



MAP OF
CITY OF
COON RAPIDS
ANOKA COUNTY, MINNESOTA

21-1 PROJECT LOCATIONS

CITY OF
COON RAPIDS
PROJECT 21-1
STREET & WATER
RECONSTRUCTION

- | | |
|--------|--|
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| 2 | STREET OVERVIEW MAP & TYPICAL SECTION |
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| 7 - 12 | ADA PEDESTRIAN RAMP NOTES & DETAILS |
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| 14 | 127TH LN. |
| 15 | 128TH AVE. & LINNET ST. |
| 16 | LINNET ST. & 130TH LN. & 128TH AVE. |
| 17 | NIGHTINGALE ST. |
| 18 | 129TH LN. & MARTIN ST. & 128TH LN. |
| 19 | KILLDEER ST. & JAY ST. |
| 20 | IBIS ST. & 128TH AVE. & GROUSE ST. |
| 21 | 129TH LN. & BLUEBIRD CIR. |
| 22 | SIGN QUANTITIES & DETAILS |
| 23 | SIGN PLAN |

KEY

_____ W _____	WATERMAIN
_____ SAN _____	SANITARY SEWER
_____ STRM _____	STORM SEWER
_____ CATV _____	CABLE TV
_____ G _____ G _____	GAS
_____ CTLBUR _____	CENTURY LINK
_____ OHE _____	OVERHEAD ELECTRIC
_____ USE _____ USE _____	UNDERGROUND ELECTRIC
_____ FO-BUR _____	FIBER OPTIC

GENERAL NOTES:

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

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY 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".

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.



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55433-3761
763-755-2880
Fax 763-767-6491
www.coonrapidsmn.gov

CITY PROJECT 21-1
STREET RECONSTRUCTION
COVER SHEET

DESIGNED BY :

DRAWING BY :

DATE _____

SCALE

NO	DATE	DESCR.

hereby certify that this plan,
specification or report was
prepared by me or under my direct
supervision and that I am a duly
Registered Professional Engineer
under the State of Minnesota.
Name : Mark C. Hansen, P.E.
License # 43920
Signature :

CITY PROJECT

21-1

SHEET

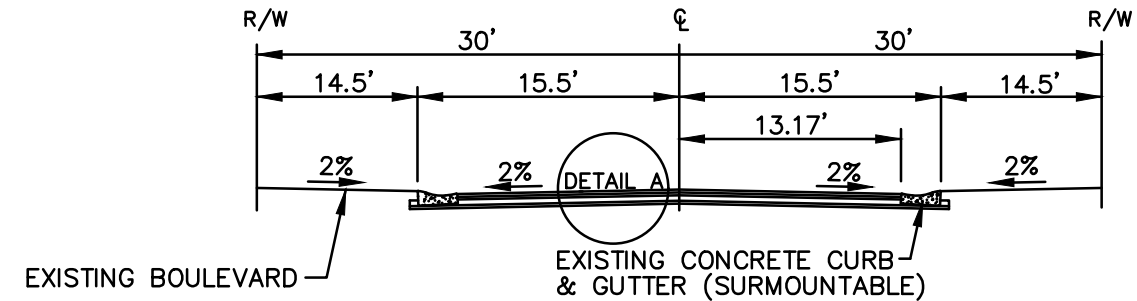
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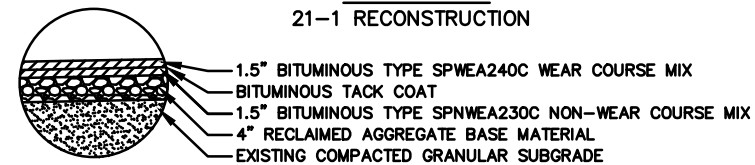
⊗ = SHEET NUMBERS

A map showing a proposed street layout. A vertical street labeled "BLUEBIRD CIR. NW" intersects a horizontal street labeled "121ST AVE NW". A curved line indicates a proposed street extension or intersection. A circular marker with the number "21" is placed near the intersection. The map includes property lines and a north arrow.

AREA 1 & AREA 2



21-1 RECONSTRUCTION



NOTE:
THE STREET CONSTRUCTION INCLUDES RECLAMATION OF THE EXISTING BITUMINOUS PAVEMENT, AND AGGREGATE BASE TO A UNIFORM DEPTH. THE CONTRACTOR SHALL THEN SALVAGE THE RECLAIM MATERIAL, SUBCUT THE SUBGRADE SOILS TO ALLOW FOR THE NEW PAVEMENT SECTION. THE SUBGRADE MATERIAL, INCLUDING THE EXCESS MATERIAL GENERATED FROM THE WATERMAIN WORK WILL BECOME THE PROPERTY OF THE CONTRACTOR, THE CITY WILL NOT BE ACCEPTING ANY OF IT.

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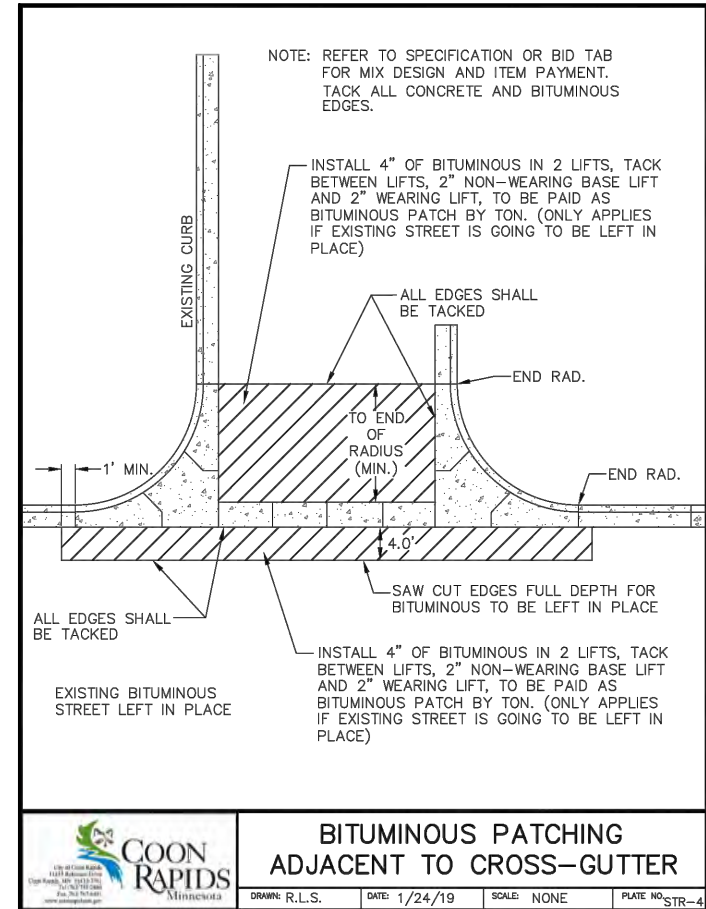
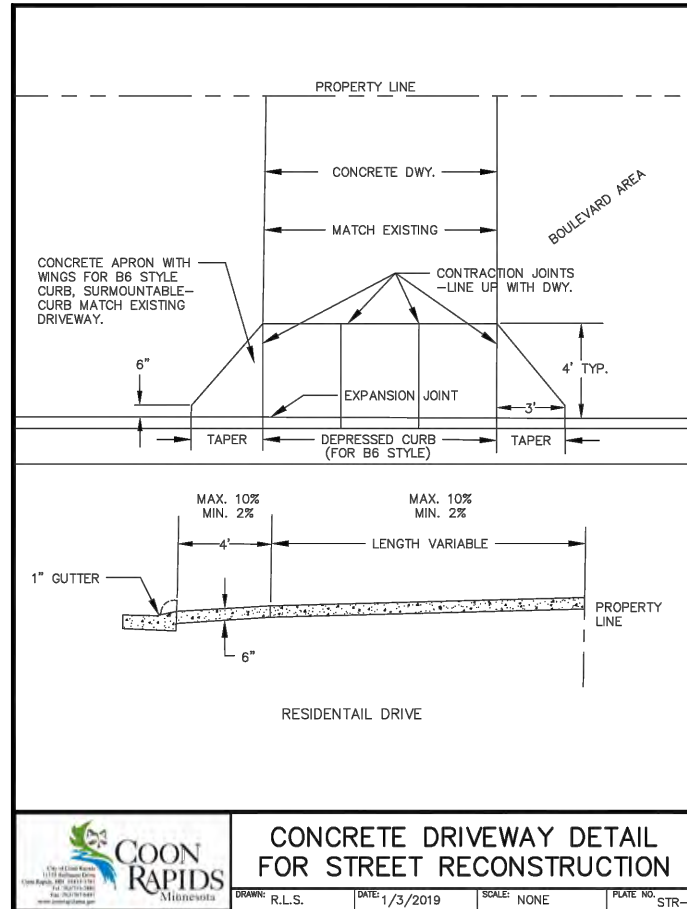
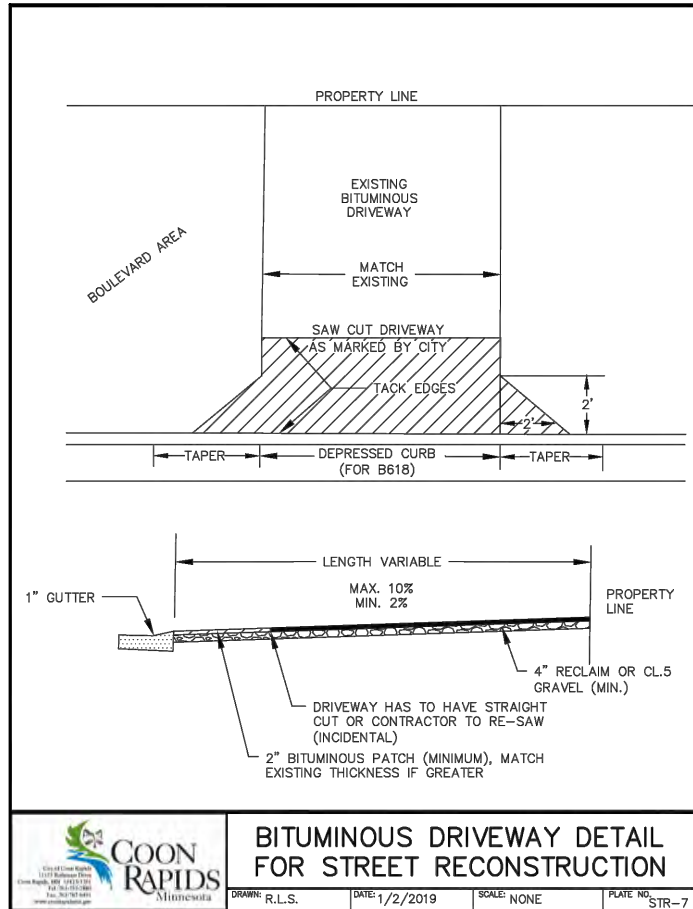
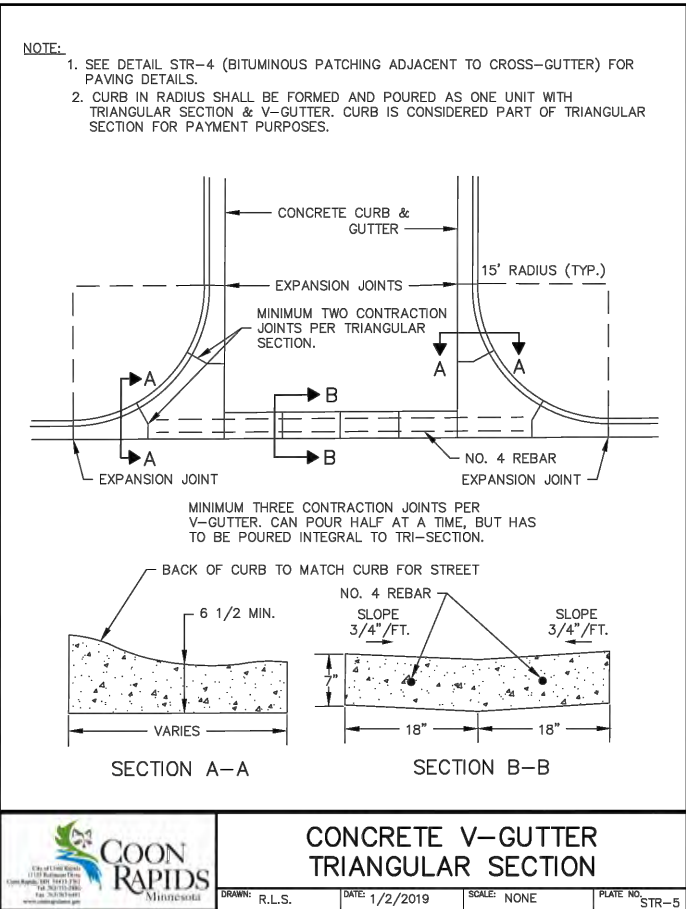
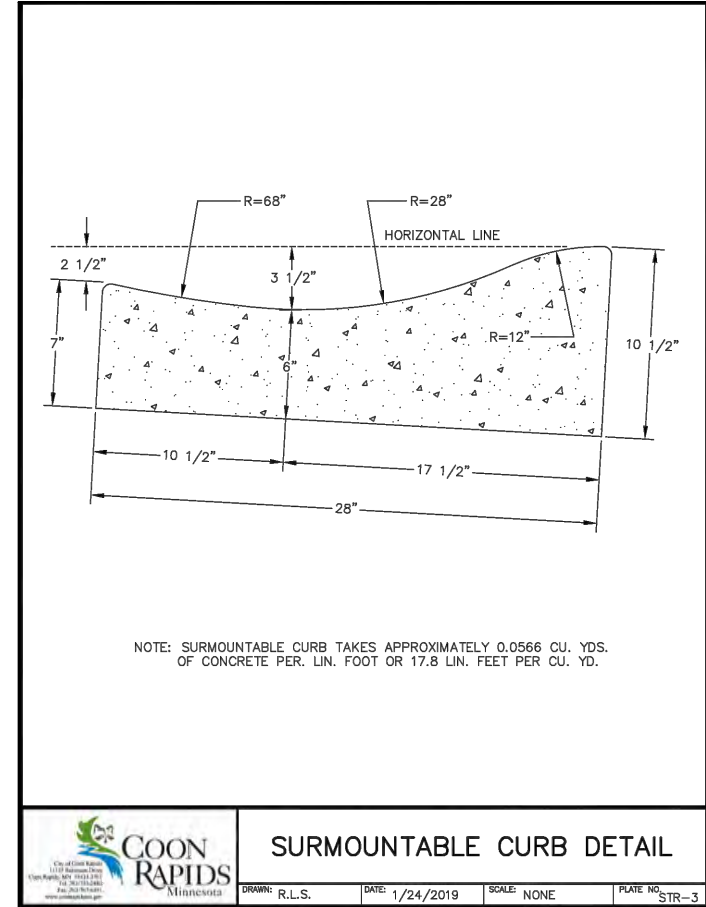
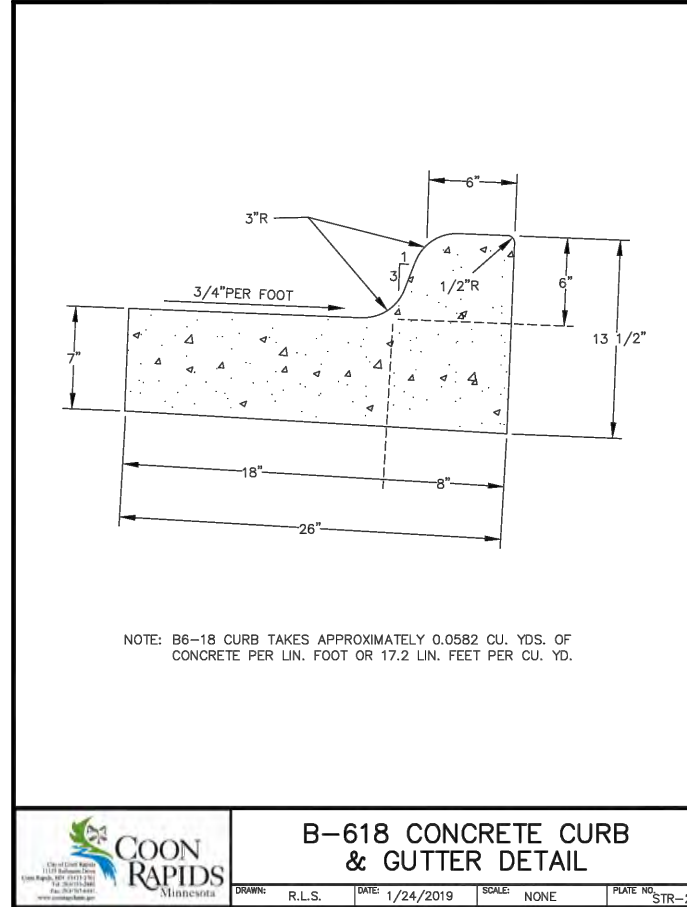
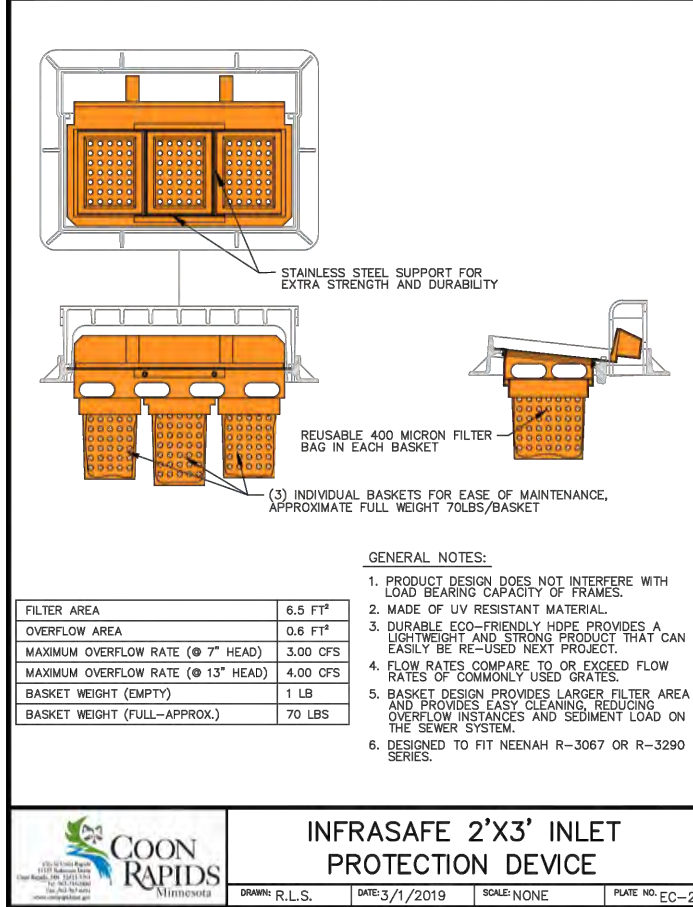
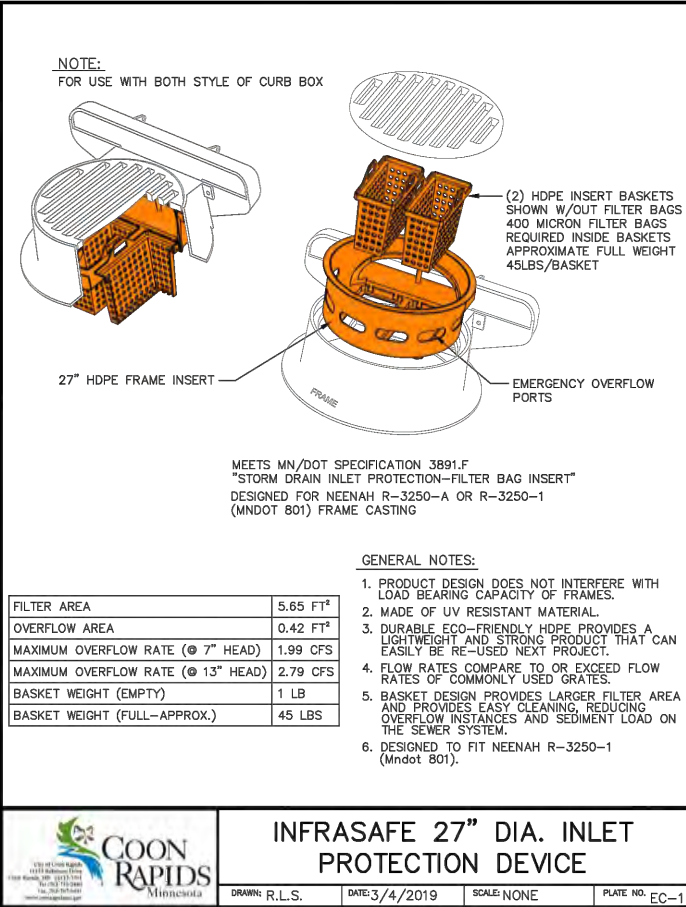
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THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. THE MOST CURRENT CITY ENGINEERS ASSOCIATION OF MINNESOTA, AND THE MOST CURRENT CITY OF COON RAPIDS STANDARD SPECIFICATIONS FOR CONSTRUCTION, SHALL GOVERN.

BITUMINOUS TACK MATERIAL - 0.05 GALLONS PER SY
 BITUMINOUS WEARING & NON-WEARING COURSE
 BITUMINOUS MIXTURE - 113 POUNDS PER SY PER INCH
 SELECT GRANULAR BORROW (SAND)
 1 CUBIC YARD (CV) = 1.3 CUBIC YARD (LV)
 COMMON EXCAVATION
 1 CUBIC YARD (CV) = 1.3 CUBIC YARD (LV)
 HYDROSEEDING - INCLUDES
 HYDRAULIC MATRIX TYPE MULCH 6,000 GAL / ACRE
 SEED MIXTURE 25-131 2100 LBS / ACRE
 FERTILIZER TYPE 2 220 LBS / ACRE
 200 LBS / ACRE

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CITY PROJECT 21-1

STREET RECONSTRUCTION

NOTES & DETAILS

DESIGNED BY :

DRAWING BY :

DATE 3/4/2021

SCALE

NO	DATE	DESCR.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.
Name : Mark C. Hansen, P.E.
License # 43920
Signature :

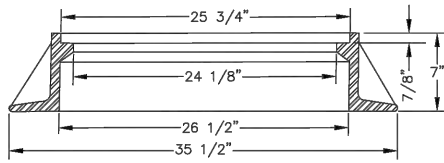
CITY PROJECT

21-1

SHEET

3 OF **23**

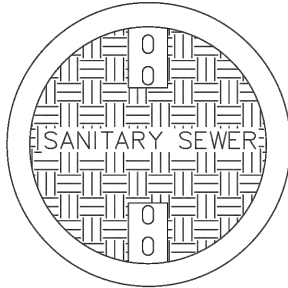
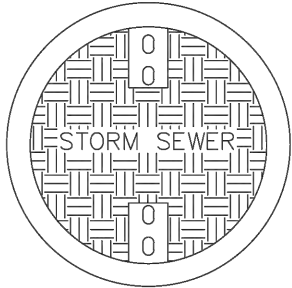
CASTING — NEENAH FOUNDRY NO. R-1733 SERIES MANHOLE FRAME OR APPROVED EQUAL. CASTING & RINGS TO HAVE INFI-SHIELD INSTALLED.



COVER—ESS BROTHER 301—CP LID. OR EQUAL WITH RUBBER GASKET ON THE BOTTOM OF THE LID.

NEENAH R1733-5044

NEENAH R1733-5044



NOTE: ALL LIDS MUST HAVE RUBBER GASKET ON THE BOTTOM OF THE LID.



STANDARD MANHOLE CASTINGS

DRAWN: R.L.S. DATE: 1/25/2019 SCALE: NONE PLATE NO. SAN-7

NOTES:

1. GROUT SHALL BE SPECIAL UNDERGROUND UTILITY MORTAR MADE BY TWIN CITY CONCRETE PRODUCTS OF ST. PAUL OR APPROVED EQUAL.
2. STRUCTURE TO BE PRECAST UNLESS APPROVED BY CITY ENGINEER.

POUR CONCRETE BOTTOM TO 1/2 PIPE DIAMETER AND SLOPE AS SHOWN BY ARROWS.

CASTING AS REQUIRED

CONCRETE ADJUSTMENT RINGS MIN. 2, MAX. 5

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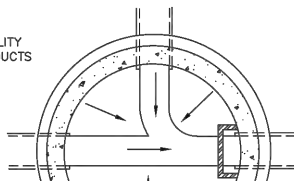
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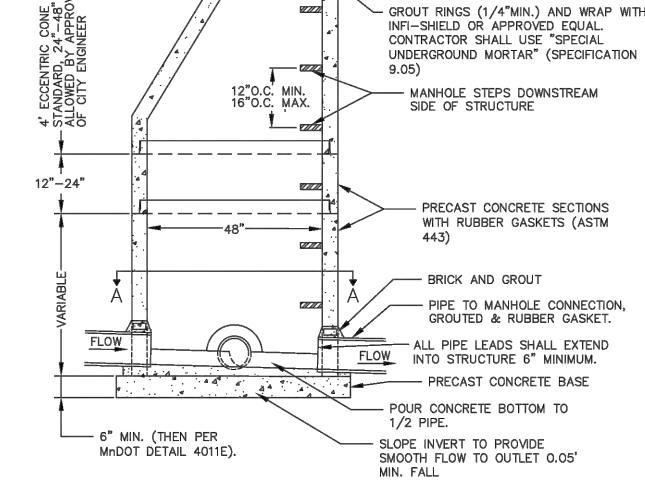
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SECTION A-A



STANDARD STORM DRAIN MANHOLE

DRAWN: R.L.S. DATE: 1/29/2019 SCALE: NONE PLATE NO. STM-9

INSTALL 4\"/>

OPERATING NUT (PENTAGON, 1 1/2\"/>

NOZZLE SECTION

TWO 2-1/2\"/>

4-1/2\"/>

NOZZLE CAP NUTS/CHAINS (PENTAGON, 1 1/2\"/>

UPPER STANDPIPE

NOTES:

1. 16\"/>
2. LEFT HAND OPERATING NUT.
3. FACTORY PAINTED RED FROM OPERATING NUT TO GROUND.
4. INSTALL OUT OF SERVICE RING ON PUMPER NOZZLE UNTIL ACCEPTANCE BY CITY.
5. CONTRACTOR TO INSTALL REFLECTIVE HYDRANT FLAG.
6. 304 STAINLESS STEEL HARDWARE.
7. DRAIN HOLES PLUGGED, INSTALL METAL TAG STATING THAT AND PAINT PUMPER CAP BLACK.

NOMINAL GROUND LINE

GROUND LINE GROOVE

LOWER STANDPIPE

CAD WELD #8 GAUGE TRACER WIRE TO HYDRANT AND RUN TO EXIST. IRON W.M. OR EXIST. TRACER WIRE

PLUGGED DRAINS

BOTTOM, 6 IN. MECHANICAL JOINT

2 1/2\"/>

7 5/16\"/>

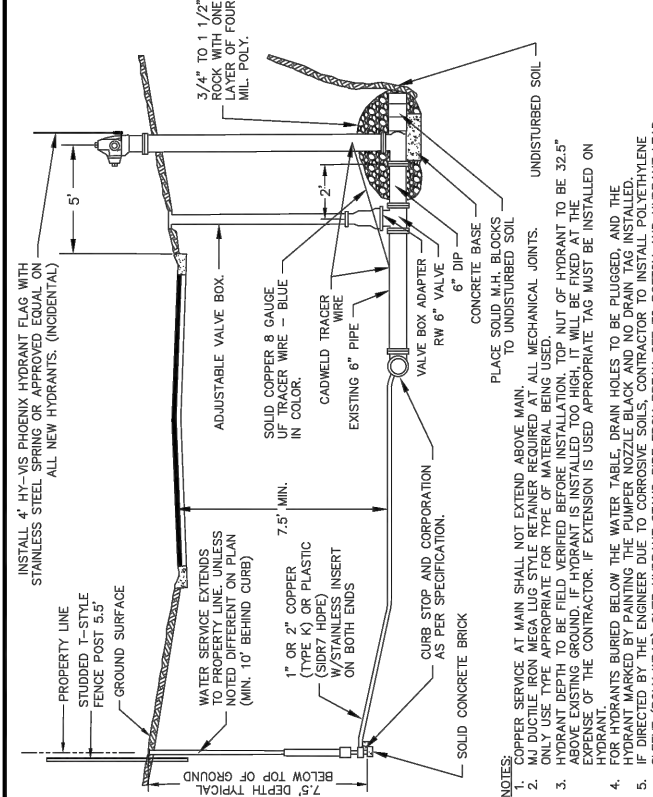
6-7/8\"/>

HOLES EQUALLY SPACED ON 9-1/2\"/>



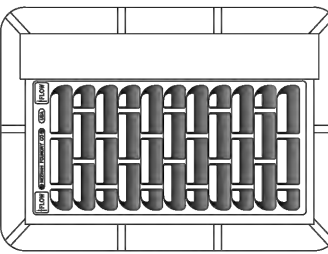
HYDRANT DETAIL WB67 PACER 8'-6\"/>

DRAWN: R.L.S. DATE: 1/17/2019 SCALE: NONE PLATE NO. WM-1

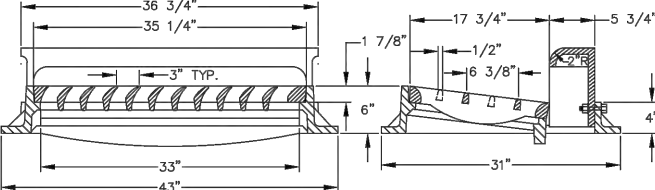


TYPICAL WATER SERVICE LAYOUT & HYDRANT REPLACEMENT (ONLY) LAYOUT

DRAWN: R.L.S. DATE: 1/21/2020 SCALE: NONE PLATE NO. WM-2



TYPE L GRATE

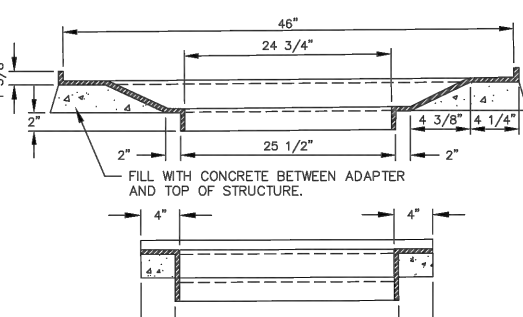
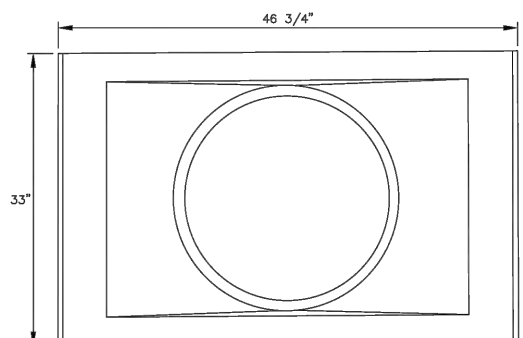


NOTE: LOW POINTS SHALL HAVE A TYPE L BI-DIRECTIONAL GRATE.



NEENAH R-3067-L STORM INLET CASTING WITH CURB BOX

DRAWN: R.L.S. DATE: 1/31/2019 SCALE: NONE PLATE NO. STM-7

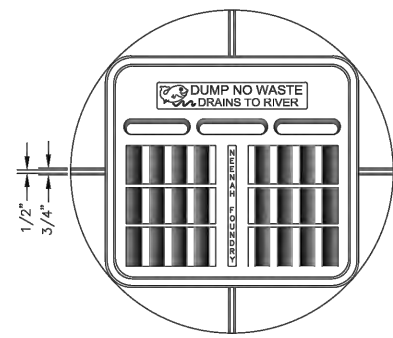


NOTE: INSTALL ADAPTER PLATE ON TO STRUCTURE FIRST. THEN INSTALL 2\"/>



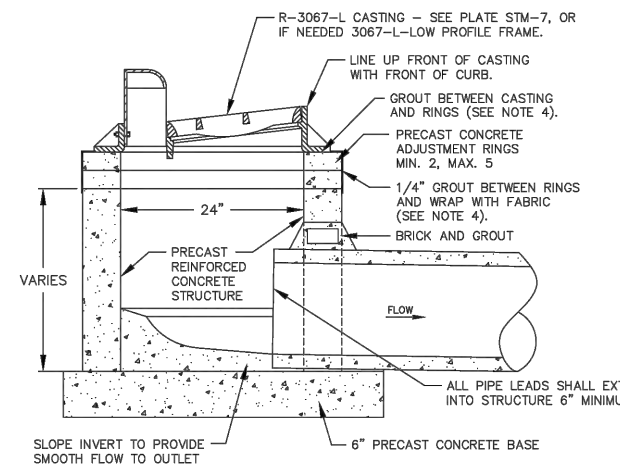
ESS BROS. R-3067-27 ADAPTER PLATE FOR STREET RECONSTRUCTION

DRAWN: R.L.S. DATE: 1/8/2019 SCALE: NONE PLATE NO. STM-8



NEENAH R-3501-L2 CASTING IN DWY. FOR MOUNTABLE CURB

DRAWN: R.L.S. DATE: 1/14/2019 SCALE: NONE PLATE NO. STM-10



- NOTES:
1. SLOPE BENCH TO INVERT, TOP OF BENCH TO BE AT HALF THE HEIGHT OF DOWN STREAM PIPE DIAMETER. (DO NOT ADD FILLERS BEFORE POURING BENCH)
 2. FILL VOID BETWEEN STRUCTURE AND PIPE WITH BRICK AND GROUT. GROUT BETWEEN THE BRICK AND ACROSS THE FACE. (SEE NOTE 4)
 3. INSIDE DIMENSIONS 2.00\"/>
 4. CONTRACTOR SHALL USE "SPECIAL UNDERGROUND UTILITY MORTAR" MADE BY TWIN CITY CONCRETE PRODUCTS OF ST. PAUL OR APPROVED EQUAL. (SEE SPECIFICATION 9.05)
 5. LOW POINTS SHALL HAVE A TYPE "L BI-DIRECTIONAL GRATE".
 6. STRUCTURE TO BE PRECAST UNLESS APPROVED BY CITY ENGINEER.



2' X 3' CATCH BASIN

DRAWN: R.L.S. DATE: 11/28/2018 SCALE: NONE PLATE NO. STM-13



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CITY PROJECT 21-1 STREET RECONSTRUCTION NOTES & DETAILS

DESIGNED BY :
DRAWING BY :
DATE 3/4/2021

SCALE	NO	DATE	DESCR.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.
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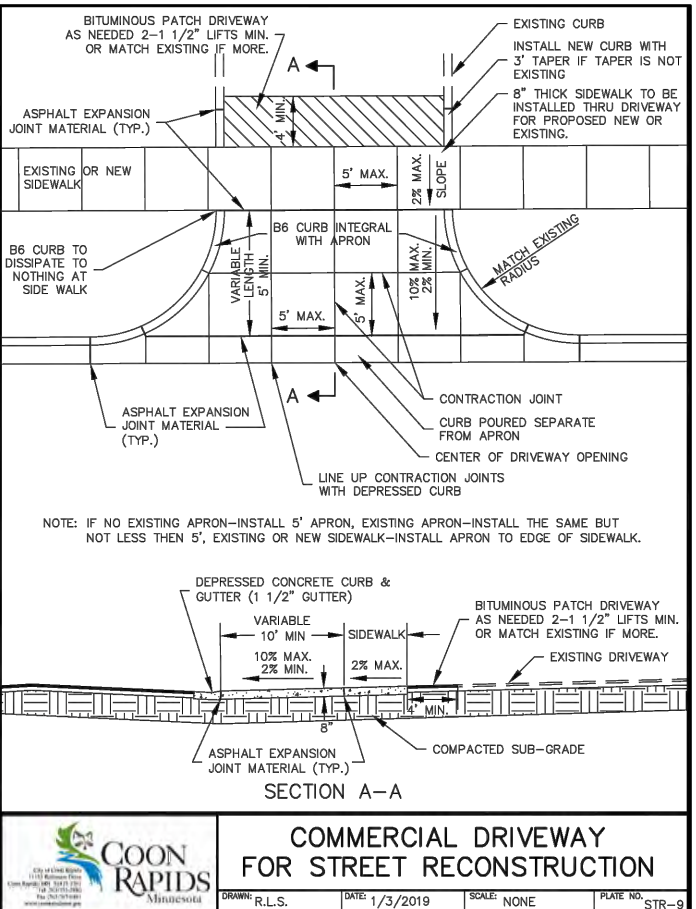
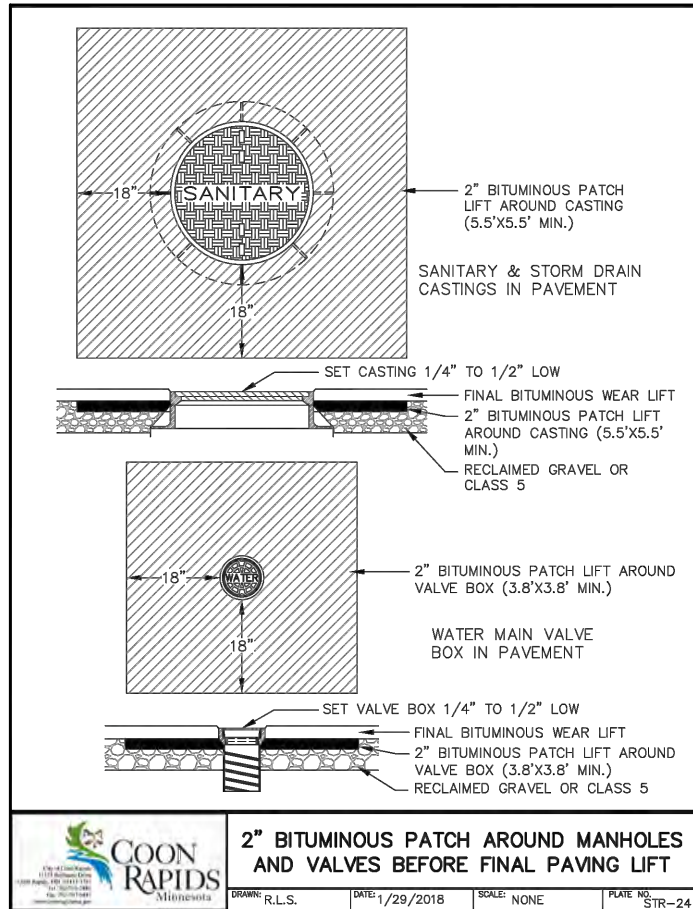
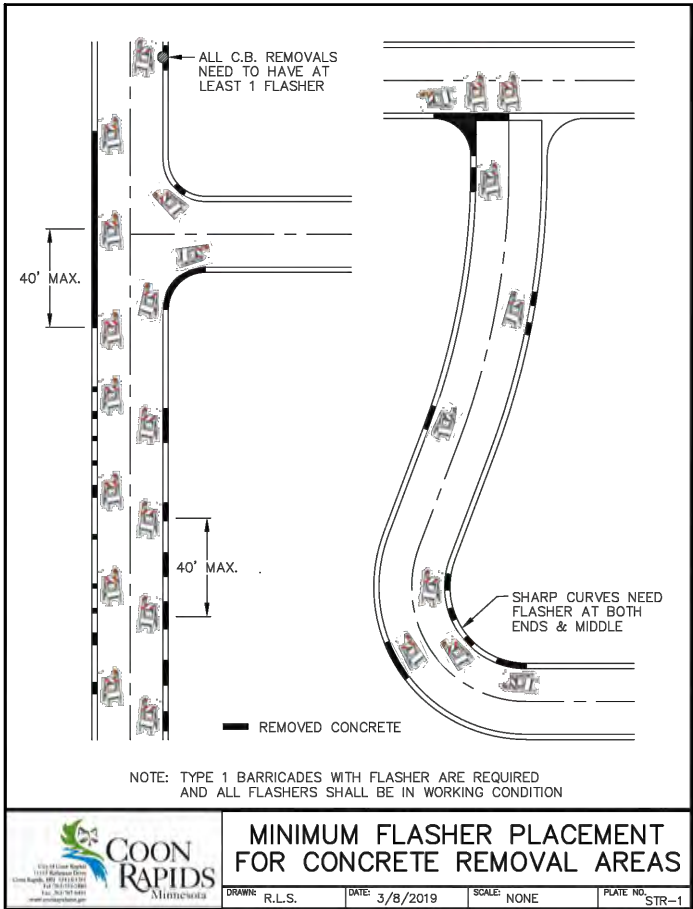
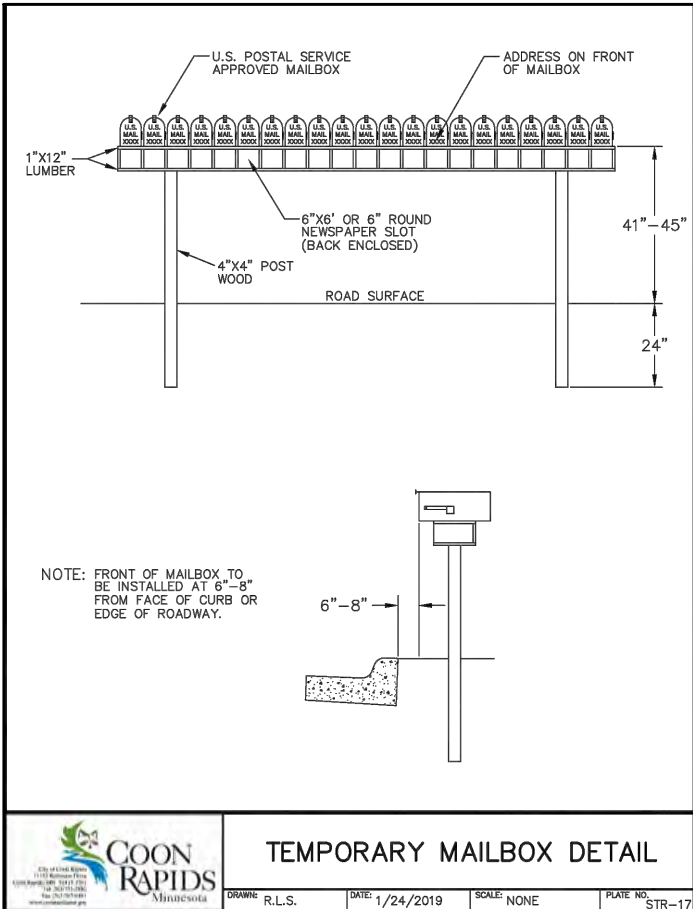
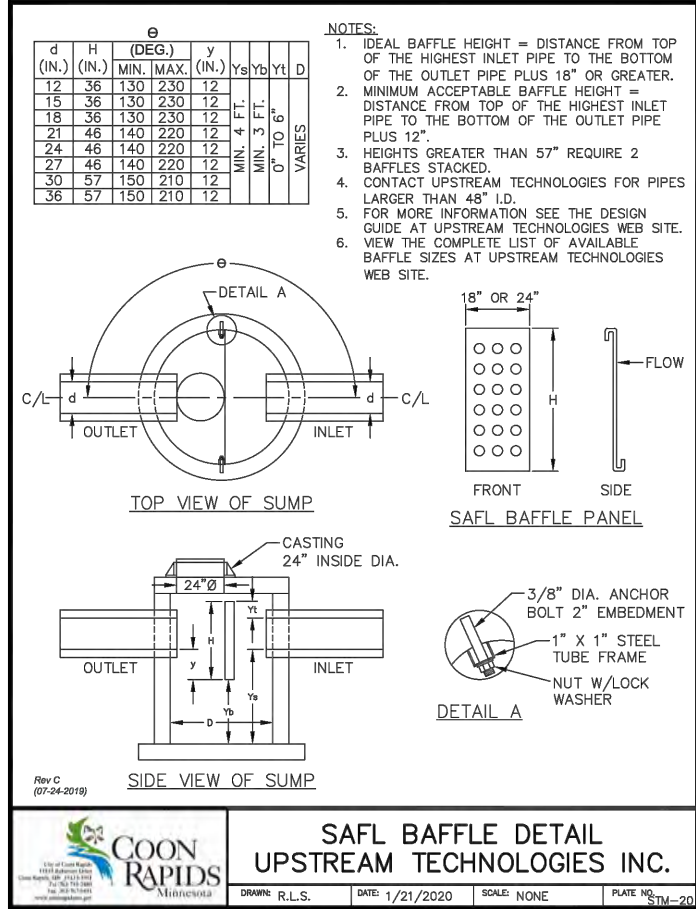
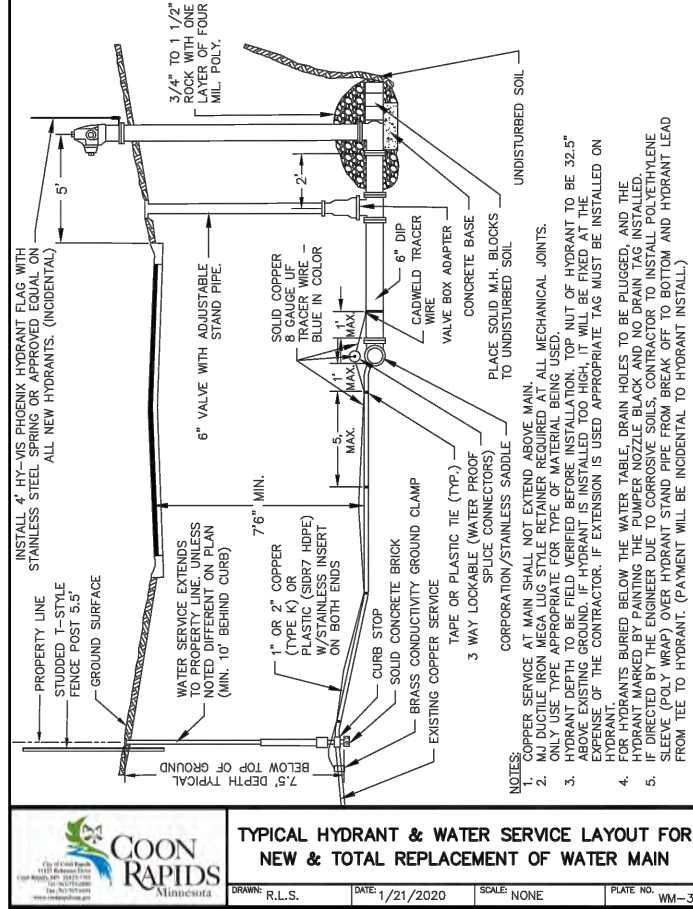
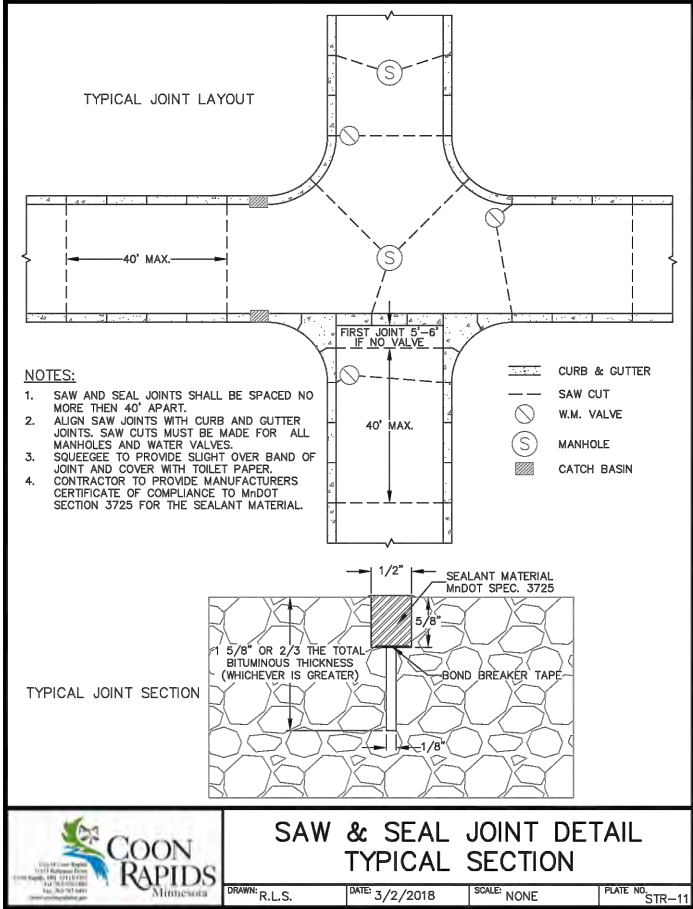
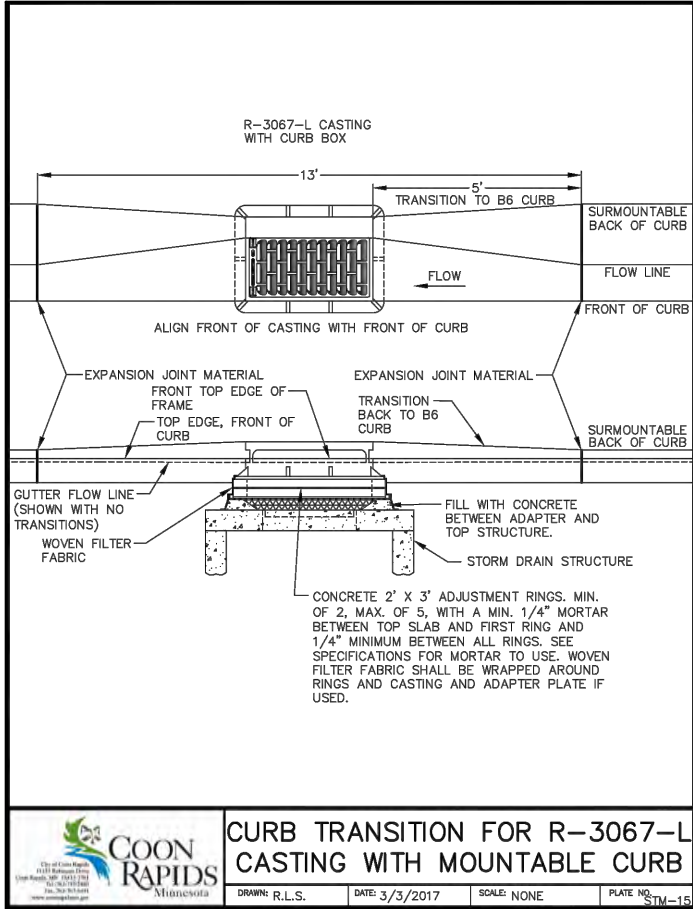
CITY PROJECT

21-1

SHEET

4 OF 23

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STREET RECONSTRUCTION

NOTES & DETAILS

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License # 43920
Signature :

CITY PROJECT

21-1

SHEET

5 OF **23**

K:\21-1\PLANS\21-1 NOTES & DETAILS .dwg

GENERAL NOTES:

1. INLET PROTECTION REQUIRED ON ALL CATCH BASINS – SEE SWPPP & DETAILS IN SPECS.

2. ALL CURB, BITUMINOUS AND CONCRETE REMOVALS SHALL BE SAW CUT FULL DEPTH TO PROVIDE A CLEAN EDGE FOR NEW JOINT. EXISITING PAVEMENT SHALL BE BUTT–JOINTED AT ALL INTERSECTIONS.

3. CURB IS CONCRETE SURMOUNTABLE (SEE TYPICAL SECTIONS ON PAGE 2 OF THIS PLAN FOR LOCATIONS). STREET WITH SURMOUNTABLE CURB WILL HAVE B6–18 CURB TRANSITIONS AT CATCH BASINS (SEE DETAIL STM–15).

4. ALL CURB LENGTHS OVER 50’ IDENTIFIED FOR REPLACEMENT SHALL BE MACHINED POURED. 5’ ON EACH SIDE OF CATCH BASINS, TO BE PAID AS HAND PLACED.

5. CURB REMOVAL SHALL BE MARKED IN THE FIELD BY THE ENGINEER. CONTRACTOR NOT TO REMOVE ANY CURB UNTIL STAKED BY THE CITY FOR GRADES. OTHERWISE IT WILL BE CONTRACTORS RESPONSIBLY TO STAKE IT AT NO COST TO THE CITY.

6. ALL PEDESTRIAN RAMPS WILL HAVE TRUNCATED DOMES INSTALLED, ALL PEDESTRIAN RAMPS WILL BE POURED 6” THICK, GRAY IN COLOR, AND BE ADA COMPLIANT.

7. CONTRACTOR SHALL PROVIDE A MINIMUM 24 HRS NOTICE TO RESIDENTS PRIOR TO REMOVING AND REPLACING CONCRETE THAT WILL AFFECT THEIR ABILITY TO ACCESS THEIR PROPERTY. CONCRETE WORK SHALL NOT BE ALLOWED IN DRIVEWAY AREA PRIOR TO 8 A.M.

8. EXPANSION JOINTS IN CURB SHALL BE PLACED EVERY 100 LF AND 5’ ON EACH SIDE OF CATCH BASINS AND AT RADIUS POINTS.

9. SIDEWALK SHALL HAVE EXPANSION PLACED IN EVERY LOCATION WHERE SIDEWALK AND PEDESTRIAN RAMPS ARE REPLACED. PLACE EXPANSION BETWEEN SIDEWALK AND CURB FOR PEDESTRIAN RAMP. NEW SIDEWALK WILL HAVE EXPANSION EVERY 50 LF. EXPANSION WILL BE PLACED AT DRIVEWAYS ON EACH SIDE WHERE SIDEWALK MEETS DRIVEWAY.

10. THE CONTRACTOR SHALL REPAIR AND MAINTAIN ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES THROUGHOUT THE PROJECT.
11. CONTRACTOR TO USE EXISTING RECLAIM MATERIAL FROM SITE OR CITY YARD AS NEEDED TO FILL CURB AND GUTTER EDGE TO PROVIDE A REASONABLE SURFACE FOR PUBLIC SAFETY (INCIDENTAL).

12. CONTRACTOR TO COORDINATE ANY LANDSCAPING REMOVAL, INCLUDING ROCK, PLANTS, TIMBERS, EDGING, ETC. WITH HOMEOWNER (INCIDENTAL). IF THE HOMEOWNER DOES NOT PERFORM THE REMOVALS, THE CONTRACTOR SHALL CAREFULLY MOVE THESE ITEMS OUT OF THE WAY OF CONSTRUCTION (INCIDENTAL).

13. STABILIZING VEGETATION SHALL BE PLACED ON ALL DISTURBED AREAS WITHIN SEVEN (7) DAYS OF ROUGH GRADING.

14. THE CITY WILL NOT BE STAKING SUB–GRADE OR RECLAIM MATERIAL CENTERLINE FINISHED GRADE EXCEPT IN THE AREAS WHERE NEW WATERMAIN IS BEING INSTALLED.

15. STREET SWEEPING WILL TAKE PLACE DAILY OR AS DIRECTED BY THE CITY.

16. PERIMETER SEDIMENT CONTROL TO BE INSTALLED AS NEEDED (INCIDENTAL).

17. INSTALL NEW RINGS AND INSTALL I & I BARRIER (SEE DETAIL) ON ALL EXISTING AND NEW SANITARY CASTINGS & WRAP WITH FABRIC ALL STORM DRAIN CASTINGS. PLACE 4” THICK BIT AROUND ALL SANITARY AND STORM DRAIN MANHOLES THAT ARE IN THE ROAD. SEE DETAIL.

18. PAYMENT FOR ALL STORM AND SANITARY SEWER STRUCTURE REPLACEMENTS TO BE PAID AS MEASURED FROM LOWEST INVERT TO TOP OF STRUCTURE (LF). RINGS ARE PAID SEPARATELY AND BY THE EACH.

19. ALL ITEMS SALVAGED FOR RE–USE SHALL BE STORED AND PROTECTED BY THE CONTRACTOR. ANY ITEMS DAMAGED OR LOST DURING THE STORAGE PERIOD SHALL BECOME THE CONTRACTOR’S RESPONSIBILITY TO REPLACE WITH NEW AT NO ADDITIONAL COMPENSATION.

20. ROCK CONSTRUCTION ENTRANCES TO BE INSTALLED AT THE DIRECTION OF THE ENGINEER.

21. SOIL STOCKPILES WILL BE FITTED WITH APPROVED SEDIMENT–TRAPPING MEASURES AND BE STABILIZED WITHIN 7 DAYS OF INACTIVITY.

22. COMMERCIAL & RESIDENTIAL CONCRETE DRIVEWAYS THAT CONTAIN REBAR SHALL HAVE REBAR INCLUDED IN THE REPLACEMENT SECTION. REBAR SHALL BE DRILLED INTO EXISTING CONCRETE DRIVEWAYS.

LEGEND	
	BITUMINOUS DRIVEWAY REMOVAL AND REPLACEMENT
	EXISTING BITUMINOUS DRIVEWAY
	CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT
	EXISTING CONCRETE DRIVEWAY
	EXISTING PAVERS DRIVEWAY
	CONCRETE CURB REMOVAL AND REPLACEMENT
	SANITARY SEWER MANHOLE
	STORM SEWER MANHOLE
	CATCH BASIN
	LENGTH OF CURB REPLACEMENT.
	DENOTES WATER MAIN VALVE
	HYDRANT
	WATERMAIN
	WATERMAIN SERVICE
	SANITARY SEWER
	STORM SEWER
	EXISTING STREET LIGHT

- REMOVE & DISPOSE EXISTING SANITARY SEWER MANHOLE CASTING, LID & RINGS. INSTALL NEW CASTING, LID (R–1733–5044) & RINGS. INSTALL I & I BARRIER AROUND THE RINGS. PAYMENT SHALL BE MADE AS

1) REMOVE / DISPOSE SANITARY SEWER CASTING, LID & RINGS.

2) FURNISH & INSTALL SANITARY SEWER CASTING & LID. PLACE I & I BARRIER AROUND THE RINGS.

3) 2” CONCRETE ADJUSTING RINGS (EA)
- REMOVE & DISPOSE EXISTING STORM SEWER MANHOLE CASTING, LID & RINGS. INSTALL NEW CASTING, LID (R–1733–5044) & RINGS. INSTALL FABRIC AROUND THE RINGS. PAYMENT SHALL BE MADE AS

1) REMOVE / DISPOSE STORM SEWER CASTING, LID & RINGS.

2) FURNISH & INSTALL STORM SEWER CASTING & LID. PLACE FABRIC AROUND THE RINGS.

3) 2” CONCRETE ADJUSTING RINGS (EA)
- REMOVE & DISPOSE EXISTING STORM INLET CASTING, GRATE & RINGS. INSTALL NEW INLET CASTING, GRATE & RINGS. INSTALL FABRIC AROUND THE RINGS. SEE GENERAL NOTE 1. PAYMENT SHALL BE MADE AS

1) REMOVE / DISPOSE STORM INLET CASTING, GRATE & RINGS.

2) FURNISH & INSTALL STORM INLET CASTING & GRATE.(R–3067–L) OR (R–3067–L LOW PROFILE, ESS BROS.) PLACE FABRIC AROUND THE RINGS.

3) 2” CONCRETE ADJUSTING RINGS (EA)
- REMOVE & DISPOSE EXISTING STORM INLET CASTING, GRATE & RINGS. INSTALL NEW INLET CASTING, GRATE & RINGS. INSTALL FABRIC AROUND THE RINGS. SEE GENERAL NOTE 1. PAYMENT SHALL BE MADE AS

1) REMOVE / DISPOSE STORM INLET CASTING, GRATE & RINGS.

2) FURNISH & INSTALL STORM INLET CASTING & GRATE.(R–3067–L) OR (R–3067–L LOW PROFILE, ESS BROS.) PLACE FABRIC AROUND THE RINGS.

3) FURNISH & INSTALL R–3067–27 ESS BROS. ADAPTER PLATE.

4) 2” CONCRETE ADJUSTING RINGS (EA)
- REMOVE & DISPOSE EXISTING STORM INLET CASTING, GRATE & RINGS. INSTALL NEW INLET CASTING, GRATE & RINGS. INSTALL FABRIC AROUND THE RINGS. SEE GENERAL NOTE 1. PAYMENT SHALL BE MADE AS

1) REMOVE / DISPOSE STORM INLET CASTING, GRATE & RINGS.

2) FURNISH & INSTALL STORM INLET CASTING & GRATE. (R–3501–L2) PLACE FABRIC AROUND THE RINGS.

3) 2” CONCRETE ADJUSTING RINGS (EA)
- ADJUST W.M. VALVE BOX
- REMOVE TREE
- STREET LIGHT TO BE REMOVED BY OTHERS

WATER MAIN NOTES:

1. REMOVED EXISTING WATER MAIN, FITTINGS, VALVES, HYDRANTS, WATER SERVICES, ETC. (UNLESS NOTED OTHERWISE) THESE ITEMS WILL BECOME THE PROPERTY OF THE CONTRACTOR, THE CITY WILL NOT BE ACCEPTING ANY OF IT.

2. NEW WATER MAIN, EPOXY FITTINGS, VALVES, HYDRANTS, WATER SERVICES, BOLTS, ETC. ARE TO BE MANUFACTURED IN THE U.S.A. (SEE SPECIFICATIONS FOR DETAILS).

3. ALL VALVE BOXES–INCLUDING HYDRANT VALVES WILL HAVE A VALVE BOX ADAPTER INSTALLED. (SEE SPECIFICATIONS FOR DETAILS).

4. FOR HYDRANTS BURIED BELOW THE WATER TABLE, DRAIN HOLES TO BE PLUGGED, AND THE HYDRANT MARKED BY PAINTING THE PUMPER NOZZLE BLACK AND NO DRAIN TAG INSTALLED ON THE HYDRANT. (INCIDENTAL TO HYDRANT INSTALLATION).

5. IF THE EXISTING TOP SECTION OF THE GATE VALVE BOX IS BROKEN PRIOR TO CONSTRUCTION OR CAN’T BE ADJUSTED, CONTRACTOR SHALL REPLACE THE TOP SECTION AND CAP WITH NEW ONES. BID PRICE FOR VALVE BOX SECTIONS SHALL INCLUDE NEW CAP. VALVE BOXES SHALL BE LEFT BELOW RECLAIM DEPTH AND ADJUSTED TO FINAL GRADE PRIOR TO WEAR COURSE PAVNG. ANY DAMAGE TO VALVE BOXES DURING CONSTRUCTION, SHALL BE REPAIRED AT NO COST TO THE CITY. PAYMENT IS VALVE BOX SECTIONS (EACH) AND INCLUDES NEW CAP. ADJUSTMENT FOR FINAL PAVING IS ADJUST VALVE BOX (EACH).

6. ALL SLEEVES INSTALLED FOR WATER MAIN, SHALL BE MJ SOLID SLEEVE LONG (12” MIN. LENGTH).

7. MJ DUCTILE IRON MEGA LUG STYLE RETAINERS ARE REQUIRED AT ALL MECHANICAL JOINTS. ONLY USE THE APPROPRIATE TYPE FOR THE TYPE OF PIPE MATERIAL BEING USED.

8. CONTRACTOR TO MEASURE HEIGHT OF ALL EXISTING HYDRANTS PRIOR TO REMOVAL. AND INSTALL NEW HYDRANT BASED ON THAT MEASUREMENT AND THAT TOP NUT HAS TO BE 32.5” ABOVE EXISTING GROUND. THIS COULD MAKE FOR A TALLER OR SHORTER HYDRANT THEN FIRST MEASURED. IF HYDRANT IS INSTALLED TOO HIGH, IT WILL BE FIXED AT THE CONTRACTORS EXPENSE. IF HYDRANT HAS TO HAVE A EXTENSION INSTALLED, APPROPRIATE TAG HAS TO BE INSTALLED SAYING IT HAS ONE AND SIZE. ASSEMBLIES SHALL HAVE MJ RETAINER GLANDS AT ALL JOINTS, INCLUDING VALVE TO EXISTING PIPE. SEE WATER MAIN DETAIL WM–2 FOR ALL REQUIREMENTS. FOR HYDRANTS IN THE WATER TABLE THE DRAIN HOLES NEED TO BE PLUGGED AND THE PUMPER NOZZLE PAINTED BLACK AND NO DRAIN TAG INSTALLED ON THE HYDRANT (INCIDENTAL TO HYDRANT INSTALLATION). SET HYDRANT ON SOLID CONCRETE BLOCK. BLOCK BEHIND HYDRANT WITH SOLID CONCRETE M.H. BLOCK TO UNDISTURBED SOIL.

City of Coon Rapids

11155 Robinson Drive

Coon Rapids, MN.

55433-3761

763-755-2880

Fax 763-767-6491

www.coonrapidsmn.gov

CITY PROJECT 21-1

STREET RECONSTRUCTION

NOTES & DETAILS

DESIGNED BY :

DRAWING BY :

DATE 3/4/2021

SCALE

NO	DATE	DESCR.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.
Name : Mark C. Hansen, P.E.
License # 43920
Signature :

CITY PROJECT

21-1

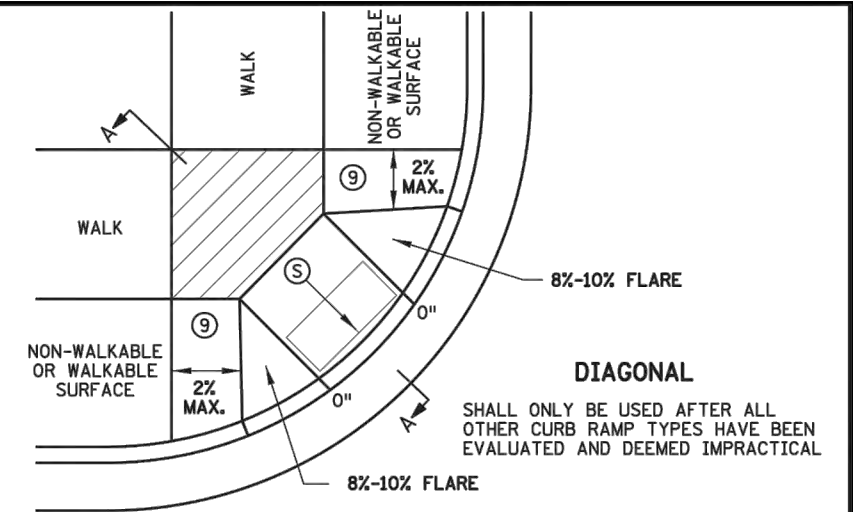
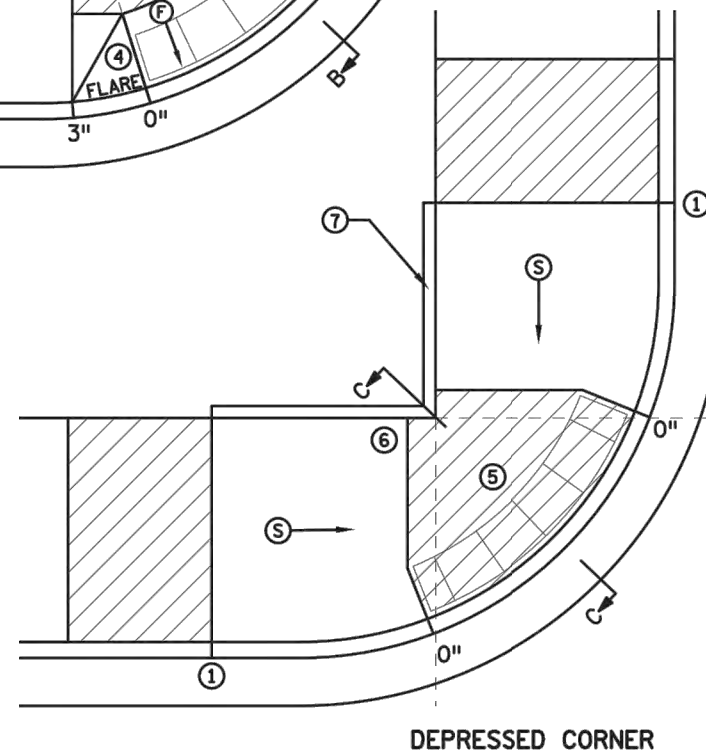
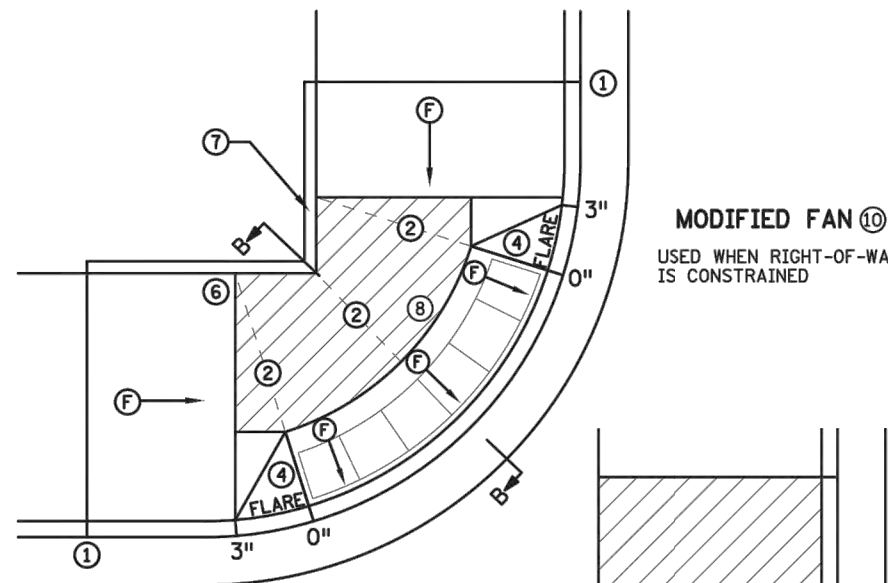
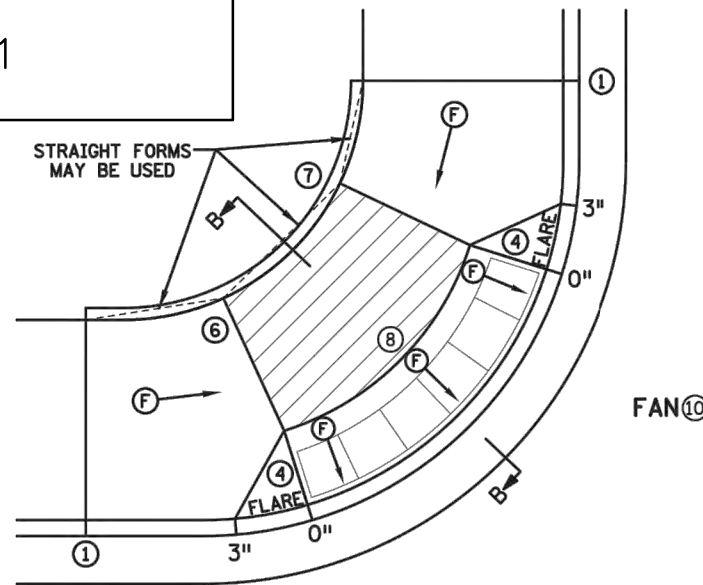
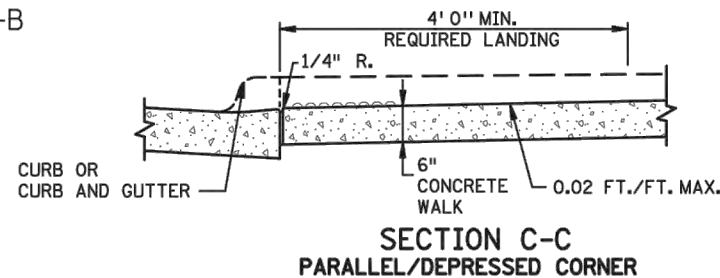
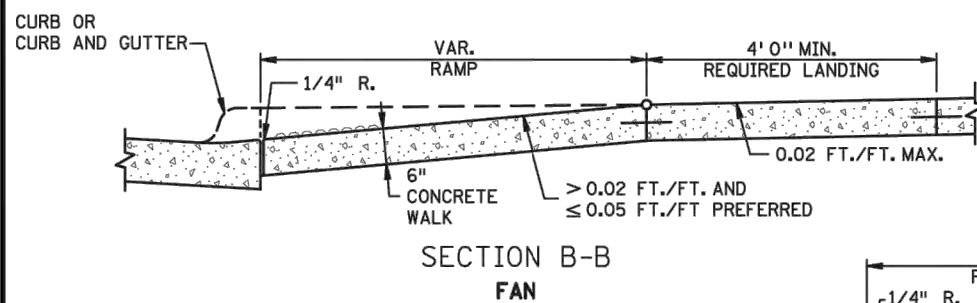
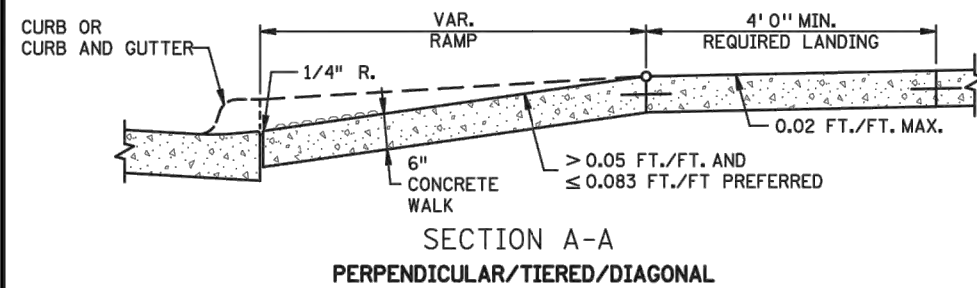
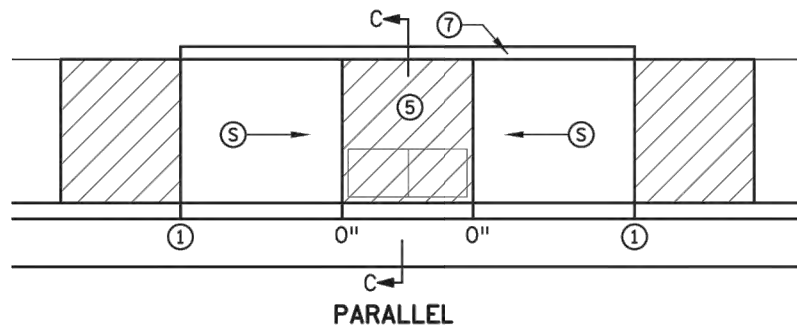
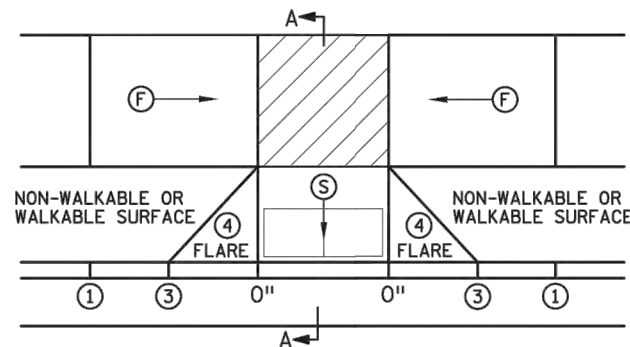
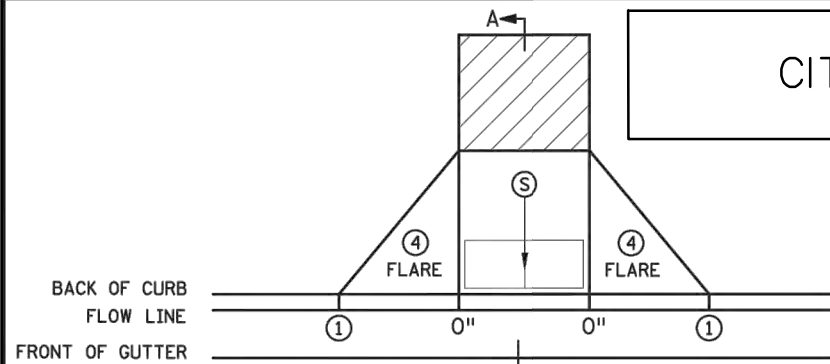
SHEET

6

OF

23

CITY PROJECT 21-1



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 INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).
- 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 ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF 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, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
- 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 SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- 8 A 7' MIN TOP RADIUS GRADE BREAK 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.

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 PAR.
 - X" CURB HEIGHT

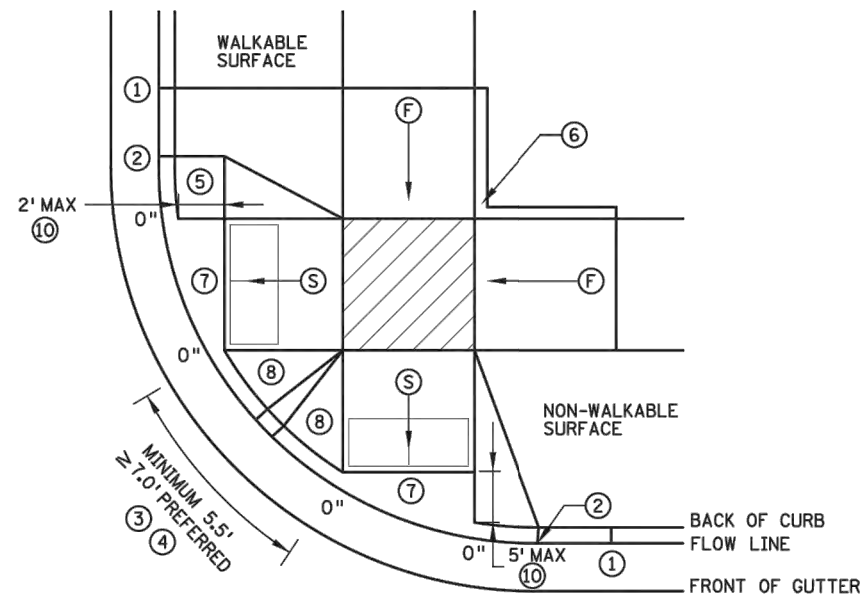
REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA
DEPARTMENT OF TRANSPORTATION
STATE DESIGN ENGINEER
1-23-2017

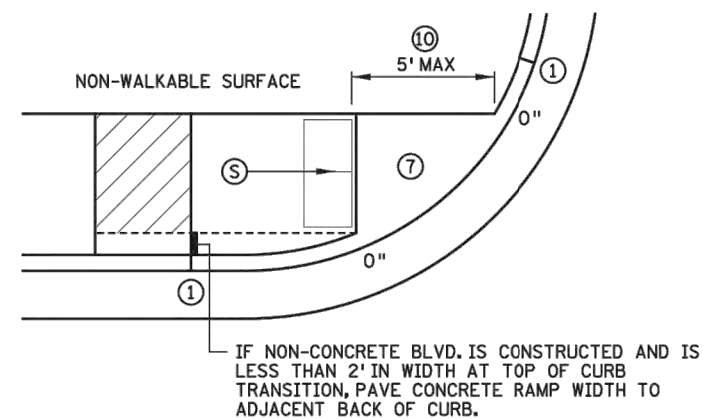
REVISED:
APPROVED:
1-23-2017

PEDESTRIAN CURB RAMP DETAILS (1 OF 6)

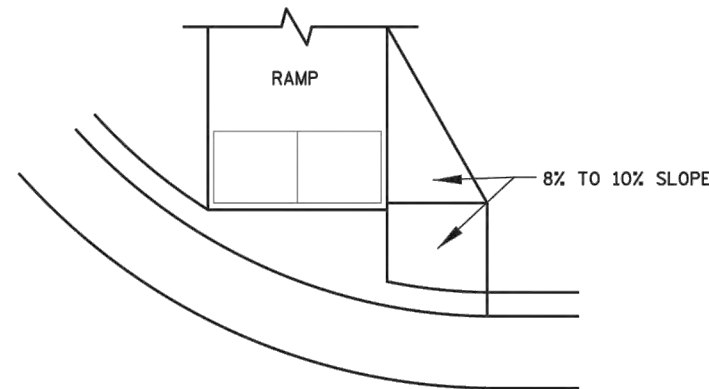
STANDARD PLAN 5-297.250 7 OF 23



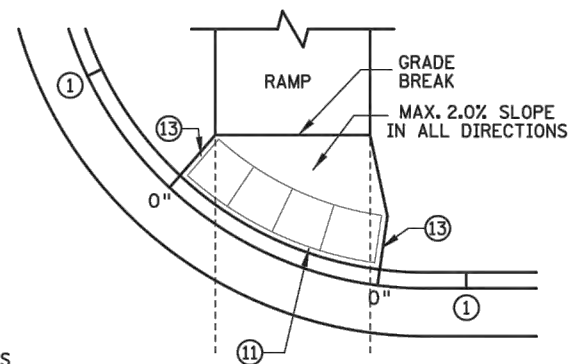
COMBINED DIRECTIONAL ⑨



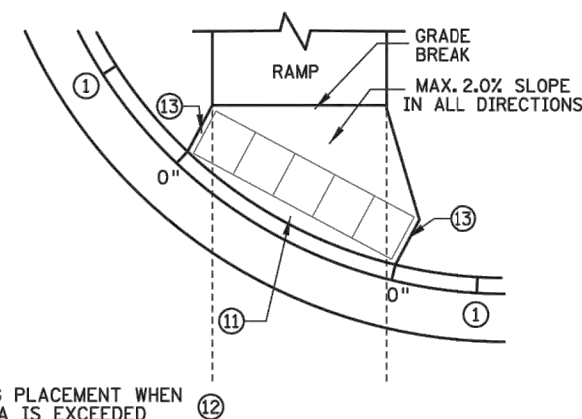
STANDARD ONE-WAY DIRECTIONAL ⑨



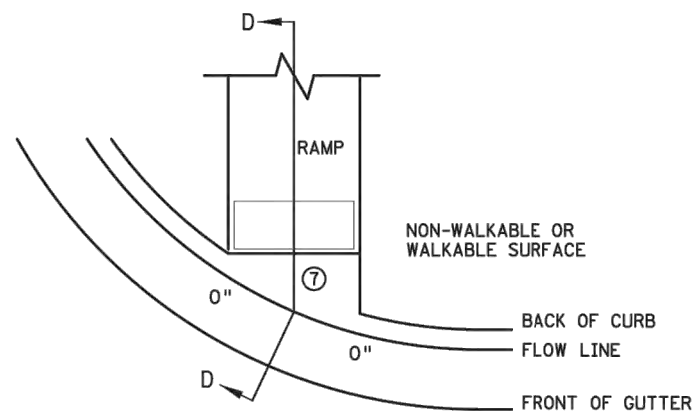
DIRECTIONAL RAMP WALKABLE FLARE



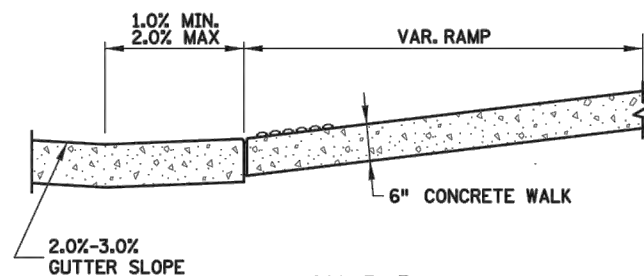
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



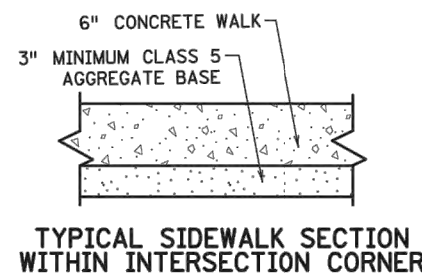
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

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 ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF 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 SHOULD 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.

LEGEND

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

⑤ 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%.

⑥ 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%.

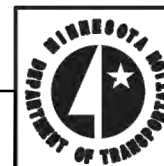
⑦ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.

X" CURB HEIGHT

REVISIONS:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

CURB FOR DIRECTIONAL RAMPS ⑭

CITY PROJECT 21-1



Tom Sh
STATE DESIGN ENGINEER

REVISED:

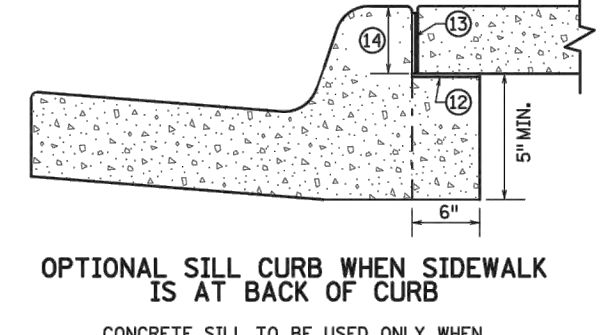
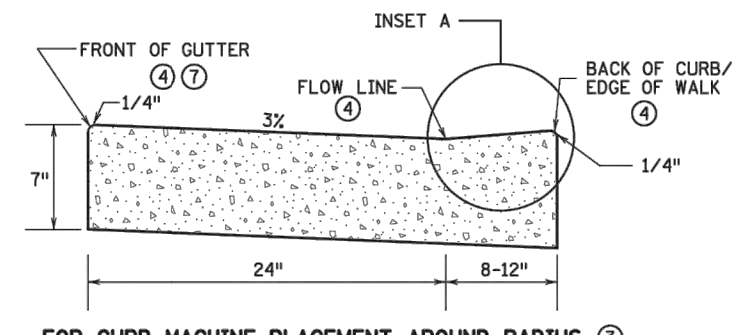
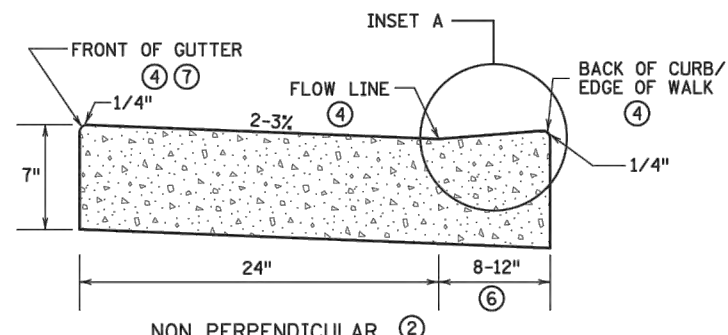
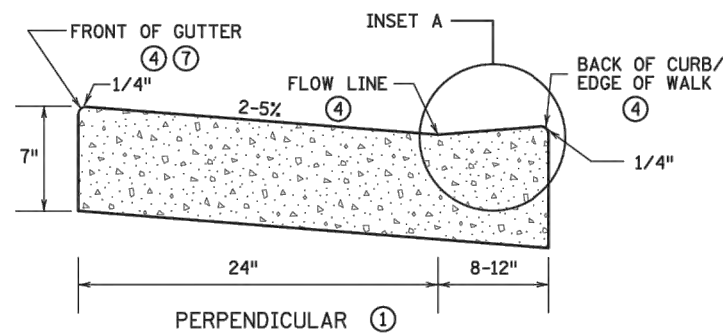
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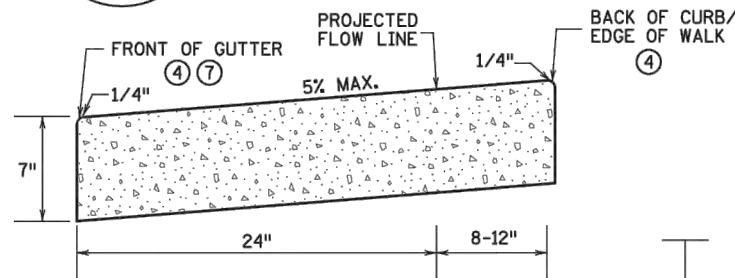
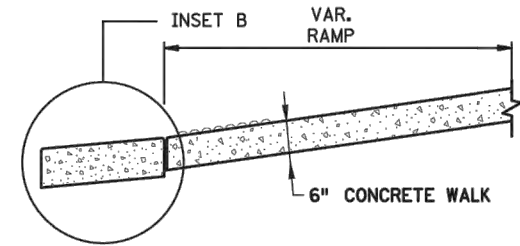
PEDESTRIAN CURB RAMP DETAILS (2 OF 6)

STANDARD PLAN 5-297.250

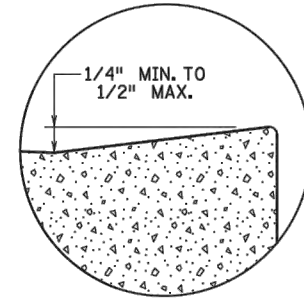
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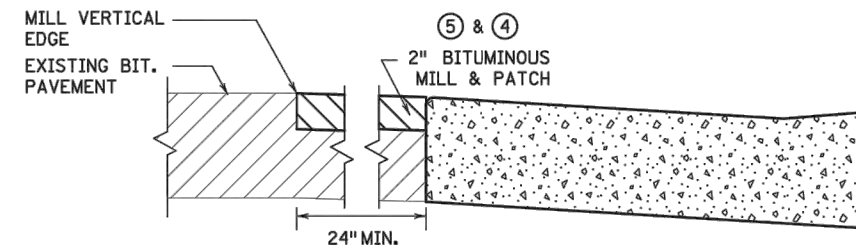
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



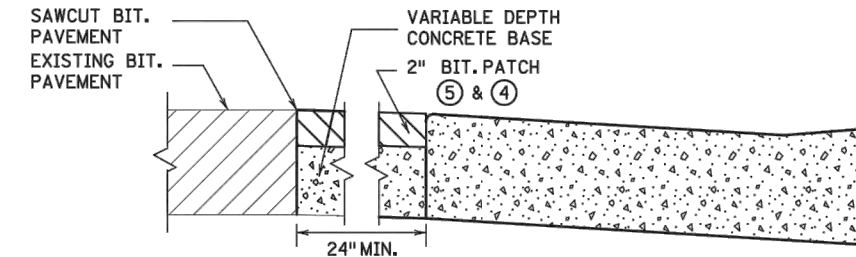
INSET B
OUTFLOW GUTTER ⑤



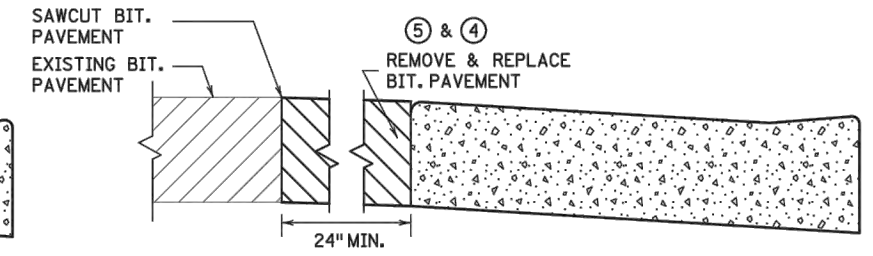
INSET A



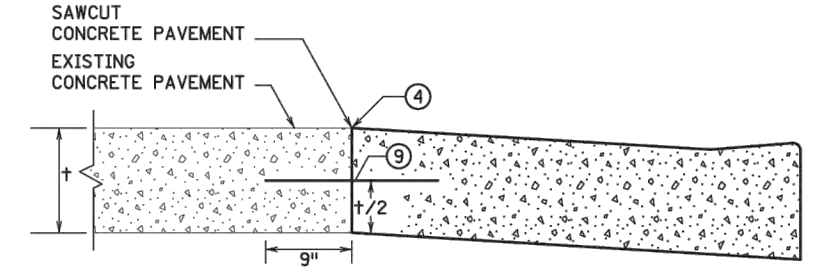
24" MIN.



ONLY ALLOWED PER ENGINEER'S APPROVAL



24" MIN.



9"

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS

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 RAMP.

② FOR USE AT CURB RAMP 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 RAMP.

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.

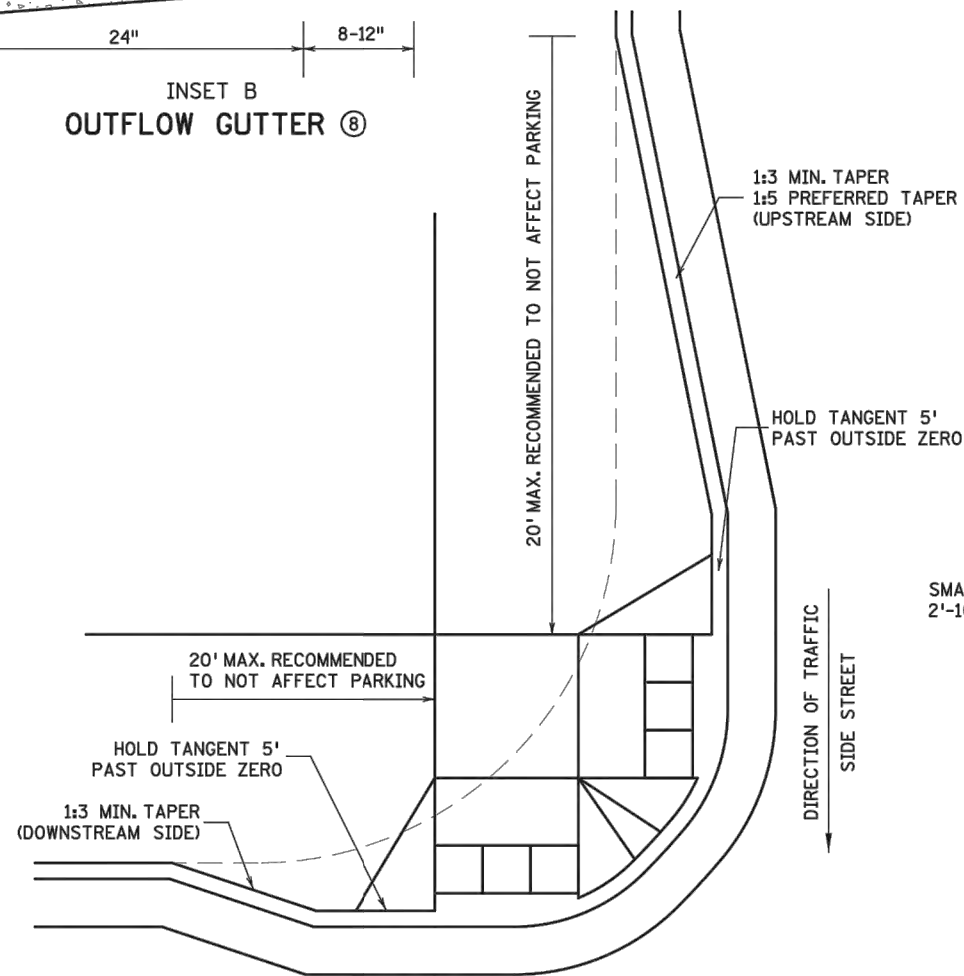
⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

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.

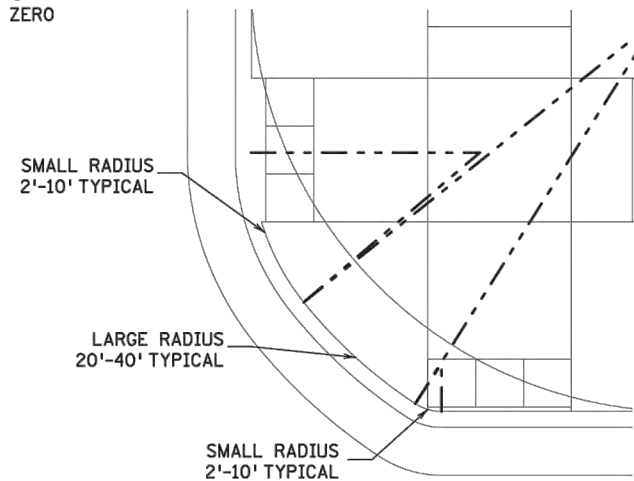
⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑫
(COMPOUND RADIUS)

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

DIRECTION OF TRAFFIC
MAIN STREET

CITY PROJECT 21-1



STATE DESIGN ENGINEER

REVISED:

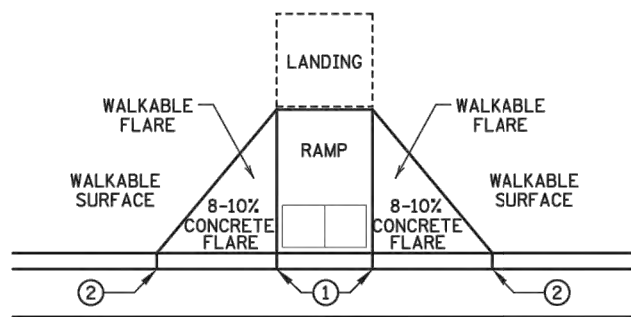
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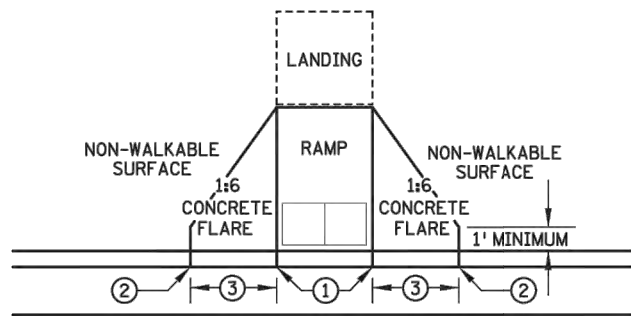
PEDESTRIAN CURB RAMP DETAILS (3 OF 6)

STANDARD PLAN 5-297.250

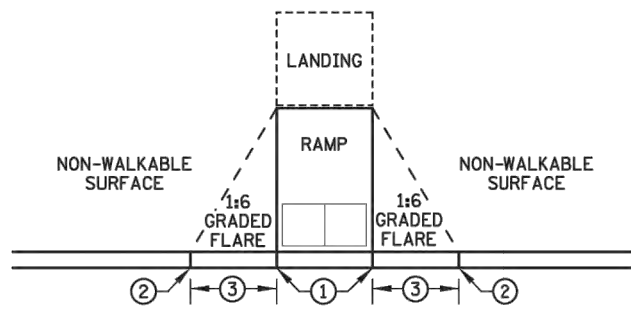
9 OF 23



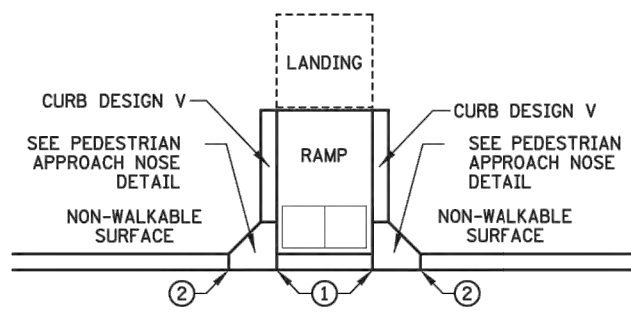
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

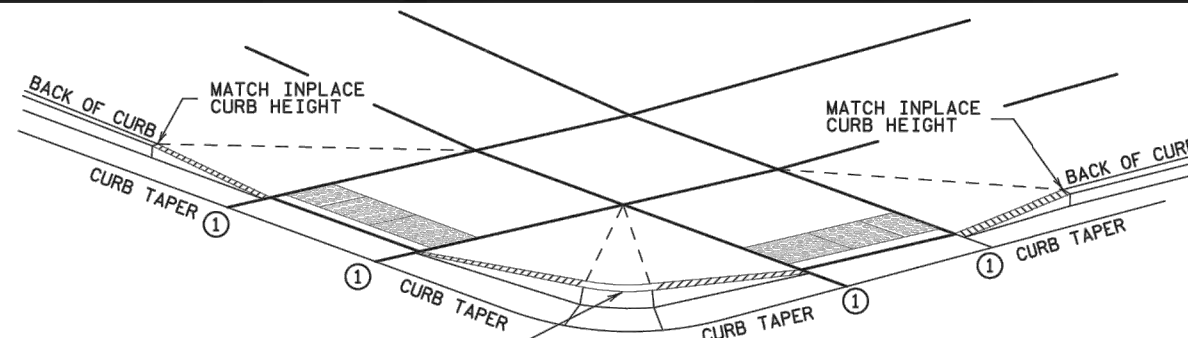


GRADED FLARES



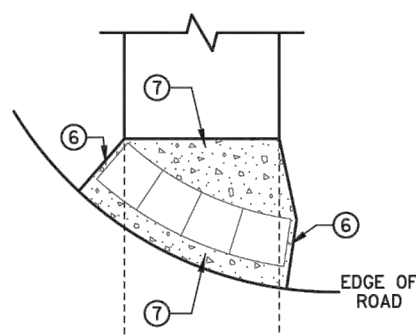
RETURNED CURB ⑤

TYPICAL SIDE TREATMENT OPTIONS ④ ⑪

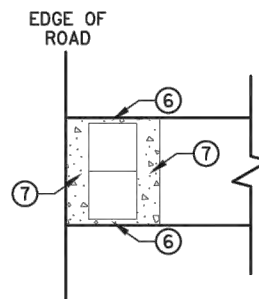


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

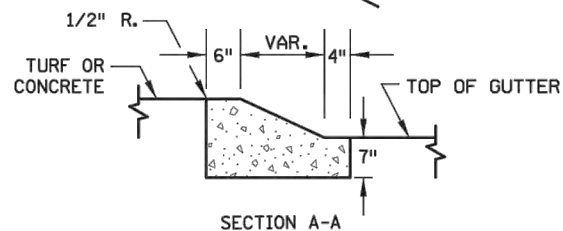
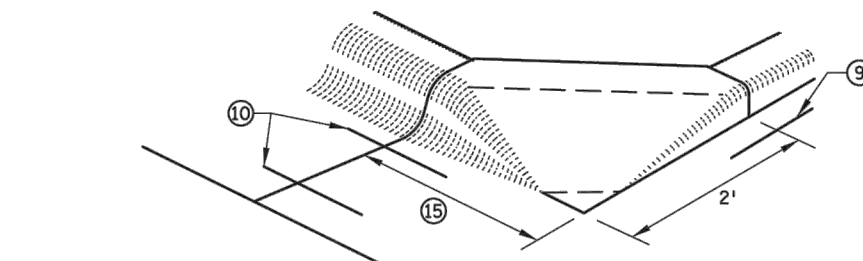


RADIAL DETECTABLE WARNING

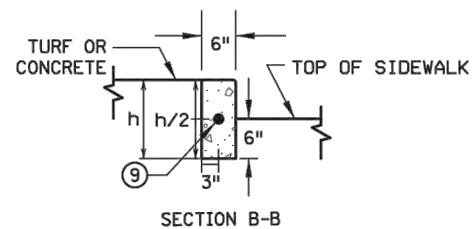


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

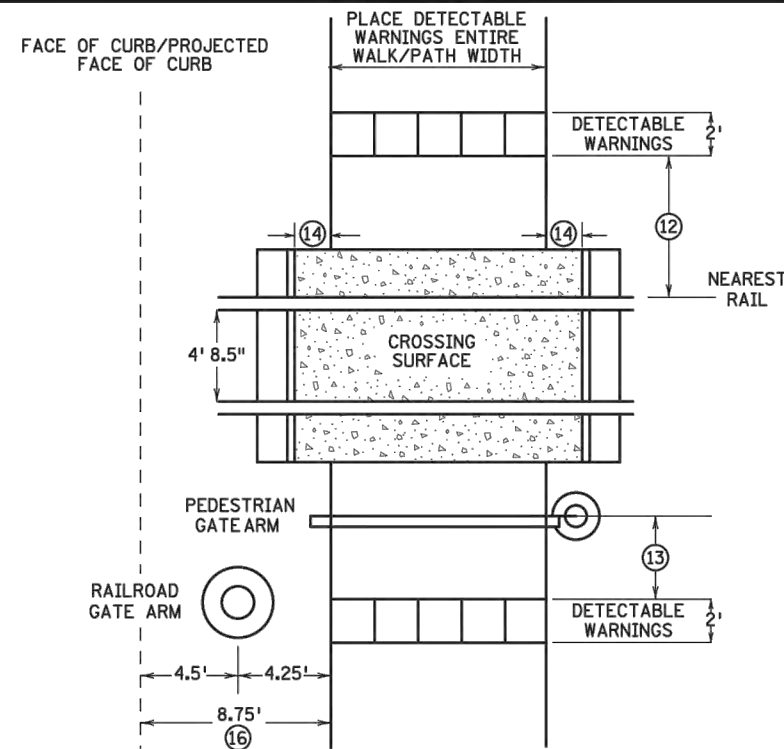


SECTION A-A



SECTION B-B

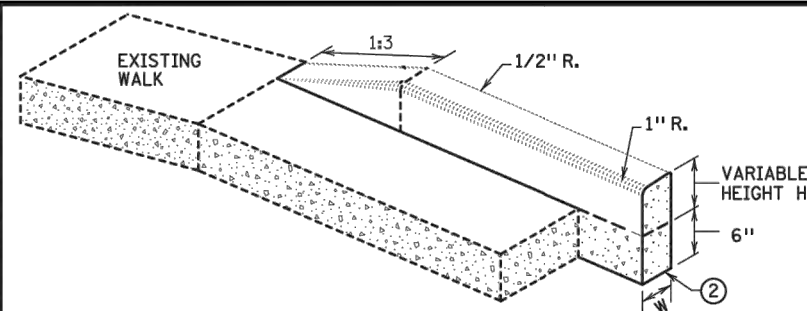
PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



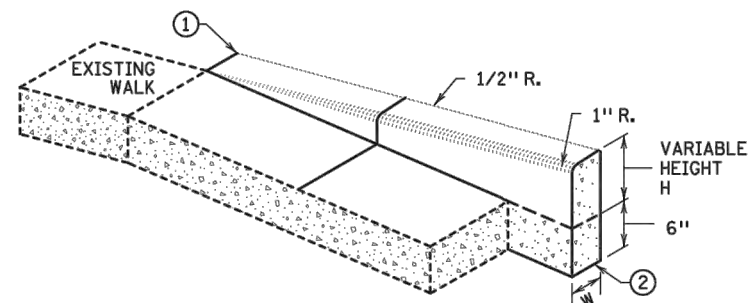
RAILROAD CROSSING
PLAN VIEW

NOTES:

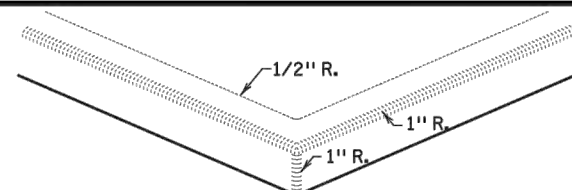
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.
- ④ 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.
- ⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑥ 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.
- ⑦ 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.
- ⑧ 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.
- ⑨ 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.
- ⑩ 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.
- ⑪ 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.
- ⑫ 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.
- ⑬ 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 ⑫.
- ⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑯ 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.



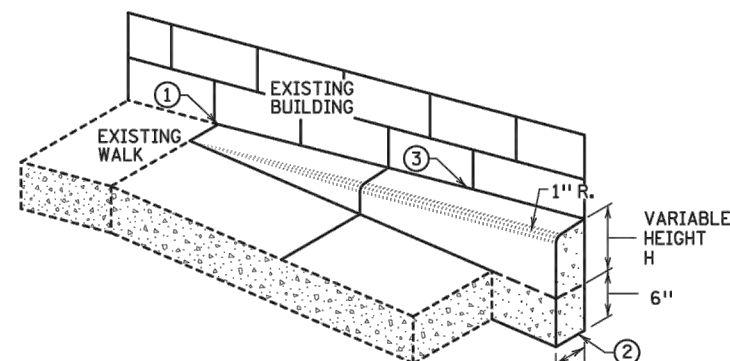
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

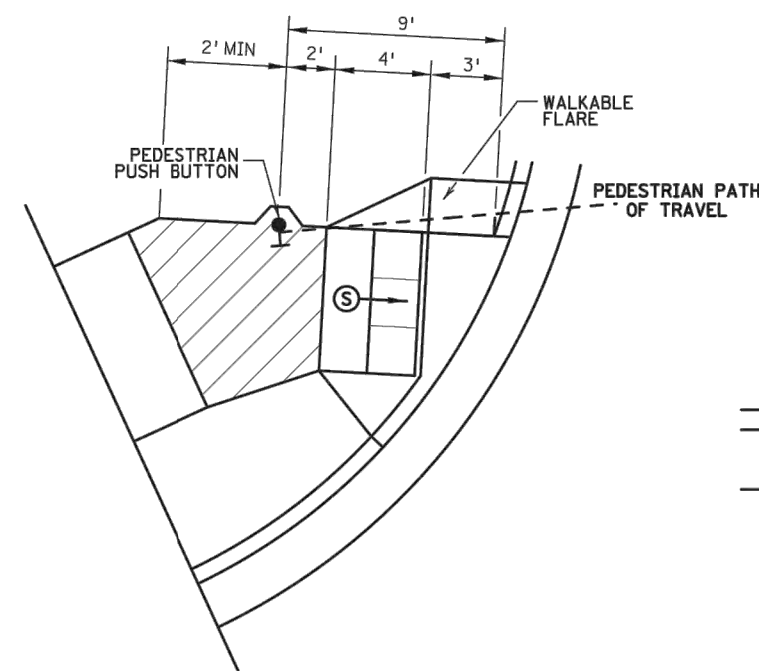


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

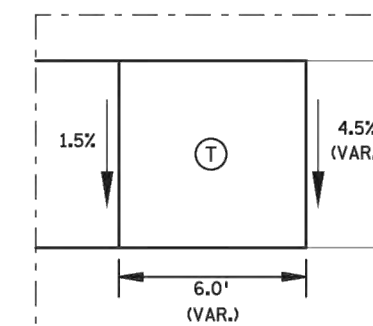
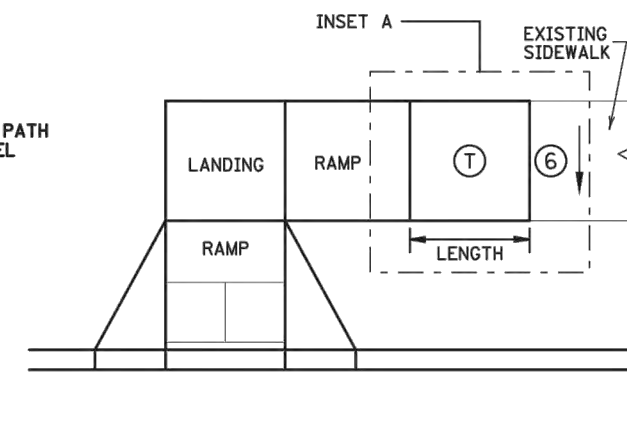
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



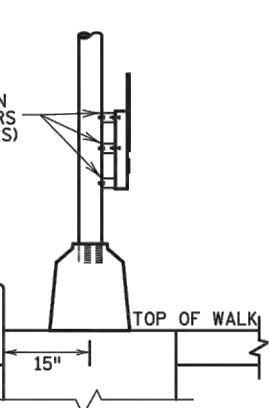
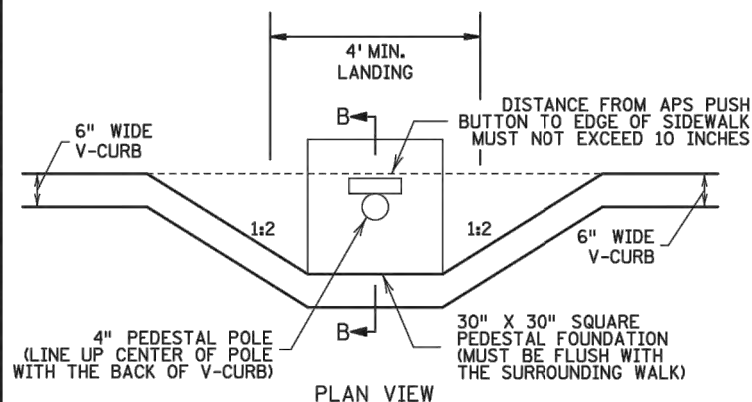
SEMI-DIRECTIONAL RAMP (3,4,9)

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

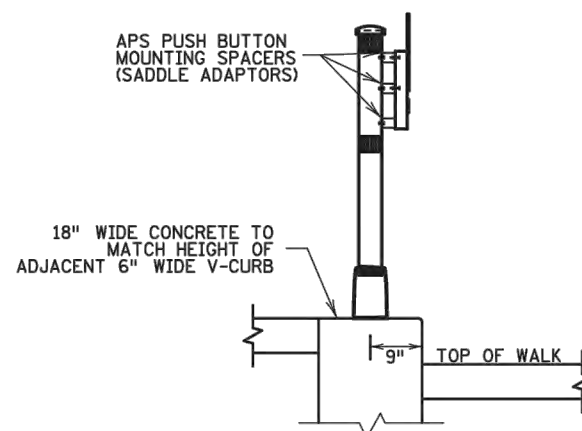
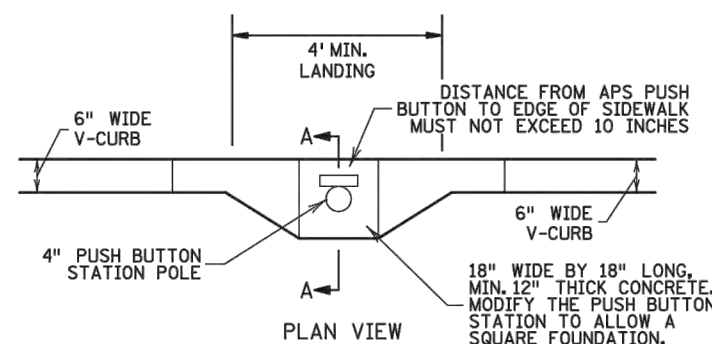
PRIMARILY USED FOR APS APPLICATIONS
WHERE THE PAR DOES NOT CONTINUE PAST
THE PUSH BUTTON (DEAD-END SIDEWALK)



INSET A
TRANSITION PANEL (4,5)



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 EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

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.

⑤ 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%.

④ 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 PAR.

① 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: JANUARY 23, 2017
OPERATIONS ENGINEER

CITY PROJECT 21-1



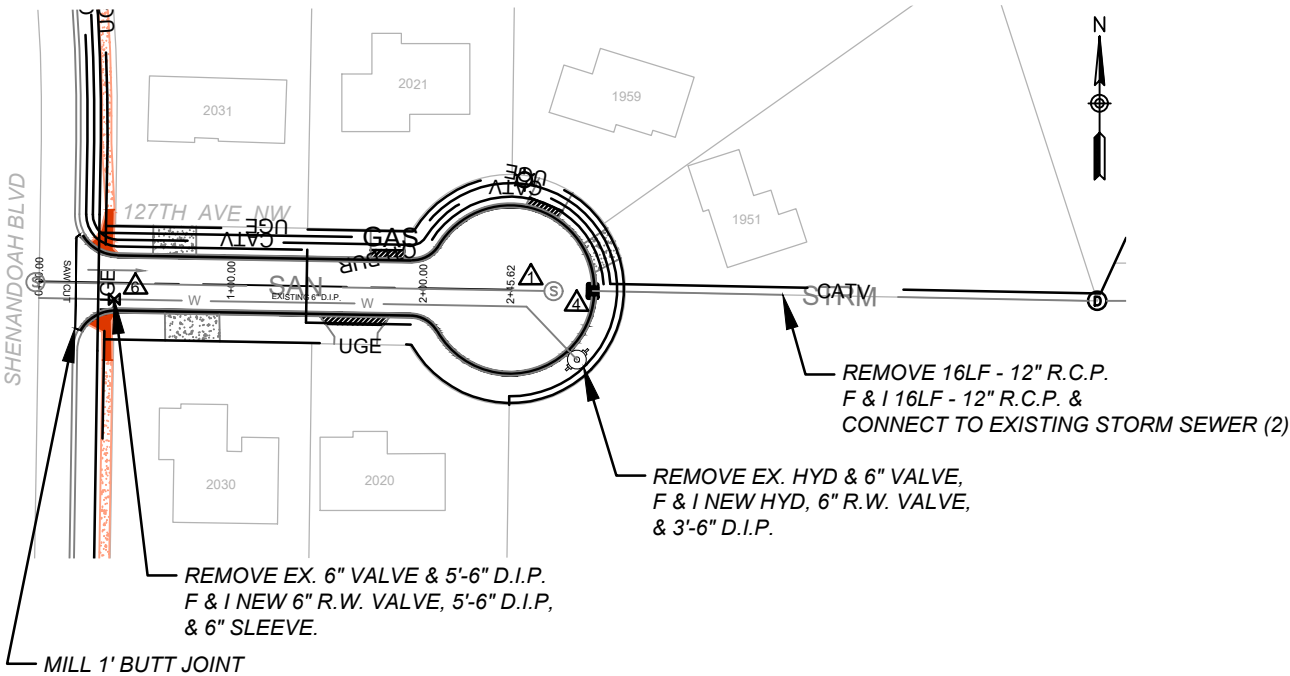
Tom S. J. H.
STATE DESIGN ENGINEER

REVISED:
APPROVED:
1-23-2017

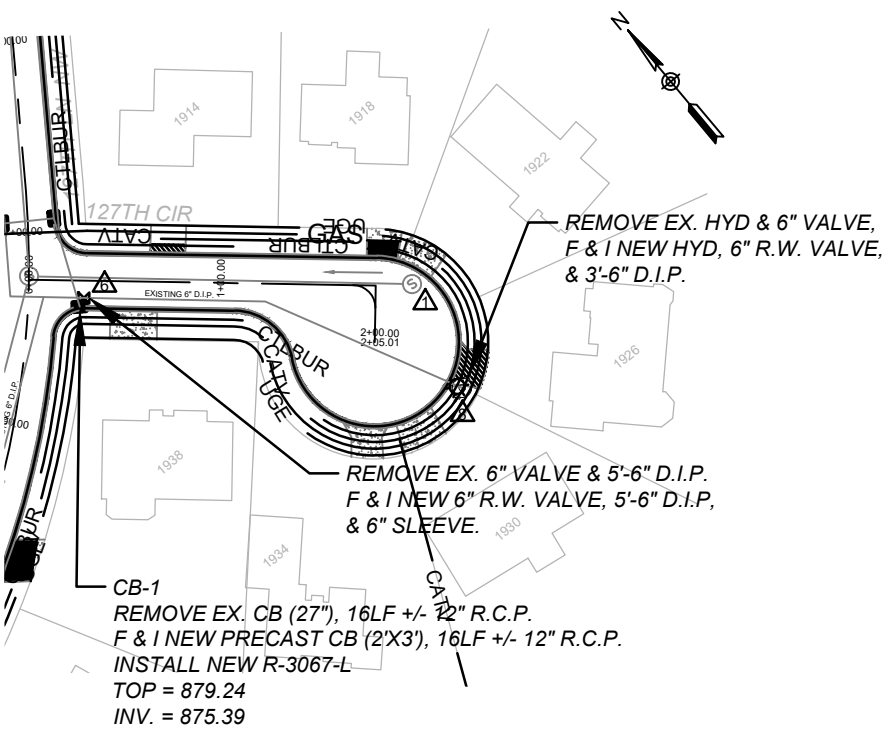
PEDESTRIAN CURB RAMP DETAILS (5 OF 6)

STANDARD PLAN 5-297.250 11 OF 23

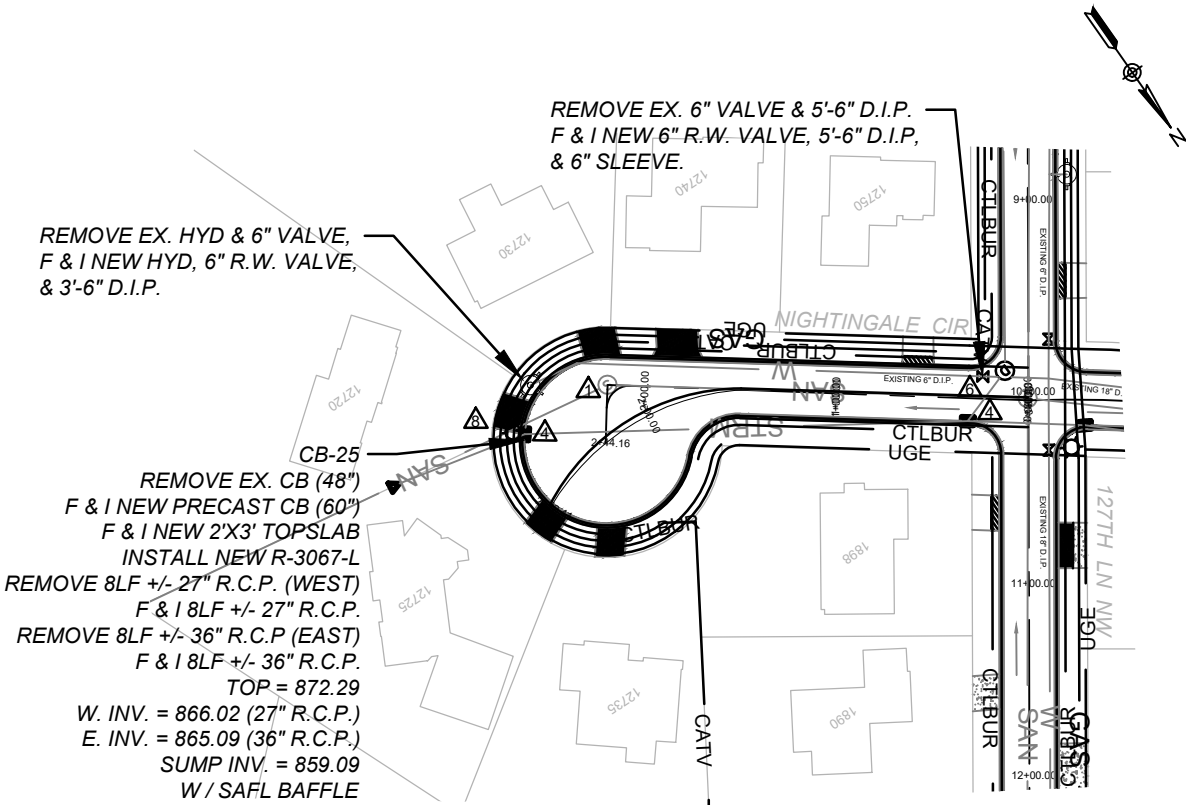
127TH AVE.



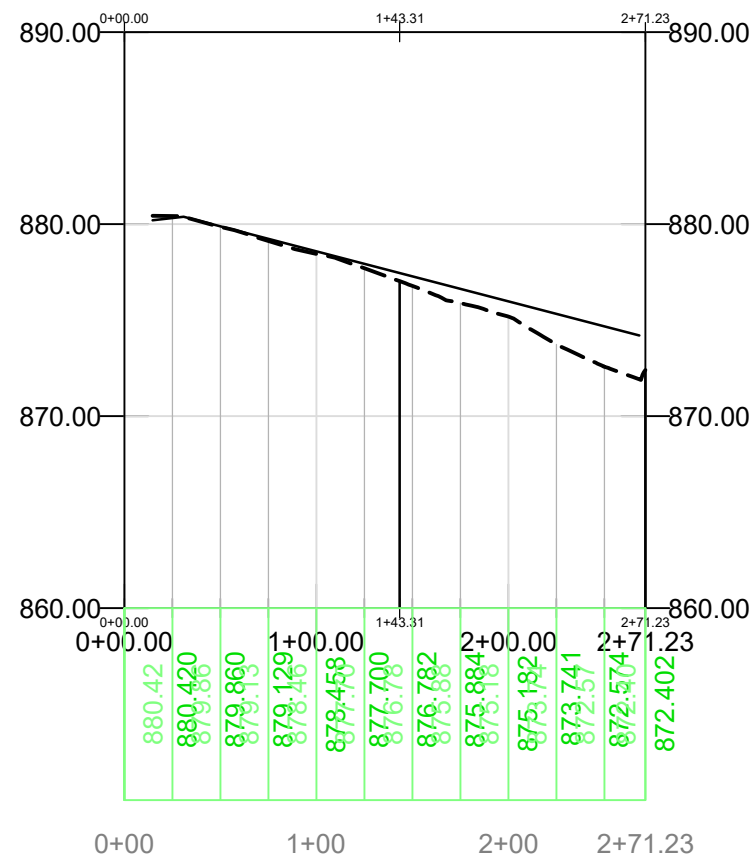
127TH CIR.



NIGHTINGALE CIR.



NIGHTINGALE CIR. PROFILE



City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN.
55433-3761
763-755-2880
Fax 763-767-6491
www.coonrapidsmn.gov

CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1
127TH AVE. / 127TH CIR. / NIGHTINGALE CIR.

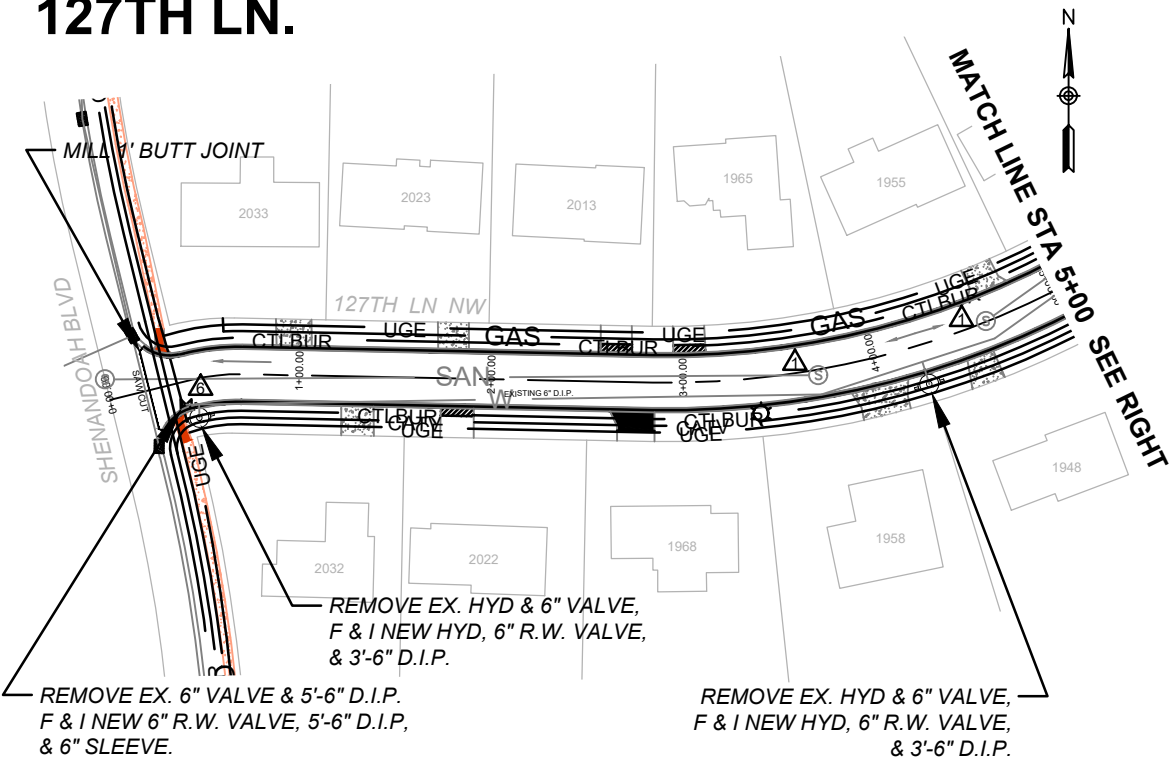
DESIGNED BY :
DRAWING BY :
DATE 3/5/2021
SCALE
NO DATE DESCR.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.
Name : Mark C. Hansen, P.E.
License # 43920
Signature :

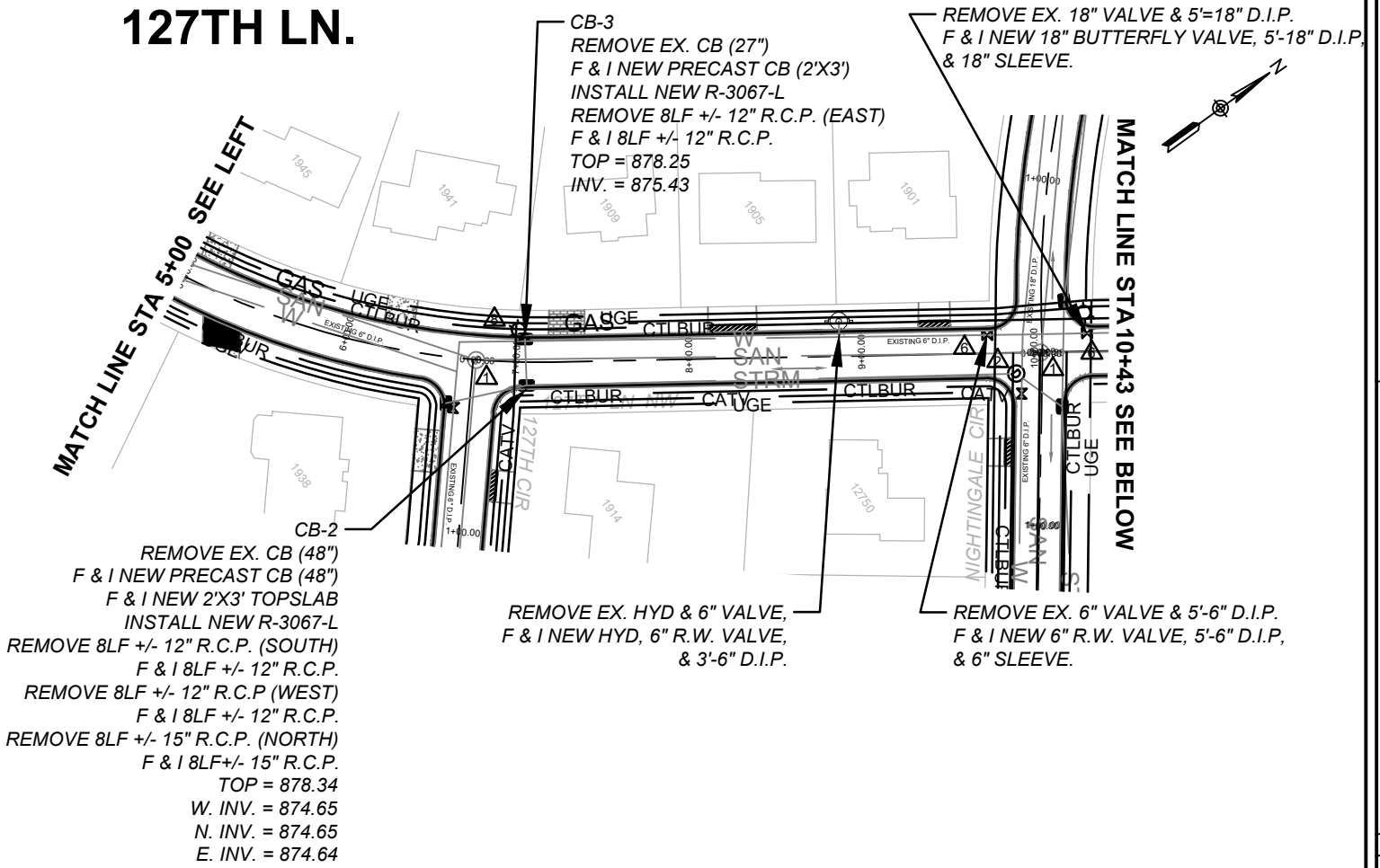
CITY PROJECT
21-1

SHEET
13 OF **23**

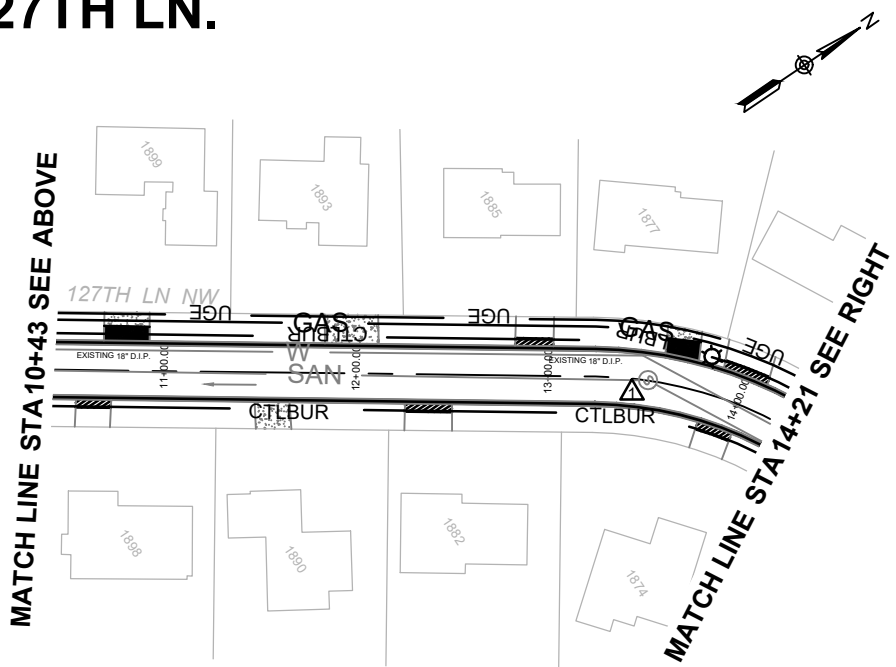
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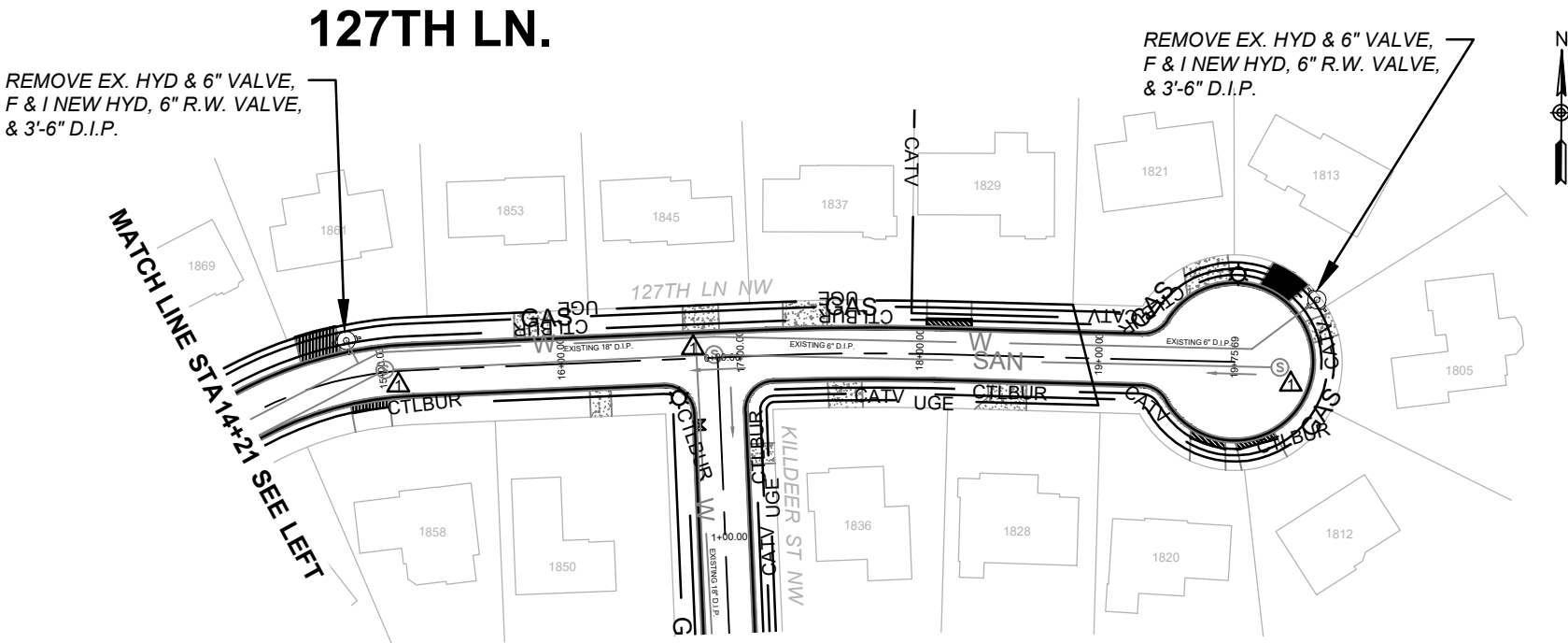
127TH LN.



127TH LN.



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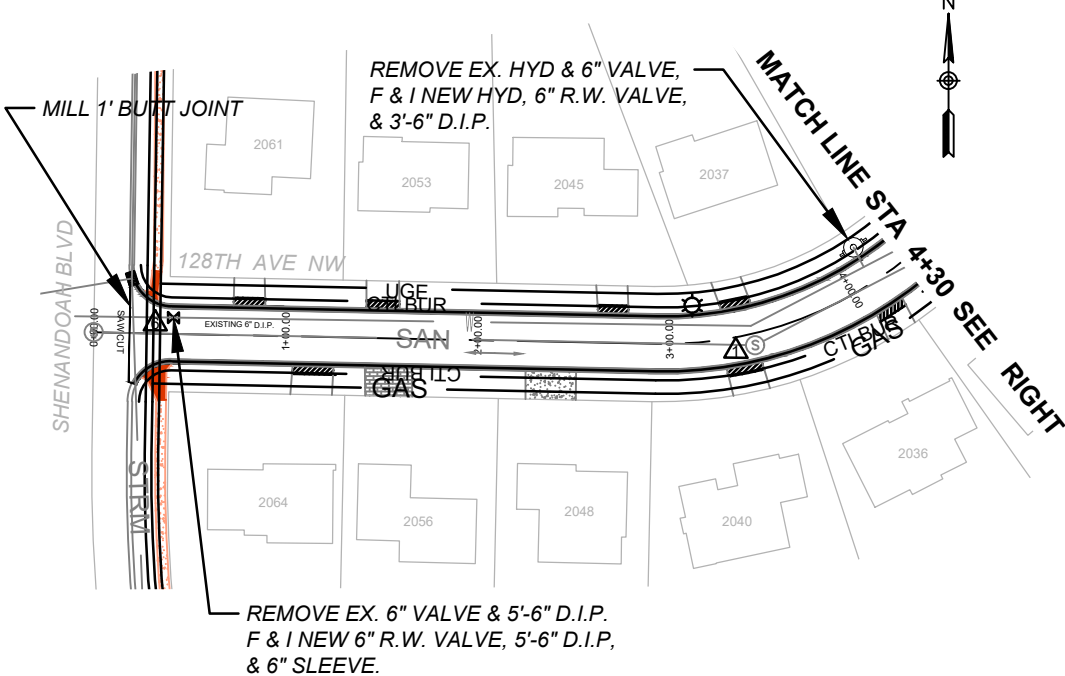
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RECONSTRUCTION
AREA 1
127TH LN.

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SCALE		
NO	DATE	DESCR.

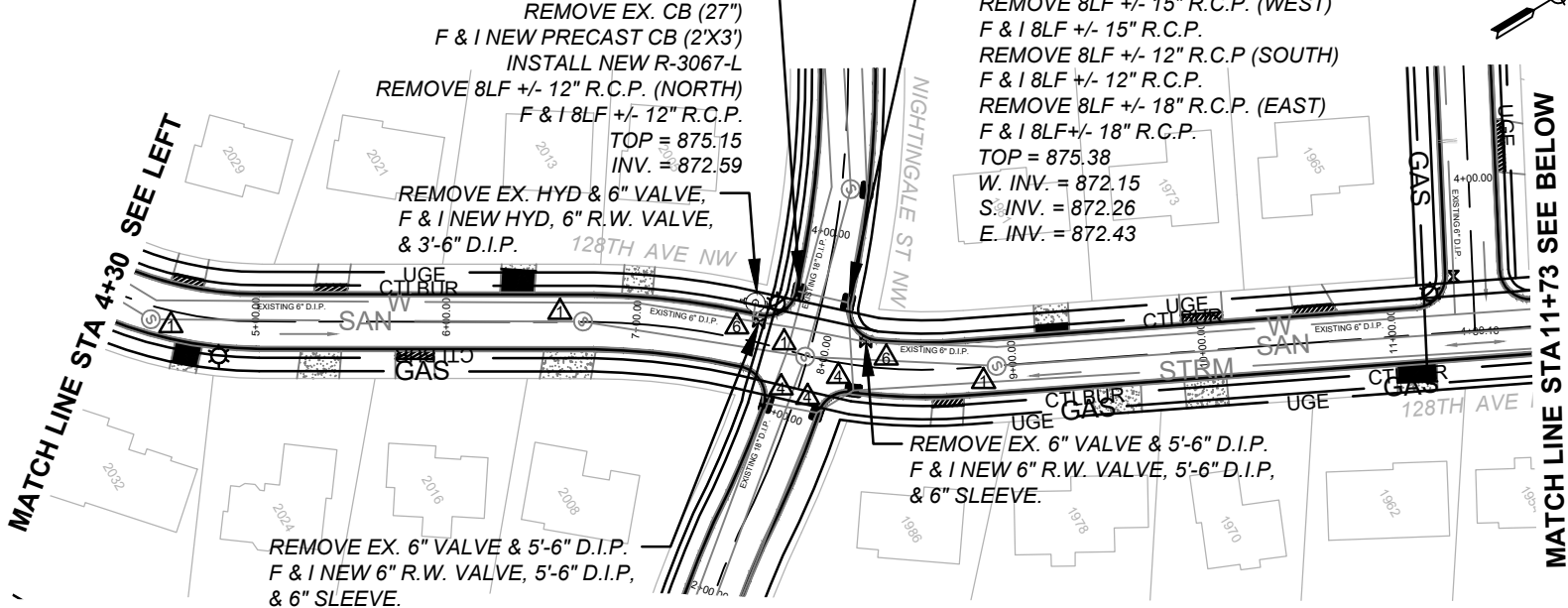
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.
Name : Mark C. Hansen, P.E.
License # 43920
Signature : 

CITY PROJECT	
21-1	
SHEET	
14	OF 23

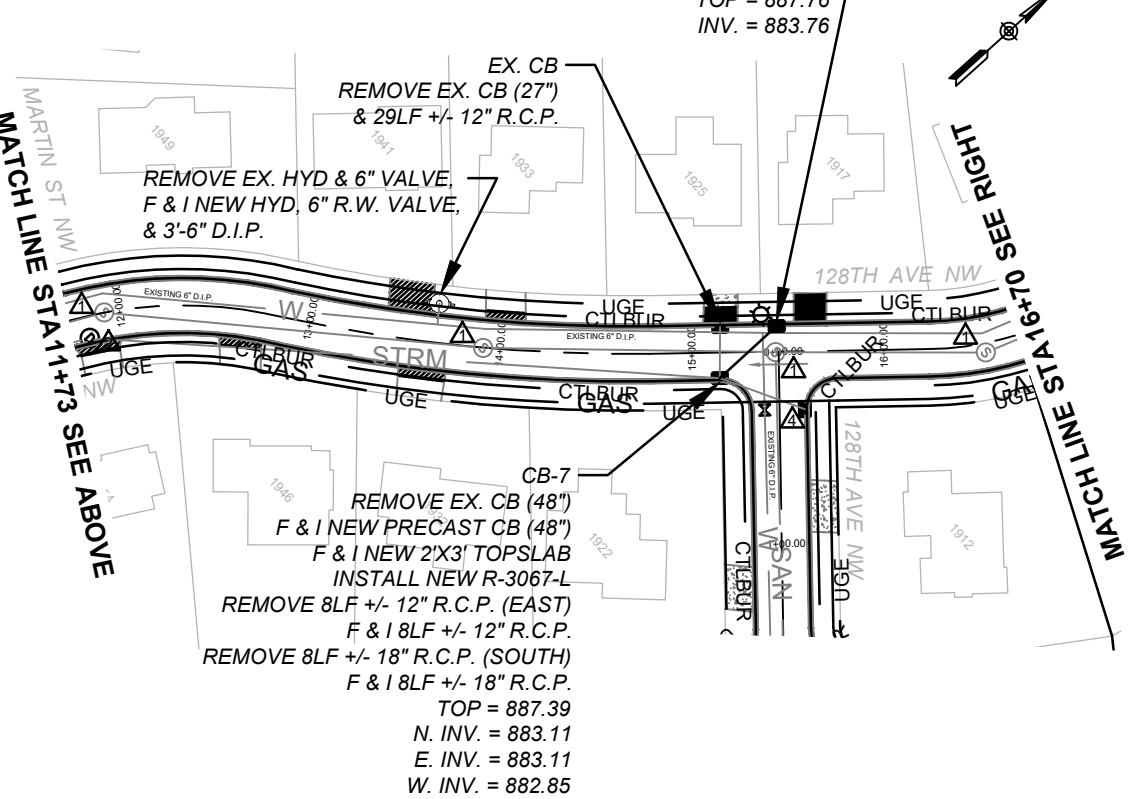
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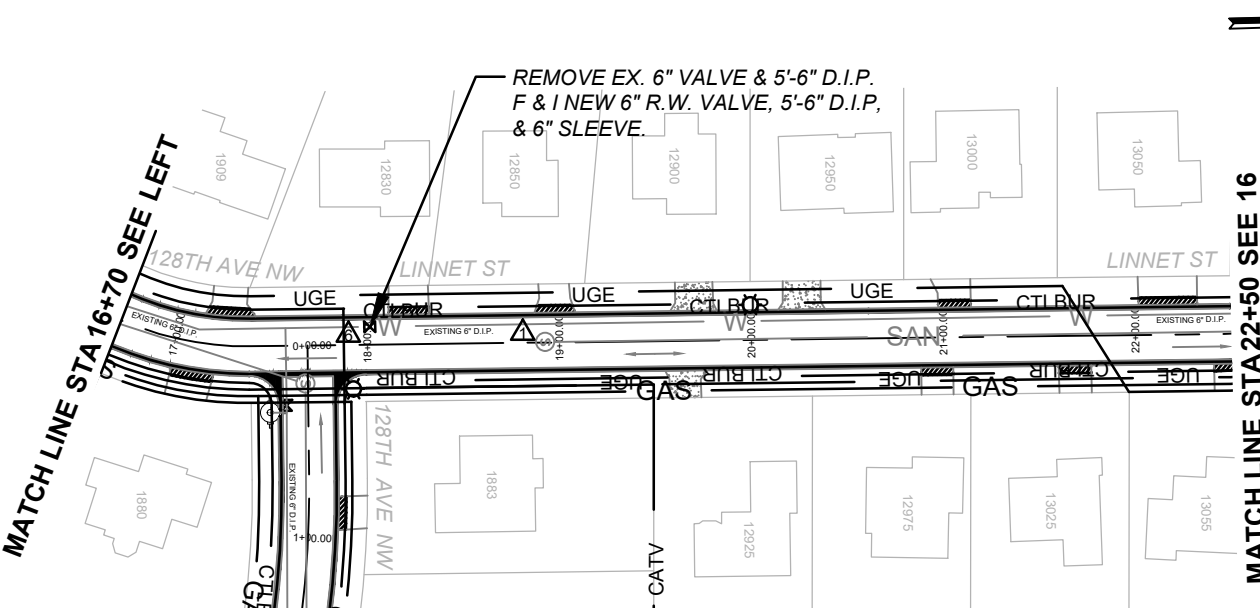
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128TH AVE.



128TH AVE. / LINNET ST.



COON RAPIDS
Minnesota

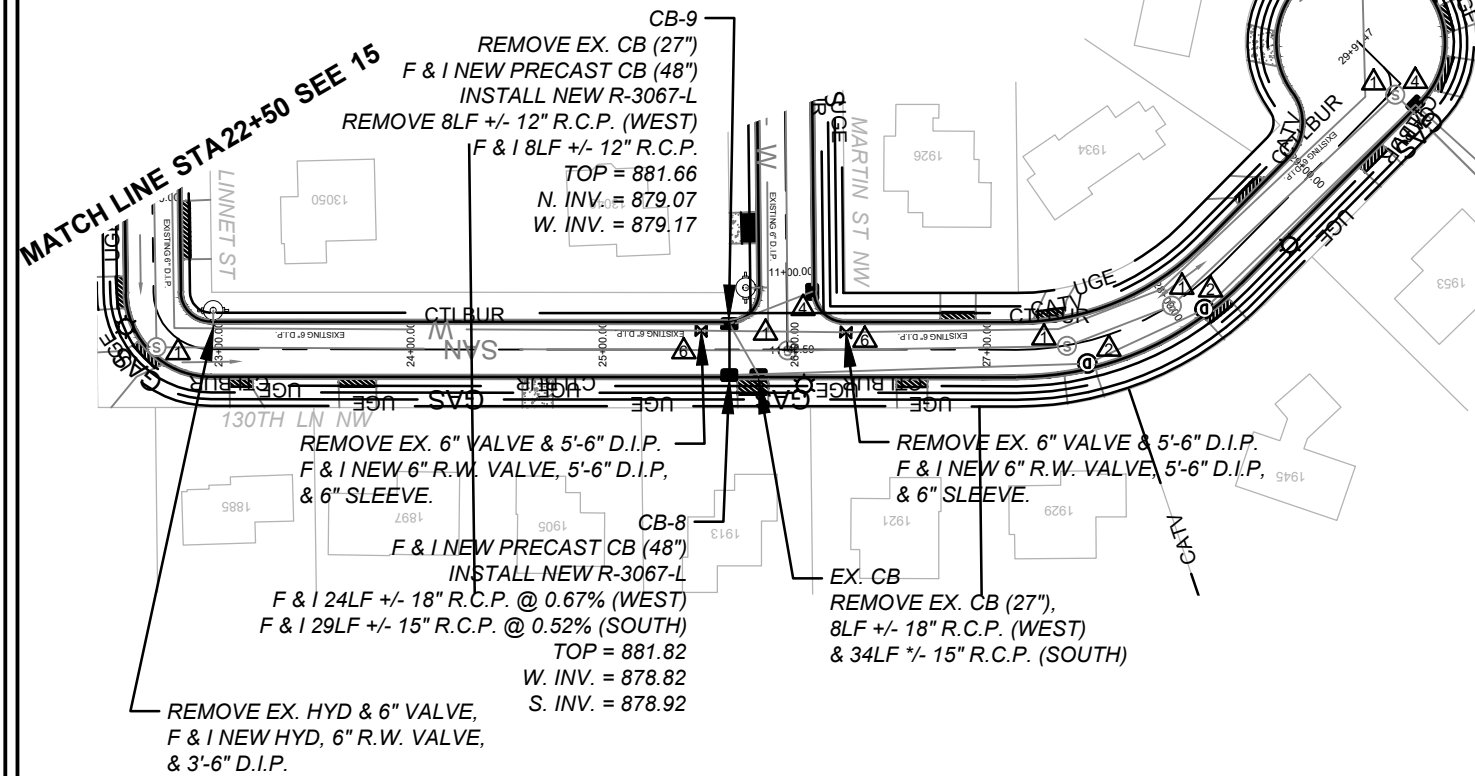
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CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1
128TH AVE. / LINNET ST.

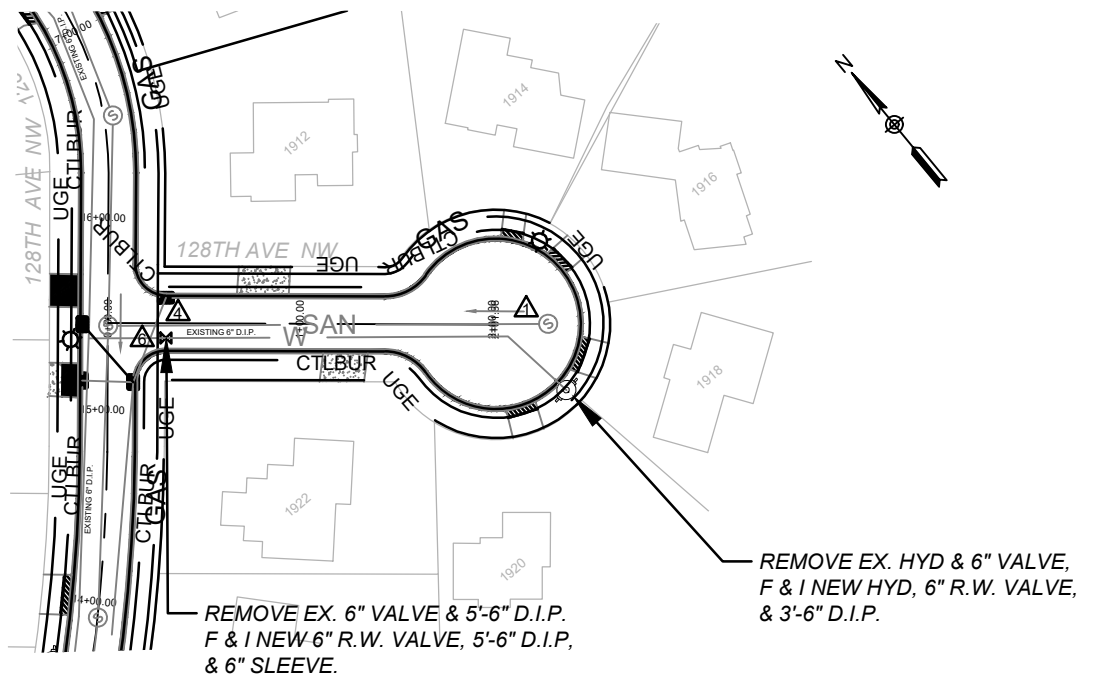
DESIGNED BY :		
DRAWING BY :		
DATE 3/5/2021		
SCALE		
NO	DATE	DESCR.
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota. Name : Mark C. Hansen, P.E. License # 43920 Signature :		

CITY PROJECT	
21-1	
SHEET	
15	OF 23

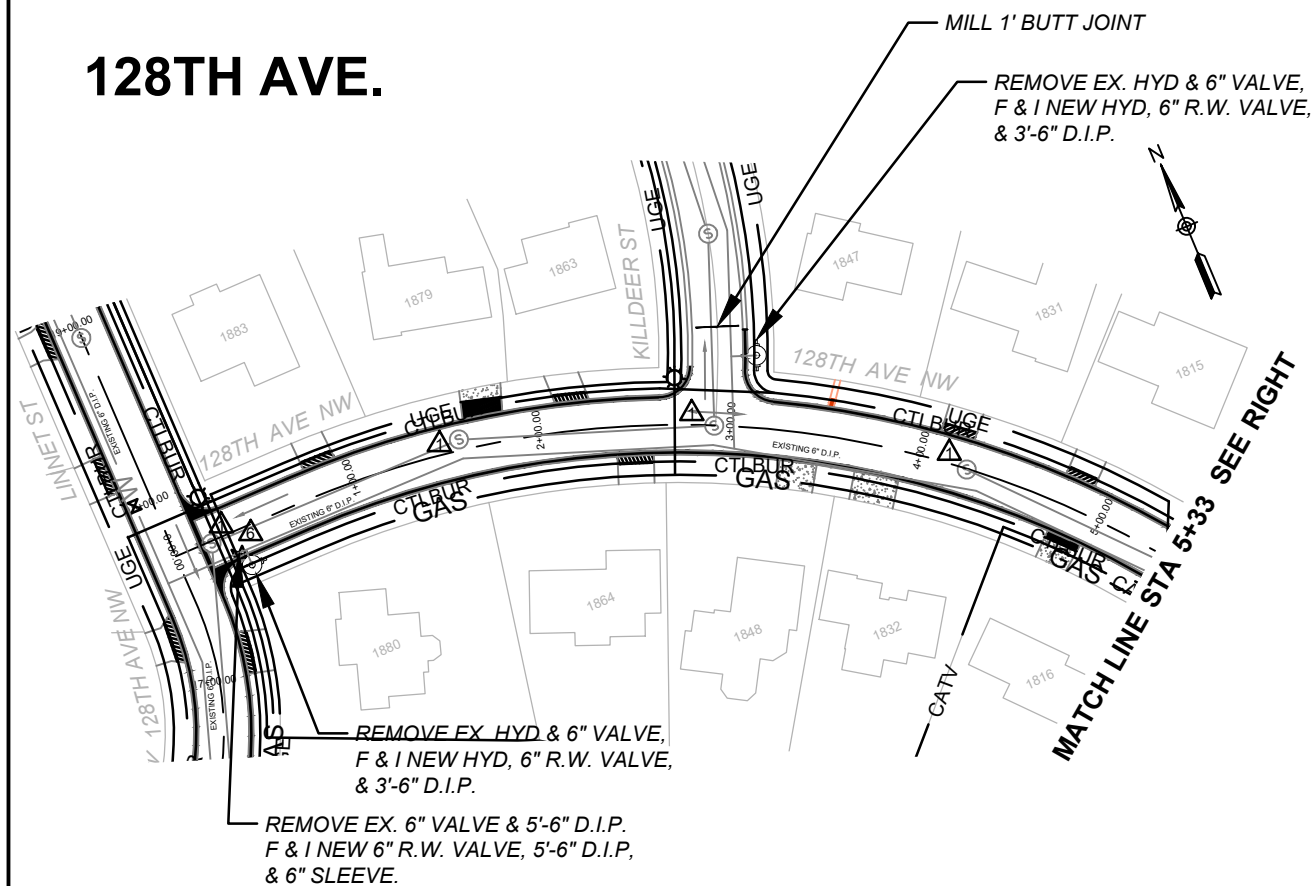
LINNET ST. / 130TH LN.



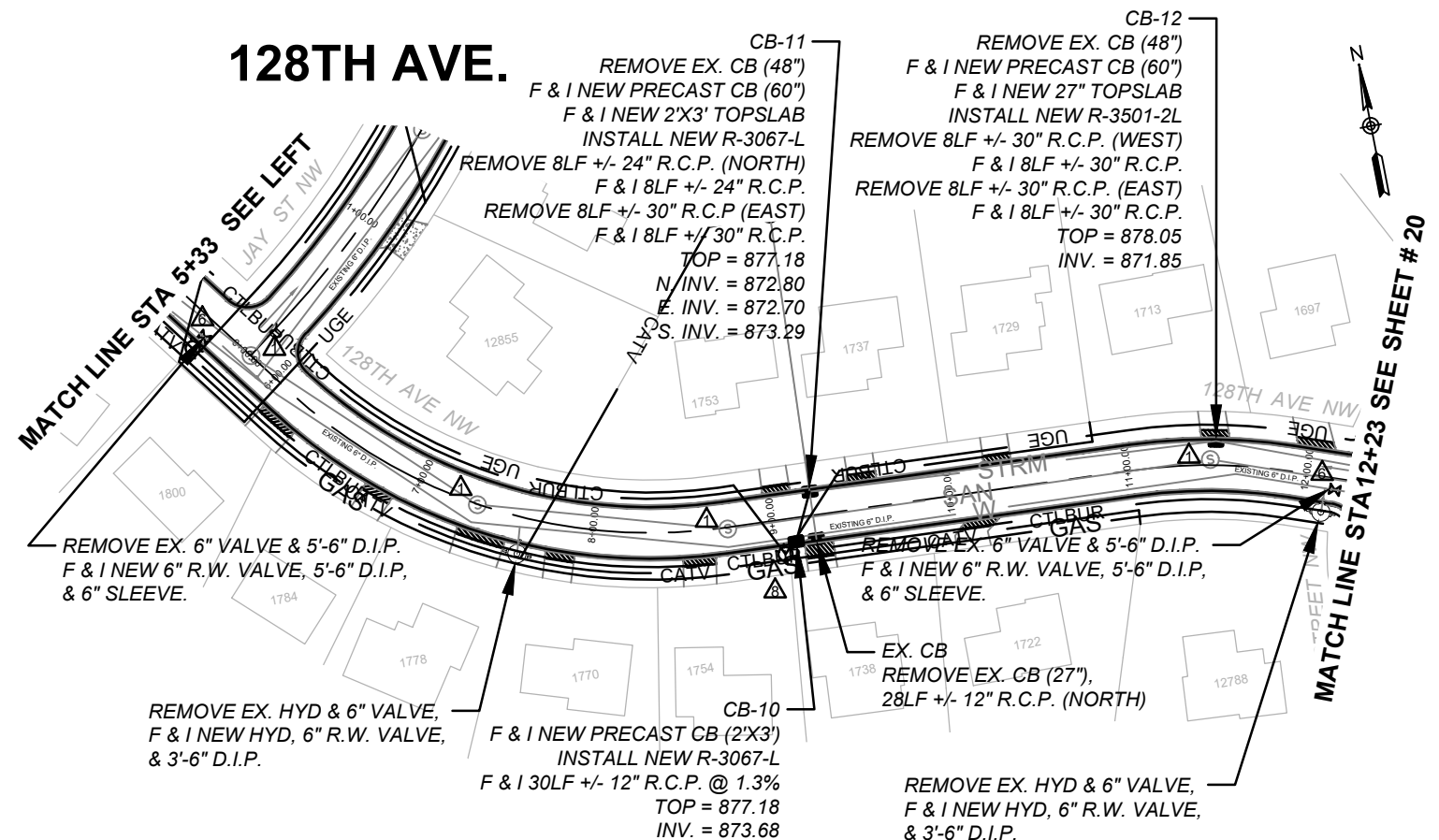
128TH AVE. CUL-DE-SAC



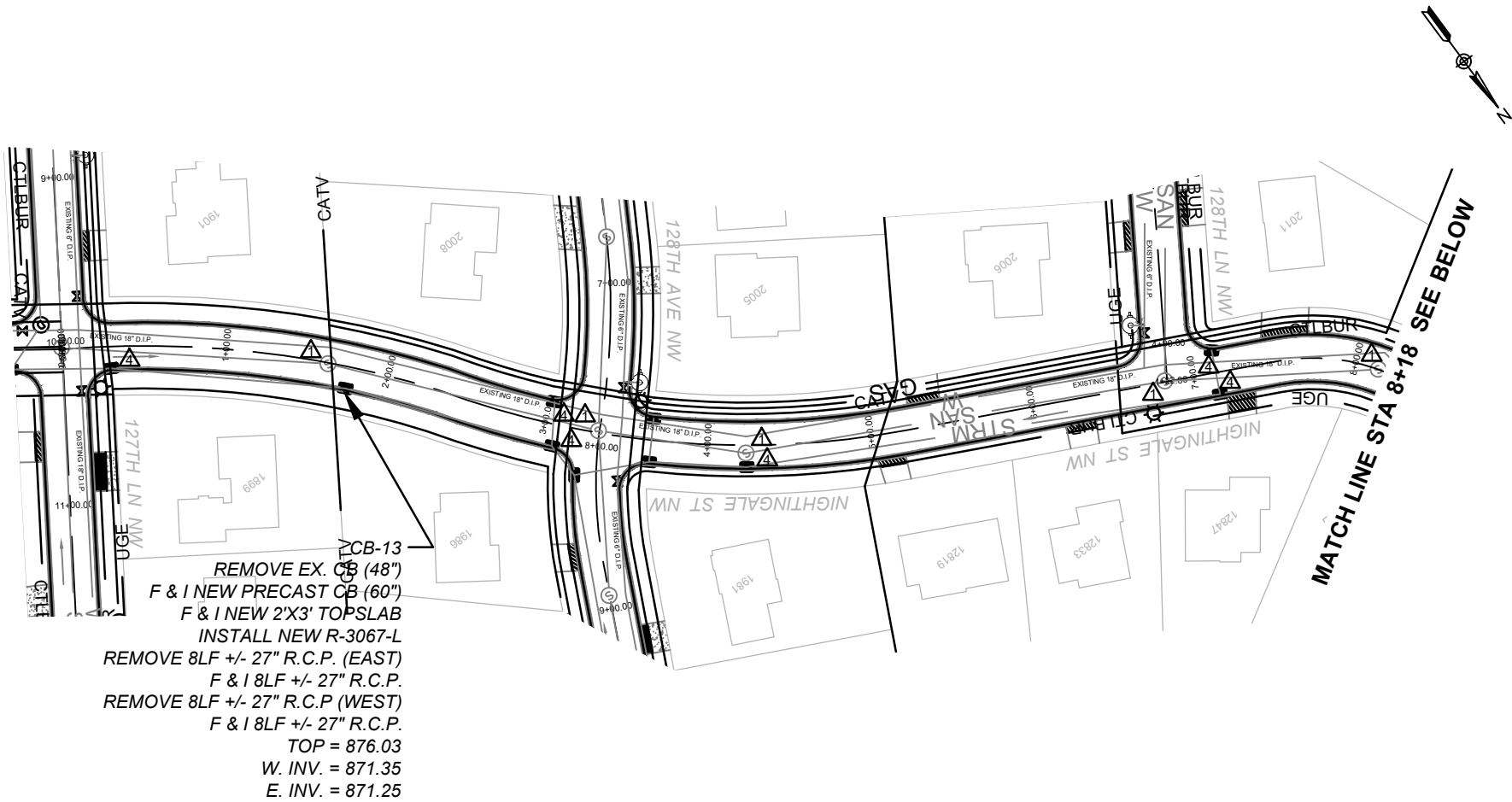
128TH AVE.



128TH AVE.

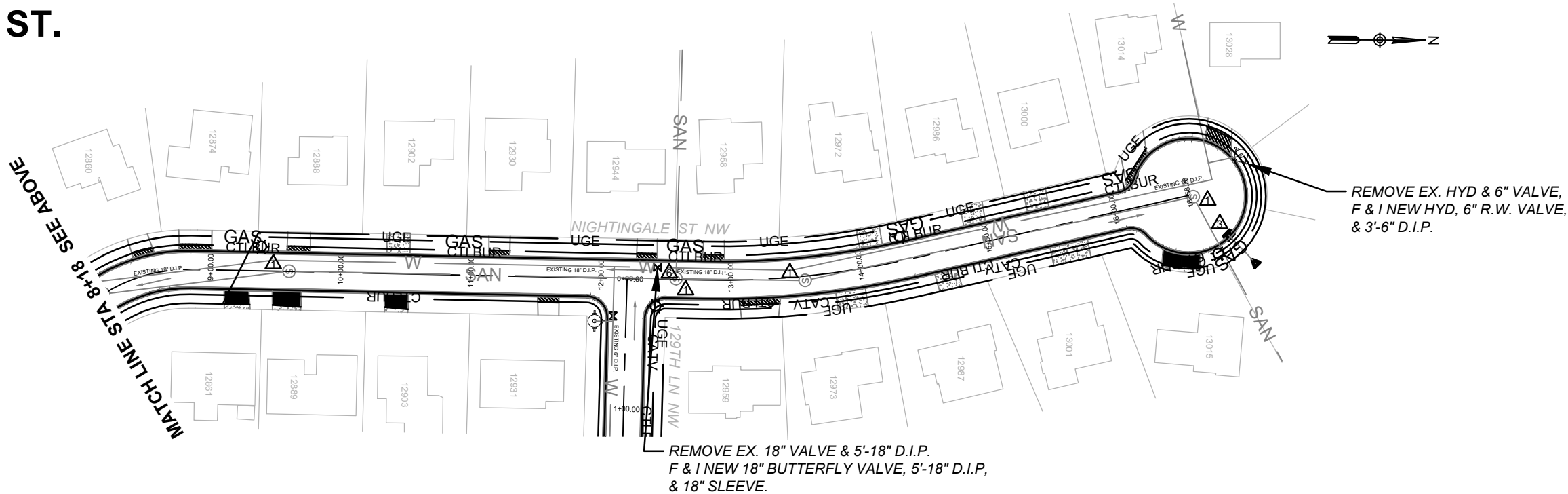


NIGHTINGALE ST.



REMOVE EX. CB (48")
F & I NEW PRECAST CB (60")
F & I NEW 2'X3' TOPSLAB
INSTALL NEW R-3067-L
REMOVE 8LF +/- 27" R.C.P. (EAST)
F & I 8LF +/- 27" R.C.P.
REMOVE 8LF +/- 27" R.C.P. (WEST)
F & I 8LF +/- 27" R.C.P.
TOP = 876.03
W. INV. = 871.35
E. INV. = 871.25

NIGHTINGALE ST.



REMOVE EX. 18" VALVE & 5'-18" D.I.P.
F & I NEW 18" BUTTERFLY VALVE, 5'-18" D.I.P.,
& 18" SLEEVE.

REMOVE EX. HYD & 6" VALVE,
F & I NEW HYD, 6" R.W. VALVE,
& 3'-6" D.I.P.

CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1
NIGHTINGALE ST.

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SCALE		
NO	DATE	DESCR.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the State of Minnesota.
Name : Mark C. Hansen, P.E.
License # 43920
Signature :

CITY PROJECT

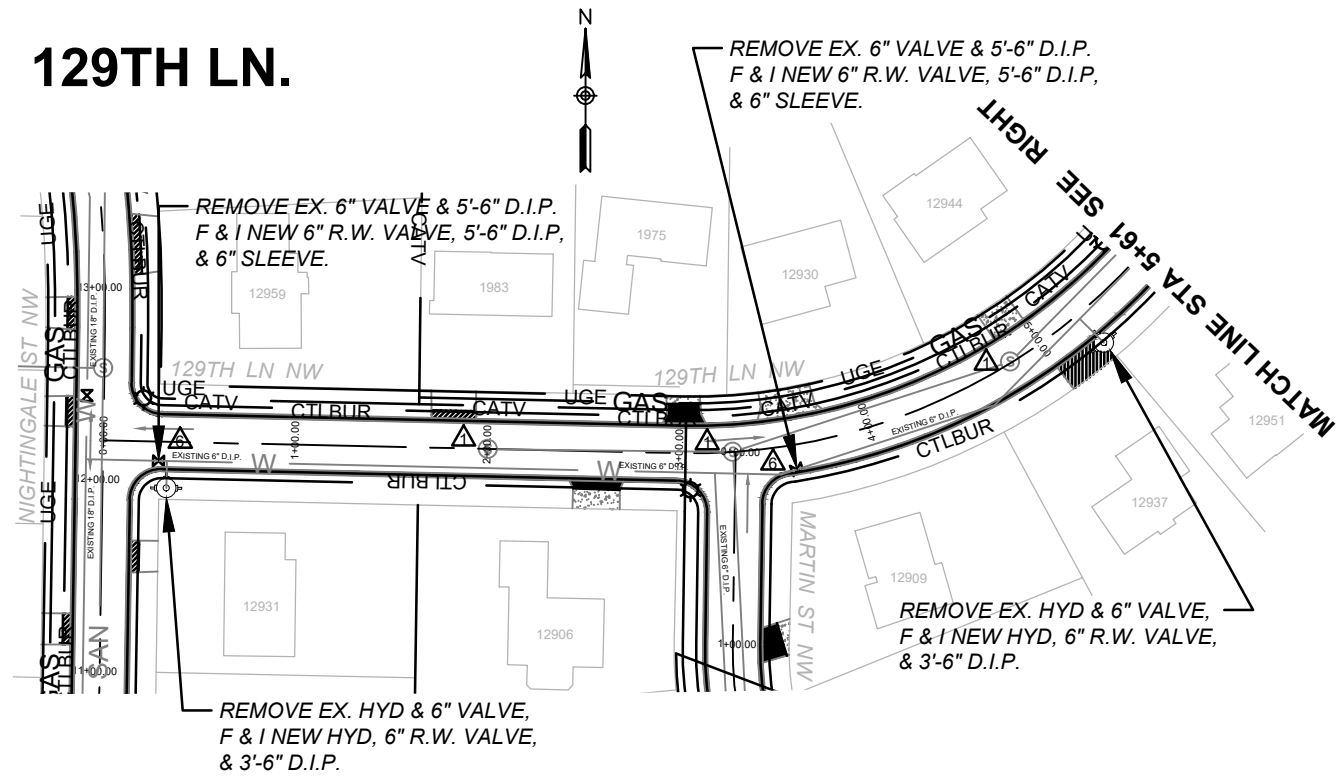
21-1

SHEET

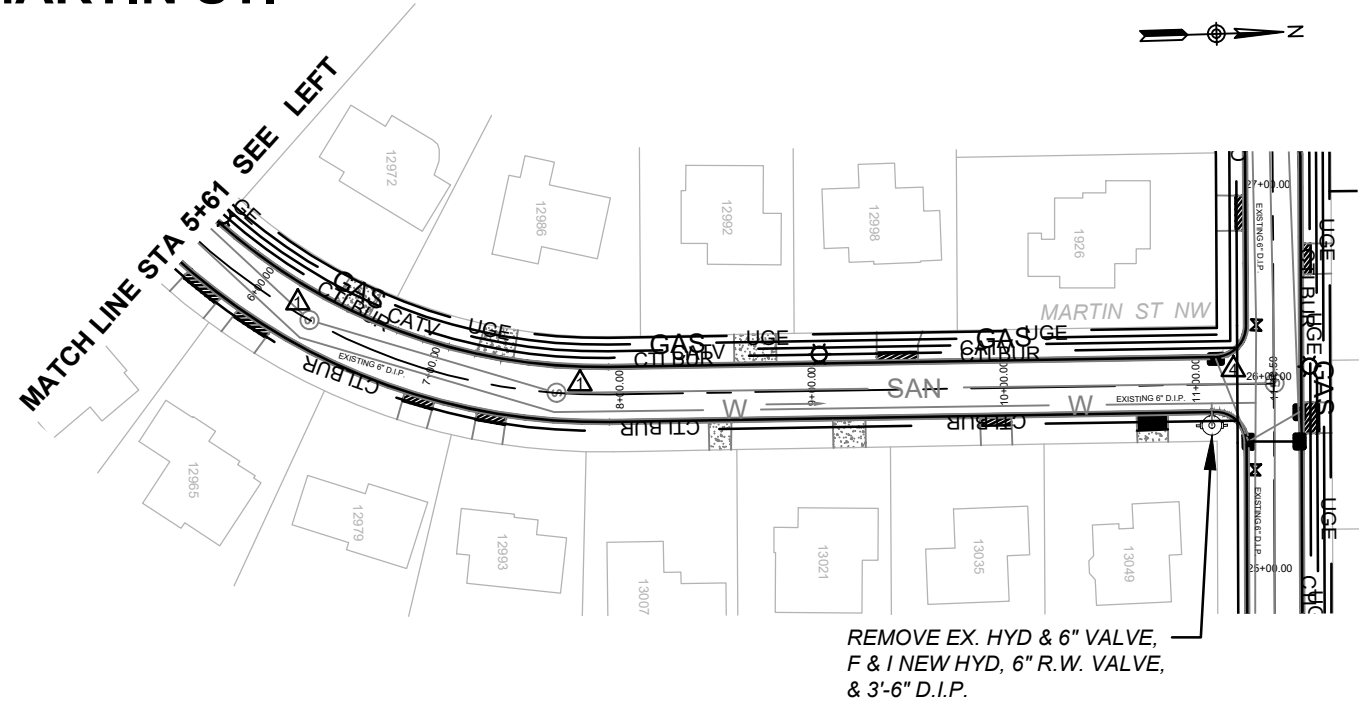
17
OF
23

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN.
55433-3761
763-755-2880
Fax 763-767-6491
www.coonrapidsmn.gov

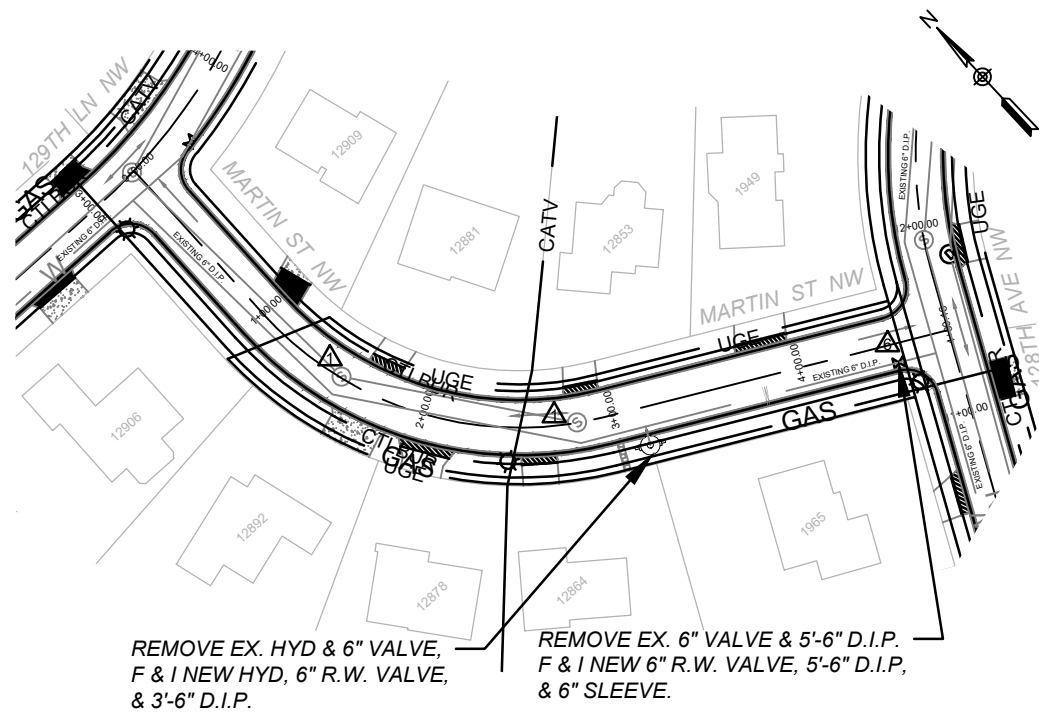
129TH LN.



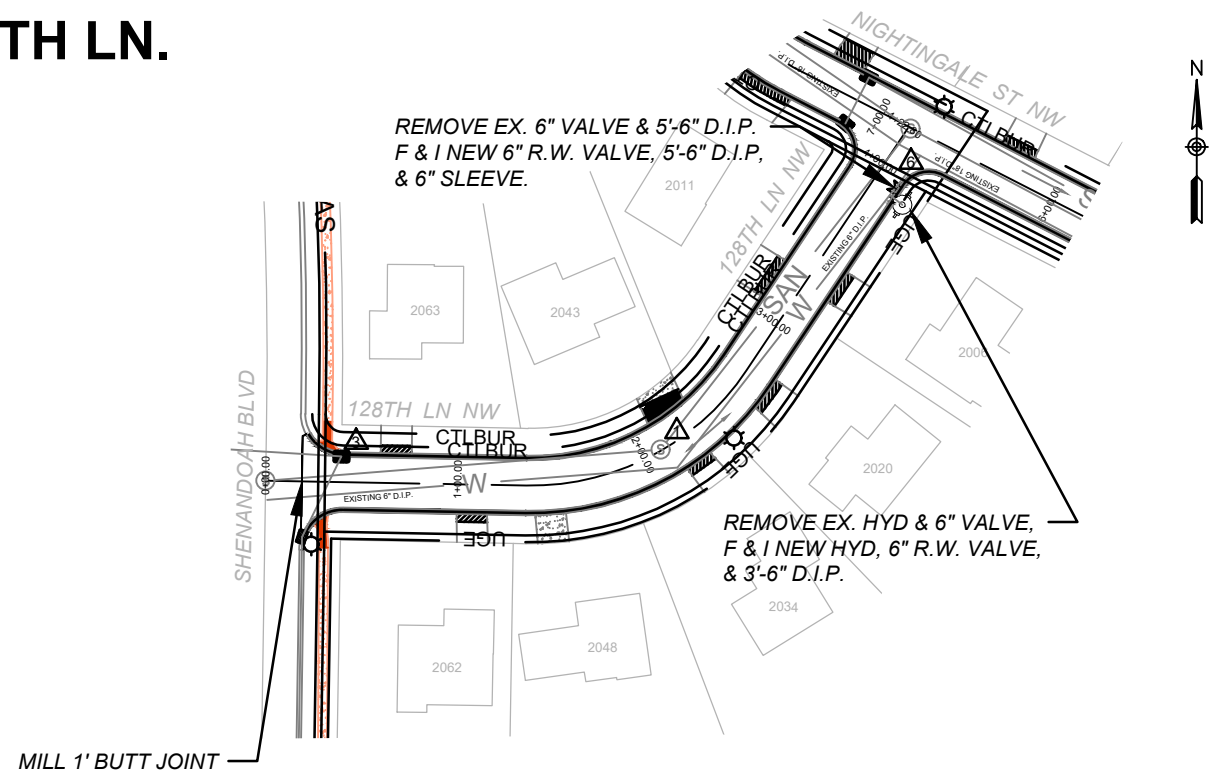
MARTIN ST.



MARTIN ST.



128TH LN.



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CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1
129TH LN. / MARTIN ST. / 128TH LN.

DESIGNED BY :		
DRAWING BY :		
DATE		3/5/2021
SCALE		
NO	DATE	DESCR.

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CITY PROJECT

21-1

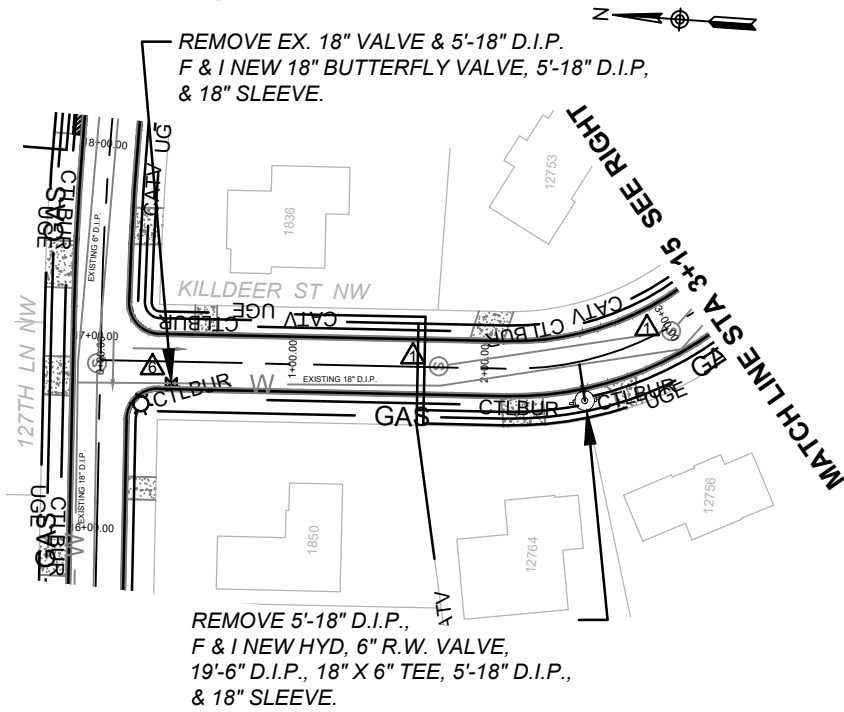
SHEET

18

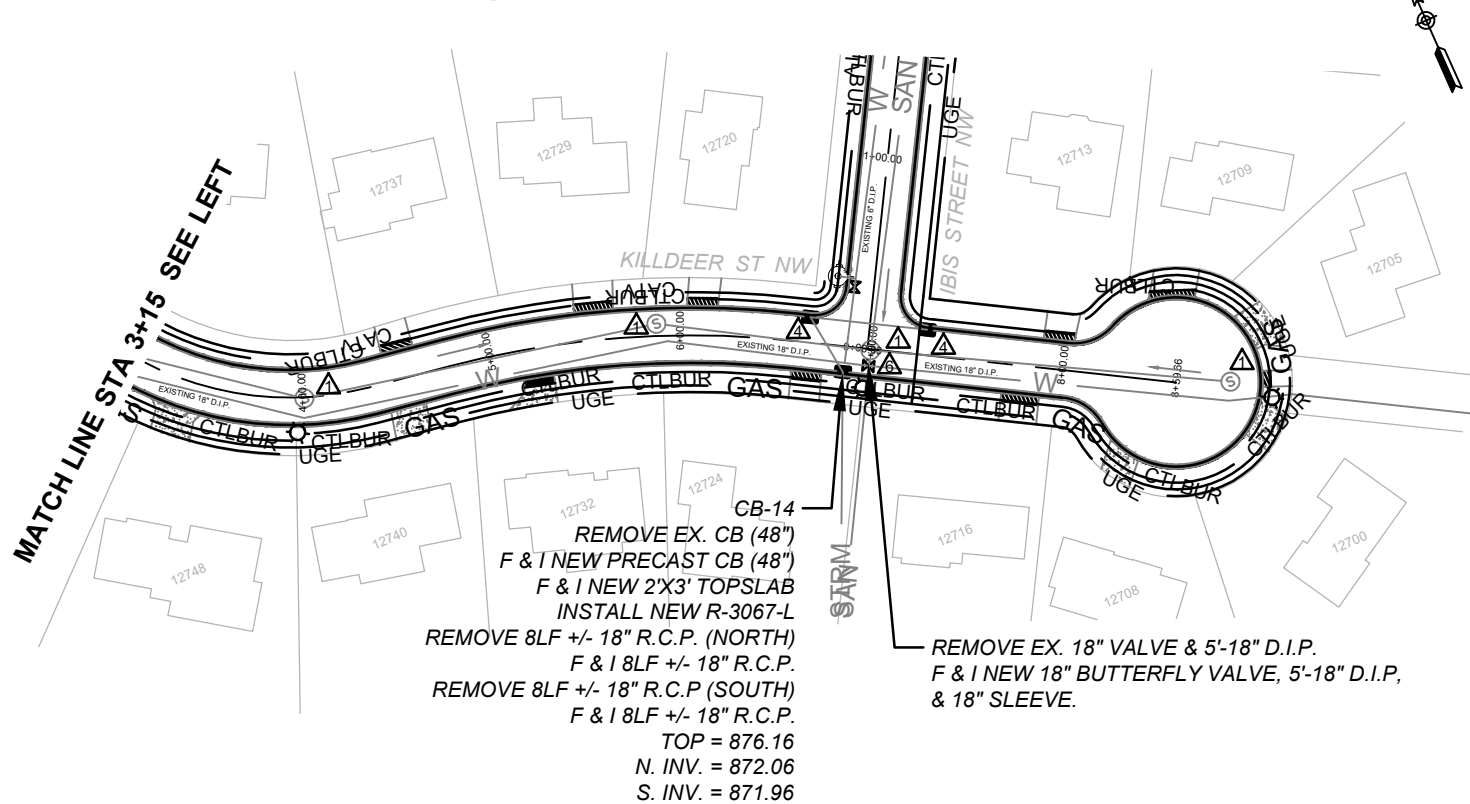
OF

23

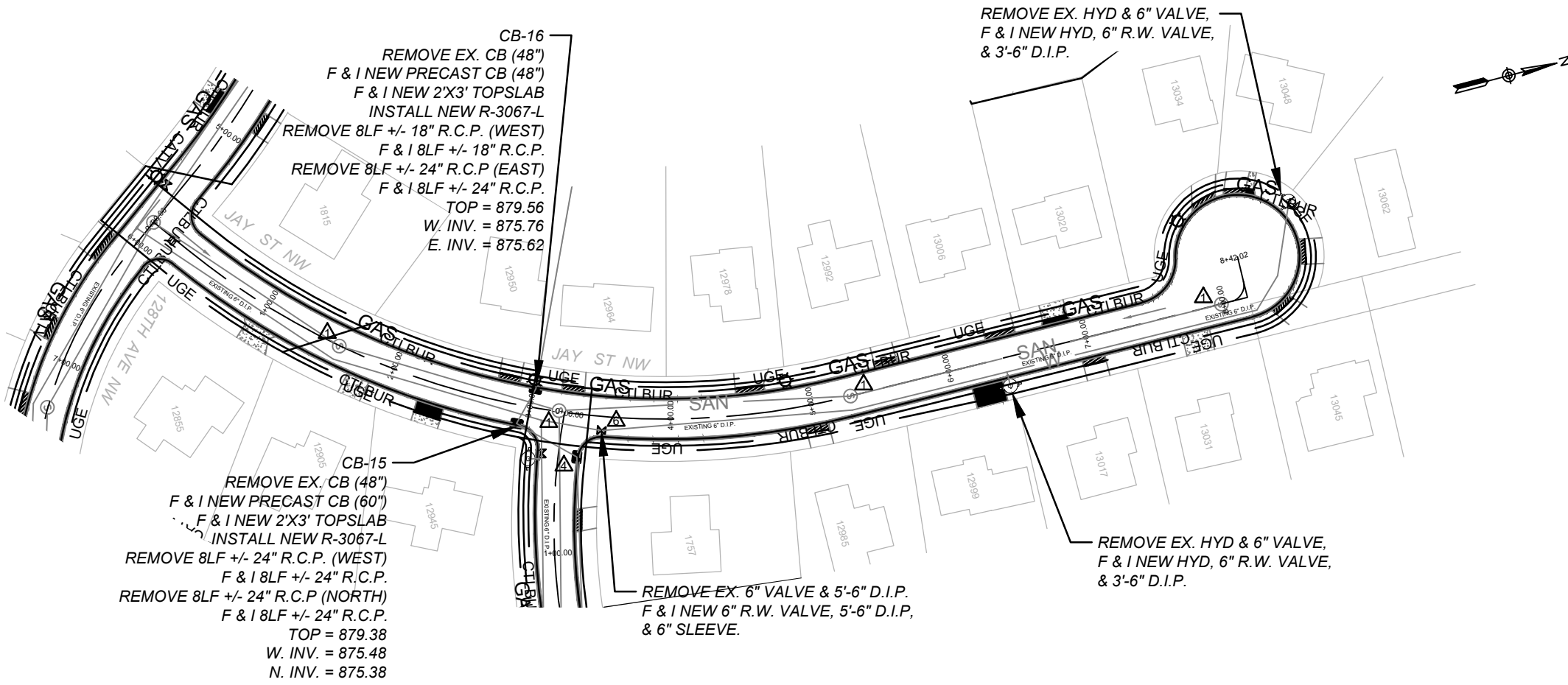
KILLDEER ST.



KILLDEER ST.



JAY ST.





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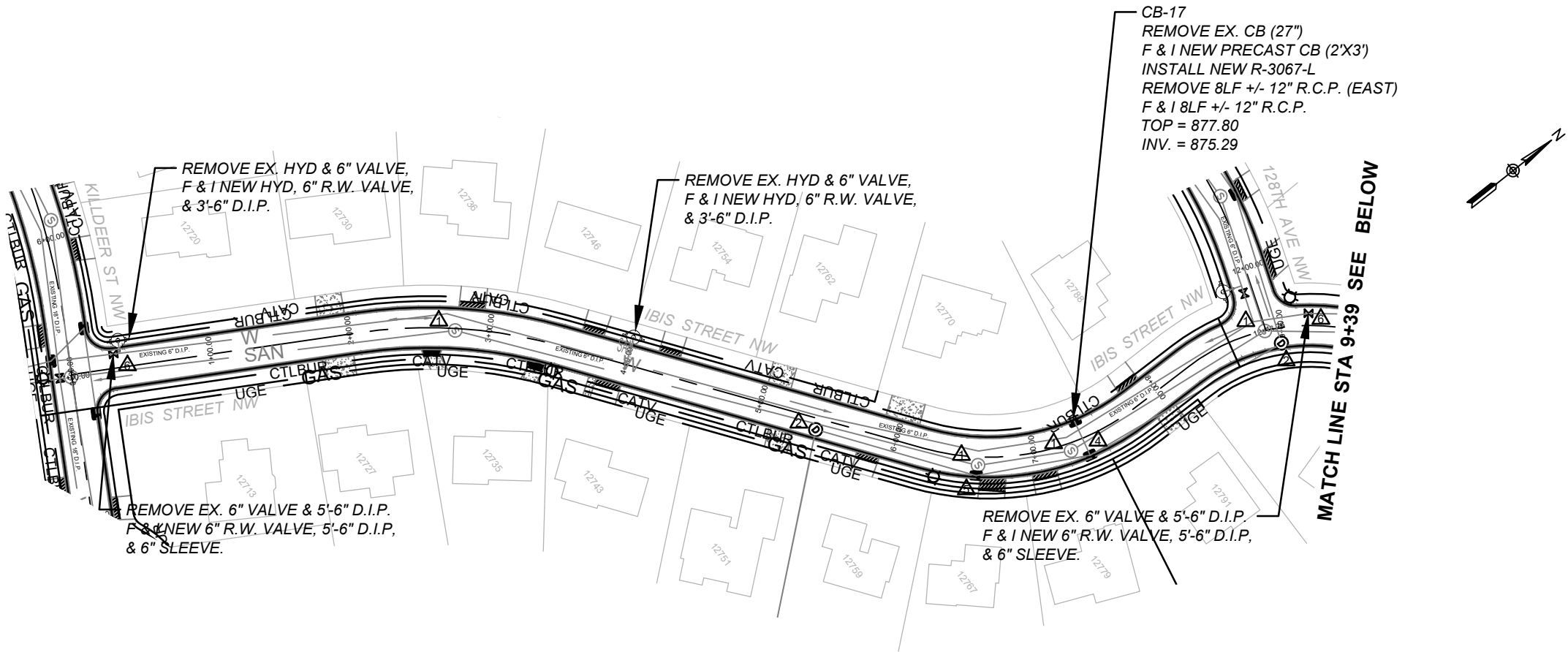
CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1
KILLDEER ST. / JAY ST.

DESIGNED BY :		
DRAWING BY :		
DATE 3/5/2021		
SCALE		
NO	DATE	DESCR.

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License # 43920
Signature : 

CITY PROJECT	
21-1	
SHEET	19 OF 23

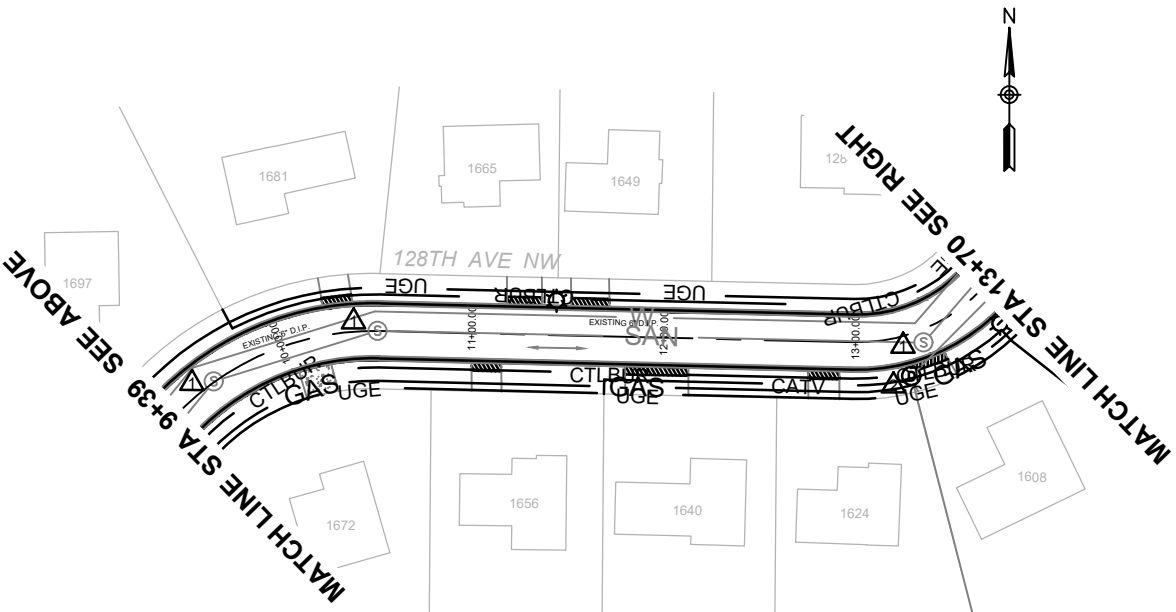
IBIS ST.



CB-17
REMOVE EX. CB (27")
F & I NEW PRECAST CB (2'X3')
INSTALL NEW R-3067-L
REMOVE 8LF +/- 12" R.C.P. (EAST)
F & I 8LF +/- 12" R.C.P.
TOP = 877.80
INV. = 875.29

MATCH LINE STA 9+39 SEE BELOW

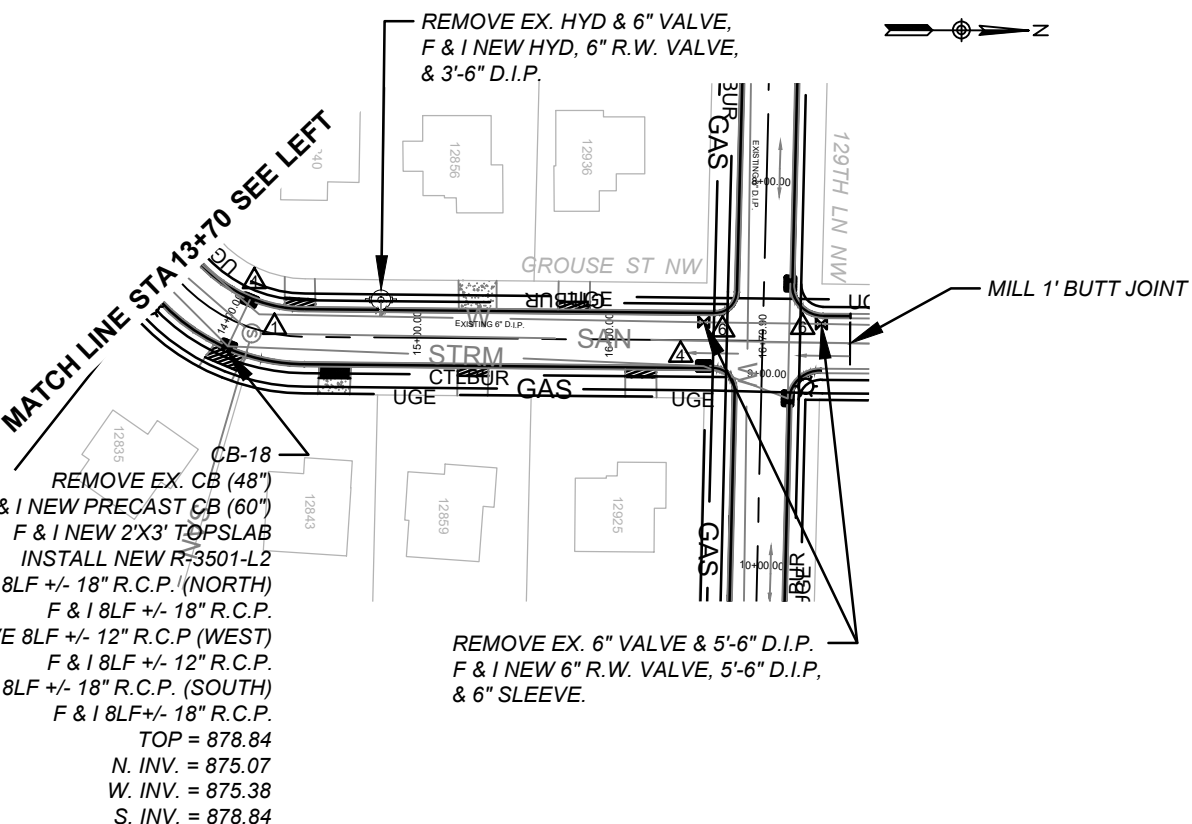
128TH AVE.



MATCH LINE STA 9+39 SEE ABOVE

MATCH LINE STA 13+70 SEE RIGHT

GROUSE ST.



MATCH LINE STA 13+70 SEE LEFT

MILL 1' BUTT JOINT



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CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1
IBIS ST. / 128TH AVE. / GROUSE ST.

DESIGNED BY :
DRAWING BY :
DATE 3/5/2021
SCALE
NO DATE DESCR.

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License # 43920
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CITY PROJECT

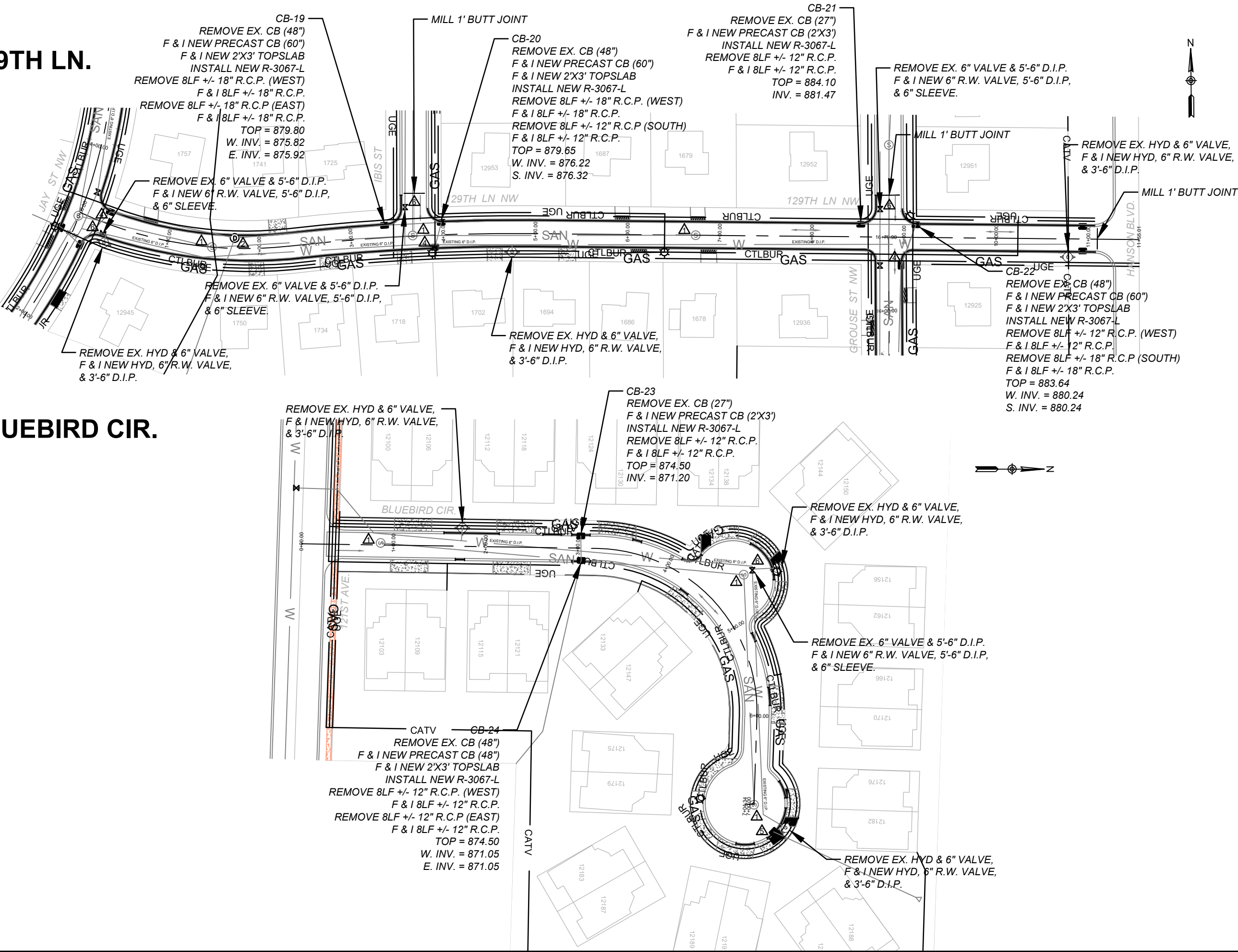
21-1

SHEET

20 OF 23

129TH LN.

BLUEBIRD CIR.





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CITY PROJECT 21-1
STREET & WATERMAIN
RECONSTRUCTION
AREA 1 & AREA 2
129TH LN. / BLUEBIRD CIR.

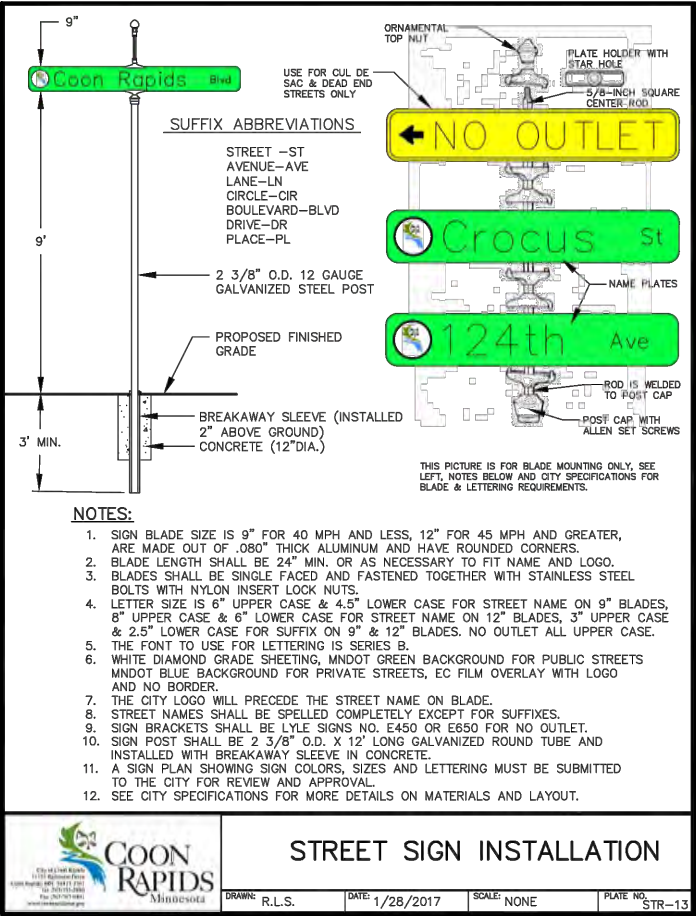
DESIGNED BY :		
DRAWING BY :		
DATE 3/5/2021		
SCALE		
NO	DATE	DESCR.
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CITY PROJECT	
21-1	
SHEET	
21	OF 23

K:\21-1\PLANS\21-1 SIGN PLAN.dwg

NOTE:

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



COON RAPIDS Minnesota

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CITY PROJECT 21-1

SIGN QUANTITIES & DETAILS

DESIGNED BY :	
DRAWING BY :	
DATE 3/4/2021	
SCALE	
NO	DATE
	DESCR.
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CITY PROJECT

21-1

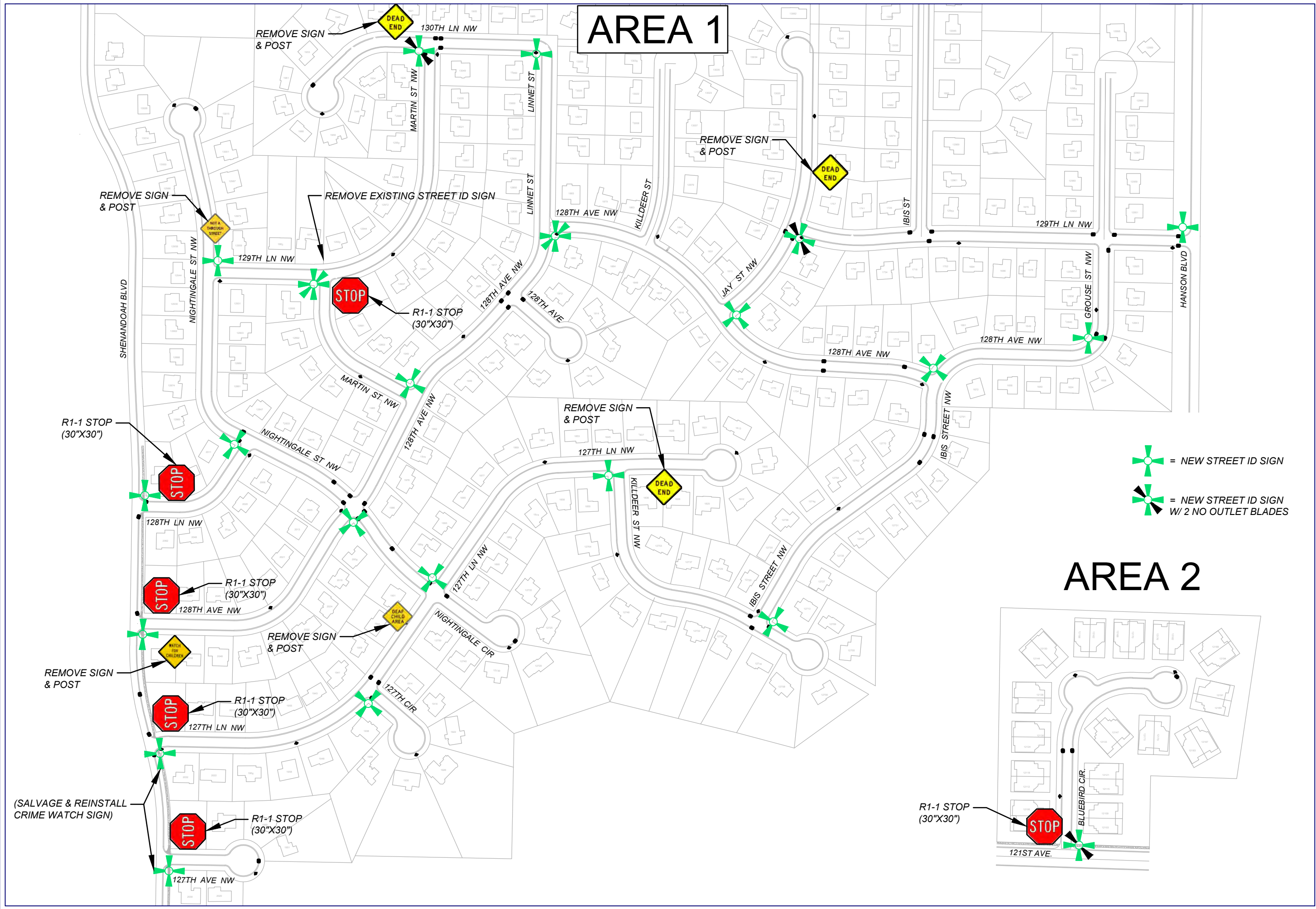
SHEET

22

OF

23

K:\21-1\PLANS\21-1 SIGN PLAN.dwg



 = NEW STREET ID SIGN
 = NEW STREET ID SIGN
W/ 2 NO OUTLET BLADES

CITY PROJECT 21-1
SIGN PLAN

DESIGNED BY :		
DRAWING BY :		
DATE		3/4/2021
SCALE		
NO	DATE	DESCR.

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Signature : 

CITY PROJECT
21-1

SHEET
23
OF
23