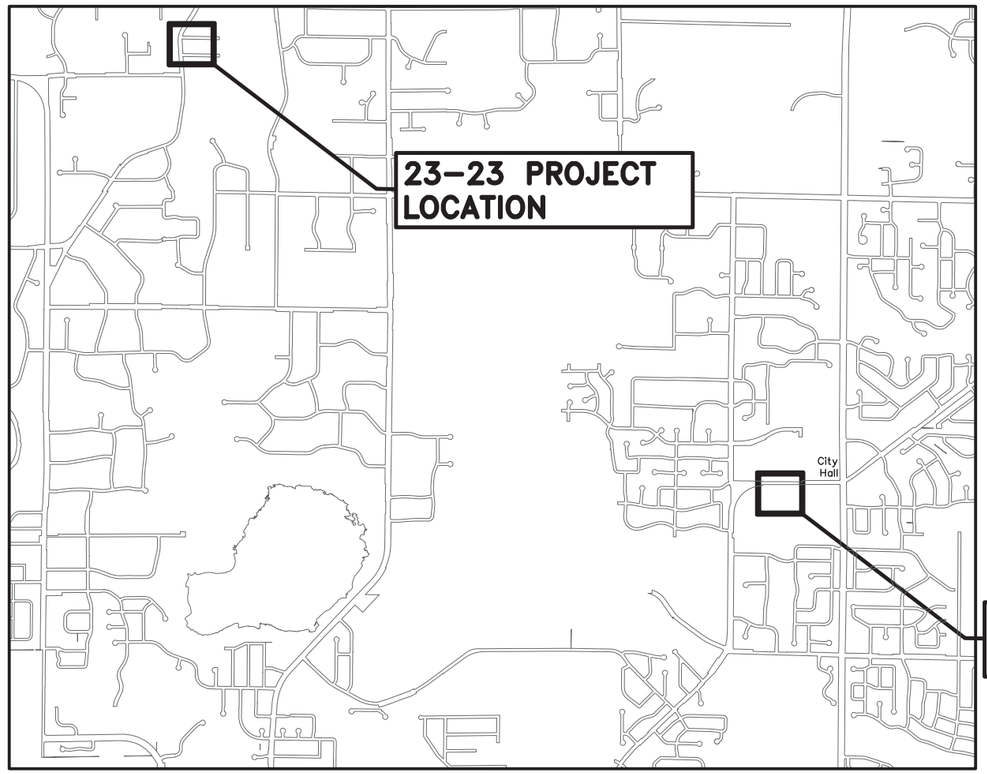
CITY OF
ANDOVER, MINNESOTA
CONSTRUCTION PLANS
FOR
SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22
FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23



N

ANDOVER

NO SCALE

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE "SUPPLEMENTAL SPECIFICATIONS" DATED SEPTEMBER 2022 SHALL GOVERN.

CITY OF ANDOVER UTILITY AND STREET CONSTRUCTION SPECIFICATIONS SHALL APPLY.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST MMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

THIS PLAN CONTAINS 17 SHEETS

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

ANDOVER, MINNESOTA

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

David D. Berkowitz

DAVID D. BERKOWITZ, PE
ANDOVER DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
DATE 4/18/2023 LIC. NO. 26757

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JJL DRAWN JBK
CHECKED DDB

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SIGNATURE
DAVID D. BERKOWITZ
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CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22
FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

TITLE SHEET

SHEET NO. 1 OF 17 SHEETS

Sunshing Parking Lot
City Project: 23-22
STATEMENT OF ESTIMATED QUANTITIES

SUNSHINE PARKING LOT (C.P. 23-22)
PROJECT QUANTITIES

NOTES	ITEM NO.		DESCRIPTION	UNIT	EST. QUAN.	ACT. QUAN.
	1	2021.501	Mobilization	LS	1	
1	2	2104.503	Remove Curb & Gutter	LF	120	
	3	2104.503	Sawing Concrete Pavement (Full Depth)	LF	12	
	4	2104.503	Sawing Bit Pavement (Full Depth)	LF	140	
2,3	5	2104.504	Remove Bituminous Pavement (Parking Lot)	SY	10700	
3	6	2104.504	Remove Bituminous Pavement (Trail)	SY	20	
3	7	2104.504	Remove Concrete Pavement	SY	20	
4	8	2112.601	Subgrade Preparation	LS	1	
5	9	2211.509	Aggregate Base Class 5	TN	50	
	10	2232.504	Mill Bituminous Surface (1.5")	SY	20	
	11	2357.506	Bituminous Material For Tack Coat	Gal	540	
	12	2360.509	Type SP 9.5 Wearing Course Mix (4,C)	TN	1060	
	13	2360.509	Type SP 12.5 Wearing Course Mix (4,C)	TN	1060	
6	14	2506.602	Manhole Casting Adjustment	EA	2	
7	15	2521.518	4" Concrete Walk	SF	3590	
8	16	2521.618	6" Concrete Walk - Special	SF	170	
	17	2531.503	Concrete Curb & Gutter Design B612	LF	120	
	18	2531.504	7" Concrete Pavement	SY	10	
	19	2531.618	Truncated Domes	SF	36	
9	20	2540.602	Handicap Sign Bollard	EA	11	
	21	2563.601	Traffic Control	LS	1	
	22	2573.502	Storm Drain Inlet Protection	EA	2	
	23	2582.503	4" Solid Line Paint	LF	5860	
	24	2582.518	Pavement Message Paint	SF	230	

C.P. 23-22 Notes:

1. Regardless of type/dimension of curb. Includes sawcut of curb. Excavation and off-site disposal of material behind curb necessary for removal and replacement of curb and gutter incidental to this item.
2. Includes removal of existing crack fill material from curb/pavement edge prior to paving. Contractor has option to remove or reclaim bituminous pavement. Either option shall be paid for with this item. Includes off-site disposal of excess material. Existing parking lot bituminous depth 3" +/-. If reclaiming, either reclaim bituminous surface only OR entire bituminous & gravel section.
3. Regardless of depth.
4. Item includes shaping/fine grading/compacting existing gravel to finish grade. City will provide blue top stakes.
5. For use if additional material required to fine grade parking lot.
6. F&I manhole casting adjustment (if necessary). Contractor to verify casting diameter. Clean and glue to existing frame. Neenah R-1979 series, or approved equal.
7. For medians and concrete pads.
8. For pedestrian curb ramps.
9. Channel post supplied by City of Andover. City of Andover to F&I sign panel. Contractor to F&I all other items necessary for complete installtion (refer to Standard Detail 722).

BASIS OF ESTIMATED QUANTITIES	
Bituminous Wear Course	120 # / SY / inch
Bit. Non-Wear Course	120 # / SY / inch
Aggregate Base, Class 5	110 # / SY / inch
Tack Coat	0.07 Gal / SY

Fire Station #2 Lot Reconstruction
City Project: 23-23
STATEMENT OF ESTIMATED QUANTITIES

FIRE STATION #2 PARKING LOT (C.P. 23-23)
PROJECT QUANTITIES

NOTES	ITEM NO.		DESCRIPTION	UNIT	EST. QUAN.	ACT. QUAN.
	101	2021.501	Mobilization	LS	1	
	102	2104.502	Salvage Casting (Storm)	EA	2	
1	103	2104.503	Remove Curb & Gutter	LF	360	
	104	2104.503	Sawing Concrete Pavement (Full Depth)	LF	30	
	105	2104.503	Sawing Bit Pavement (Full Depth)	LF	130	
	106	2104.503	Remove Pipe Culvert	LF	160	
2,3	107	2104.504	Remove Bituminous Pavement (Parking Lot)	SY	1855	
3	108	2104.504	Remove Concrete Pavement	SY	30	
4	109	2105.607	Common Excavation (EV)	CY	110	
5	110	2112.601	Subgrade Preparation	LS	1	
6	111	2211.509	Aggregate Base Class 5	TN	60	
	112	2232.504	Mill Bituminous Surface (1.5")	SY	20	
	113	2357.506	Bituminous Material For Tack Coat	Gal	100	
	114	2360.509	Type SP 9.5 Wearing Course Mix (4,C)	TN	190	
	115	2360.509	Type SP 12.5 Wearing Course Mix (4,C)	TN	250	
	116	2501.502	18" CS Safety Apr & Grate Des 3128	EA	1	
	117	2503.603	18" HDPE Pipe Sewer	LF	160	
7	118	2506.502	Install casting (Storm)	EA	2	
8	119	2506.602	Construct Drainage Structure, Nyloplast	EA	1	
	120	2511.509	Random Rip Rap Class III	CY	5	
	121	2521.518	4" Concrete Walk	SF	150	
9	122	2521.618	6" Concrete Walk - Special	SF	50	
	123	2531.503	Concrete Curb & Gutter Design B618	LF	360	
	124	2531.504	8" Concrete Driveway Pavement	SY	70	
10	125	2531.602	Clean and Patch Conc. Curb & Gutter Joint	EA	5	
	126	2531.618	Truncated Domes	SF	10	
	127	2563.601	Traffic Control	LS	1	
	128	2573.502	Storm Drain Inlet Protection	EA	2	
	129	2582.503	4" Solid Line Paint	LF	370	
	130	2582.518	Pavement Message Paint	SF	5	

C.P. 23-23 Notes:

1. Regardless of type/dimension of curb. Includes sawcut of curb. Excavation and off-site disposal of material behind curb necessary for removal and replacement of curb and gutter incidental to this item.
2. Includes removal of existing crack fill material from curb/pavement edge prior to paving. Contractor has option to remove or reclaim bituminous pavement. Either option shall be paid for with this item. Includes off-site disposal of excess material. Existing parking lot bituminous depth 3.5" +/-. If reclaiming, either reclaim bituminous surface only OR entire bituminous & gravel section.
3. Regardless of depth.
4. For excavation of grass median areas for parking lot expansion only. All other excavation incidental to other pay items.
5. Item includes shaping/fine grading/compacting existing gravel, salvaging existing gravel from proposed concrete pad location, and placing and compacting salvaged gravel in parking lot expansion locations. City will provide blue top stakes.
6. For parking lot expansion and under curb and gutter if sufficient material not salvaged on-site.
7. Includes new concrete adjusting rings, wrap rings with geotextile fabric and concrete collar.
8. Or approved equal. See detail. Includes casting. 30" diameter structure and grate.
9. For pedestrian curb ramps.
10. Clean joint and patch with 3U18 compound. Average joint 3" wide x 1" deep. Item for all joints, regardless of actual depth/width. Locations to be determined in the field by the engineer.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JJL DRAWN JBK
CHECKED DDB

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CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22
FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

STATEMENT OF ESTIMATED QUANTITIES

GENERAL NOTES:

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AND THE "SUPPLEMENTAL SPECIFICATIONS" DATED SEPTEMBER 2022 SHALL GOVERN.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD)" AND THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL", NEWEST ADDITIONS.

CONSTRUCTION SHALL BE STAGED SUCH THAT TRAFFIC IS MAINTAINED AT ALL TIMES FOR FIRE STATION #2. SUNSHINE PARK PARKING LOT WILL BE CLOSED TO TRAFFIC. CONTRACTOR SHALL USE FLAG PERSON, IF NEEDED (INCIDENTAL TO TRAFFIC CONTROL).

ROAD WORK AHEAD SIGNS SHALL BE MAINTAINED AT ALL INTERSECTING ROADS TO THE PROJECT. TYPE B CHANNELIZERS SHALL BE USED IN ALL NECESSARY LOCATIONS. TRAIL CLOSED SIGNS ON TYPE III BARRICADES SHALL BE PLACED AT ALL LOCATIONS IMPACTED BY PEDESTRIAN RAMP/SIDEWALK/TRAIL IMPROVEMENTS. TYPE III BARRICADES SHALL BE PLACED AT BOTH ENTRANCES TO SUNSHINE PARK PARKING LOT.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE EXCAVATING CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR IS REQUIRED TO CALL GOPHER ONE CALL AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION. (651-454-2000)

CONSTRUCTION NOTES:

THE CONTRACTOR SHALL INSTALL INLET PROTECTION DEVICES ON ALL STORM SEWER STRUCTURES. THE CONTRACTOR SHALL INSTALL INLET PROTECTION DEVICES IN ALL STRUCTURES SUCH THAT SEDIMENT IS CAPTURED WITH A HIGH FLOW BYPASS.

COMPACTION OF ALL BITUMINOUS MIXTURE SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT FOR PATCHES AND TRAILS, WHICH SHALL BE BY THE "ORDINARY COMPACTION METHOD".

ALL DISTURBED AREAS SHALL BE BACKFILLED WITH SALVAGED TOPSOIL, IF ANY. DISTURBED AREAS SHALL BE RESTORED WITH 4" TOPSOIL AND SOD OR SEED. ALL RESTORATION SHALL OCCUR WITHIN 7 DAYS OF GRADING COMPLETION. THE RESTORATION WORK WILL BE COMPLETED BY ANDOVER PUBLIC WORKS.

EXISTING SIGNS SHALL BE SALVAGED BY THE ANDOVER SIGN DEPARTMENT, IF NECESSARY. COORDINATE WITH MINIMUM 48 HOUR NOTICE WITH ENGINEER IN FIELD.

BOULEVARD IRRIGATION SYSTEMS SHALL BE PROTECTED. SALVAGE AND/OR REPLACEMENT OF ANY EXISTING HEADS WILL BE COMPLETED BY ANDOVER PUBLIC WORKS. COORDINATE NOTIFICATION OF SYSTEM OWNERS WITH CITY INSPECTOR PRIOR TO IMPACTING SYSTEMS.

CONCRETE WASHOUT SHALL BE CONTAINED WITHIN CONCRETE TRUCKS, NOT ON-SITE.

CONTRACTOR SHALL SWEEP ALL MATERIAL OFF STREET DUE TO CONSTRUCTION ACTIVITY, DAILY AS NECESSARY (INCIDENTAL).

SOIL STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF ROUGH GRADING OR INACTIVITY (INCIDENTAL).

CONTRACTOR IS REQUIRED TO REPAIR AND MAINTAIN ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES (INCIDENTAL).

CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENT CONTROL PRACTICES ONCE VEGETATION IS RE-ESTABLISHED (INCIDENTAL).

REFER TO SWPPP IN PROJECT SPECIFICATION FOR ADDITIONAL CONSTRUCTION/EROSION CONTROL REQUIREMENTS.

ALL MULCH MEDIANS SHALL BE REMOVED AND GRADED BY CITY OF ANDOVER PUBLIC WORKS. CONTRACTOR IS REQUIRED TO PAVE 4" CONCRETE MEDIANS ON FINISHED GRADE.

EARTHWORK NOTES:

WHEN CONNECTING NEW PAVED SURFACING TO ANY IN-PLACE PAVEMENTS, CUT VERTICALLY TO THE BOTTOM OF THE IN-PLACE PAVEMENTS OR TO THE BOTTOM OF THE NEW SURFACING, WHICHEVER IS DEEPER, THAN AT 2(V):1(H) SLOPE TO THE TOP OF THE SUBGRADE.

EXCAVATION AND DISPOSAL OF SOIL/TURF MATERIAL SHALL BE INCIDENTAL TO REMOVAL PAY ITEMS WITH THE EXCEPTION OF PARKING LOT EXPANSION AREAS AT FIRE STATION #2 AS IDENTIFIED IN PLANS. CONTRACTOR SHALL MINIMIZE EXCAVATION AND DISTURBANCE ALONG THE PROJECT CORRIDOR. EXCAVATED MATERIAL CAN BE USED FOR BACKFILLING PROVIDED IT IS FREE OF SOD CHUNKS AND/OR DEBRIS. EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE.

CONTRACTOR HAS OPTION TO EITHER REMOVE OR RECLAIM EXISTING BITUMINOUS PAVEMENT. EITHER WAY, EXCESS MATERIAL GENERATED FROM EXISTING BITUMINOUS PAVEMENT REMOVAL OR RECLAMATION SHALL BE HAULED OFF-SITE AND BECOMES PROPERTY OF CONTRACTOR. IF CONTRACTOR CHOOSES RECLAMATION OF EXISTING BITUMINOUS, EITHER RECLAIM BITUMINOUS SECTION ONLY LEAVING EXISTING GRAVEL SECTION IN PLACE, OR COMPLETE FULL DEPTH RECLAMATION OF ENTIRE BITUMINOUS AND GRAVEL SECTION CREATING A HOMOGENEOUS MIXTURE MEETING GRADATION REQUIREMENTS PER MNDOT 2215.

LEGEND

= CORPORATE LIMITS
= CENTERLINE

EXISTING

UGT = UNDERGROUND TELEPHONE LINE
UGE = UNDERGROUND ELECTRIC LINE
P-OH = OVERHEAD ELECTRIC LINE
GAS = GAS MAIN
UGTV = UNDERGROUND CABLE TV
= CONTROL CABINET/TRANSFORMER
= WATER MAIN
= HYDRANT
= GATE VALVE
= R.O.W.
= PROPERTY LINE
OR = CATCH BASIN
= STORM SEWER MANHOLE
= STORM SEWER LINE
= SANITARY SEWER MANHOLE
= SANITARY SEWER LINE

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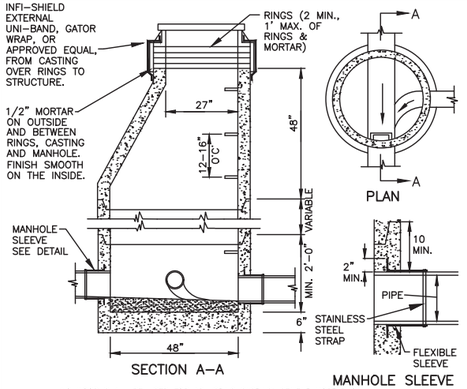
CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22
FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

CONSTRUCTION NOTES & LEGEND



NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS (1642 B).

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC, PER ASTM C478, LOCATED OVER DOWNSTREAM PIPE.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
LIFT HOLES NOT PERMITTED IN MANHOLE SECTIONS.
A 12" OR 16" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.

PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INPLACE RUBBER SLEEVE & CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

PLACE "RAM-NECK" OUTSIDE OF O-RING GASKET ON ALL MANHOLE JOINTS BELOW WATER TABLE.

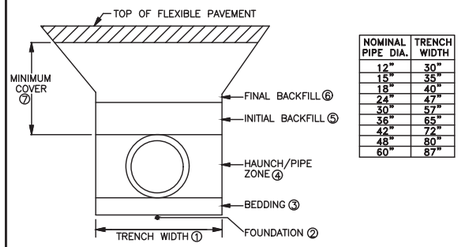
ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

SANITARY SEWER MANHOLE, TYPE 301
(PIPES 27" OR LESS)

11/17/2020

CITY OF ANDOVER | STANDARD DRAWING NO. 301D

HDPE STORM SEWER PIPE INSTALLATION

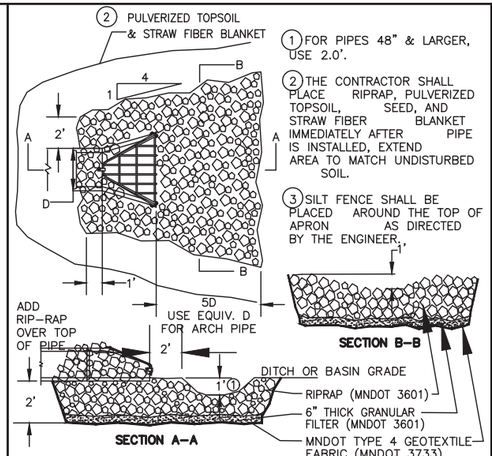


NOMINAL PIPE DIA.	TRENCH WIDTH
12"	30"
15"	35"
18"	40"
24"	47"
30"	57"
36"	65"
42"	72"
48"	80"
60"	87"

① **MINIMUM TRENCH WIDTH:** Minimum trench width shall be 1.25*OD+12" or a minimum of 16" plus the outside diameter, whatever is greater. See table.
② **FOUNDATION:** Areas of unstable trench bottom shall be excavated to a depth determined by the Engineer and replaced with suitable foundation material to meet the requirements of Note 8 below.
③ **BEDDING:** Bedding thickness shall be a minimum of 4" for pipe diameters through 24 inches. Bedding thickness shall be 6" for diameters larger than 24 inches. The material shall meet the requirements of Note 8 below.
④ **HAUNCHING:** This material is placed and compacted evenly on both sides of the pipe, from the top of the bedding elevation to the top of the pipe. The haunch/pipe zone material shall meet the requirements of Note 8 below.
⑤ **INITIAL BACKFILL:** Initial backfill is from the top of the haunch/pipe zone elevation to 6 inches above the top of the pipe. For traffic areas, initial backfill material shall meet the requirements of note 8 below unless roadway embankment requirements supercede.
⑥ **FINAL BACKFILL:** For traffic applications, final backfill material and compaction efforts shall be consistent with the Engineer's parameters for the sub grade of the pavement cross-section which is 95% of Standard Proctor Density from the encasement zone to 3 feet below the surface and 100% of Standard Proctor Density in the upper 3 feet.
⑦ **MINIMUM COVER:** Minimum cover shall be 18" for pipes 12"-42" in diamter and 24" for pipes 48"-60" in diameter for H-25 loadings measured from the bottom of the flexible pavement or top of rigid pavement. Temporary ramping with Class 5 may be needed during construction to maintain cover depths for construction vehicles.
⑧ **FOUNDATION, BEDDING, HAUNCHING, AND INITIAL BACKFILL:** Material meeting and installed per ASTM D2321 Class I, II, or III as approved by the Engineer.

2/25/10

CITY OF ANDOVER | STANDARD DRAWING NO. 106



① FOR PIPES 48" & LARGER, USE 2.0'.

② THE CONTRACTOR SHALL PLACE RIPRAP, PULVERIZED TOPSOIL, SEED, AND STRAW FIBER BLANKET IMMEDIATELY AFTER PIPE IS INSTALLED, EXTEND AREA TO MATCH UNDISTURBED SOIL.

③ SILT FENCE SHALL BE PLACED AROUND THE TOP OF APRON AS DIRECTED BY THE ENGINEER.

RIP-RAP QUANTITIES (C.Y.)

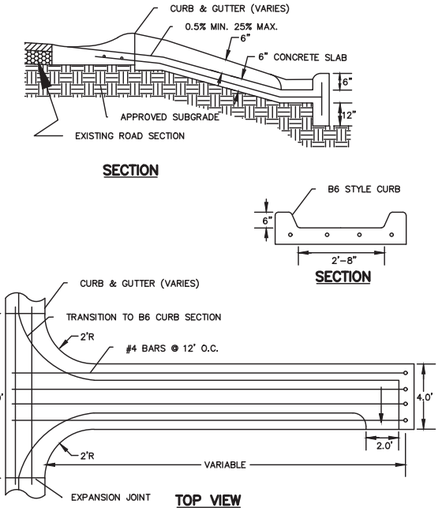
PIPE DIA.	RIP-RAP	PIPE DIA.	RIP-RAP	PIPE DIA.	RIP-RAP
12"	6	24"	14	42"	35
15"	8	27"	17	48"	43
18"	9	30"	21	54"	50
21"	12	36"	28	60"	58

NOTE: REQUIREMENTS FOR RIP-RAP SIZE, THICKNESS, AND GRANULAR FILTER WILL BE DESIGNATED IN THE PLANS. GRANULAR FILTER AND FABRIC ARE INCIDENTAL TO RIP-RAP.

11/17/2020

RIP-RAP AT RCP OUTLETS

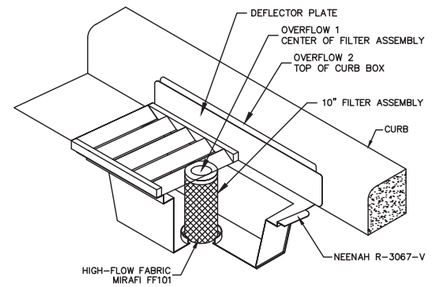
CITY OF ANDOVER | STANDARD DRAWING NO. 411B



CONCRETE SPILLWAY

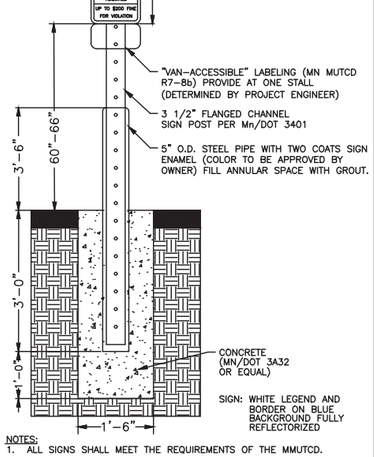
1/25/13

CITY OF ANDOVER | STANDARD DRAWING NO. 412A



WIMCO INLET PROTECTION
N.T.S.

*** OR APPROVED EQUAL ***

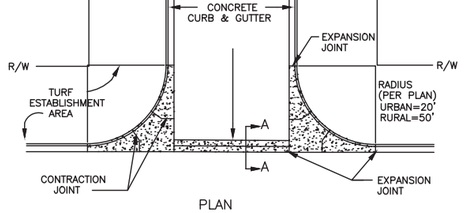


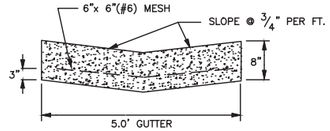
NOTES:
1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF THE MMUTCD.

HANDICAP PARKING STALL SIGNAGE-IN PAVEMENT

3/28/23

CITY OF ANDOVER | STANDARD DRAWING NO. 722

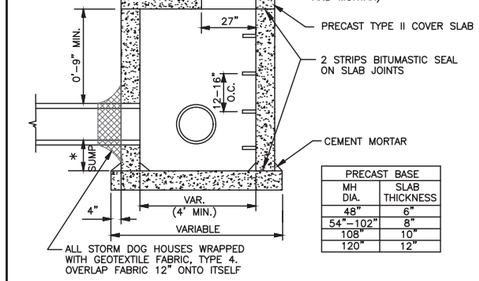




CONCRETE VALLEY GUTTER

2/19/08

CITY OF ANDOVER | STANDARD DRAWING NO. 504E



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON FRAME & GRATE CASTINGS TYPE R-3250-A UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE EASILY ACCESSIBLE.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH. WRAP OUTSIDE OF DOGHOUSE WITH GEOTEXTILE FABRIC, TYPE 4, OVERLAP FABRIC 12" ONTO ITSELF.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

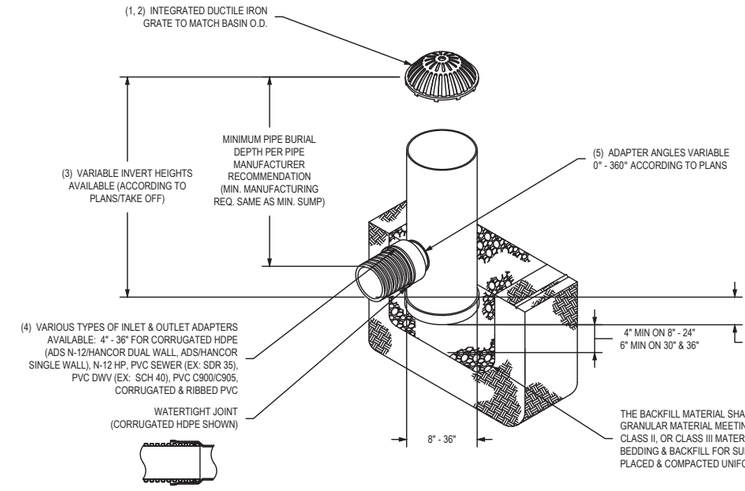
* REFER TO PLANS FOR SUMP DEPTH, IF ANY.

CATCH BASIN/MANHOLE WITH SUMP, TYPE 405

1/10/20

CITY OF ANDOVER | STANDARD DRAWING NO. 405K

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

DRAWN BY	EBC
DATE	03-25-10
REVISED BY	NMH
DATE	06-12-18
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:40
SHEET	1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-397 REV E

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JJL DRAWN JBK
CHECKED DDB

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

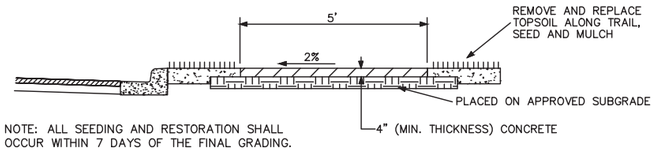
SIGNATURE David D. Berkowitz
DAVID D. BERKOWITZ TYPED OR PRINTED NAME
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

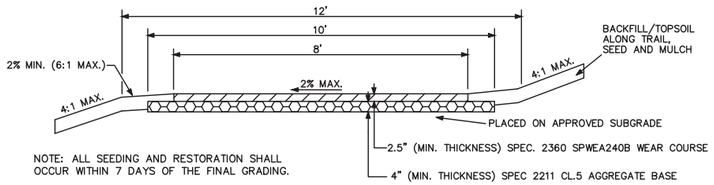
SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22
FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

STANDARD DETAILS

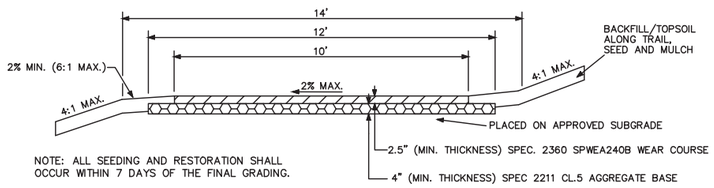
SHEET NO. 4 OF 17 SHEETS



TYPICAL SIDEWALK SECTION

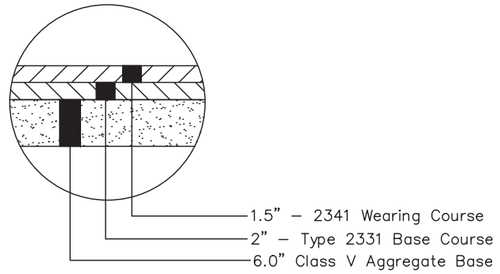


8' TYPICAL TRAIL SECTION

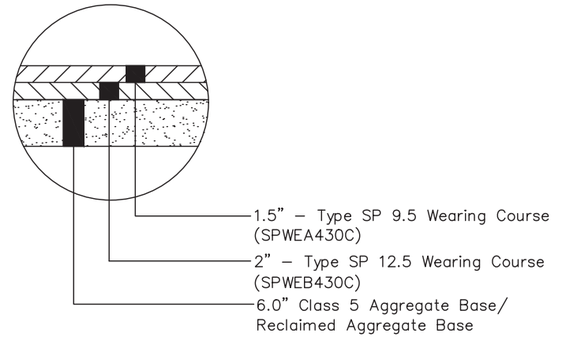


10' TYPICAL TRAIL SECTION

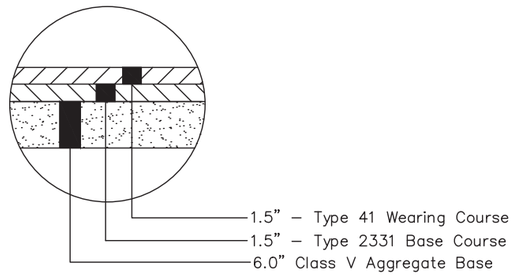
Fire Station #2 (EXISTING)



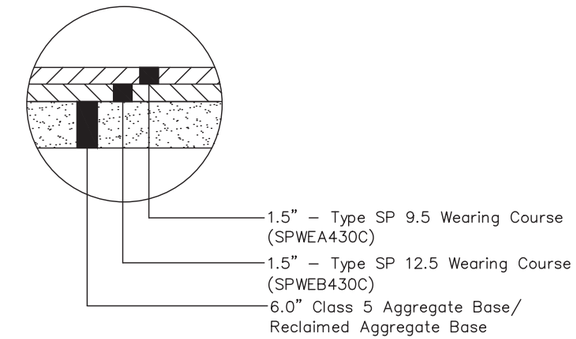
Fire Station #2 PROPOSED



Sunshine Park Parking Lot (EXISTING)



Sunshine Park Parking Lot PROPOSED



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JJL DRAWN JBK
CHECKED DDB

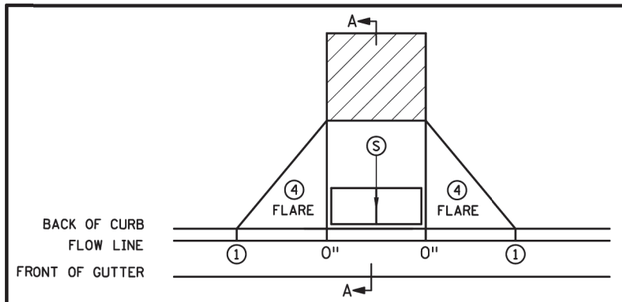
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
SIGNATURE David D. Berkowitz
DAVID D. BERKOWITZ TYPED OR PRINTED NAME
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

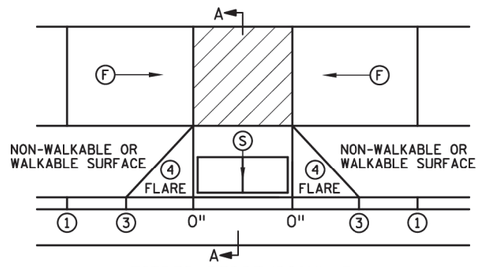
SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22
FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

TYPICAL SECTIONS & INSETS

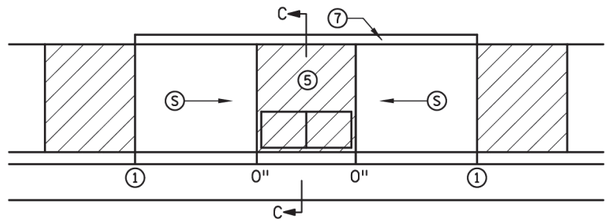
SHEET NO. 5 OF 17 SHEETS



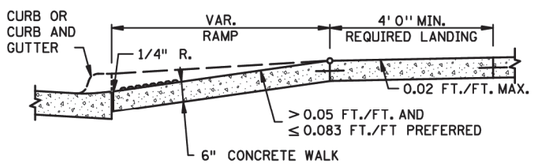
PERPENDICULAR



TIERED PERPENDICULAR

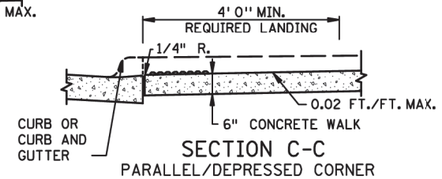


PARALLEL



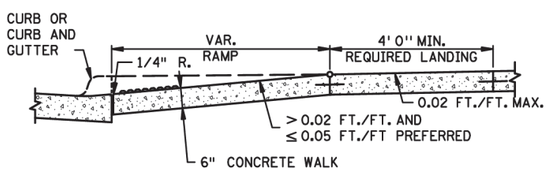
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



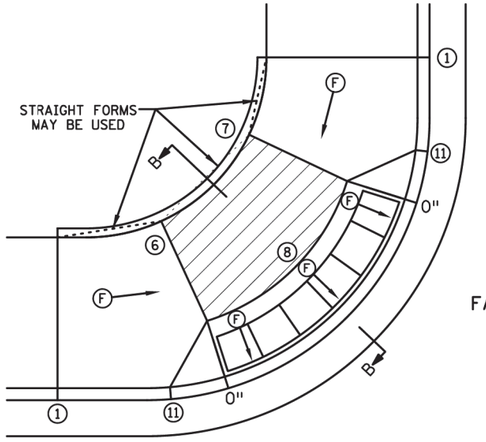
SECTION C-C

PARALLEL/DEPRESSED CORNER

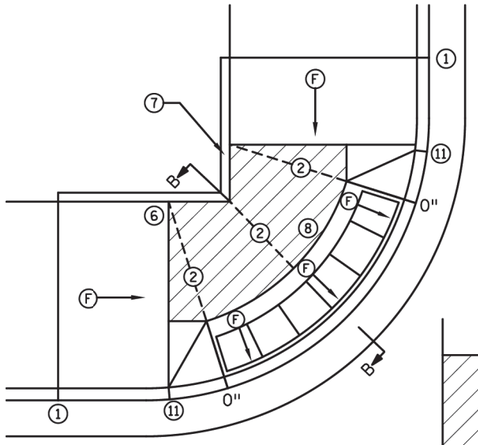


SECTION B-B

FAN

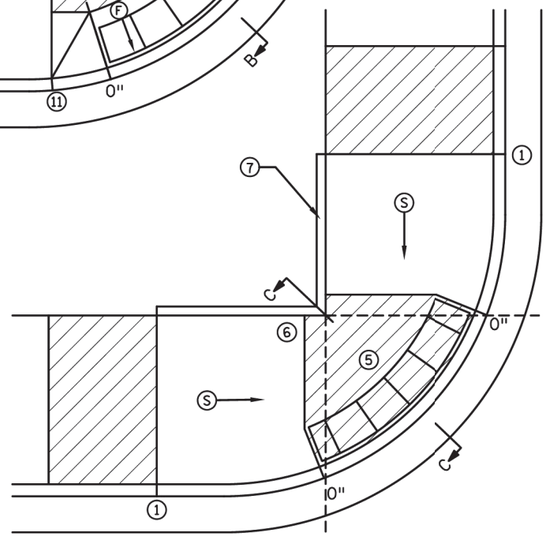


FAN⑩

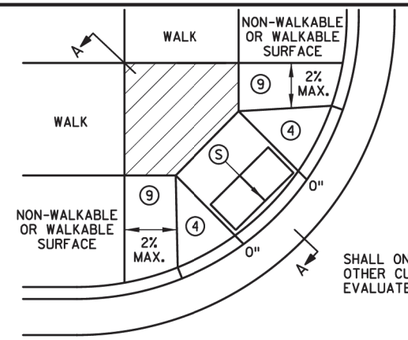


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.

WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.

② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.

③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.

④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.

⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.

⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)

⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑧ A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.

⑨ PAVE FULL WALK WIDTH.

⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

⑪ INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

S ↓ — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

F ↓ — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

▨ — LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" — CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

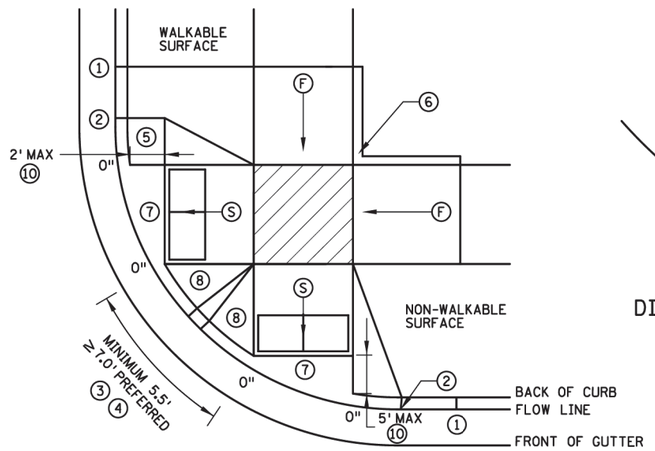
STANDARD PLAN 5-297.250 | 1 OF 6

APPROVED: 11-04-2021
REVISED:

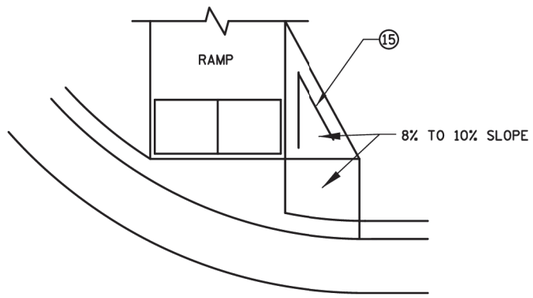
THOMAS STYBRICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

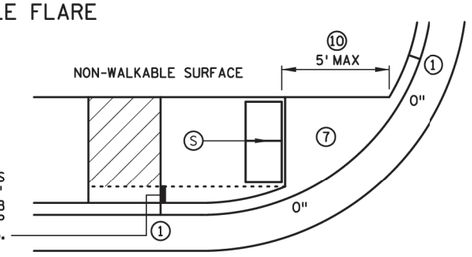
STATE PROJ. NO. (TH) SHEET NO. 6 OF 17 SHEETS



COMBINED DIRECTIONAL

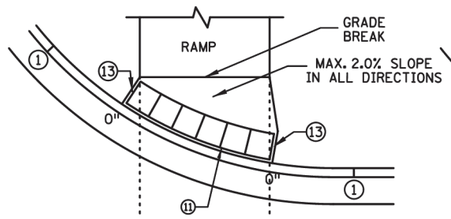


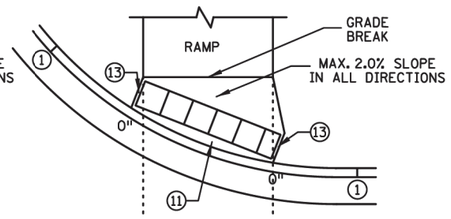
DIRECTIONAL RAMP WALKABLE FLARE



IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.

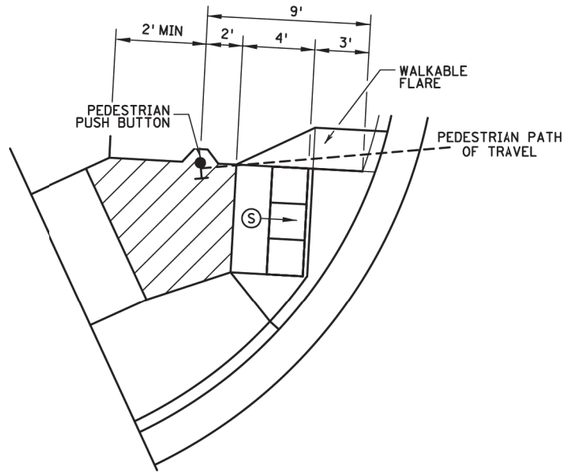
STANDARD ONE-WAY DIRECTIONAL ⑨





DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

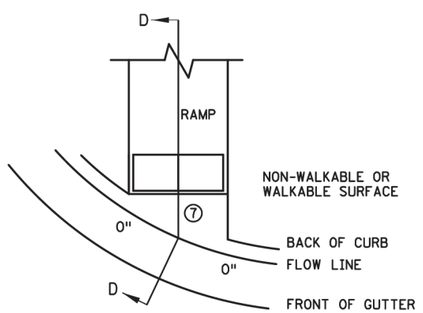
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

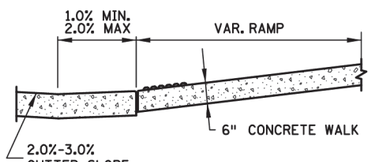


SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)





SECTION D-D

CURB FOR DIRECTIONAL RAMPS ⑭

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X"	CURB HEIGHT

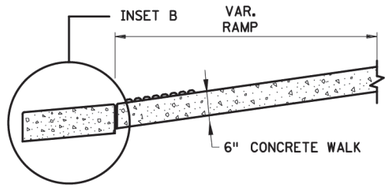
REVISION:

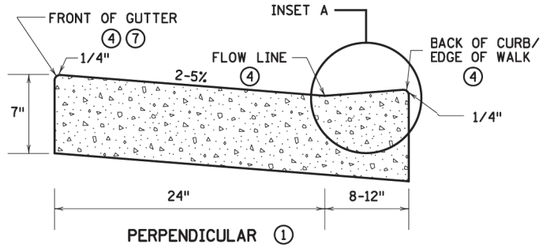
APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

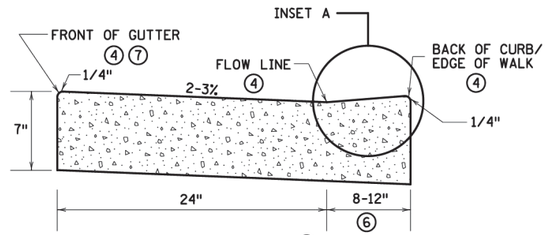
THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.250	2 OF 6
APPROVED: 11-04-2021 REVISED:	PEDESTRIAN CURB RAMP DETAILS
STATE PROJ. NO.	(T.H.) SHEET NO. 7 OF 17 SHEETS

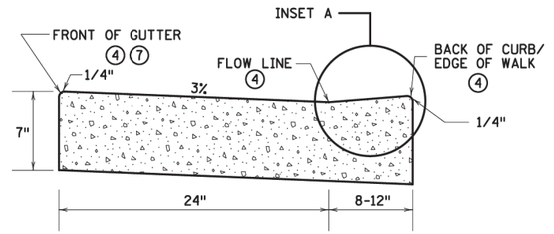




PERPENDICULAR ①

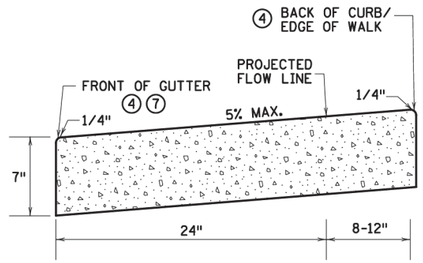


NON PERPENDICULAR ②

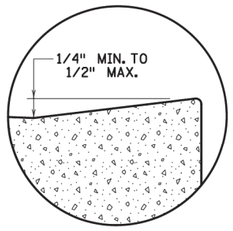


FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

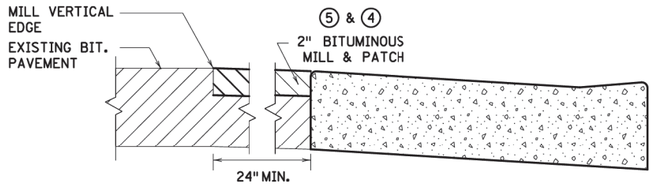
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

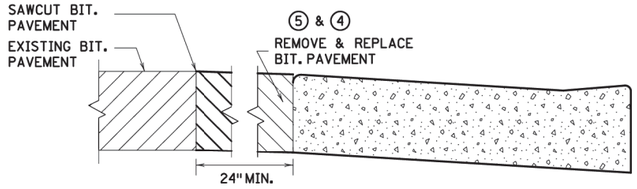


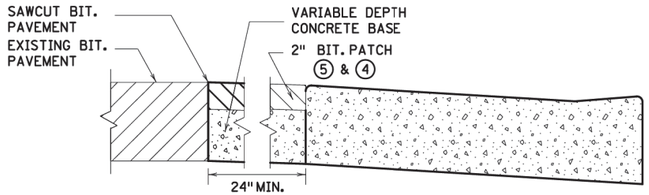
INSET B
OUTFLOW GUTTER ⑧



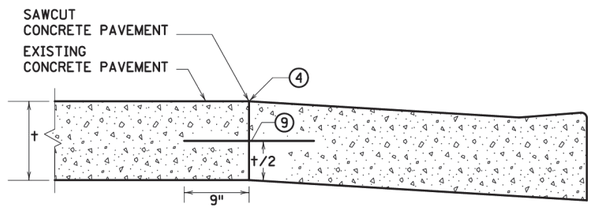
INSET A





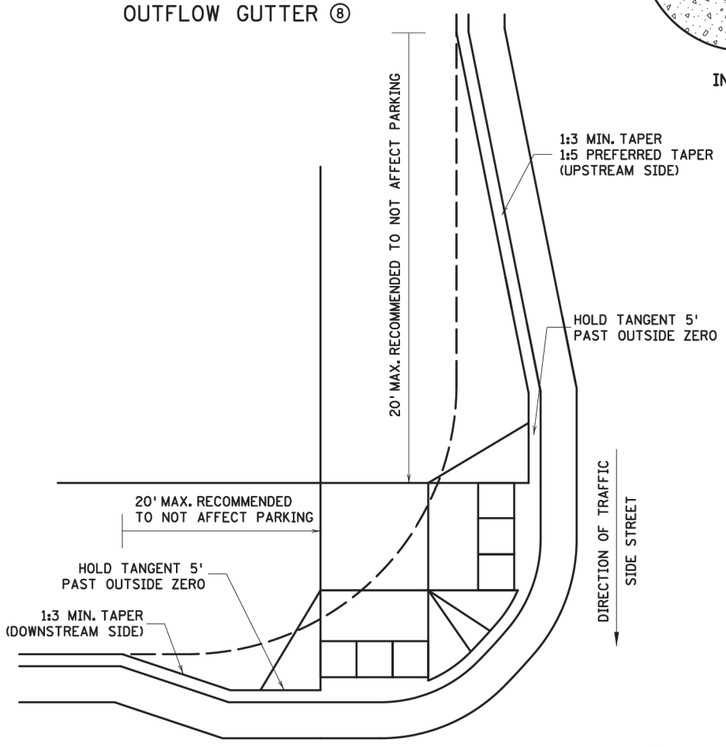


ONLY ALLOWED PER ENGINEER'S APPROVAL

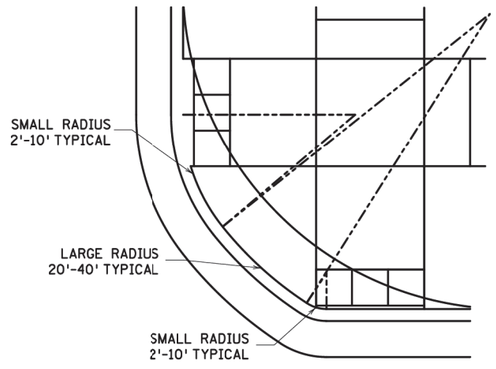


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED.
PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

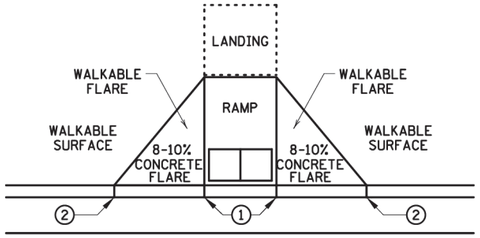
MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 3 OF 6

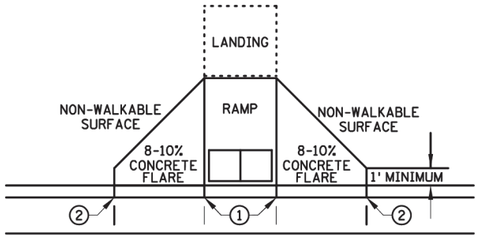
APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

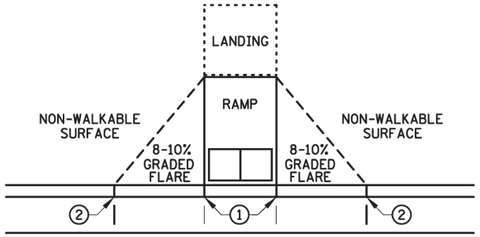
STATE PROJ. NO. (TH) SHEET NO. 8 OF 17 SHEETS



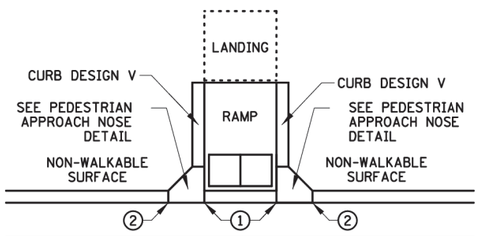
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

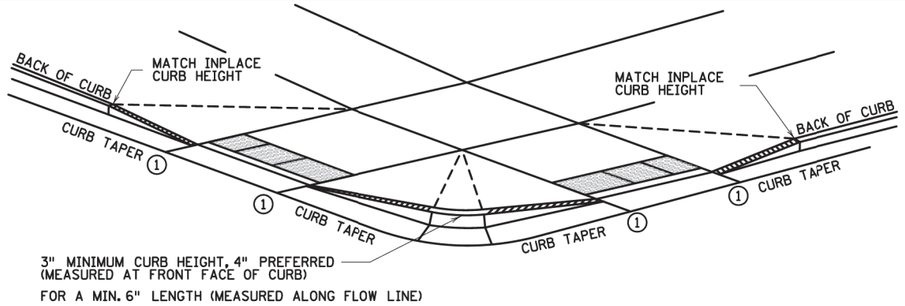


GRADED FLARES

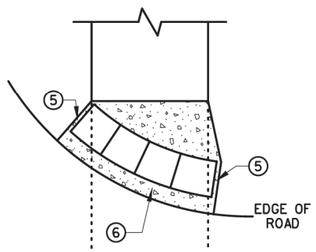


RETURNED CURB ④

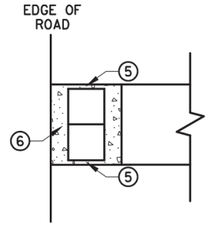
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

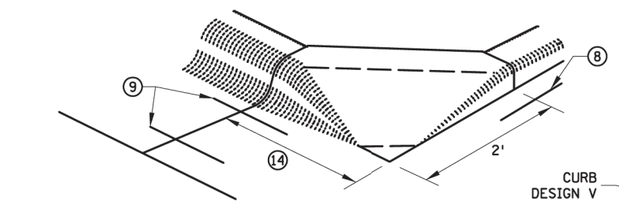


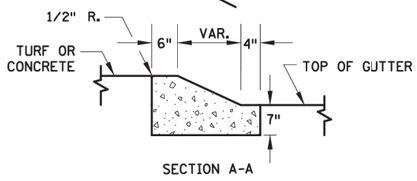
RADIAL DETECTABLE WARNING



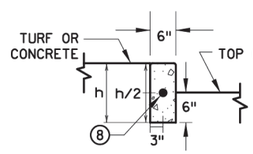
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

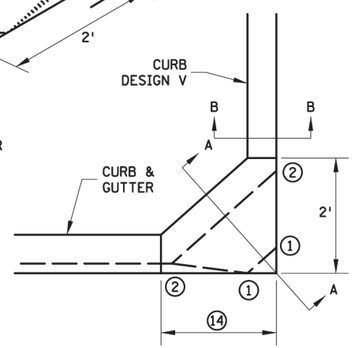




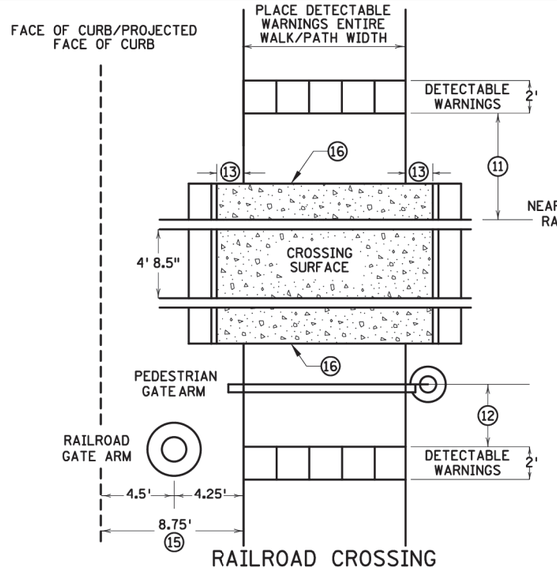
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.

② FULL CURB HEIGHT.

③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

④ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.

⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.

⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

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JEFFREY PERKINS
OPERATIONS DIVISION

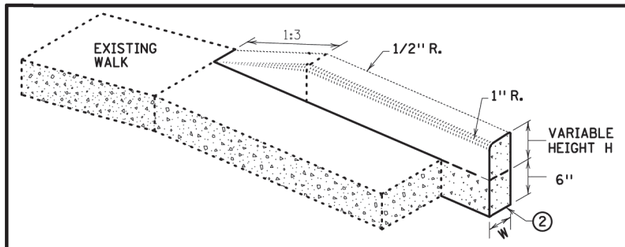
MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 4 OF 6

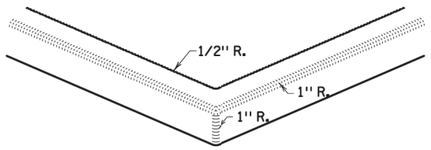
APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. 9 OF 17 SHEETS

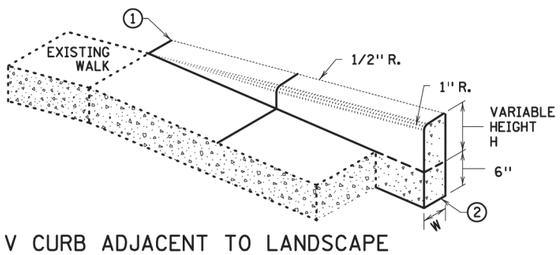


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

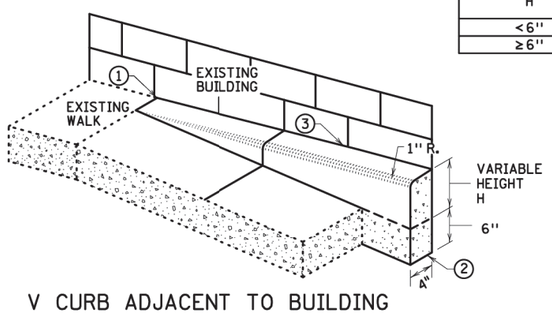


V CURB INTERSECTION

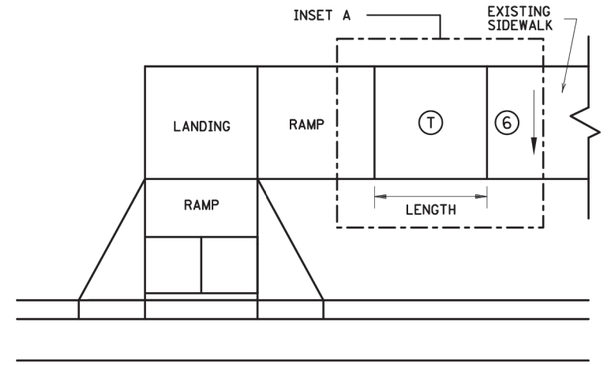
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"



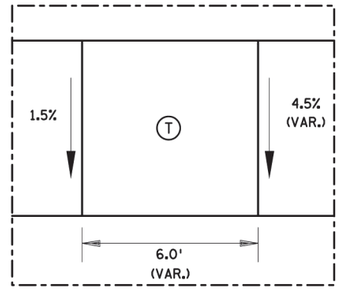
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



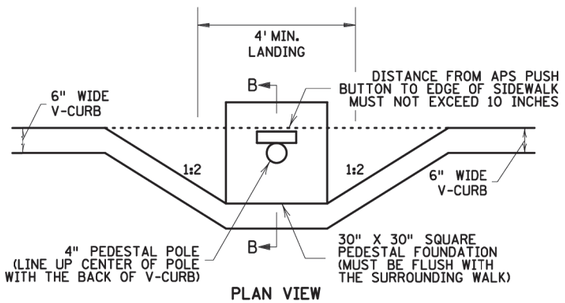
V CURB ADJACENT TO BUILDING OR BARRIER



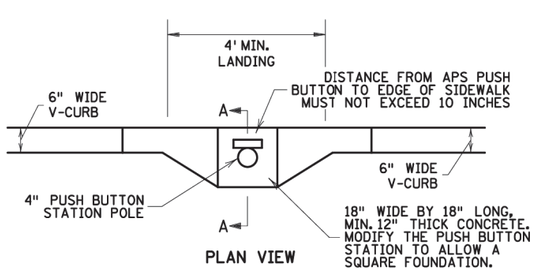
TRANSITION PANEL ④⑤



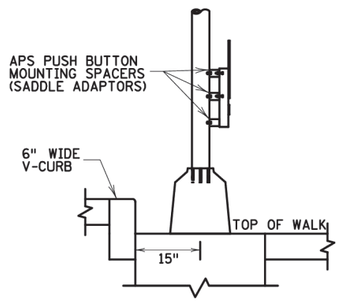
INSET A



PLAN VIEW

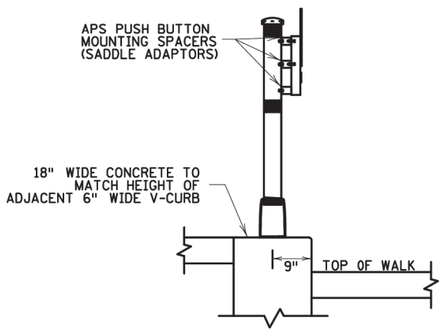


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

1. END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
2. ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
3. CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM ½" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
4. THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
5. TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
6. EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

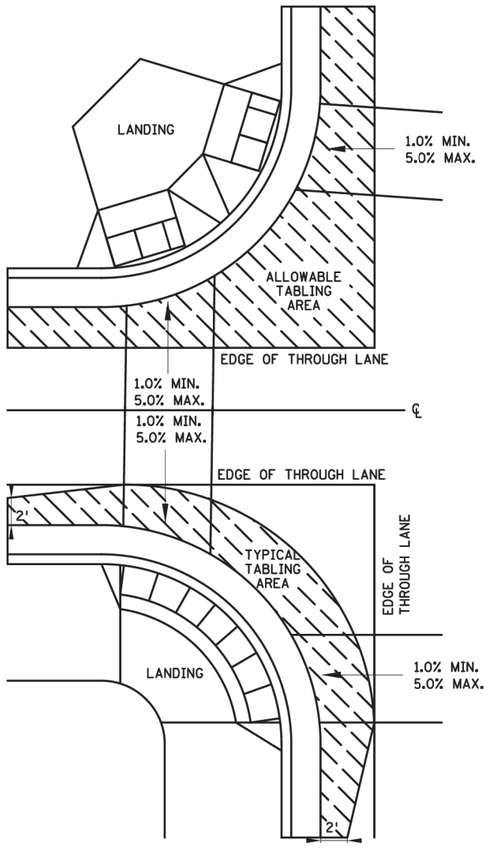
STANDARD PLAN 5-297.250 | 5 OF 6

APPROVED: 11-04-2021
REVISED:

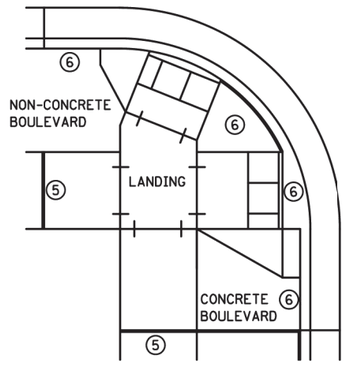
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

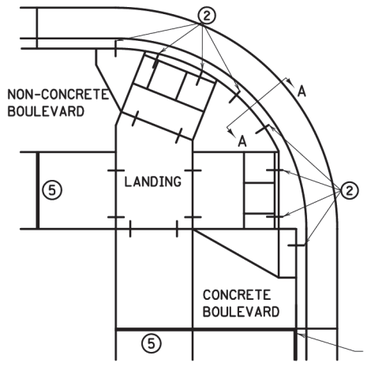
STATE PROJ. NO. (TH) SHEET NO. 10 OF 17 SHEETS



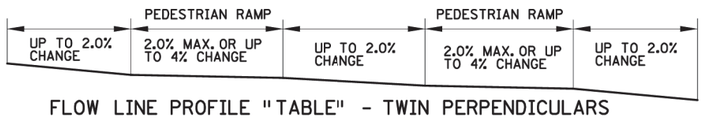
CURB LINE AND ROAD CROSSING ADJUSTMENTS



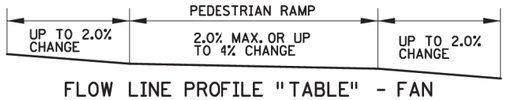
EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS



CURB LINE REINFORCEMENT ④
PLACEMENT ON BITUMINOUS ROADWAYS



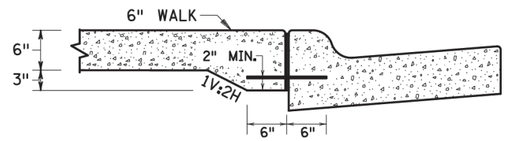
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



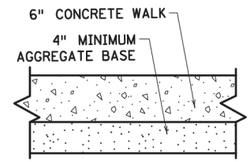
FLOW LINE PROFILE "TABLE" - FAN

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

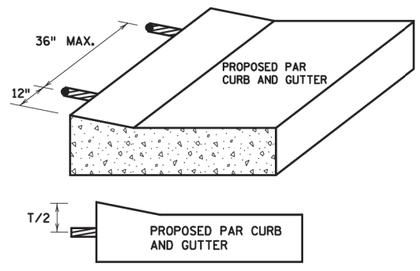
FLOW LINE PROFILE RAISE - FAN



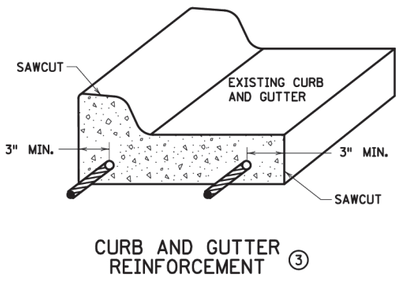
SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES



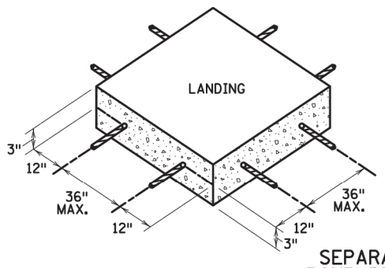
TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

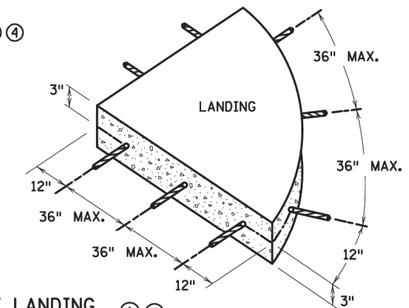


CURB RAMP REINFORCEMENT DETAILS ②④



CURB AND GUTTER
REINFORCEMENT ③





SEPARATE LANDING
POUR REINFORCEMENT ①②

GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.

② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.

③ DRILL AND GROUT 2 - NO. 4 X 12'' LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.

④ THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.

⑤ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

⑥ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

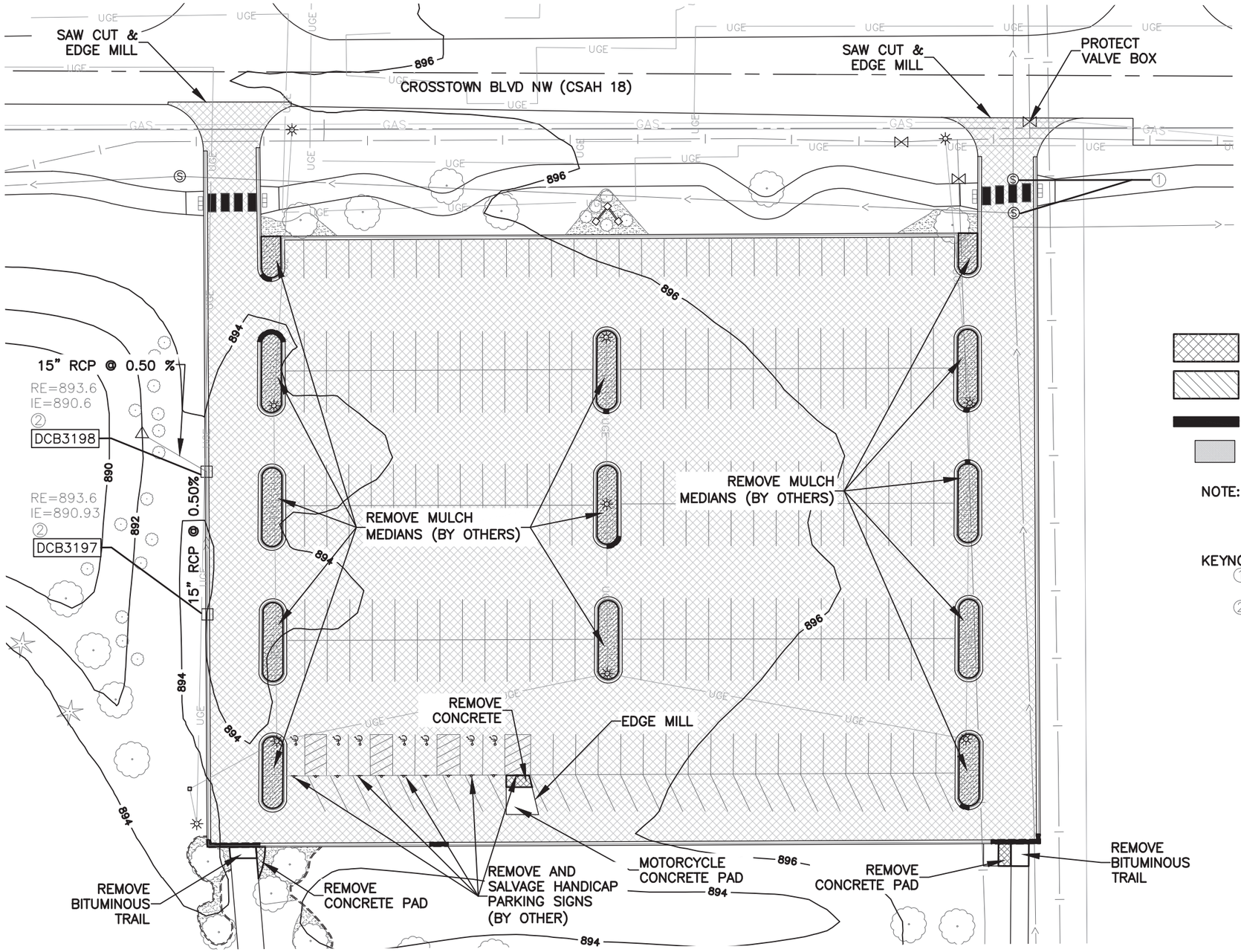
REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.250	6 OF 6
APPROVED: 11-04-2021 REVISED:	PEDESTRIAN CURB RAMP DETAILS
STATE PROJ. NO. (TH)	SHEET NO. 11 OF 17 SHEETS



REMOVE CONCRETE

REMOVE MULCH MEDIAN (BY OTHERS)

REMOVE CONCRETE CURB (B618)

REMOVE/RECLAIM BITUMINOUS– (3"± DEPTH)

NOTE: RESTORE ALL DISTURBED AREAS BEHIND THE CURB WITH 4" TOPSOIL, FERTILIZER, AND SOD (BY OTHERS).

KEYNOTES:

① ADJUST SANITARY MANHOLE (CASTING ADJUSTMENT)

② INSTALL INLET PROTECTION

N

0 25' 50' 100'

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38–02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JJL DRAWN JBK

CHECKED DDB

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE David D. Berkowitz

DAVID D. BERKOWITZ TYPED OR PRINTED NAME

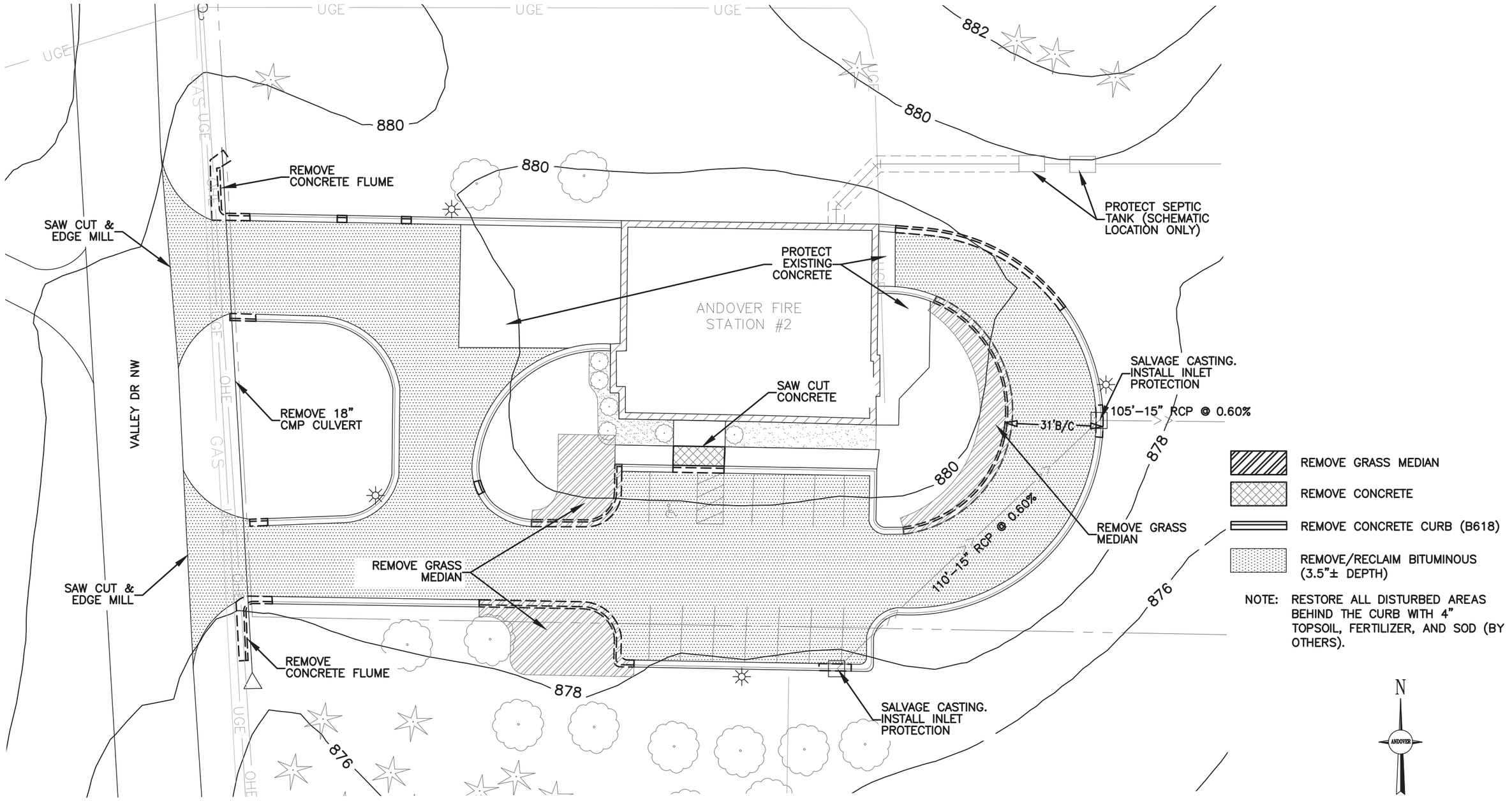
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23–22

REMOVALS, UTILITIES, STREET/PAVING

SHEET NO. 12 OF 17 SHEETS



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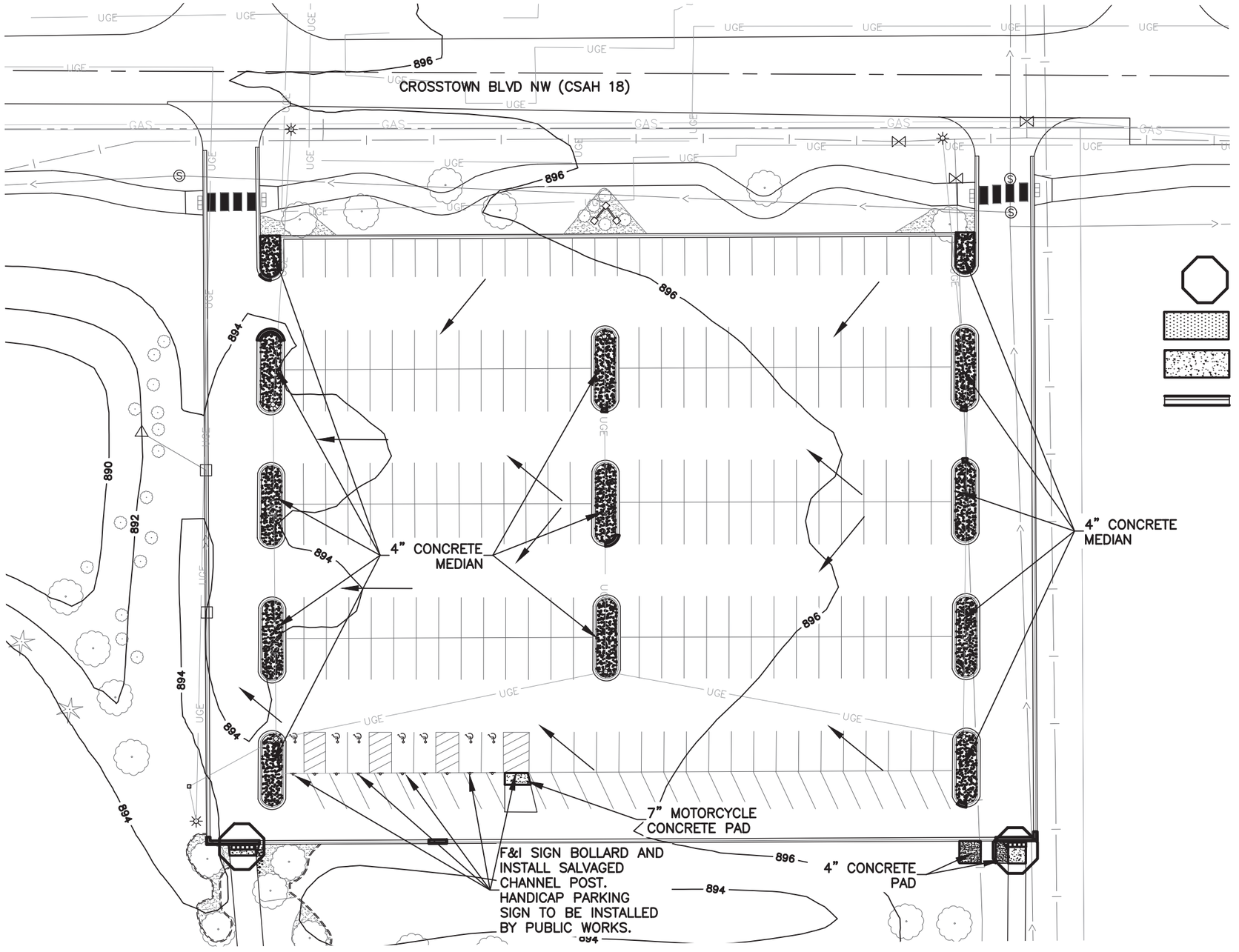
SIGNATURE David D. Berkowitz
DAVID D. BERKOWITZ
TYPED OR PRINTED NAME
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

REMOVALS, UTILITIES, STREET/PAVING

SHEET NO. 13 OF 17 SHEETS



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David D. Berkowitz
SIGNATURE

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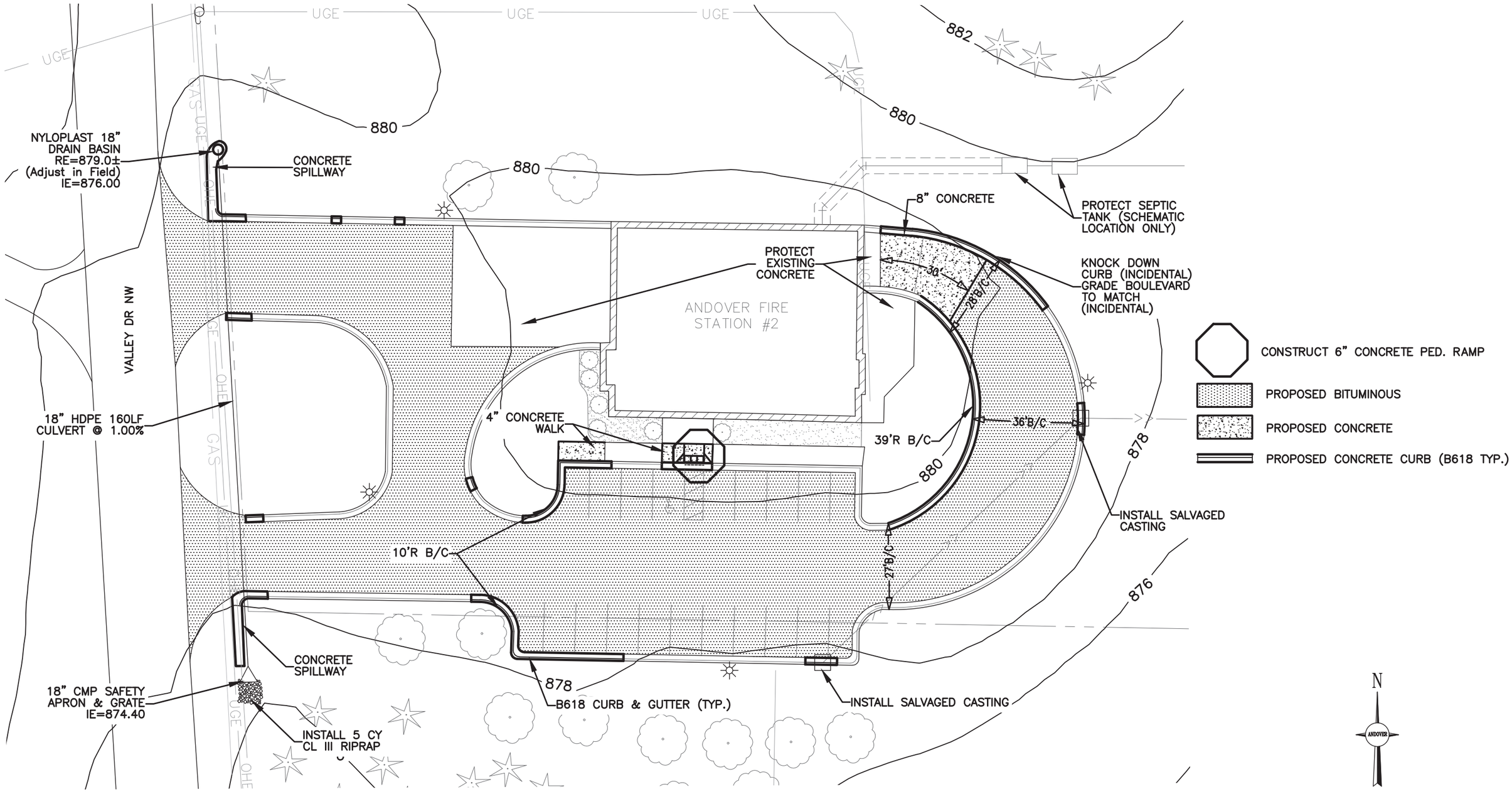
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-22

PROPOSED SITE PLAN

SHEET NO. 14 OF 17 SHEETS



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

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SIGNATURE David D. Berkowitz
DAVID D. BERKOWITZ
TYPED OR PRINTED NAME

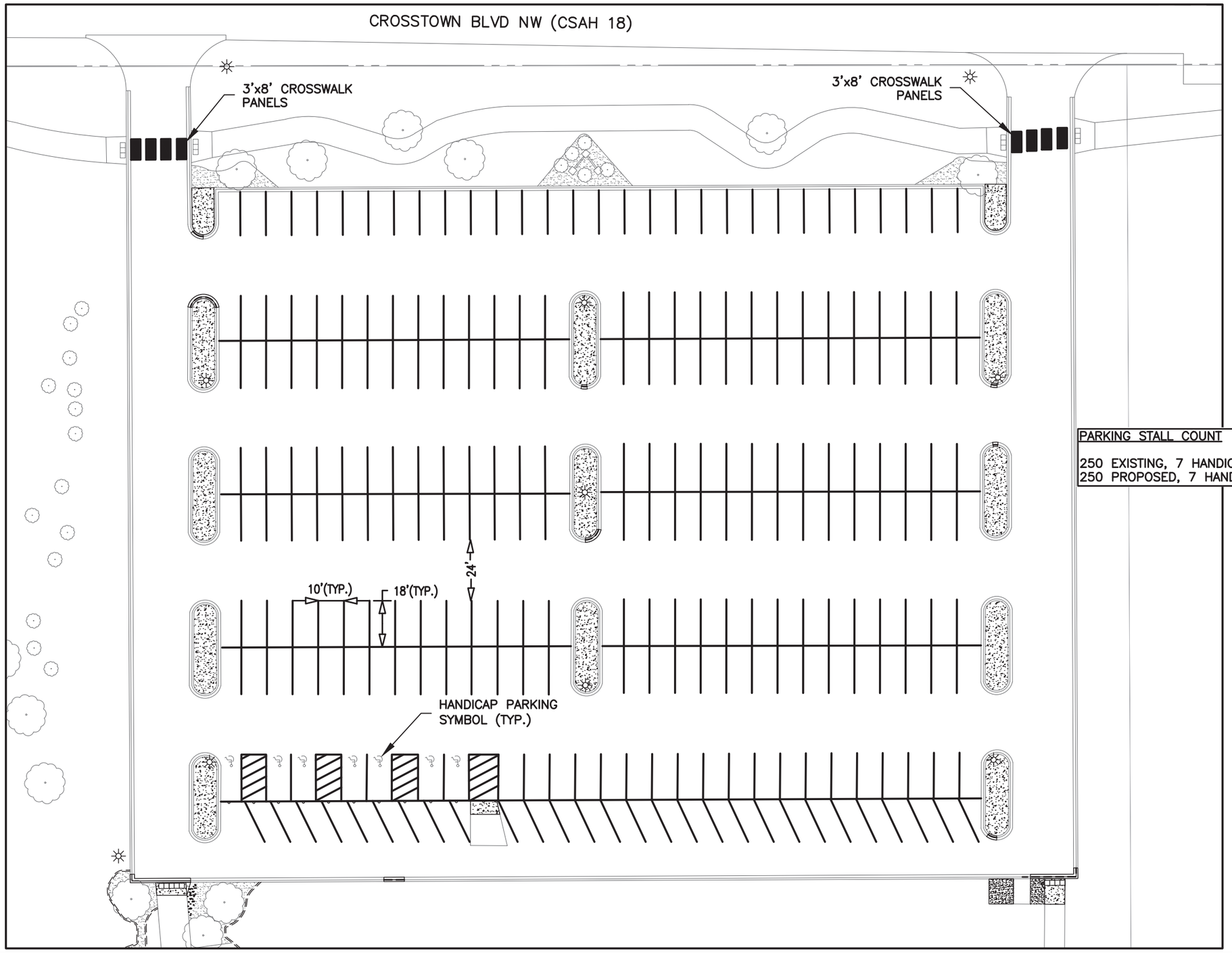
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

PROPOSED SITE PLAN

SHEET NO. 15 OF 17 SHEETS



PARKING STALL COUNT

250 EXISTING, 7 HANDICAP
250 PROPOSED, 7 HANDICAP

NOTE: ALL STRIPPING SHALL BE 4" WHITE LATEX

N

ANDOVER

0 20' 40' 80'

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED JJL DRAWN JBK

CHECKED DDB

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE David D. Berkowitz

DAVID D. BERKOWITZ
TYPED OR PRINTED NAME

DATE 4/18/2023 LIC. NO. 26757

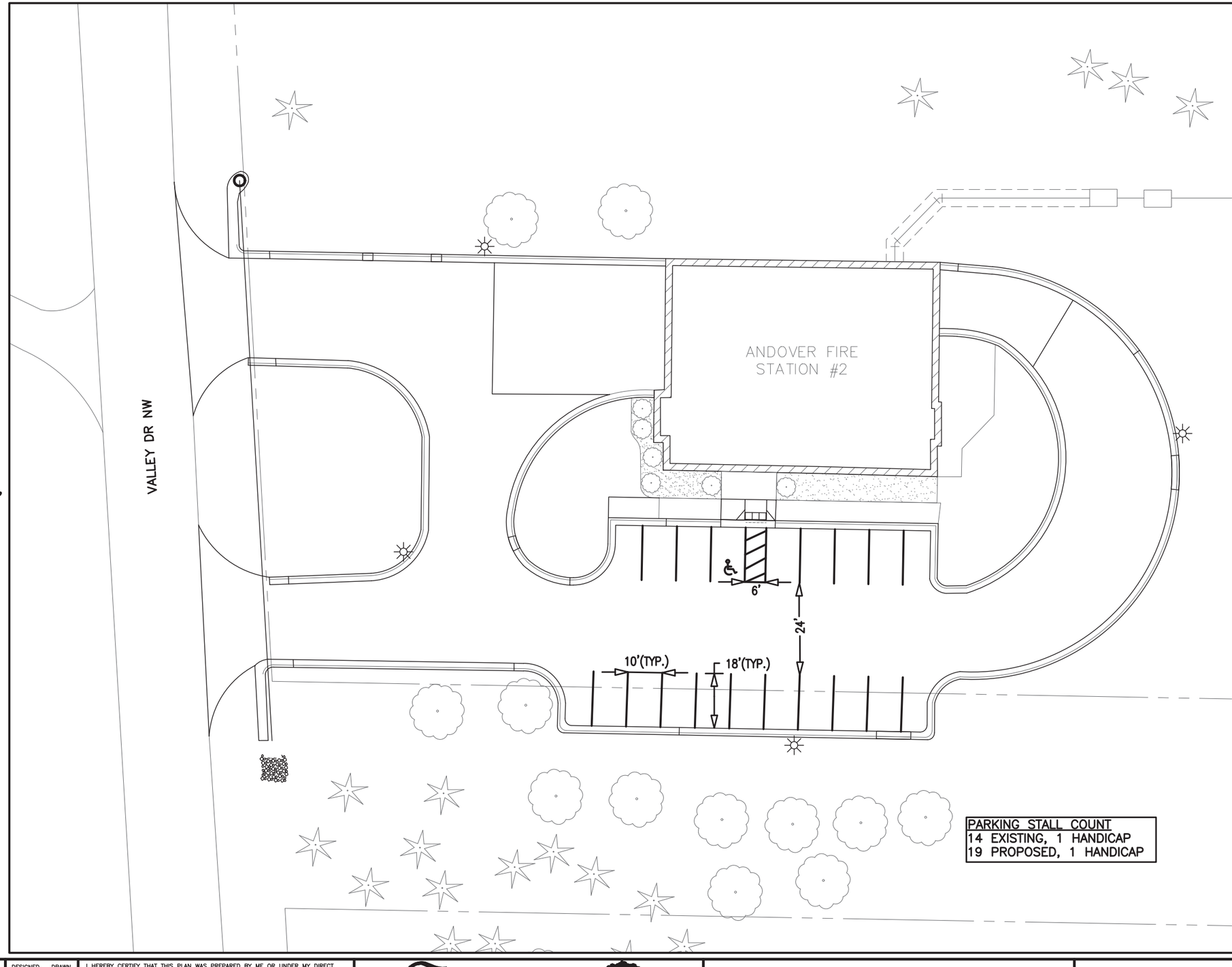
CITY OF ANDOVER

SUNSHINE PARK NORTH PARKING LOT
RECONSTRUCTION CITY PROJECT 23-22

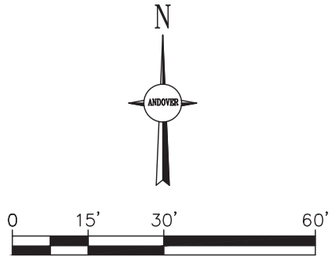
STRIPING

SHEET NO. 16 OF 17 SHEETS

NOTE: ALL STRIPPING SHALL BE 4" WHITE LATEX



PARKING STALL COUNT
14 EXISTING, 1 HANDICAP
19 PROPOSED, 1 HANDICAP



NO.	DATE	BY	DESCRIPTION OF REVISIONS

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CHECKED DDB

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
SIGNATURE David D. Berkowitz
DAVID D. BERKOWITZ TYPED OR PRINTED NAME
DATE 4/18/2023 LIC. NO. 26757

CITY OF ANDOVER

FIRE STATION #2 PARKING LOT RECONSTRUCTION
CITY PROJECT 23-23

STRIPING

SHEET NO. 17 OF 17 SHEETS