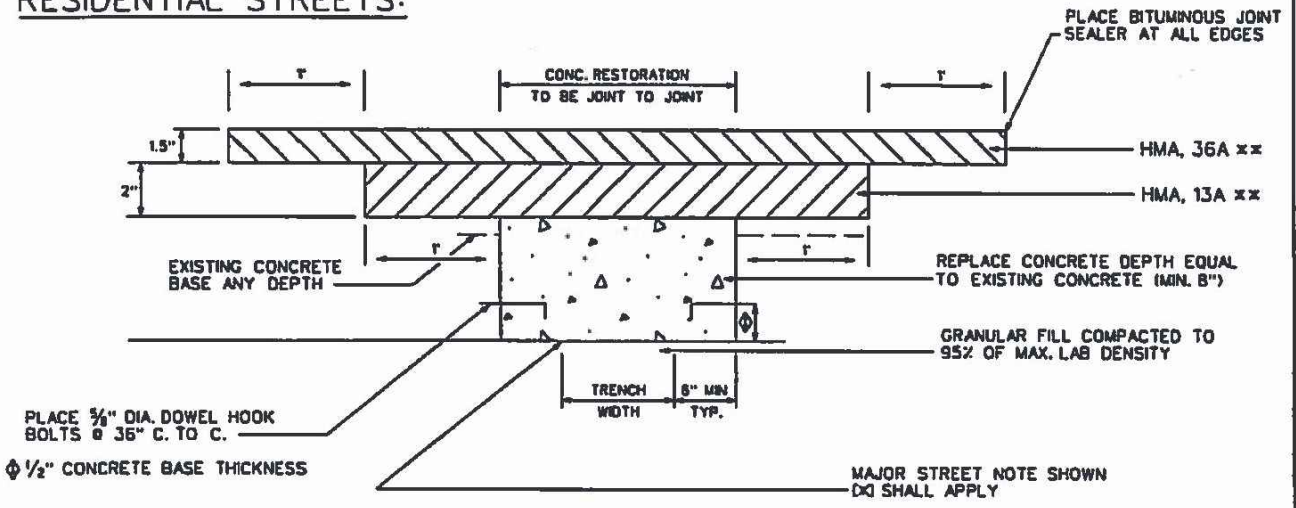


NOTE: PAVEMENT CUTS MUST EXTEND TO NEAREST JOINT

EXCEPTION:

TO ABOVE 3" HMA REPLACEMENT, WHEN PAVEMENT REPLACEMENT IS 100 FEET FROM EITHER SIDE OF UNDERPASS REPLACE 10" MIN CONCRETE BASE WITH TOP OF CONCRETE LEVEL WITH TOP OF EXISTING CONCRETE AND REPLACE HMA SECTION AS EXISTING

RESIDENTIAL STREETS:



ISOLATED CUT:

TRIM JOINT TO OBTAIN VERTICAL CUT

CITY OF DETROIT NOTES

1. MILL (REMOVE) HMA PAVEMENT WITHIN AND BEYOND THE AREA OF TRENCH PAVEMENT REMOVAL IN ORDER TO DETERMINE LOCATION OF UNDERLYING CONCRETE BASE PAVEMENT JOINTS. MILL MINIMUM TO 1' BEYOND NEAREST CONCRETE JOINTS.
2. EXTEND UTILITY TRENCH CONCRETE PAVEMENT REMOVAL TO ALL CONCRETE PAVEMENT JOINTS AND / OR CURBS ADJACENT TO THE TRENCH AREA. REMOVAL SHALL BE "JOINT TO JOINT".
3. CONCRETE PAVEMENT CUTS SHALL BE MINIMUM 3' WIDE.
4. ALL PAVEMENT CUTS SHALL BE MINIMUM 1' WIDER THAN TRENCH WIDTH.
5. ALL REMOVALS SHALL BE SAWCUT STRAIGHT AND SQUARE (90 DEGREES).
6. CONCRETE RESTORATION PAVEMENT SHALL BE MDOT P1 MIX (3,500 PSI).
7. RESTORED CONCRETE PAVEMENT SHALL MATCH THICKNESS OF EXISTING CONCRETE PAVEMENT IN CONFORMANCE WITH MDOT STANDARDS DETAIL R-44-F.
8. RESTORED CONCRETE SHALL BE ANCHORED TO EXISTING CONCRETE PAVEMENT IN CONFORMANCE WITH MDOT STANDARD DETAIL R-44-F
9. APPLY HMA TACK COAT PER MDOT STANDARD SPECIFICATIONS SECTION 904.
10. RESTORE HMA PAVEMENT 3 1/2" TO MATCH EXISTING, IN 2 LIFTS:
1ST LIFT - 2" MDOT HMA 4E3 (13A RESIDENTIAL), COMPACTED, EXTENDED 1' BEYOND BASE CONCRETE REPAIR.
2ND LIFT - 1 1/2" MDOT HMA 5E3 (36A RESIDENTIAL), COMPACTED, EXTENDED 1' BEYOND 1ST LIFT..
11. BITUMINOUS JOINT SEALER SHALL BE PLACED AT ALL FINISHED HMA JOINTS.
12. ALL DISTURBED PAVEMENT MARKINGS AND OTHER ASSETS, INCLUDING BIKE LANE DELINEATORS, WILL HAVE TO BE REPLACED AT THE COST OF THE PERMIT HOLDER, AND SHALL CONFORM TO THE LATEST CED / TED STANDARDS.
13. FOR OTHER RELATED SPECIFICATIONS (BACKFILL COMPACTION, MATERIALS, ETC...), REFER TO DIVISION 15 OF THE STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION.
14. NOTIFY THE CITY OF DETROIT ENGINEERING DEPARTMENT 24 HOURS PRIOR TO STARTING CONSTRUCTION.
15. ANY OPEN EXCAVATIONS ARE TO BE STEEL PLATED. IF EXCAVATIONS ARE IN THE PAVEMENT, THE PLATES ARE TO BE SPIKED AND RAMPED WITH COLD PATCH. CONTACT THE CITY WITH LOCATION OF THE STEEL PLATE.
16. THE CITY OF DETROIT REQUIRES ALL CONCRETE WORK TO BE STAMPED WITH A CONTRACTORS IDENTIFICATION STAMP.

B					
A					
DESCRIPTION					
REVISIONS					
DRAWN BY	WLW	CHECKED	KSM	DATE	08/29/18
APPROVED			SRB		

HMA SURFACE ON CONCRETE BASE UTILITY TRENCH CONSTRUCTION PAVEMENT RESTORATION

CITY OF DETROIT CITY ENGINEERING DIVISION SURVEY BUREAU
JOB NO.
DRWG. NO. 1 OF 2

B					
A					
DESCRIPTION					
REVISIONS					
DRAWN BY	WLW	CHECKED	KSM	DATE	08/29/18
APPROVED			SRB		

HMA SURFACE ON CONCRETE BASE UTILITY TRENCH CONSTRUCTION PAVEMENT RESTORATION

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JOB NO.
DRWG. NO. 2 OF 2

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DETROIT, MI 48201

SHEET TITLE:
CITY OF DETROIT
DETAILS

SHEET NUMBER:
D3

PERMANENT (SPRINGTIME) RESTORATION CORE BORE & SAW CUT NOTES:

PERMANENT (SPRINGTIME) RESTORATION FOR GRASS:

-2" TOPSOIL, GRASS SEED, & STRAW

PERMANENT (SPRINGTIME) RESTORATION FOR PAVEMENT:

-EXCAVATED LOOSE MATERIAL REMOVED FROM SITE VIA HYDROVAC
-CONCRETE RESTORATION PAVEMENT SHALL BE MDOT P1 MIX (3,500 PSI)
-RESTORED CONCRETE PAVEMENT SHALL MATCH THICKNESS OF EXISTING CONCRETE PAVEMENT IN CONFORMANCE WITH MDOT STANDARDS DETAIL R-44-F
-RESTORED CONCRETE SHALL BE ANCHORED TO EXISTING CONCRETE PAVEMENT IN CONFORMANCE WITH MDOT STANDARD DETAIL R-44-F
-APPLY HMA TACK COAT PER MDOT STANDARD SPECIFICATIONS SECTION 904
-RESTORE HMA PAVEMENT 3.5" TO MATCH EXISTING, IN 2 LIFTS:
1ST LIFT-2" MDOT HMA 4E3 (13A RESIDENTIAL), COMPACTED, EXTENDED 1' BEYOND BASE CONCRETE REPAIR
2ND LIFT-1.5" MDOT HMA 5E3 (36A RESIDENTIAL), COMPACTED, EXTENDED 1' BEYOND 1ST LIFT
-BITUMINOUS JOINT SEALER SHALL BE PLACED AT ALL FINISHED HMA JOINTS
-ALL DISTURBED PAVEMENT MARKINGS AND OTHER ASSETS, INCLUDING BIKE LANE DELINEATORS, WILL HAVE TO BE REPLACED AT THE COST OF THE PERMIT HOLDER, AND SHALL CONFORM TO THE LATEST CED/TEC STANDARDS
-FOR OTHER RELATED SPECIFICATIONS (BACKFILL COMPACTION, MATERIALS, ETC....), REFER TO DIVISION 15 OF THE STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION
-2" LEVELING COURSE 4E3 HMA AND 1.5" WEARING COURSE OF 5E3 HMA

PERMANENT (SPRINGTIME) RESTORATION FOR SIDEWALK:

-ANY HANDICAP RAMP ENCRDACHMENT WILL BE REPLACED TO MEET CURRENT ADA STANDARDS IMMEDIATELY FOLLOWING SITE DISRUPTION
-FULL CONCRETE RESTORATION IN ACCORDANCE WITH CITY STANDARDS

PERMANENT (SPRINGTIME) RESTORATION OPEN TRENCH NOTES:

PERMANENT (SPRINGTIME) RESTORATION FOR GRASS:

-2" TOPSOIL, GRASS SEED, & STRAW

PERMANENT (SPRINGTIME) RESTORATION FOR PAVEMENT:

-2" LEVELING COURSE 4E3 HMA AND 1.5" WEARING COURSE OF 5E3 HMA

PERMANENT (SPRINGTIME) RESTORATION FOR BRICK PAVERS:

-CONSULT CERTIFIED BRICK PAVING CONTRACTOR APPROVED BY CITY
-RESURFACE BRICK PAVERS TO ORIGINAL CONDITION OR BETTER

STEEL PLATE NOTES:

OPEN TRENCHING OPERATIONS:

-PLATES SHALL BE USED TO RETAIN TRAFFIC FLOW IN WORK AREA
-PLATES SHALL ADEQUATELY COVER 36" MINIMUM TRENCH WIDTH
-PLATES SHALL REMAIN ON WORKSITE FOR 24 HOURS MAXIMUM
-PLATES SHALL BE SECURELY ANCHORED AND EXTEND A MINIMUM 15" BEYOND THE EDGES OF THE TRENCH
-PLATES SHALL HAVE A NON-SKID SURFACE IF ACROSS OR IN THE CROSSWALK

-FOR MAJOR STREETS, PLATES SHALL BE RECESSED TO BE FLUSH WITH THE PAVEMENT
-FOR RESIDENTIAL STREETS, PLATES SHALL BE WEDGED WITH COLD PATH TO PROVIDE A SMOOTH TRANSITION

-ANY ROAD DISRUPTION THAT CANNOT BE IMMEDIATELY RESURFACED SHALL BE COVERED BY STEEL PLATES OVERNIGHT
-OWNER OF THE PLATES SHALL BE CLEARLY MARKED ON THE PLATE

BORE PIT & VAULT NOTES:

-STANDARD BORE PIT DIMENSION IS 2'X3'X2' (SEE D1 "TYPICAL" DETAIL)
-ANY PIT NEEDING A LARGER AREA MAY BE STEPPED DOWN TO MAINTAIN EARTHEN INTEGRITY (SHORING METHOD)
-ALL VAULT LOCATIONS BEGIN THEIR LIFECYCLE AS A BORE PIT
-ANY BORE PIT NEEDING TO REMAIN OPEN OVERNIGHT SHALL BE COVERED IN PLYWOOD AND SECTIONED OFF VIA SNOW FENCE & STAKING

TEMPORARY (WINTER) RESTORATION CORE BORE & SAW CUT NOTES:

TEMPORARY (WINTER) RESTORATION FOR GRASS:

-REFILL EXCAVATED AREA, COMPACTED TO ROUGH GRADE

TEMPORARY (WINTER) RESTORATION FOR PAVEMENT:

-LANE DISRUPTION - SEE "STEEL PLATE & OPEN BORE PIT NOTES"
-HMA SHALL NOT BE APPLIED FOR TEMPORARY (WINTER) RESTORATION
-CONCRETE SHALL BE PLACED 1.5" FROM THE FINISHED GRADE:
-VISQUEEN LAYER SHALL BE APPLIED ON TOP OF THIS AND THEN FILLED WITH CONCRETE
-THE 1.5" CONCRETE SHALL BE REMOVED AND REPLACED WITH THE WEARING COURSE IN THE SPRING.
-TEMPORARY PAVEMENT MARKINGS MADE IN WINTER SHALL BE APPLIED AND REPLACED WEATHER PERMITTING

TEMPORARY (WINTER) RESTORATION FOR SIDEWALK:

-SINGLE SIDEWALK SLAB (5'X5' OR 6'X6' TYP) REMOVAL AREA PREFERRED VS CORE BORE
-REFILL WITH CLASS II COMPACTED SAND & 21AA GRAVEL
-COLD PATCH TEMPORARY SURFACE FILL

TEMPORARY (WINTER) RESTORATION OPEN TRENCH NOTES:

TEMPORARY (WINTER) RESTORATION FOR GRASS:

-REFILL EXCAVATED AREA, COMPACTED TO ROUGH GRADE
-SOIL MOUNDED IN EXCESS WHERE PERMISSIBLE

TEMPORARY (WINTER) RESTORATION FOR PAVEMENT:

-SEE "STEEL PLATE & OPEN BORE PIT NOTES"
-SEE ABOVE "CORE BORE & SAW CUT NOTES"

TEMPORARY (WINTER) RESTORATION FOR BRICK PAVERS:

-BRICKS SHALL BE REMOVED AND PRESERVED WHERE POSSIBLE
-BACKFILL TRENCH AREA WITH 6" CLASS II COMPACTED SAND & 4" 21AA GRAVEL
-RESURFACE WITH 4" (MINIMUM) COLD PATCH

ALL TEMPORARY (WINTER) RESTORATION SHALL BE COMPLETED WITHIN 48 HOURS OF WORK

****ALL PAVEMENT MARKINGS AND BIKE LANES SHALL BE RESTORED IN ACCORDANCE TO CITY STANDARDS**

****ALL EXISTING BIKE LANE DELINEATORS WILL BE PROTECTED OR REMOVED, SALVAGED AND REINSTALLED. ANY DAMAGE BY OUR WORK WILL BE REPLACED WITH THE NEW IN ACCORDANCE WITH THE CITY'S STANDARD.**

****ALL ADA AND TACTILE SURFACES WILL BE RESTORED IN ACCORDANCE WITH THE CITY'S STANDARD R-28-1**

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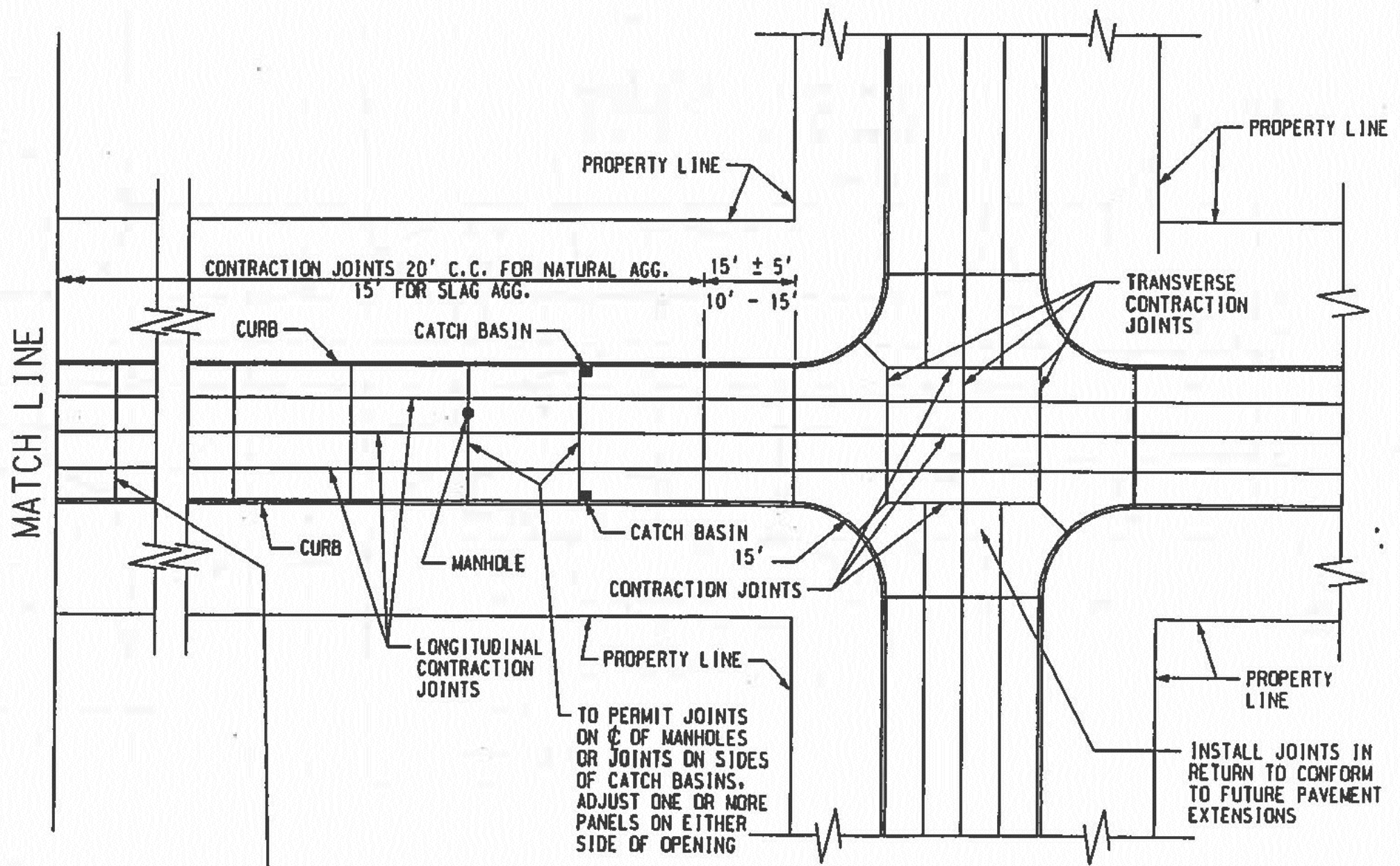
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PLACE EXPANSION JOINTS AT THE ENDS OF CIRCLES AT STREET INTERSECTION ONLY WHERE BLOCK LENGTH IS 600 FT. OR LESS AND A MINIMUM NUMBER OF INTER-MEDIATE EXPANSION JOINTS AT EQUAL INTERVALS NOT TO EXCEED 600 FT. APART WHERE BLOCK LENGTH IS OVER 600 FT..

REVISED DATE/METRIC TO ENGLISH UNIT SYSTEM: DEC. 2002

CITY OF DETROIT
CITY ENGINEERING DIVISION, D.P.W.
STANDARD PLAN FOR
NONREINFORCED CONCRETE PAVEMENT
TYPICAL JOINT LAYOUT FOR

03/07/98
PLAN DATE

2
DRAWING NO.

C-4379
DETAIL STANDARD NO.

2 OF 2
SHEET

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PREPARED BY
BUREAU OF STREETS
AND HIGHWAYS

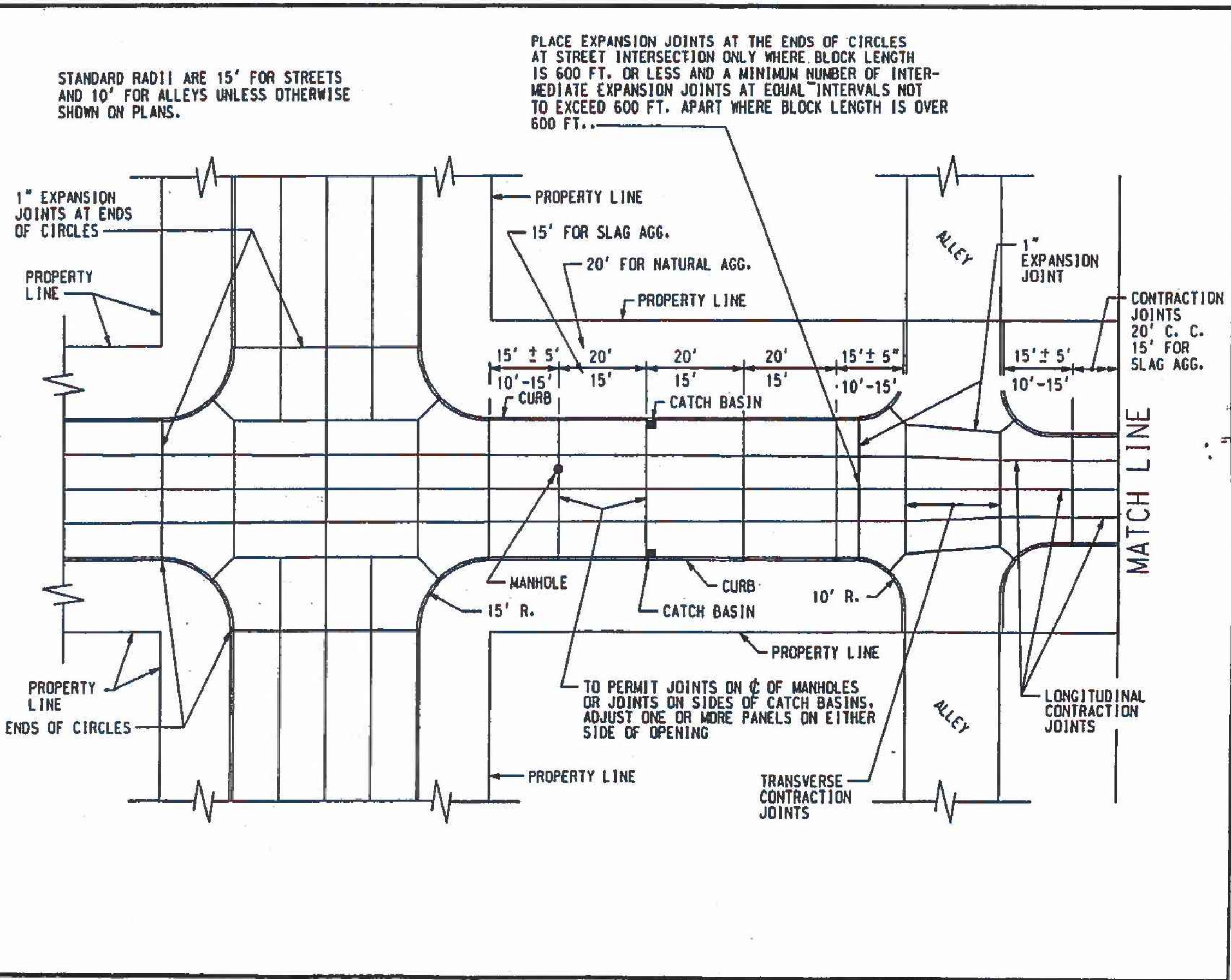


rev. K.S.M.
DRAWN BY:
M.E.S.
CHECKED BY:

APPROVED
Radhu Naidan
ENGINEER OF STREETS
HEAD ENGINEER
CITY ENGINEER

REVISOR'S NAME
DATE
DRAWING NO.
DETAIL STANDARD NO.
SHEET

REVISED DATE: METRIC TO ENGLISH UNIT SYSTEM: DEC. 2002



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2	3/2/23	REVISION	MD
1	1/12/23	PERMITTING	MD
#	DATE	DESCRIPTION	INT.

PROFESSIONAL STAMP

PROJECT NAME:
NC-MI-DTBUND-TMO
NC-MI-DTBUND-TMO
DEYH006A

PROJECT LOCATION:
20 W ELIZABETH ST
DETROIT, MI 48201

SHEET TITLE:
CITY OF DETROIT
DETAILS

SHEET NUMBER:
D6

POTHOLE EXCAVATION & RESTORATION (SOIL):

- EXPOSE 12" AROUND UTILITY USING STANDARD EXCAVATION OR HYDRO VAC
- BACKFILL POTHOLE WITH EXCAVATED SOIL & COMPACT
- IF HYDRO VAC USED INSTEAD, BACKFILL POTHOLE WITH CLASS II SAND & COMPACT

POTHOLE EXCAVATION & RESTORATION (ROAD/PAVEMENT):

- CORE BORE TO UTILITY DEPTH
- BORE DIAMETER VARIABLE FOR UTILITY SIZE: 6, 8", OR 10"
- HYDRO VAC SPOILS TO EXPOSE UTILITY
- BACKFILL POTHOLE WITH COLD OR HOT PATCH (BASED ON CITY STANDARDS)

POTHOLE EXCAVATION & RESTORATION (SIDEWALK):

- ISOLATE & REMOVE SIDEWALK PANEL/SEGMENT OVER UTILITY
- PERFORM TYPICAL EXCAVATION & RESTORATION FOR SOIL AS DETAILED
- REPLACE SIDEWALK JOINT-TO-JOINT

PERMANENT RESTORATION FOR GRASS:

- 2" TOPSOIL, GRASS SEED, & STRAW

**ALL PAVEMENT MARKINGS AND BIKE LANES SHALL BE RESTORED IN ACCORDANCE TO CITY STANDARDS

**ALL EXISTING BIKE LANE DELINEATORS WILL BE PROTECTED OR REMOVED, SALVAGED AND REINSTALLED. ANY DAMAGE BY OUR WORK WILL BE REPLACED WITH THE NEW IN ACCORDANCE WITH THE CITY'S STANDARD.

**ALL ADA AND TACTILE SURFACES WILL BE RESTORED IN ACCORDANCE WITH THE CITY'S STANDARD R-28-1

APPLICANT



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NC-MI-DTBUND-TMO
DEYH006A

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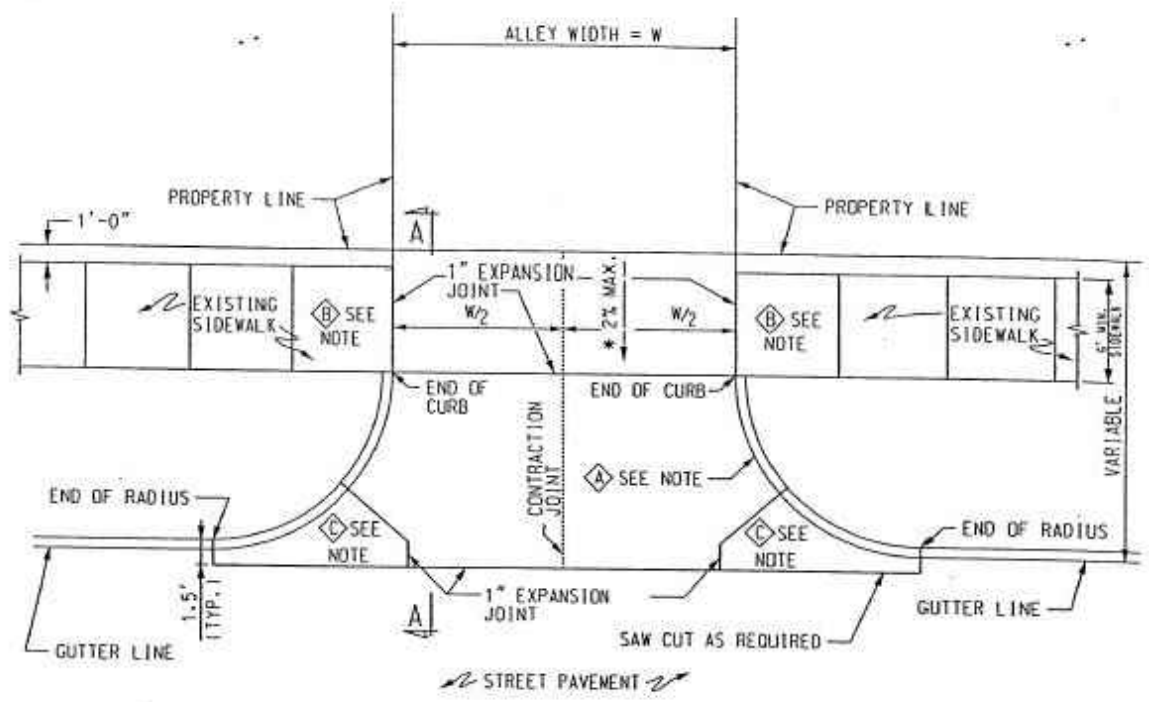
20 W ELIZABETH ST
DETROIT, MI 48201

SHEET TITLE:

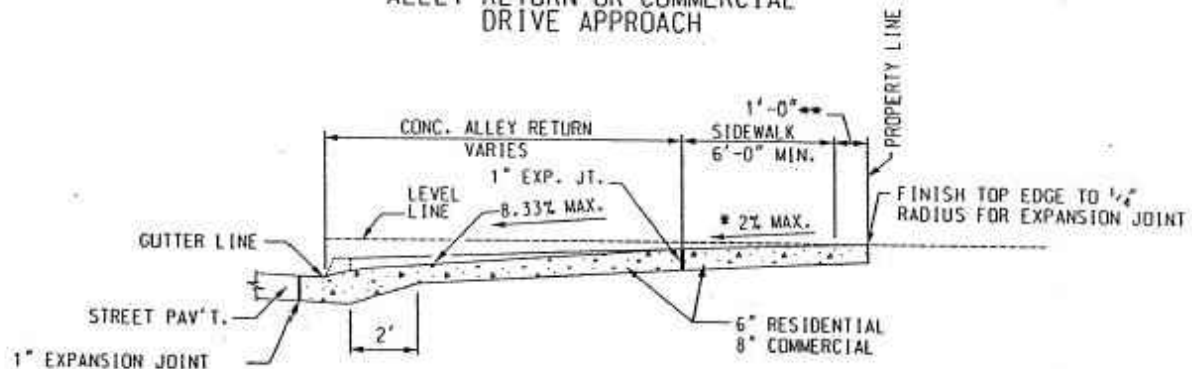
CITY OF
DETROIT
DETAILS

SHEET NUMBER:

D7



ALLEY RETURN OR COMMERCIAL DRIVE APPROACH



SECTION A-A



APPROVED
Sam Patel
 ENGINEER OF STREETS
 HEAD ENGINEER
Jerry Jacob
 CITY ENGINEER

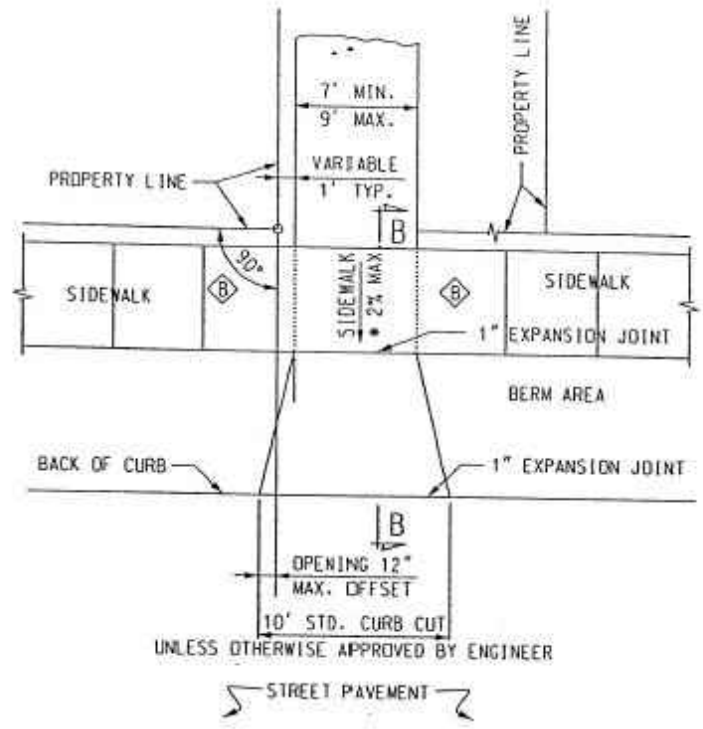
K.S.M.
 DRAWN BY:
 J.J.
 CHECKED BY:

REVISIONS	DESCRIPTION	Drawn	Chk'd	App'd	Date
C					
B	* SIDEWALK CROSS SLOPE	KSM	J.J.		2/2/01
A	METRIC TO ENGLISH UNIT SYSTEM	KSM	M.S.	N.H.	12/02

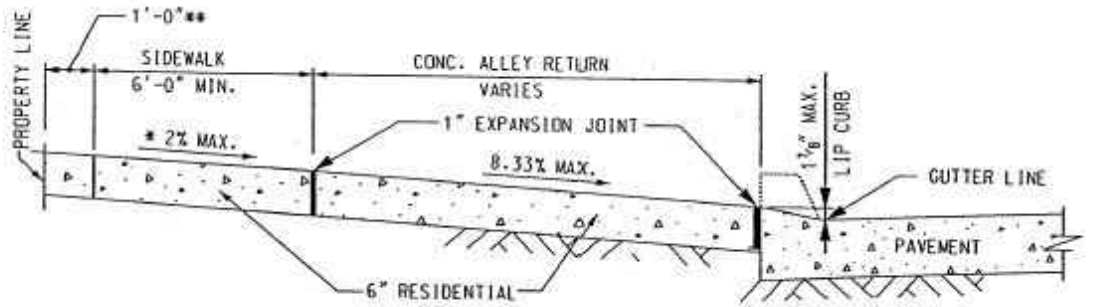
REVISIONS

CITY OF DETROIT
 CITY ENGINEERING DIVISION, D.P.W.
 STANDARD PLAN FOR
 DETAIL OF ALLEY RETURN AND DRIVE APPROACH

03/07/98	DRAWING NO. 7	DETAIL STANDARD NO. C-4384	SHEET 1 OF 2
----------	---------------	----------------------------	--------------



DETAIL OF CURB CUT OPENINGS FOR RESIDENTIAL DRIVEWAY



SECTION B-B

NOTES:
 IF ALLEY IS PAVED, CONSTRUCT RETURN WITH 1" EXPANSION JOINT ON PROPERTY LINE.

- ⊠ RADIUS TO BE 10' UNLESS OTHERWISE SHOWN ON PAVING PLAN.
- ⊠ SIDEWALK FLAGS ABUTTING ALLEY SHALL BE 6" THICK. SIDEWALK SHALL BE REPLACED FOR A SMOOTH TRANSITION AND TO ATTAIN A CROSS SLOPE OF 2% MAX. OR AS DIRECTED BY THE ENGINEER.
- ⊠ KEY JOINT OR "B" JOINT IF REINFORCED PAVEMENT.
- ALL DIMENSIONS ARE IN INCHES (*) UNLESS OTHERWISE NOTED.
- * SIDEWALK CROSS SLOPE SHALL BE 2% MAX. OR AS DIRECTED BY THE ENGINEER.
- ** THE SLOPE OF THE DRIVEWAY IN THE 1 FT. SPACE ADJACENT TO THE PROPERTY LINE MAY BE ALTERED UP TO 10% TO MEET EXISTING CONDITIONS.

REVISED DATE (METRIC TO ENGLISH UNIT SYSTEM): DEC-2002

REVISIONS	DESCRIPTION	Drawn	Chk'd	App'd	Date
C					
B	* SIDEWALK CROSS SLOPE	KSM	J.J.		2/2/01
A	Chgd. THICKNESS NOTE	KSM	N.H.	W.T.	10/06

REVISIONS

CITY OF DETROIT
 CITY ENGINEERING DIVISION, D.P.W.
 STANDARD PLAN FOR
 DETAIL OF ALLEY RETURN AND DRIVE APPROACH

03/07/98	DRAWING NO. 7	DETAIL STANDARD NO. C-4384	SHEET 2 OF 2
----------	---------------	----------------------------	--------------

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PROFESSIONAL STAMP

PROJECT NAME:

NC-MI-DTBUND-TMO
 NC-MI-DTBUND-TMO
 DEYH006A

PROJECT LOCATION:

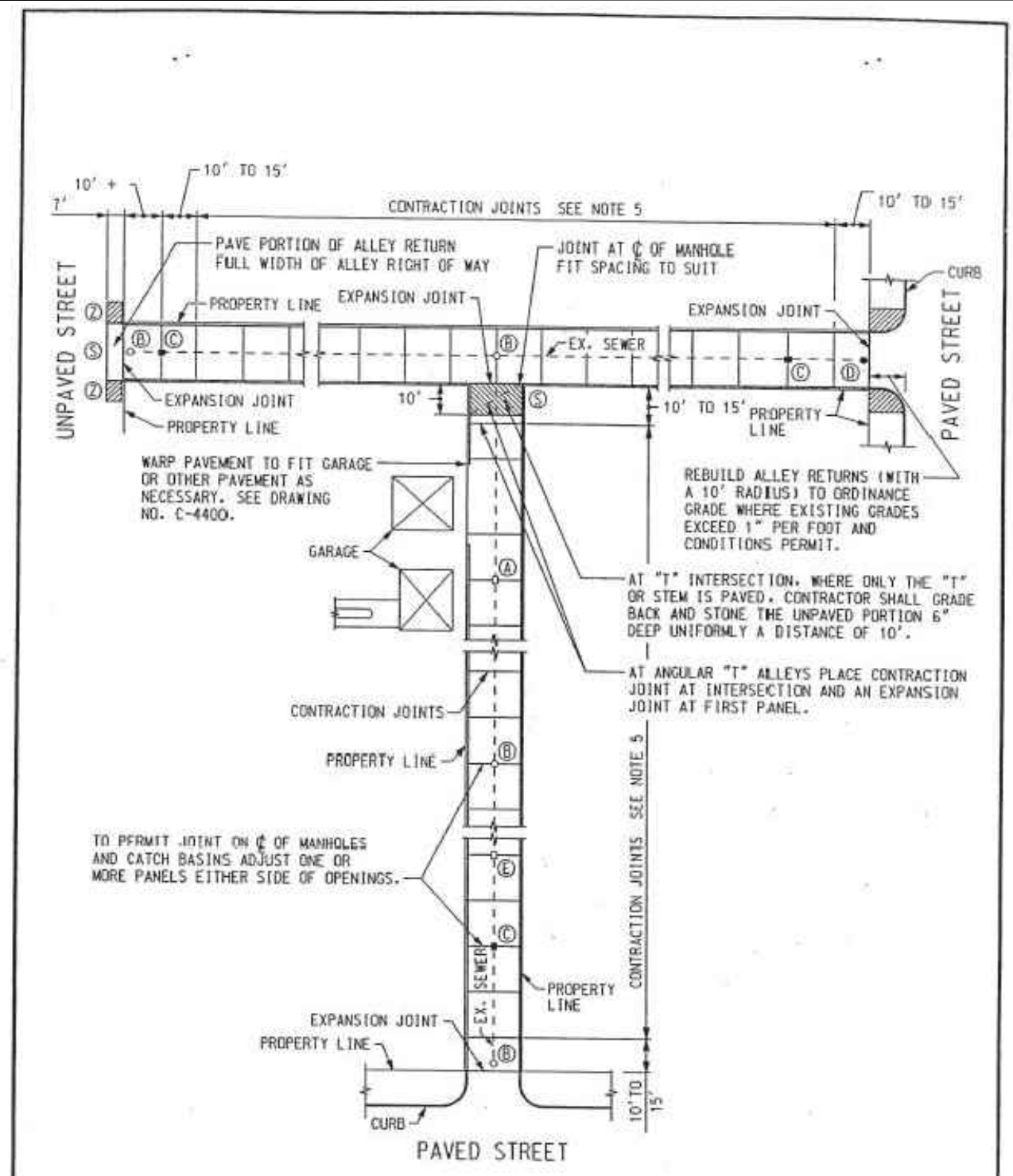
20 W ELIZABETH ST
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SHEET TITLE:

CITY OF DETROIT
 DETAILS

SHEET NUMBER:

D8



TYPICAL PLAN

REVISED DATE (METRIC TO ENGLISH UNIT SYSTEM): DEC. 2002

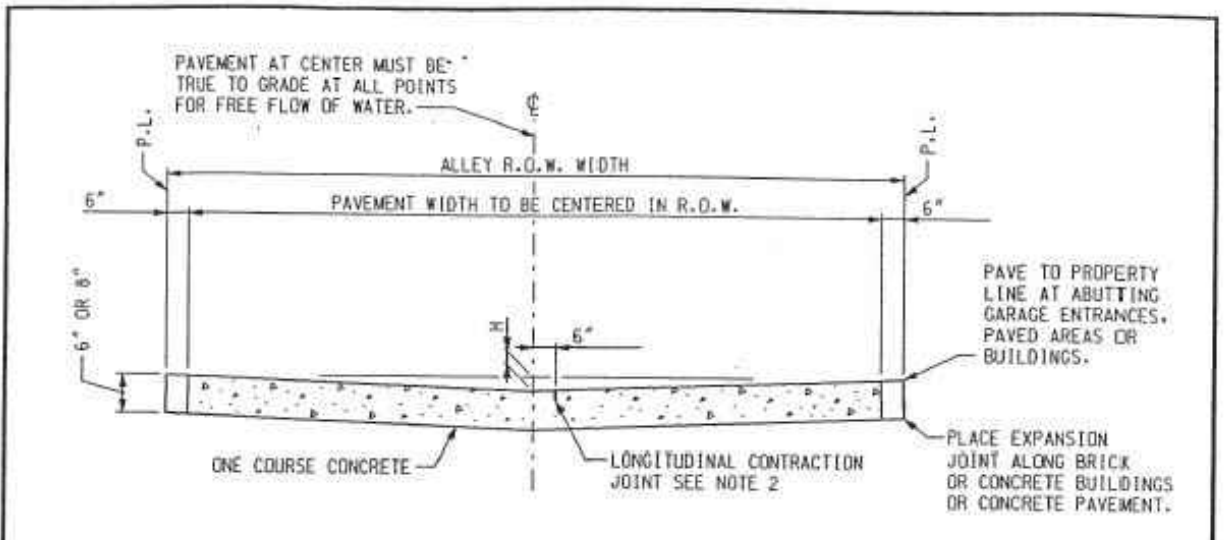


APPROVED
Dadiu Haidar
 ENGINEER OF STREETS
Wynn Talley
 HEAD ENGINEER
...
 CITY ENGINEER

rev. K.S.M.
 DRAWN BY:
 M.F.S.
 CHECKED BY:

CITY OF DETROIT
 CITY ENGINEERING DIVISION, D.P.W.
 STANDARD PLAN FOR
 TYPICAL PLAN AND SECTION FOR
 CONCRETE ALLEY PAVEMENT

PLAN DATE	DRAWING NO.	DETAIL STANDARD NO.	SHEET
	1	C-4396	1 OF 2



TYPICAL SECTION

ELEMENTS		
PAV'T	R.O.W.	H
19'	20'	5"
17'	18'	4"
15'	16'	3"

NOTES:

1. PLACE EXPANSION JOINTS AT ALL STREET PROPERTY LINES AND ALLEY INTERSECTIONS.
2. LONGITUDINAL CONTRACTION JOINT TO BE CONSTRUCTED IN PAVEMENTS 17' AND OVER IN WIDTH UNLESS OTHERWISE NOTED ON PAVING PLAN.
3. MAXIMUM SPACING BETWEEN EXPANSION JOINTS SHOULD NOT EXCEED 600 FEET.
4. IF STREET IS ECONOMY PAVED THE AREA BETWEEN THE WALK AND EDGE OF PAVEMENT SHALL BE PAVED WITH 6" STONE BASE PLUS 2" OF COLD PATCH MATERIAL. THE WALK FLAG SHALL BE 6" THICK.
5. CONTRACTION JOINTS SHALL BE SPACED AT 15' C. TO C. FOR SLAG AGGREGATE AND 6.0 m C. TO C. FOR NATURAL AGGREGATE.

CONSTRUCTION SYMBOLS LEGEND

- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- (A) ADJUST EXISTING CATCH BASIN
- (B) ADJUST EXISTING MANHOLE
- (C) CONSTRUCT CATCH BASIN
- (D) CONSTRUCT MANHOLE
- (E) ABANDON EXISTING CATCH BASIN
- (S) STONING AND GRADING
- (Z) CONSTRUCT STANDARD 6" CONCRETE SIDEWALK

CITY OF DETROIT
 CITY ENGINEERING DIVISION, D.P.W.
 STANDARD PLAN FOR
 TYPICAL PLAN AND SECTION FOR
 CONCRETE ALLEY PAVEMENT

03/07/98 PLAN DATE	DRAWING NO.	DETAIL STANDARD NO.	SHEET
	1	C-4396	2 OF 2

REVISED DATE (METRIC TO ENGLISH UNIT SYSTEM): DEC. 2002

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PROFESSIONAL STAMP

PROJECT NAME:
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 DEYH006A

PROJECT LOCATION:
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SHEET TITLE:
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 DETAILS

SHEET NUMBER:

D9



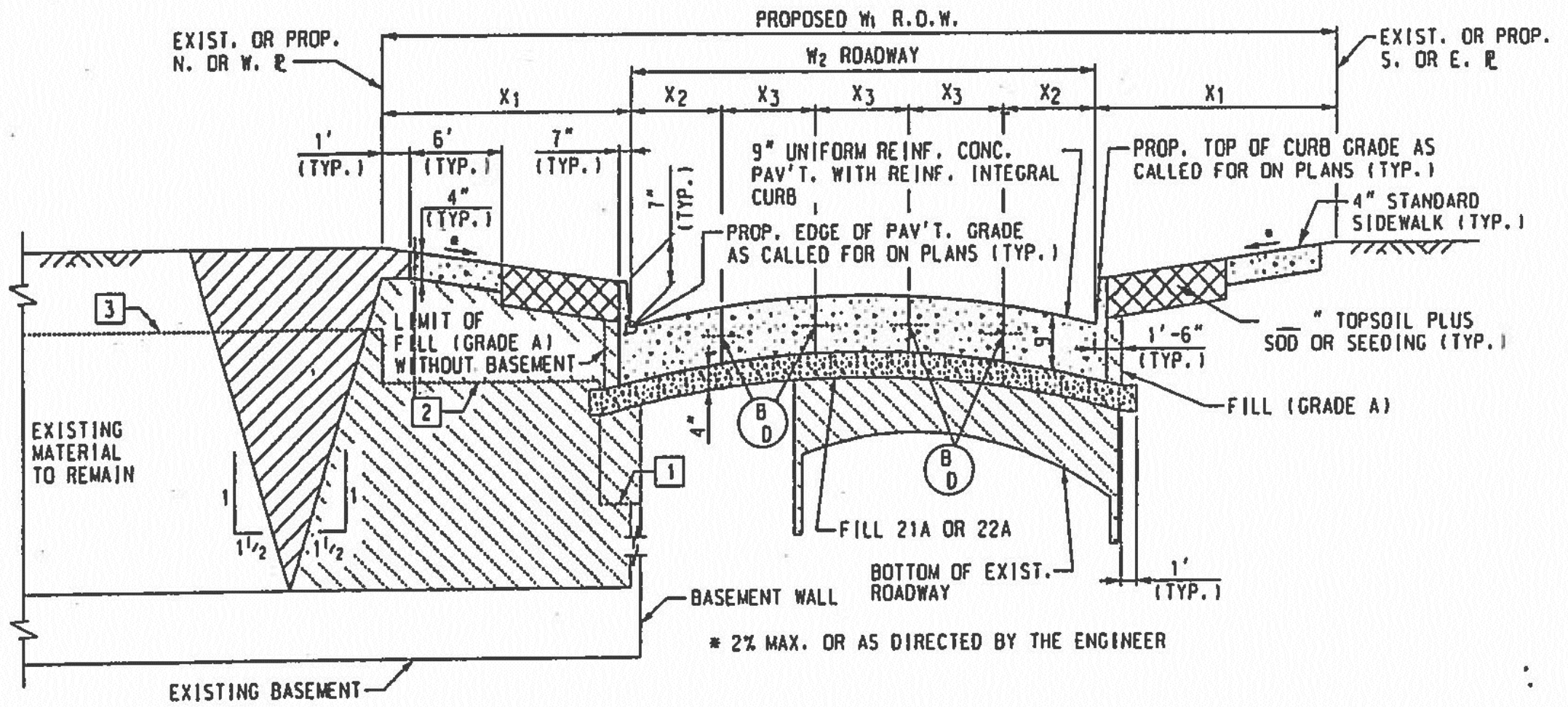
PREPARED BY
BUREAU OF STREETS

Rev. K.S.M.
DRAWN BY:
M.F.S.
CHECKED BY:

APPROVED
Sum Patel
ENGINEER OF STREETS
HEAD ENGINEER
J. J. Labadie

CITY OF DETROIT
CITY ENGINEERING DIVISION, D.P.W.
STANDARD PLAN FOR
TYPICAL PAVEMENT CROSS SECTION
FOR STREET CONSTRUCTION
03/07/98
DRAWING NO. V
DETAIL STANDARD NO. 1701
SHEET

REVISION NO.	DESCRIPTION	DATE	BY	APP'D	DATE
B	* SIDEWALK CROSS SLOPE METRIC TO ENGLISH UNIT SYSTEM	KSM	M.S.	J.J.	1/07
A		KSM	M.S.	N.H.	12/02



TYPICAL PAVEMENT SECTION

PAVEMENT SECTION LEGEND

CITY DESIGNATION	M.D.O.T. DESIGNATION
FILL 21A OR 22A	Aggregate Base, ___ "
FILL (GRADE A)	Granular Material, CI II
" TOPSOIL PLUS SOD OR SEEDING	Topsoil Surface, Furn. LM Plus Sodding, Or Seeding, Mixture Tuf
FILL - SELECTED EXCAVATED MATERIAL	Embankment, CIP
PROPOSED CONCRETE * * (4" Standard Sidewalk)	Proposed Concrete * *(Sidewalk, Concrete, 4")

JOINT LEGEND

- LONGITUDINAL BULKHEAD JOINT, ACCORDING TO DETAIL STANDARD NO. C-4943 (M.D.O.T. STANDARD DRAWING R-41-E)
- LONGITUDINAL LANE TIE JOINT WITH TIE BAR, ACCORDING TO DETAIL STANDARD NO. C-4943 (M.D.O.T. STANDARD DRAWING R-41-E)
- OPTIONAL, B OR D JOINT

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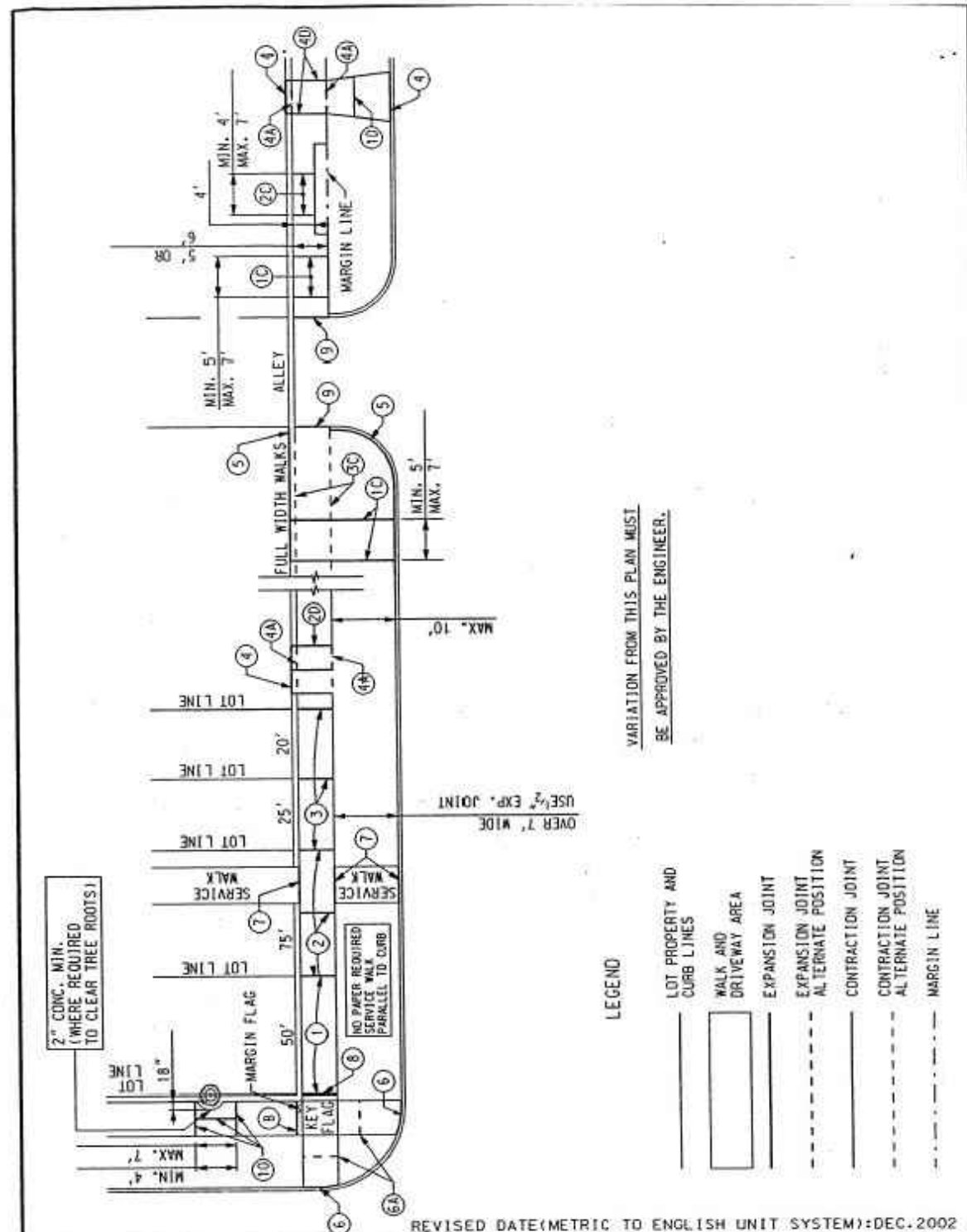
PROJECT NAME:
NC-MI-DTBUND-TMO
NC-MI-DTBUND-TMO
DEYH006A

PROJECT LOCATION:
20 W ELIZABETH ST
DETROIT, MI 48201

SHEET TITLE:
CITY OF DETROIT
DETAILS

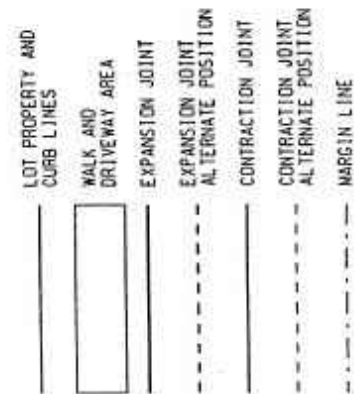
SHEET NUMBER:

D10



VARIATION FROM THIS PLAN MUST BE APPROVED BY THE ENGINEER.

LEGEND



REVISED DATE(METRIC TO ENGLISH UNIT SYSTEM):DEC.2002



APPROVED
 Eng. K.S.M.
 DRAWN BY: *Dadim Haidar*
 M.F.S.
 CHECKED BY: *Wing Talley*
 CITY ENGINEER

CITY OF DETROIT
 CITY ENGINEERING DIVISION, D.P.W.
 STANDARD PLAN FOR
 SIDEWALK JOINTING
 STANDARD
 01/07/98 PLAN DATE DRAWING NO. 9 DETAIL STANDARD NO. C-4462 SHEET 1 OF 2

EXPANSION JOINTS

- ALL EXPANSION JOINT PAPER SHALL EXTEND 1" BELOW THE BOTTOM OF THE THINNER OF ADJOINING PAVEMENT SECTIONS.
- PLACE 1/2" PAPER EXPANSION JOINTS AT LOT LINES WHEN LOT LINES ARE BETWEEN 25' AND 50' APART.
 - PLACE ADDITIONAL 1/2" PAPER EXPANSION JOINTS SO THAT THE DISTANCE BETWEEN JOINTS DOES NOT EXCEED 15.2 m WHEN LOT LINES ARE OVER 15.240 m APART.
 - PLACE 1/2" PAPER EXPANSION JOINTS AT EVERY SECOND LOT LINE AND CONTRACTION JOINT AT INTERVENING LOT LINE WHEN LOT LINES ARE LESS THAN 25' APART.
 - PLACE 1" PAPER EXPANSION JOINTS AT CURB AND BUILDING OR PROPERTY LINE OR AT ALTERNATE POSITION (4A) AS SHOWN FOR DRIVEWAY.
 - PLACE 1" PAPER EXPANSION JOINTS AT CURB AND BUILDING OR PROPERTY LINE FOR FULL WIDTH SIDEWALK EXCEEDING 7' IN WIDTH.
 - PLACE 1" PAPER EXPANSION JOINTS AT CURB CIRCLES OR AT ALTERNATE POSITION (6A) AS SHOWN.
 - PLACE 1" PAPER EXPANSION JOINTS AT INTERSECTIONS OF SERVICE WALKS AND SIDEWALKS AND SERVICE WALKS AND CURBS.
 - PLACE 1" PAPER EXPANSION JOINTS AT MARGIN FLAGS AT CROSSWALKS.
 - PLACE 1" PAPER EXPANSION JOINTS AT ALLEY APRONS.
 - PLACE 1/2" PAPER EXPANSION JOINT BOTH SIDES OF SIDEWALK FLAG ABUTTING TREE AND ON CENTERLINE JOINT.

CONTRACTION JOINTS

- PLACE CONTRACTION JOINTS AT INTERVALS OF NOT LESS THAN 5' NOR MORE THAN 7' ON WALKS 5' WIDE OR WIDER, INCLUDING FULL WIDTH WALKS.
- PLACE CONTRACTION JOINTS AT INTERVALS OF NOT LESS THAN 4' NOR MORE THAN 7' ON WALKS 4' WIDE.
- PLACE CONTRACTION JOINTS AT THE MARGIN LINE ON FULL WIDTH WALKS (OPTIONAL).

DRIVEWAYS

- PLACE CONTRACTION JOINTS IN DRIVEWAYS SO THAT NO SLAB WILL EXCEED THE DIMENSIONS OF 15' BY 15'.
- PLACE 1" PAPER EXPANSION JOINTS ON ALL SIDES OF COMMERCIAL DRIVES.
- PLACE CONTRACTION OR CONTRACTION JOINT ON CENTERLINE WHEN WIDTH OF DRIVEWAY EXCEEDS 15'
- PLACE 1/2" PAPER EXPANSION JOINTS ON BOTH SIDES OF RESIDENTIAL DRIVEWAYS. IF DRIVEWAY EDGE IS WITHIN 2' OF LOT LINE, PLACE THIS EXPANSION PAPER AT PROPERTY LINE.

REVISED DATE(METRIC TO ENGLISH UNIT SYSTEM):DEC.2002

CITY OF DETROIT
 CITY ENGINEERING DIVISION, D.P.W.
 STANDARD PLAN FOR
 SIDEWALK JOINTING
 STANDARD
 01/07/98 PLAN DATE DRAWING NO. 9 DETAIL STANDARD NO. C-4462 SHEET 2 OF 2

APPLICANT



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PROFESSIONAL STAMP

PROJECT NAME:

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 NC-MI-DTBUND-TMO
 DEYH006A

PROJECT LOCATION:

20 W ELIZABETH ST
 DETROIT, MI 48201

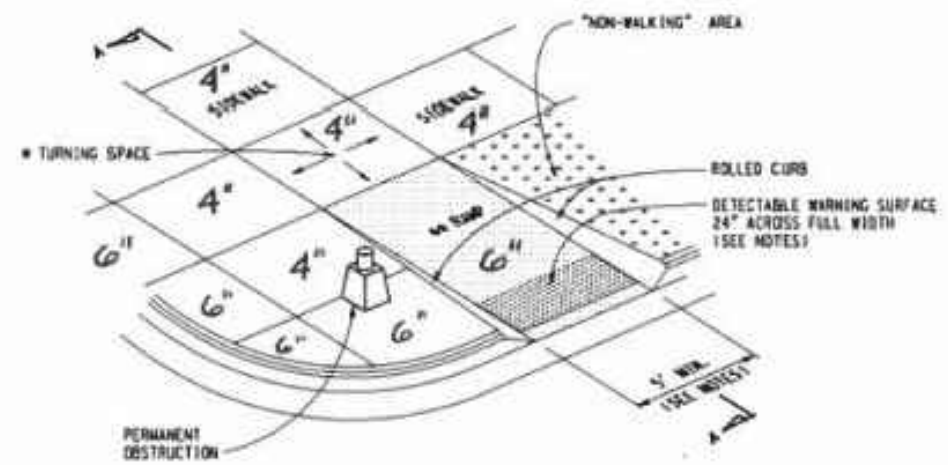
SHEET TITLE:

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 DETROIT
 DETAILS

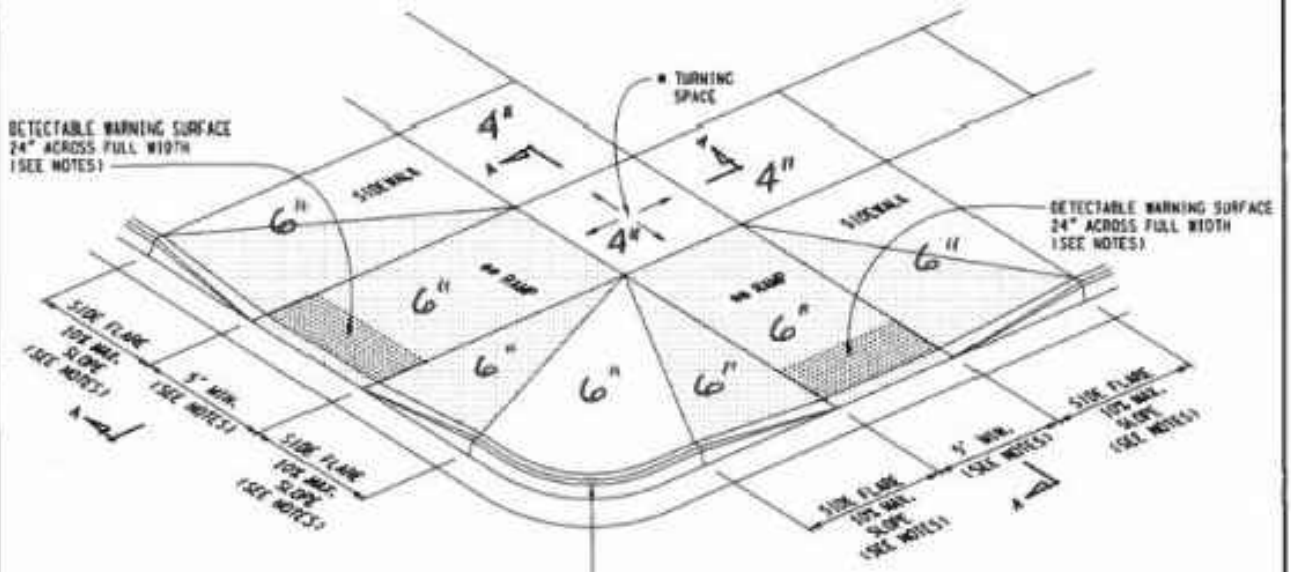
SHEET NUMBER:

D11

* MAXIMUM TURNING SPACE SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 ** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE R
(ROLLED SIDES)

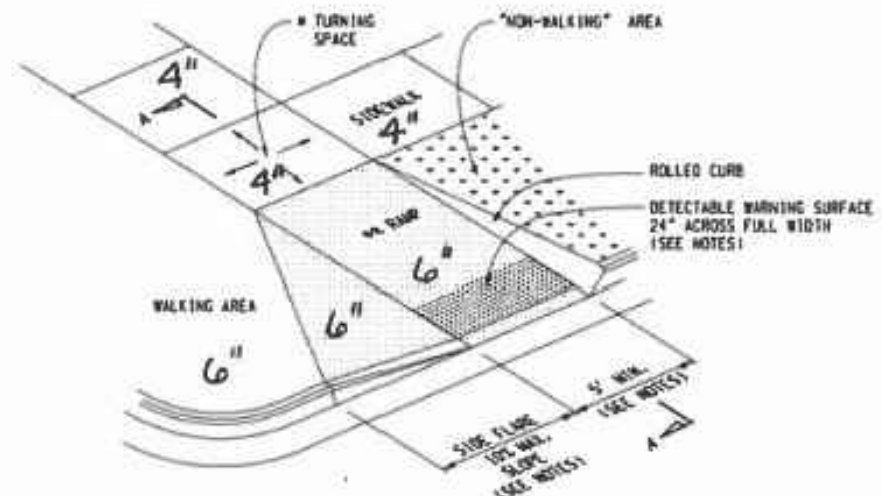


SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)

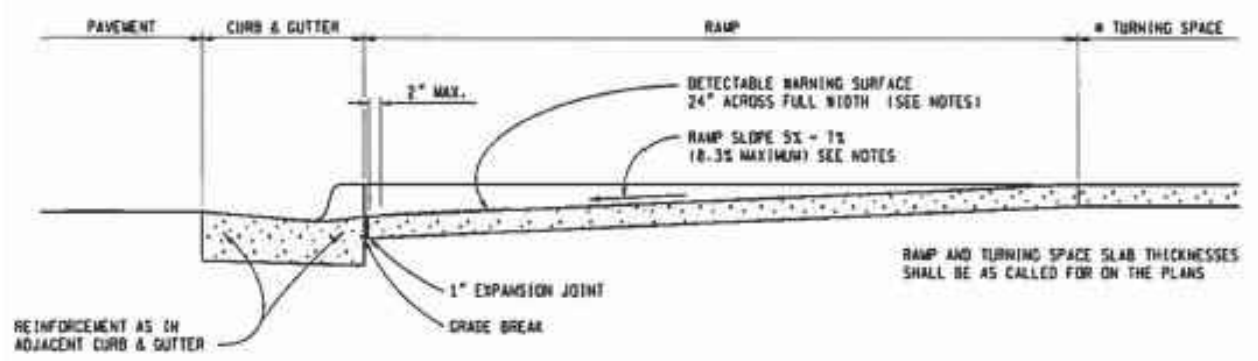
FULL CURB HEIGHT MAY BE REDUCED TO ACCOMMODATE MAXIMUM SIDE FLARE SLOPE

	DEPARTMENT DIRECTOR Ken T. Sivole	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
	PREPARED BY DESIGN DIVISION DRAWN BY: <i>Shiela</i> CHECKED BY: <i>M.K.P.</i>	APPROVED BY: <i>Randy U. Pyle</i> DIRECTOR, BUREAU OF FIELD SERVICES
	APPROVED BY: <i>Mark A. Van Pelt</i> DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT	9-30-2014 T.R.S.L. APPROVAL
		7-1-2014 PLAN DATE
		R-28-1
		SHEET 1 OF 1

* MAXIMUM TURNING SPACE SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 ** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

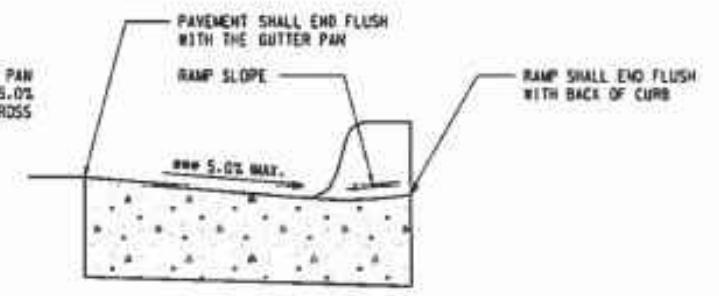


SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5.0% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.



SECTION THROUGH CURB CUT
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS			
9-30-2014 F.R.S.L. APPROVAL	7-1-2014 PLAN DATE	R-28-1	SHEET 2 OF 1

APPLICANT



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 DEYH006A

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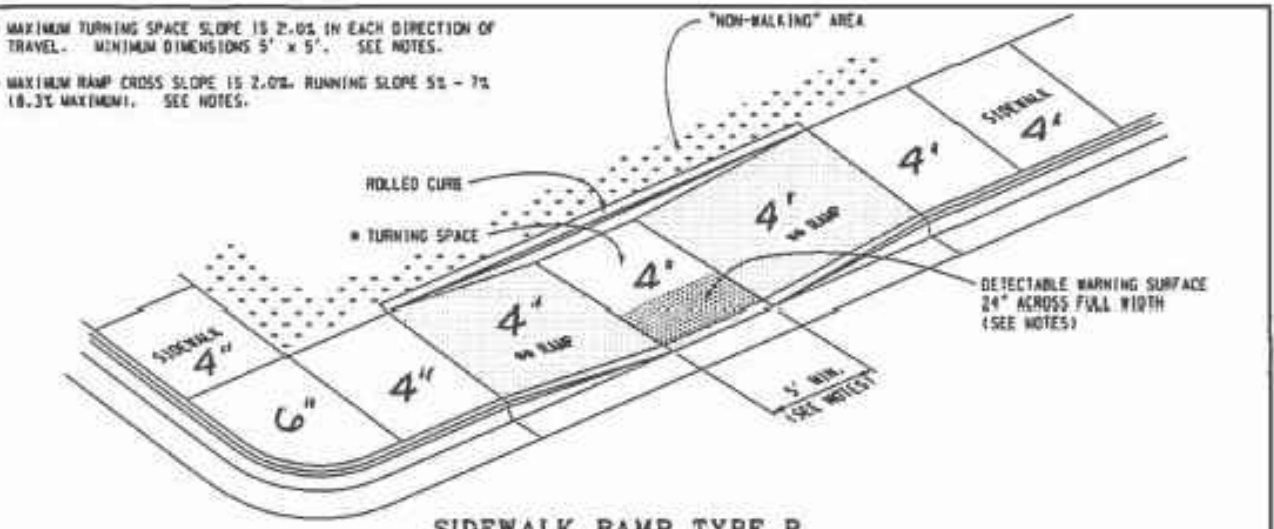
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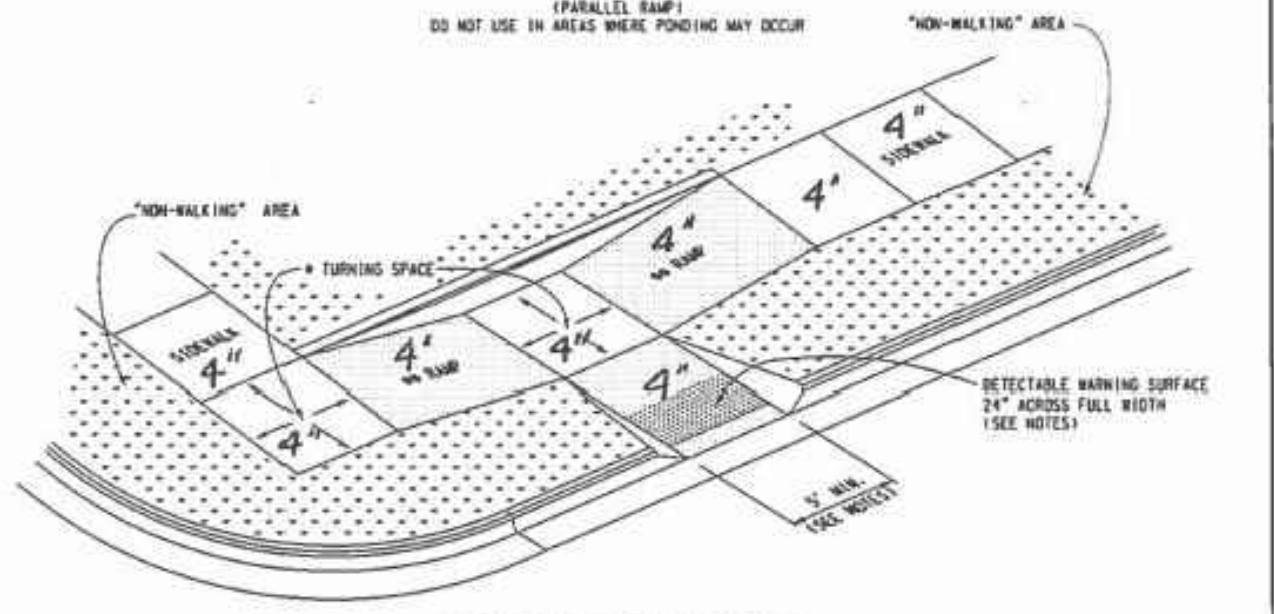
SHEET NUMBER:

D12

* MAXIMUM TURNING SPACE SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 ** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

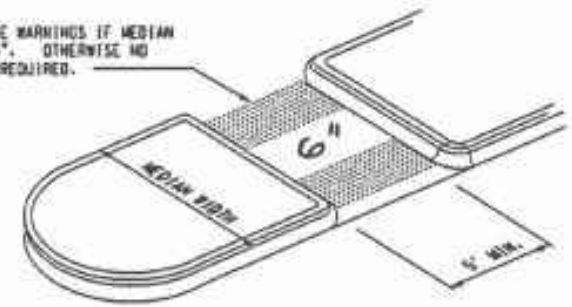


SIDEWALK RAMP TYPE P
 (PARALLEL RAMP)
 DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



SIDEWALK RAMP TYPE C
 (COMBINATION RAMP)

USE 24" DEEP DETECTABLE WARNING IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.

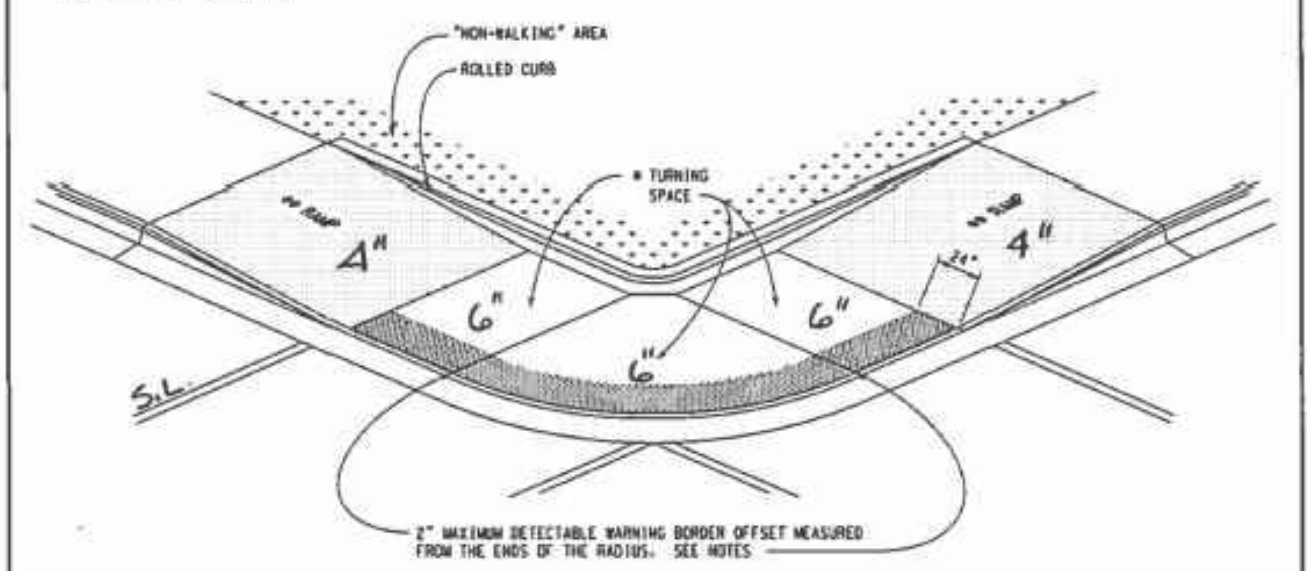


SIDEWALK RAMP TYPE M
 (MEDIAN ISLAND)

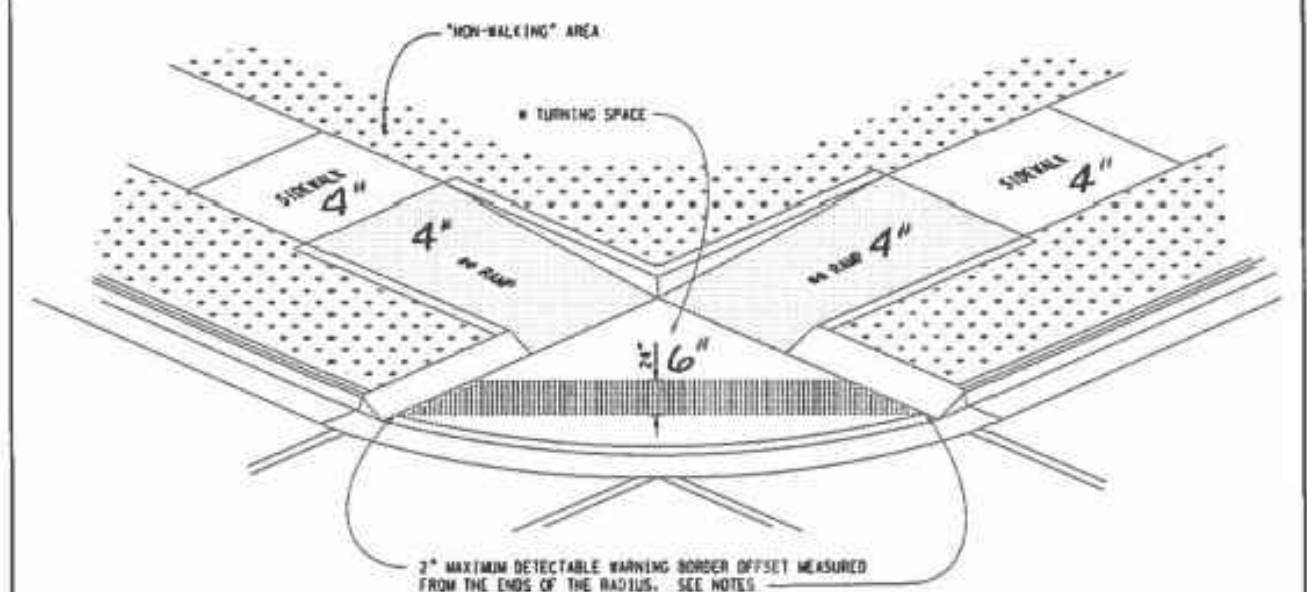
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

9-30-2014 F.H.S.A. APPROVAL	7-1-2014 PLAN DATE	R-28-1	SHEET 3 OF 7
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* MAXIMUM TURNING SPACE SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 ** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE D
 (DEPRESSED CORNER)
 USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION



SIDEWALK RAMP TYPE D
 (DEPRESSED CORNER)
 USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

9-30-2014 F.H.S.A. APPROVAL	7-1-2014 PLAN DATE	R-28-1	SHEET 4 OF 7
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Verità
 TELECOMMUNICATIONS CORPORATION
 47059 Five Mile Road
 Plymouth, MI 48170

REVISIONS:

#	DATE	DESCRIPTION	INT.
2	3/2/23	REVISION	MD
1	1/12/23	PERMITTING	MD
#	DATE	DESCRIPTION	INT.

PROFESSIONAL STAMP

PROJECT NAME:

NC-MI-DTBUND-TMO
 NC-MI-DTBUND-TMO
 DEYH006A

PROJECT LOCATION:

20 W ELIZABETH ST
 DETROIT, MI 48201

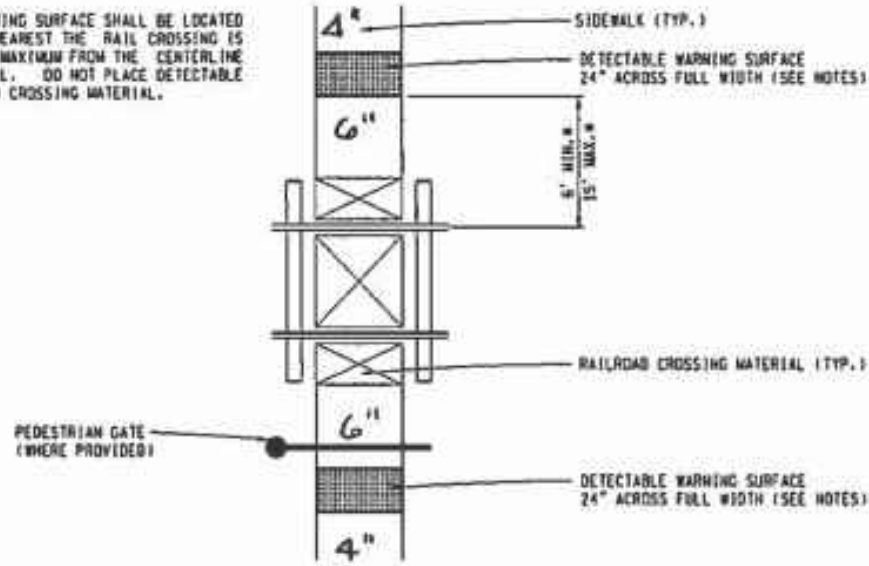
SHEET TITLE:

CITY OF
 DETROIT
 DETAILS

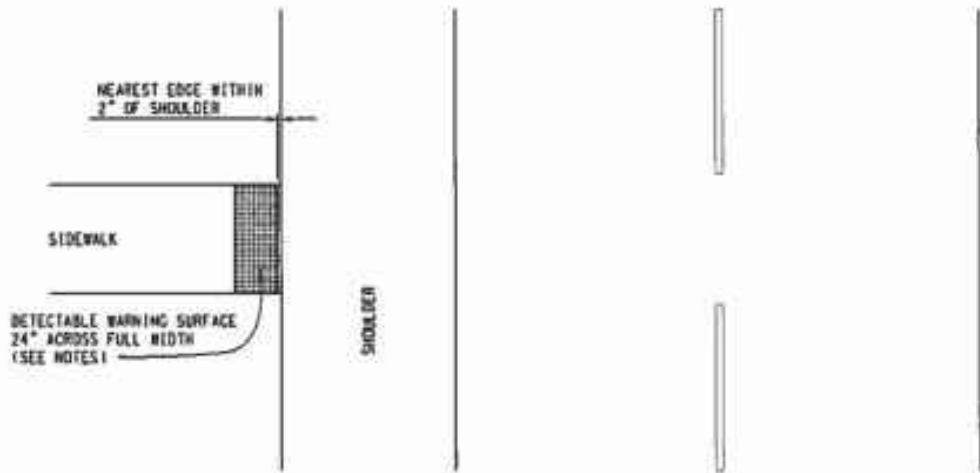
SHEET NUMBER:

D13

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6" MINIMUM AND 15" MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.



DETECTABLE WARNING AT RAILROAD CROSSING

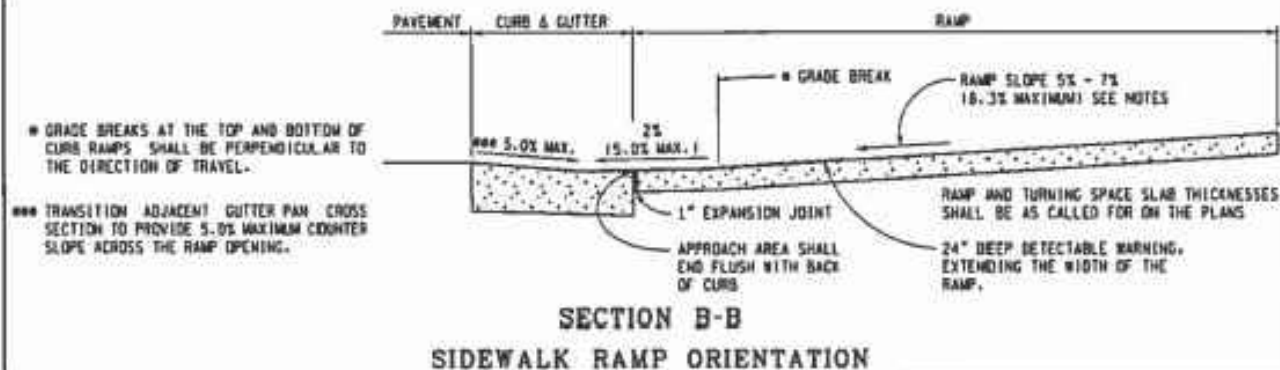
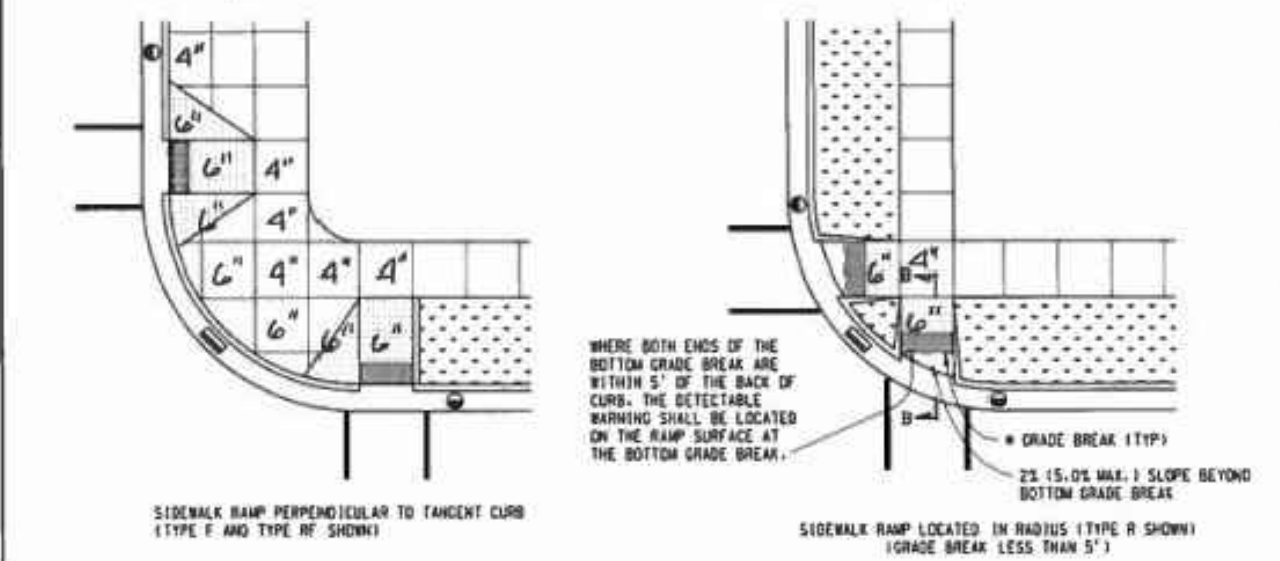
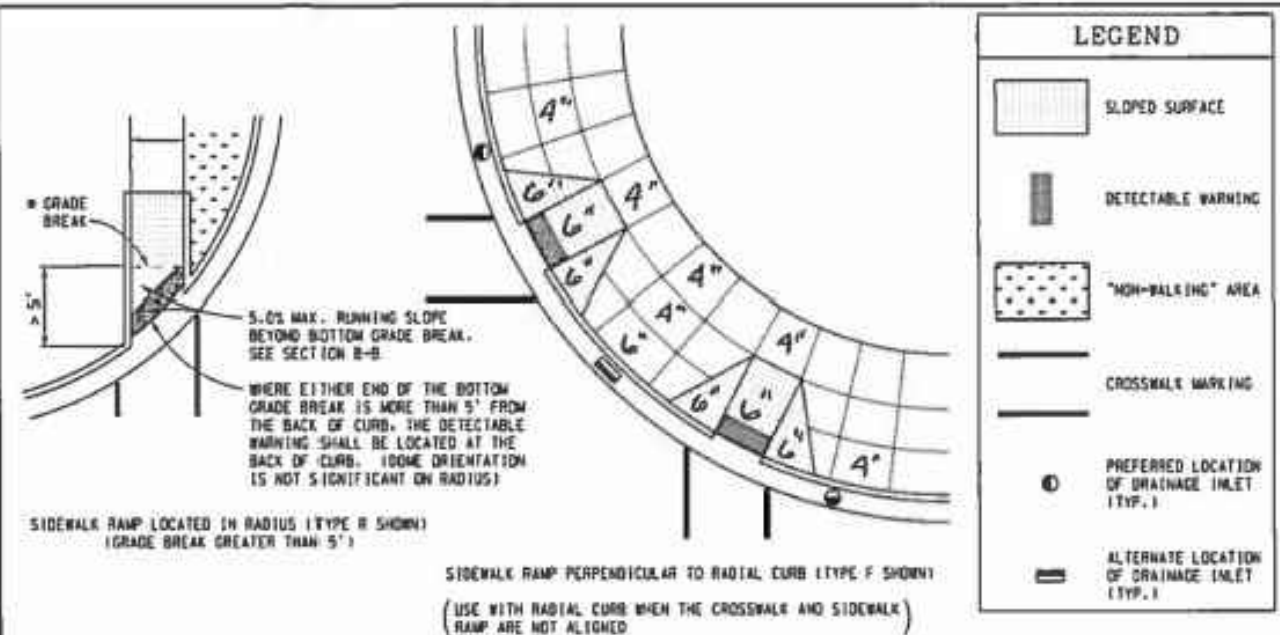


DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLANS FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

9-30-2014 F.H.R.S. APPROVAL	1-1-2014 PLAN DATE	R-28-1	SHEET 5 OF 7
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MICHIGAN DEPARTMENT OF TRANSPORTATION
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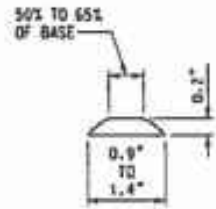
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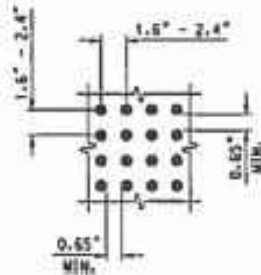
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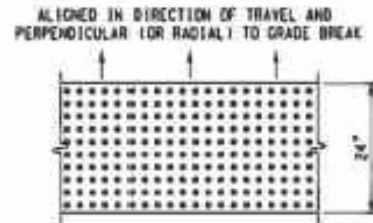
SHEET NUMBER:



DOME SECTION



DOME SPACING



DOME ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, WHERE CONDITIONS PERMIT. IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

PROVIDE TURNING SPACES WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.

WHEN 5' MINIMUM WIDTHS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND TURNING SPACES TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 0.3% IS RELATIVE TO A FLAT 10% REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE, WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL. USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5.0%. MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

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BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

9-30-2014 F.H.W.S. APPROVAL	7-1-2014 PLAN DATE	R-28-1	SHEET 7 OF 7
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