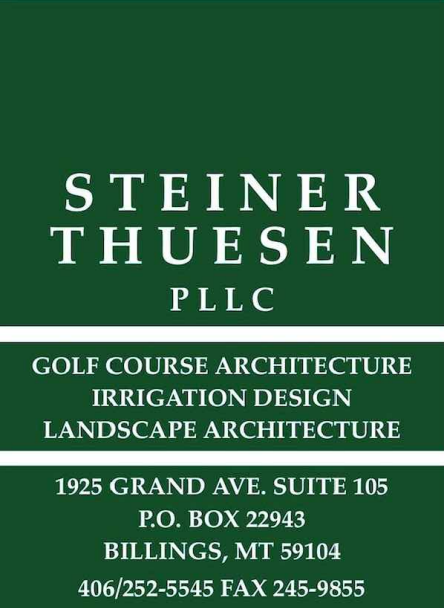


CONSTRUCTION PLANS FOR
SHERIDAN COUNTY
BROOKS STREET GREENSPACE
SHERIDAN, WYOMING
MARCH 2023

PREPARED BY:



engineers • surveysors • planners • scientists
1470 Sugarland Drive, Suite 1, Sheridan, WY 82801
307.672.9310 www.m-m.net



CONSTRUCTION PLANS
MARCH 2023

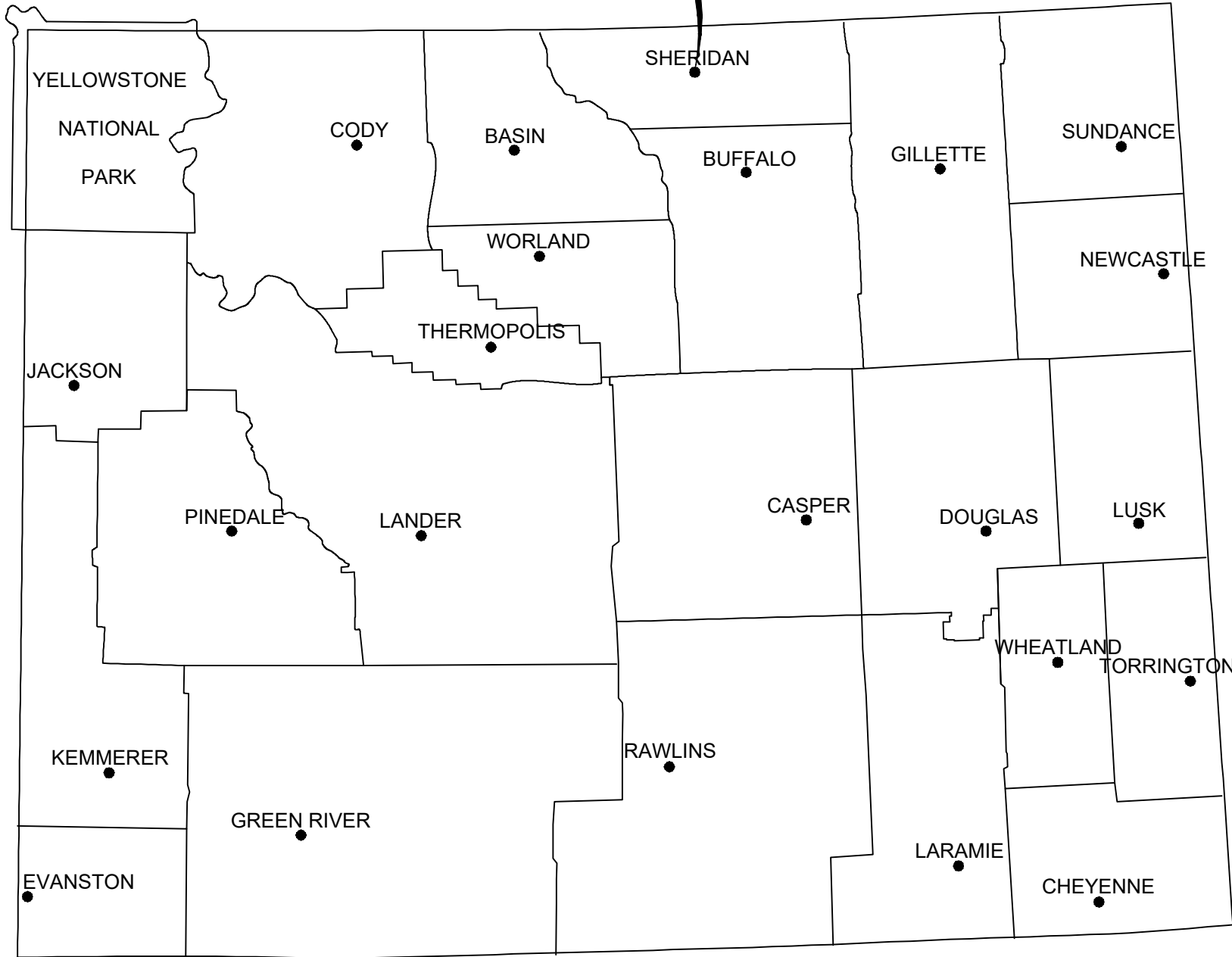
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PROJECT LOCATION



LOCATION MAP
NOT TO SCALE

PROJECT LOCATION



VICINITY MAP
NOT TO SCALE



Know what's below.
Call before you dig.

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AND BLUE WILL BE VISIBLE IF
REPRODUCED CORRECTLY.



APPROVED BY:

TIM BRUGGER, P.E.
PROJECT MANAGER



QUALITY ASSURANCE

TIM BRUGGER, P.E. PROJECT MANAGER	6/24/2022 Q.A. APPROVAL DATE
GERA FEIST OFFICE QUALITY ASSURANCE COORDINATOR	(001218) 22-20 Q.A. PROJECT NUMBER
JEFF FECK, P.E. PEER REVIEWER	

SET NO. _____

MORRISON-MAIERLE PROJECT NO. 6017.002

W:\8017 SHERIDAN COUNTY\8017.002 SHR CNTY - BROOKS ST GREENSPACE\AD\SHS\CVIL\002-02_GENERAL NOTES.DWG
W:\8017 SHERIDAN COUNTY\8017.002 SHR CNTY - BROOKS ST GREENSPACE\AD\SHS\CVIL\002-02_GENERAL NOTES.DWG

GENERAL NOTES

GENERAL:

1. ALL QUANTITIES ARE CONSIDERED APPROXIMATE.
2. THE CONTRACTOR SHALL INCLUDE ALL MATERIALS, TOOLS, EQUIPMENT, LABOR AND APPURTENANT ITEMS TO COMPLETE THE WORK WITHIN THE BID PRICE.
3. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY THE CITY OF SHERIDAN, EMERGENCY MEDICAL SERVICES, THE FIRE DEPARTMENT, LAW ENFORCEMENT, LOCAL MEDIA AND SCHOOLS TO ALL ROAD CLOSURES AND ALTERNATE ROUTES. IN ADDITION, THE CONTRACTOR SHALL ADVERTISE ANY PUBLIC ROAD CLOSURES AT LEAST 48 HOURS IN THE LOCAL NEWSPAPER PRIOR TO ANY CLOSURE.
5. LEGAL LOAD LIMIT REQUIREMENTS SHALL BE ENFORCED ON ALL STATE HIGHWAYS, CITY STREETS, AND COUNTY ROADS.
6. CONTRACTOR SHALL PROVIDE HIS OWN WATER FOR DUST CONTROL AND COMPACTION.
7. THE CONTRACTOR SHALL NOT USE WATER FROM FIRE HYDRANTS FOR ANY PURPOSE UNLESS PRIOR APPROVAL IS OBTAINED FROM SHERIDAN COUNTY AND THE CONTRACTOR PROVIDES AN APPROVED BACKFLOW PREVENTION DEVICE WITH WATER METER AND PROVISIONS FOR PAYMENT OF WATER USED.

RIGHT-OF-WAY SURVEY:

1. THE BASE MAPPING WAS DEVELOPED BY A FIELD SURVEY OF SURFACE FEATURES AND UTILITY LOCATES. CONTRACTOR SHALL MAKE ACTUAL FIELD INVESTIGATIONS TO ASSURE HIMSELF OF THE SITE CONDITIONS.

TRAFFIC CONTROL:

1. CONSTRUCTION SHALL NOT COMMENCE ON THE PROJECT UNTIL NECESSARY CONSTRUCTION WARNING SIGNS AND TRAFFIC CONTROL ARE IN PLACE AND APPROVED BY THE OWNER AND THE AUTHORITY HAVING JURISDICTION.
2. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR ANY ROAD CLOSURE, TO BE APPROVED BY THE OWNER AND THE AUTHORITY HAVING JURISDICTION. ALL TRAFFIC CONTROL SHALL COMPLY WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. TWO-WAY TRAFFIC SHALL BE MAINTAINED ON BURKITT AND WHITNEY AT ALL TIMES.

EXISTING UTILITIES:

1. UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE BASED ON FIELD LOCATES AND RECORDS OF SHERIDAN COUNTY AND/OR UTILITY COMPANIES. FIELD VERIFICATION OF BURIED GAS, ELECTRIC, TELEPHONE, WATER, SEWER AND CABLE TV LINES ARE BY ELECTRONIC OR MAGNETIC DETECTION METHODS. ALL UTILITY LOCATIONS ARE SUBJECT TO THE ACCURACY OF THE LOCATION METHOD, AND SUBJECT TO RELOCATION FROM THE TIME THAT THE DRAWINGS WERE PREPARED. NO EXCAVATION WAS PERFORMED.
2. NOT ALL UTILITIES ARE SHOWN IN THE STREET OR UTILITY PROFILE DRAWINGS.
3. CONTRACTOR SHALL CONTACT SHERIDAN COUNTY AND/OR UTILITY COMPANIES 48 HOURS PRIOR TO TRENCHING WITHIN 10 FEET OF ALL OVERHEAD POLES TO ALLOW FOR POLES TO BE SECURED.
4. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION, AND SHALL NOT BACKFILL UNTIL THE CONTRACTOR HAS MADE A RECORD OF ITS TYPE, SIZE AND LOCATION.

PROPOSED UTILITIES:

1. ONLY CITY OF SHERIDAN PERSONNEL SHALL OPERATE EXISTING WATERLINE VALVES.
2. CONTRACTOR SHALL RESPECT ALL RIGHT-OF-WAY AND EASEMENT BOUNDARIES SHOWN. ALL WORK SHALL BE DONE WITHIN THESE BOUNDARIES. ANY WORK OUTSIDE OF THE RIGHT-OF-WAY OR EASEMENT SHALL ONLY BE DONE AFTER RECEIVING WRITTEN PERMISSION OF THE LANDOWNER. THIS PERMISSION SHALL BE OBTAINED BY THE CONTRACTOR.
3. DEFLECTIONS OF PIPE AT THE JOINT SHALL NOT EXCEED MANUFACTURER'S REQUIREMENTS. NO MECHANICAL MEANS OF DEFLECTION SHALL BE ALLOWED, AND MANUFACTURER'S REQUIREMENTS ON DEFLECTION SHALL NOT BE EXCEEDED.
4. WHENEVER BURIED UTILITIES ARE EXPECTED TO BE ENCOUNTERED NEAR A NEW UTILITY INSTALLATION, THE CONTRACTOR SHALL EXCAVATE AHEAD TO DETERMINE THE DEPTH AND LOCATION OF THE UTILITY. SUFFICIENT CLEARANCE BETWEEN THE UTILITIES SHALL BE MAINTAINED.

SAFETY:

1. GENERAL: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND SHALL SHORE, SLOPE, OR BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM. ALL EXCAVATIONS SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS.
 2. EXCAVATION AND SLOPES: IN NO CASE SHALL SLOPE HEIGHT, SLOPE INCLINATION, OR EXCAVATION DEPTH, INCLUDING UTILITY TRENCH EXCAVATION DEPTH, EXCEED THOSE SPECIFIED IN LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. SPECIFICALLY, THE CURRENT OSHA HEALTH AND SAFETY STANDARDS FOR EXCAVATIONS, 29 CFR PART 1926, SHALL BE FOLLOWED. IT IS THE ENGINEER'S UNDERSTANDING THAT THESE REGULATIONS ARE BEING STRICTLY ENFORCED AND IF THEY ARE NOT CLOSELY FOLLOWED, THE CONTRACTOR COULD BE LIABLE FOR SUBSTANTIAL PENALTIES.
 3. CONSTRUCTION SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL ALSO BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS.
- UNDER NO CIRCUMSTANCES SHALL THE INFORMATION PROVIDED BE INTERPRETED TO MEAN THAT THE ENGINEER IS ASSUMING RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY OR THE CONTRACTOR'S ACTIVITIES. SUCH RESPONSIBILITY IS NOT BEING IMPLIED AND SHALL NOT BE INFERRED.

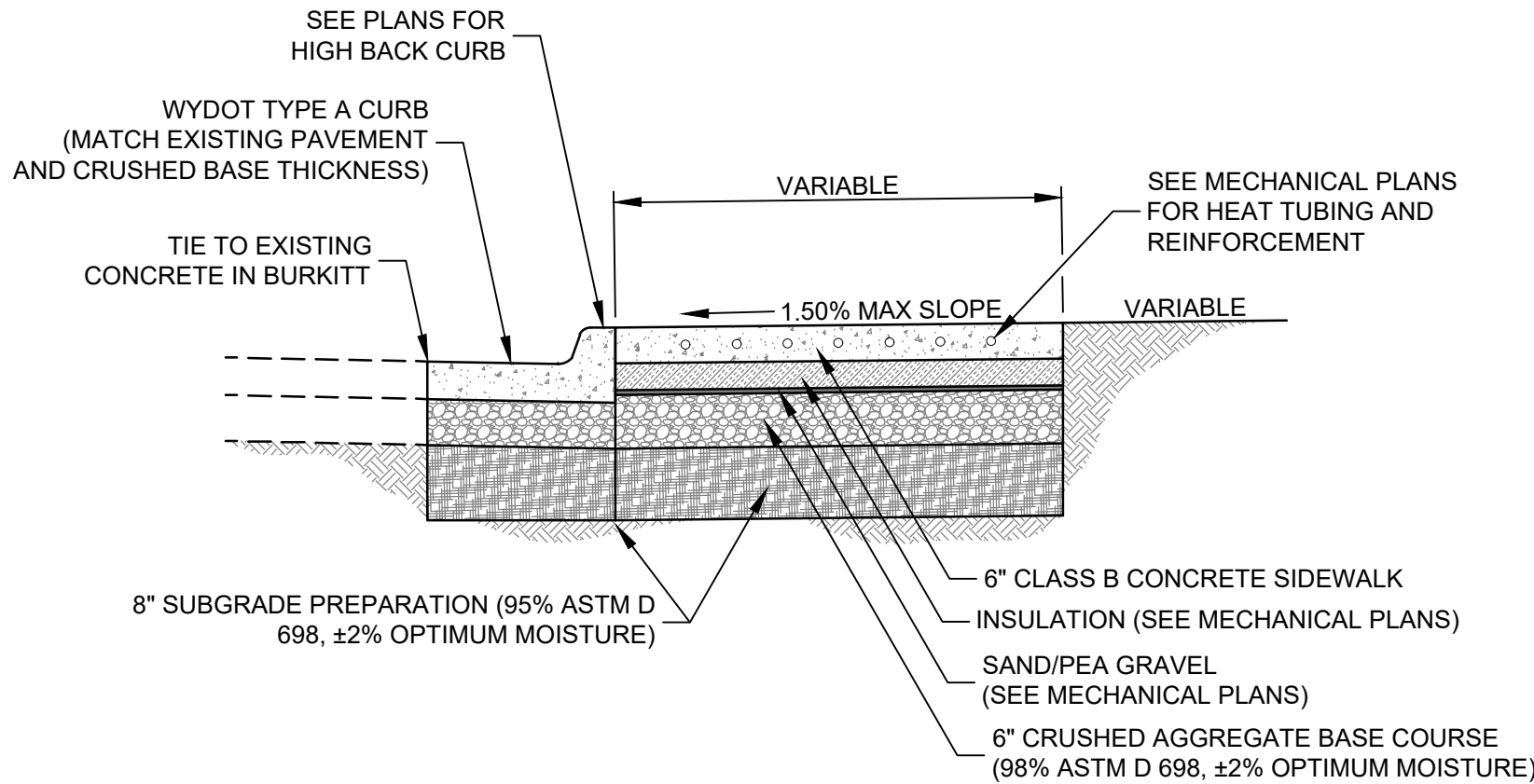
STREETS:

1. CONTRACTOR SHALL NOT DISTURB EXISTING CURB AND GUTTER UNLESS DIRECTED BY THE ENGINEER OR SHOWN ON THE PLANS. ANY DAMAGE TO THE EXISTING CURB AND GUTTER SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

RESTORATION:

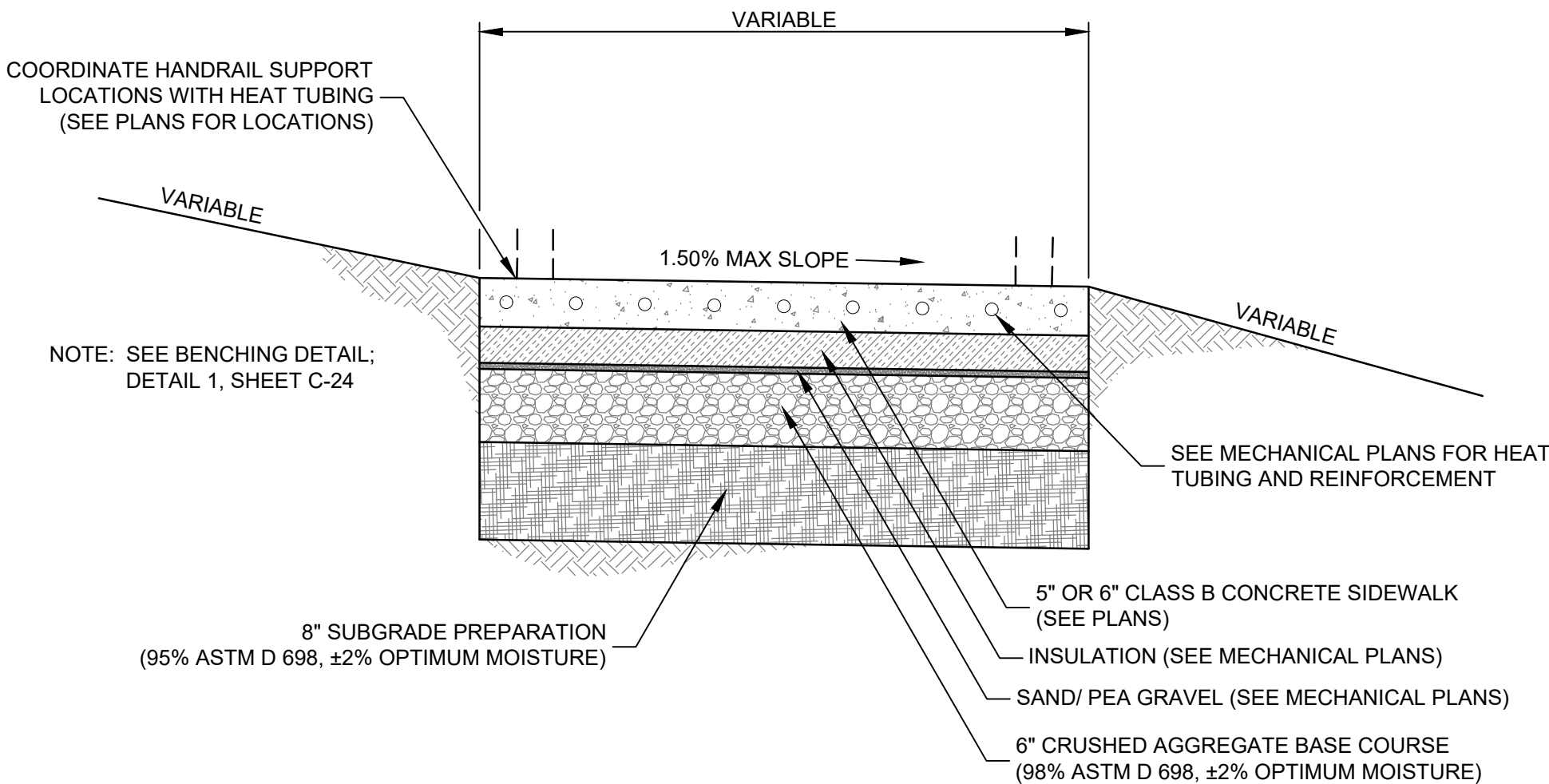
1. ALL AREAS OF DISTURBANCE SHALL BE RECLAIMED TO A CONDITION THAT IS EQUAL TO OR BETTER THAN THE ORIGINAL. TOPSOIL SHALL BE STRIPPED AND LEGALLY DISPOSED OF OFF-SITE.
2. STAGING AREA TO BE LOCATED ON WHITNEY STREET, IN THE COUNTY'S DESIGNATED AREA. STAGING AREA TO BE BLOCKED OFF FROM PUBLIC ACCESS AND KEPT CLEAN THROUGHOUT CONSTRUCTION.
3. ALL CONCRETE, STAIRWAYS, RAMPS, AND SITE FEATURES SHALL COMPLY WITH ALL PROVISIONS OF THE CURRENT AMERICANS WITH DISABILITIES ACT (ADA) AND US ACCESS BOARD GUIDELINES AS SET FORTH IN THE ADAAG, PROWAG AND OUTDOOR DEVELOPED AREAS GUIDE.
4. COORDINATE SITE FEATURE LOCATIONS TO BE SET IN CONCRETE WITH HEAT TUBING (SEE MECHANICAL PLANS).
5. IMPORTED SUITABLE FILL MATERIAL SHALL BE FROM CONTRACTOR FURNISHED SOURCE.
6. REFER TO SPECIAL PROVISIONS FOR COMPACTION TESTING FREQUENCIES.
7. FINAL SEGMENTAL RETAINING WALL SYSTEM TO BE DESIGNED BY A CONTRACTOR PROVIDED PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF WYOMING. SEE PLAN NOTES AND PROJECT MANUAL SECTION 02835 - SEGMENTAL RETAINING WALL SYSTEM FOR WALL DESIGN PROVISIONS AND REQUIREMENTS.

PROJECT NOTES



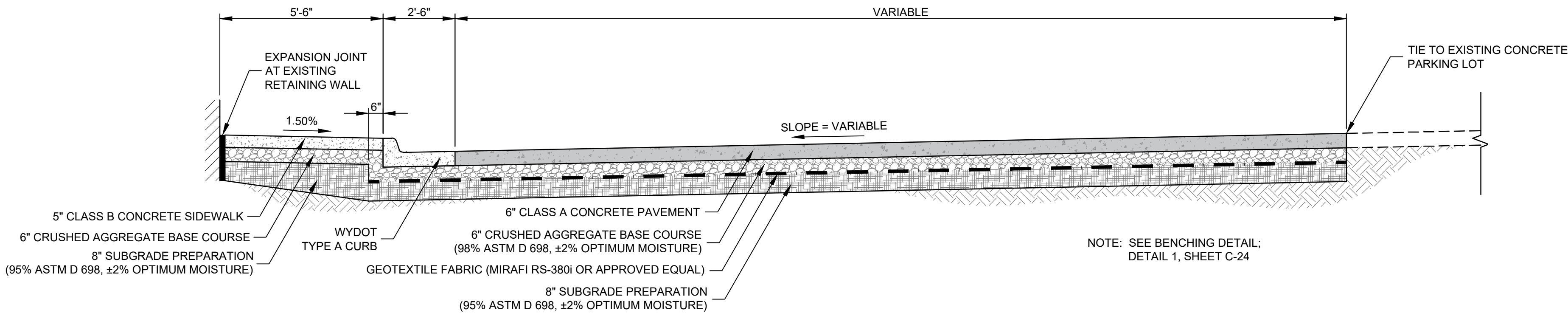
1 BURKITT SIDEWALK DETAIL

SCALE: N.T.S.



2 PROPOSED TYPICAL SECTION CONCRETE SIDEWALK

SCALE: N.T.S.



3 PARKING LOT CROSS SECTION

SCALE: N.T.S.

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C-2	SITE LAYOUT PLAN
C-3	SITE LAYOUT PLAN - CONCRETE JOINTING PLAN
C-4	SITE GRADING AND DRAINAGE PLAN - NORTH
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C-7	RETAINING WALL DETAILS
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CONSTRUCTION PLANS
MARCH 2023

<div>VERIFY SCALE!</div> <div>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</div> <div>MODIFY SCALE ACCORDINGLY!</div> <div>PLOTTED BY:TIM BRUGGER ON Mar/01/2023</div>	REVISIONS				<div><div><div></div><div></div><div></div></div><div>Morrison Maierle</div><div>engineers • surveyors • planners • scientists</div><div>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801</div><div>307.672.9310 • www.m-m.net</div><div>COPYRIGHT © MORRISON-MAIERLE, 2023</div></div> <div><div>Professional Engineer (Civil)</div><div>Timothy S. Brugger</div><div>Date: 3/1/2023</div><div>WYOMING</div></div>	DRAWN BY: KRL	<div>SHERIDAN</div> <div>SHERIDAN COUNTY BROOKS STREET GREENSPACE</div> <div>WYOMING</div> <div>GENERAL NOTES, TYPICAL SECTIONS, AND SHEET INDEX</div>	PROJECT NUMBER 6017.002
	NO.	DESCRIPTION	BY	DATE		DSGN. BY: TSB		SHEET NUMBER 2
						APPR. BY: TSB		
						DATE: 3/1/2023		
						Q.C. REVIEW BY: JMF		
						DATE: 6/24/2022		DRAWING NUMBER G-1



PROJECT NOTES

- CONTRACTOR SHALL STRIP ALL CONSTRUCTION AREAS OF TOPSOIL AND LEGALLY DISPOSE OF OFF OWNER'S PROPERTY.
- WASTE MATERIAL INCLUDING UNSUITABLE SOILS, TRASH, REMOVED LANDSCAPE MATERIAL AND DEBRIS SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF OWNER'S PROPERTY.
- SAWCUT ALL EXISTING CURBS, SIDEWALKS, AND PAVEMENTS ADJACENT TO DEMOLITION LIMITS TO PREVENT DAMAGE TO SURFACES EXPECTED TO REMAIN.
- PROTECT EXISTING TREES, WALLS, CONCRETE AND OTHER ITEMS ADJACENT TO THE SITE NOT INDICATED TO BE REMOVED. DO NOT DRIVE EQUIPMENT ON PARKING LOT ACCESS ROAD.
- PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
- PROTECT EXISTING SIGNS NOT CALLED OUT FOR REMOVAL.
- EXISTING BURKITT APPROACH IS HEATED, PROTECT EXISTING HEAT TUBING DURING CONCRETE REMOVAL.

LEGEND

- EXISTING ASPHALT PAVEMENT TO BE REMOVED
- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- EXISTING CONCRETE SIDEWALK, CURB AND GUTTER, ETC. TO BE REMOVED
- EXISTING TOPSOIL/LANDSCAPING TO BE REMOVED
- EXISTING RETAINING WALL TO BE REMOVED

SITE DEMOLITION KEY NOTES

- PROTECT EXISTING RETAINING WALL TO REMAIN.
- PROVIDE ADA ACCESSIBLE AND PROTECTED PEDESTRIAN ACCESS AFTER EXISTING SURFACING IS REMOVED AND THROUGHOUT CONSTRUCTION. PROVIDE ALL-WEATHER TEMPORARY SURFACING, WHICH IS INCIDENTAL TO THE TEMPORARY TRAFFIC CONTROL BID ITEM.
- REMOVE EXISTING INLETS AND BACKFILL WITH FLOWABLE FILL.
- PROTECT AND SUPPORT EXISTING RETAINING WALL DURING SIDEWALK REMOVAL AND THROUGHOUT CONSTRUCTION.
- COORDINATE UTILITY VAULT ADJUSTMENT WITH UTILITY OWNER.
- MAINTAIN ACCESS THROUGHOUT CONSTRUCTION.
- EXISTING RETAINING WALL TO BE REMOVED; PROTECT EXISTING PARKING LOT AND FILL BEHIND WALL DURING CONSTRUCTION.
- PROTECT COURTHOUSE FROM DAMAGE THROUGHOUT CONSTRUCTION (E.G. - DURING CONCRETE SIDEWALK REMOVAL AND CONNECTION INTO BUILDING FOR ELECTRICAL/MECHANICAL WORK, LANDSCAPING, ETC).
- PROTECT EXISTING STRUCTURAL CONCRETE T-SECTIONS BELOW WATERPROOF MEMBRANE DURING REMOVAL OF EXISTING 4" CONCRETE TOPPING.
- COORDINATE REMOVAL OF EXISTING MDU POLE WITH UTILITY COMPANY; REMOVE AND RESET EXISTING STOP SIGN.
- EXISTING LIGHT POLE AND ELECTRICAL BOX TO REMAIN.
- REMOVE EXISTING STREET SIGNS AND RESET SIGNS ON NEW LIGHT POLE (SEE ELECTRICAL SHEETS).
- COORDINATE CLEARING AND GRUBBING ON TOP OF THE EXISTING RETAINING WALL WITH ENGINEER PRIOR TO GRADING OPERATIONS.

CONSTRUCTION PLANS
MARCH 2023

REVISIONS				
NO.	DESCRIPTION	BY	DATE	

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LINE BELOW MEASURES ONE INCH
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PLOTTED BY:TIM BRUGGER ON Mar01/2023

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Professional Engineer (Civil)
Timothy S. Brugger
No. 12580
Date 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY BROOKS STREET GREENSPACE		
SHERIDAN		WYOMING
SITE DEMOLITION PLAN		

PROJECT NUMBER 6017.002
SHEET NUMBER 3
DRAWING NUMBER C-1

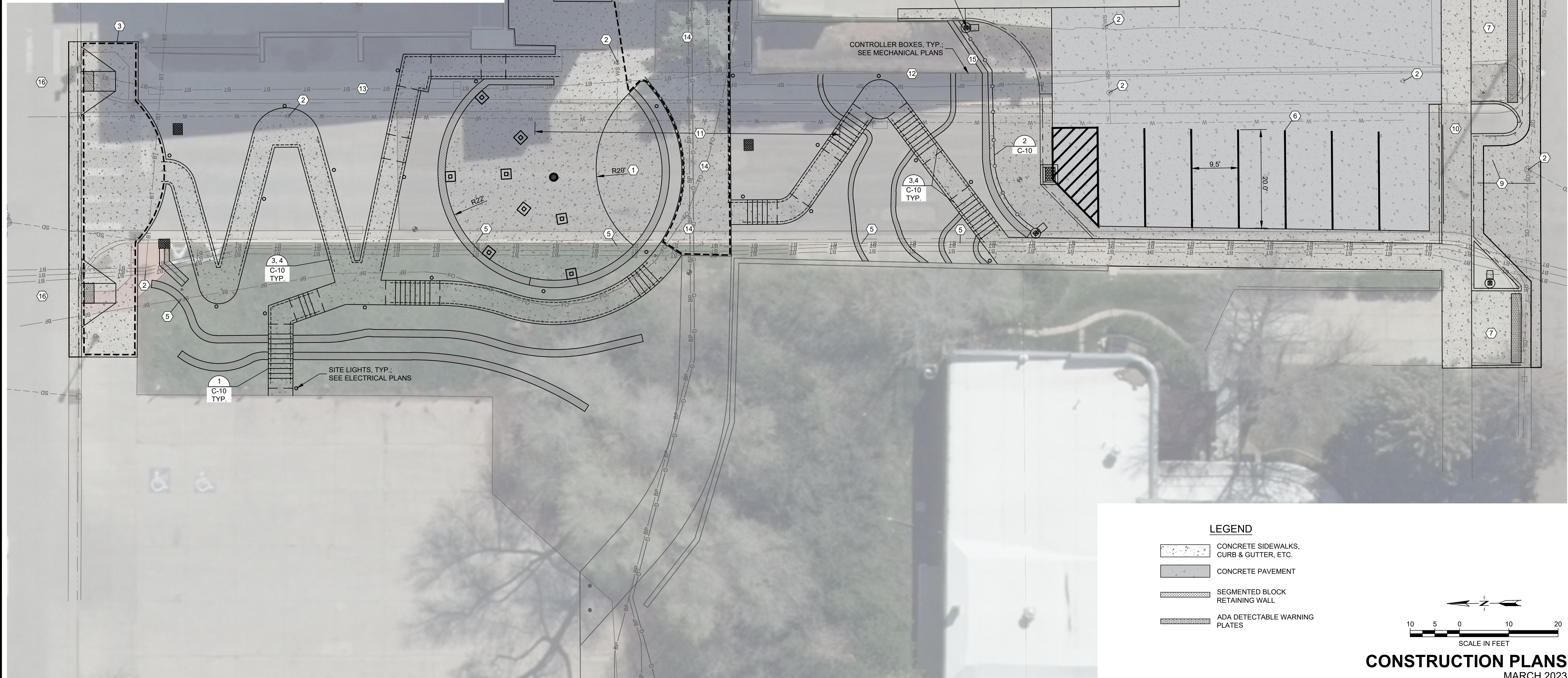
GENERAL NOTES

1. CONCRETE THICKNESS IS 5" UNLESS CALLED OUT OTHERWISE
2. ALL PAVEMENT MARKINGS SHALL BE 4" WIDE YELLOW PAINT UNLESS OTHERWISE SPECIFIED AND SHALL CONFORM TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. ADA RAMP DETECTABLE WARNING PLATES TO EXTEND THE FULL WIDTH OF THE RAMP.
4. COORDINATE SLEEVE LOCATIONS FOR OTHER DISCIPLINES PRIOR TO RETAINING WALL AND CONCRETE INSTALLATION.
5. COORDINATE HANDRAIL LOCATIONS WITH OTHER DISCIPLINES.
6. FOR ADA RAMP, REFER TO WYDOT STANDARD PLANS 608-1B & 609-1B, SHEETS C-11 TO C-21.
7. TYPICAL PAVEMENT WIDTH IS 5' UNLESS OTHERWISE SPECIFIED. SITTING AREA AND ADJACENT CONCRETE TO THE EAST AND SOUTH IS VARIABLE.
8. TYPICAL STAIRWAY RISER IS 6" AND TREAD IS 12"; SEE STAIRWAY DETAIL 1, SHEET C-10.
9. MAINTAIN 5' CLEAR AREA AT ALL LANDINGS (BETWEEN HANDRAIL).
10. REFER TO PROJECT MANUAL SECTION 02835 - SEGMENTAL RETAINING WALL SYSTEM FOR RETAINING WALL DESIGN PROVISIONS AND REQUIREMENTS.

SITE LAYOUT KEY NOTES

- ① 6" RAISED PLATFORM
- ② ADJUST EXISTING UTILITY FEATURE
- ③ 6" CONCRETE
- ④ CONCRETE THICKNESS OVER EXISTING STRUCTURAL T-SECTIONS IS 4". PRIOR TO PLACING NEW CONCRETE, CONFIRM WATERPROOF MEMBRANE IS IN GOOD CONDITION. PATCH/REPAIR IF DAMAGED DURING DEMOLITION. PROVIDE INSULATION FOR CONCRETE AT STRUCTURAL T-SECTIONS (INCIDENTAL TO HEATED CONCRETE SYSTEM BID ITEM).
- ⑤ PROTECT AND SUPPORT EXISTING LUMEN COMMUNICATION LINES AND COUNTY'S EXISTING FIBER OPTIC LINE DURING CONSTRUCTION
- ⑥ PARKING LOT STRIPING: 4" WIDE YELLOW LINES IN CONFIGURATION INDICATED.
- ⑦ SEE CITY OF SHERIDAN STANDARD DETAIL 03030-3.01D "COMMERCIAL AND ALLEY APPROACH DETAIL", SHEET C-23 (8" CONCRETE, 6" CRUSHED BASE, & 8" SUBGRADE PREP); DRIVEWAY SLOPE TO CONFORM TO PERPENDICULAR CURB RAMP REQUIREMENTS SHOWN ON DETAIL 608-1B, SHEET C-13.
- ⑧ WYDOT TYPE A CURB (TYP).
- ⑨ TRANSITION FROM "WYDOT TYPE A CURB" TO "WYDOT TYPE A CURB SPILLOUT" IN PARKING SPOT (SEE GRADING AND DRAINAGE SHEETS). MATCH CONCRETE/CRUSHED BASE THICKNESS CALLED OUT ON WHITNEY APPROACHES.

- (10) 6' SIDEWALK WIDTH THROUGH WHITNEY STREET.
- (11) INSTALL INSULATION BOARD OVER EXISTING WATERLINE, COORDINATE INSTALLATION WITH OTHER DISCIPLINES.
- (12) MAINTAIN EXISTING RETAINING WALL WEEP HOLE DRAINAGE TO MEET NEW GRADING/WALL LAYOUT; INCIDENTAL TO THE GRADING AND RETAINING WALL BID ITEMS.
- (13) COORDINATE WITH RANGE COMMUNICATIONS ON RELOCATING EXISTING COMMUNICATION LINE; COORDINATE NEW TRENCH LOCATION WITH OTHER DISCIPLINES; INCIDENTAL TO UTILITY LOCATING.
- (14) COORDINATE NEW UTILITIES WITH EXISTING COUNTY UTILITY TRENCH.
- (15) INTEGRATE NEW RETAINING WALL AT EXISTING RETAINING WALL.
- (16) INSTALL PREFORMED PAVEMENT STRIPING TO MEET NEW RAMPS.



<p><u>VERIFY SCALE</u></p> <p>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>—————</p> <p>MODIFY SCALE ACCORDINGLY!</p>	<p>REVISONS</p>			
	NO.	DESCRIPTION	BY	DATE

PLOTTED BY:TIM BRUGGER ON Mar/01/2023



**Morrison
Maierle**

engineers • surveyors • planners • scientists

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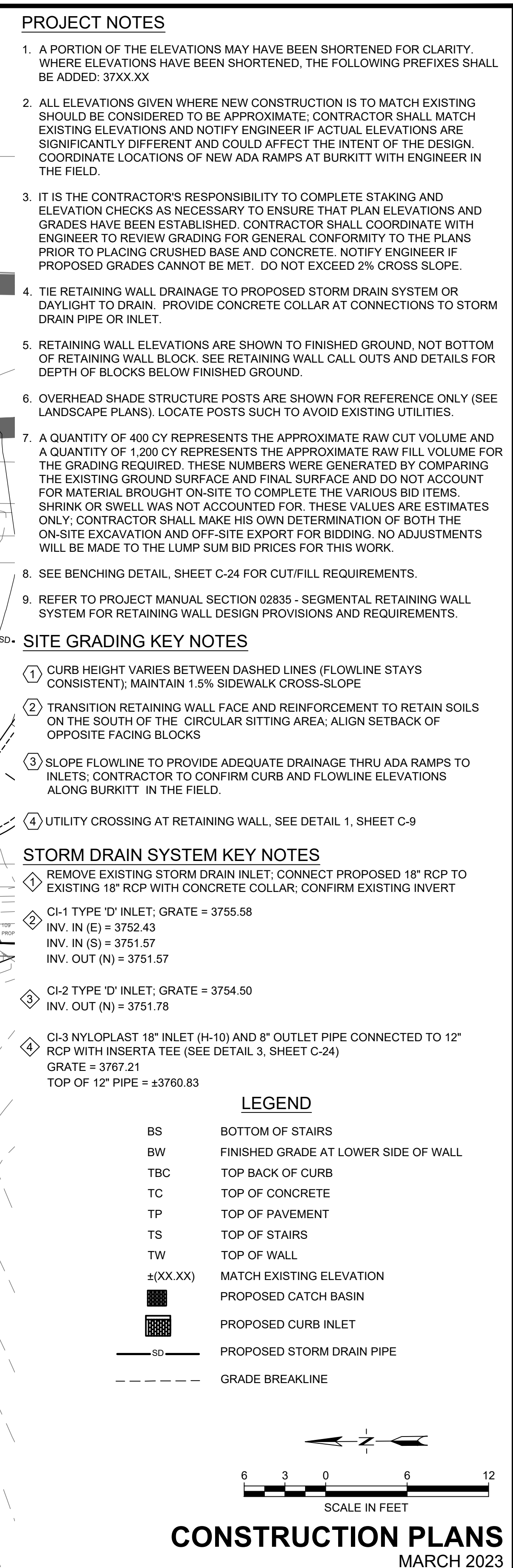
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BY: JMF
DATE: 6/24/2022

SHERIDAN	SHERIDAN COUNTY BROOKS STREET GREENSPACE	WYOMING	PROJECT NUMBER 6017.002
			SHEET NUMBER 4
SITE LAYOUT PLAN			DRAWING NUMBER C-2

1. PREFORMED EXPANSION JOINT FILLER SHALL BE INSTALLED FOR THE FULL THICKNESS OF THE SIDEWALK AND SHALL BE USED AT ALL JOINTS BETWEEN EXISTING CONCRETE, BUILDINGS, EXISTING RETAINING WALLS LEFT IN PLACE BACK OF CURB, INLETS, MANHOLES AND OPPOSITE TO EXISTING EXPANSION JOINTS, AND AT LOCATIONS SHOWN ON PLANS. CONTRACTION JOINTS SHALL BE SPACED AT INTERVALS NOT EXCEEDING WIDTH OF SIDEWALK PLACED.
2. PLACE EXPANSION JOINT WITH SEALANT AT PROPOSED SITE FEATURES AS REQUIRED (INCIDENTAL TO OTHER BID ITEMS).
3. SEE DETAIL 4, SHEET C-24 AND "CURB AND GUTTER JOINT DETAILS", SHEET C-20 FOR JOINT TYPES.
4. CONTRACTOR TO PROVIDE FINAL JOINTING LAYOUT ONE WEEK PRIOR TO PLACING CONCRETE.
5. HEATED CONCRETE HAS MESH TO SUPPORT THE HEAT TUBING, SEE MECHANICAL PLANS; MESH REINFORCEMENT IS INCIDENTAL TO THE HEATED CONCRETE SYSTEM.
6. COORDINATE JOINTING WITH HEATING ZONES, SEE MECHANICAL PLANS.

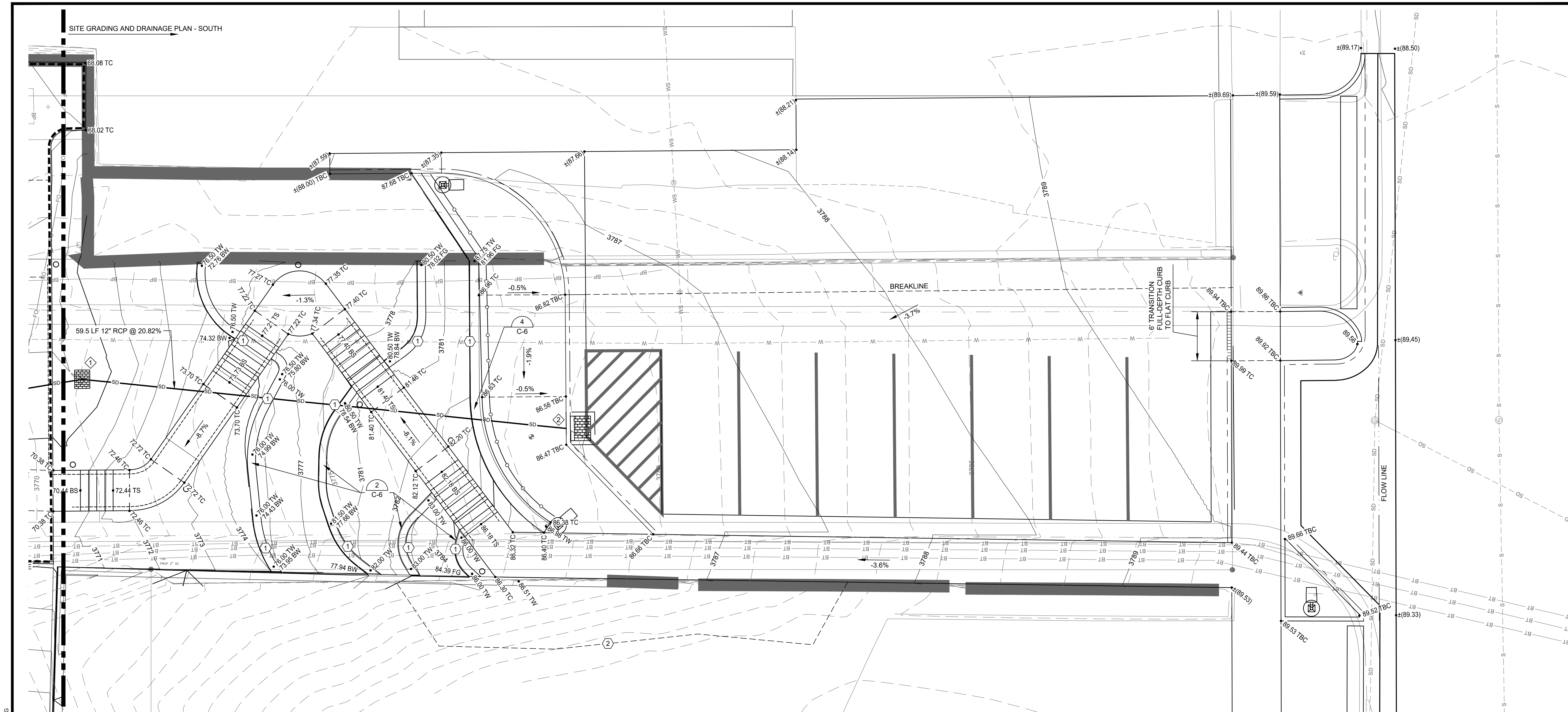


PROJECT NUMBER 6017.002
SHEET NUMBER 5
DRAWING NUMBER C-3



<div>VERIFY SCALE!</div> <div>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</div> <div><div></div></div> <div>MODIFY SCALE ACCORDINGLY!</div>	REVISIONS				<div><div><div></div><div></div><div></div></div><div>Morrison Maierle</div><div>engineers • surveyors • planners • scientists</div><div><div><div></div><div></div></div>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801</div><div><div><div></div><div></div></div>307.672.9310 • www.m-m-n.net</div><div><div></div><div></div></div>COPYRIGHT © MORRISON-MAIERLE, 2023</div> <div><div><div>Professional Engineer</div><div>Timothy S. Brugger</div><div>3589</div><div><div><div></div><div></div></div>Tim S. Brugger</div><div>Date 3/1/2023</div><div>WYOMING</div></div></div> <div><div>DRAWN BY: <u>KRL</u></div><div>DSGN. BY: <u>TEM</u></div><div>APPR. BY: <u>TSB</u></div><div>DATE: <u>3/1/2023</u></div><div><div>Q.C. REVIEW</div><div>BY: <u>JMF</u></div><div>DATE: <u>6/24/2022</u></div></div></div> <div><div>SHERIDAN COUNTY</div><div>BROOKS STREET GREENSPACE</div><div>WYOMING</div><div>SHERIDAN</div><div>SITE GRADING AND DRAINAGE PLAN - NORTH</div></div> <div><div>PROJECT NUMBER 6017.002</div><div>SHEET NUMBER 6</div><div>DRAWING NUMBER C-4</div></div>	
	NO.	DESCRIPTION	BY	DATE		

PLOTTED BY:TIM BRUGGER ON Mar/01/2023



PROJECT NOTES

1. A PORTION OF THE ELEVATIONS MAY HAVE BEEN SHORTENED FOR CLARITY. WHERE ELEVATIONS HAVE BEEN SHORTENED, THE FOLLOWING PREFIXES SHALL BE ADDED: 37XX.XX
2. ALL ELEVATIONS GIVEN WHERE NEW CONSTRUCTION IS TO MATCH EXISTING SHOULD BE CONSIDERED TO BE APPROXIMATE; CONTRACTOR SHALL MATCH EXISTING ELEVATIONS AND NOTIFY ENGINEER IF ACTUAL ELEVATIONS ARE SIGNIFICANTLY DIFFERENT AND COULD AFFECT THE INTENT OF THE DESIGN.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLETE STAKING AND ELEVATION CHECKS AS NECESSARY TO ENSURE THAT PLAN ELEVATIONS AND GRADES HAVE BEEN ESTABLISHED. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO REVIEW GRADING FOR GENERAL CONFORMITY TO THE PLANS PRIOR TO PLACING CRUSHED BASE AND CONCRETE. NOTIFY ENGINEER IF PROPOSED GRADES CANNOT BE MET. DO NOT EXCEED 2% CROSS SLOPE.
4. TIE RETAINING WALL DRAINAGE TO PROPOSED STORM DRAIN SYSTEM OR DAYLIGHT TO DRAIN. PROVIDE CONCRETE COLLAR AT CONNECTIONS TO STORM DRAIN PIPE OR INLET.
5. RETAINING WALL ELEVATIONS ARE SHOWN TO FINISHED GROUND, NOT BOTTOM OF RETAINING WALL BLOCK. SEE RETAINING WALL CALL OUTS AND DETAILS FOR DEPTH OF BLOCKS BELOW FINISHED GROUND.
6. OVERHEAD SHADE STRUCTURE POSTS ARE SHOWN FOR REFERENCE ONLY (SEE LANDSCAPE PLANS). LOCATE POSTS SUCH TO AVOID EXISTING UTILITIES.
7. A QUANTITY OF 400 CY REPRESENTS THE APPROXIMATE RAW CUT VOLUME AND A QUANTITY OF 1,200 CY REPRESENTS THE APPROXIMATE RAW FILL VOLUME FOR THE GRADING REQUIRED. THESE NUMBERS WERE GENERATED BY COMPARING THE EXISTING GROUND SURFACE AND FINAL SURFACE AND DO NOT ACCOUNT FOR MATERIAL BROUGHT ON-SITE TO COMPLETE THE VARIOUS BID ITEMS. SHRINK OR SWELL WAS NOT ACCOUNTED FOR. THESE VALUES ARE ESTIMATES ONLY; CONTRACTOR SHALL MAKE HIS OWN DETERMINATION OF BOTH THE ON-SITE EXCAVATION AND OFF-SITE EXPORT FOR BIDDING. NO ADJUSTMENTS WILL BE MADE TO THE LUMP SUM BID PRICES FOR THIS WORK.
8. SEE BENCHING DETAIL, SHEET C-24 FOR CUT/FILL REQUIREMENTS.
9. REFER TO PROJECT MANUAL SECTION 02835 - SEGMENTAL RETAINING WALL SYSTEM FOR RETAINING WALL DESIGN PROVISIONS AND REQUIREMENTS.

LEGEND

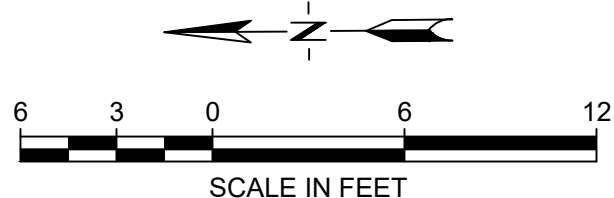
- BS BOTTOM OF STAIRS
BW FINISHED GRADE AT BASE OF WALL
TBC TOP BACK OF CURB
TP TOP OF CONCRETE
TP TOP OF PAVEMENT
TS TOP OF STAIRS
TW TOP OF WALL
±(XX.XX) MATCH EXISTING ELEVATION
PROPOSED CATCH BASIN
PROPOSED CURB INLET
SD PROPOSED STORM DRAIN PIPE
GRADE BREAKLINE

STORM DRAIN SYSTEM KEY NOTES

- 1 CI-3 TYPE 'D' INLET; GRATE = 3768.92
INV. IN (S) = 3765.10
INV. OUT (N) = 3763.60
- 2 CI-4 TYPE 'A' INLET; TBC = 3786.51
INV. OUT (N) = 3777.49

KEY NOTES

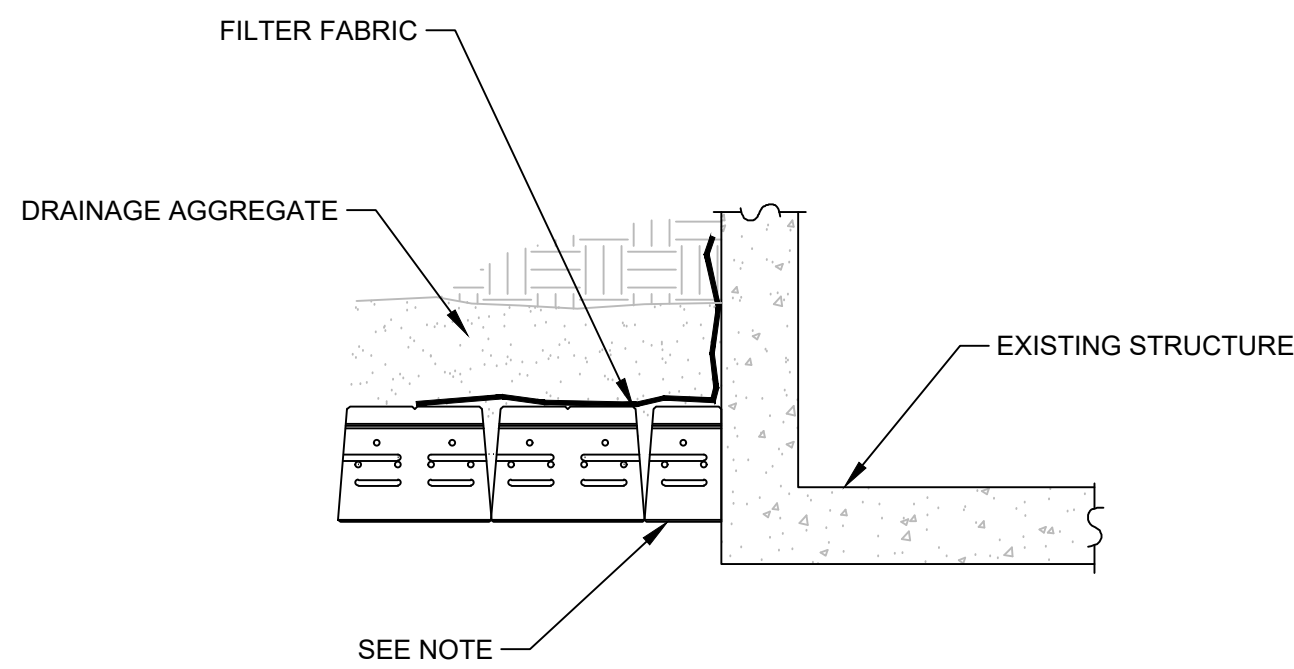
- 1 UTILITY CROSSING AT RETAINING WALL, SEE DETAIL 1, SHEET C-9.
- 2 APPROXIMATE DISTURBANCE/GRADING AREA; GRADE NEW SITE FEATURES TO TIE TO EXISTING FUNERAL HOME GRADES; COORDINATE WITH ENGINEER IN THE FIELD.



CONSTRUCTION PLANS
MARCH 2023

W:\8017 SHERIDAN COUNTY\8017.002 SHR CNTY - BROOKS ST GREENSPACE\AD\SHS\01\02.05 GRADING.DWG
PLOTTED BY:TIM BRUGGER ON Mar/01/2023

<p>VERIFY SCALE!</p> <p>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>MODIFY SCALE ACCORDINGLY!</p>	REVISIONS			<p>Morrison Maierle</p> <p>engineers • surveyors • planners • scientists</p> <p>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801</p> <p>307.672.3310 • www.m-m.net</p> <p>COPYRIGHT © MORRISON-MAIERLE, 2023</p>	<p>Professional Engineer (Civil)</p> <p>JOHNNY S. BRUGGER</p> <p>3589</p> <p>Date: 3/1/2023</p> <p>WYOMING</p>	DRAWN BY: KRL	SHERIDAN COUNTY BROOKS STREET GREENSPACE SHERIDAN WYOMING		PROJECT NUMBER 6017.002
	DSGN. BY: TEM	SHEET NUMBER 7							
	APPR. BY: TSB	DRAWING NUMBER C-5							
	DATE: 3/1/2023								
Q.C. REVIEW BY: JMF		SITE GRADING AND DRAINAGE PLAN - SOUTH							
DATE: 6/24/2022									



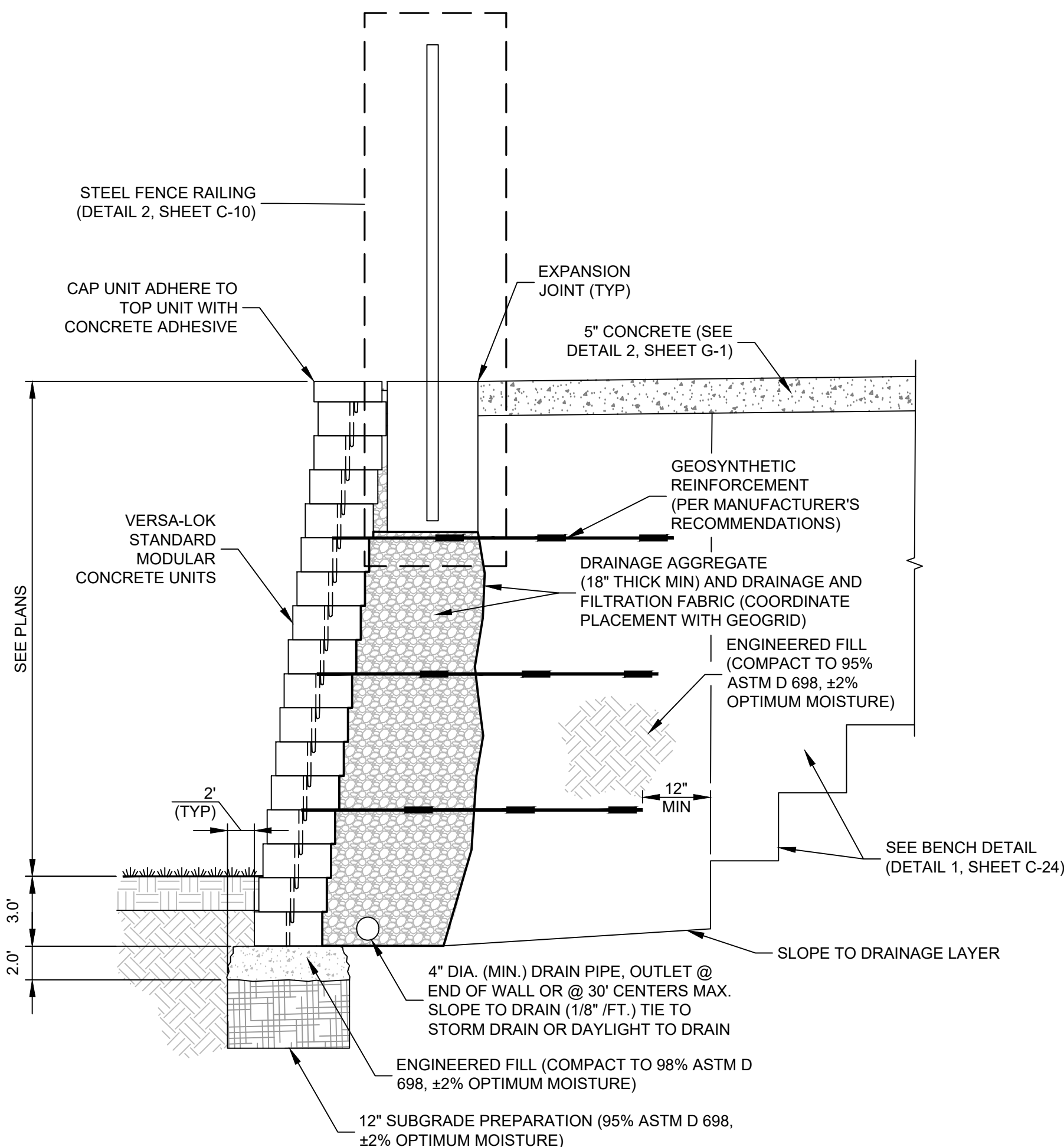
NOTES

1. AT ABUTMENT, ALTERNATE FULL UNIT WITH HALF UNIT EVERY OTHER COURSE.
2. START AT FIXED POINTS AND WORK INTO MIDDLE PART OF WALL.
3. DO NOT ATTACH VERSA-LOK UNITS TO OTHER STRUCTURE.

1

WALL ABUTMENT DETAIL

SCALE: N.T.S.



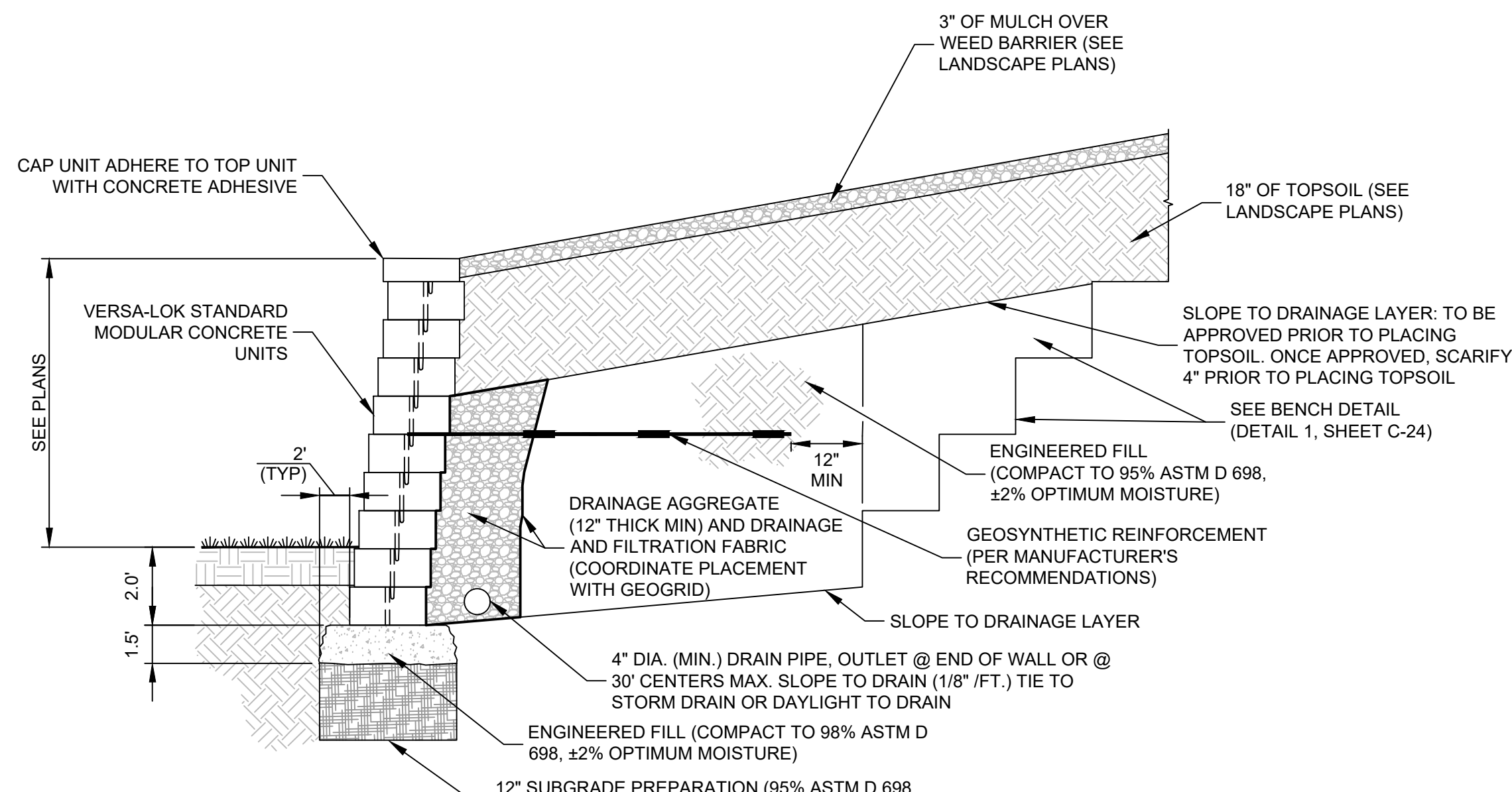
NOTE

1. BLOCK SECTIONS ARE NOT DRAWN TO SCALE, REFER TO DETAIL DIMENSIONS AND PLAN ELEVATIONS FOR ACTUAL DEPTH OF BLOCKS.

4

TYPICAL SECTION - REINFORCED RETAINING WALL (PARKING LOT; 3 FT BURY)

SCALE: N.T.S.



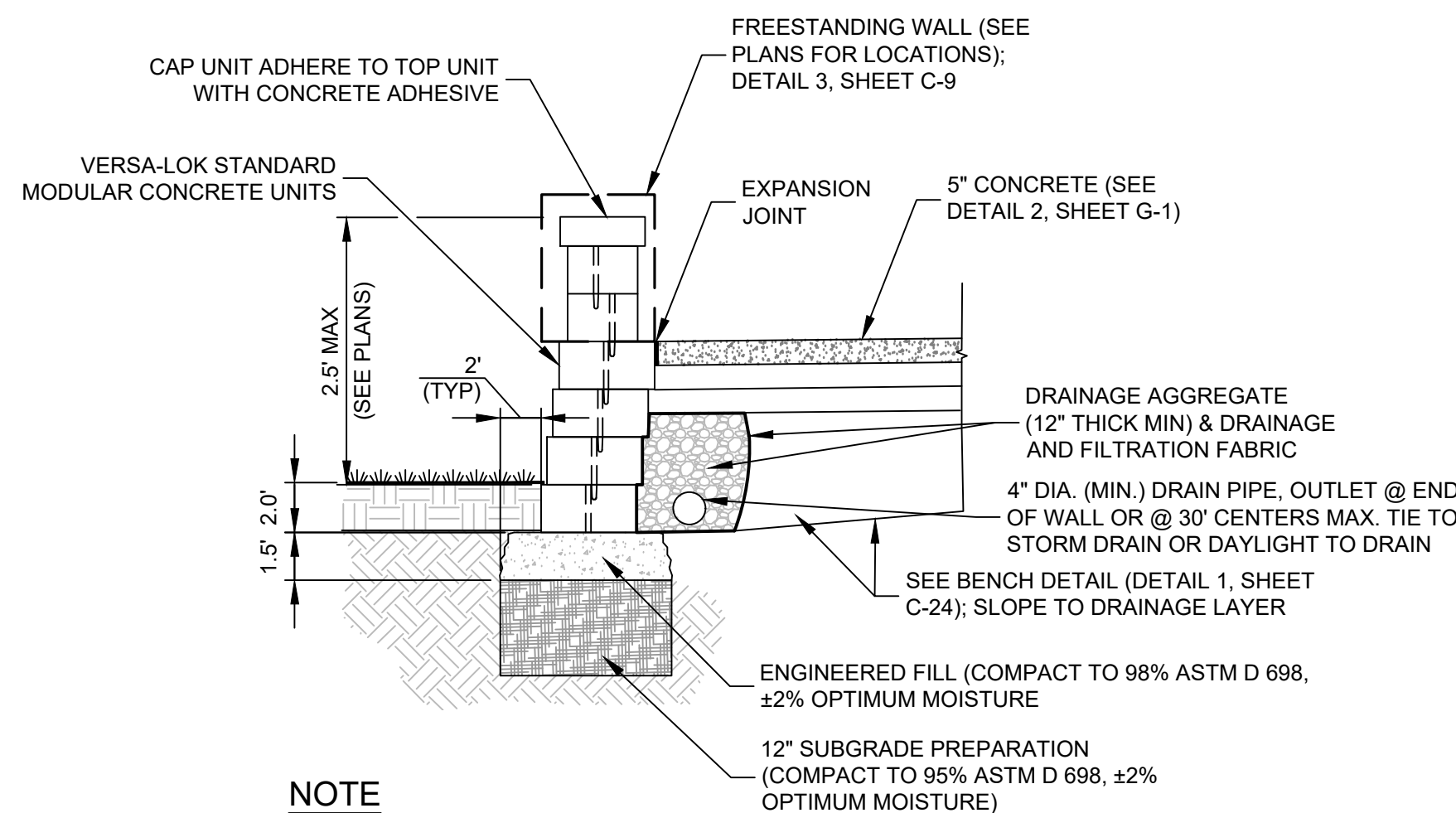
NOTE

1. BLOCK SECTIONS ARE NOT DRAWN TO SCALE, REFER TO DETAIL DIMENSIONS AND PLAN ELEVATIONS FOR ACTUAL DEPTH OF BLOCKS.

2

TYPICAL SECTION - REINFORCED RETAINING WALL (2 FT BURY)

SCALE: N.T.S.



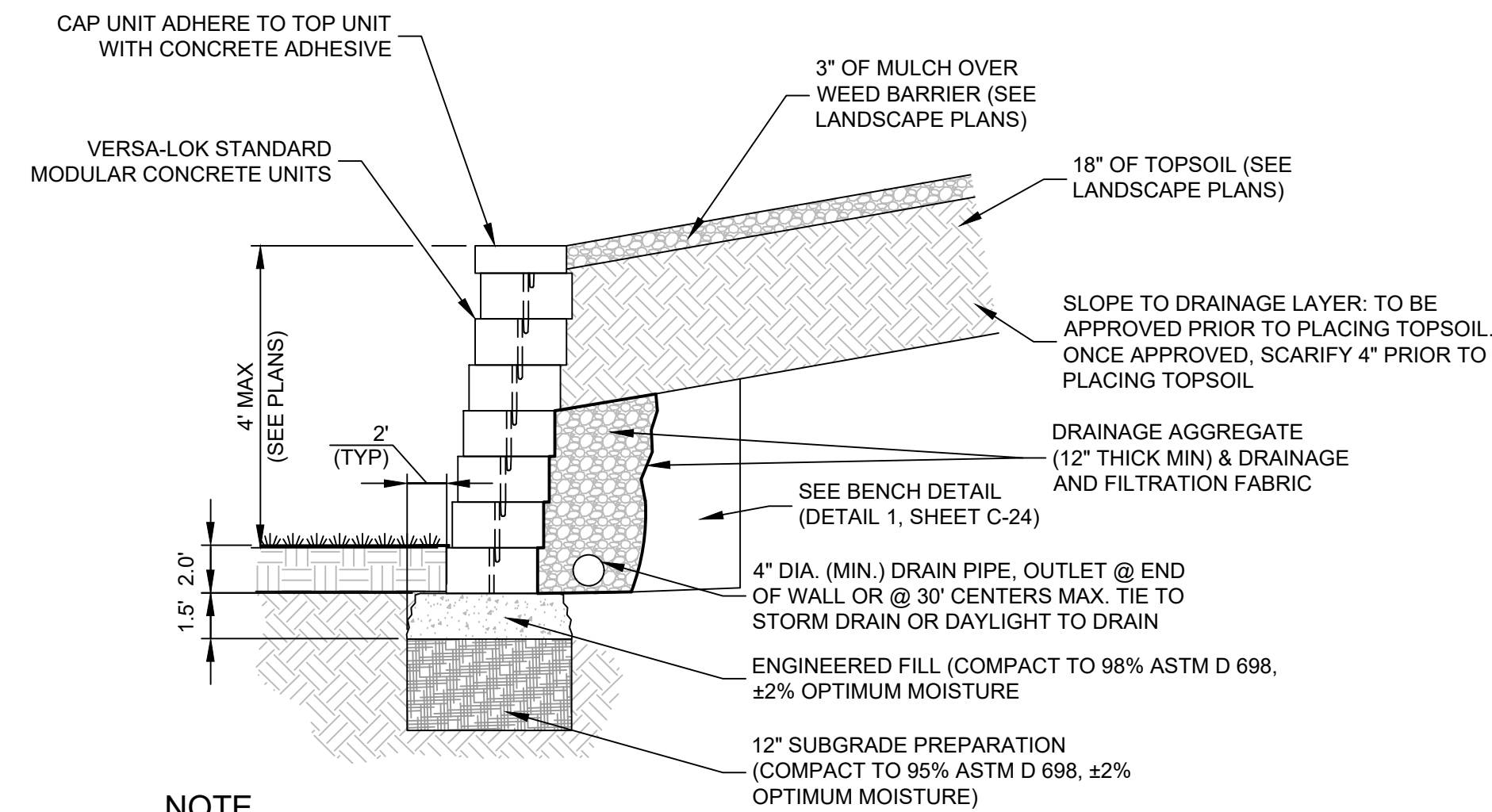
NOTE

1. BLOCK SECTIONS ARE NOT DRAWN TO SCALE, REFER TO DETAIL DIMENSIONS AND PLAN ELEVATIONS FOR ACTUAL DEPTH OF BLOCKS.

5

TYPICAL SECTION - UNREINFORCED RETAINING WALL (SITTING AREA; 2 FT BURY)

SCALE: N.T.S.



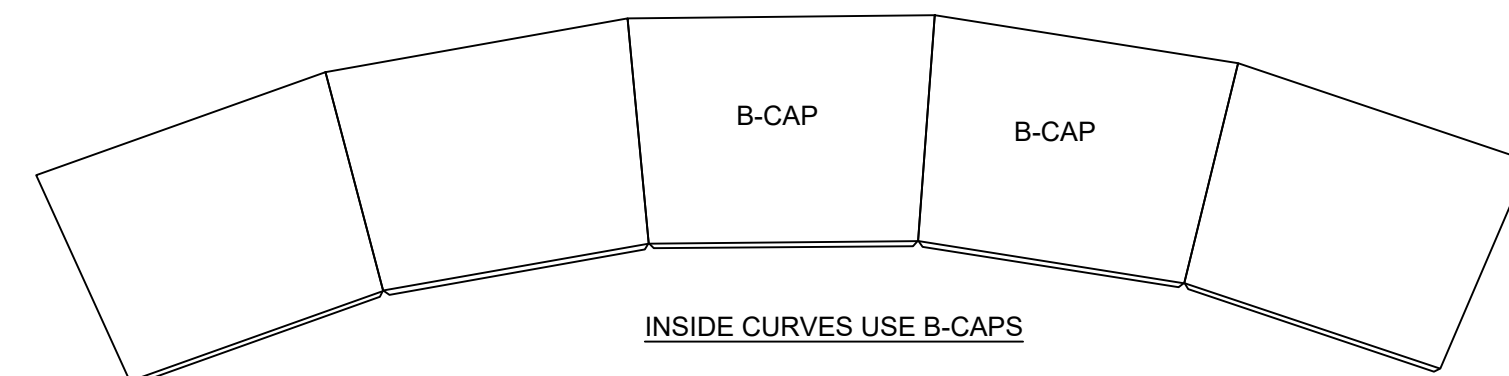
NOTE

1. BLOCK SECTIONS ARE NOT DRAWN TO SCALE, REFER TO DETAIL DIMENSIONS AND PLAN ELEVATIONS FOR ACTUAL DEPTH OF BLOCKS.

3

TYPICAL SECTION - UNREINFORCED RETAINING WALL (2 FT BURY)

SCALE: N.T.S.



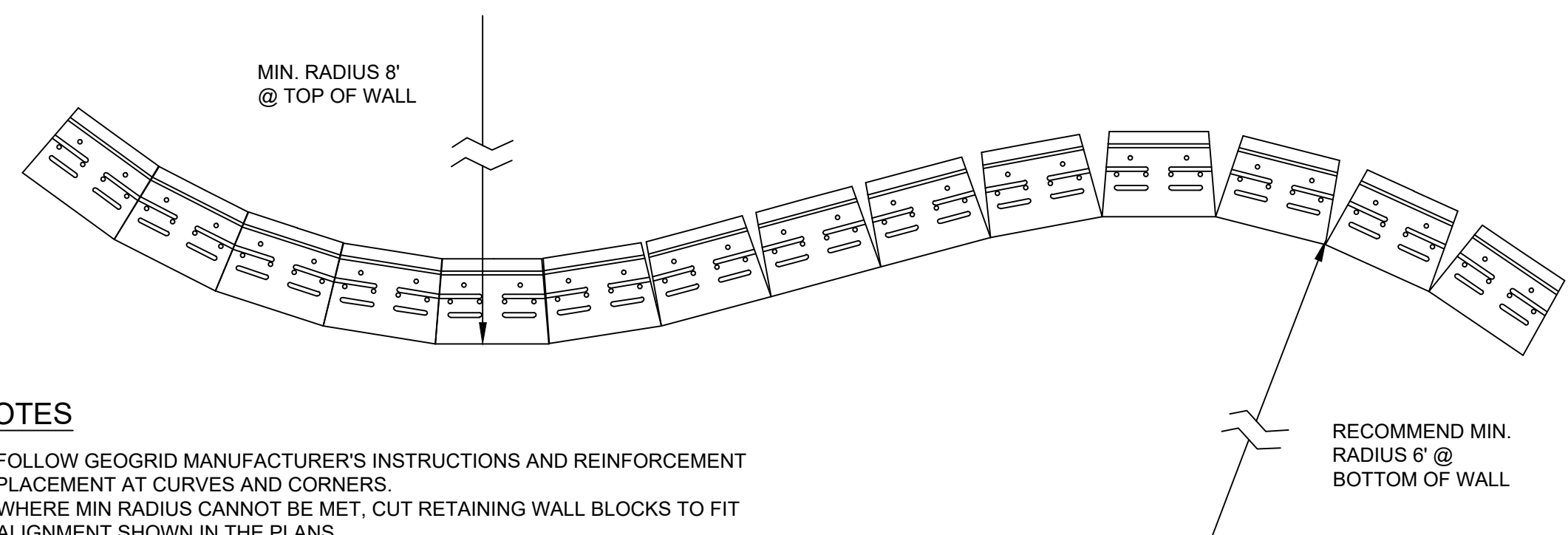
INSIDE CURVES USE B-CAPS

OUTSIDE CURVES USE A-CAPS

6

CAPPING CURVES DETAIL - PLAN VIEW

SCALE: N.T.S.



NOTES

1. FOLLOW GEOGRID MANUFACTURER'S INSTRUCTIONS AND REINFORCEMENT PLACEMENT AT CURVES AND CORNERS.
2. WHERE MIN RADIUS CANNOT BE MET, CUT RETAINING WALL BLOCKS TO FIT ALIGNMENT SHOWN IN THE PLANS.

7

CURVE DETAIL TYP. - PLAN VIEW

SCALE: N.T.S.

CONSTRUCTION PLANS

MARCH 2023

W:\60177 SHERIDAN COUNTY\60177.002 SHR CNTY - BROOKS ST GREENSPACE\AS\SHS\60177.002 SHR CNTY - BROOKS ST GREENSPACE\CIVIL\02-06 DETAILS RETAINING WALL.DWG

VERIFY SCALE!		REVISIONS			
NO.	DESCRIPTION	BY	DATE		

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Professional Engineer (Civil)
Tim Bruggen
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING
RETAINING WALL DETAILS

PROJECT NUMBER
6017.002
SHEET NUMBER
8
DRAWING NUMBER
C-6

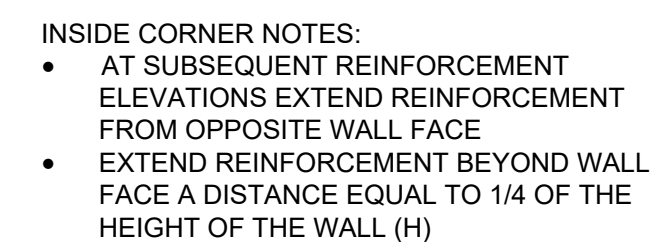
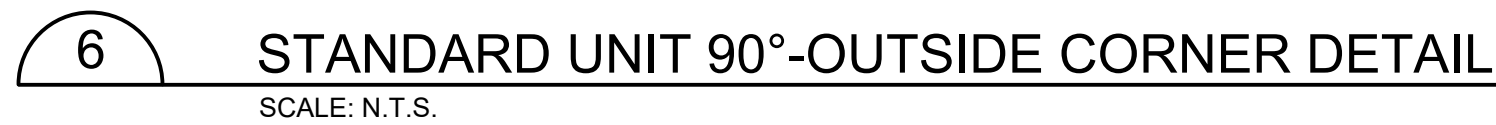
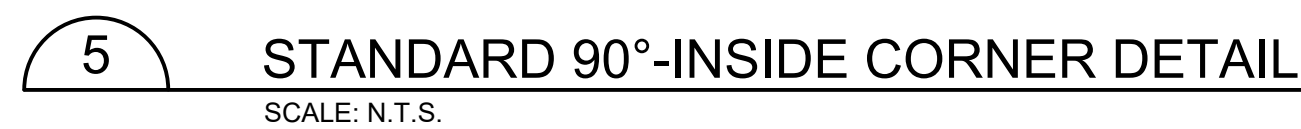


1. LIMIT CHANGES IN BASE ELEVATION TO 6" PER STEP TO AVOID DIFFERENTIAL SETTLEMENT.
2. STEP AS NEEDED TO MINIMIZE BURIED UNITS AND MAINTAIN MINIMUM REQUIRED EMBEDMENT.



NOTES

1. FOLLOW GEOSYNTHETIC GRID MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SPECIFICATIONS.

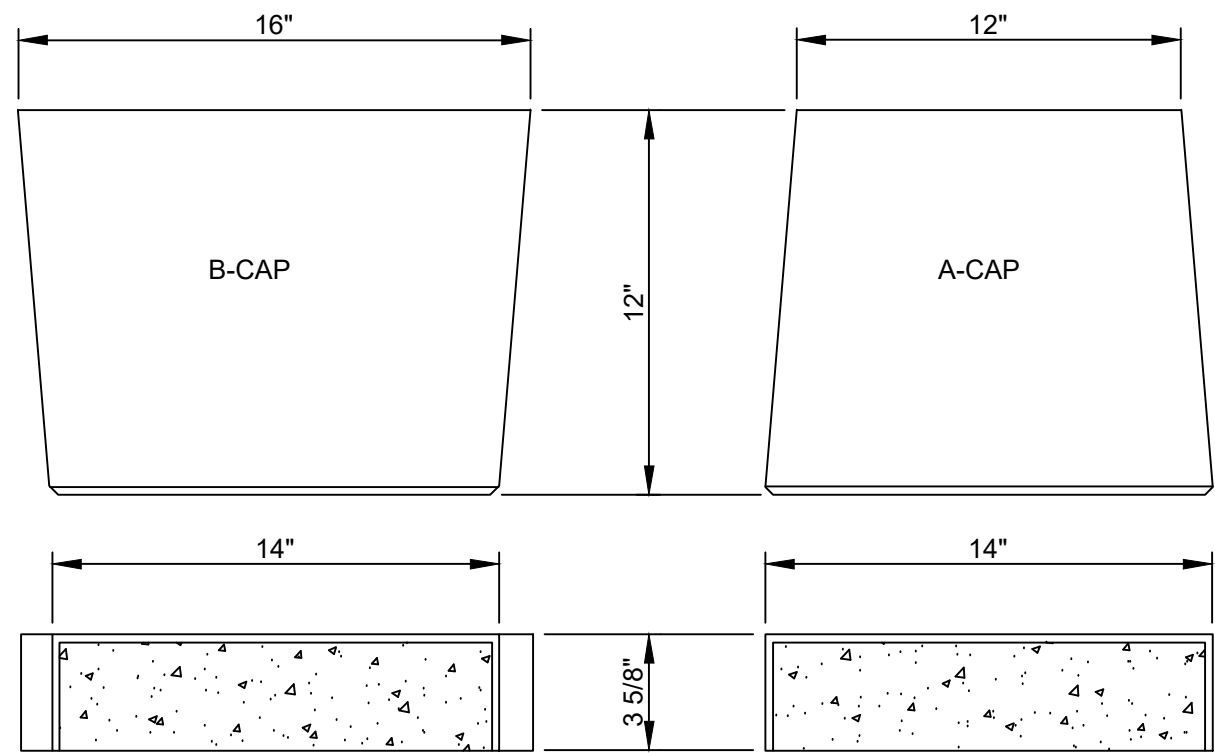


CONSTRUCTION PLANS

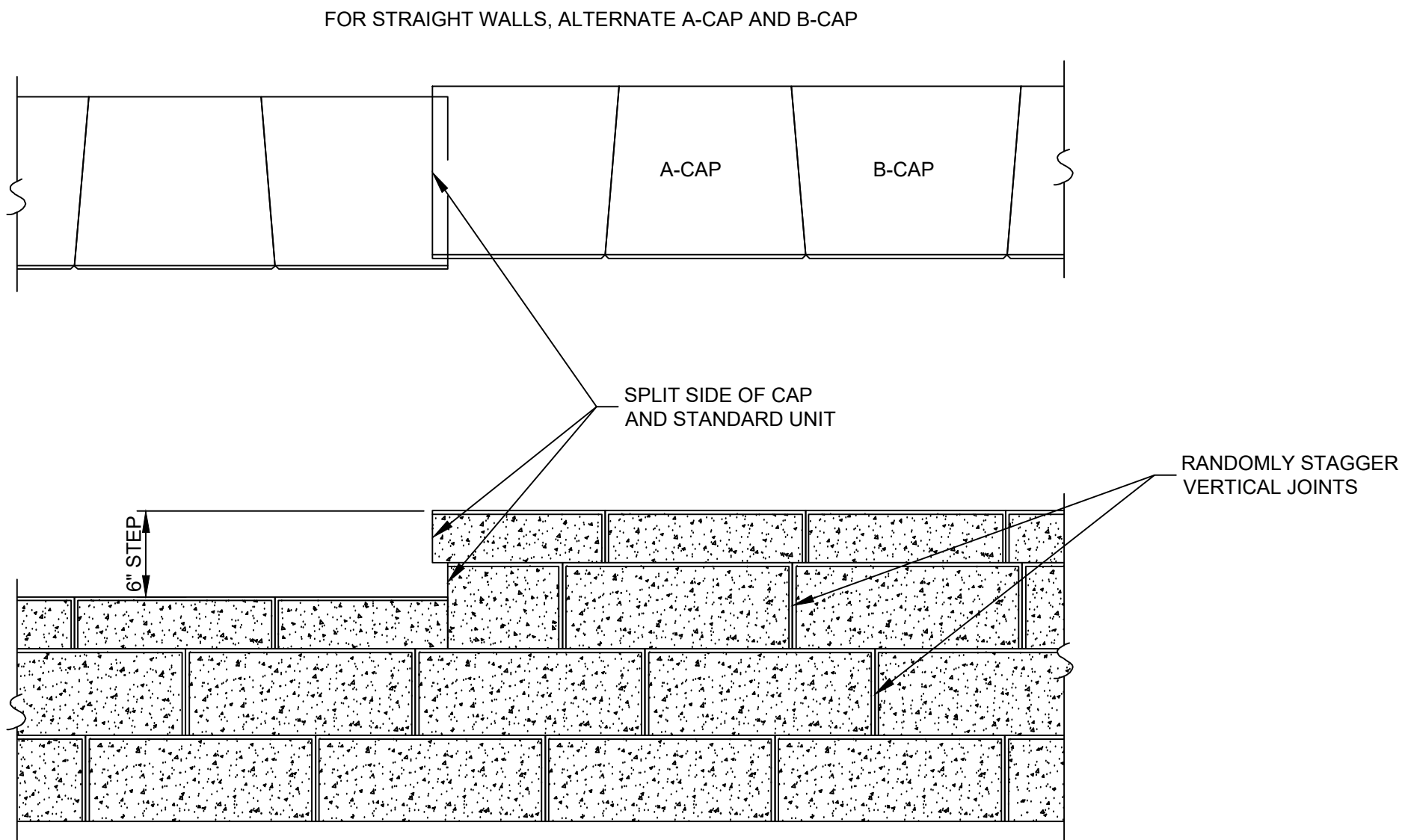
MARCH 2023

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	DSGN. BY: _____	SHEET NUMBER 9									
	APPR. BY: <u>TSB</u>										
	DATE: <u>3/1/2023</u>	RETAINING WALL DETAILS		DRAWING NUMBER C-7							
	Q.C. REVIEW BY: <u>JMF</u>										
	DATE: <u>6/24/2022</u>										
PLOTTED BY:TIM BRUGGER ON Feb/28/2023											

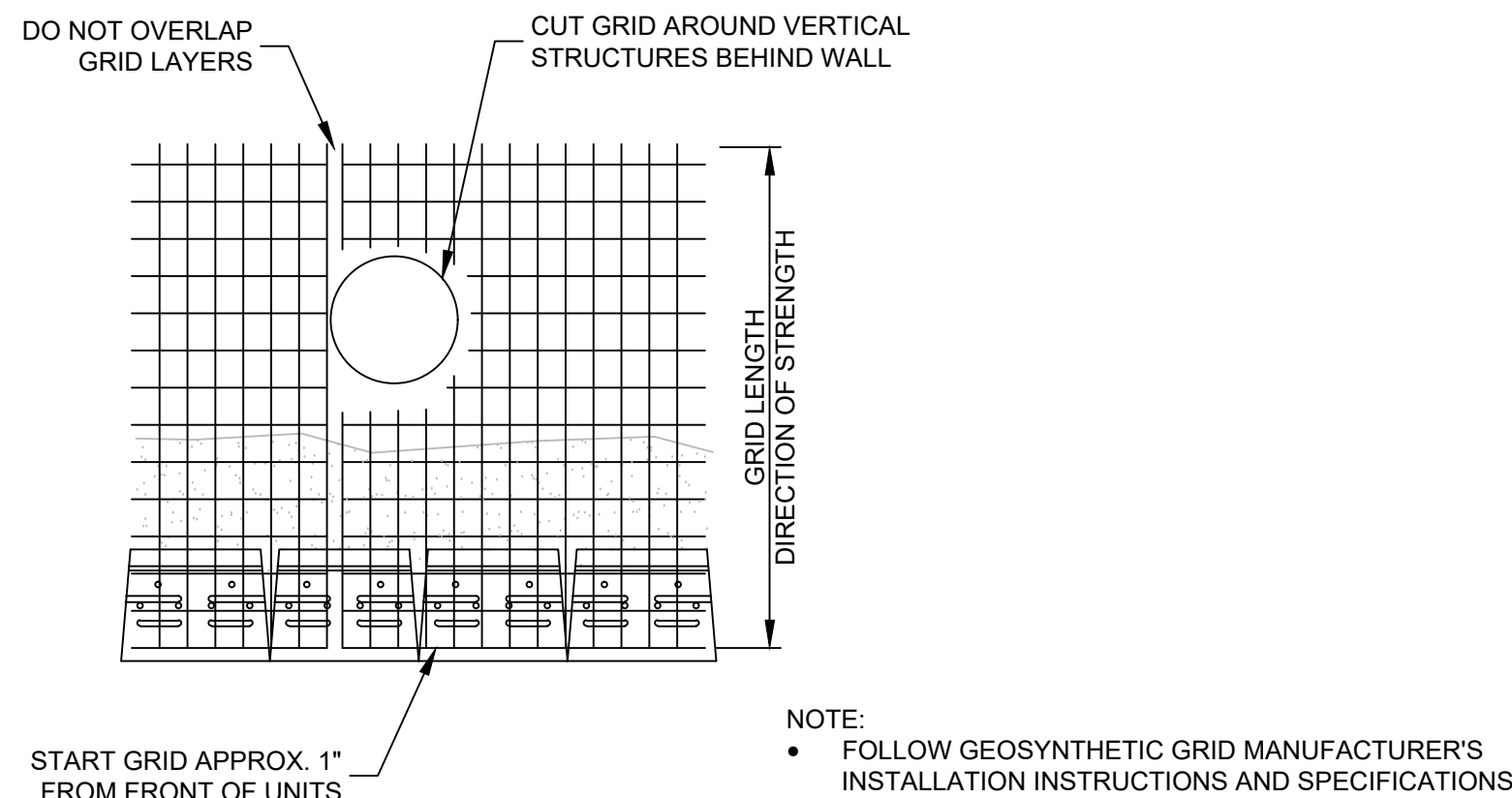
W:\6017 SHERIDAN COUNTY\6017.002 SHR CNTY - BROOKS ST GREENSPACE\ACAD\SHEETS\CIVIL\002-06 DETAILS RETAINING WALL.DWG



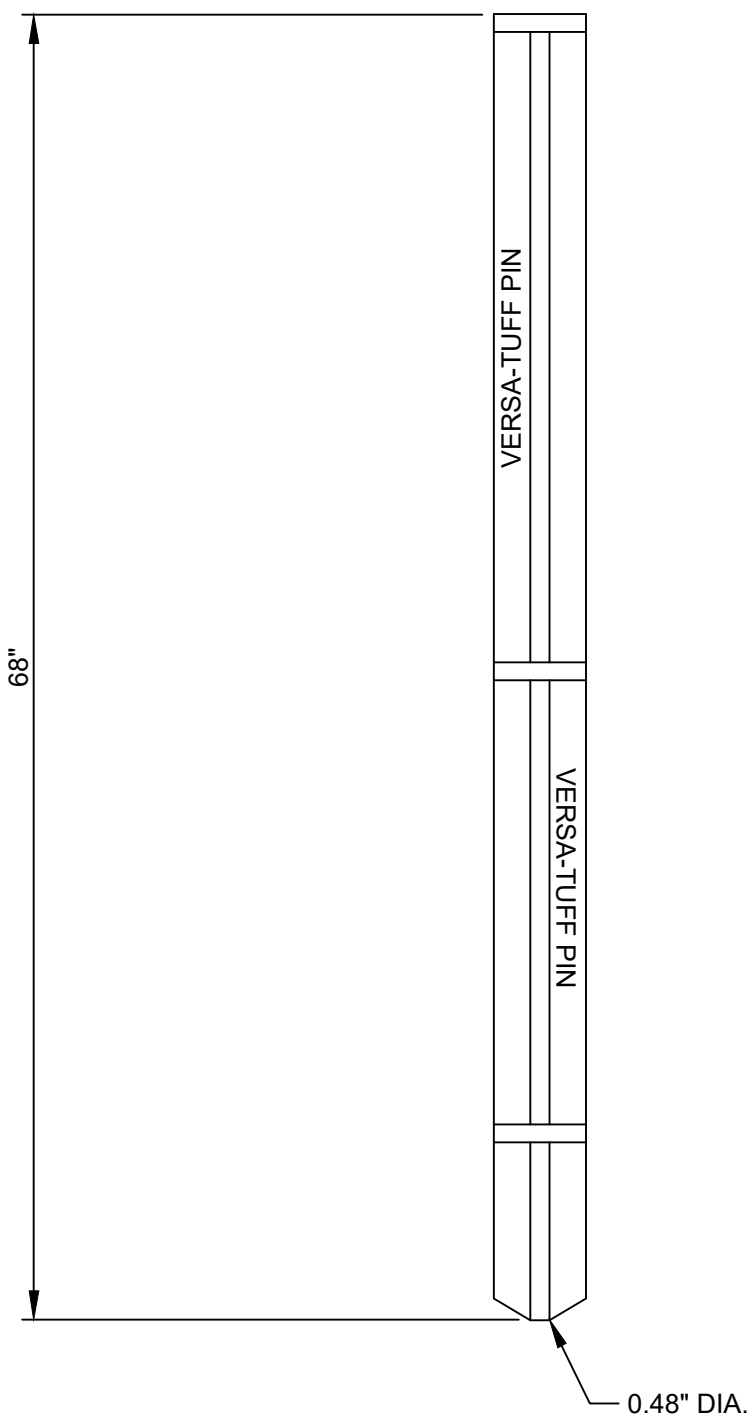
1 VERSA-LOK CAP UNITS (UNIT DIMENSIONS)
SCALE: N.T.S.



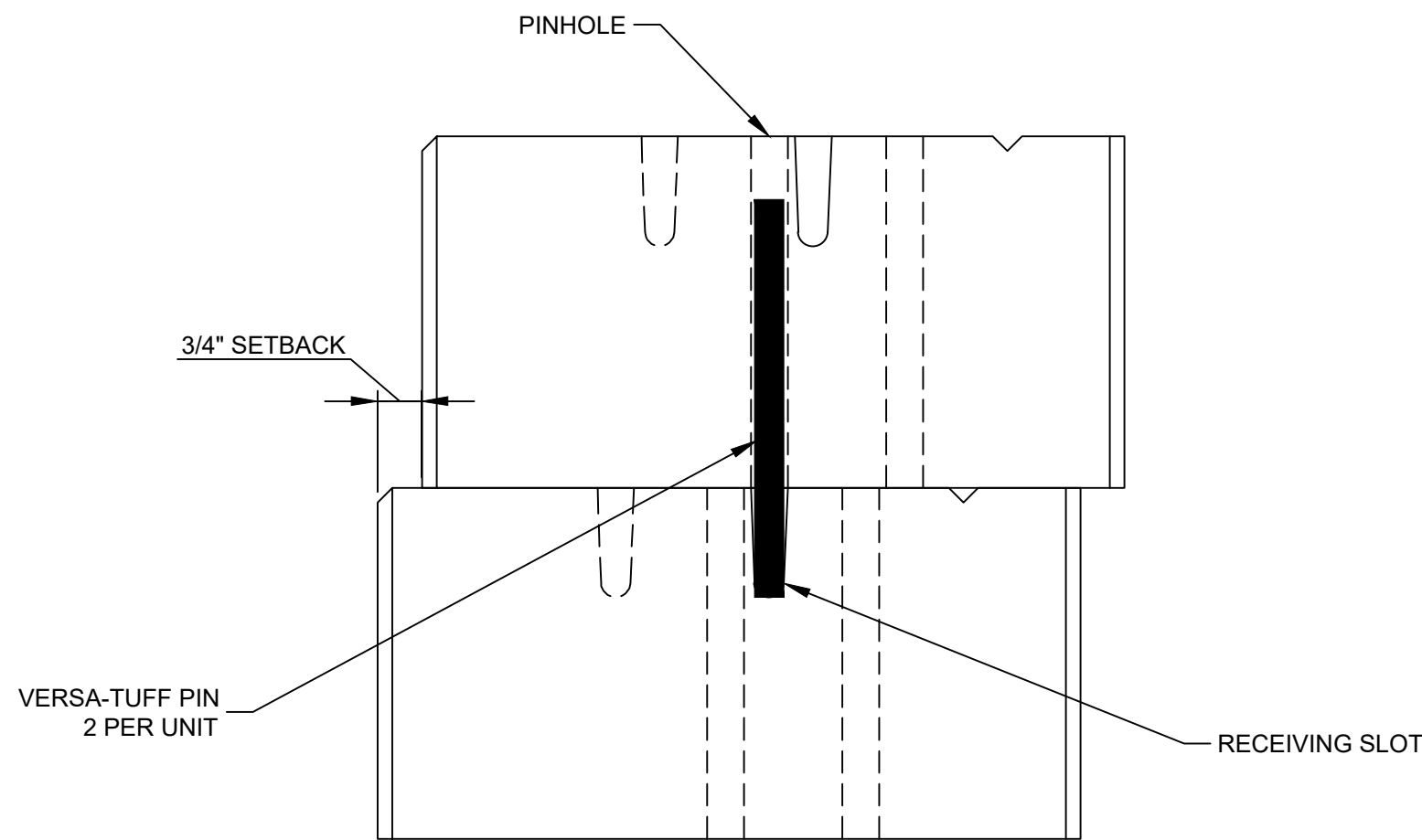
2 CAPPING DETAIL - PROFILE (STEP AT TOP OF WALL)
SCALE: N.T.S.



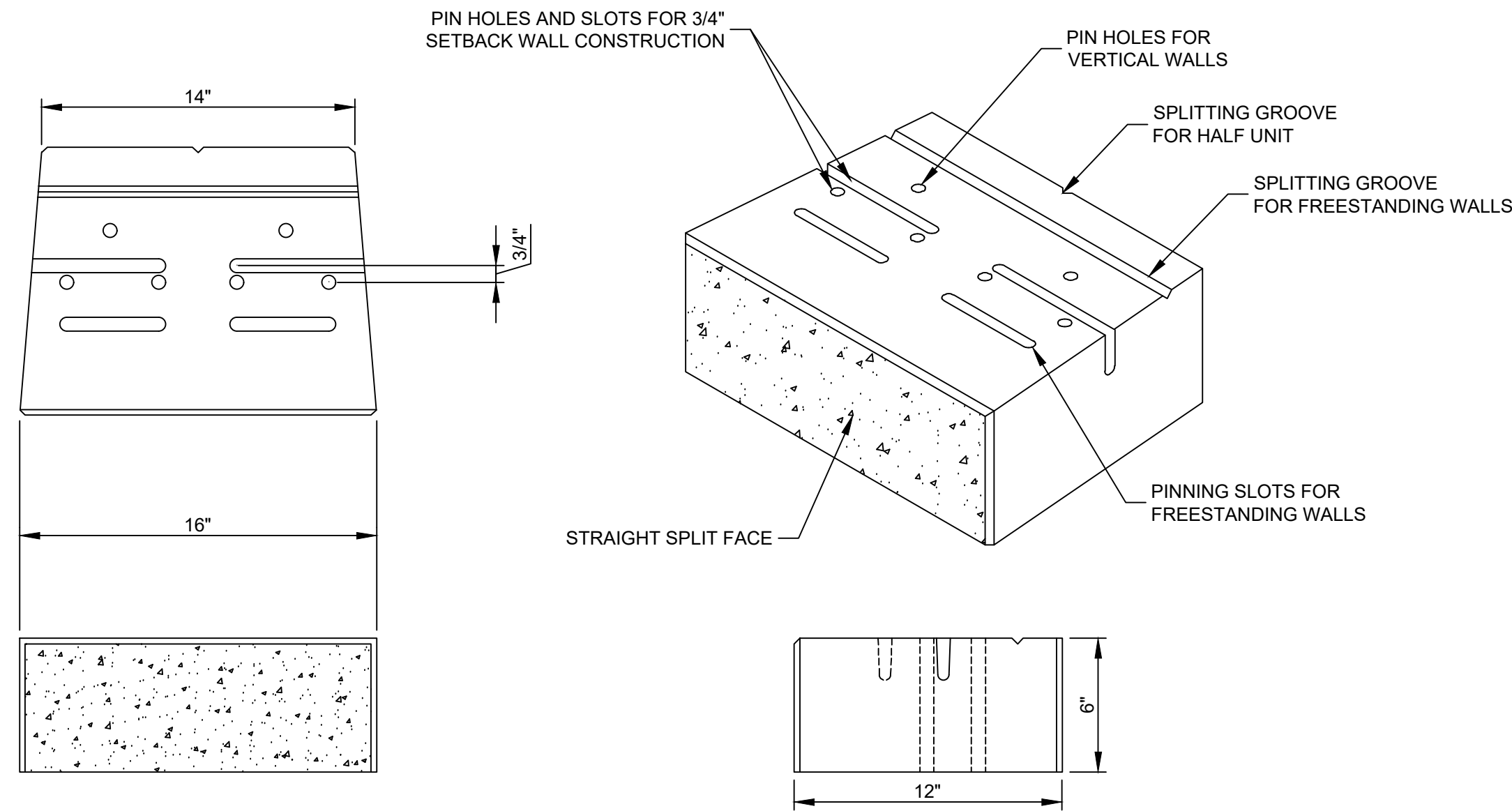
3 GEOSYNTHETIC AT STRUCTURES BEHIND WALL
SCALE: N.T.S.



4 VERSA-TUFF PIN (PIN DIMENSIONS)
SCALE: N.T.S.



5 PINNING DETAIL - CROSS SECTION
SCALE: N.T.S.



6 VERSA-LOK UNIT (UNIT DIMENSIONS)
SCALE: N.T.S.

CONSTRUCTION PLANS
MARCH 2023

W:\6017 SHERIDAN COUNTY\6017.002 SHR CNTY - BROOKS ST GREENSPACE\AS\SHS\02-06 DETAILS - RETAINING WALL.DWG
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REVISIONS				
NO.	DESCRIPTION	BY	DATE	

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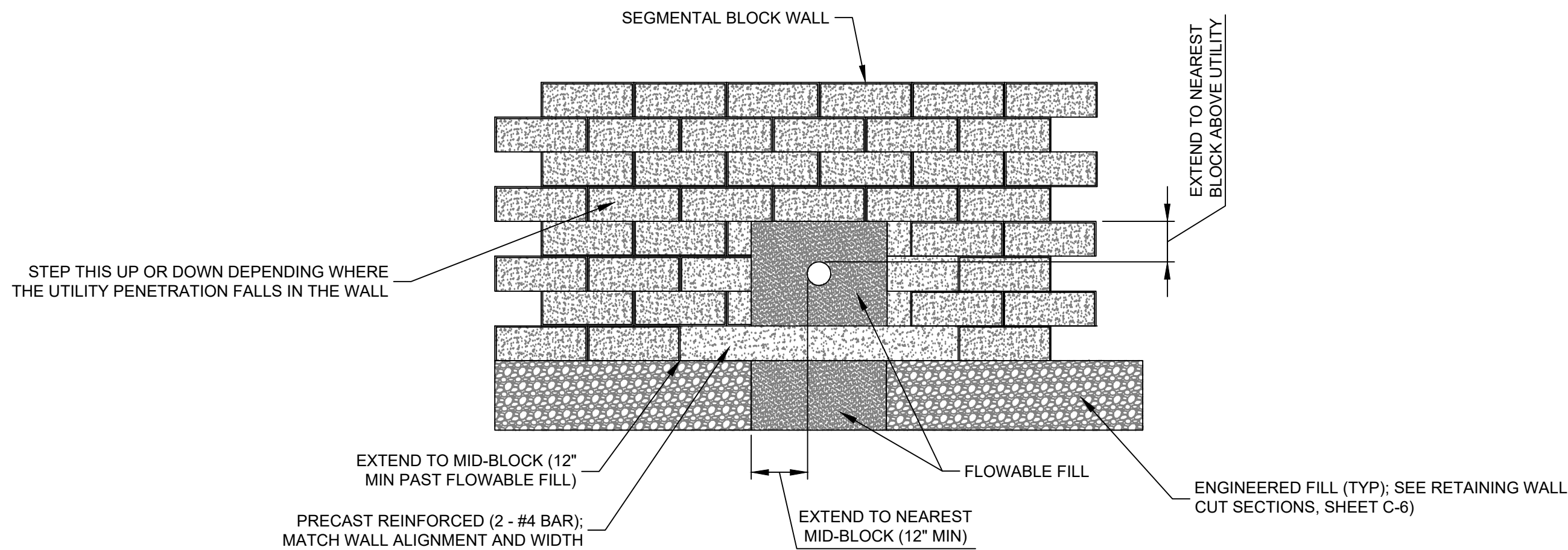
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Professional Engineer (Civil)
TOMMY S. BRUGGER
12580
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
SHERIDAN WYOMING
RETAINING WALL DETAILS

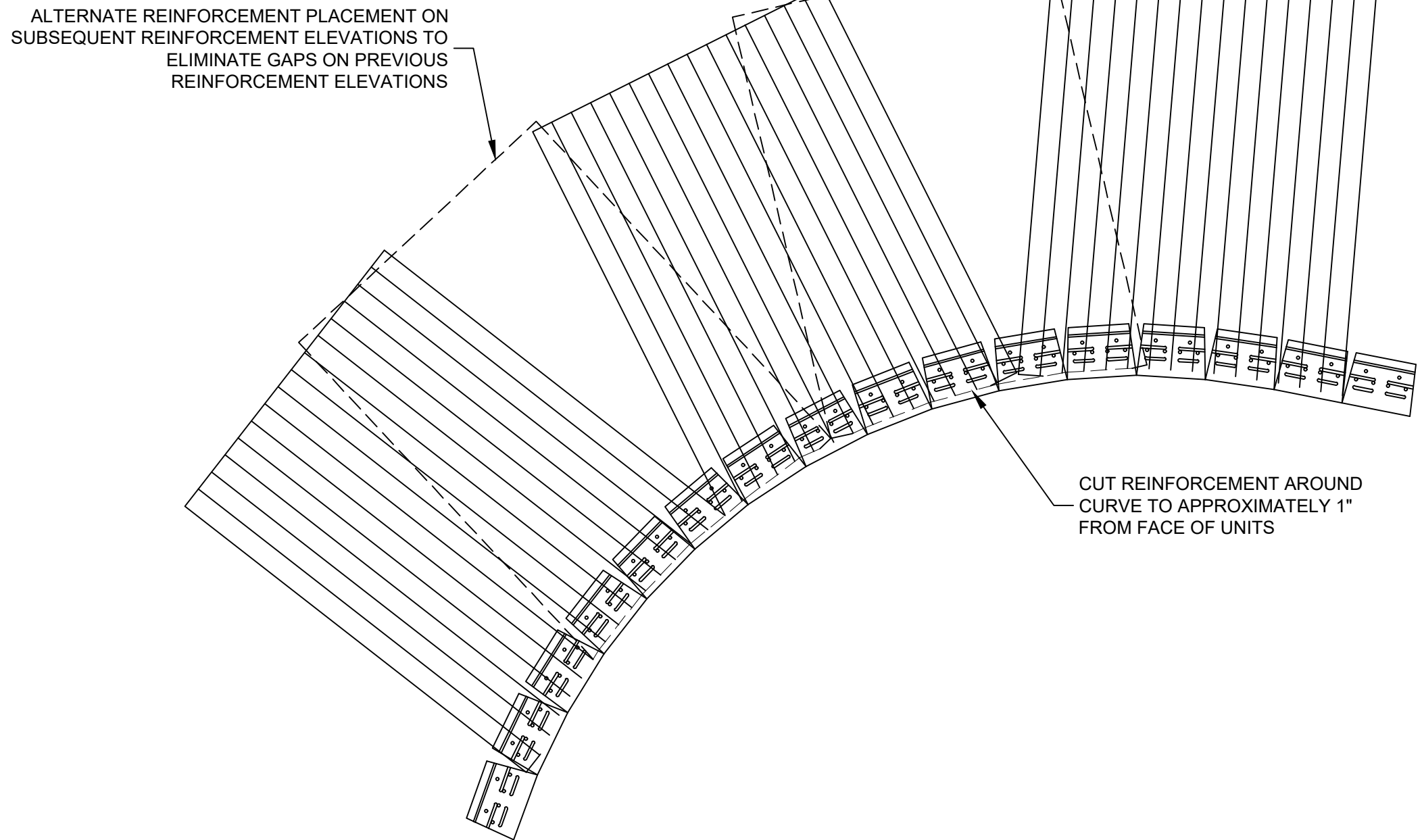
PROJECT NUMBER
6017.002
SHEET NUMBER
10
DRAWING NUMBER
C-8



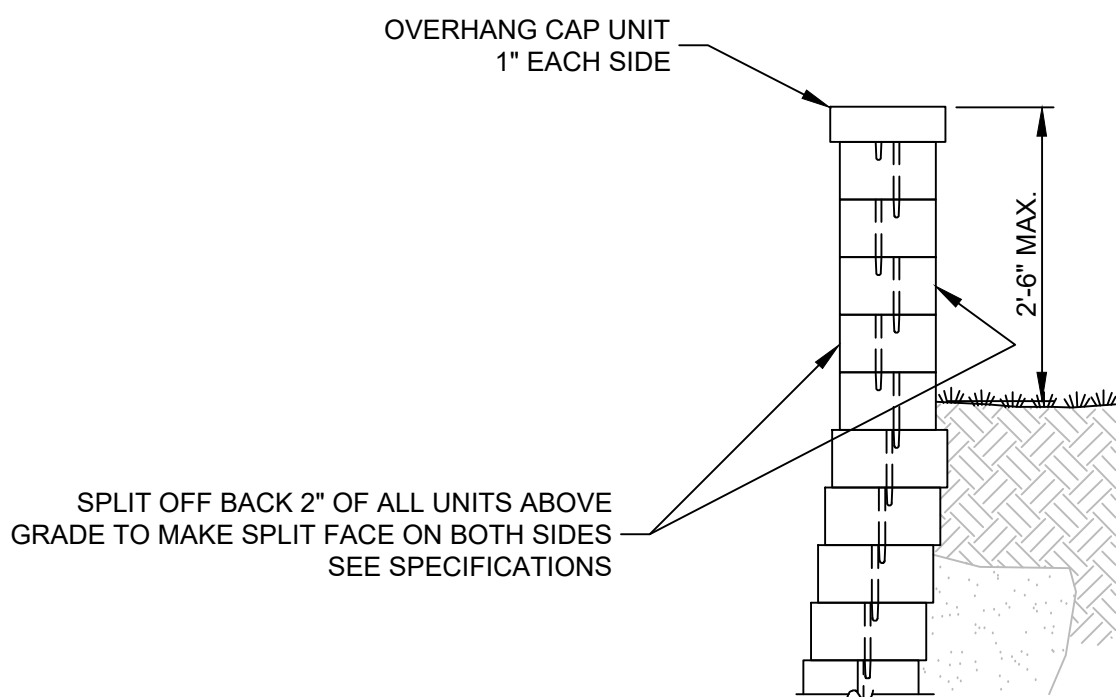
NOTE:

- EXISTING AND PROPOSED UTILITIES INTERSECT THE RETAINING WALL AT VARYING DEPTHS AND ELEVATIONS, COORDINATE WITH ENGINEER TO FIELD FIT AS REQUIRED.

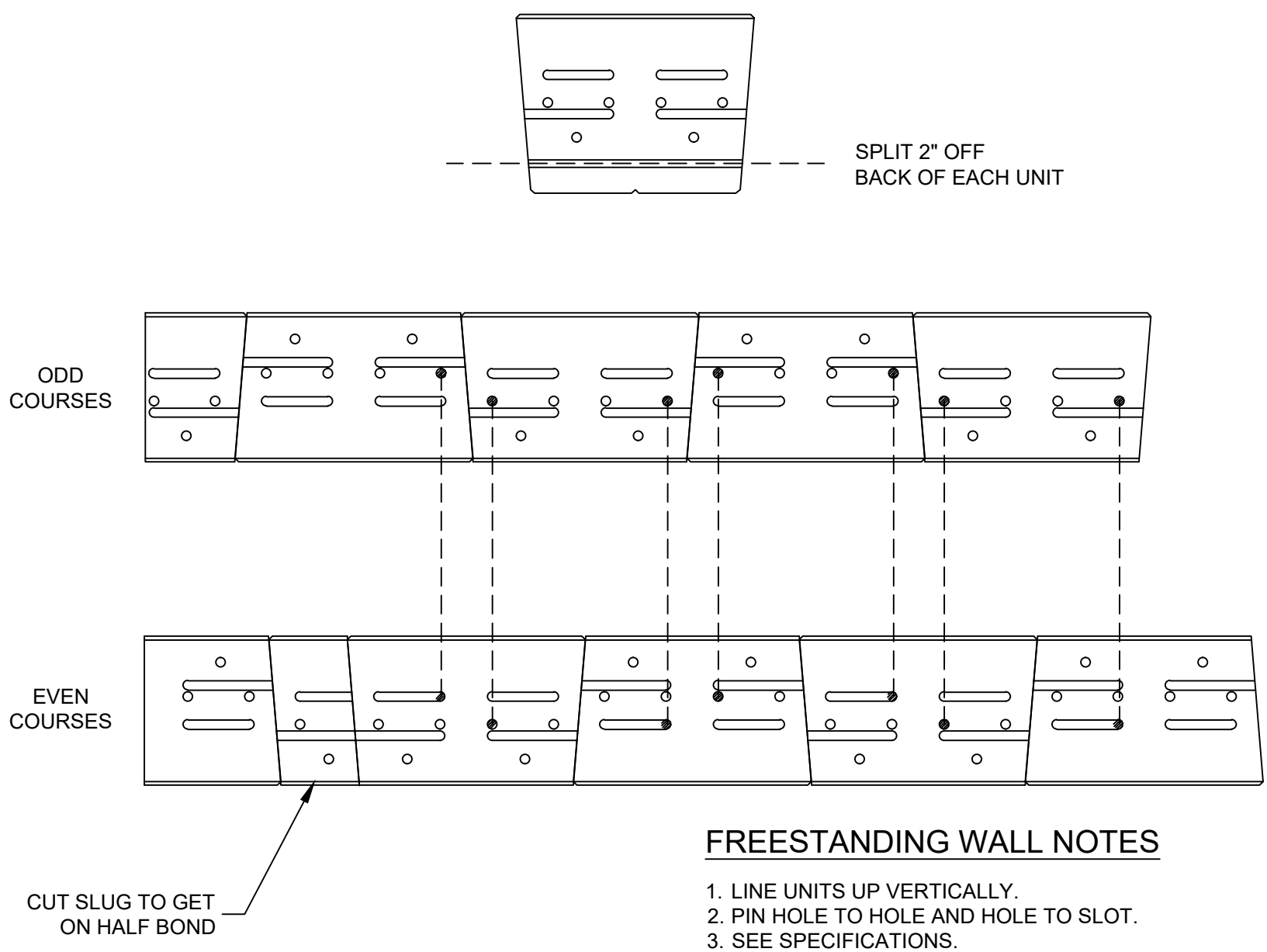
1 RETAINING WALL UTILITY CROSSING
SCALE: N.T.S.



2 GEOSYNTHETIC PLACEMENT (CONCAVE CURVE)
SCALE: N.T.S.



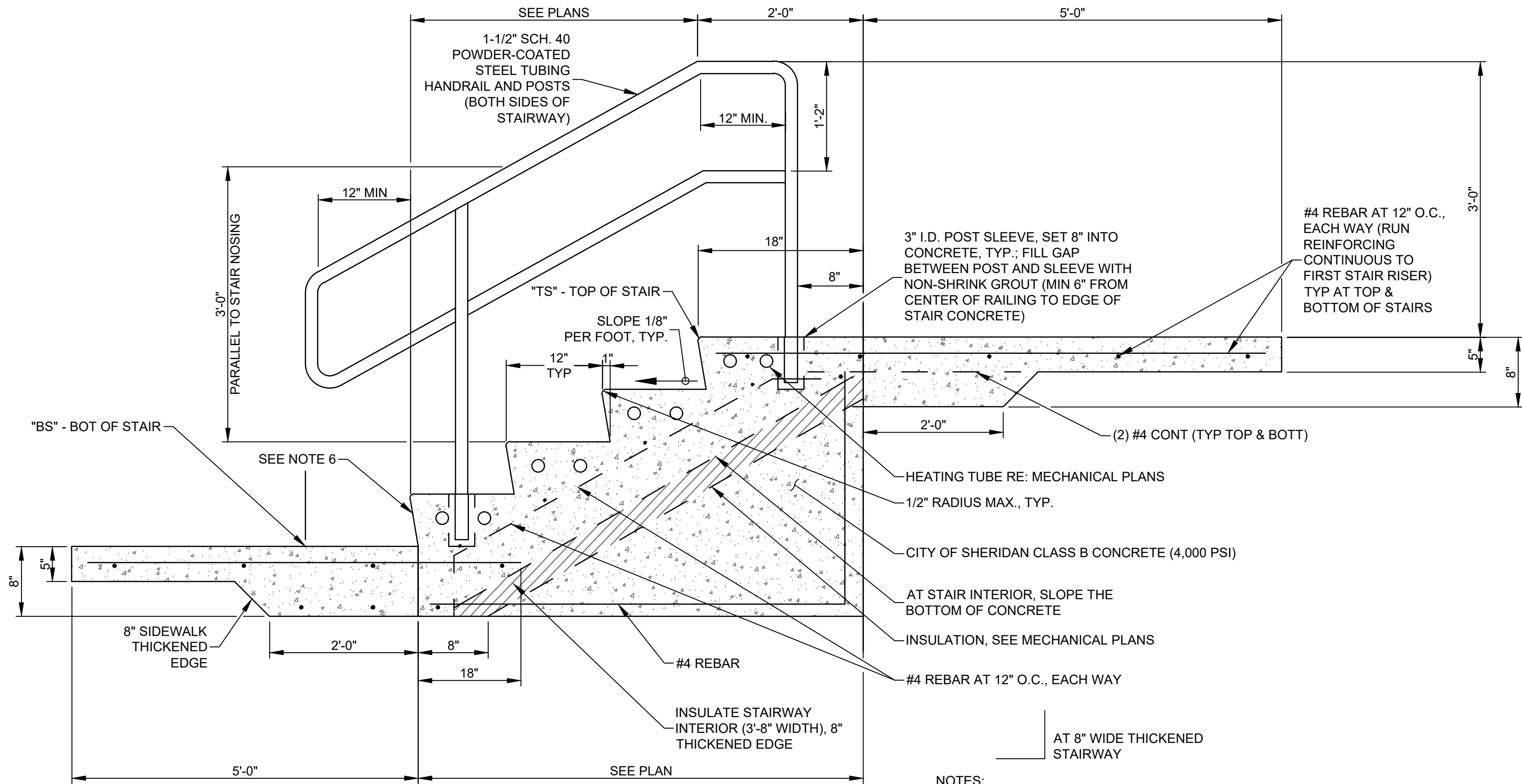
3 FREESTANDING WALL DETAIL
SCALE: N.T.S.



4 FREESTANDING WALL PINNING DIAGRAM
SCALE: N.T.S.

CONSTRUCTION PLANS
MARCH 2023

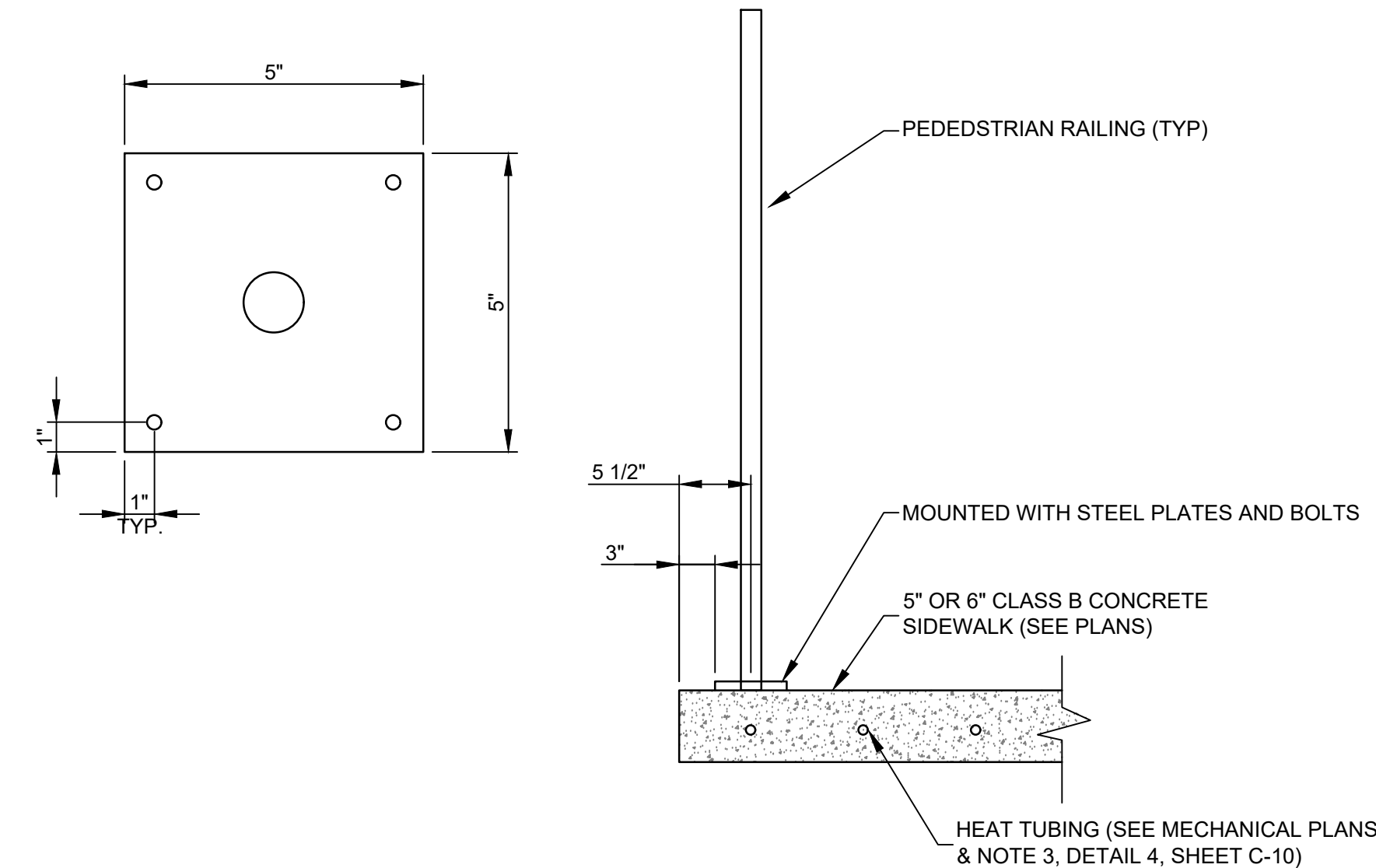
<div>VERIFY SCALE!</div> <div>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</div> <div>MODIFY SCALE ACCORDINGLY!</div> <div>PLOTTED BY:TIM BRUGGER ON Feb/28/2023</div>	REVISIONS				<div><div><div></div><div></div><div></div></div><div>Morrison Maierle</div><div>engineers • surveyors • planners • scientists</div><div>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801</div><div>307.672.3310 • www.m-m.net</div><div>COPYRIGHT © MORRISON-MAIERLE, 2023</div></div>	<div><div>Professional Engineer (Civil)</div><div>JOEY S. BRUGGER</div><div>12589</div><div>DATE: 3/1/2023</div><div>WYOMING</div></div>	DRAWN BY: KRL	SHERIDAN COUNTY BROOKS STREET GREENSPACE		PROJECT NUMBER 6017.002
	NO.	DESCRIPTION	BY	DATE			APPR. BY: TSB	WYOMING		SHEET NUMBER 11
							DATE: 3/1/2023	RETAINING WALL DETAILS		DRAWING NUMBER C-9
							Q.C. REVIEW BY: JMF DATE: 6/24/2022			



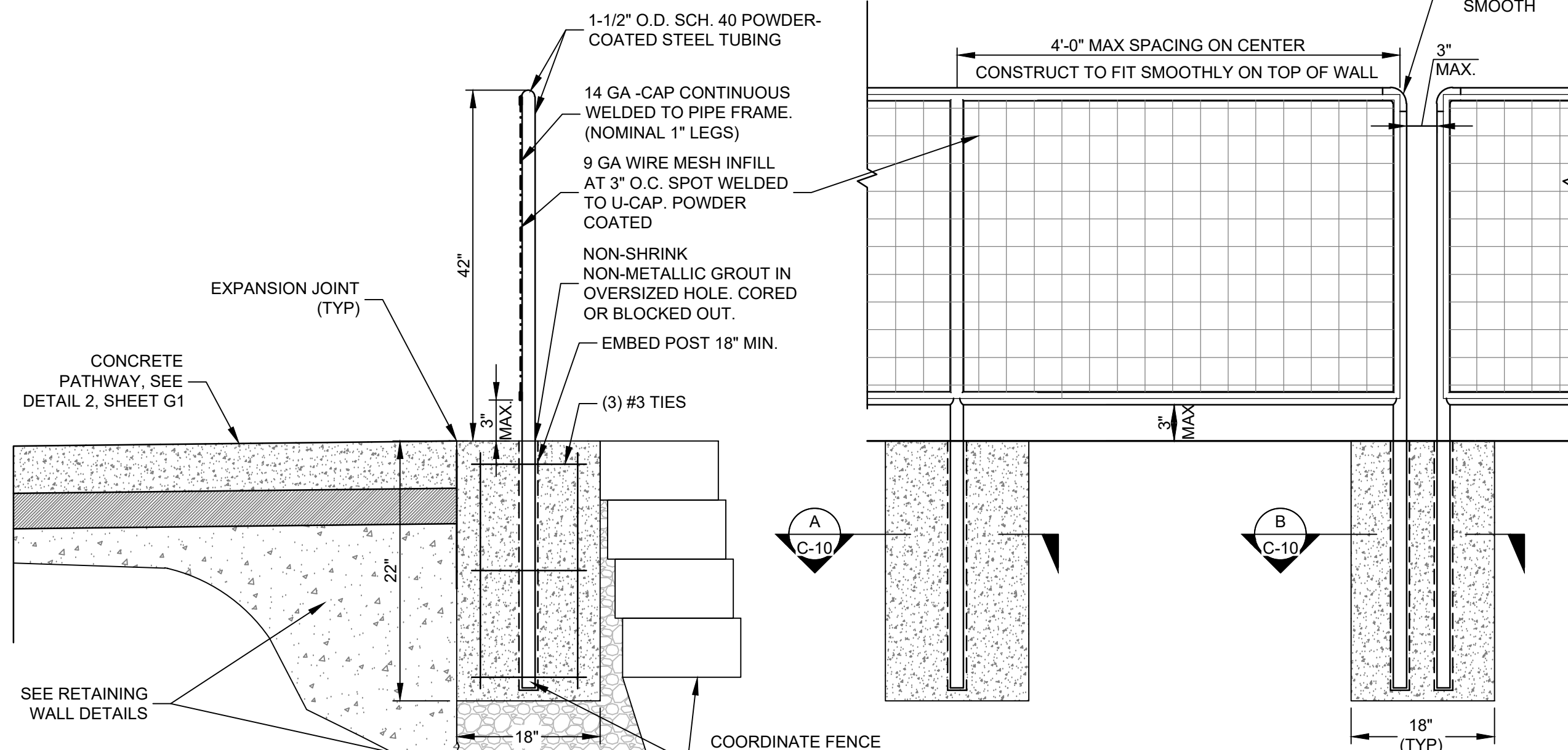
SIDE SECTION

- NOTES:
- HANDRAIL SHALL EXTEND FOR A HORIZONTAL DISTANCE AT LEAST EQUAL TO ONE TREAD DEPTH BEYOND THE LAST RISER NOSING.
 - ALL WELDED CONNECTIONS FOR THE NEW RAILING AND POSTS SHALL BE GROUND SMOOTH PRIOR TO PAINTING.
 - HAND RAILING SHALL BE CONSTRUCTED USING SMOOTH BENDS TO ELIMINATE SHARP CORNERS.
 - INTERMEDIATE STEEL POSTS SHALL BE INSTALLED IF STAIR LENGTH EXCEEDS 4'-0".
 - RAILING AND POST COLOR: BERGUNDY (RAL 3005)
 - SEE PLANS FOR EXPECTED NUMBER OF RISERS AT EACH STAIR LOCATION. RISER HEIGHT SHALL BE CONSISTENT AT EACH STAIR LOCATION. TYPICAL STAIRWAY RISER IS 6" AND TREAD IS 12".
 - STAIRWAY WIDTH IS 5'-0". CLEAR SPACE BETWEEN RAILING IS 4'-0".

1 OUTDOOR STAIRS WITH PEDESTRIAN RAILING
SCALE: N.T.S.



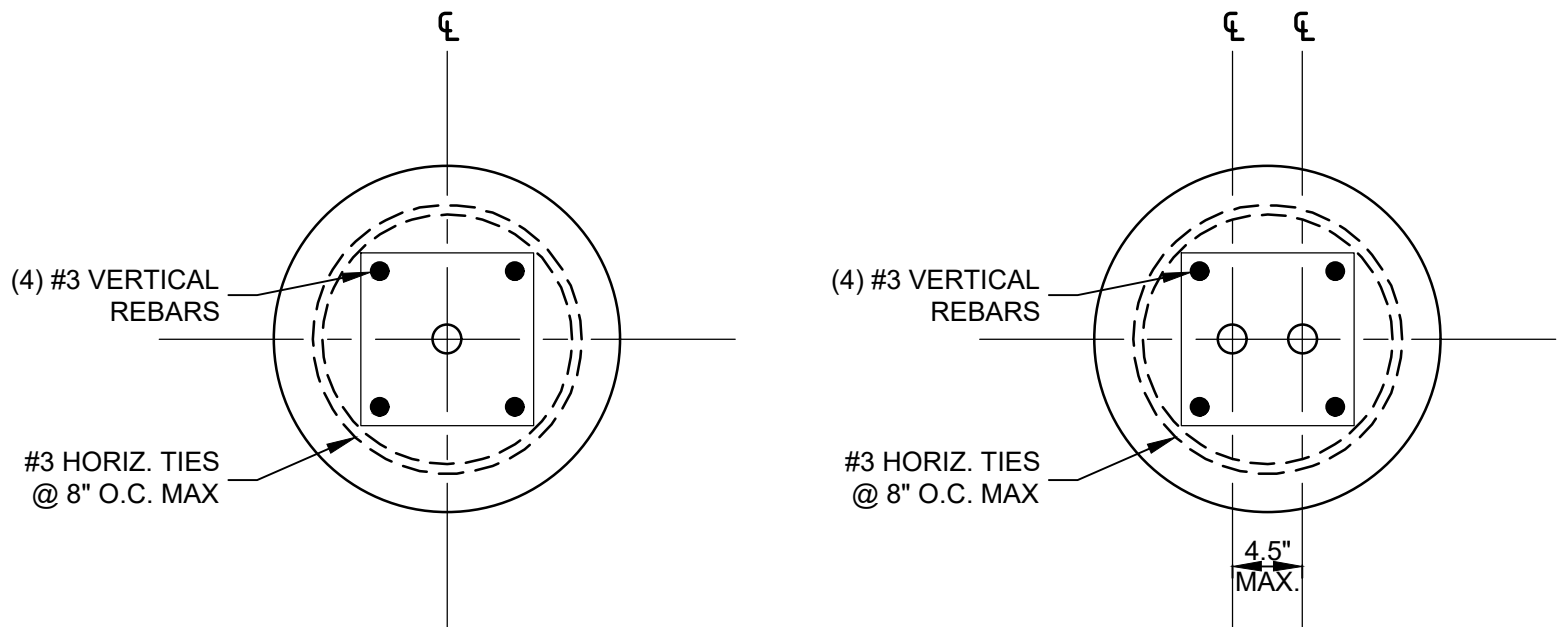
3 PEDESTRIAN RAILING POST SETBACK DETAIL
SCALE: N.T.S.



SECTION

- GENERAL NOTES
- POST, RAILING AND MESH COLOR: BERGUNDY (RAL 3005).
 - MEASURE AND FABRICATE FENCE RAILING TO MATCH CURVATURE OF THE RETAINING WALL AND CHANGES IN ELEVATION.

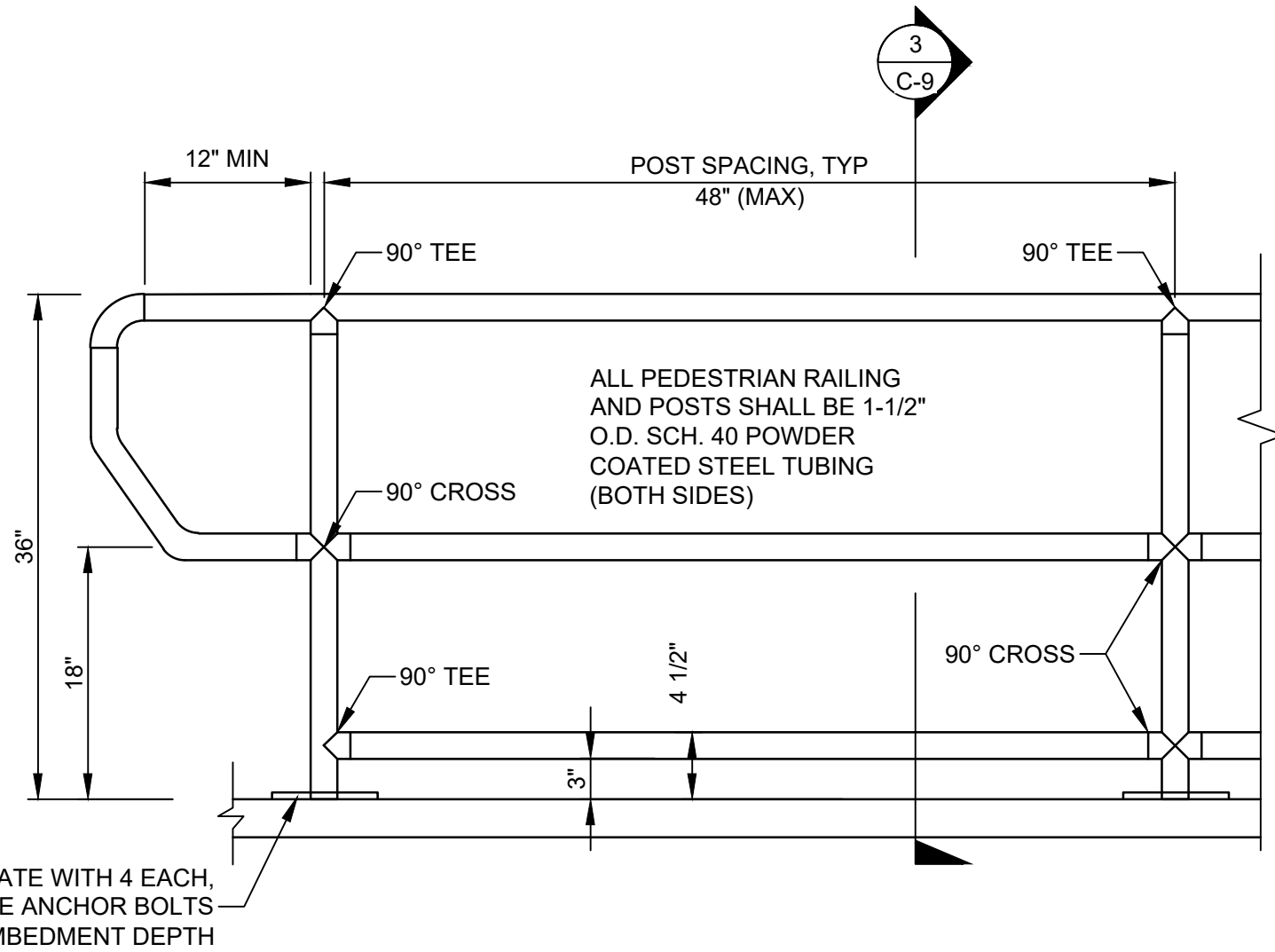
ELEVATION



SECTION 'A'

SECTION 'B'

2 STEEL FENCE RAILING
SCALE: N.T.S.



4 PEDESTRIAN RAILING DETAIL
SCALE: N.T.S.

- NOTES:
- SEE WYDOT STANDARD DETAIL 608-1B, SHEET C-12 FOR HANDRAIL REQUIREMENTS
 - CLEAR SPACE BETWEEN HANDRAILS IS 4'-0"
 - COORDINATE BASE PLATE BOLT INSTALLATION WITH HEAT TUBING
 - AT THE CONTRACTOR'S OPTION, POSTS CAN BE SLEEVED IN CONCRETE IN LIEU OF BASE PLATES AND ANCHOR BOLTS. COORDINATE DEPTH AND WIDTH OF SLEEVES WITH ENGINEER IN THE FIELD. THICKEN CONCRETE EDGE IF SLEEVING.
 - RAILING AND POST COLOR: BERGUNDY (RAL 3005)
 - SEE PLANS FOR LOCATIONS.
 - RAILING SLOPE TO MATCH CONCRETE GRADE (KEEP RAILING PARALLEL TO CONCRETE); EXTEND HANDRAIL A MIN OF 12" PAST LAST POST (INTO LANDING) AT EACH END OF HANDRAIL

CONSTRUCTION PLANS
MARCH 2023

W:\60177 SHERIDAN COUNTY\60177.002 SHR CNTY - BROOKS ST GREENSPACE\SHEETS\CIVIL\002-06 DETAILS.DWG
PLOTTED BY:TIM BRUGGER ON Feb/28/2023

REVISIONS				
NO.	DESCRIPTION	BY	DATE	

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Professional Engineer (Civil)
Tim Maierle
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: CP
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY BROOKS STREET GREENSPACE	WYOMING	PROJECT NUMBER 6017.002 SHEET NUMBER 12 DRAWING NUMBER C-10
FENCE AND RAILING DETAILS		

GENERAL SIDEWALK REQUIREMENTS

Corrective Work: Do not exceed ADA minimum or maximum requirements (unless specified in the contract for a given site infeasibility condition). If exceeded, provide corrective work as approved by the Engineer to bring the work into compliance with ADA Standards.

Minimum Sidewalk & Ramp Widths:

5 ft. [1525] for new construction and where feasible in existing infrastructure. ADA Minimum = 4 ft. [1220] (with passing zones).

Provide sidewalk passing zones every 200 ft. [61m] (ADA maximum) when the clear width of the sidewalk is less than 5 ft. [1525]. Passing zones are minimum of 5 ft. [1525] x 5 ft. [1525] (ADA minimum).

Cross-Slope (perpendicular to the travel direction):

Slope sidewalks at 1.5% towards street unless otherwise shown. ADA maximum cross-slope = 2.0%.

Sidewalk Grade:

If the sidewalk is contained within the roadway/highway right of way, do not exceed the maximum grade for the adjacent roadway. For other areas, do not exceed 4.5%. ADA maximum = 5.0%. Exception: curb ramp grades have their own requirements.

Curb Ramps:

Provide curb ramps and landings at all pedestrian street crossings and for each direction of travel. Provide perpendicular ramps or combination ramps where available right-of-way exists.

Detectable Warnings:

Provide color contrast detectable warnings in accordance with the contract for all ramps for the entire ramp width for perpendicular ramps and the entire street grade landing for parallel ramps. The rust like patina on cast iron detectable warnings is considered to meet color contrast requirements.

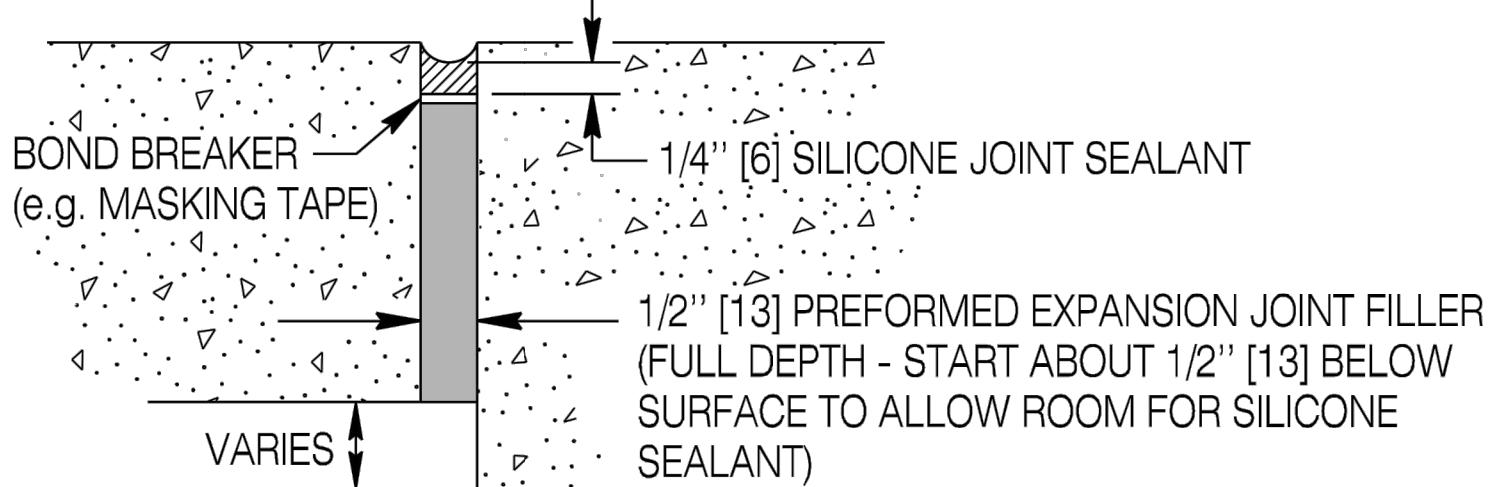
Pedestrian Signal Actuators: Provide in accordance with MUTCD.

Sidewalk Closures (for construction):

Provide sidewalk closures in conformance with ADA and MUTCD requirements.

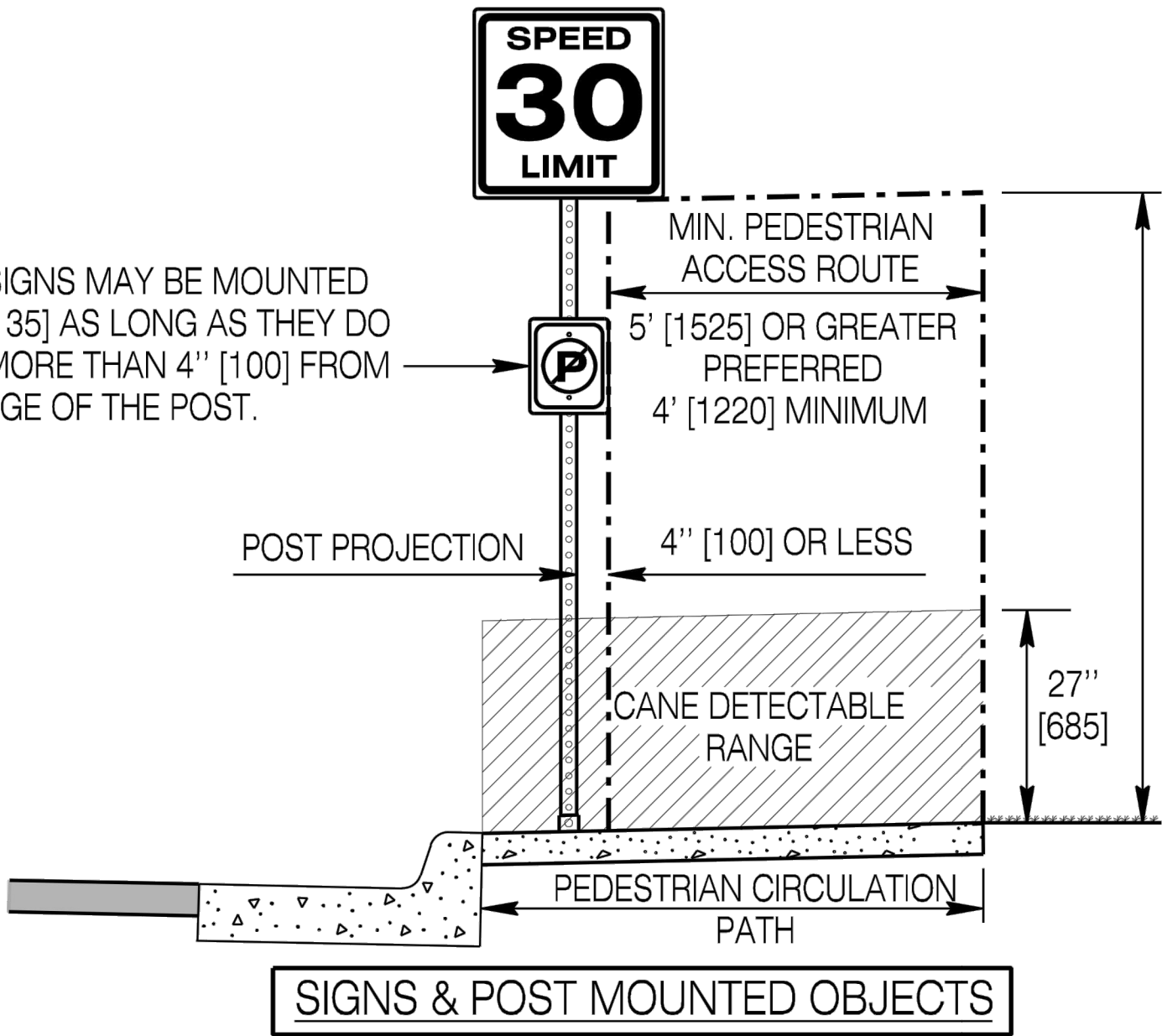
Expansion Joints:

Provide expansion joints (shown below) as required in the contract.

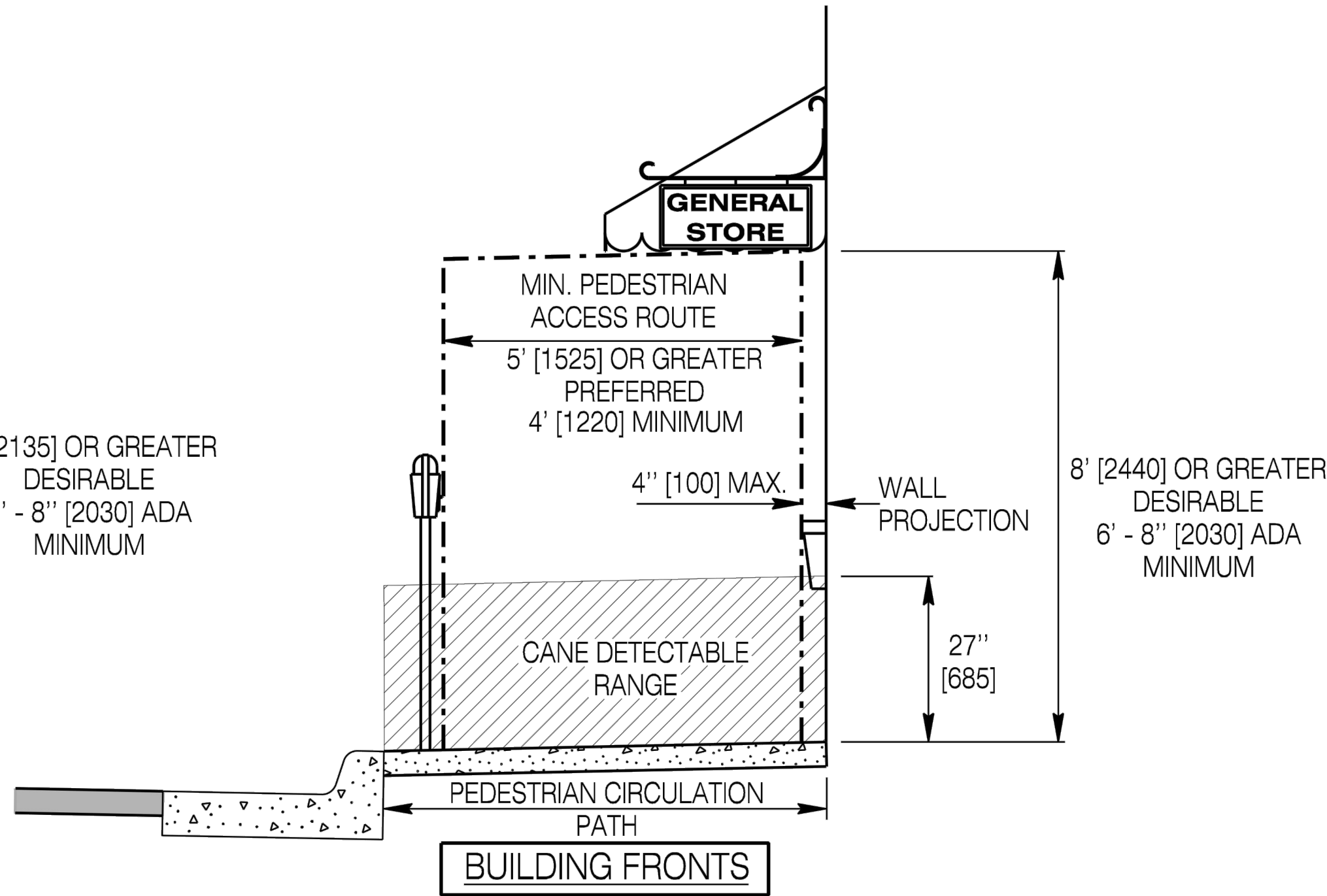


TYPICAL EXPANSION JOINT DETAIL

SECONDARY SIGNS MAY BE MOUNTED BELOW 7 FT. [2135] AS LONG AS THEY DO NOT PROJECT MORE THAN 4\"/>



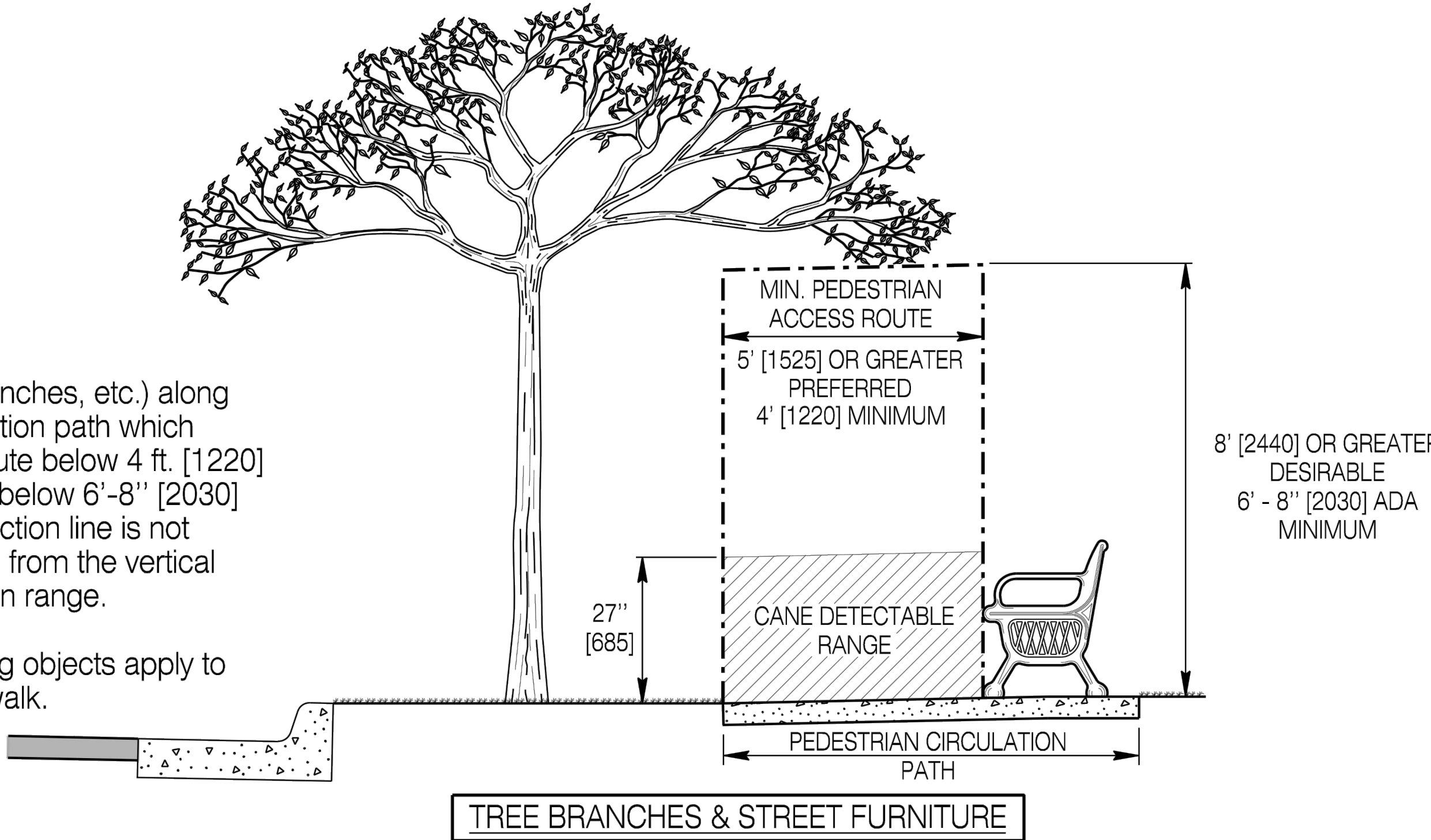
7' [2135] OR GREATER DESIRABLE
6' - 8\"/>



MINIMUM PEDESTRIAN ACCESS ROUTE
WIDTH, HEIGHT, AND PROTRUDING OBJECTS

Do not permit objects (street furniture, signs, trees, branches, etc.) along side or overhanging any portion of a pedestrian circulation path which reduces the **clear width** of the pedestrian access route below 4 ft. [1220] (5 ft. [1525] or greater preferred) or the **clear height** below 6'-8\"/>

The requirements above for clear height and protruding objects apply to the entire circulation path for which a pedestrian can walk.



Designed by: WBW
Drawn by: RCS
Checked by: WBW
Previous Dwg. No. 608-1A

GENERAL REQUIREMENTS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



CONCRETE SIDEWALK AND
ADA ACCESSIBILITY

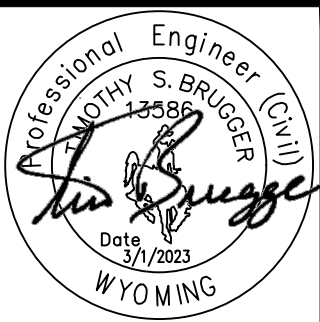
STANDARD PLAN

STANDARD PLAN NUMBER
608-1B
SHEET 1 of 8
Issued by: ENGINEERING SERVICES
Date Issued: JULY 2018

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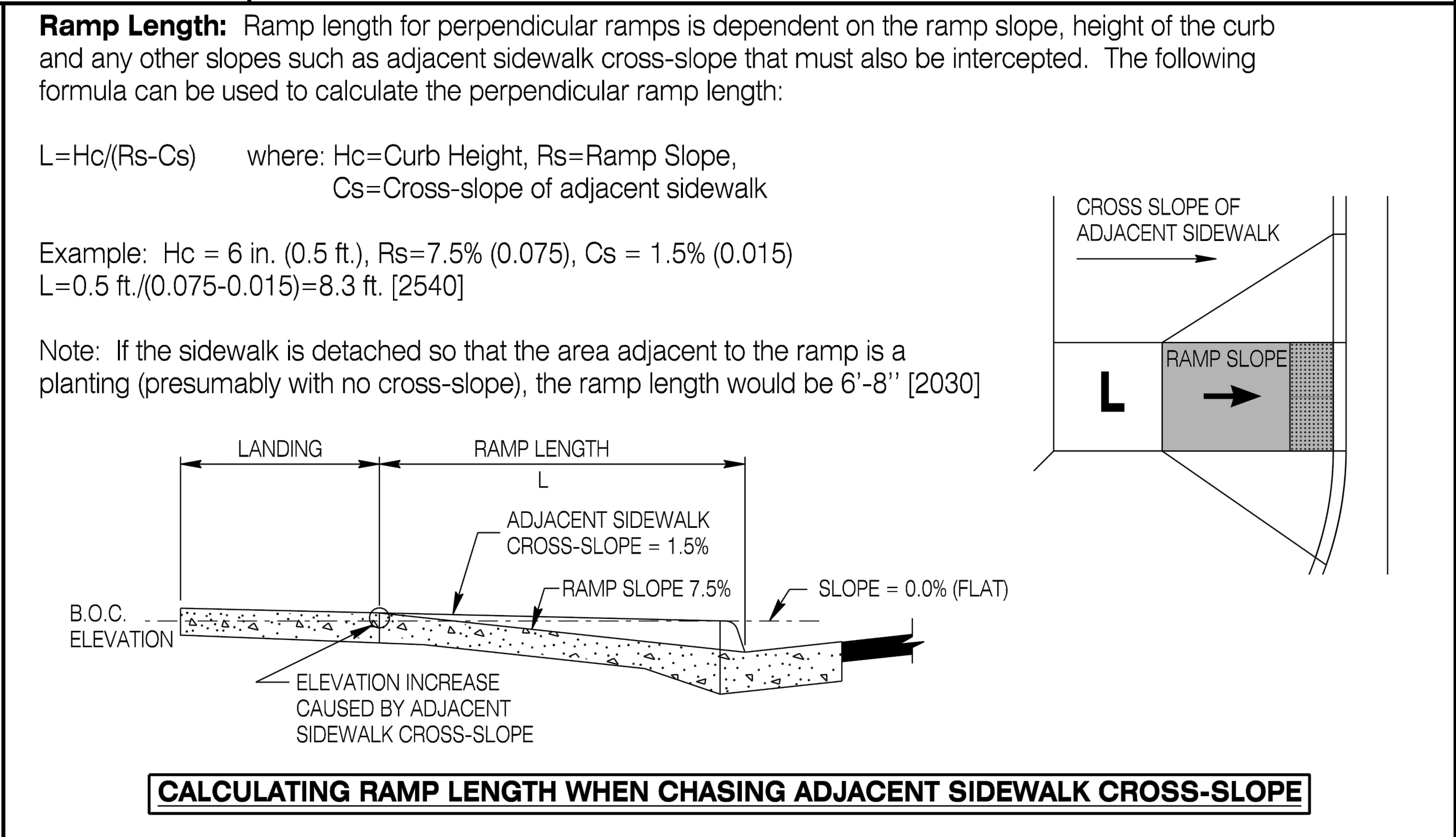
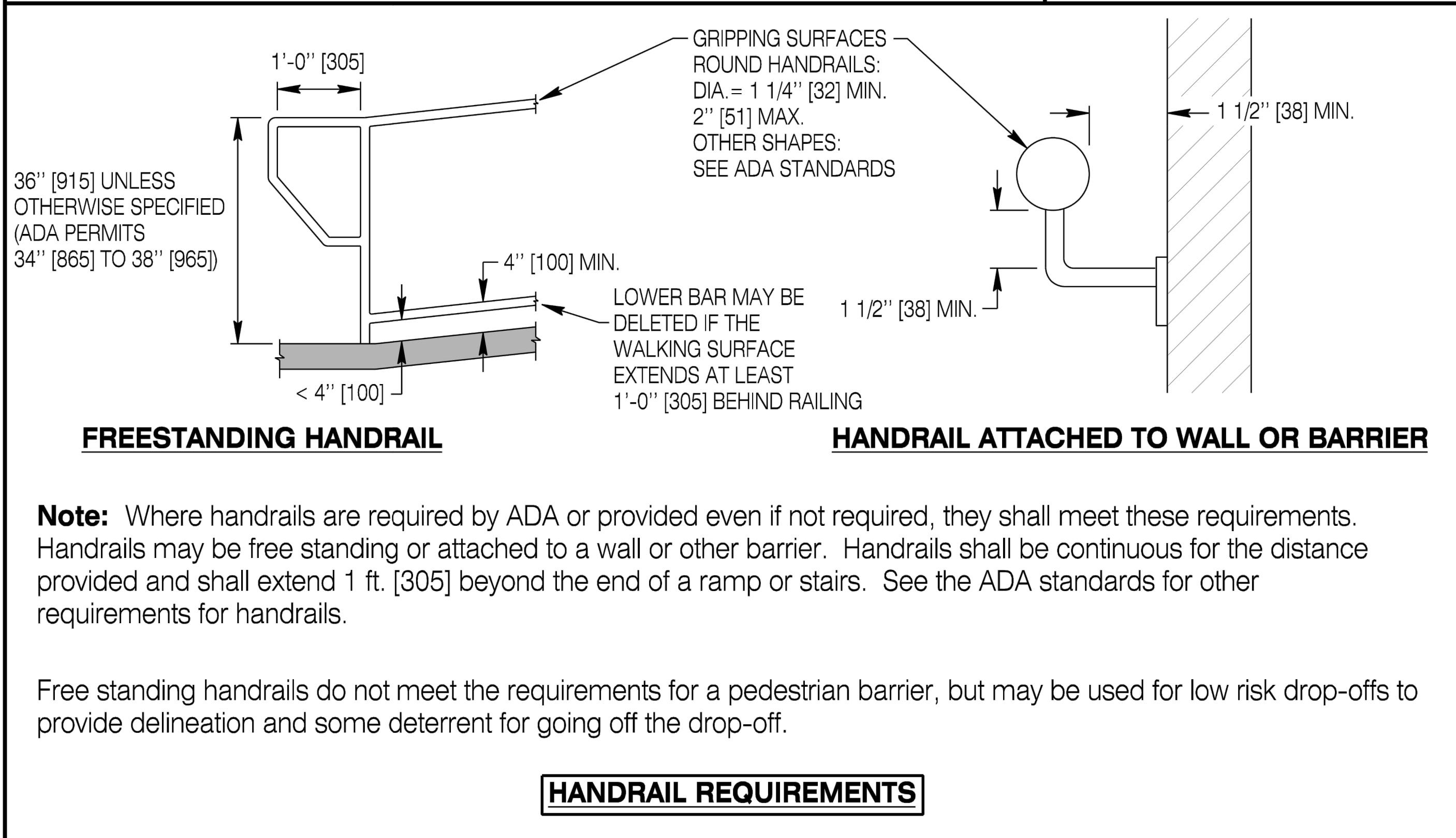
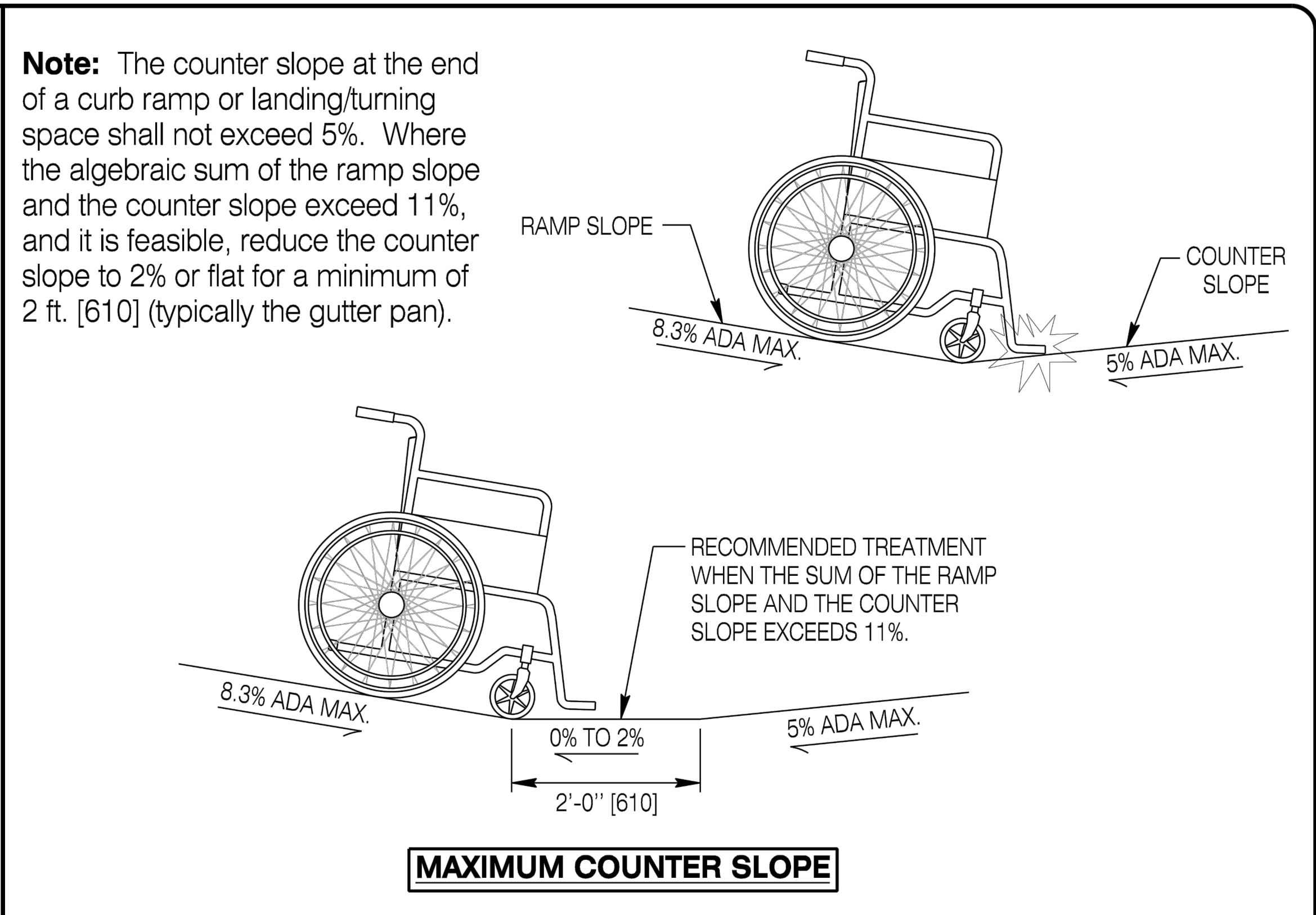
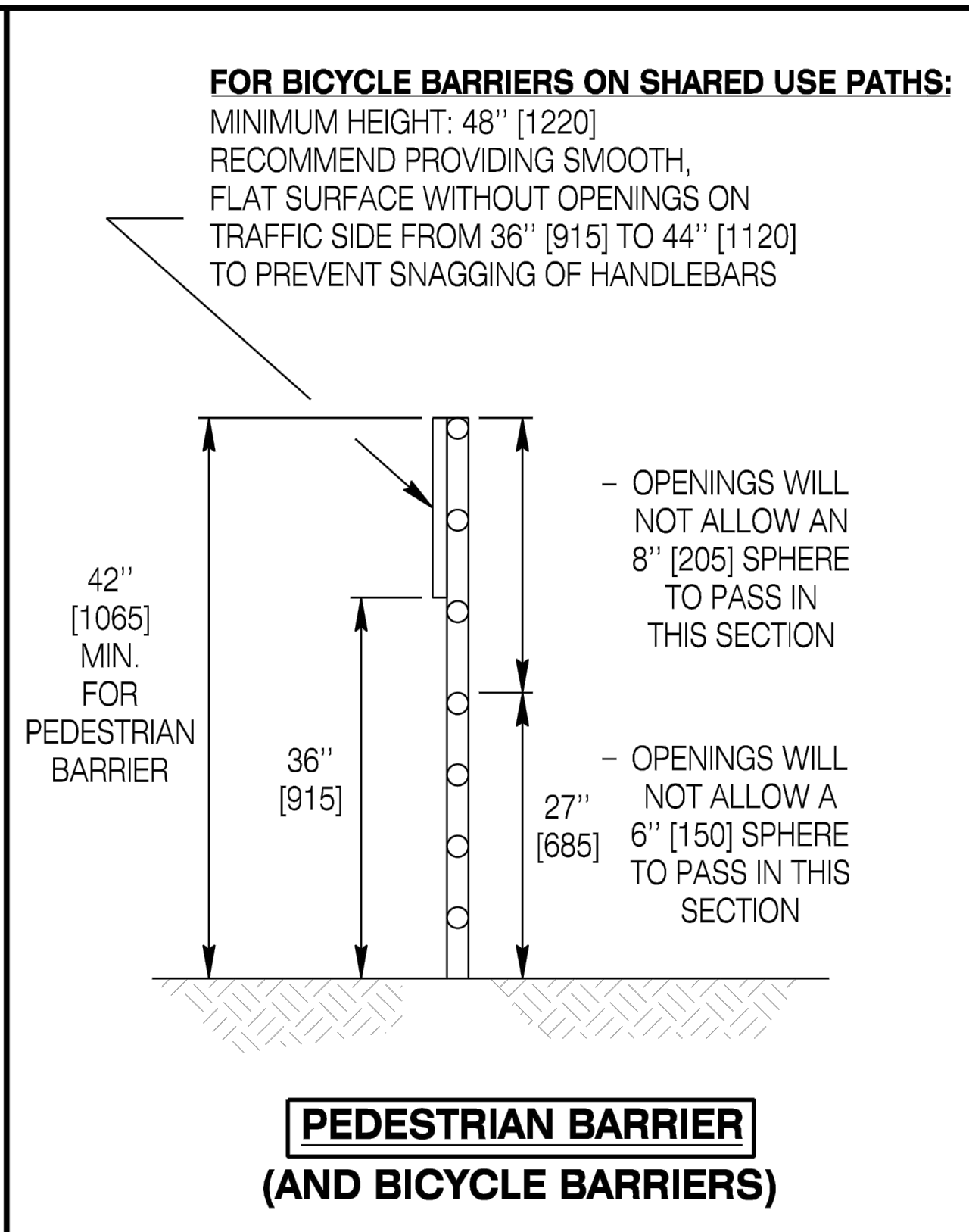
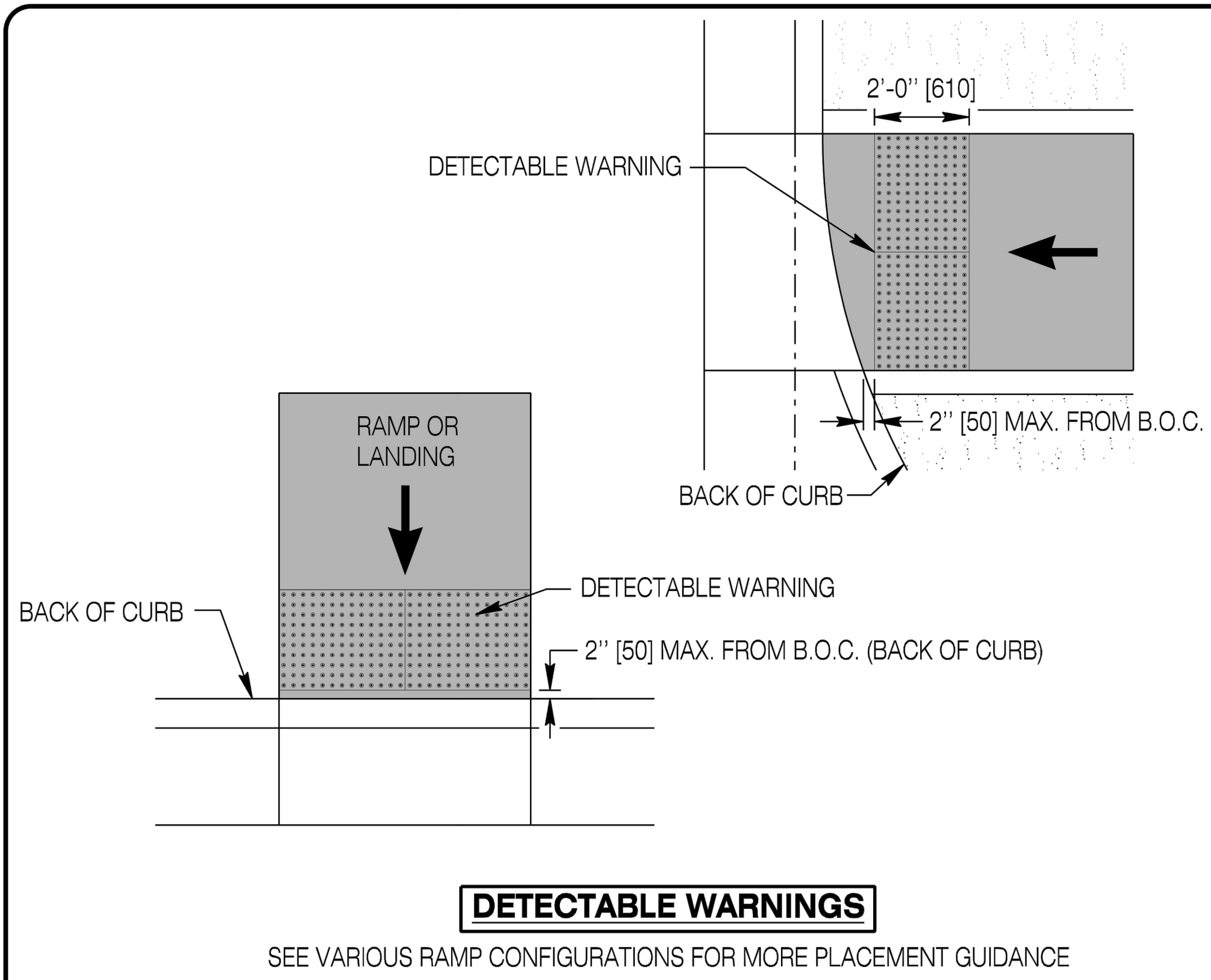
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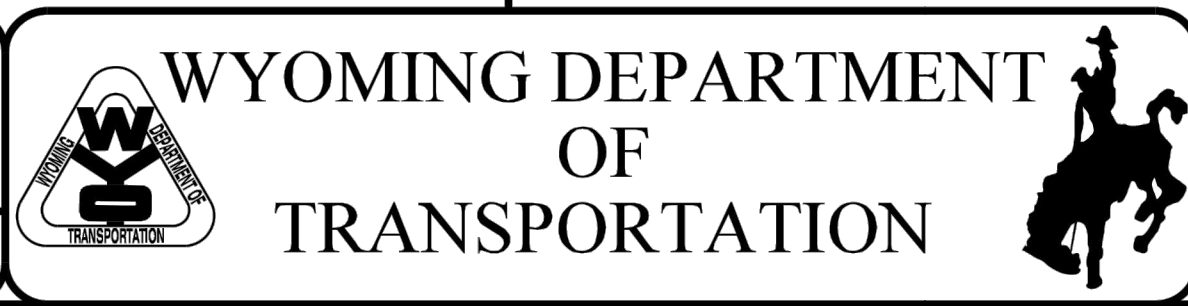
DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW BY: JMF
DATE: 6/24/2022

SHERIDAN	SHERIDAN COUNTY BROOKS STREET GREENSPACE	WYOMING
WYDOT STANDARD PLANS		

PROJECT NUMBER 6017.002
SHEET NUMBER 13
DRAWING NUMBER C-11



Designed by: WBW	MISCELLANEOUS DETAILS
Drawn by: RCS	
Checked by: WBW	
Previous Dwg. No. 608-1A	
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CONCRETE SIDEWALK AND ADA ACCESSIBILITY

STANDARD PLAN

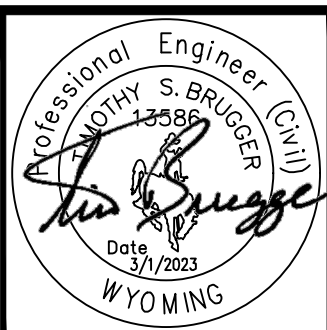
STANDARD PLAN NUMBER
608-1B
SHEET 2 of 8
Issued by: ENGINEERING SERVICES
Date Issued: JULY 2018

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DATE: 3/1/2023
Q.C. REVIEW BY: JMF
DATE: 6/24/2022

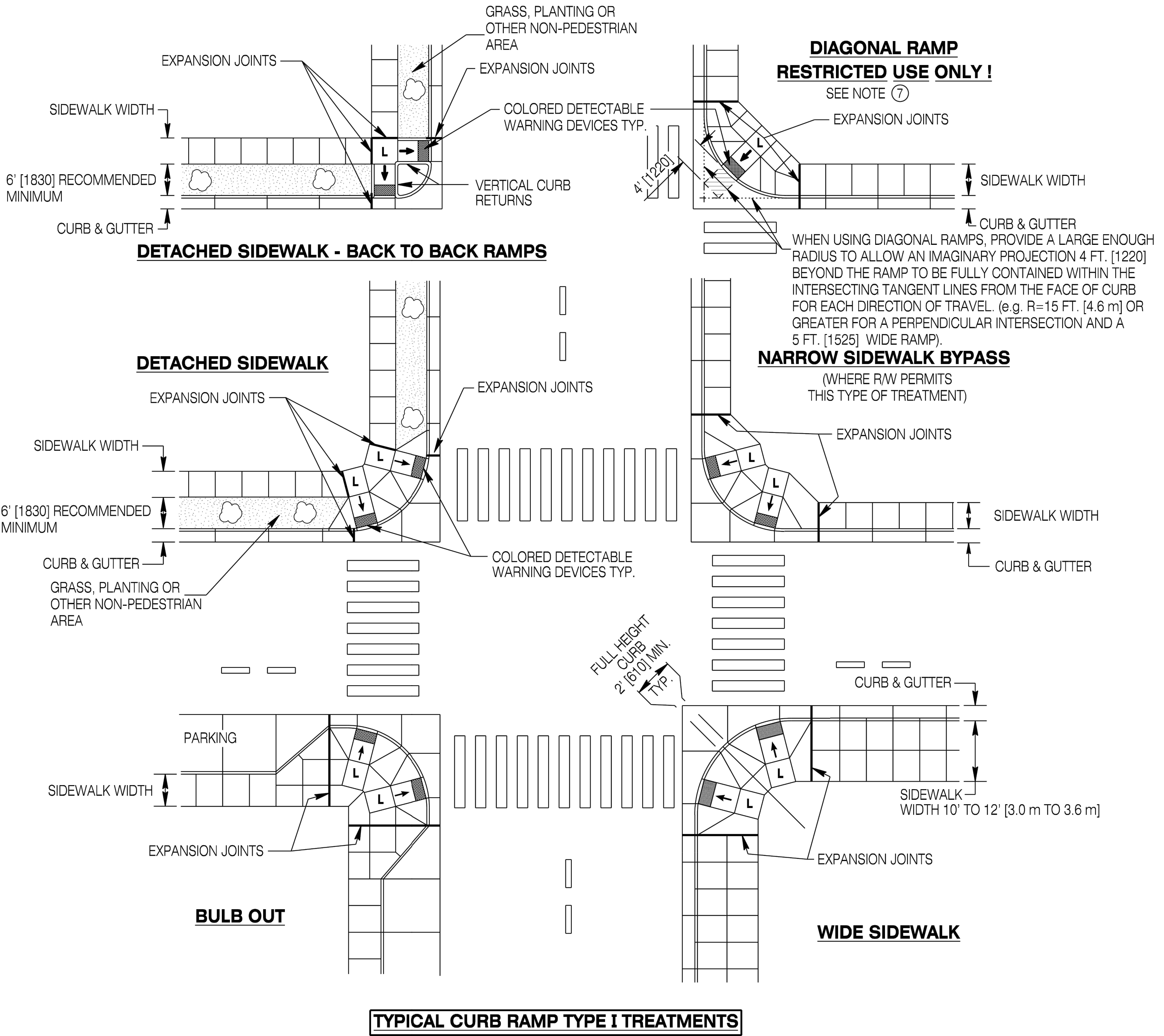
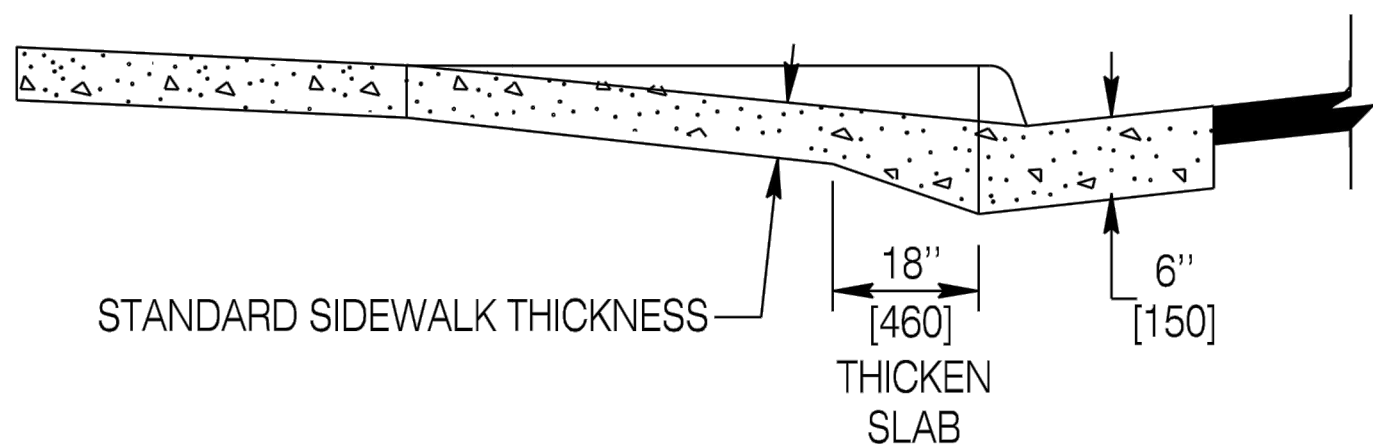
SHERIDAN COUNTY BROOKS STREET GREENSPACE	WYOMING
WYDOT STANDARD PLANS	

PROJECT NUMBER 6017.002
SHEET NUMBER 14
DRAWING NUMBER C-12

CONSTRUCTION PLANS
MARCH 2023

PERPENDICULAR RAMP NOTES

- ① **Ramp Width:** Provide 5 ft. [1525] or greater width where possible. If site conditions do not permit, provide a 4 ft. [1220] minimum ramp width. Ensure the ramp is fully contained within the pedestrian crossing.
- ② **Ramp Slope:** 7.5% or flatter, ADA maximum = 8.3%.
- ③ **Ramp Cross-Slope:** 1.5%, ADA maximum = 2.0%.
- L ④ **Landing/Turning Area:** Provide a landing/turning area at the top of perpendicular ramps with a width equal to the ramp width. Provide a landing length (in the direction of the ramp run) of 5 ft. [1525] minimum. This length can be reduced to 4 ft. [1220] if no vertical obstructions such as buildings, walls, curbs, etc. are directly behind the landing. Do not exceed a slope of 1.5% for the landing in either primary direction (parallel or perpendicular to the ramp run). ADA maximum cross-slope = 2.0%.
- ⑤ **Flared Ramp Returns:** Provide flared returns with a relative slope of 10% measured along the curb line. If the flare between ramps is located in a non-pedestrian area (for example, a signal pole blocks passage), the flares may be steeper. Place ramps with flared returns perpendicular to the curb line.
- ⑥ **Vertical Ramp Returns:** Vertical returns may be used only if the sidewalk is detached from the curb or obstructions are adjacent to the ramp so pedestrians don't have to traverse vertical flares which could become a tripping hazard. When using vertical returns, ensure the ramps align with the intended direction of travel across the street. Ensure slope breaks such as the flow line are constructed perpendicular to the ramps.
- ⑦ **Ramp Alignment:** Provide ramps aligned to be fully contained in the intended crosswalk. Provide one ramp for each direction of travel, unless site infeasibility conditions exist or a skewed intersection is present where one ramp better serves both directions of travel. If a diagonal ramp is used, ensure that an imaginary 4 ft. [1220] by 4 ft. [1220] box at the bottom of the ramp can be provided which doesn't extend beyond either face of curb line.
- ⑧ **Ramp Length:** Perpendicular curb ramp length is dependent on the ramp slope, height of the curb and any other slopes such as adjacent sidewalk cross-slope that must also be intercepted. See **[SHEET 2]** for calculating ramp length when chasing an adjacent sidewalk cross-slope.
- ⑨ **Ramp Construction:** Transition ramp thickness from sidewalk thickness to gutter thickness in the last 18 in. [460] of the ramp.



TYPICAL CURB RAMP TYPE I TREATMENTS

Designed by: WBW
Drawn by: RCS
Checked by: WBW
Previous Dwg. No.: 608-1A

TYPE I - PERPENDICULAR CURB RAMPS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



CONCRETE SIDEWALK AND ADA ACCESSIBILITY

STANDARD PLAN

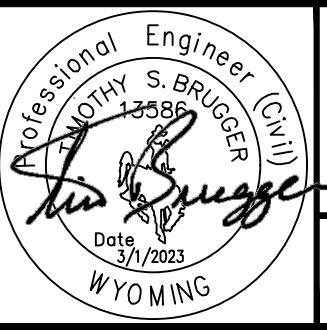
STANDARD PLAN NUMBER
608-1B
SHEET 3 of 8
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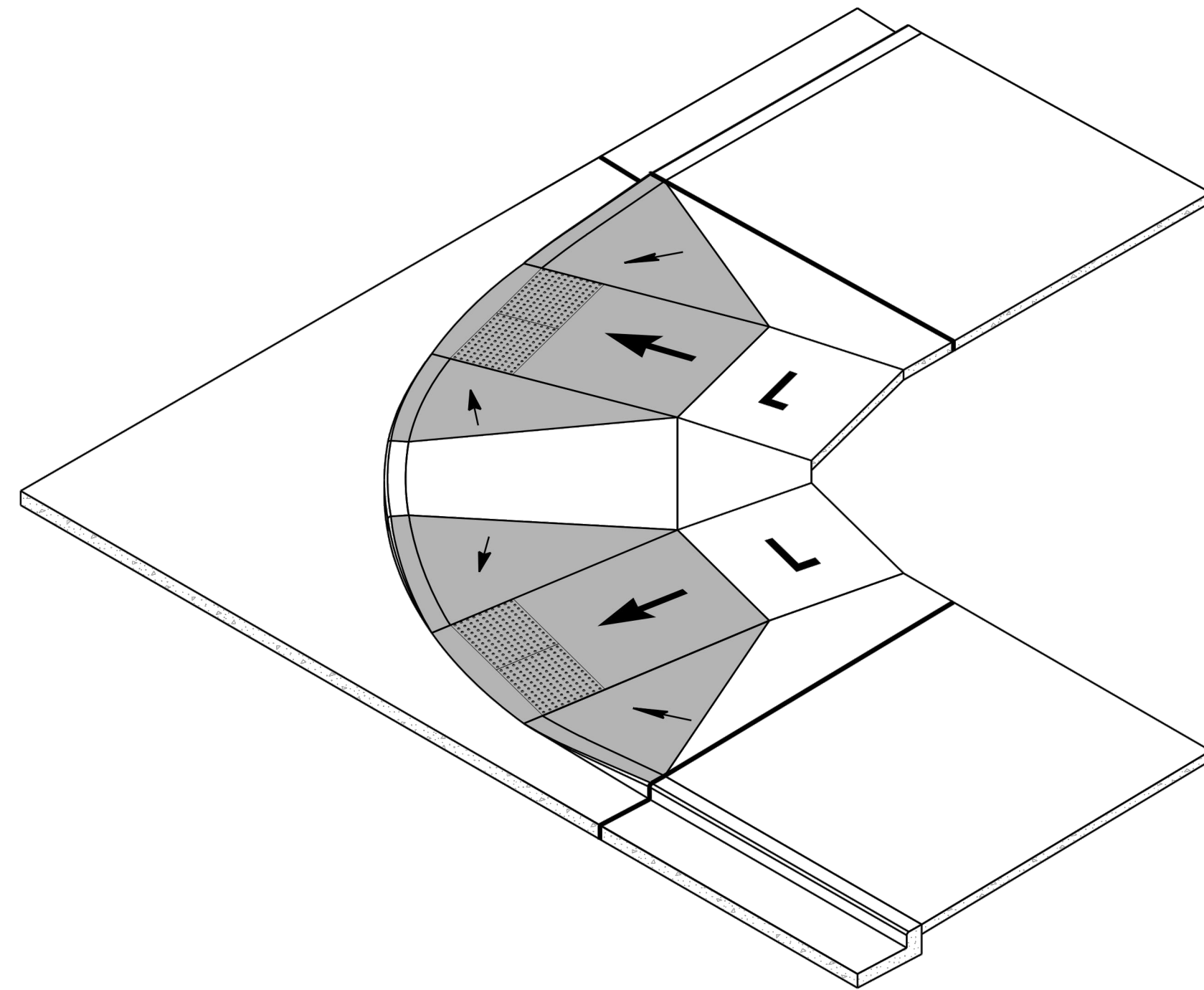
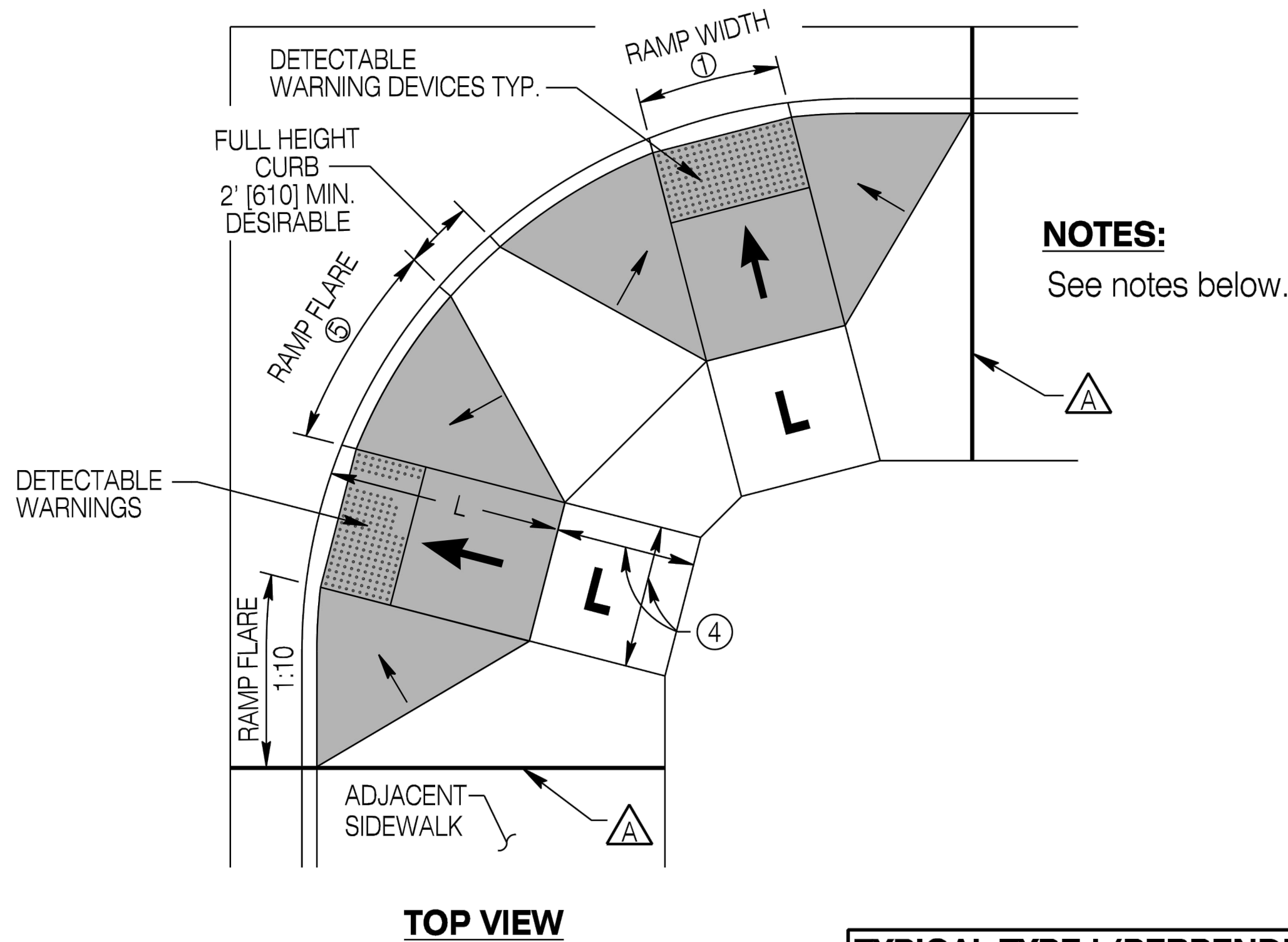


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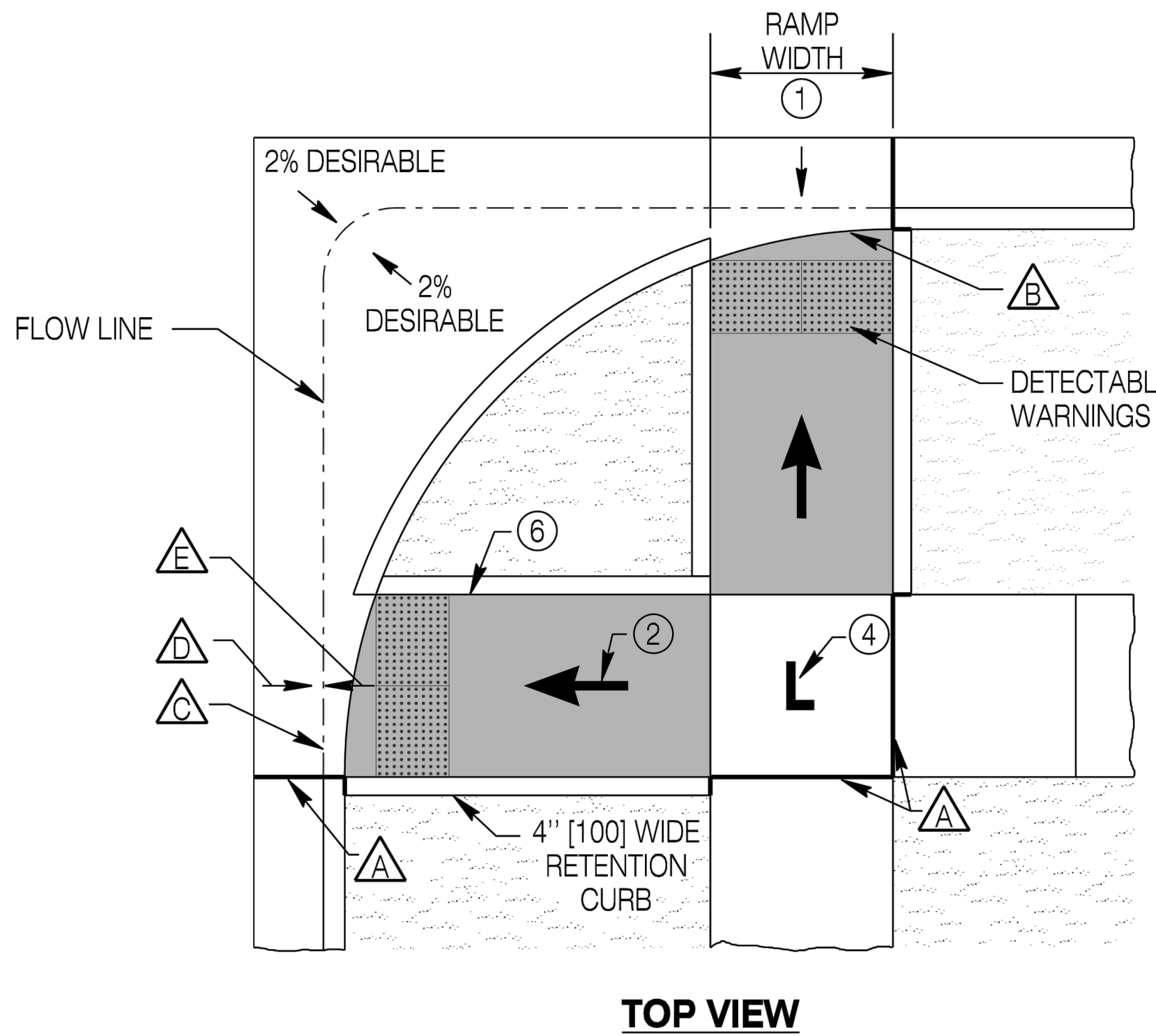
SHERIDAN COUNTY BROOKS STREET GREENSPACE		
SHERIDAN		WYOMING
WYDOT STANDARD PLANS		

PROJECT NUMBER 6017.002
SHEET NUMBER 15
DRAWING NUMBER C-13

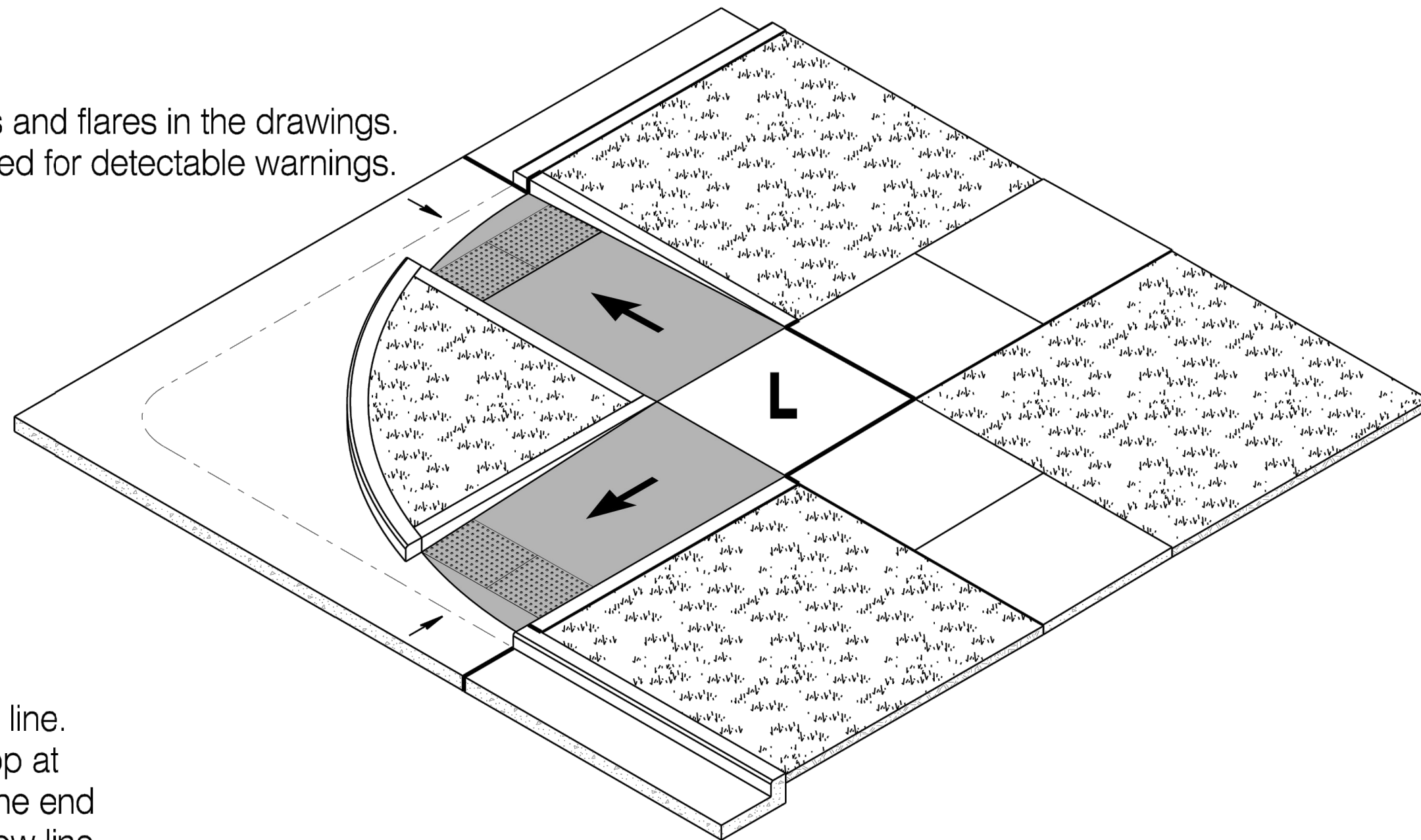
CONSTRUCTION PLANS
MARCH 2023



TYPICAL TYPE I (PERPENDICULAR) CORNER RAMPS WITH FLARED RETURNS



- NOTES:**
Shaded areas are intended to highlight ramps and flares in the drawings. Color contrast from the sidewalk is only required for detectable warnings.
- Notes ① through ⑨ - See **SHEET 3**
- Ⓐ Expansion Joint - See **SHEET 1**
 - Ⓑ Not a grade break line.
 - Ⓒ Make grade breaks (such as the gutter flow line) perpendicular to the ramps.
 - Ⓓ Gutter counter slopes should be 2% maximum where possible at curb ramp locations.
 - Ⓔ Typically ramp run should extend to flow line. However, when specified, ramp may stop at curb line. In those cases, beginning at the end of the ramp, slope downward at 2% to flow line.



TYPICAL TYPE I (PERPENDICULAR) CORNER RAMPS WITH VERTICAL RETURNS

Designed by: WBW
Drawn by: RCS
Checked by: WBW
Previous Dwg. No.: 608-1A

TYPE I PERPENDICULAR RAMPS (CONTINUED)

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



**WYOMING DEPARTMENT
OF
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**CONCRETE SIDEWALK AND
ADA ACCESSIBILITY**

STANDARD PLAN

STANDARD PLAN NUMBER

608-1B

SHEET 4 of 8

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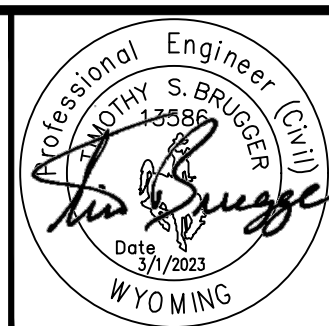
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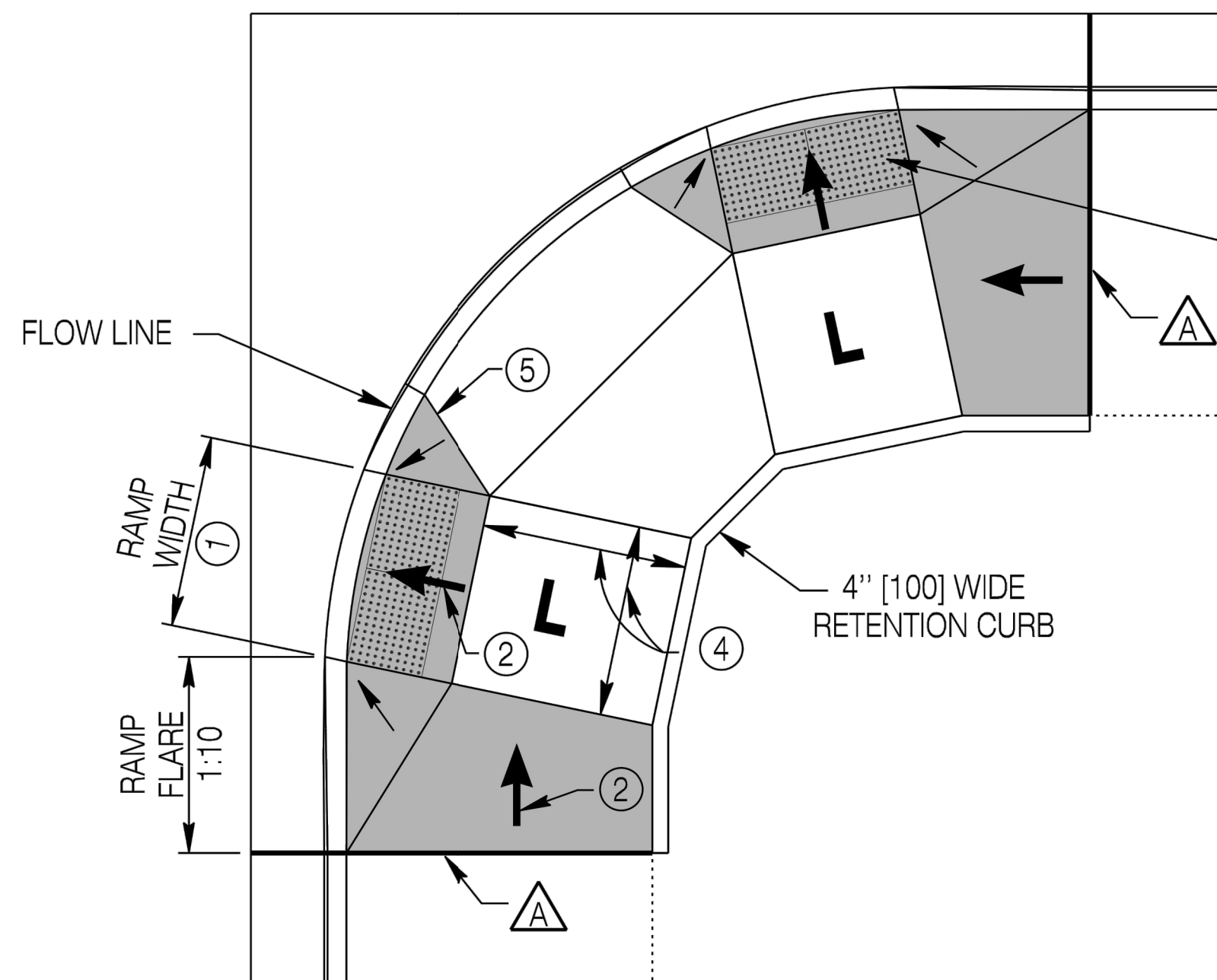
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DATE: 3/1/2023
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BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING
WYDOT STANDARD PLANS

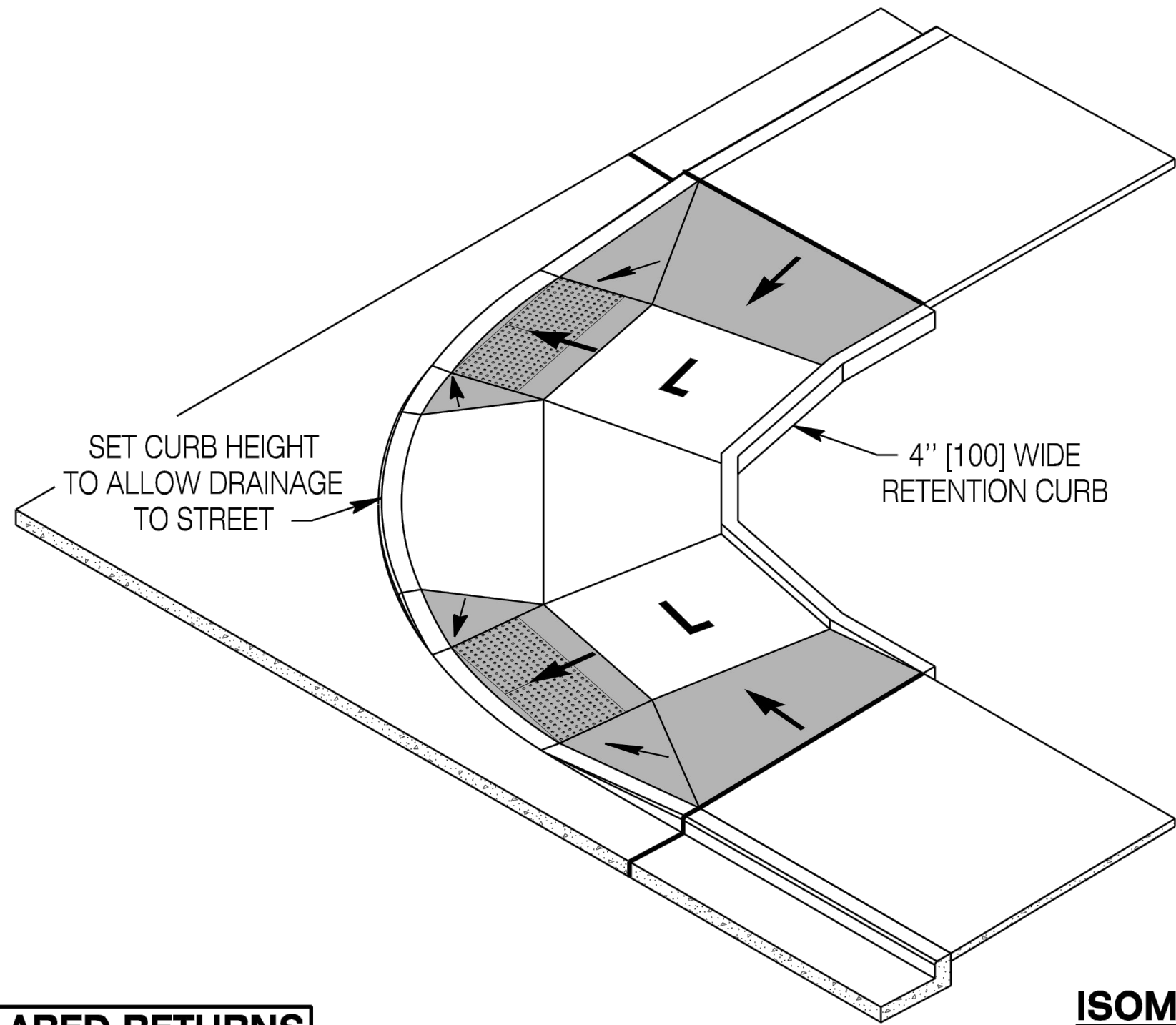
PROJECT NUMBER
6017.002
SHEET NUMBER
16
DRAWING NUMBER
C-14



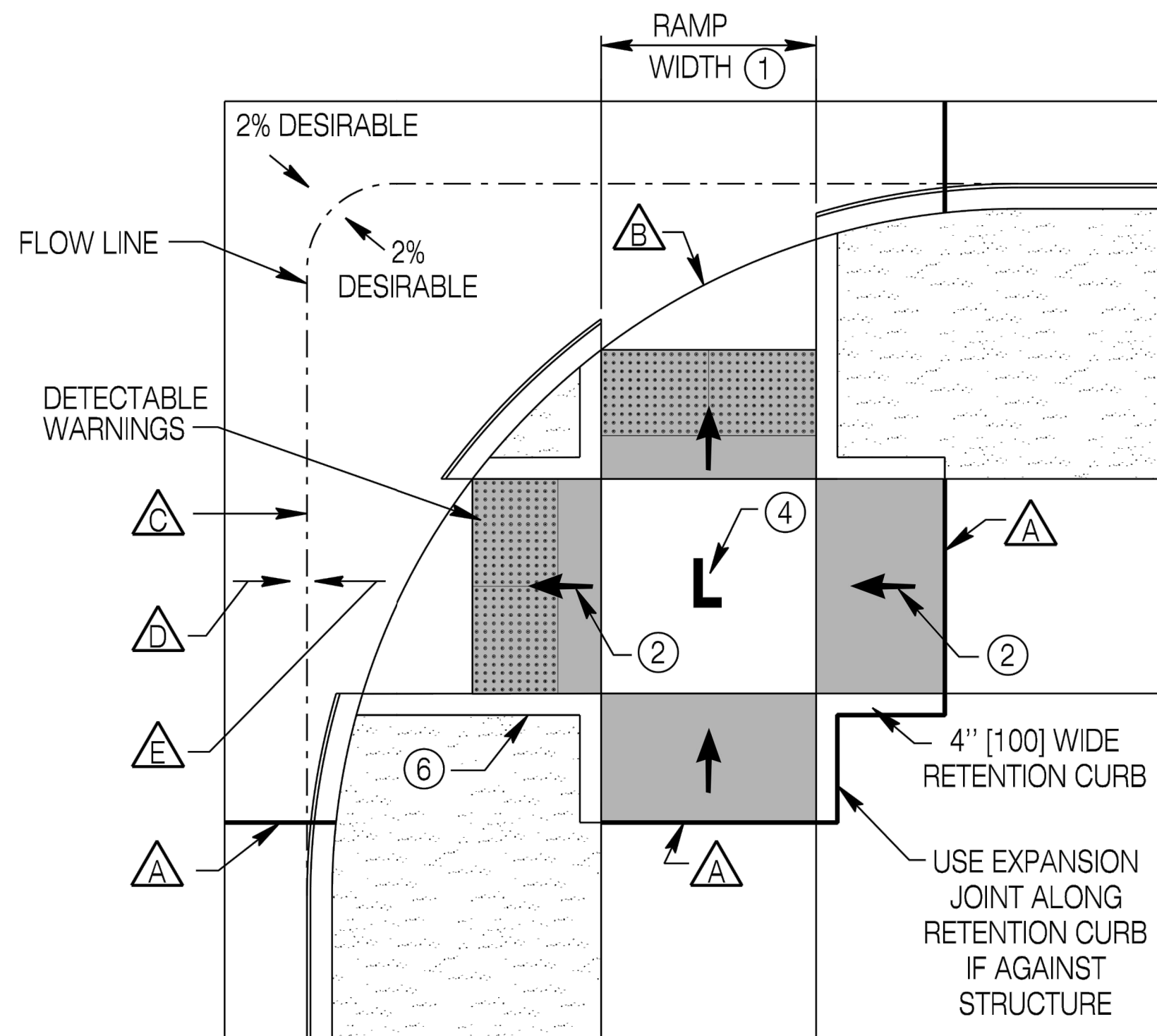
TOP VIEW

MODIFIED TYPE II (COMBINED) CORNER RAMPS WITH FLARED RETURNS

NOTES:
See notes below.



ISOMETRIC VIEW



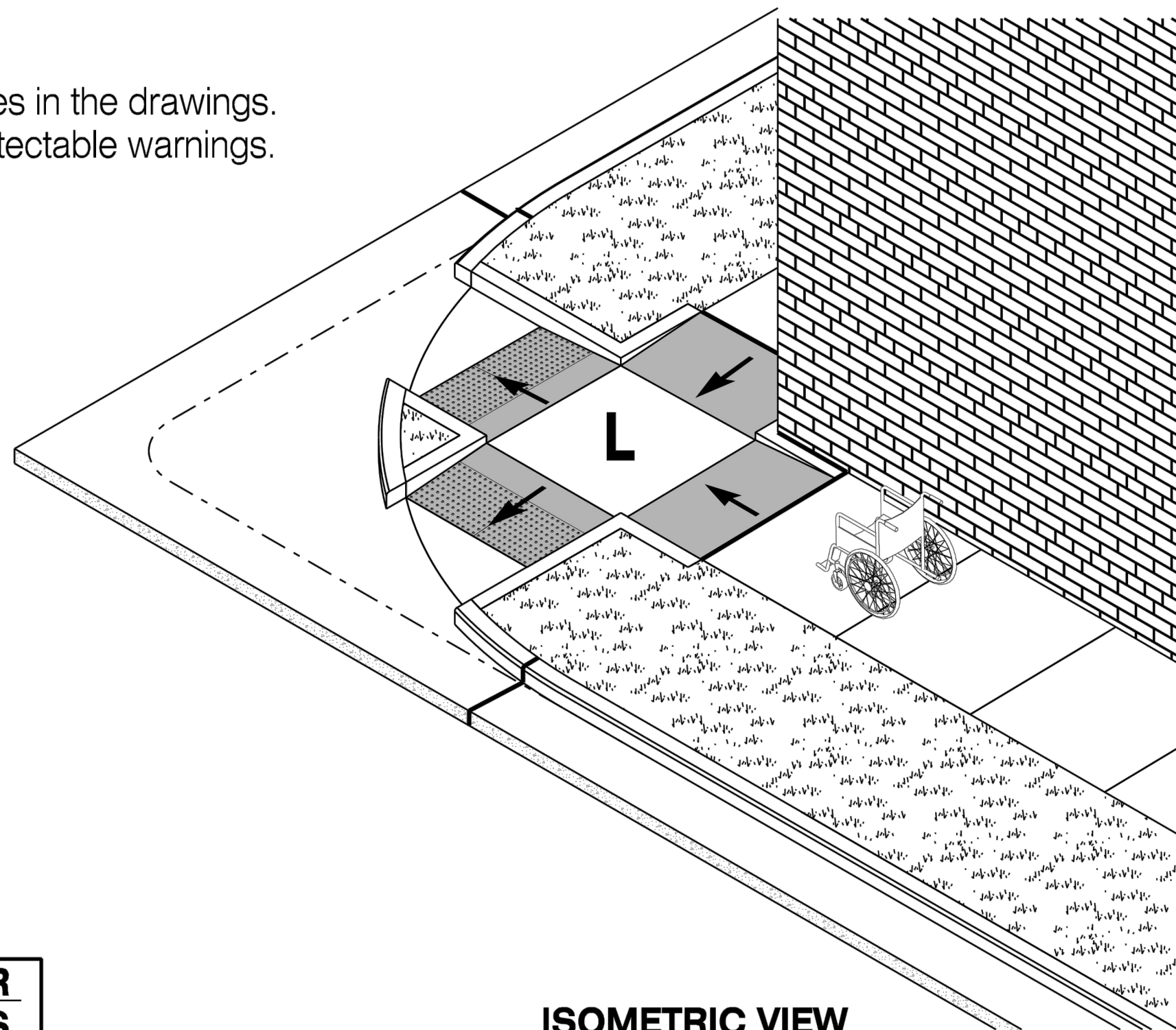
TOP VIEW

NOTES:
Shaded areas are intended to highlight ramps and flares in the drawings.
Color contrast from the sidewalk is only required for detectable warnings.

Notes ① through ⑨ - See **SHEET 3**

- ① Expansion Joint - See **SHEET 1**
- ② Not a grade break line.
- ③ Make grade breaks (such as the gutter flow line) perpendicular to the ramps.
- ④ Gutter counter slopes should be 2% maximum where possible at curb ramp locations.
- ⑤ Typically ramp run should extend to flow line. However, when specified, ramp may stop at curb line. In those cases, beginning at the end of the ramp, slope downward at 2% to flow line.

MODIFIED TYPE II (COMBINED) CORNER RAMPS WITH VERTICAL CURB RETURNS



ISOMETRIC VIEW

Designed by: VBVW
Drawn by: RCS
Checked by: VBVW
Previous Dwg. No. 608-1A

TYPE II - COMBINED PERPENDICULAR / PARALLEL RAMPS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



CONCRETE SIDEWALK AND
ADA ACCESSIBILITY

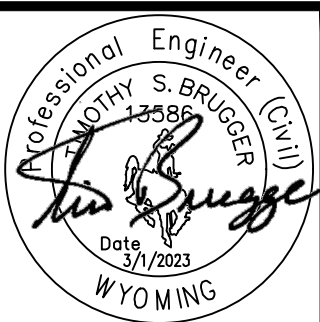
STANDARD PLAN

STANDARD PLAN NUMBER
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SHEET 5 of 8
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BY: JMF
DATE: 6/24/2022

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BROOKS STREET GREENSPACE
SHERIDAN
WYOMING
WYDOT STANDARD PLANS

PROJECT NUMBER
6017.002
SHEET NUMBER
17
DRAWING NUMBER
C-15

CONSTRUCTION PLANS
MARCH 2023

TYPE III (PARALLEL) CURB RAMP REQUIREMENTS

Use type III parallel ramps when it is not feasible to construct type I perpendicular, or type II combined ramps.

① **Ramp Width:** Provide a ramp width equal to or greater than the adjacent sidewalk run.

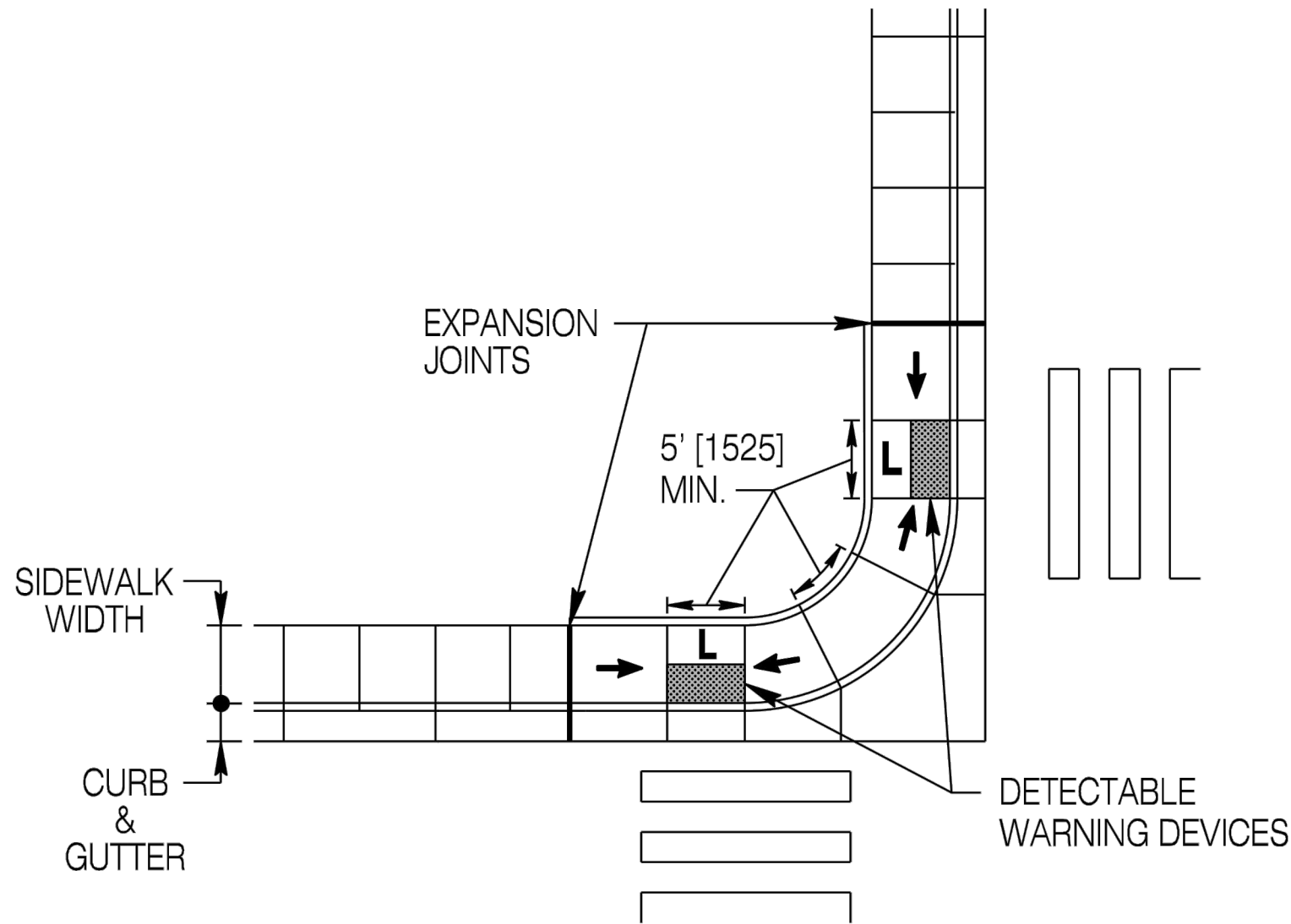
② **Ramp Slope:** 7.5% or flatter, ADA maximum = 8.3%.

③ **Ramp Cross-Slope:** 1.5%, ADA maximum = 2.0%.

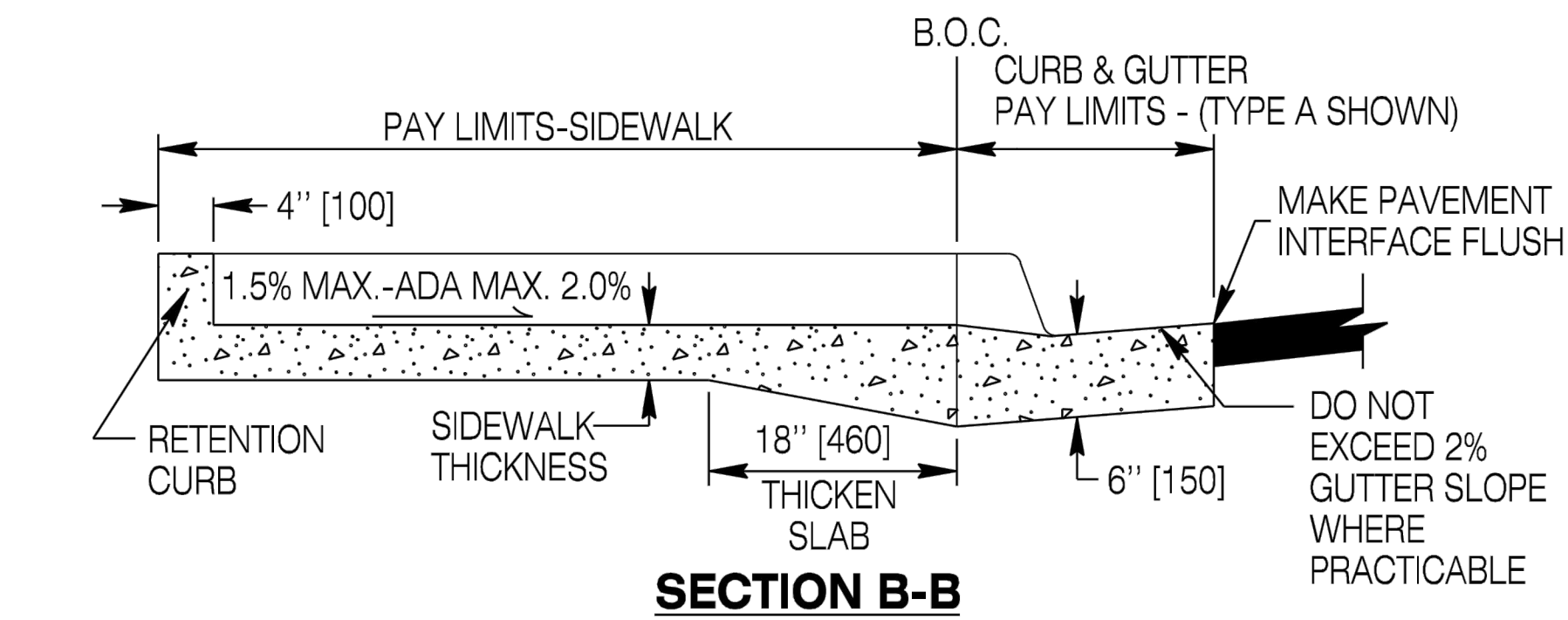
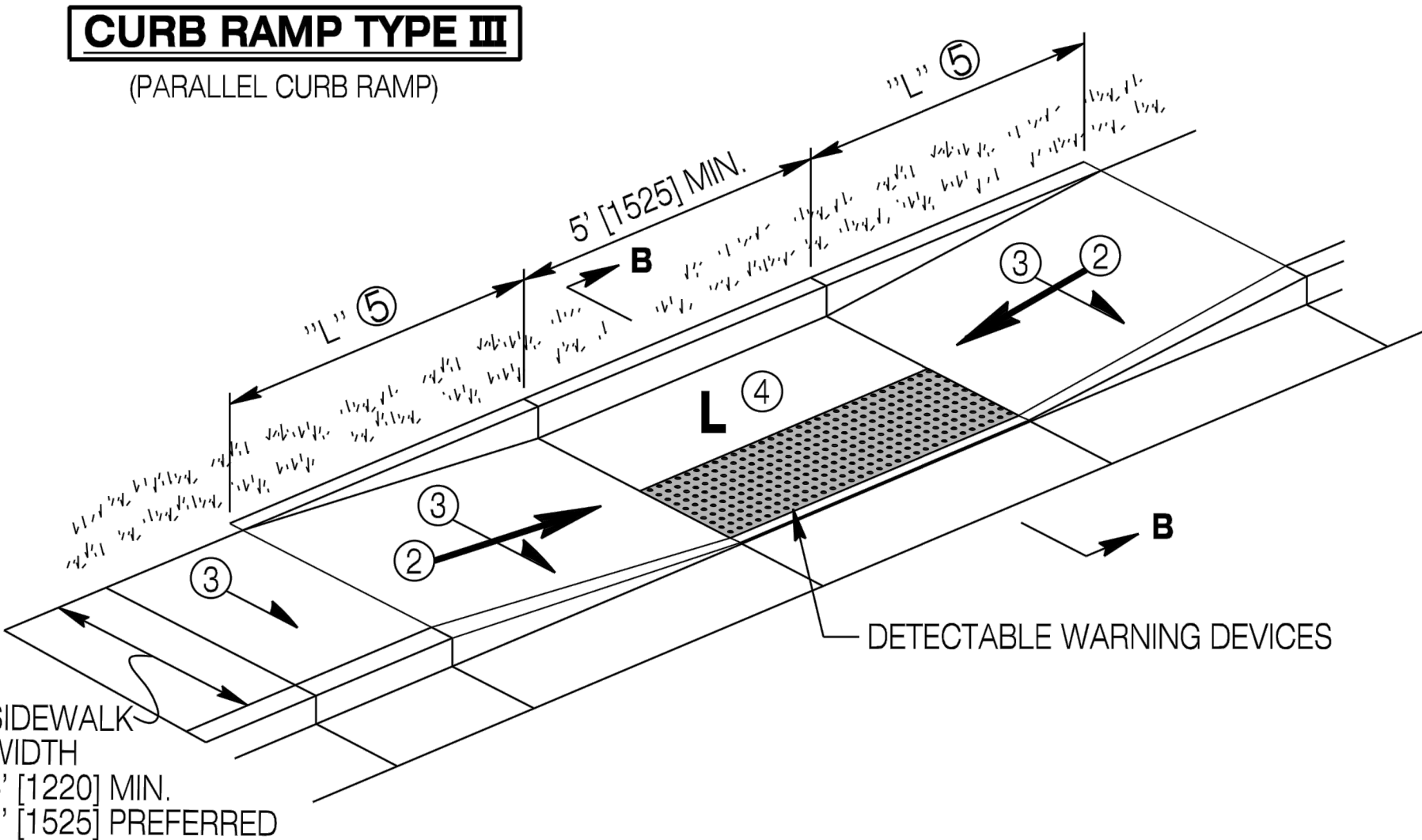
④ **"L" Landing/Turning Area:** Provide a landing/turning area at the bottom of parallel ramps with a width equal to the ramp width. Provide a landing length (in the direction of the ramp run) of 5 ft. [1525] minimum. Do not exceed a slope of 1.5% for the landing in either primary direction (parallel or perpendicular to the ramp run). Ensure the landing is fully contained within the pedestrian crossing. ADA maximum cross-slope = 2.0%.

⑤ **Ramp Length:** Ramp length is normally determined by the ramp slope and the elevation change from the sidewalk to the landing. For flat terrain and a 6 in. [150] curb height the ramp length equals 6'-8" [2030]. Where the terrain is sloping, ramp lengths can get significantly longer, however, ADA does not require the ramp length to exceed 15 ft. [4.6 m].

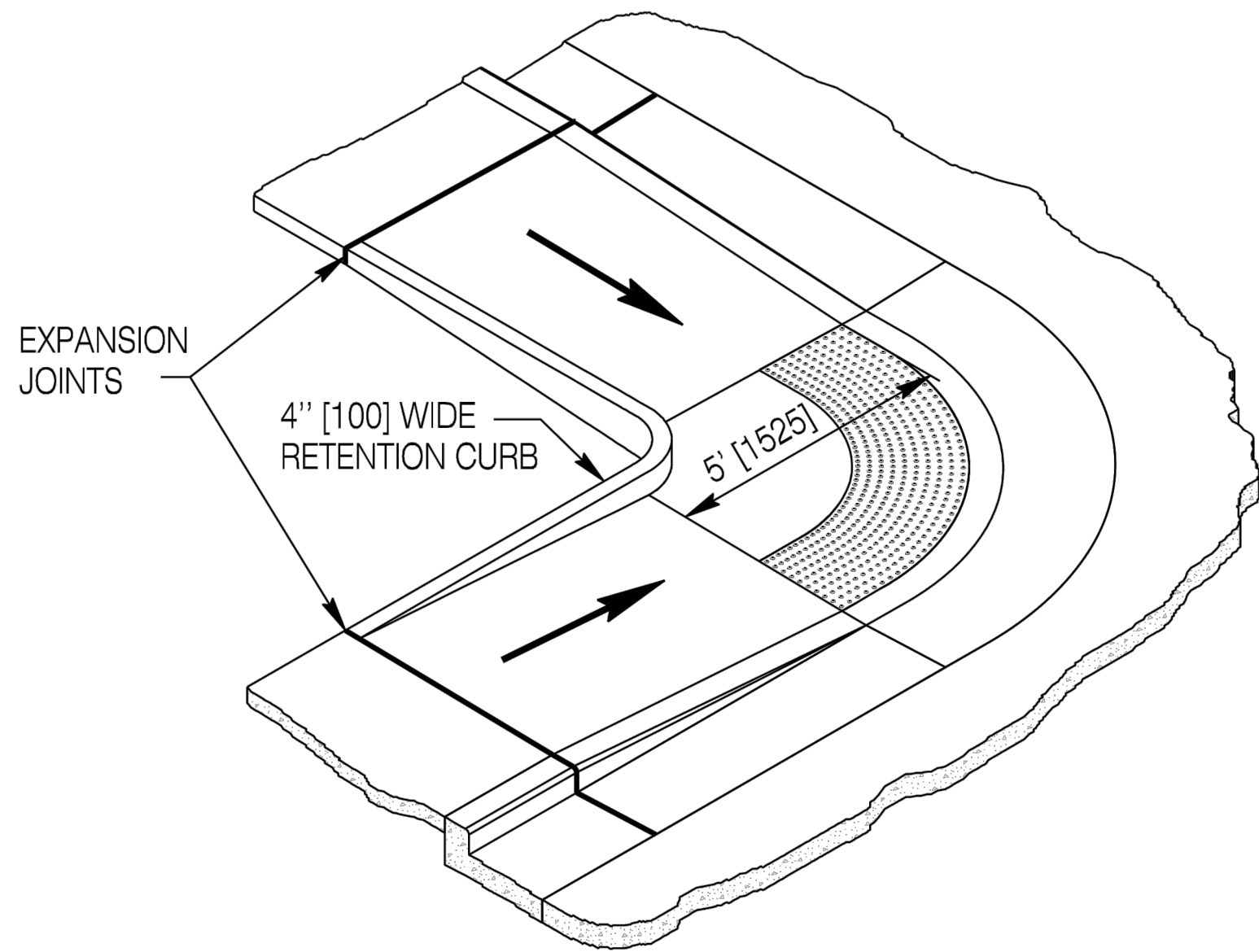
⑥ **Single or Dual Pair Ramps:** Provide dual pair ramps when they adequately fit site conditions and align with ramps on the other side of the street. Where dual ramps are not practical due to existing site conditions, provide single pair ramps. Ensure the ramp landings are fully contained within the pedestrian crossing.



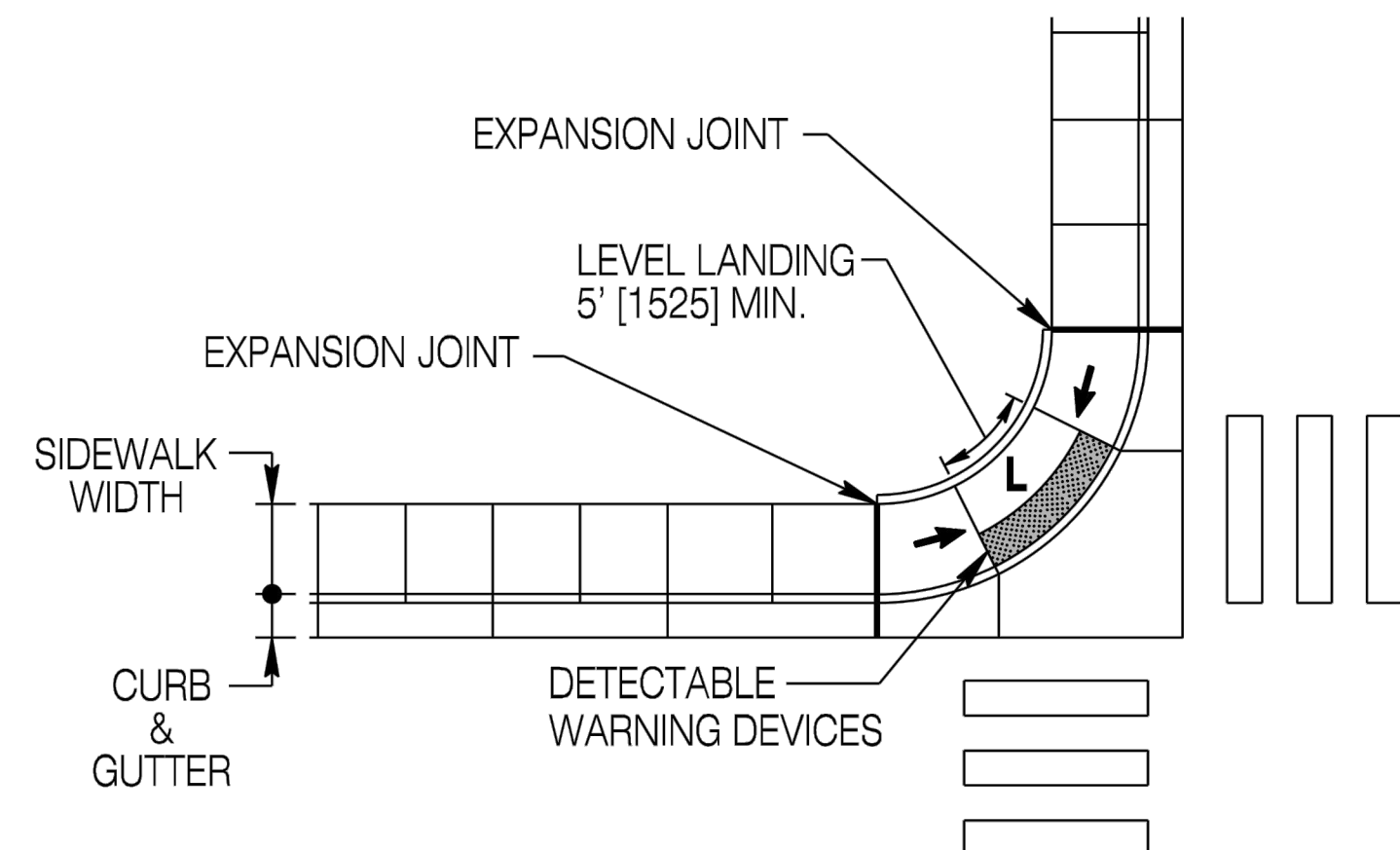
DUAL PAIR PARALLEL RAMPS



CURB & GUTTER MODIFICATION AT LANDING



SQUARE BACK SIDEWALK



RADIUS BACK SIDEWALK

SINGLE PAIR PARALLEL RAMPS

Designed by: WBW
Drawn by: RCS
Checked by: WBW
Previous Des. No. 608-1A

TYPE III (PARALLEL)
CURB RAMPS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT
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CONCRETE SIDEWALK AND
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STANDARD PLAN

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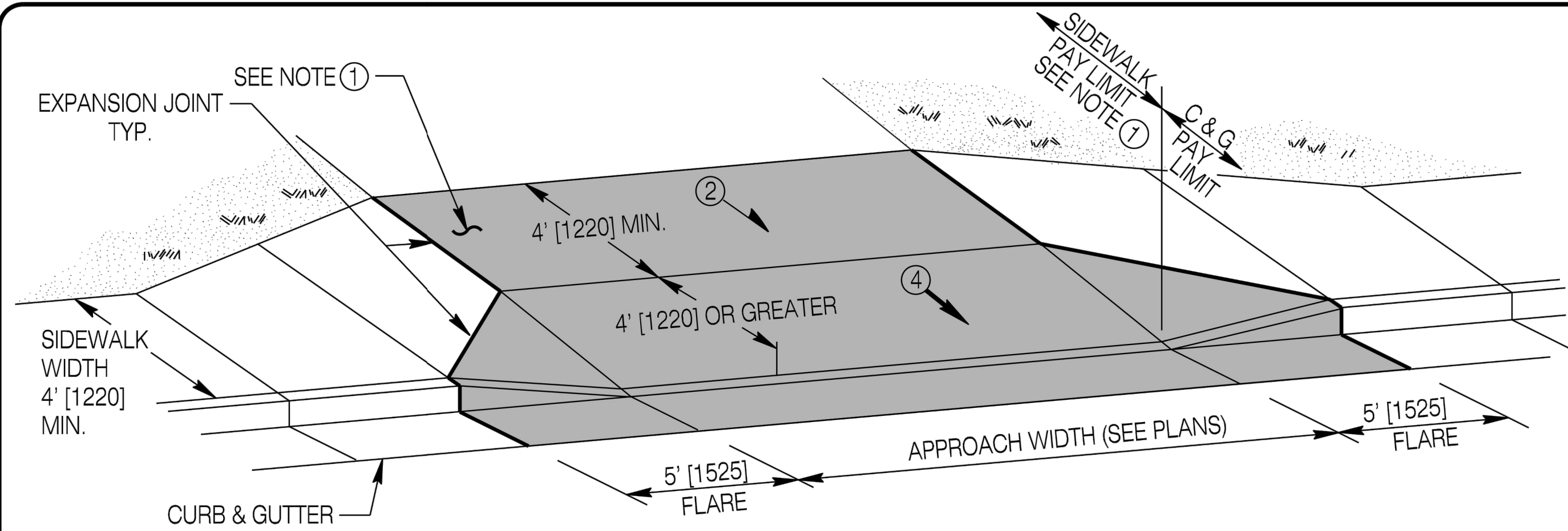
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Professional Engineer (Civil)
J. S. BRUGGER
Date: 3/1/2023
WYOMING

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DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

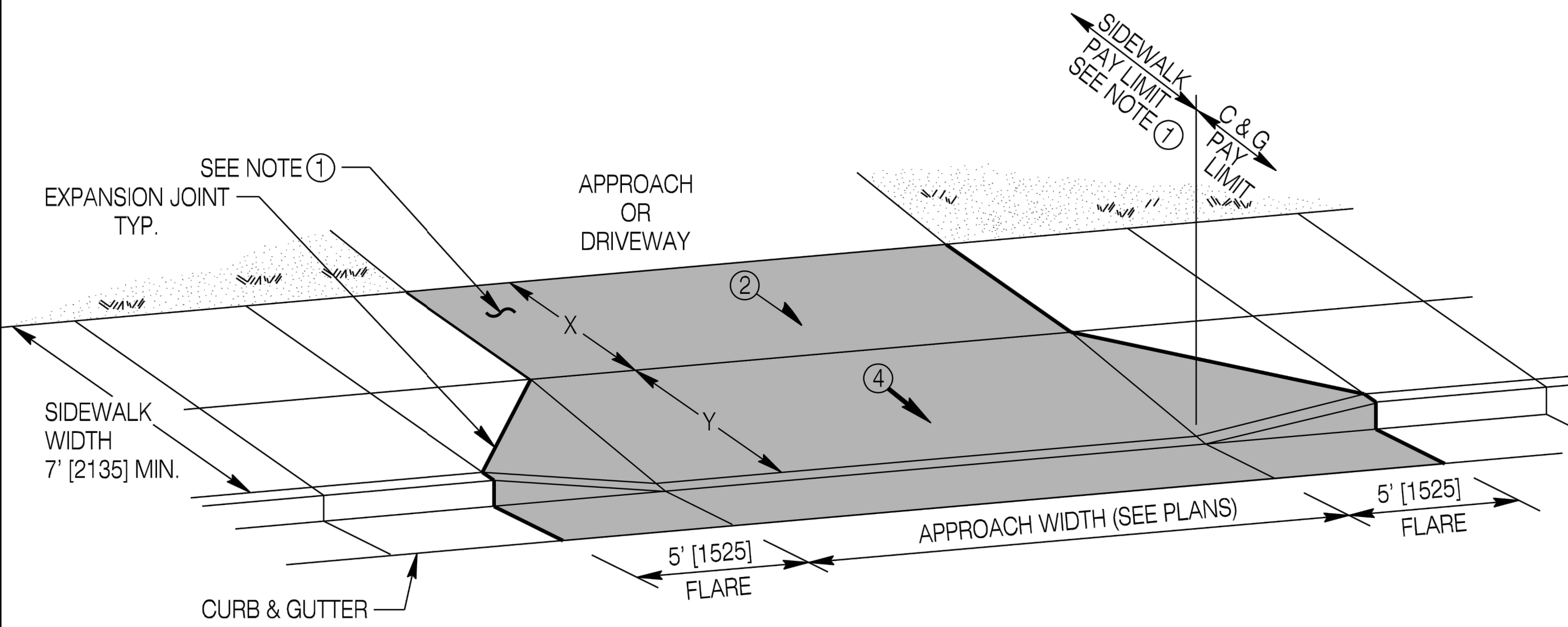
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BROOKS STREET GREENSPACE
SHERIDAN
WYOMING
WYDOT STANDARD PLANS

PROJECT NUMBER
6017.002
SHEET NUMBER
18
DRAWING NUMBER
C-16



TYPE A - PEDESTRIAN SIDEWALK WITH EXTERNAL BYPASS

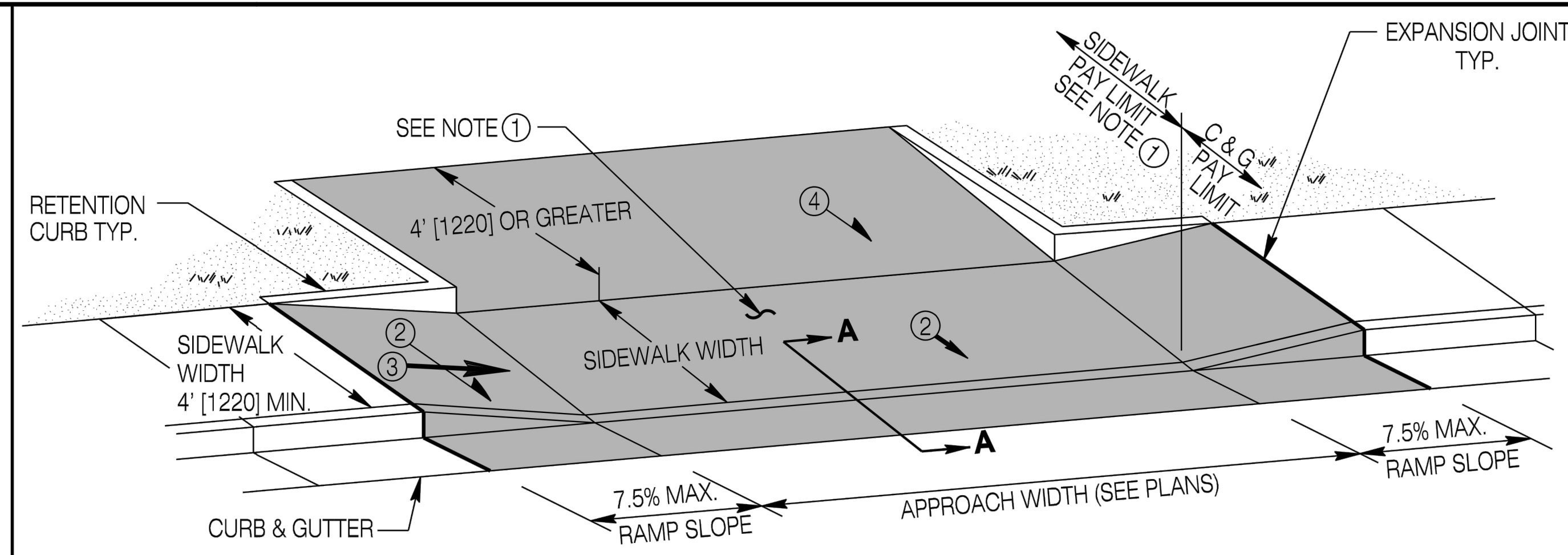
(USE FOR SIDEWALK ADJACENT TO CURB WHERE RIGHT-OF-WAY PERMITS CONSTRUCTION)



TYPE B - PEDESTRIAN SIDEWALK WITH INTERNAL BYPASS

(USE WITH SIDEWALK WIDTHS 7' [2135] AND WIDER.)

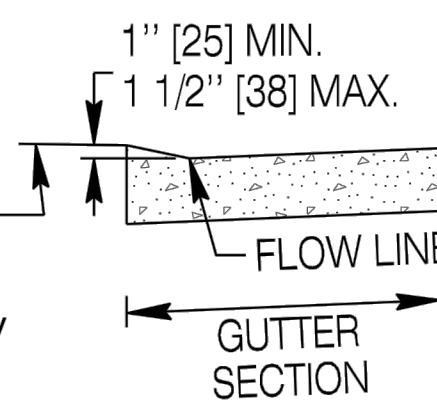
SIDEWALK WIDTH		X		Y	
Ft	mm	Ft	mm	Ft	mm
7'	2135	4'	1220	3'	915
8'	2440	4'	1220	4'	1220
≥9'	>2745	5' MIN.	1525 MIN.	4' MIN.	1220 MIN.



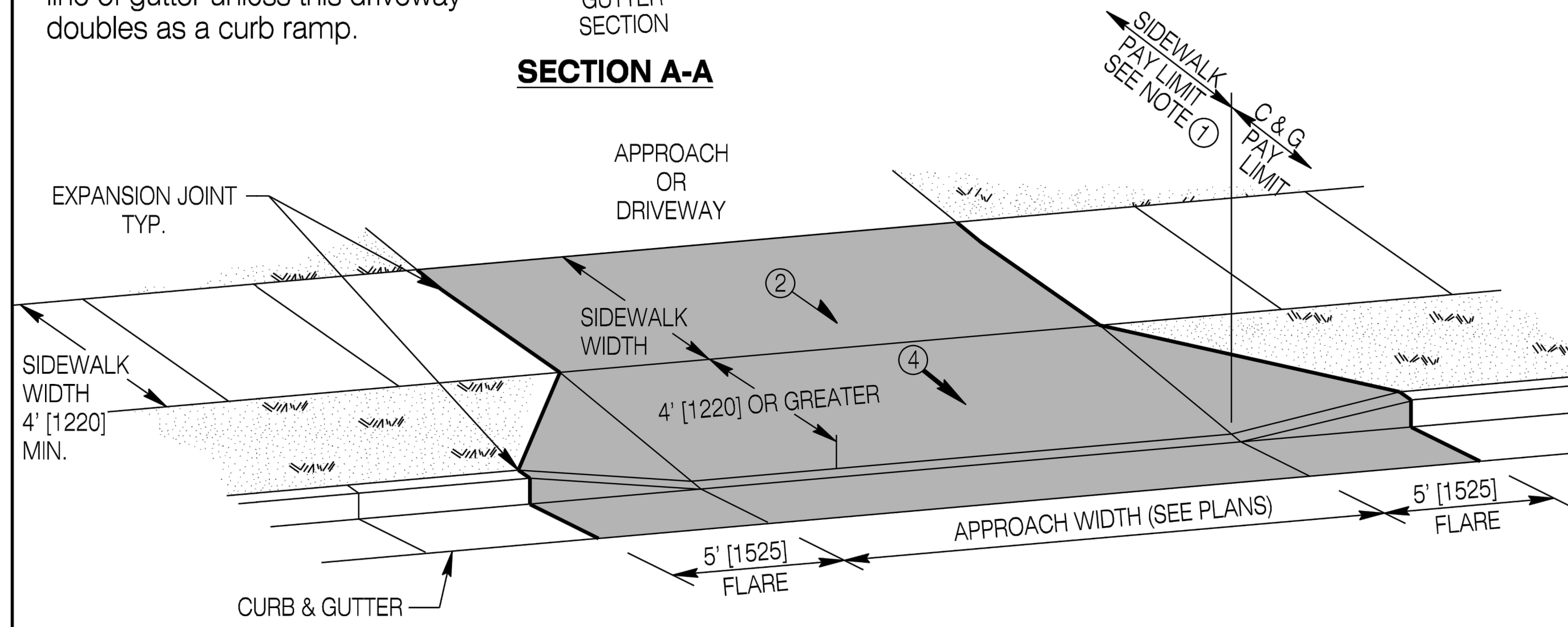
TYPE C - DEPRESSED PEDESTRIAN SIDEWALK

NOTE:

Elevate depressed sidewalk 1" to 1 1/2" [25 to 38] above flow line of gutter unless this driveway doubles as a curb ramp.



SECTION A-A



TYPE D - DETACHED PEDESTRIAN SIDEWALK

(MOST DESIRABLE TREATMENT)

TYPICAL SIDEWALK AND/OR DOUBLE GUTTER TREATMENT AT APPROACHES

NOTES:

① **DRIVEWAYS AND APPROACHES:** Driveways and approaches are paid for as sidewalk behind the back of curb line (including retention curbs) and curb & gutter in front of the back of curb line, **unless** double gutter is specified at a given location. The **shaded area** represents the pay limits if double gutter is specified and the entire shaded area will be constructed to the depth specified for double gutter.

➔ ② **CROSS SLOPE:** Slope sidewalks at 1.5% towards street unless otherwise shown. ADA does not permit the cross-slope to exceed 2.0%.

➔ ③ **RAMP SLOPE:** 7.5% or flatter, ADA maximum = 8.3%.

➔ ④ **DRIVEWAY SLOPE:** Driveway slopes typically exceed ADA cross-slope requirements, therefore the pedestrian access route through a driveway must be made to not exceed 2% (ADA). If a driveway serves a dual purpose as an ADA curb ramp and a driveway, the driveway must conform to perpendicular curb ramp requirements. For Single use driveways (such as residential), where the driveway is relatively flat after the initial rise to curb height (typically 6 inches [150] high) the driveway slope can be achieved in a length of 4 feet [1220] perpendicular to the street. For busier approaches, flatter driveways should be considered to reduce the effect of slowing traffic on the street.

Designed by: WBW
Drawn by: RCS
Checked by: WBW
Previous Dwg. No: 608-1A

DRIVEWAYS & APPROACHES

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.

WYOMING DEPARTMENT OF TRANSPORTATION

CONCRETE SIDEWALK AND ADA ACCESSIBILITY

STANDARD PLAN

STANDARD PLAN NUMBER

608-1B

SHEET 7 of 8

Issued by: ENGINEERING SERVICES
Date issued: JULY 2018

W:\60177 SHERIDAN COUNTY\60177.002 SHR CNTY - BROOKS ST GREENSPACE\AS\DETAILS\CIVIL\002-06 DETAILS.DWG
PLOTTED BY:TIM BRUGGER ON Feb/28/2023

REVISIONS				
NO.	DESCRIPTION	BY	DATE	

VERIFY SCALE!
THESE PRINTS MAY BE REDUCED.
LINE BELOW MEASURES ONE INCH
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MODIFY SCALE ACCORDINGLY!

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Professional Engineer (Civil)
Tim Bruggen
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING

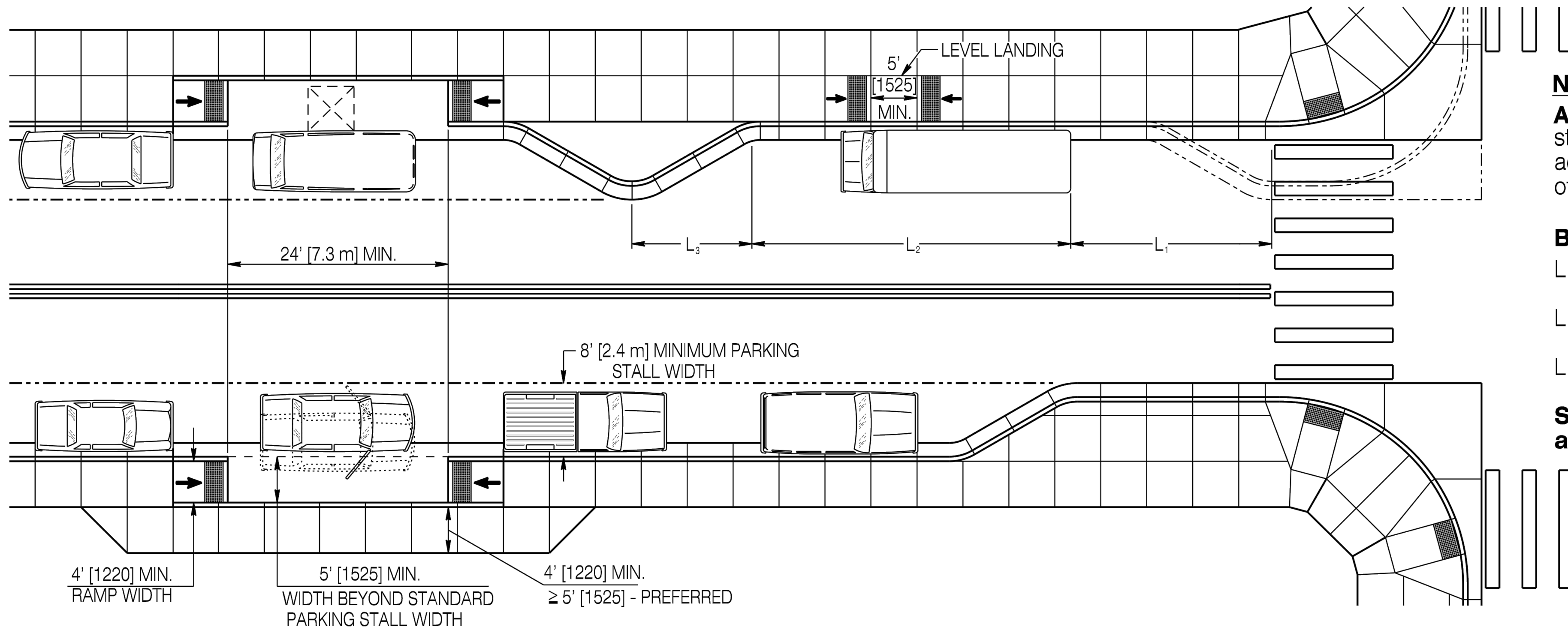
WYDOT STANDARD PLANS

PROJECT NUMBER
6017.002
SHEET NUMBER
19
DRAWING NUMBER
C-17

CONSTRUCTION PLANS
MARCH 2023

ACCESSIBLE PARALLEL PARKING SPACES

BUS / TRANSIT PULLOUTS



NOTES:

Accessible Parallel Parking Spaces should consist of the standard parking stall (8 ft [2440] min. width) **plus** 5 ft [1525] to accommodate van wheelchair lifts and access from either side of a vehicle.

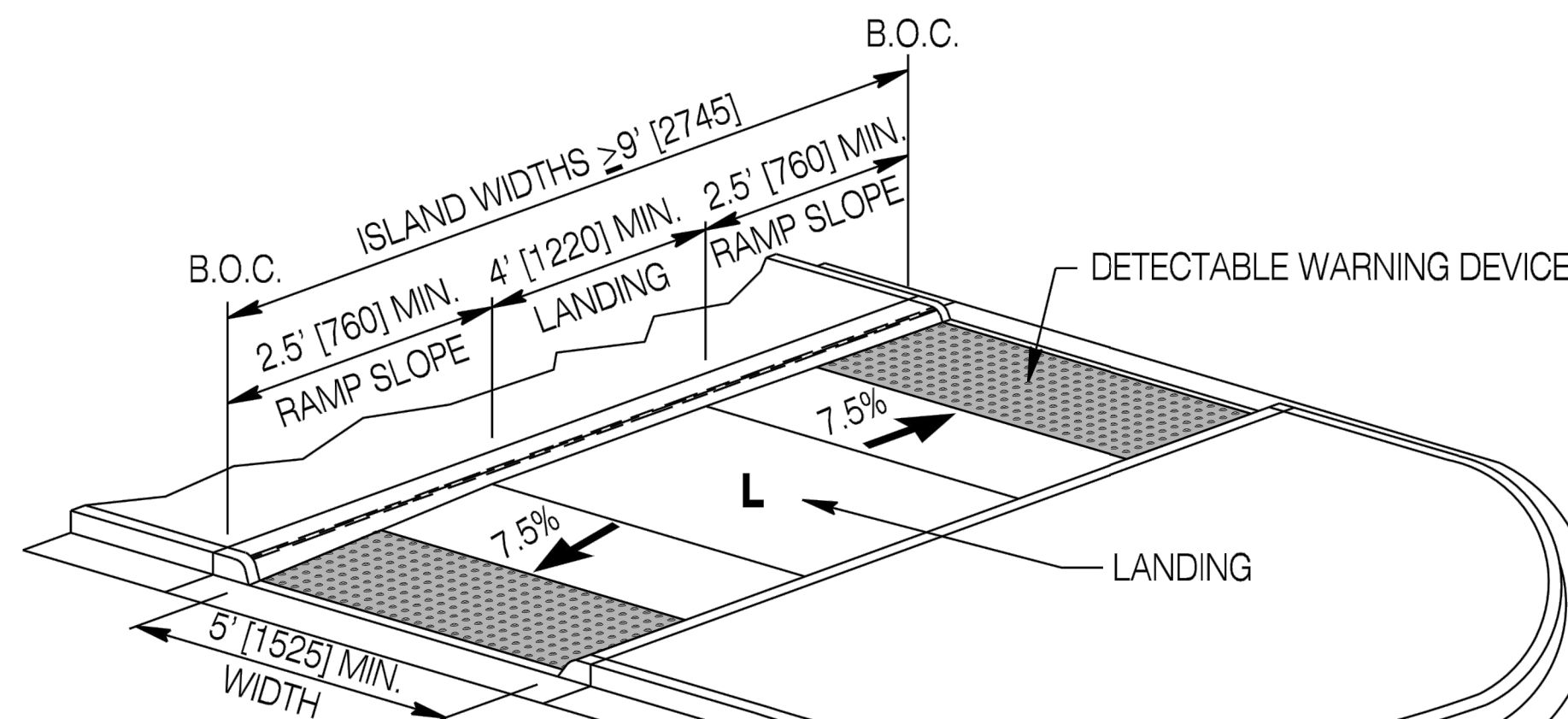
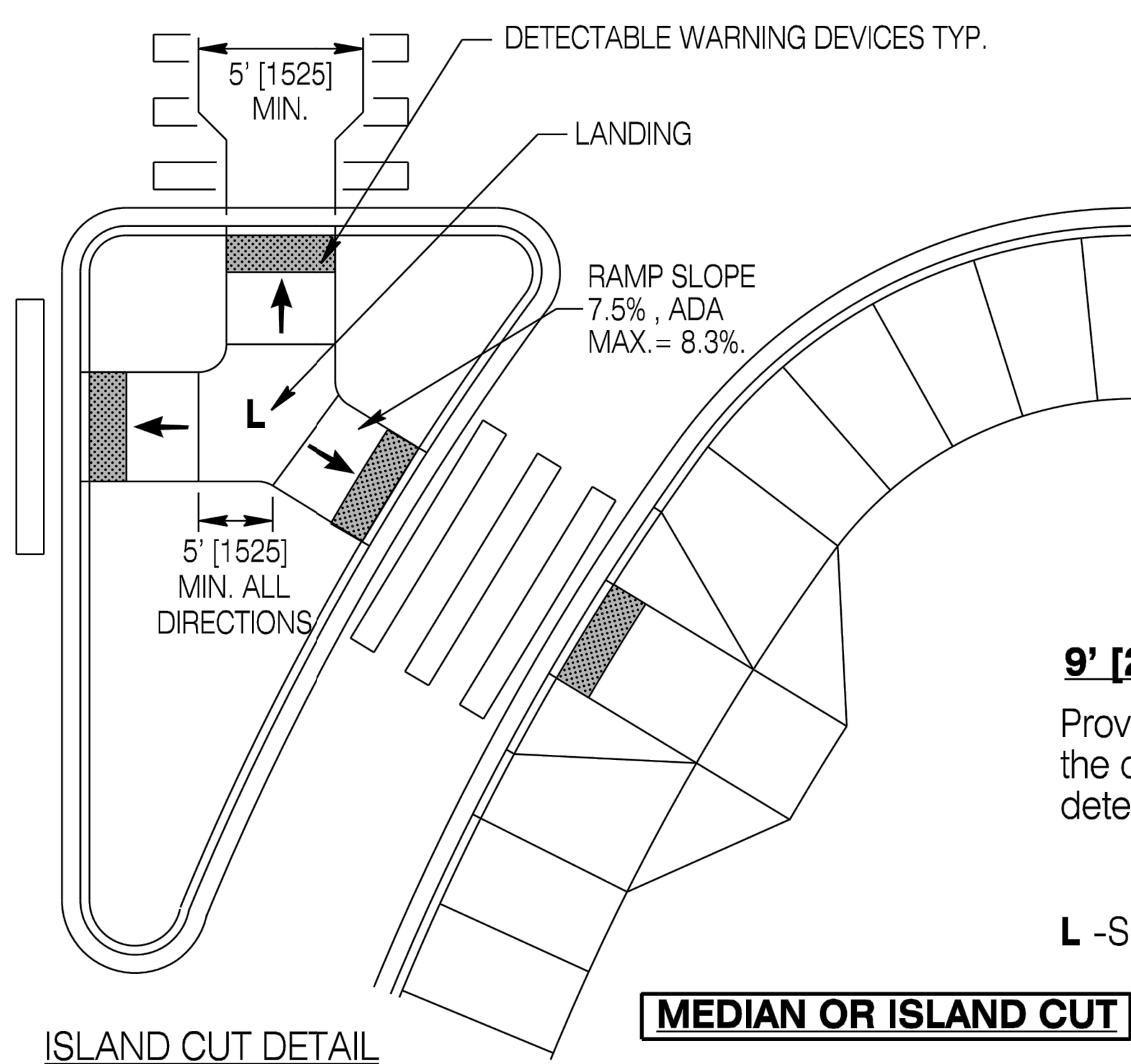
Bus Pullouts:

L_1 = Length required for bus to maneuver into pullout

L_2 = Length of bus +10 ft [3.0 m]

L_3 = Length required for bus to maneuver out of pullout

See plans for locations and actual dimensions of accessible parking stalls and/or bus pullouts.

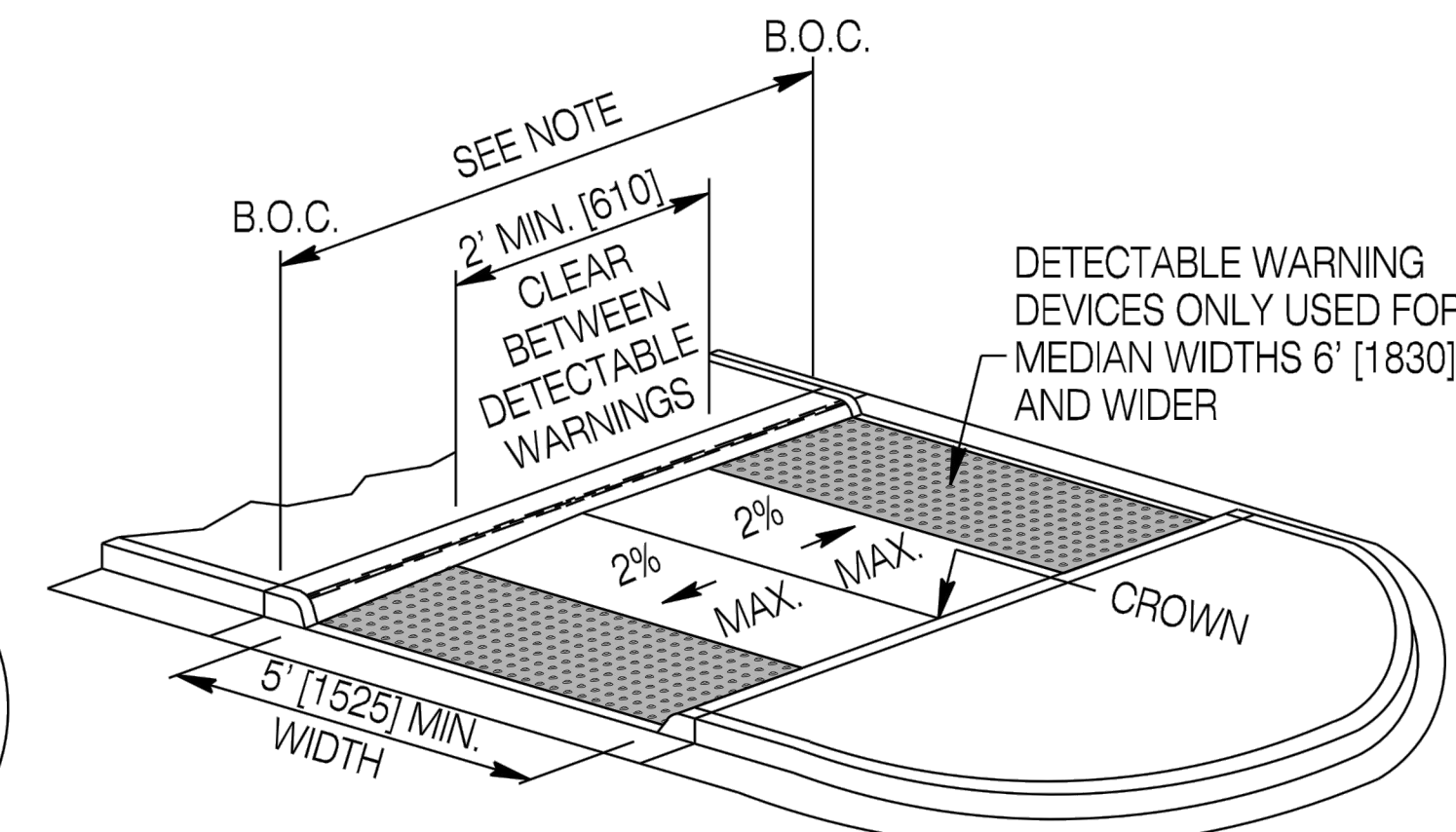


9' [2745] OR WIDER MEDIANS

Provide a level landing 4 ft. [1220] minimum long by 5 ft. [1525] minimum wide in the center of the island. Provide ramps (slope 7.5%) on each side with detectable warning devices.

L -See landing requirements, see **SHEET 2**

MEDIAN OR ISLAND CUT



LESS THAN 9' [2745] MEDIAN WIDTHS

Provide a longitudinal slope for the pedestrian path through the island not to exceed 2% (1.5% preferred) and crowned at the center of the island. Do not provide a cross-slope for the pedestrian path through the island.

For Islands:

6 ft. [1830] and wider - provide detectable warnings. Provide 2 ft. [610] clear between detectable warnings. These are considered pedestrian refuge islands.

Less than 6 ft. [1830] - don't provide detectable warnings. Only provide cut-through. These medians are not considered pedestrian refuge islands.

Designed by: WBW
Drawn by: RCS
Checked by: WBW
Previous Dirg. No. 608-1A

PARALLEL ON-STREET PARKING & MEDIAN OR ISLAND CUTS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT OF TRANSPORTATION



CONCRETE SIDEWALK AND ADA ACCESSIBILITY

STANDARD PLAN

STANDARD PLAN NUMBER
608-1B
SHEET 8 of 8
Issued by: ENGINEERING SERVICES
Date Issued: JULY 2018

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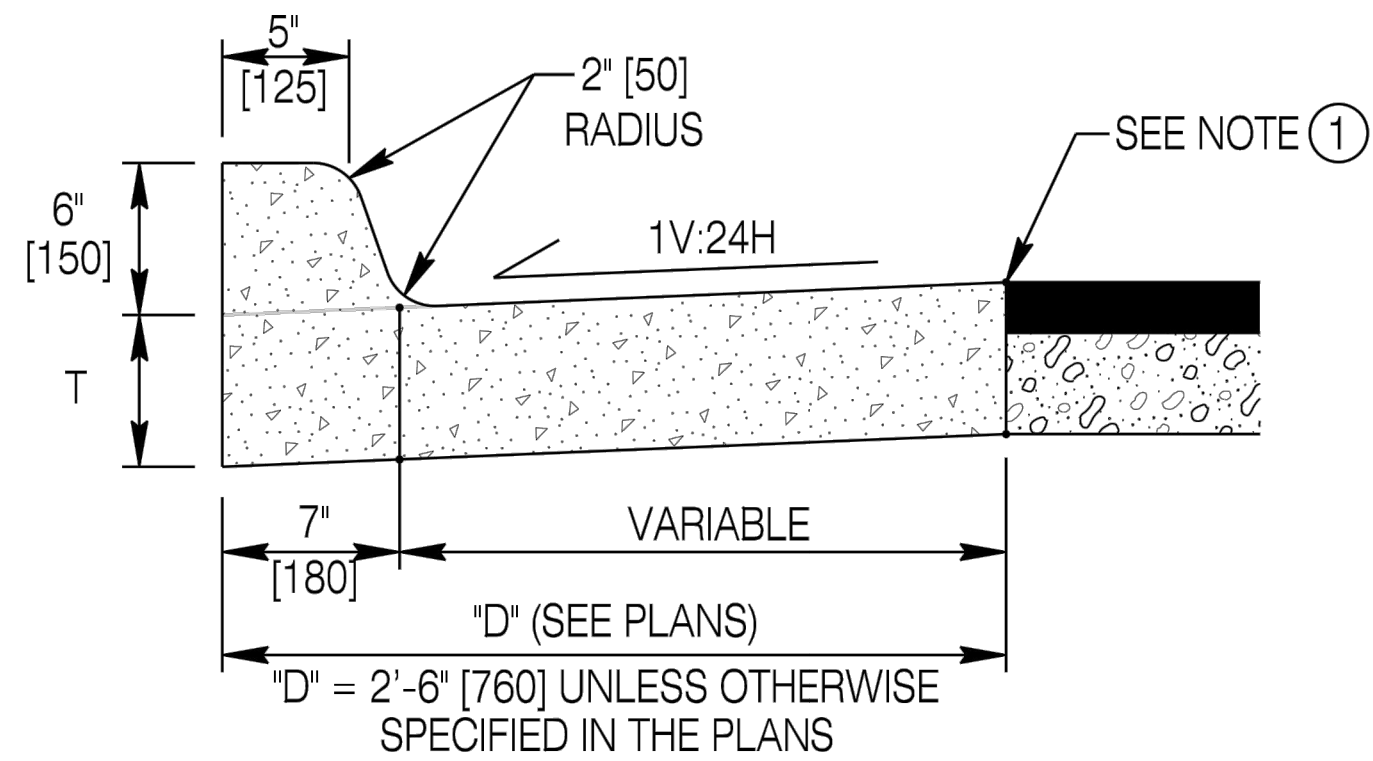
Professional Engineer (Civil)
WYOMING
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW BY: JMF
DATE: 6/24/2022

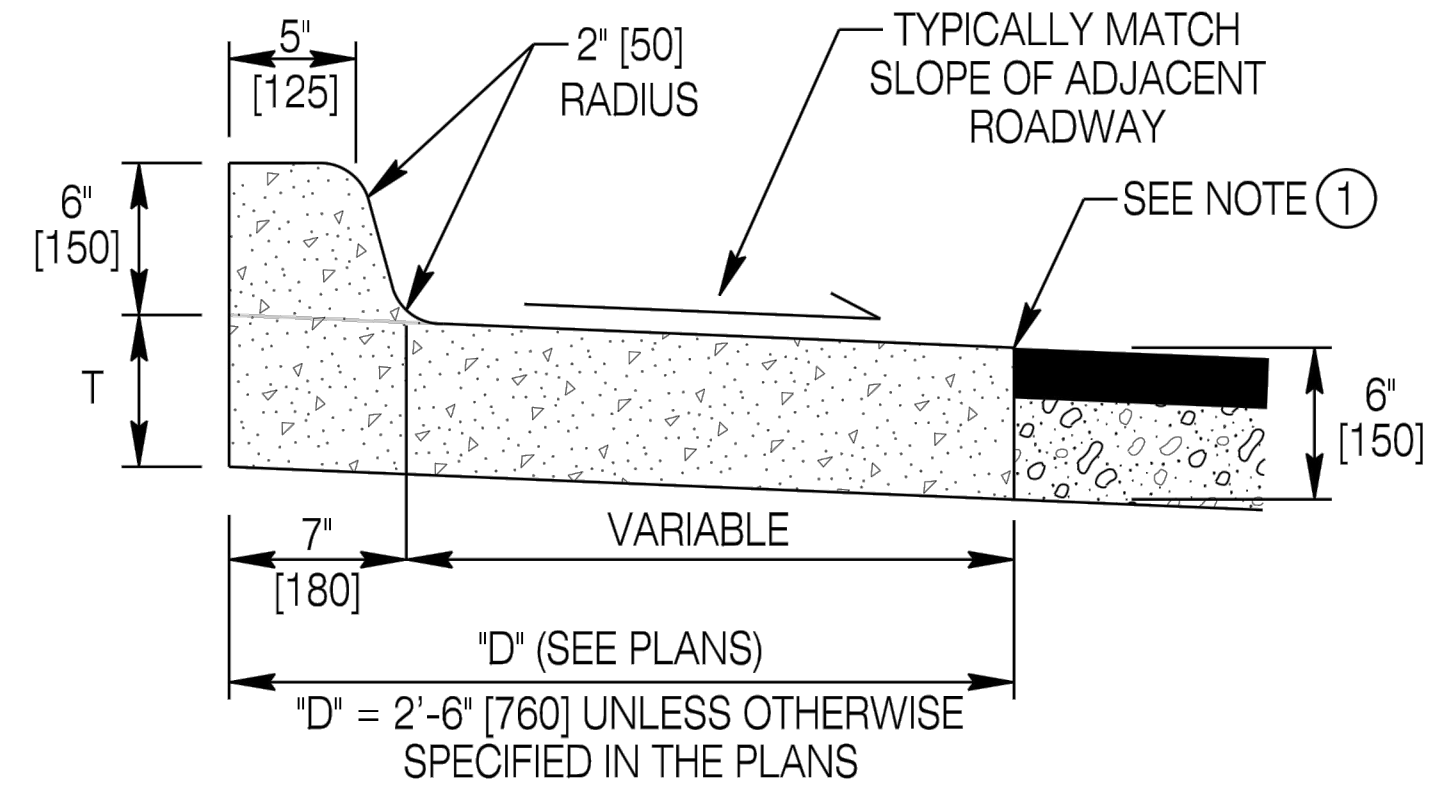
SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING
WYDOT STANDARD PLANS

PROJECT NUMBER 6017.002
SHEET NUMBER 20
DRAWING NUMBER C-18

CONSTRUCTION PLANS
MARCH 2023

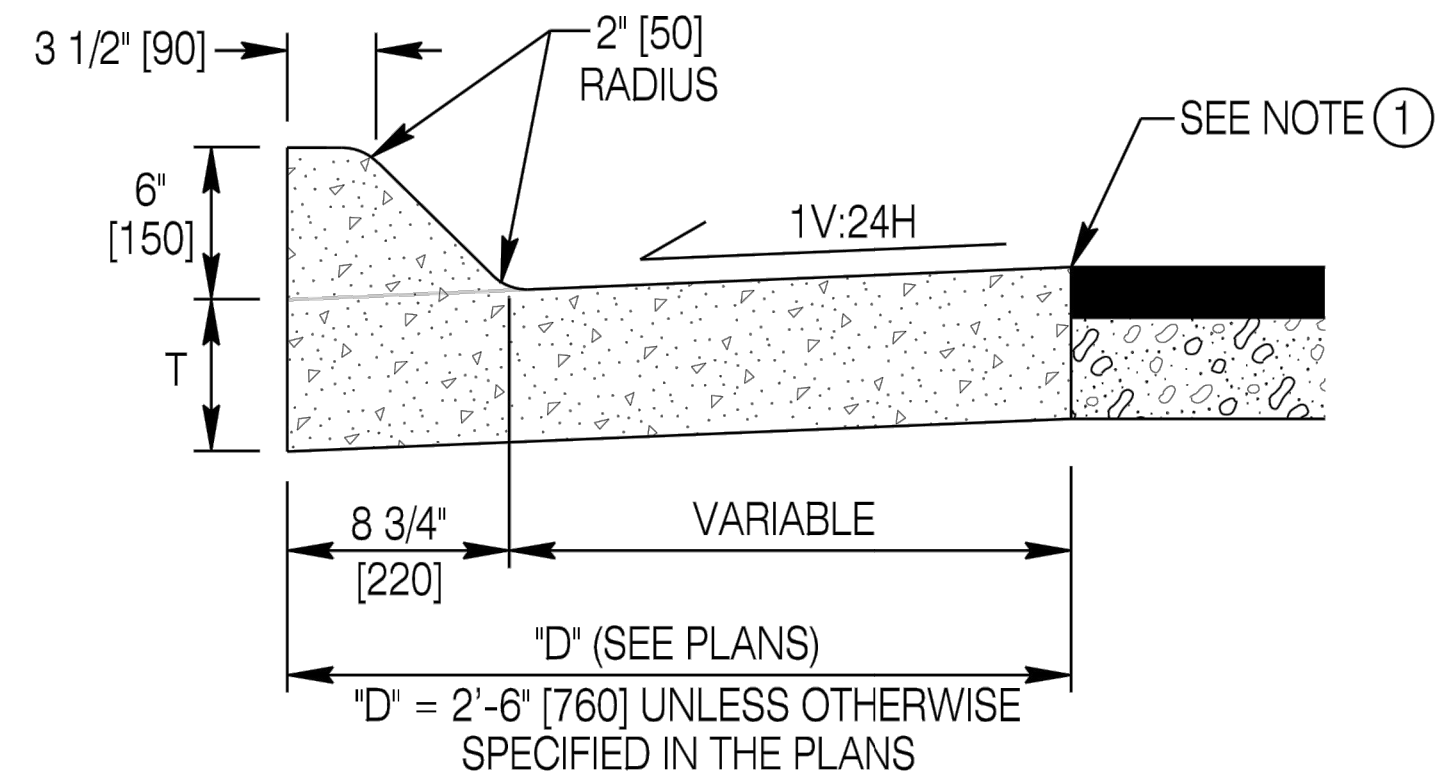


TYPE A

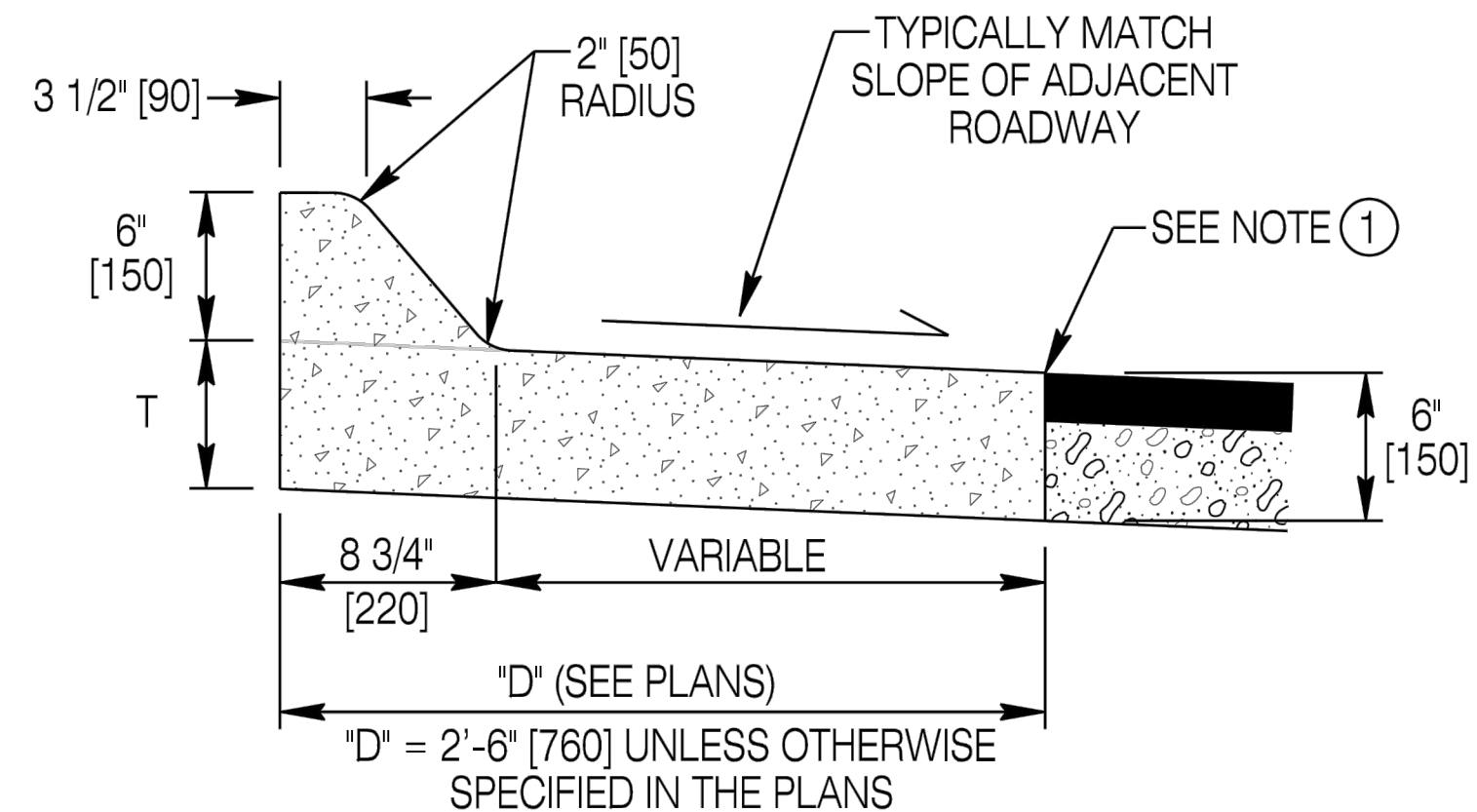


TYPE A SPILLOUT

See note ⑤

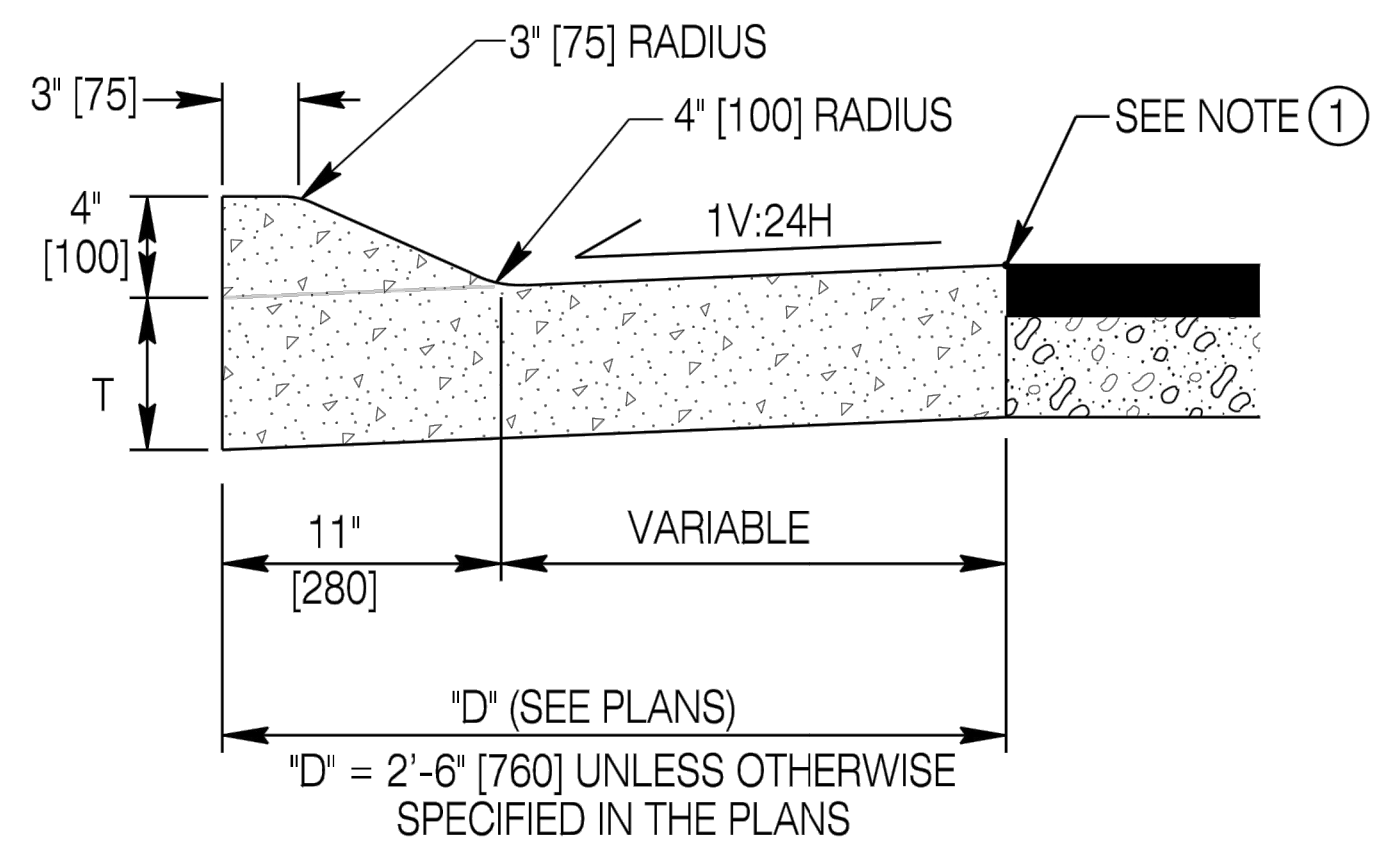


TYPE B

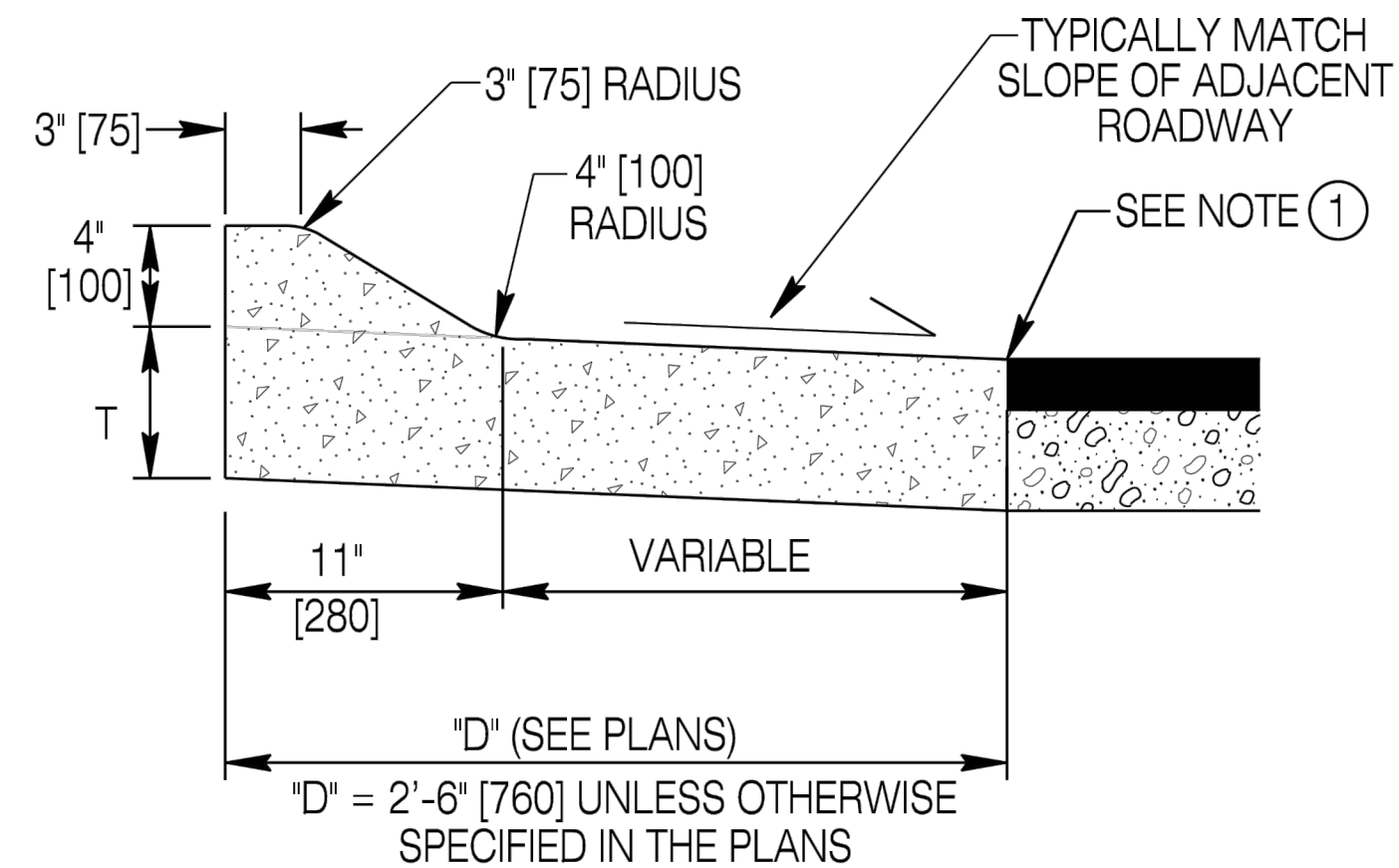


TYPE B SPILLOUT

See note ⑤



TYPE C



TYPE C SPILLOUT

See note ⑤

CURB & GUTTER

Designed by: WBW
Drawn by: JK
Checked by: WBW
Previous Dwg. No. 609-1A

CURB AND GUTTER DETAILS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT
OF
TRANSPORTATION



**CURB AND GUTTER,
DOUBLE GUTTER AND MEDIAN PAVING**

STANDARD PLAN

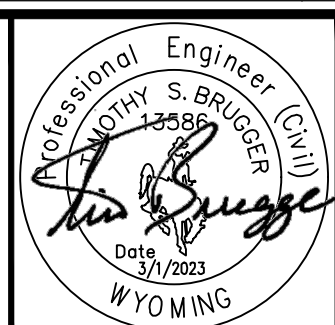
STANDARD PLAN NUMBER
609-1B
SHEET 1 of 3
Issued by: ENGINEERING SERVICES
Date Issued: JANUARY 2012

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DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

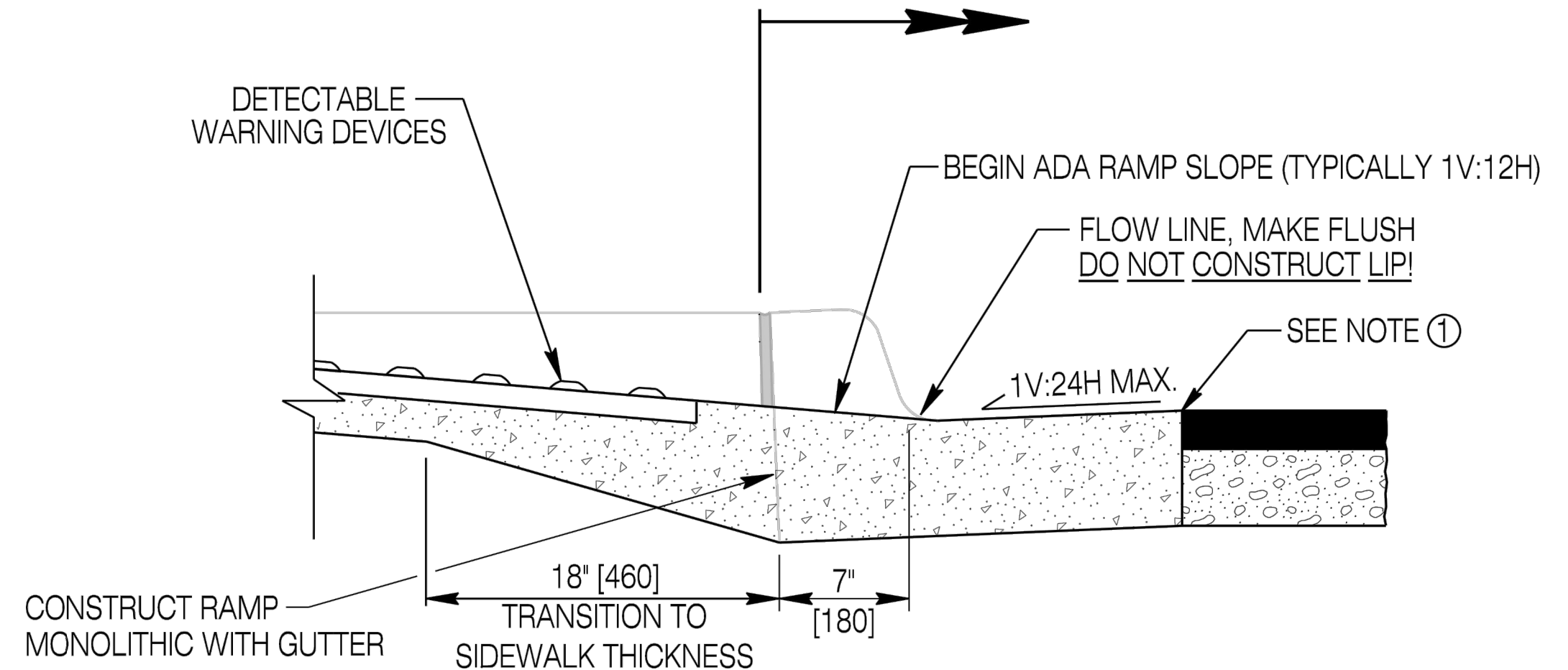
SHERIDAN COUNTY
BROOKS STREET GREENSPACE
SHERIDAN
WYOMING
WYDOT STANDARD PLANS

PROJECT NUMBER
6017.002
SHEET NUMBER
21
DRAWING NUMBER
C-19

GENERAL NOTES

- ① Ensure all pavement surfaces are smoothly tapered and flush at curb ramps to facilitate wheelchair movements.
- ② Ensure sidewalk curb ramps, approaches, and other ADA accessibility features apply to this standard plan. See standard plan for "CONCRETE SIDEWALK AND ADA ACCESSIBILITY" for additional requirements.
- ③ Joints ③, ④ and ⑤ are detailed in the standard plan for "CONCRETE PAVEMENT".
- ④ T = Thickness of gutter pan or double gutter.
Unless specified otherwise:
T = 6" [150] where adjacent to plant mix pavement,
T = concrete pavement thickness where adjacent to concrete.
- ⑤ Use spillout curb and gutter only when specified in the plans or as directed by the engineer. Spillout curbs are intended to convey drainage away from the curb such as on the high side of some superelevated highways, the inside of roundabouts, etc.

**CURB & GUTTER
PAY LIMITS**

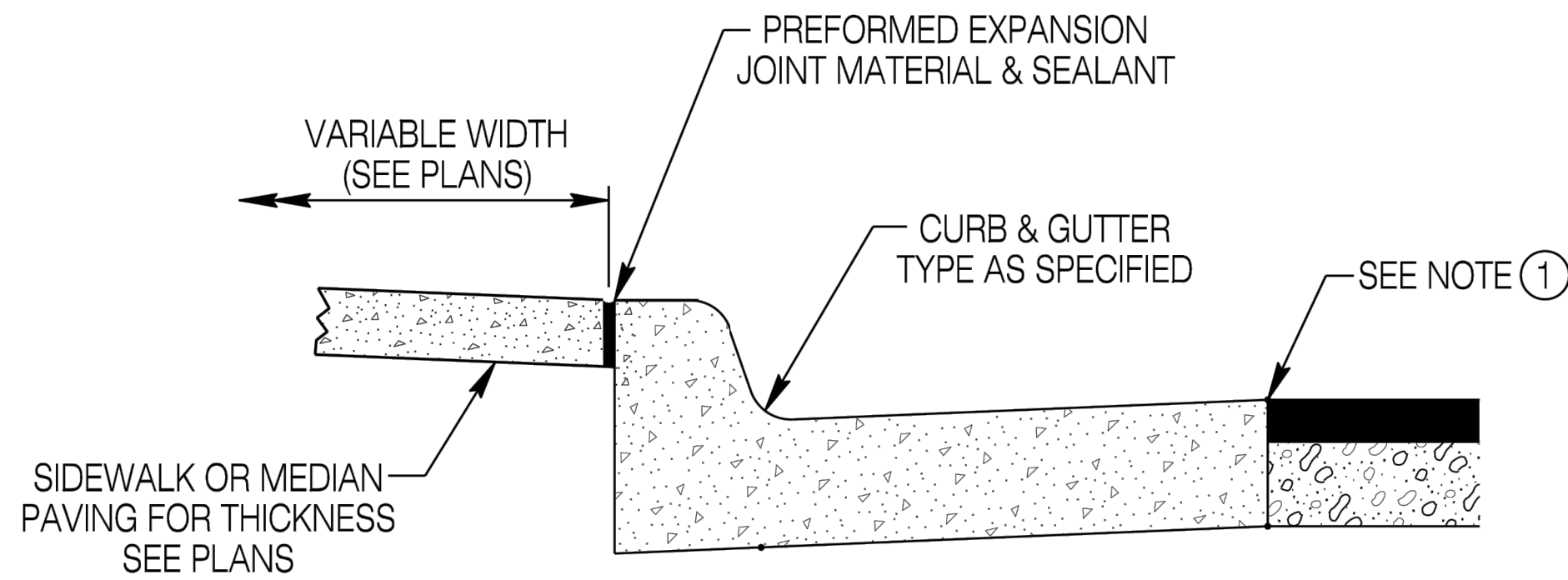


**CURB MODIFICATION
AT CURB RAMPS**

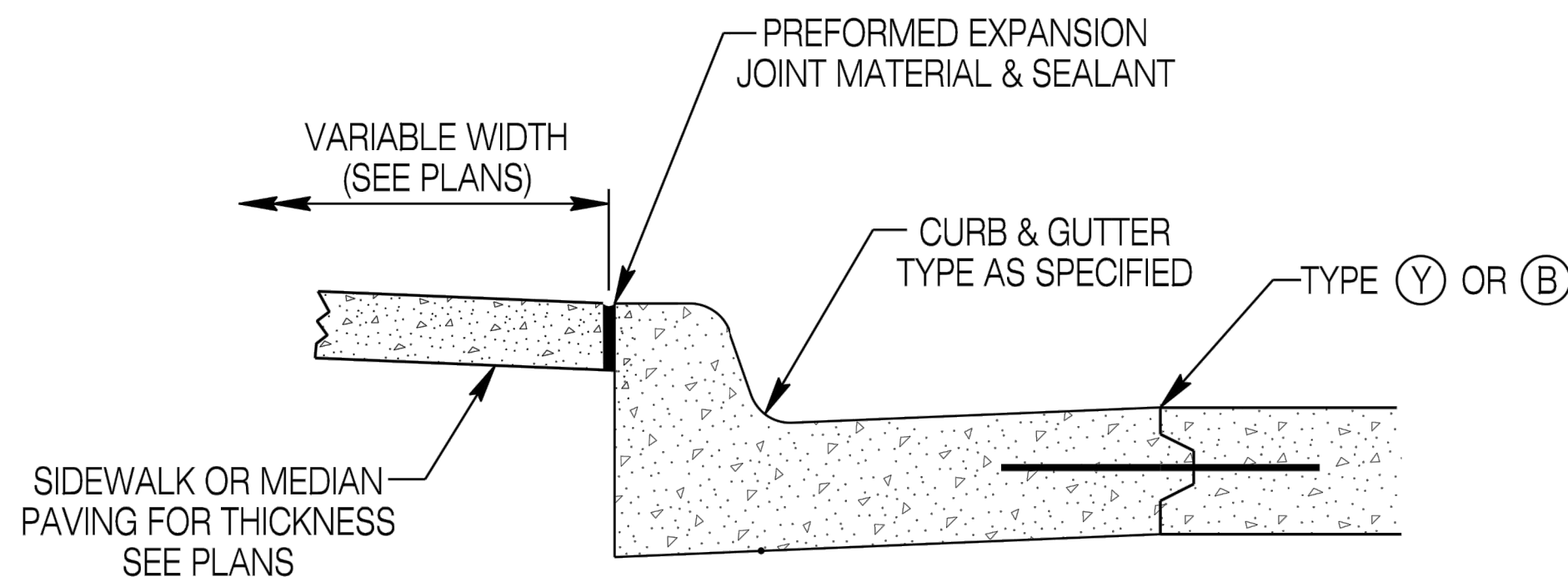
(Type A curb shown in this depiction)

CONSTRUCTION PLANS
MARCH 2023

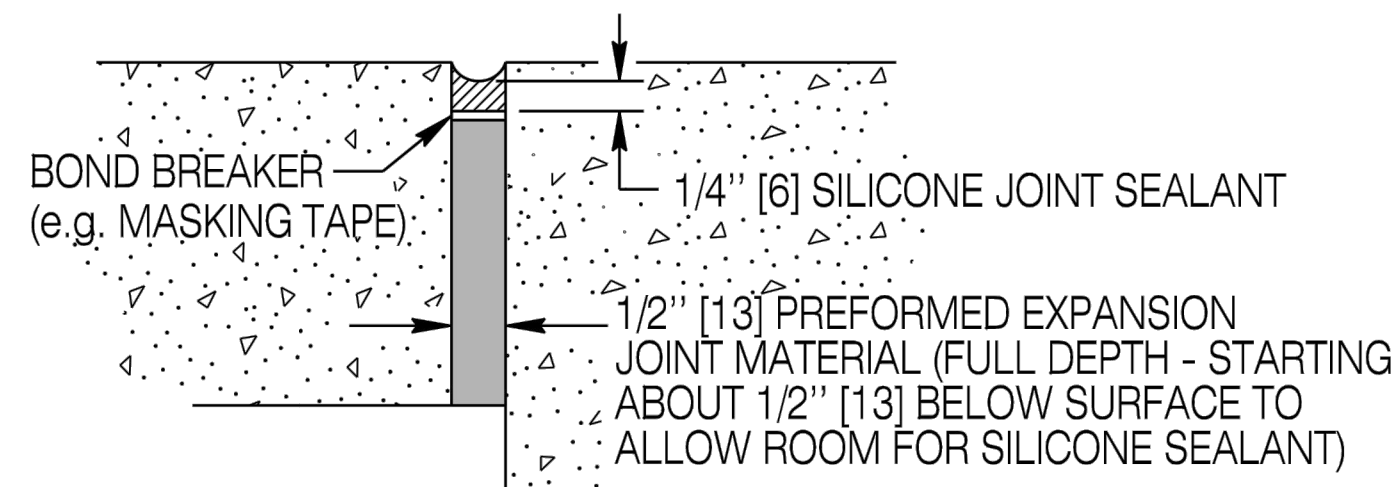
W:\6017 SHERIDAN COUNTY\6017.002 SHR CNTY - BROOKS ST GREENSPACE\ASHEETS\CIVIL\002-06 DETAILS.DWG
PLOTTED BY:TIM BRUGGER ON Feb/28/2023



CURB & GUTTER BETWEEN SIDEWALK OR MEDIAN PAVING AND ASPHALT PAVEMENT

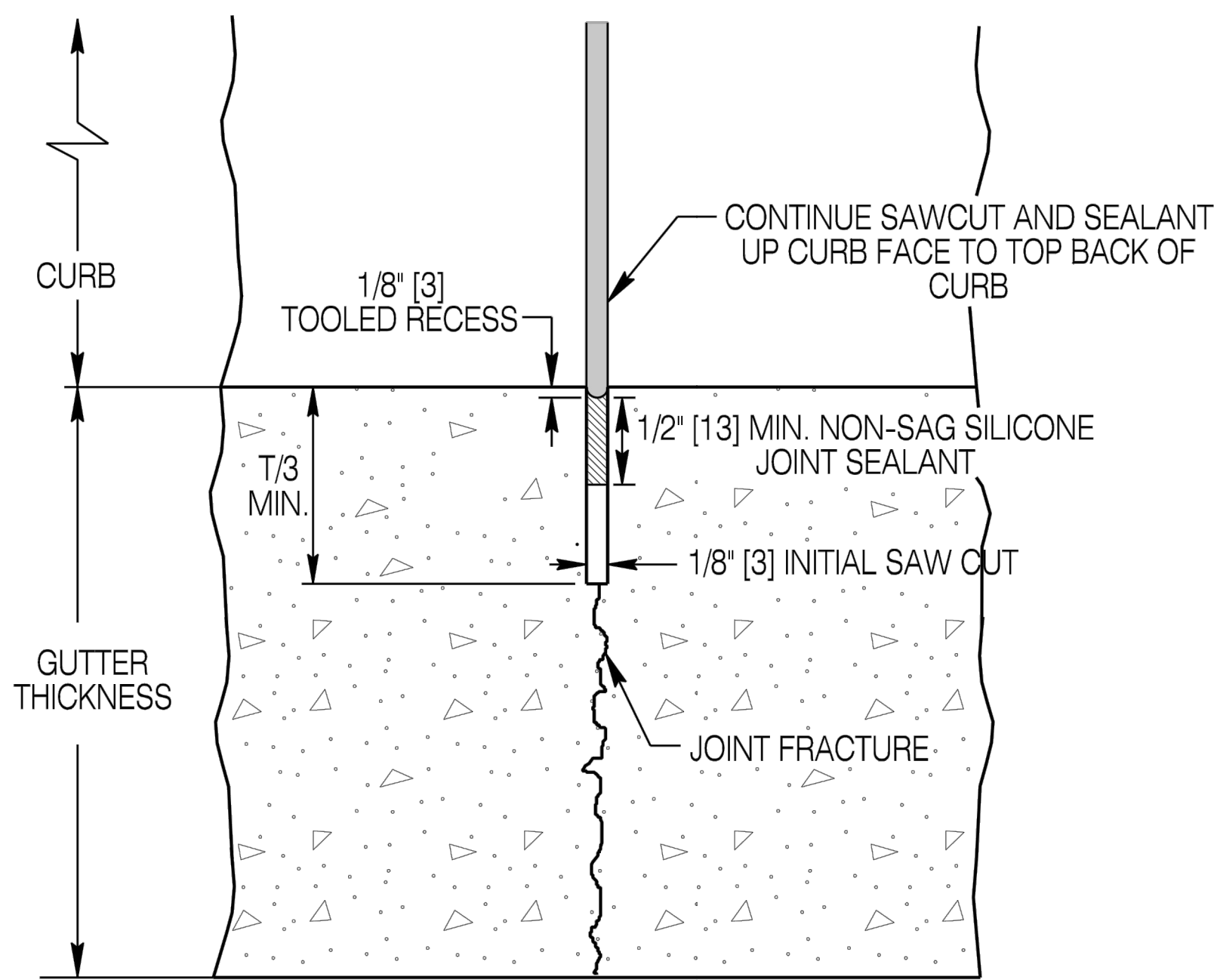


CURB & GUTTER BETWEEN SIDEWALK OR MEDIAN PAVING AND CONCRETE PAVEMENT

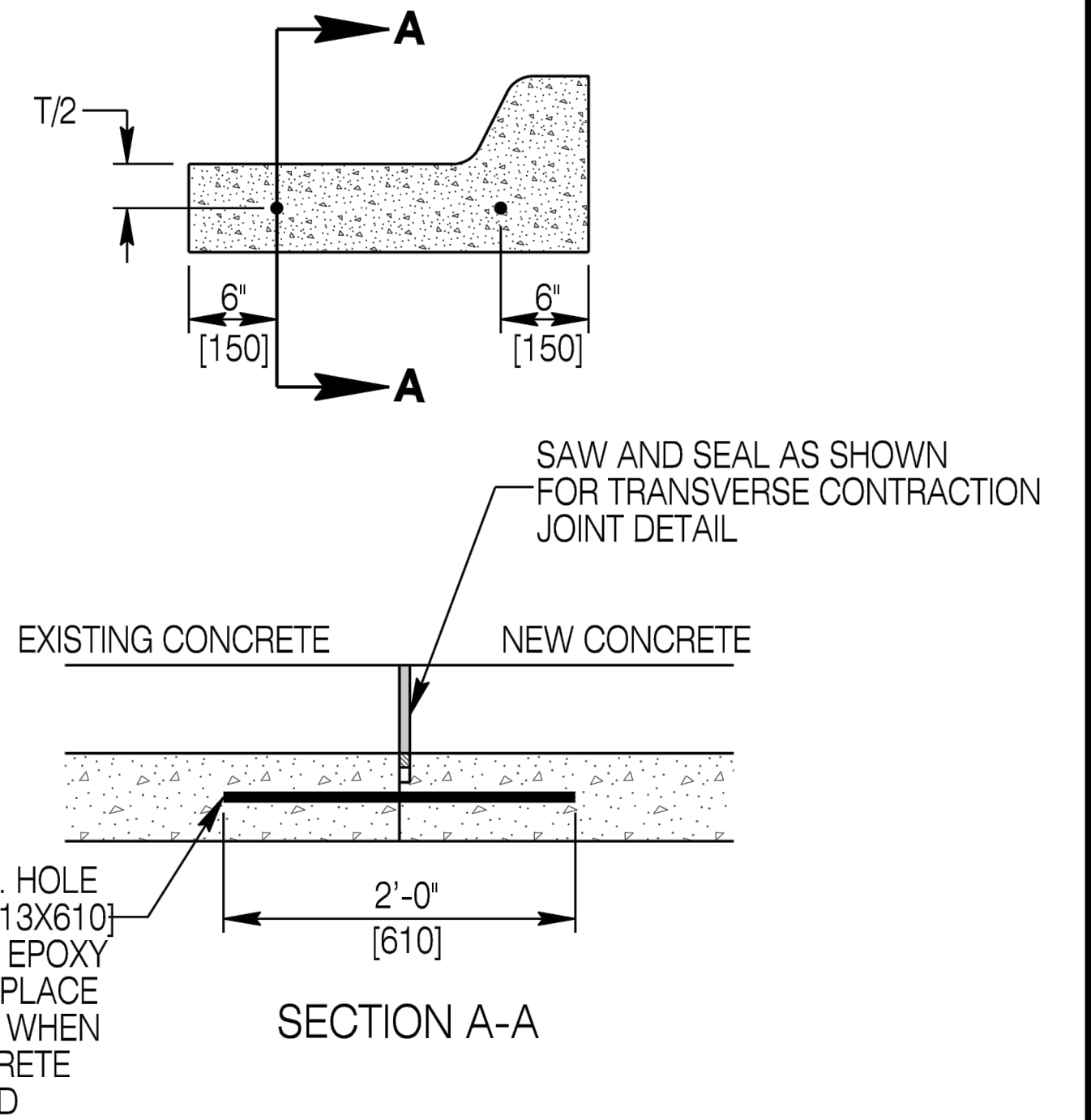


PREFORMED EXPANSION JOINT MATERIAL & SEALANT DETAIL

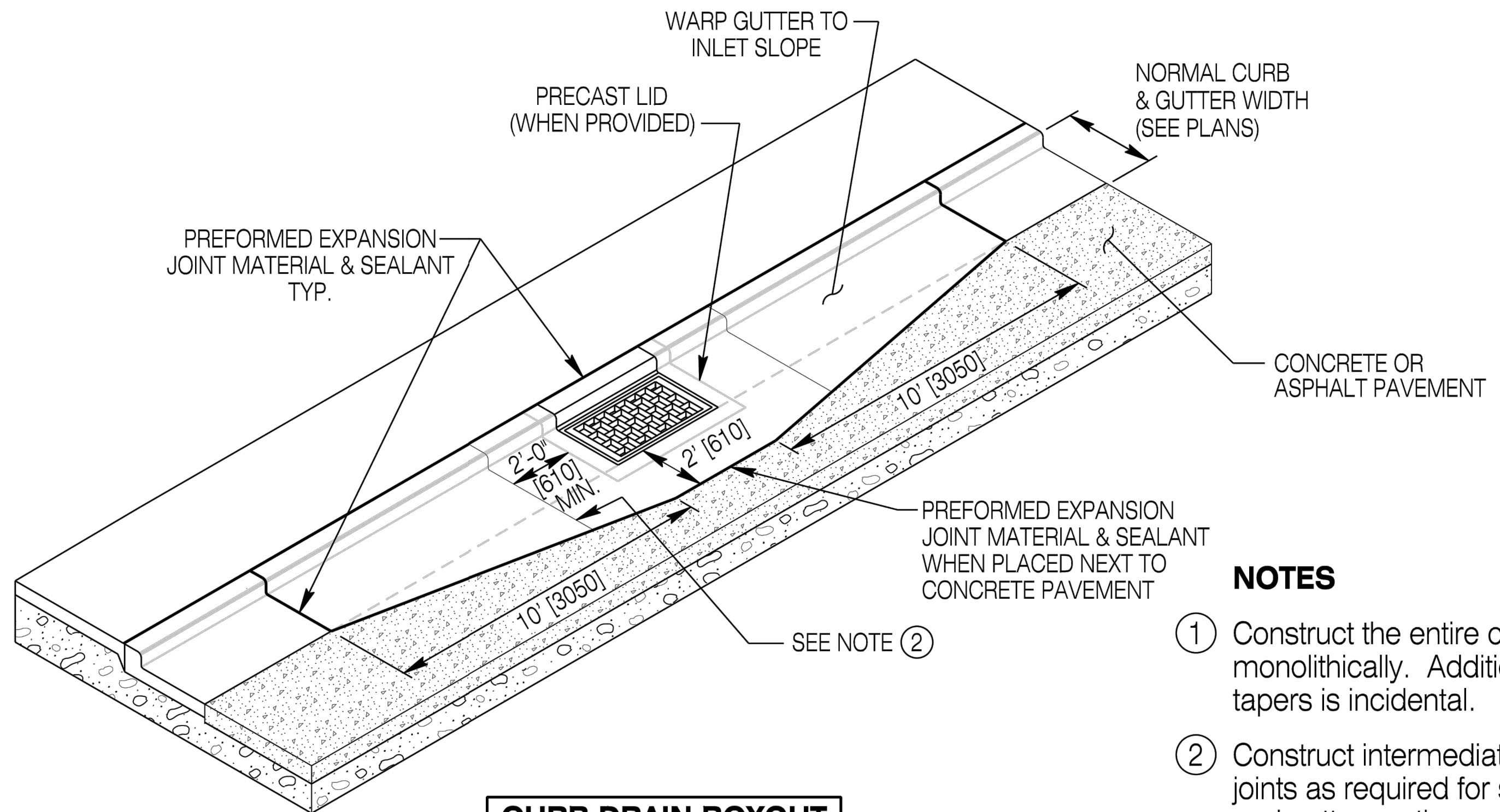
CURB AND GUTTER JOINT DETAILS



TYPICAL TRANSVERSE CONTRACTION JOINT DETAIL



TYPICAL TRANSVERSE CONSTRUCTION JOINT



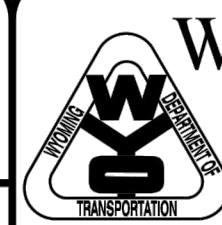
CURB DRAIN BOXOUT

NOTES

- ① Construct the entire curb drain boxout monolithically. Additional concrete for tapers is incidental.
- ② Construct intermediate transverse joints as required for standard curb and gutter sections.

Designed by: WBW	CURB AND GUTTER AND DOUBLE GUTTER JOINT DETAILS AND CURB DRAIN BOXOUT DETAILS		
Drawn by: JK			
Checked by: WBW			
Previous Dwg. No. 609-1A			

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT
OF
TRANSPORTATION



**CURB AND GUTTER,
DOUBLE GUTTER AND MEDIAN PAVING**
STANDARD PLAN

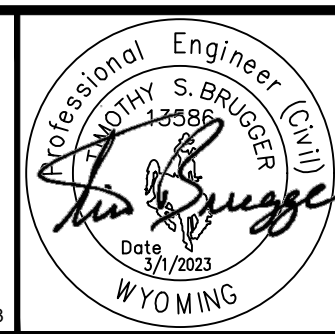
STANDARD PLAN NUMBER
609-1B
SHEET 2 of 3
Issued by: ENGINEERING SERVICES
Date Issued: JANUARY 2012

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NO.	DESCRIPTION	BY	DATE		

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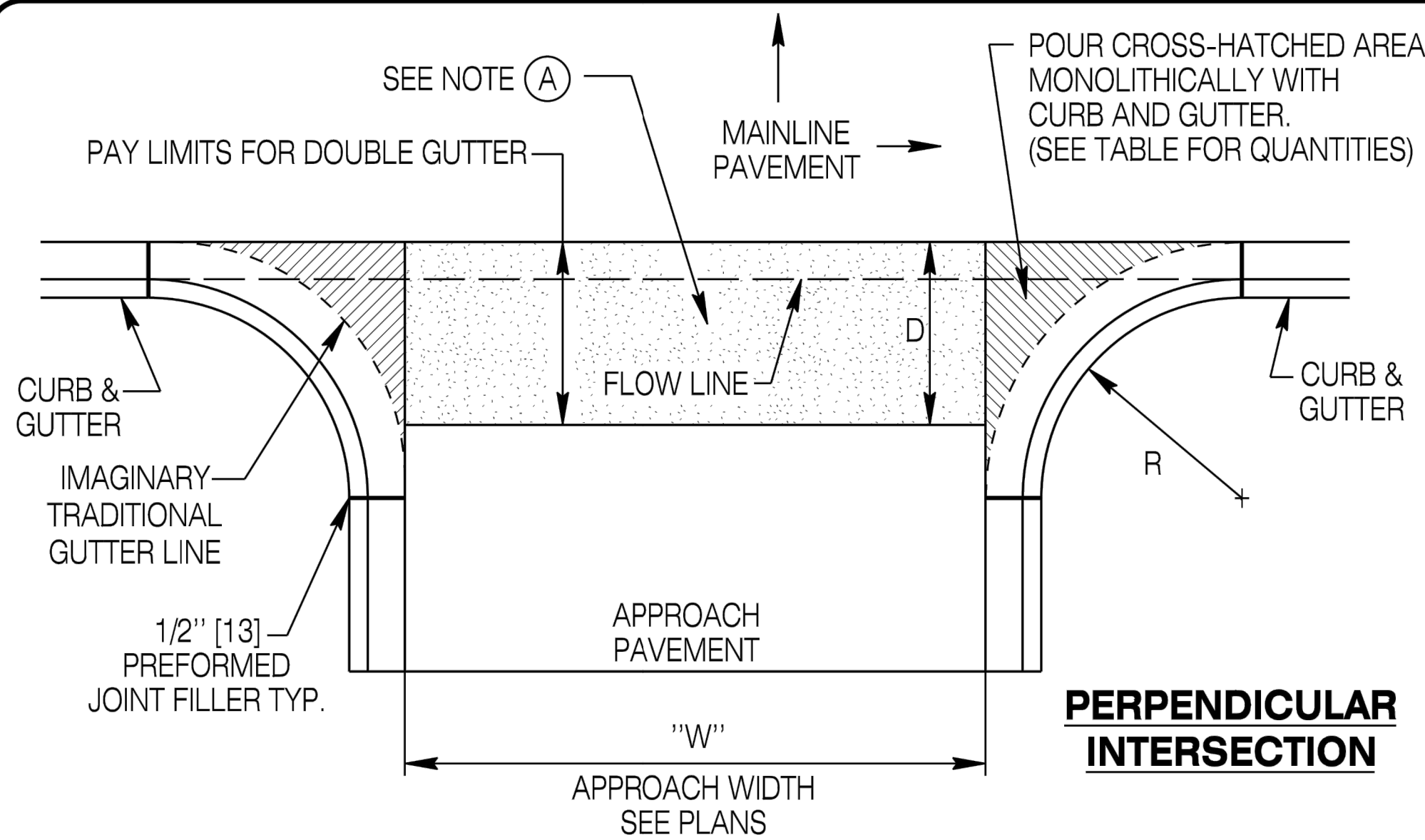


DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY BROOKS STREET GREENSPACE	WYOMING
WYDOT STANDARD PLANS	

PROJECT NUMBER 6017.002
SHEET NUMBER 22
DRAWING NUMBER C-20

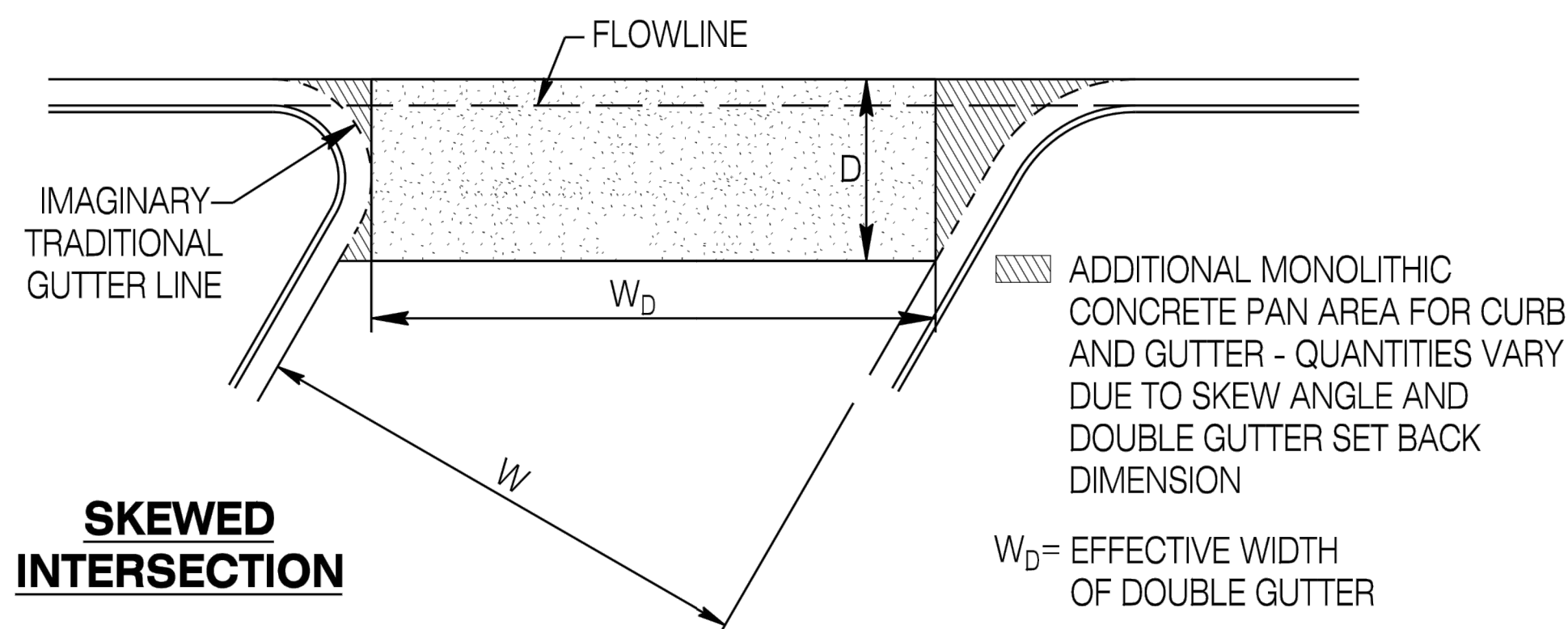
CONSTRUCTION PLANS
MARCH 2023



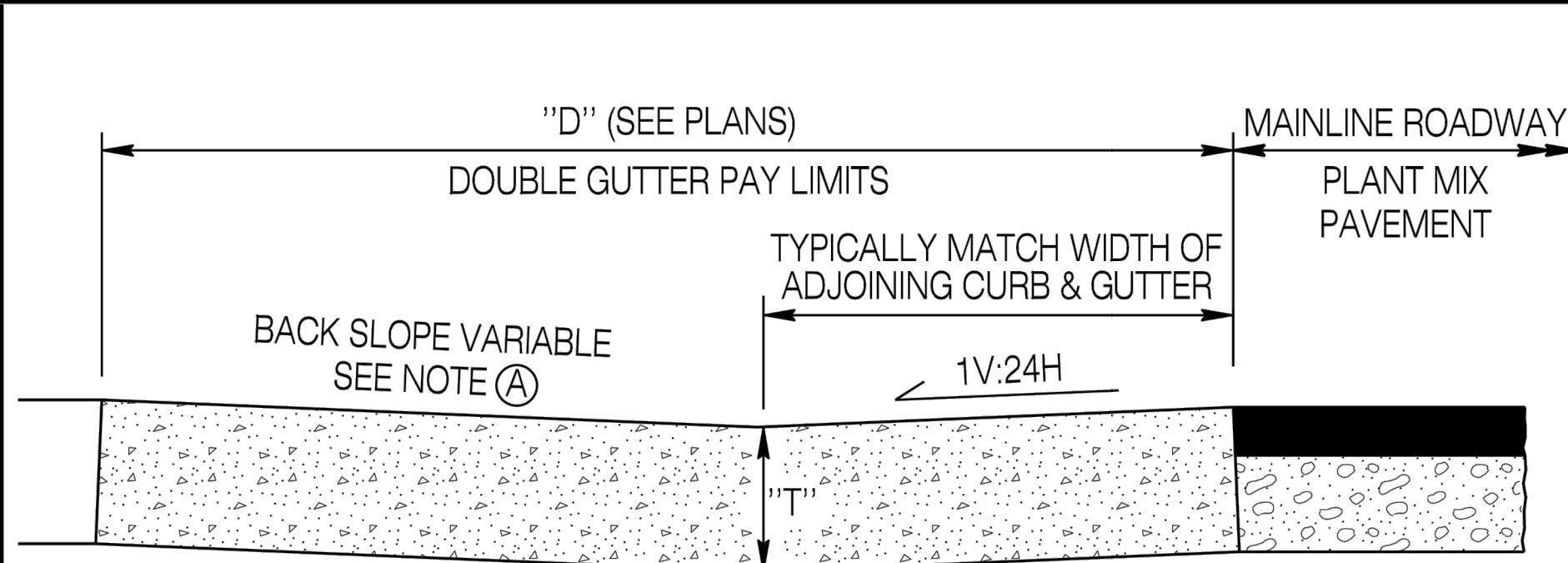
Square off gutter pan creating an apron as shown. The added concrete quantities will be incidental to the pay item, Curb & Gutter.

ESTIMATED ADDITIONAL CONCRETE QUANTITIES FOR CROSS-HATCHED AREA FOR PERPENDICULAR INTERSECTIONS ONLY *							
RADIUS		CONCRETE		RADIUS		CONCRETE	
Ft	m	CY	m³	Ft	m	CY	m³
5	1.5	0.2	0.15	25	7.6	3.0	2.29
10	3.0	0.6	0.46	30	9.1	4.2	3.21
12	3.7	0.8	0.61	40	12	7.2	5.50
15	4.6	1.2	0.92	45	13.7	9.0	6.86
20	6.1	2.0	1.53	50	15.2	11.0	8.37

*Approximate additional concrete quantity for one square out. Tables values are based on a perpendicular intersection, 6 in. [150] thick gutter and on "D"=2 ft-6in. [760]. Table provided for estimating purposes only.

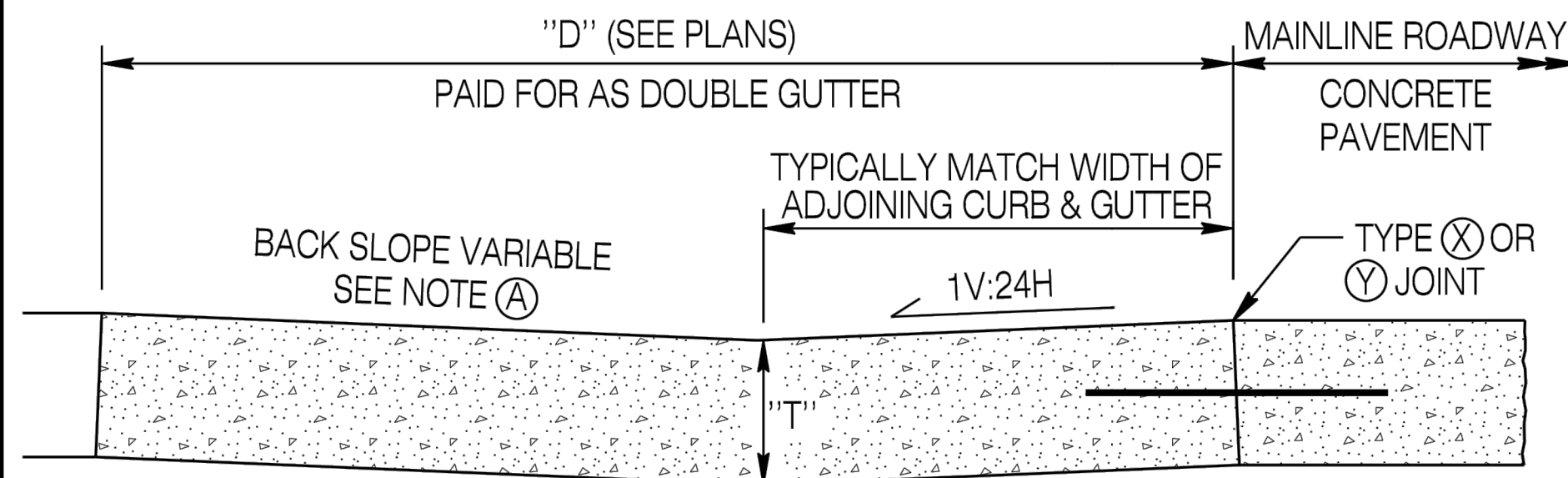


CURB AND GUTTER AND DOUBLE GUTTER REQUIREMENTS AT INTERSECTIONS



DOUBLE GUTTER ADJACENT TO MAINLINE PLANT MIX PAVEMENT

T = See note④, General Notes, Sheet 1.



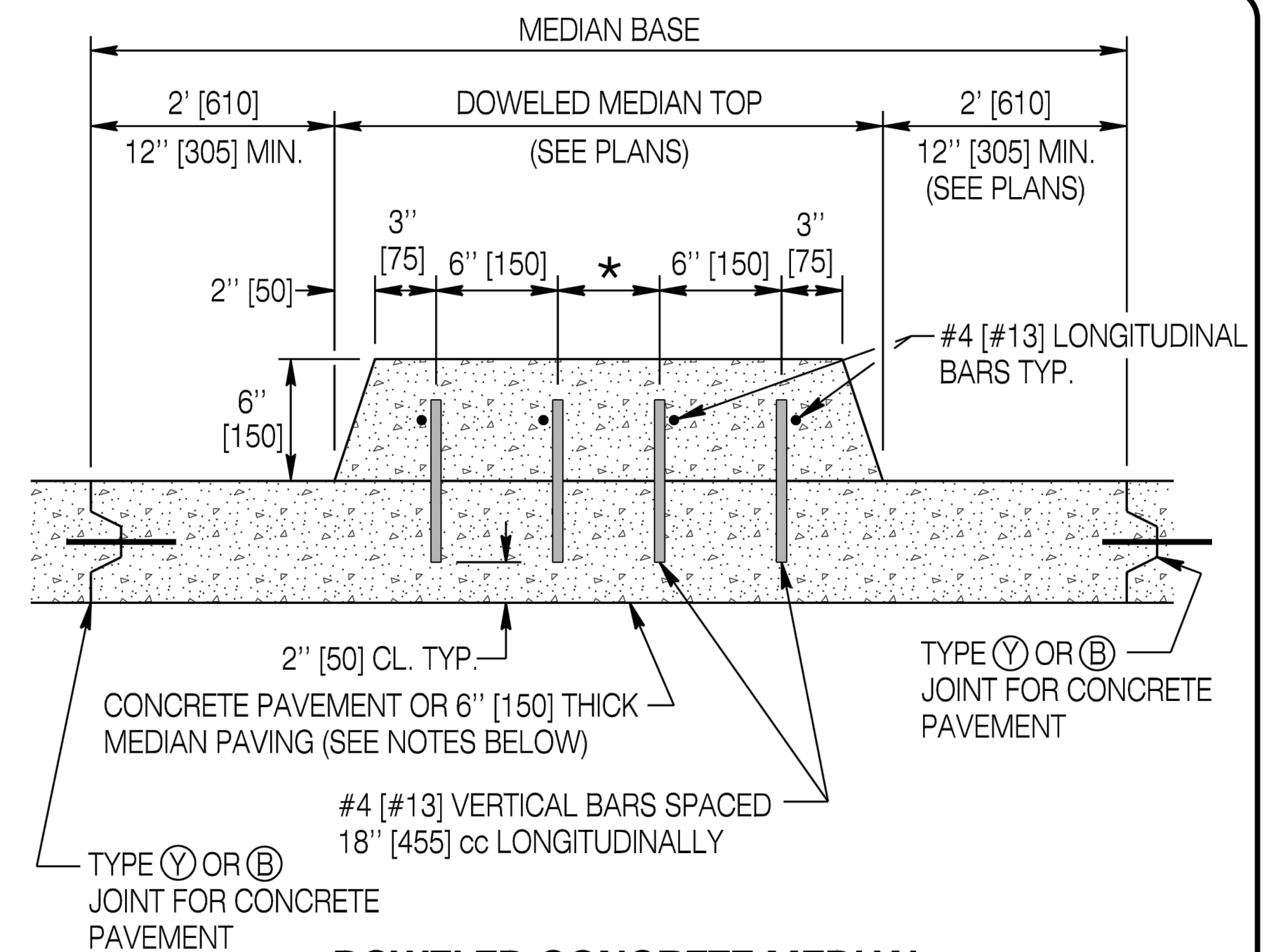
DOUBLE GUTTER ADJACENT TO MAINLINE CONCRETE PAVEMENT

For Double Gutter next to concrete pavement, match concrete pavement contraction joint spacing.

DOUBLE GUTTER REQUIREMENTS

T = See note④, General Notes, Sheet 1

- ① Ensure the backslope for double gutter is 1V:48H or flatter when located in the path of a pedestrian crossing to meet ADA requirements. Otherwise, use a slope as directed by the Engineer.
- ② See sidewalk standard plan for further requirements for double gutter for (driveway) approaches located within city blocks.

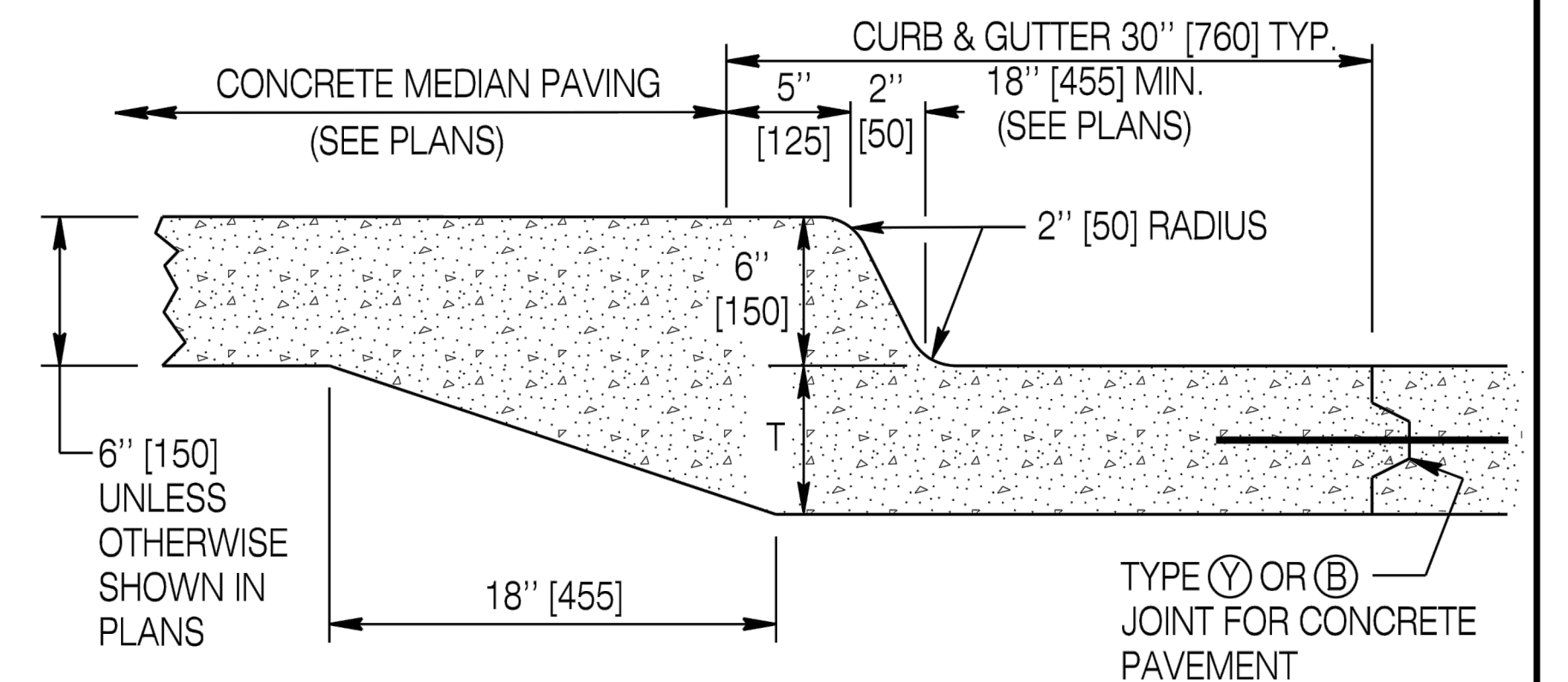


DOWELED CONCRETE MEDIAN

★ For median top widths wider than 4 ft [1.2 m], use additional vertical and longitudinal bars. Ensure bars are added and spaced no greater than 18 in [455] cc in the lateral and longitudinal direction.

If doweled concrete median is located in an area of concrete pavement, use concrete pavement as base. Dowel top to concrete pavement, measure and pay the base as concrete pavement. Measure and pay the doweled median top as median paving.

If doweled concrete median is located adjacent to plant mix pavement, measure and pay the base of concrete median as median paving. Pay the doweled median top as an additional area of median paving.



INTEGRAL CURB & MEDIAN PAVING

MEDIAN PAVING DETAILS

Designed by: VBW
Drawn by: JK
Checked by: VBW
Previous Dwg. No. 609-1A

DOUBLE GUTTER DETAILS

Note: Units shown in brackets [] are metric and are in millimeters (mm) unless other units are shown.



CURB AND GUTTER DOUBLE GUTTER AND MEDIAN PAVING STANDARD PLAN

STANDARD PLAN NUMBER
609-1B
SHEET 3 of 3
Issued by: ENGINEERING SERVICES
Date Issued: JANUARY 2012

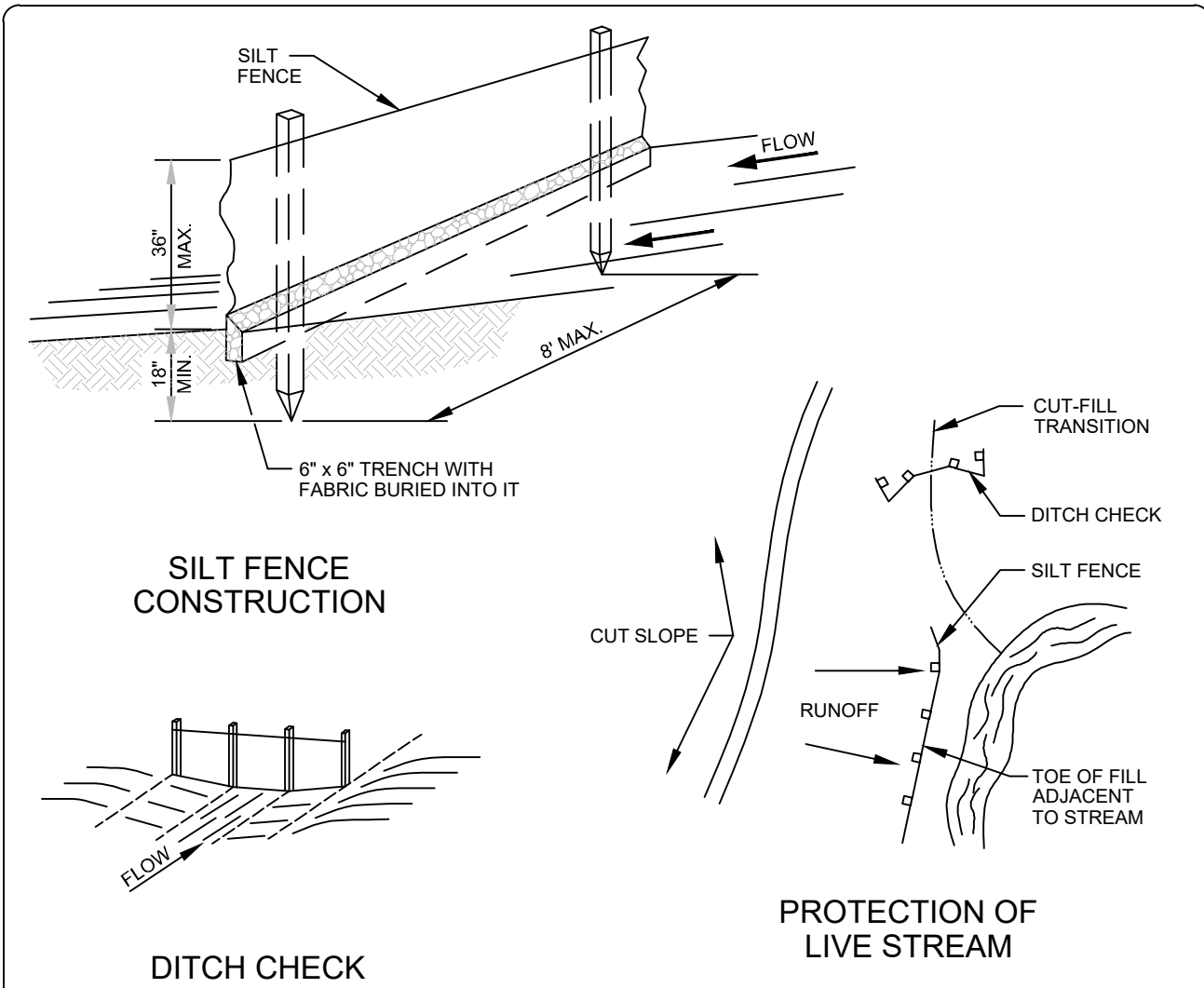
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Professional Engineer (Civil)
JOHN S. BRUGGER
12586
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN. BY: TSB
APPR. BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING
WYDOT STANDARD PLANS

PROJECT NUMBER
6017.002
SHEET NUMBER
23
DRAWING NUMBER
C-21



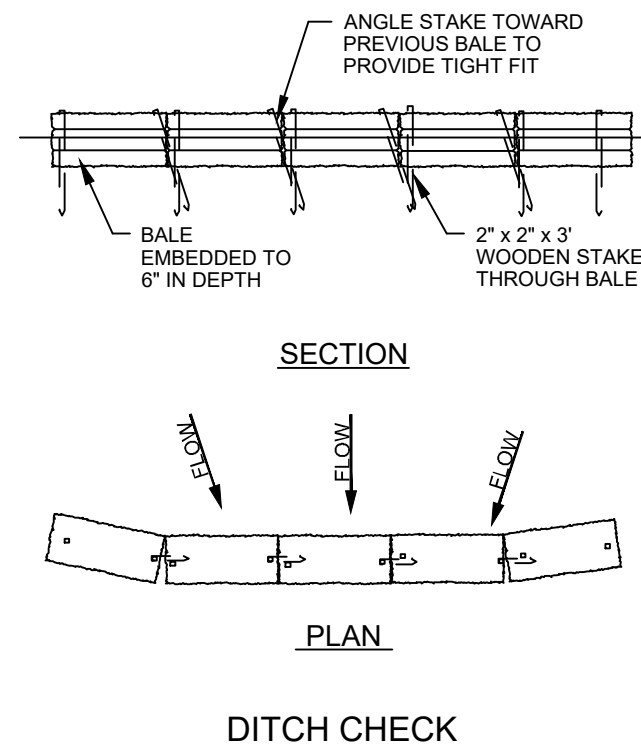
NOTES:

1. A SILT FENCE IS A VERTICAL BARRIER OF GEOTEXTILE FABRIC DESIGNED TO REMOVE PARTICLES FROM THE WATER PASSING THROUGH IT.
2. SILT FENCES ARE PLACED AROUND INLETS, ACROSS MINOR SWALES, AND AT THE TOE OF SLOPES ADJACENT TO STREAMS AND DEVELOPED PROPERTY. SILT FENCE USAGE SHOULD BE LIMITED TO HANDLE AN AREA EQUIVALENT TO 1000 SQ. FT. PER 10 FT. OF FENCE. CAUTION SHOULD BE USED WHERE THE SITE SLOPE IS STEEPER THAN 1:1 AND WATER FLOW RATES EXCEED 1 CU. FT. PER SECOND PER 10 FT. OF FENCE.
3. THE SILT FENCE SHALL BE BUILT AND GRADING CONTROLLED SO THAT WATER IS FILTERED UNIFORMLY ALONG THE FENCE. THE ENDS OF THE FENCE SHALL BE TAPERED UPHILL. POSTS SHALL BE DRIVEN TO A MIN. DEPTH OF 18 INCHES AT A MAX. SPACING OF 8 FEET. WHERE AN 18-INCH DEPTH IS IMPOSSIBLE TO ACHIEVE, THE POSTS SHOULD BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE. THE FENCE SHALL BE ATTACHED TO THE POSTS BY WIRE, CORD, STAPLES, POCKETS OR OTHER ACCEPTABLE MEANS. A MIN. OF 6 INCHES OF GEOTEXTILE FABRIC AT THE BOTTOM OF THE FENCE SHALL BE DRAPED INTO A TRENCH, BACKFILLED WITH SOIL AND COMPACTED. FENCE CONSTRUCTION SHALL BE ADEQUATE TO HANDLE THE STRESS OF THE SEDIMENT LOADING.
4. THE CONTRACTOR SHALL MAINTAIN THE SILT FENCE UNTIL THE FENCE IS REMOVED OR UNTIL THE PROJECT IS ACCEPTED. THE FABRIC SHOULD BE CHECKED FOR RIPS, TEARS, AND OTHER TYPES OF DETEIORATION AND REPLACED AS NEEDED. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE HALF THE HEIGHT OF THE SILT FENCE. WHEN PERMANENT SOIL EROSION CONTROL IS ACHIEVED, THE FENCE SHALL BE REMOVED AND THE ACCUMULATED SEDIMENT SPREAD AND SEEDED.

NOT TO SCALE

EROSION CONTROL
SILT FENCE DETAIL

DWG. NO. 01560-3.05a
CITY of SHERIDAN
NOVEMBER 2015



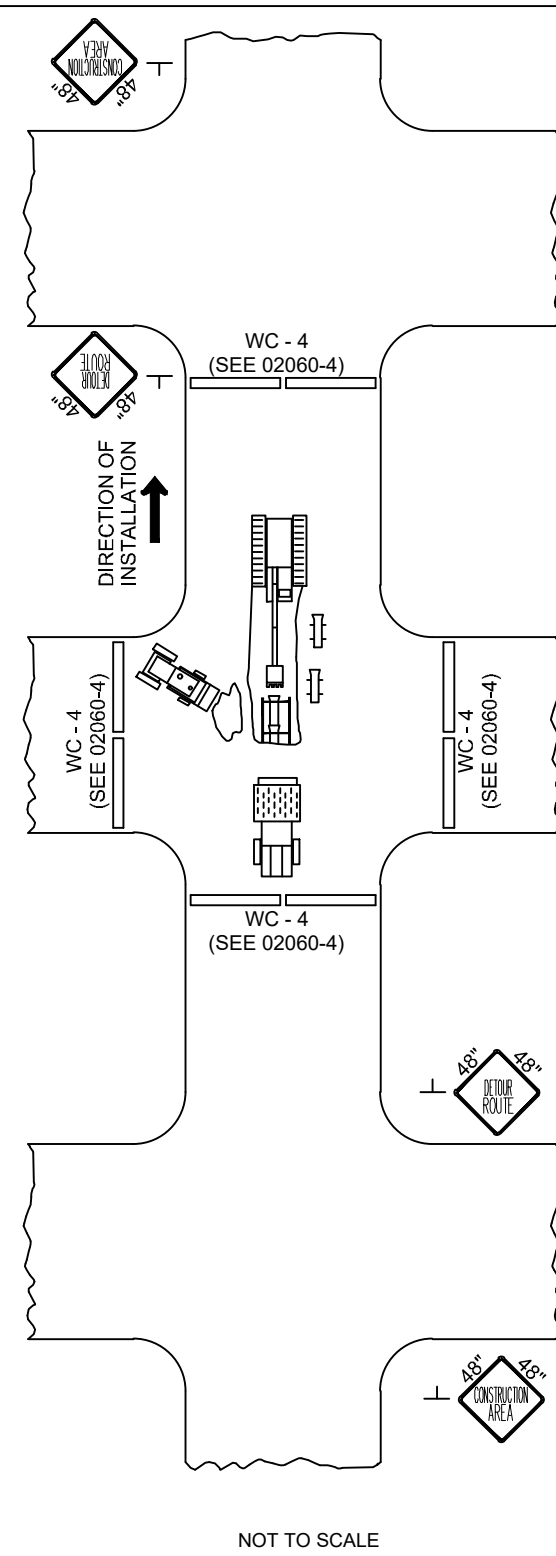
NOTES:

1. EROSION CONTROL BALES ARE USED AS FILTERS ALONG THE TOES OF FILLS, AROUND DRAINAGE INLETS, AND AS EROSION CHECKS IN DITCHES. DUE TO THEIR LOW POROSITY AND WEIGHT PER UNIT VOLUME, USE OF EROSION CONTROL BALES SHOULD BE LIMITED TO SITUATIONS WHERE EXPECTED STORM FLOW VOLUMES ARE LOW.
2. EROSION CONTROL BALES SHALL BE STRAW OR HAY AND CERTIFIED WEED FREE. EROSION CONTROL BALES SHALL BE PLACED SO THAT THEY ARE BUTTED TIGHTLY TOGETHER. THE BALES SHALL BE BURIED TO 6-INCHES IN DEPTH AND THE SOIL COMPACTED AROUND THE BALES. BALES SHALL BE FURTHER ANCHORED WITH 2"x2"x3" WOODEN STAKES. EROSION CONTROL BALES IN DITCH LINES SHOULD BE EXTENDED A SUFFICIENT LENGTH SO THAT THE ELEVATION OF THE BALES IS 2 FT ABOVE THE ANTICIPATED HIGH WATER LINE. THESE CONSTRUCTION PRACTICES SHALL BE FULLY CARRIED OUT TO ENSURE THAT WATER IS NOT ALLOWED TO FLOW BETWEEN, AROUND, OR UNDERNEATH THE BALES.
3. EROSION CONTROL BALES REQUIRE FREQUENT INSPECTION, AS THEY DETEIORATE QUICKLY AND MAY NEED TO BE REPLACED. WHEN NO LONGER NEEDED, THE ACCUMULATED SEDIMENT SHALL BE SPREAD, SEEDED AND MULCHED WITH THE REMAINING STRAW OR HAY FROM THE EROSION CONTROL BALES.

NOT TO SCALE

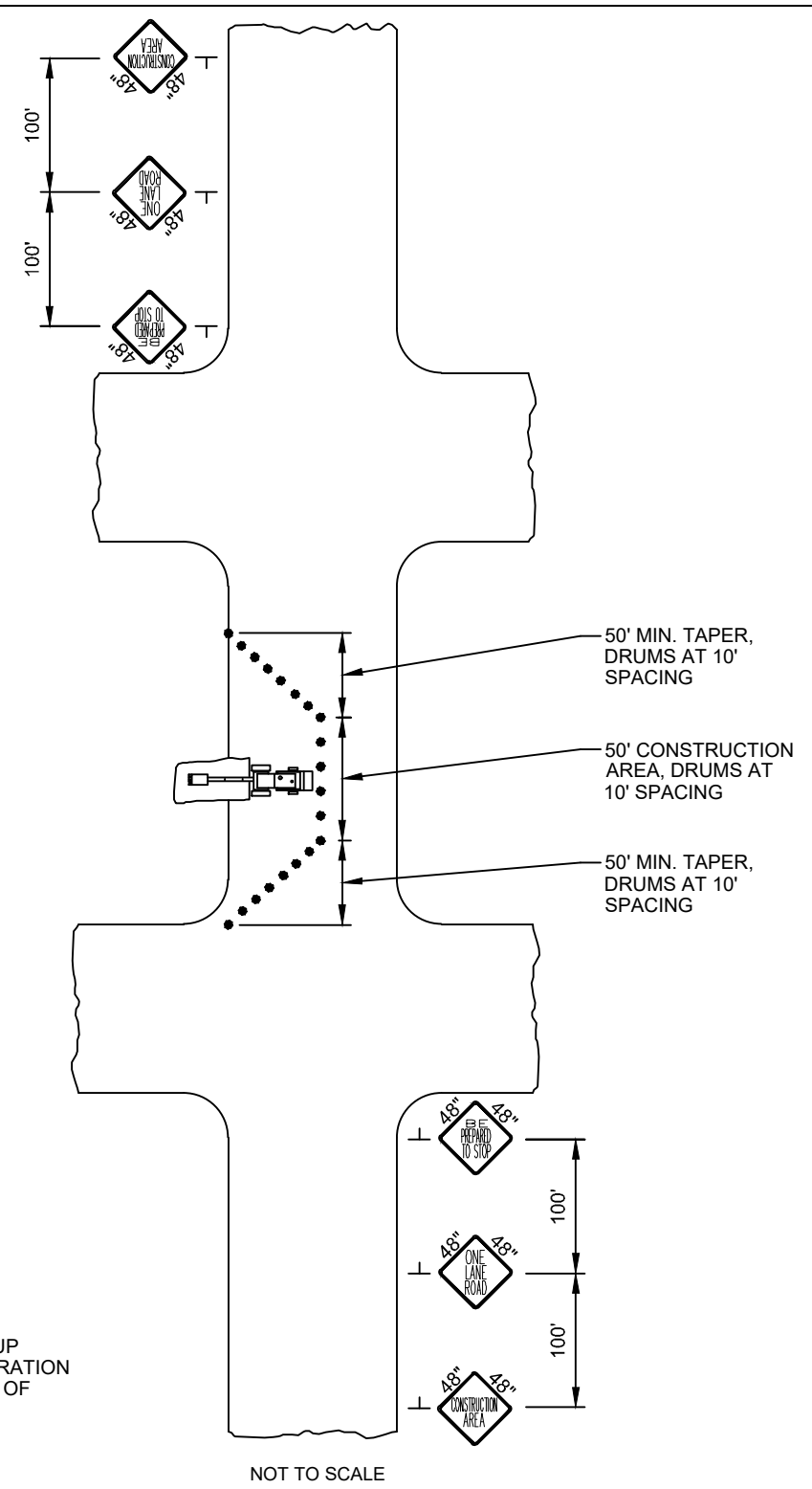
EROSION CONTROL
BALES DETAIL

DWG. NO. 01560-3.05b
CITY of SHERIDAN
NOVEMBER 2015



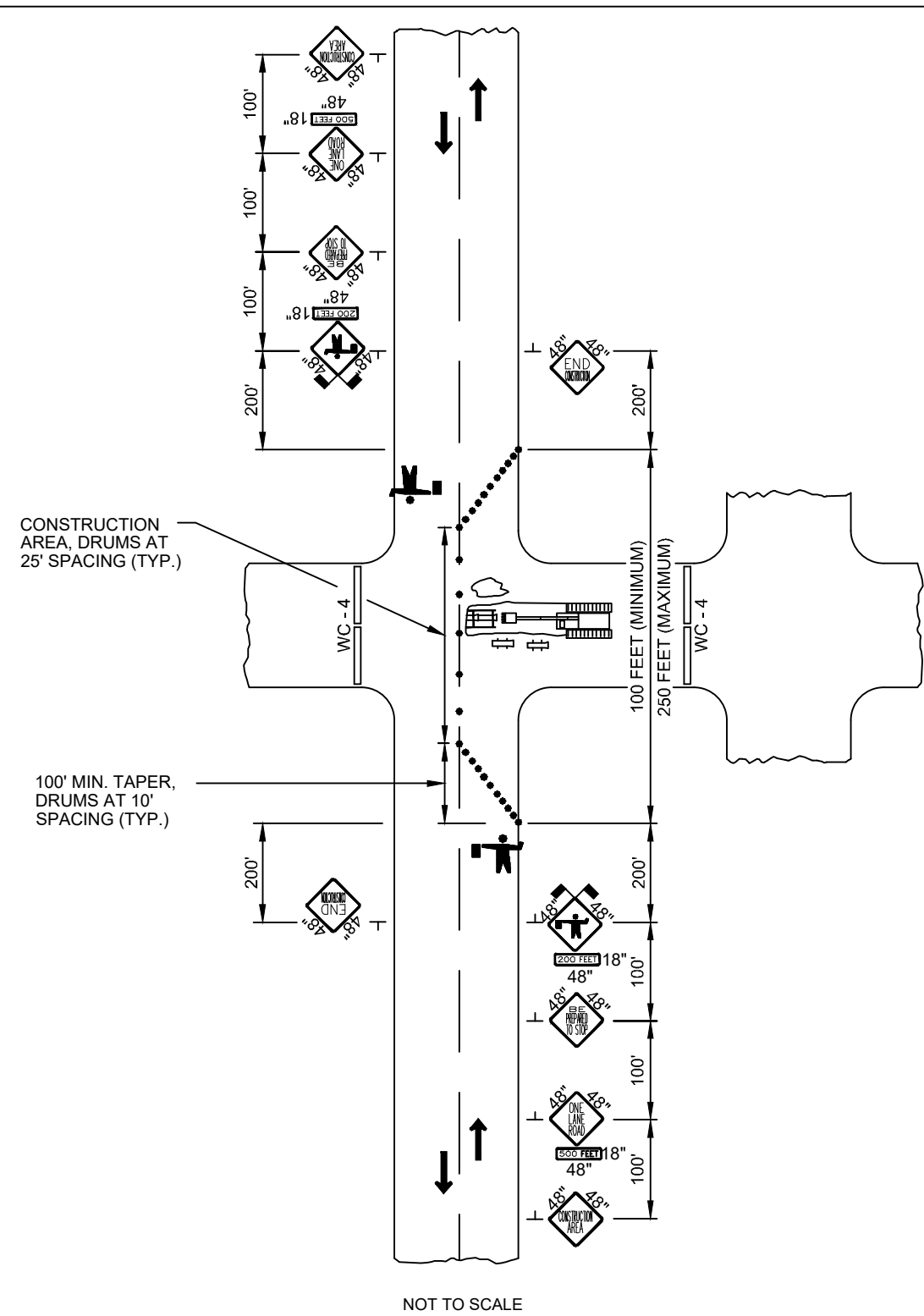
TYPICAL STREET BARRICADE
SETUP DETAIL

DWG. NO. 02060-1
CITY of SHERIDAN
NOVEMBER 2015



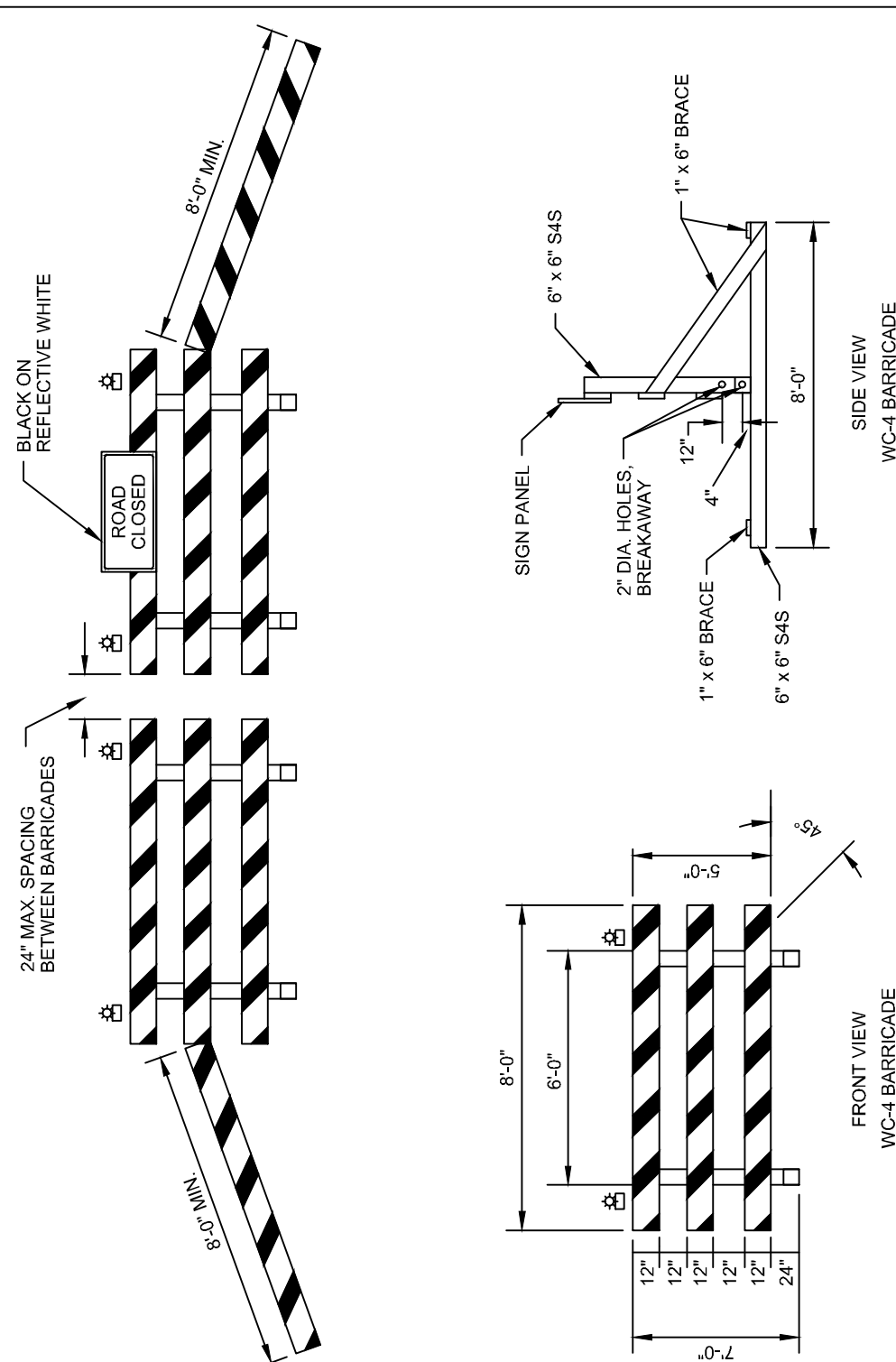
TYPICAL TRAFFIC CONTROL FOR LANE
CLOSURE ON LOCAL STREETS DETAIL

DWG. NO. 02060-2
CITY of SHERIDAN
NOVEMBER 2015



TYPICAL TRAFFIC CONTROL FOR LANE
CLOSURE ON ARTERIAL STREETS DETAIL

DWG. NO. 02060-3
CITY of SHERIDAN
NOVEMBER 2015



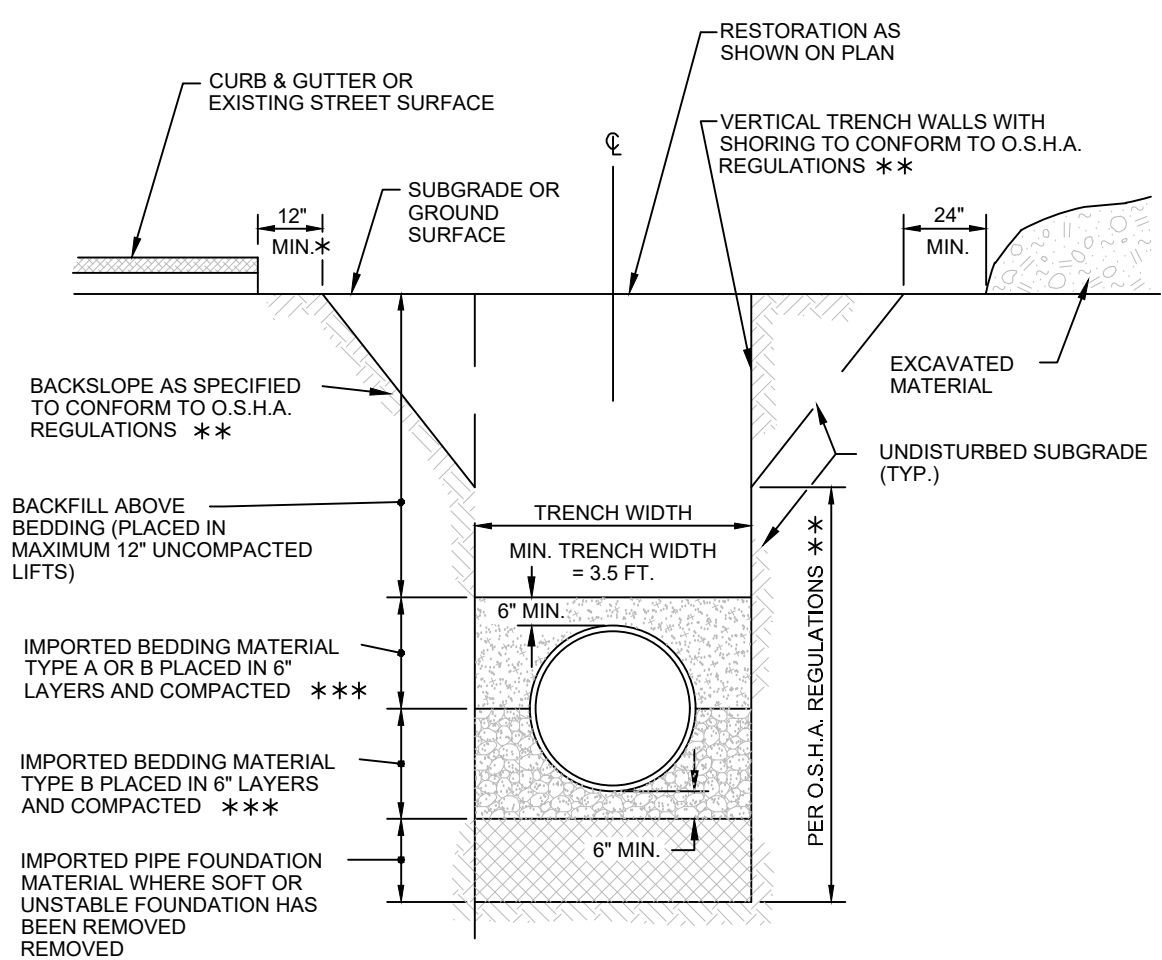
TYPICAL STREET CLOSURE AND BARRICADE
SETUP DETAIL

DWG. NO. 02060-4
CITY of SHERIDAN
NOVEMBER 2015

- GENERAL NOTES FOR PLACEMENT AND USAGE OF CONSTRUCTION TRAFFIC CONTROL DEVICES
1. WORK ACTIVITY ON OR ADJACENT TO THE TRAVELED WAY THAT MAY AFFECT THE TRAVELING PUBLIC OR WORKERS SHALL NOT COMMENCE UNTIL ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER. (CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL INCLUDE SIGNS, BARRICADES, CHANNELIZING DEVICES, STRIPING, ETC.)
 2. ALL SIGNS SHALL BE STAND-MOUNTED AND KEPT CLEAN, LEGIBLE AND MAINTAIN REFLECTIVITY. FLASHERS SHALL BE INSTALLED AND IN WORKING ORDER ON ALL WC-4S AND BARRELS.
 3. ONLY TWO BLOCKS SHALL BE CLOSED AT A TIME UNLESS APPROVED BY THE CITY OF SHERIDAN
 4. ALL CONSTRUCTION SITES SHOULD BE CHECKED PERIODICALLY, DAY AND NIGHT, TO ENSURE ADEQUATE TRAFFIC CONTROL.
 5. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED, INCLUDING ALL POSTS AND SIGNS, SHALL COMPLY WITH ALL REQUIREMENTS OF THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 6. EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH THESE TRAFFIC CONTROL PLANS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER AND RETURNED TO THEIR PREVIOUS LOCATIONS AS NEEDED. (NOT A PAY ITEM; SUBSIDIARY TO OTHER CONTRACT ITEMS.)
 7. CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE REMOVED OR COVERED WHEN NOT NEEDED.
 8. PORTABLE SIGN SUPPORTS AND BARRICADES TURNED AWAY FROM THE ROADWAY AND NOT REMOVED AT LEAST 30 FEET FROM THE EDGE OF THE TRAVELED WAY SHALL HAVE A TYPE II OBJECT MARKER VISIBLE TO ALL APPROACHING TRAFFIC.
 9. WHEN CONSTRUCTION CEASES DURING THE WINTER, ANY CONSTRUCTION TRAFFIC CONTROL DEVICES, INCLUDING POSTS, UNNEEDED AT THIS TIME, SHALL BE REMOVED. REQUIRED DEVICES SHALL BE MAINTAINED THROUGHOUT THE WINTER.
 10. ALL CONSTRUCTION MATERIALS AND EQUIPMENT SHALL BE STORED IN AREAS AS FAR FROM THE USABLE TRAVELED WAY AS POSSIBLE (30 FEET MINIMUM).
 11. ADDITIONAL WARNING LIGHTS MAY BE REQUIRED ON CONSTRUCTION TRAFFIC CONTROL DEVICES FOR ADDITIONAL EMPHASIS AT NIGHT. ONLY STEADY BURN WARNING LIGHTS SHALL BE USED ON TAPERS, DRUMS WITH ARROWS SHALL BE USED ON TAPERS, AND DRUMS WITHOUT ARROWS SHALL BE USED ON TANGENTS. SIGNS AND CHANNELIZING DEVICES SHALL BE REFLECTORIZED WHEN USED AT NIGHT.
 12. ADDITIONAL FLAGGERS MAY BE UTILIZED AT THE DISCRETION OF THE CONTRACTOR. ADDITIONAL WARNING SIGNS FOR THE FLAGGERS SHALL THEN BE INSTALLED. LIGHTING SHALL BE PROVIDED IF FLAGGERS ARE UTILIZED DURING HOURS OF DARKNESS.
 13. ALL DRUMS USED FOR TEMPORARY TRAFFIC CONTROL SHALL BE PLASTIC AND MEET ALL REQUIREMENTS OF THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 14. IN URBAN AREAS, PEDESTRIAN SAFETY AND MOVEMENTS SHALL BE CONSIDERED WHEN PLACING TRAFFIC CONTROL DEVICES.
 15. THE ENGINEER RESERVES THE RIGHT TO ADD, DELETE OR MODIFY ANY CONSTRUCTION TRAFFIC CONTROL DEVICE OR SETUPS AS REQUIRED TO COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TO PROVIDE FOR THE SAFETY OF TRAVELING MOTORISTS OR PEDESTRIANS. ANY ADDITIONS OR MODIFICATIONS TO TRAFFIC CONTROL WILL BE CONSIDERED SUBSIDIARY TO THE BID ITEM.

TRAFFIC CONTROL
GENERAL NOTES

DWG. NO. 02060-5
CITY of SHERIDAN
NOVEMBER 2015



NOTES:

- * WHERE TRENCH PASSES THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT ALONG A NEAT, VERTICAL LINE A MIN. OF 12" FROM THE EDGE OF THE TRENCH OPENING. WHERE NEAT LINE IS LESS THAN 3' FROM EDGE OF EXISTING PAVEMENT OR CURB & GUTTER SECTION, REMOVE AND REPLACE ENTIRE PAVEMENT SECTION BETWEEN TRENCH AND EDGE OF PAVEMENT OR CURB & GUTTER SECTION.
- ** SEE O.S.H.A. SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, SECTION 1926.652. TRENCH WALLS SHALL BE IN COMPLIANCE WITH THE CURRENT O.S.H.A. REQUIREMENTS.
- *** NATIVE BEDDING MATERIAL MAY BE USED FOR RCP STORM DRAINS, IF ALLOWED BY THE SPECIAL PROVISIONS. TYPE A BEDDING MAY POSSIBLY BE USED (SEE 02221.2.01B & 3.05B).

NOT TO SCALE

TYPICAL STORM DRAIN
TRENCH DETAIL

DWG. NO. 02221-2.01Bc
CITY of SHERIDAN
NOVEMBER 2015

W:\80177 SHERIDAN COUNTY\80177.002 SHR CNTY - BROOKS ST GREENSPACE\AD\SHS\02-CIVIL\02-06 DETAILS.DWG
PLOTTED BY:TIM BRUGGER ON Feb/28/2023

REVISIONS				
NO.	DESCRIPTION	BY	DATE	

VERIFY SCALE!
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Professional Engineer (Civil)
Tim Brugger
Date: 3/1/2023
WYOMING

DRAWN BY: KRL
DSGN BY: TSB
APPR BY: TSB
DATE: 3/1/2023
Q.C. REVIEW
BY: JMF
DATE: 6/24/2022

SHERIDAN

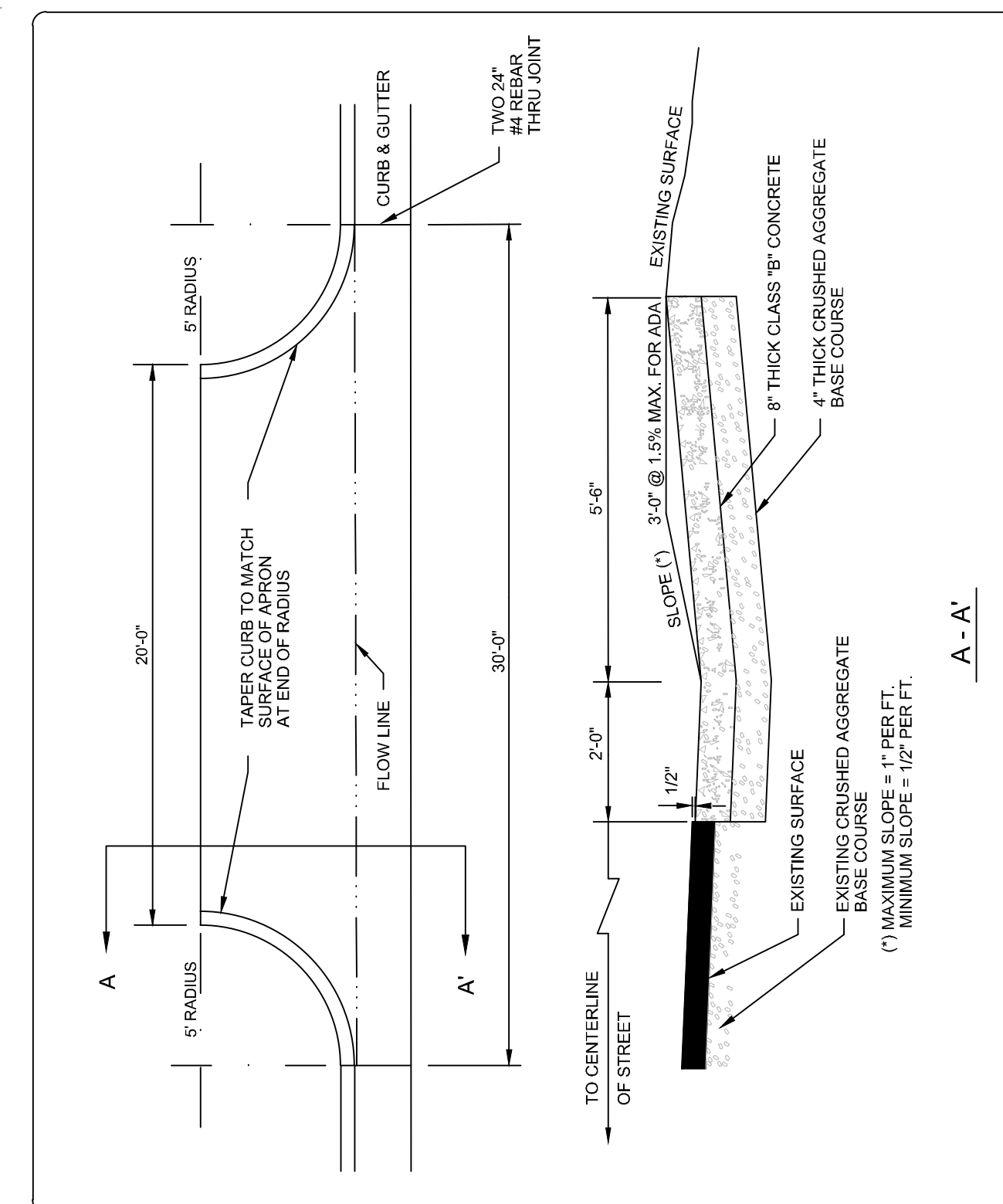
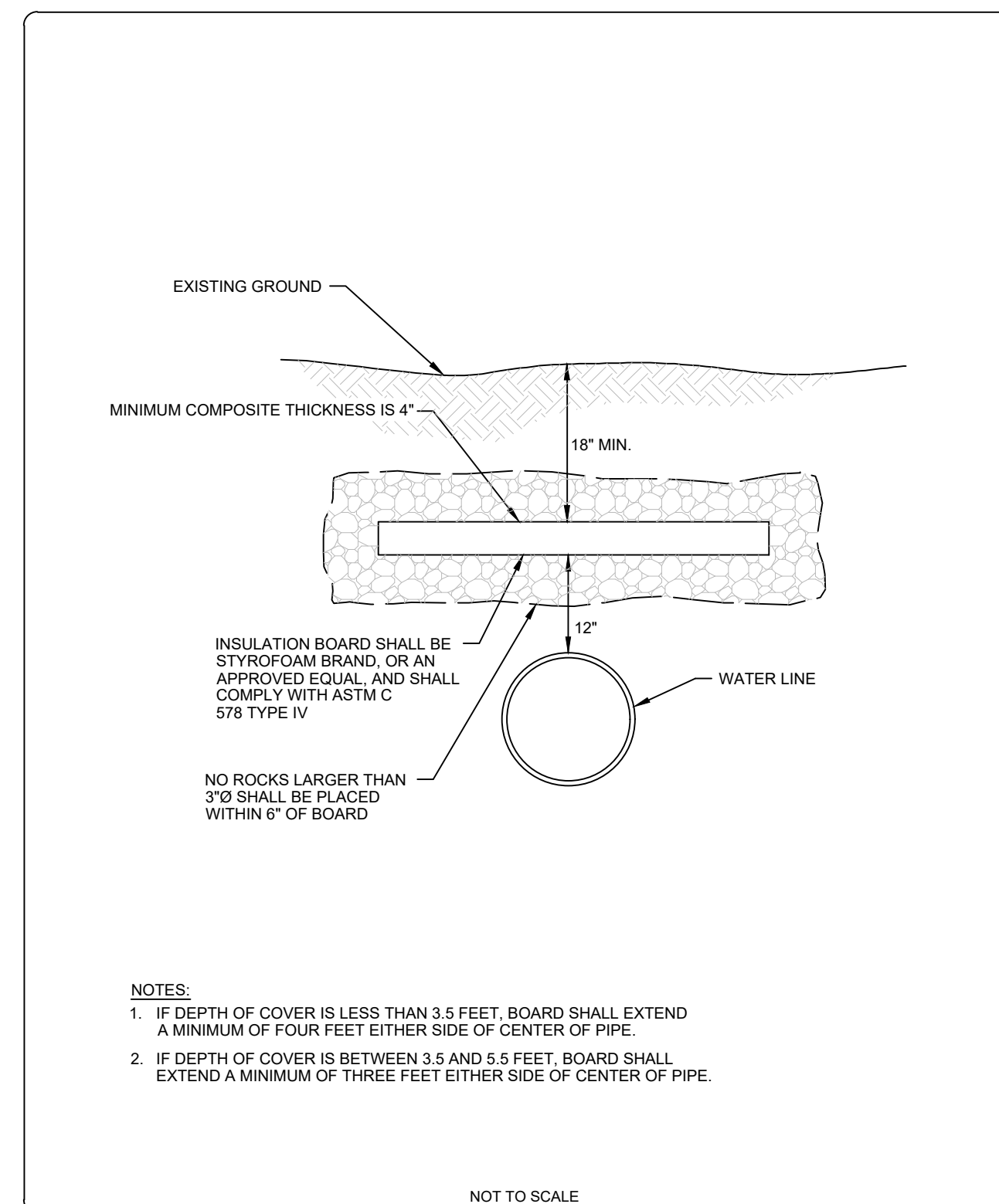
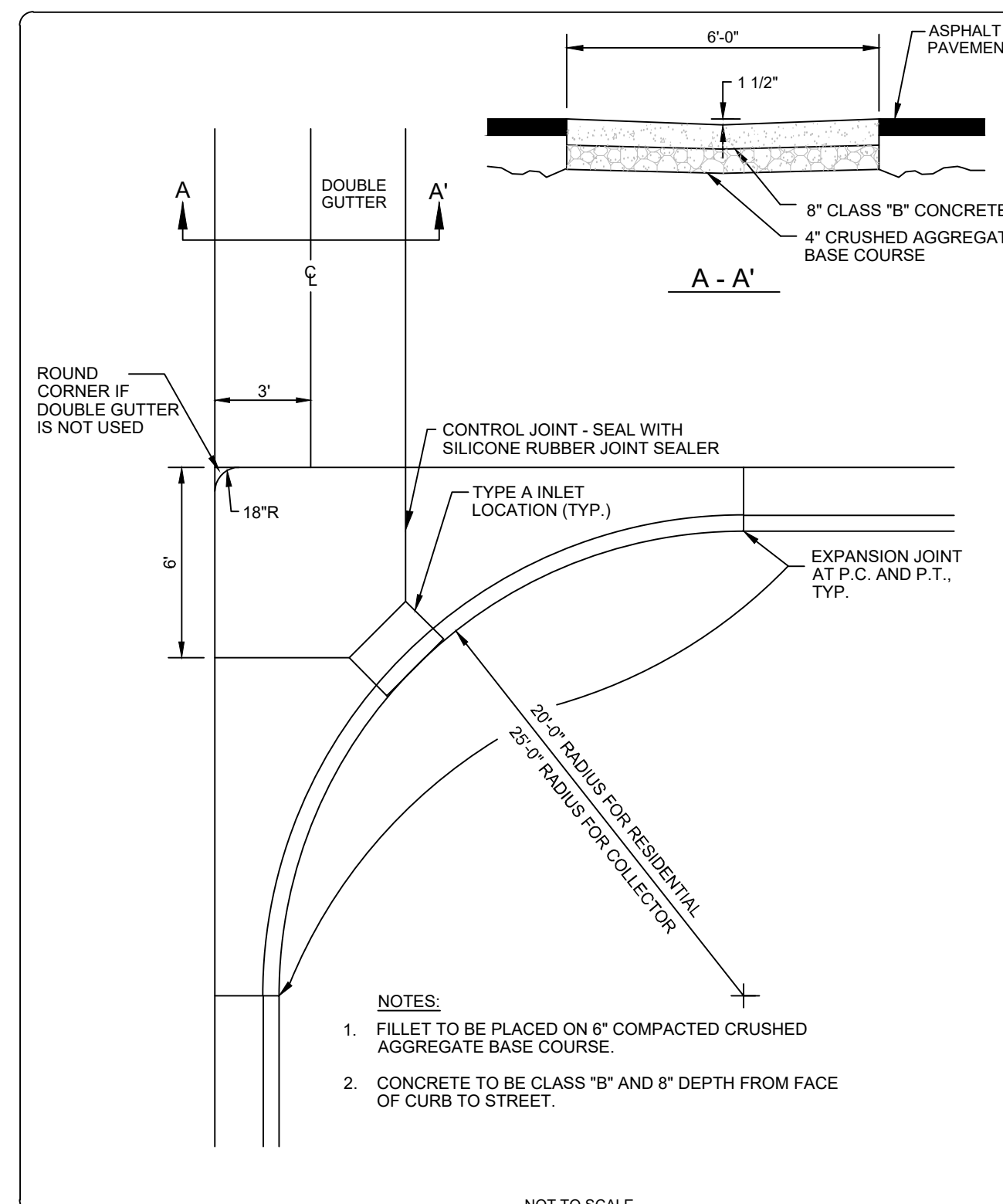
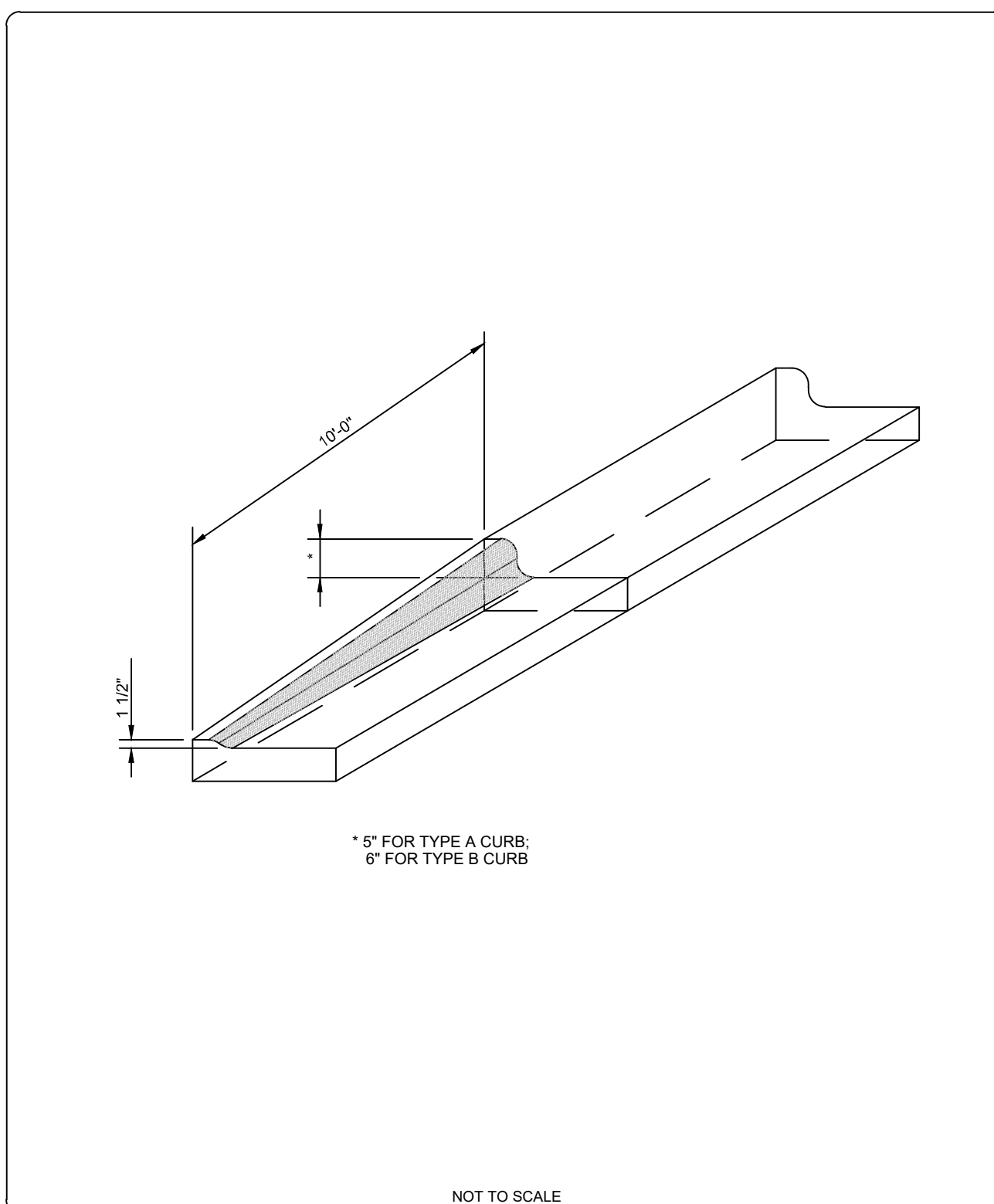
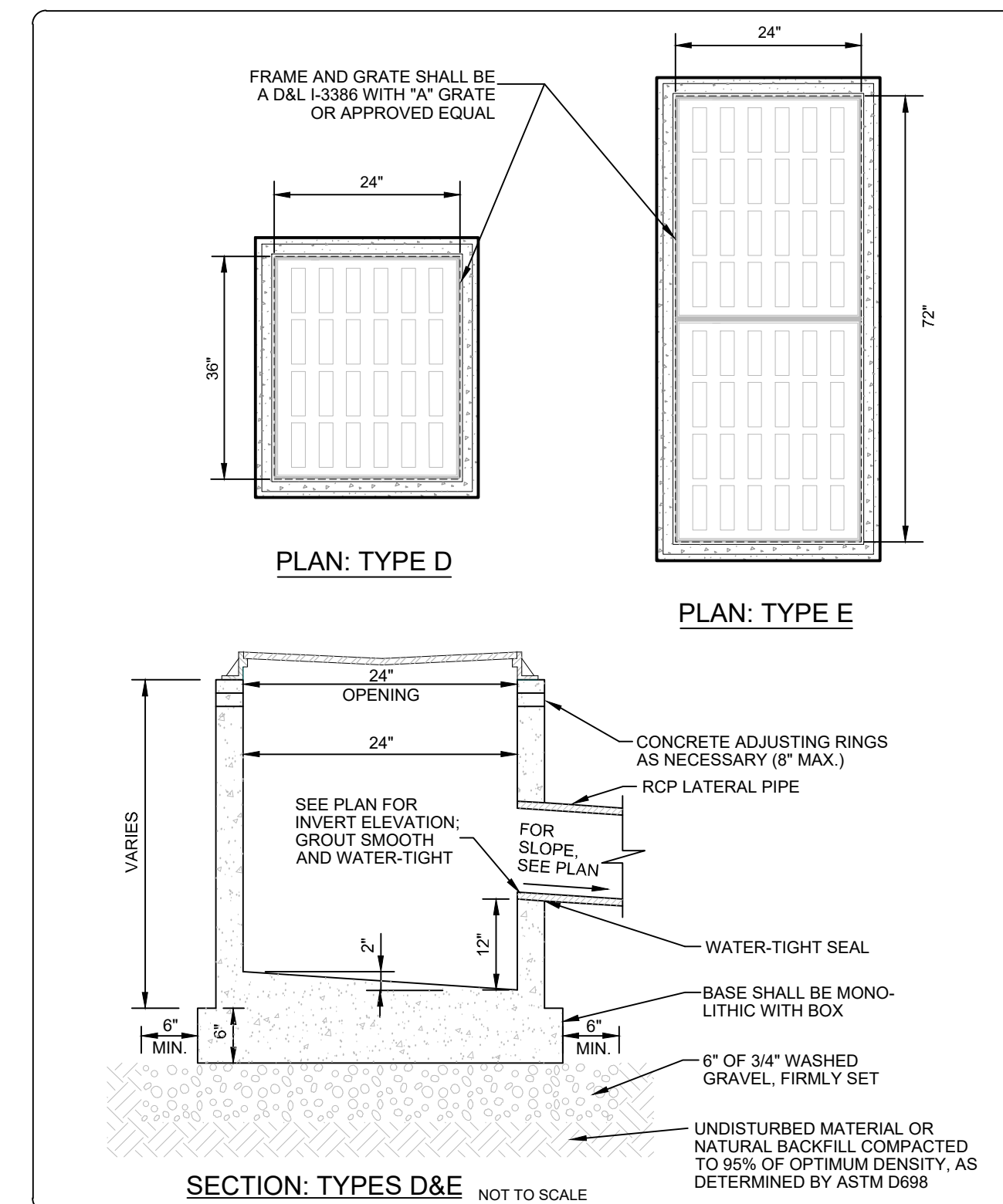
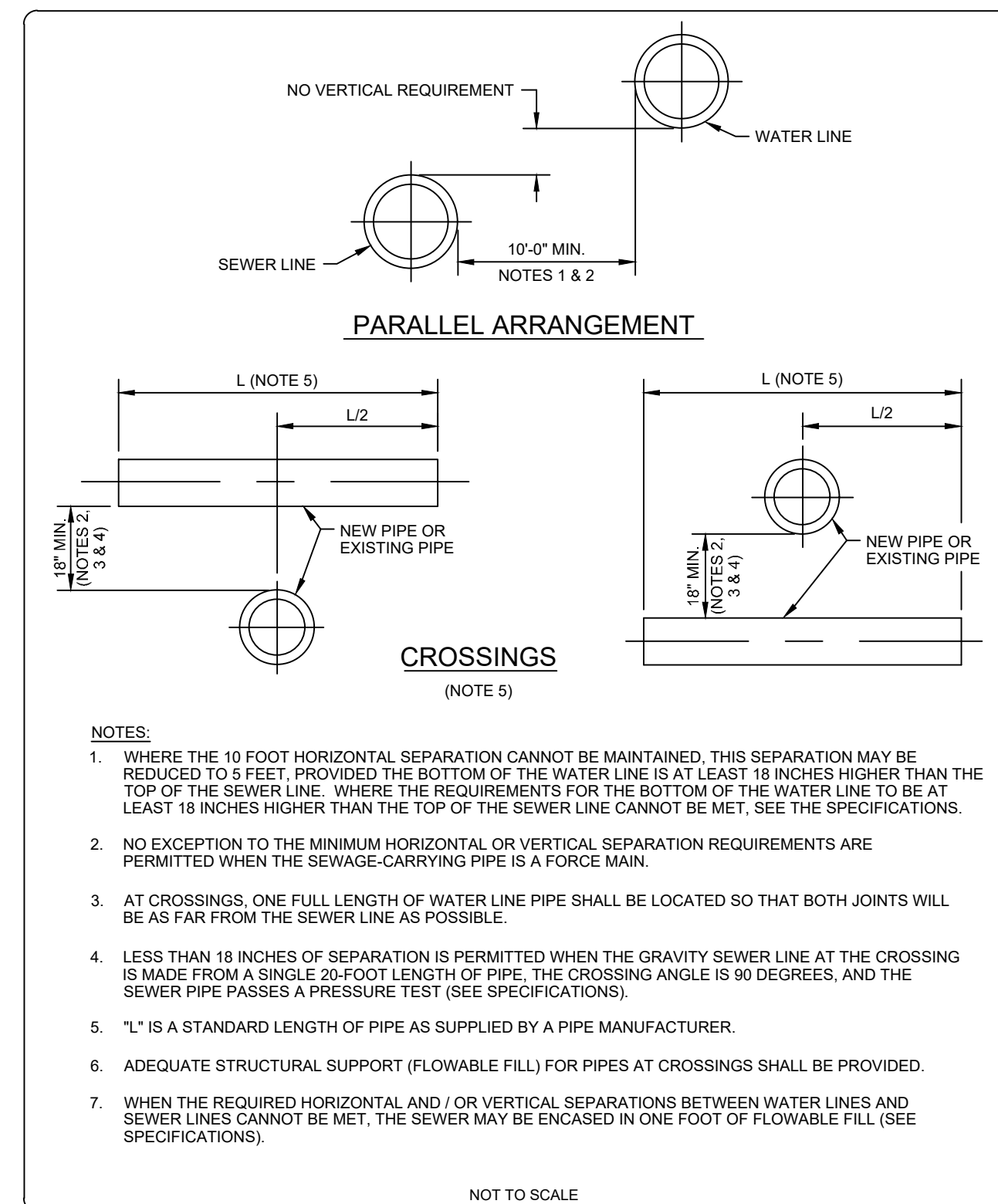
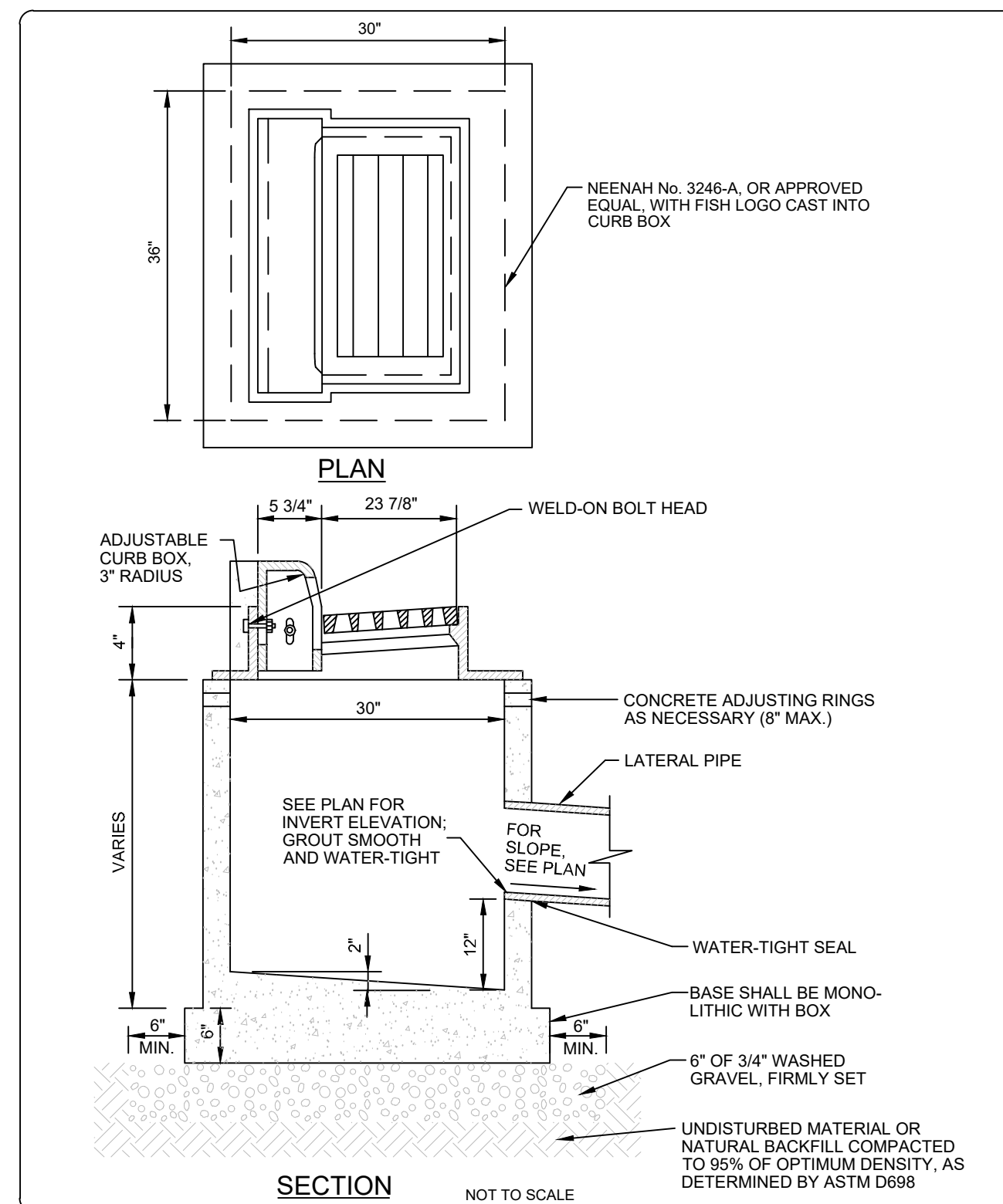
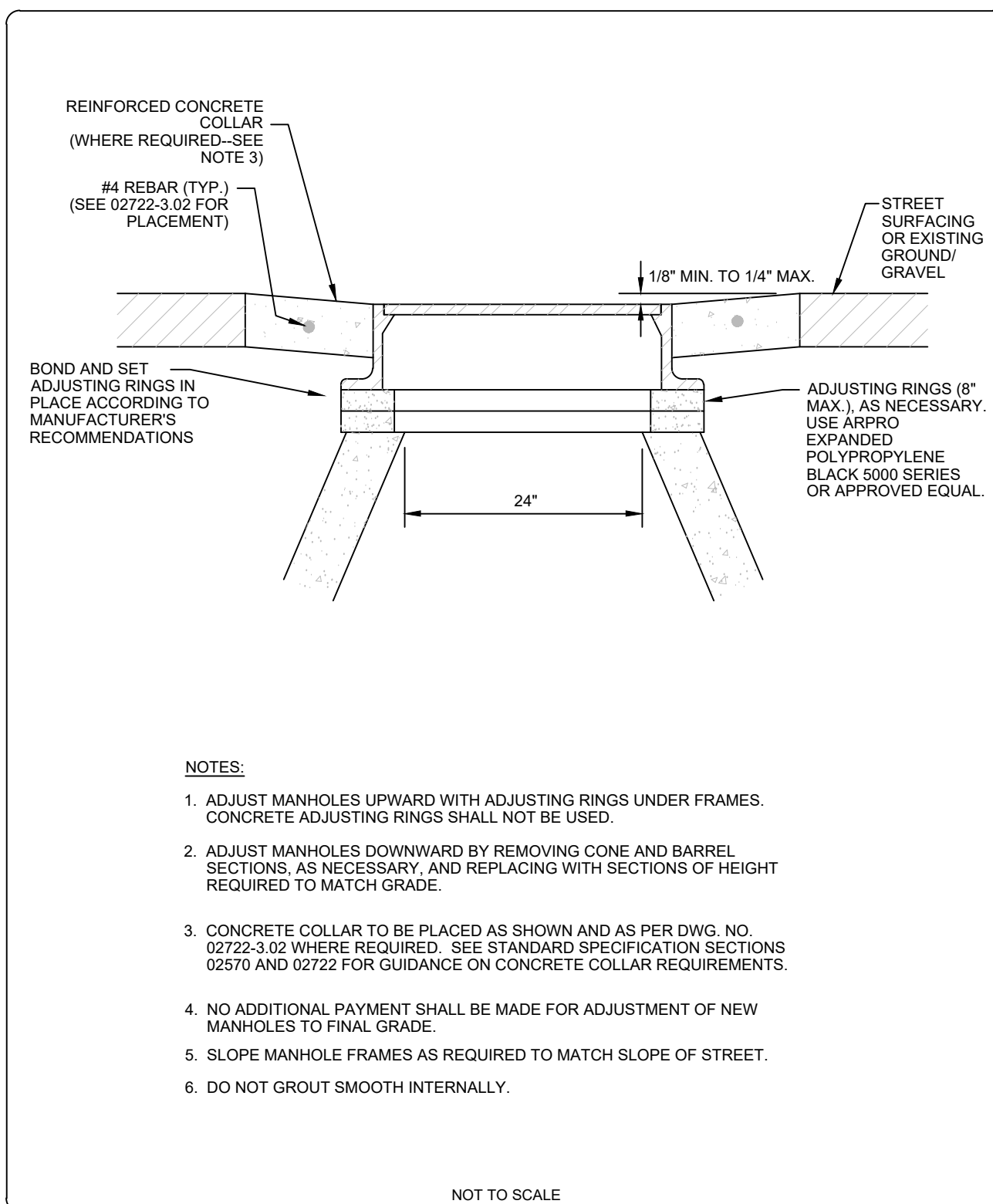
SHERIDAN COUNTY
BROOKS STREET GREENSPACE

WYOMING

CITY OF SHERIDAN
STANDARD DETAILS

PROJECT NUMBER
6017.002
SHEET NUMBER
24
DRAWING NUMBER
C-22

CONSTRUCTION PLANS
MARCH 2023

W:\6017 SHERIDAN COUNTY\6017.002 SHR CNTY - BROOKS ST GREENSPACE\ACAD\SHEETS\CIVIL\002-06 DETAILS.DWG

W/18077 SHERIDAN COUNTY (60) THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.  MODIFY SCALE ACCORDINGLY!	<div style="text-align: center;">REVISIONS</div>			
	NO.	DESCRIPTION	BY	DATE

PLOTTED BY:TIM BRUGGER ON Feb/28/2023



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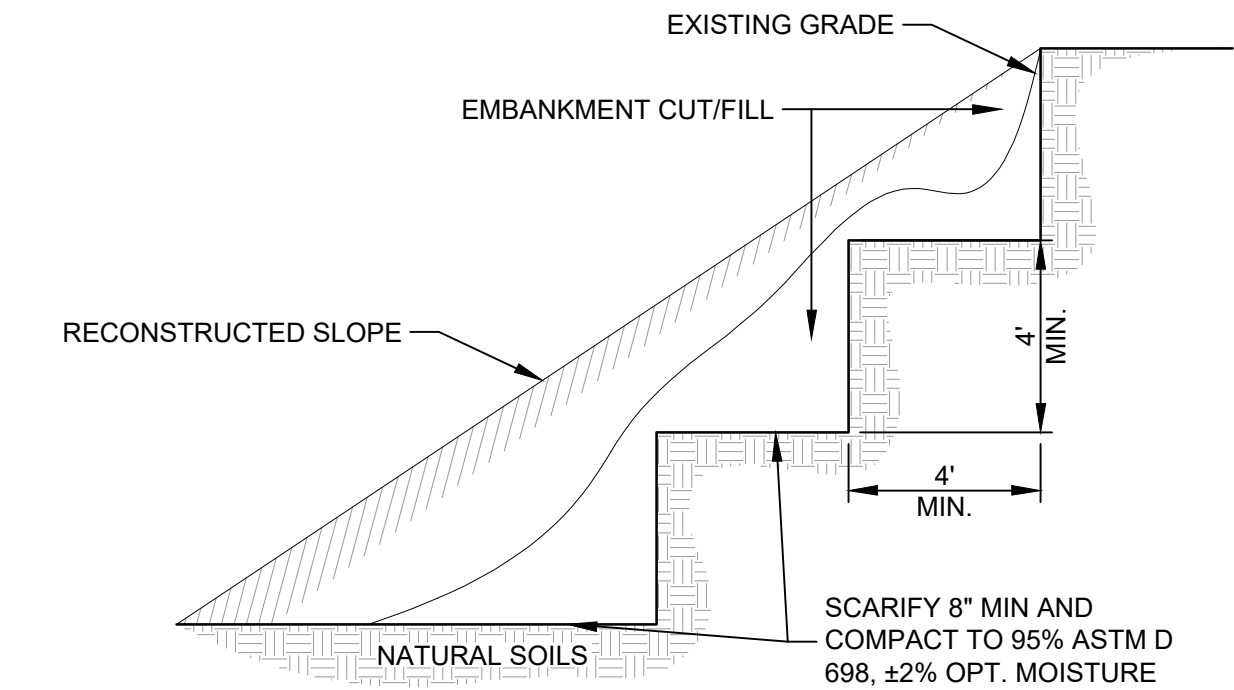
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APPR. BY:	TSB
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BY:	JMF
DATE:	6/24/2022

SHERIDAN COUNTY BROOKS STREET GREENSPACE		
SHERIDAN		WYOMING
CITY OF SHERIDAN STANDARD DETAILS		

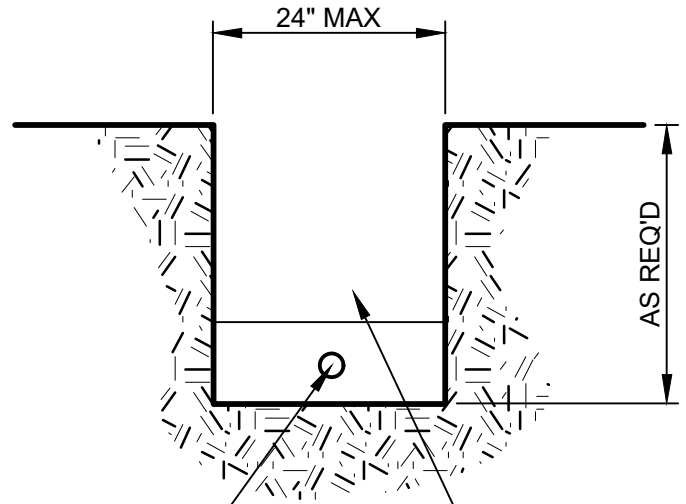


NOTE:

- SLOPE BENCHING APPLIES TO FILL SLOPES AND AREAS EXCAVATED TO INSTALL BID ITEMS.
- FILL AREAS TO BE "BENCHED" PRIOR TO PLACING SUBSEQUENT FILL LAYERS TO PROVIDE A LEVEL SURFACE TO COMPACT AGAINST. BEGIN AT THE BASE OF THE SLOPE AND BENCH IN AT LEAST 4' INTO THE EXISTING SLOPE AS REQUIRED. PLACE ENGINEERED FILL AND SUITABLE BACKFILL IN 8" LOOSE LIFTS AND COMPACT TO 95% ASTM D 698 (±2% OPTIMUM MOISTURE).

1 SLOPE BENCHING DETAIL

SCALE: N.T.S.



UTILITY LINE/CONDUIT
(SEE MECHANICAL, ELECTRICAL
AND LANDSCAPE PLANS)

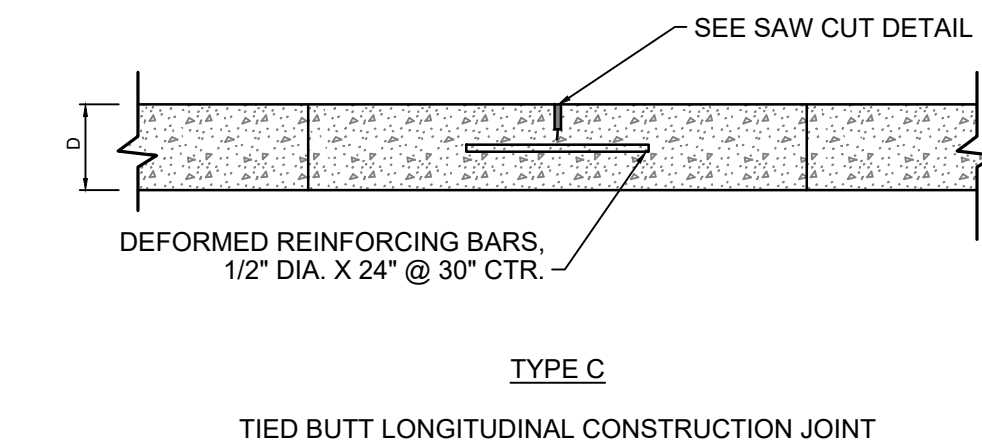
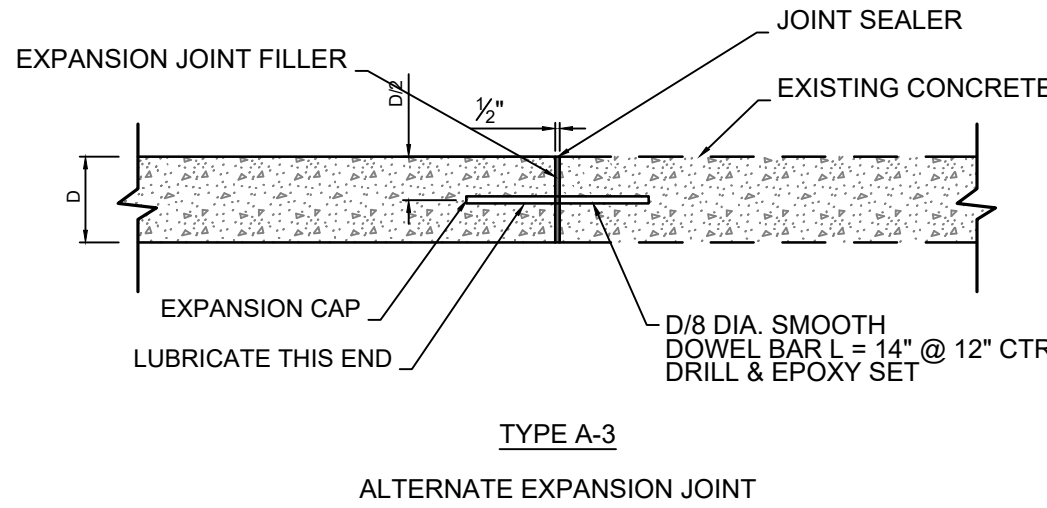
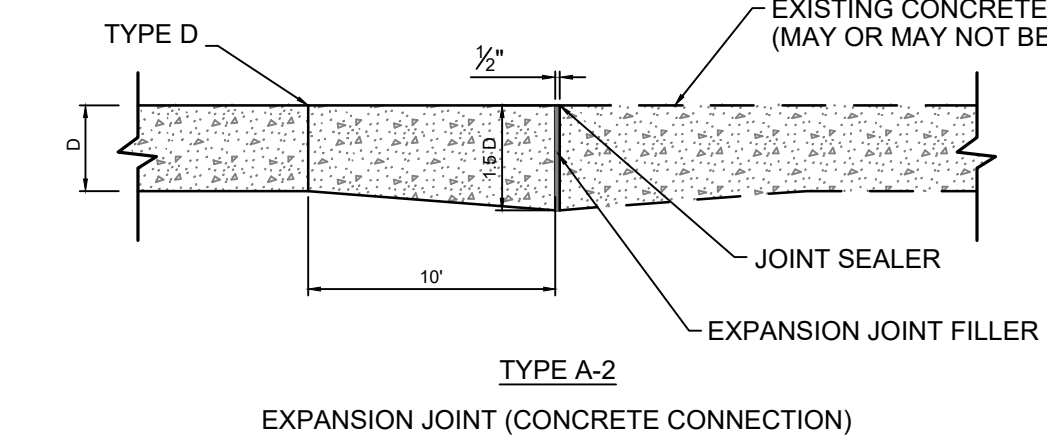
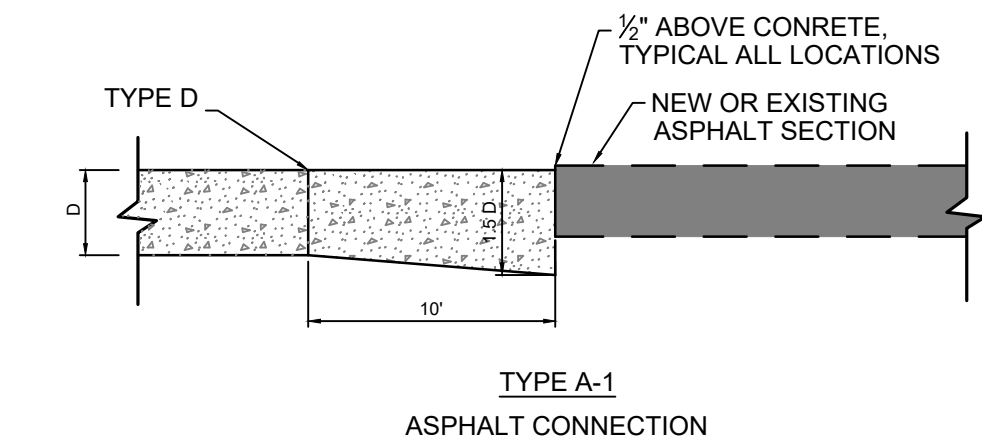
BACKFILL, SEE NOTES

2 TRENCH DETAIL

SCALE: N.T.S.

NOTES:

- ALL BACKFILL SHALL BE FREE OF DELETERIOUS/FROZEN MATERIAL, AND CONSTRUCTION DEBRIS, AND HAVE A MAXIMUM AGGREGATE SIZE OF 1.5-INCHES.
- SITE SOILS SHALL BE MOISTURE CONDITIONED TO ±2% OF THE OPTIMUM MOISTURE CONTENT. ALL GRANULAR BACKFILL SHOULD BE MOISTURE CONDITIONED TO WITHIN ±2% OF OPTIMUM CONTENT PRIOR TO BEING PLACED.
- ALL BACKFILL SHALL BE PLACED IN LOOSE LIFT THICKNESSES OF 8-INCHES OR LESS. IF HAND OPERATED COMPACTION EQUIPMENT IS USED, THE LOOSE LIFT THICKNESS SHOULD BE REDUCED TO 4-INCHES OR LESS.
- EACH LIFT SHALL BE COMPACTED TO 95% OF ASTM D 698.
- COMPACTION DENSITY TESTS SHOULD BE PERFORMED ON ALTERNATING LIFTS TO ENSURE THE MINIMUM DENSITY IS MAINTAINED.
- 18" MAX BUCKET WIDTH FOR EXCAVATION EQUIPMENT TO ASSURE MAXIMUM TRENCH WIDTH OF 24-INCHES.



NOTE:

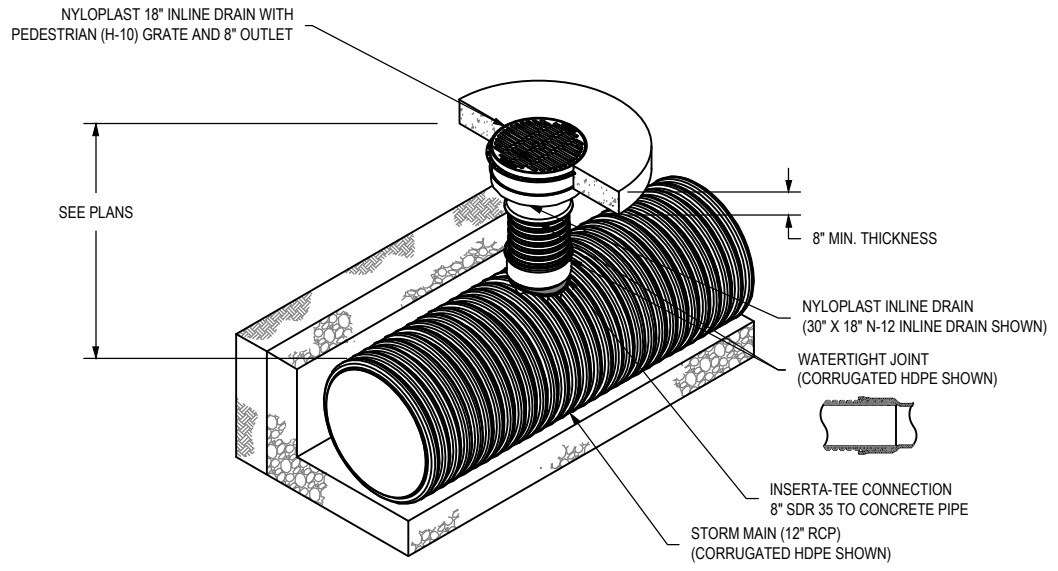
- THE TIE BARS FOR TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF THE ROADWAY AT THE SPACING SHOWN, BEGINNING 6" FROM THE OUTER EDGES OF THE PAVEMENT.
- SAWED OR PLASTIC STRIP JOINTS SHALL NOT DEVIATE MORE THAN 1" FROM THE EDGE OF A 12'-0" STRAIGHT EDGE.
- ONLY ONE OF THE TWO TYPES OF JOINTS (LONGITUDINAL OR TRANSVERSE) SHALL BE FORMED BY A PLASTIC STRIP, AND THE OTHER JOINT SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS.

4 CONCRETE PAVEMENT JOINTING

SCALE: N.T.S.

4

NYLOPLAST INLINE DRAIN USING INSERTA-TEE TO CONNECT TO LARGE DIAMETER MAINLINE



1 - GRATES/COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. IF A 10" STANDARD GRATE FITS DIRECTLY OVER THE DRAIN, THE GRATE OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.	THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.	3130 VERONA AVE BROOKING, IA 50544 PHN (712) 822-2445 FAX (712) 822-2446 www.nyloplast-usa.com
1 - 12" x 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. IF A 10" STANDARD GRATE FITS DIRECTLY OVER THE DRAIN, THE GRATE OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.	1 - 12" x 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. IF A 10" STANDARD GRATE FITS DIRECTLY OVER THE DRAIN, THE GRATE OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.	1 - 12" x 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. IF A 10" STANDARD GRATE FITS DIRECTLY OVER THE DRAIN, THE GRATE OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

3 NYLOPLAST INLINE DRAIN DETAIL

SCALE: N.T.S.

3

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Professional Engineer (Civil)
JIMMY S. BRUGGER
2588
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WYOMING

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










SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING
CITY OF SHERIDAN STANDARD DETAILS
AND DETAILS

PROJECT NUMBER
6017.002
SHEET NUMBER
26
DRAWING NUMBER
C-24

ELECTRICAL ABBREVIATIONS LEGEND

A, AMP	AMPERES	MAG	MAGNETIC STARTER
AC	ALTERNATING CURRENT	MAN	MANUAL
A/C	AIR CONDITIONING	MAX	MAXIMUM
AF	AIR CONDITIONING	MC	MECHANICAL CONTRACTOR
AFC	AVAILABLE FAULT CURRENT	MCA	MINIMUM CIRCUIT AMPACITY
AFCI	ARC FAULT CIRCUIT INTERRUPTER	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MDP	MAIN DISTRIBUTION PANEL
AFG	ABOVE FINISHED GRADE	MECH	MECHANICAL
AHU	AIR HANDLING UNIT	MEP	MECHANICAL, ELECTRICAL, PLUMBING
AL	ALUMINUM	MH	METAL HALIDE
AS	AMP SWITCH	MIN	MINIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MSS	MOTOR STARTER SWITCH WITH THERMAL OVERLOADS
BAS	BUILDING AUTOMATION SYSTEM	N	NEUTRAL
BKR	BREAKER	NC	NORMALLY CLOSED
BOF	BOTTOM OF FIXTURE	NEC	NATIONAL ELECTRIC CODE
C	RACEWAY/CONDUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CB	CIRCUIT BREAKER	NFD	NON-FUSED DISCONNECT
CCT	COLOR RENDERING TEMPERATURE	NIC	NOT IN CONTRACT
CCTV	CLOSED CIRCUIT TELEVISION	NO	NORMALLY OPEN
CKT	CIRCUIT	#	NUMBER
CLG	CEILING	OAE	OR APPROVED EQUAL
C.O.	RACEWAY/CONDUIT ONLY, WITH PULL STRING	OC	ON CENTER
COD	CENTER OF DEVICE	OCPD	OVERCURRENT PROTECTIVE DEVICE
CNTRL	CONTROL	OH	OVERHEAD
CU	COPPER	P	POLY
(D)	EXISTING TO BE DEMOLISHED	PB	PUSHBUTTON
DISC	DISCONNECT	PC	PLUMBING CONTRACTOR
DIST	DISTRIBUTION	PH	PHASE
DPDT	DOUBLE POLE DOUBLE THROW	PNL	PANEL
DWG	DRAWING	PVC	POLYVINYL CHLORIDE CONDUIT
EA	EACH	PWR	POWER
EC	ELECTRICAL CONTRACTOR	(R)	EXISTING TO REMAIN
EF	EXHAUST FAN	RCPT	RECEPTACLE
ELEC	ELECTRIC	RECEPT	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	RGS	RIGID GALVANIZED STEEL
EQUIP	EQUIPMENT	RM	ROOM
EX, EXIST	EXISTING	RVNR	REDUCED VOLTAGE NON-REVERSING
FA	FIRE ALARM	RVR	REDUCED VOLTAGE REVERSING
FAA	FIRE ALARM ANNUNCIATOR	SP	SINGLE POLE TOGGLE SWITCH
FACP	FIRE ALARM CONTROL PANEL	SPD	SURGE PROTECTIVE DEVICE (TVSS)
FD	FUSED DISCONNECT	SPEC	SPECIFICATION
FLR	FLOOR	SPST	SINGLE POLE SINGLE THROW
FO	FIBER OPTIC	SSPB	START-STOP PUSHBUTTON
FSD	FIRE SMOKE DAMPER RELAY, CONTROLLED BY ASSOCIATED SMOKE DETECTOR AND CIRCUITED BACK TO FACP	SW	SWITCH
		SWBD	SWITCHBOARD
FVNR	FULL VOLTAGE NON-REVERSING	SWGR	SWITCHGEAR
FVR	FULL VOLTAGE REVERSING	TB	TELEPHONE BOARD
GEC	GROUNDING ELECTRODE CONDUCTOR	TC	TIME CLOCK
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TD	TIME DELAY
GFI	GROUND FAULT INTERRUPTER	TEL	TELEPHONE
GFP	GROUND FAULT PROTECTION	TR	TAMPER RESISTANT
GND	GROUND	TSP	TWISTED SHIELDED PAIR
GRC	GALVANIZED RIGID CONDUIT	TTB	TELEPHONE TERMINAL BOARD
HID	HIGH INTENSITY DISCHARGE	TYP	TYPICAL
HDA	HAND-OFF-AUTOMATIC	UG	UNDERGROUND
HP	HORSEPOWER	UH	UNIT HEATER
HPS	HIGH PRESSURE SODIUM	UNO	UNLESS NOTED OTHERWISE
HTR	HEATER	V	VOLT
HVAC	HEATING, VENTILATION & AIR CONDITIONING	VA	VOLT-AMPERES
HZ	HERTZ	VFD	VARIABLE FREQUENCY DRIVE
J-BOX	JUNCTION BOX	W	WATTS
KVA	KILOVOLT-AMPERES	WAO	WORK AREA OUTLET
KW	KILOWATTS	WP	WEATHERPROOF
LCP	LIGHTING CONTROL PANEL	W/O	WITHOUT
LPW	LUMENS PER WATT	XFMR	TRANSFORMER
LTG	LIGHTING	Y	WYE-CONNECTED
LM	LUMENS	Δ	DELTA-CONNECTED
LV	LOW VOLTAGE	ø	PHASE

ELECTRICAL POWER LEGEND

	PANEL AND CIRCUIT DESIGNATION ARE SHOWN NEXT TO EACH DEVICE (PANEL NAME - CIRCUIT NUMBER). BRANCH CIRCUIT WIRE SIZE IS #12, UNO. A SINGLE INSULATED GREEN GROUND CONDUCTOR SHALL BE PROVIDED WITH EACH HOME RUN. PROVIDE A SEPARATE NEUTRAL FOR EACH CIRCUIT. HOME RUNS SHALL HAVE NO MORE THAN THREE CIRCUITS. LINE VOLTAGE AND LOW VOLTAGE WIRING IS NOT SHOWN ON PLANS. FOR EQUIPMENT CIRCUITING, SEE MEP COORDINATION SCHEDULE. "X" INDICATES TYPE: GFI - GROUND FAULT INTERRUPTER WP - WEATHERPROOF WHILE-IN-USE COVER U - PROVIDE WITH (2) USB PORTS TR - TAMPER RESISTANT		PANELBOARD OR LOAD CENTER
	SIMPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)		SPECIAL PURPOSE RECEPTACLE (MOUNT AT +18", UNO) "X" INDICATES TYPE: A - NEMA 5-20R, #12 CU; B - NEMA 5-30R, #10 CU; C - NEMA 5-50R, #6 CU; D - NEMA 6-20R, #12 CU; E - NEMA 6-30R, #10 CU; F - NEMA 6-50R, #6 CU; G - NEMA 14-20R, #12 CU; H - NEMA 14-30R, #10 CU; I - NEMA 14-50R, #6 CU* * +4" AFF FOR RANGE
	DUPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)		RACEWAY BELOW FLOOR OR BELOW GRADE
	QUADRUPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)		RACEWAY STUB-OUT WITH CAPPED END
	PUSHBUTTON (MOUNT AT +48", UNO) "X" INDICATES TYPE: EPO - EMERGENCY POWER OFF ADA - HANDICAPPED ACCESSIBLE DOOR (DEVICE BY OTHERS) ODO - OVERHEAD DOOR OPERATOR (DEVICE BY OTHERS)		RACEWAY STUB-OUT WITH BRUSHED END
			GROUNDING BUS

ABBREVIATIONS AND SYMBOLS GENERAL NOTES

- A. THE ABBREVIATIONS ON THIS SHEET COMPRISE A STANDARD LIST; NOT ALL ABBREVIATIONS APPEAR ON THIS PROJECT.
B. THE SYMBOLS ON THIS SHEET COMPRISE A STANDARD LIST; NOT ALL SYMBOLS APPEAR ON THIS PROJECT.
C. ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS, MAKING ADJUSTMENTS AS REQUIRED TO AVOID INTERFERENCE WITH EQUIPMENT SUCH AS BASEBOARD FIN-TUBE, CABINET UNIT HEATERS, ETC. ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ALL SUCH HEIGHT ADJUSTMENTS. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED.











ELECTRICAL PROJECT GENERAL NOTES

- A. PRIOR TO BID CONTRACTOR SHALL VISIT THE SITE. NOT ALL WORK REQUIRED TO COMPLETE THE PROJECT IS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL THE WORK REQUIRED TO COMPLETE THE PROJECT IN ADDITION TO THE LOCAL CONDITIONS AND INCLUDE SAID WORK IN THE BID.
B. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1, "STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING." THIS PUBLICATION IS AVAILABLE FROM NECA BY TELEPHONE AT 301-657-3110 OR ON-LINE AT WWW.NECANET.ORG.
C. CONDUCTORS ARE SIZED PER THE 75 DEGREE C RATING COLUMN OF NEC TABLE 310.16. IF THE TERMINAL USED FOR A TERMINATION OF A PARTICULAR CONDUCTOR IS NOT MARKED, OR THE TERMINAL IS MARKED FOR 60 DEGREE C CONDUCTORS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EITHER ADJUST THE AMPACITY OF THE CONDUCTOR TO MATCH THE 60 DEGREE COLUMN OF TABLE 310.16, OR REPLACE THE TERMINAL WITH ONE RATED FOR AT LEAST 75 DEGREES C.
D. BASED ON ACTUAL HOMERUN LENGTHS REQUIRED IN THE FIELD, THE CONTRACTOR SHALL CALCULATE AND INCREASE THE WIRE SIZES AS REQUIRED TO LIMIT BRANCH CIRCUIT VOLTAGE DROP TO 3%. FOR 20A BRANCH CIRCUITS THE MINIMUM CONDUCTOR SIZES SHALL BE AS FOLLOWS: #10 AWG CU FOR RUNS BETWEEN 100 AND 200 LINEAR FEET, #8 AWG CU FOR RUNS BETWEEN 200 AND 325 LINEAR FEET, AND AS CALCULATED BY THE CONTRACTOR FOR CIRCUITS EXTENDING BEYOND 325 LINEAR FEET. IN ALL CASES WHERE WIRE SIZES INCREASE, THE CONTRACTOR SHALL PROVIDE LARGER CONDUITS AS REQUIRED.
E. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120V BRANCH CIRCUIT.

ELECTRICAL LIGHTING FIXTURE LEGEND

	POLE MOUNTED FIXTURE		LIGHTED BOLLARD
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ELECTRICAL ONE-LINE LEGEND

	CT AND CUSTOMER POWER METER		WALL MOUNTED BREAKER
	MOTOR		DISCONNECT SWITCH ("XXAS" = SWITCH AMP RATING)
	UTILITY ELECTRIC METER AND BASE (BASE BY CUSTOMER)		FUSED DISCONNECT SWITCH ("XXAS/XXAF" = SW AND FUSE AMP RATING)
	LIGHTNING ARRESTER, TYPE 1 SPD, MOUNTED ON EXTERIOR OF MAIN SWITCHGEAR (SQUARE D, SDSA SERIES, OAE)		SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED
	EQUIPMENT TOGGLE DISCONNECT SWITCH "X" INDICATES TYPE: F - FUSIBLE M - MOTOR STARTER SWITCH W/ THERMAL OVERLOADS		POWER RELAY, 120V COIL

ELECTRICAL SHEET INDEX

NUMBER	SHEET NAME
E-1	ELECTRICAL COVER SHEET
E-2	ELECTRICAL SPECIFICATIONS
E-3	ELECTRICAL SPECIFICATIONS
E-4	ELECTRICAL SCHEDULES
E-5	ELECTRICAL DETAILS & ONE-LINE
E-6	ELECTRICAL SITE PLAN

CONSTRUCTION PLANS

MARCH 2023

BN 3601/0017.002 SHR CNTY - Brooks St Greenspace/ Brooks St Greenspace MEP_R21.rvt

VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.  MODIFY SCALE ACCORDINGLY!	REVISIONS				 engineers • surveyors • planners • scientists 1470 Sugartown Drive, Suite 1, Sheridan, WY 82801 307.672.9310 www.m-m.net COPYRIGHT © MORRISON-MAIERLE, 2023		DRAWN BY: TJ DSGN. BY: TJ APPR. BY: JK DATE: 3/1/2023 Q.C. REVIEW BY: RM DATE: 6/20/22	SHERIDAN COUNTY BROOKS STREET GREENSPACE SHERIDAN WYOMING	PROJECT NUMBER 6017.002
	NO.	DESCRIPTION	DATE	BY					SHEET NUMBER 27
									DRAWING NUMBER E-1

BIN: 3601/0017.002 SHR CNTY - Brooks St Greenspace/Brooks St Greenspace MEP - R21.rvt
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260010 - GENERAL REQUIREMENTS OF ELECTRICAL

A. SUMMARY

- THE REQUIREMENTS LISTED IN THIS SECTION ARE SUPPLEMENTAL TO THE DIVISION 01 GENERAL REQUIREMENTS OF CONSTRUCTION. PROVIDE ALL INCIDENTAL ITEMS REQUIRED FOR COMPLETE INSTALLATION AND SATISFACTORY OPERATION OF ALL EQUIPMENT, WHETHER OR NOT SPECIFICALLY NOTED IN CONTRACT DOCUMENTS.
 - IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS TO EXAMINE AND REFER TO ALL ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING AND LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION CONDITIONS WHICH MAY AFFECT THE SCOPE OF ELECTRICAL, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY WORK. INSPECT THE BUILDING SITE AND EXISTING FACILITIES FOR VERIFICATION OF PRESENT OR PROPOSED CONDITIONS AND MAKE PROPER PROVISIONS FOR THESE CONDITIONS IN PERFORMANCE OF THE WORK AND COST THEREOF.
 - ELECTRICAL, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY WORK FOR THIS PROJECT SHALL INCLUDE ALL ITEMS, ARTICLES, MATERIALS AND THE ASSOCIATED LABOR MENTIONED, SCHEDULES OR SHOWN IN THESE SPECIFICATIONS AND IN THE ACCOMPANYING DRAWINGS.
 - FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS AND ANY REQUIRED INCIDENTAL ITEMS REQUIRED BY GOOD PRACTICE TO COMPLETE THE SYSTEMS DESCRIBED HEREIN.
 - REFER TO DIVISION 01 FOR ALL LISTED ALTERNATES AND PROVIDE SEPARATE PRICING AND WORK AS INDICATED IN DIVISION 01 AND CONTRACT DOCUMENTS.
- DEFINITIONS - THROUGHOUT CONTRACT DOCUMENTS THESE WORDS AND PHRASES ARE USED:
- CONTRACT DOCUMENTS - ALL DRAWINGS, SPECIFICATIONS, ADDENDA AND CHANGE ORDERS THAT CONSTITUTE WORK TO BE DONE.
 - CONSTRUCTION - CAREFULLY DISCONNECT AND REMOVE ITEMS. ALL REASONABLE CAUTION SHALL BE TAKEN TO AVOID DAMAGING REMOVED EQUIPMENT AND TO RETAIN ITS OPERABILITY.
 - REMOVE BACK TO SOURCE - REMOVE ALL CONDUIT AND WIRE BACK TO PANELBOARD OR LAST LIVE DEVICE.
 - EQUIVALENT OR EQUAL - PRODUCT OF LIKE TYPE AND FUNCTION THAT COMPLIES WITH ALL APPLICABLE PROVISIONS OF DRAWINGS AND SPECIFICATIONS AND WHICH HAS BEEN APPROVED BY AS SUBSTITUTE FOR SPECIFIED ITEM.
 - FURNISH - PROVIDE MATERIAL AS SHOWN AND SPECIFIED AND PLACE MATERIAL TO APPROVED LOCATION ON SITE OR ELSEWHERE AS NOTED OR AGREED UPON.
 - INSTALL - SET IN PLACE AND CONNECT, READY FOR USE AND IN COMPLETE AND PROPERLY OPERATING FINISHED CONDITION.
 - PROVIDE - FURNISH AND INSTALL WITH ALL PRODUCTS, LABOR, SUB-CONTRACTS, AND APPURTENANCES REQUIRED FOR A COMPLETE AND PROPERLY OPERATING, FINISHED CONDITION.
 - ROUGH-IN - PROVIDE CONDUIT RACEWAY SYSTEM WITH JUNCTION BOXES, FITTINGS, STRAPS, BUSHINGS, ETC., FOR FUTURE INSTALLATION OF WIRING, DEVICES, DISCONNECTS AND BREAKERS. PROVISION SHALL BE MADE IN PANELBOARD (HARDWARE, ETC.) FOR FUTURE INSTALLATION OF BREAKERS.
 - SERVICEABLE - ARRANGED SO THAT COMPONENT OR PRODUCT IN QUESTION MAY BE PROPERLY REMOVED AND REPLACED WITHOUT DISASSEMBLY, RESTRICTION, OR DAMAGE TO SURROUNDING INSTALLATION.
- CODES, STANDARDS AND REGULATIONS
- CODES - PERFORM ALL WORK IN STRICT ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, INCLUDING, BUT NOT LIMITED TO LATEST LEGALLY ENACTED EDITIONS OF FOLLOWING CODES:
 - NFPA 70, NATIONAL ELECTRIC CODE – NEC
 - NFPA 72, NATIONAL FIRE ALARM CODE
 - ANSI-C2, NATIONAL ELECTRICAL SAFETY CODE – NESC
 - INTERNATIONAL BUILDING CODES – IBC
 - INTERNATIONAL FIRE CODE – IFC
 - INTERNATIONAL ENERGY CONSERVATION CODE – IECC
 - STANDARDS - REFERENCE TO STANDARDS INFERS THAT INSTALLATION, EQUIPMENT AND MATERIAL SHALL BE WITHIN LIMITS FOR WHICH IT WAS DESIGNED, TESTED AND APPROVED, IN CONFORMANCE WITH CURRENT PUBLICATIONS AND STANDARDS OF FOLLOWING ORGANIZATIONS:
 - AMERICAN NATIONAL STANDARDS INSTITUTE – ANSI
 - AMERICAN SOCIETY FOR TESTING AND MATERIALS – ASTM
 - AMERICAN SOCIETY OF HEATING REFRIGERATING AND AIR CONDITIONING ENGINEERS – ASHRAE (STANDARD 90-75)
 - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS – IEEE
 - INSULATED CABLE ENGINEERS ASSOCIATION – ICEA
 - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION – NECA
 - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION – NEMA
 - NATIONAL FIRE PROTECTION ASSOCIATION – NFPA
 - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION – OSHA
 - UNDERWRITERS' LABORATORIES, INC. – UL
 - RULES AND REGULATIONS OF THE STATE/LOCAL FIRE MARSHAL
 - STANDARDS AND REQUIREMENT OF THE SERVING UTILITIES
 - STATE AND LOCAL ORDINANCES
 - REGULATIONS - DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH APPLICABLE AND CURRENTLY ENACTED AND ADOPTED ORDINANCES. CONTRACTOR SHALL CAREFULLY APPLY THESE REGULATIONS AND BRING ANY DISCREPANCIES TO IMMEDIATE ATTENTION OF ARCHITECT/ENGINEER.
 - AMERICANS WITH DISABILITIES ACT – ADA
- FEES AND PERMITS
- ELECTRICAL CONTRACTOR SHALL PAY FOR ALL PERMITS OR FEES IN CONNECTION WITH ELECTRICAL WORK. FEES SHALL INCLUDE ANY OR ALL USER FEES, GOVERNMENT, STATE, LOCAL, OR FEDERAL, FOR ELECTRICAL PERMITS OR OTHER FEES THAT ARE REQUIRED TO BE PAID BEFORE SYSTEMS CAN BE CONNECTED OR USED.
 - SCHEDULE ALL REQUIRED ELECTRICAL INSPECTIONS WITH LOCAL ELECTRICAL INSPECTOR. NOTIFY ENGINEER OF ALL ITEMS OF DISCREPANCY NOTED BY ELECTRICAL INSPECTOR IF THOSE ITEMS AFFECT COST OR FUNCTION OF SYSTEM, OR IF THEY CONFLICT WITH ELECTRICAL DRAWINGS AND SPECIFICATIONS.
 - UTILITY COSTS AND FEES FROM THE UTILITY WORK SHALL BE THE RESPONSIBILITY OF THE OWNER. CONTRACTOR TO COORDINATE ALL UTILITY REQUIREMENTS, STANDARDS AND RESPONSIBILITIES WITH SERVING UTILITY FOR A COMPLETE SCOPE OF WORK PRIOR TO BID.
 - DELIVER ALL INSPECTION CERTIFICATES TO ARCHITECT/ENGINEER PRIOR TO FINAL ACCEPTANCE OF WORK.
- INTENT OF SPECIFICATIONS AND DRAWINGS
- PLANS AND SPECIFICATIONS ARE INTENDED TO RESULT IN COMPLETE ELECTRICAL INSTALLATION IN FULL COMPLIANCE WITH ALL APPLICABLE CODES, STANDARDS AND ORDINANCES.
 - PLANS AND SPECIFICATIONS ARE TO SUPPLEMENT EACH OTHER AND ANY DETAILS CONTAINED IN ONE SHALL BE INCLUDED AS IF CONTAINED IN BOTH.
 - ELECTRICAL DRAWINGS SHALL SERVE AS WORKING DRAWINGS, BUT ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE IF ANY DIMENSIONAL DISCREPANCIES EXIST.
 - DRAWINGS ARE PARTLY DIAGRAMMATIC AND DO NOT SHOW ROUTING OF CONDUITS, EXACT LOCATION OF PRODUCTS, OR INSTALLATION FEATURES IN EXACT DETAIL. LOCATIONS OF DEVICES, FIXTURES AND EQUIPMENT ARE APPROXIMATE UNLESS DIMENSIONED.
 - RISER DIAGRAMS AND CONTROL SCHEMATICS ARE NOT TO SCALE AND DO NOT SHOW PHYSICAL ARRANGEMENT OF EQUIPMENT. DO NOT USE RISER DIAGRAMS OR SCHEMATICS TO OBTAIN LINEAL CONDUIT AND CABLING DISTANCES.
 - ITEMS ARE SHOWN ON DRAWINGS IN LOCATIONS TO MINIMIZE INTERFERENCE WITH OTHER EQUIPMENT, STRUCTURAL MEMBERS, ETC. EXACT FINISH LOCATIONS ARE NOT INDICATED, HOWEVER, AND ALL WORK SHALL BE DONE TO AVOID INTERFERENCE, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.
 - IN EVENT THAT DISCREPANCIES OF ANY KIND EXIST OR REQUIRED ITEMS/DETAILS HAVE BEEN OMITTED, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IN WRITING OF SUCH DISCREPANCY OR OMISSION AT LEAST TEN DAYS PRIOR TO BID DATE. FAILURE TO DO SO SHALL BE CONSTRUED AS WILLINGNESS OF CONTRACTOR TO SUPPLY ALL NECESSARY MATERIALS AND LABOR REQUIRED FOR PROPER COMPLETION OF WORK.

- CONTRACTOR'S RESPONSIBILITY - CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF COMPLETE AND FUNCTIONAL PIECE OF WORK IN ACCORDANCE WITH THE INTENT OF CONTRACT DOCUMENTS. PROVIDE ALL INCIDENTAL ITEMS REQUIRED FOR COMPLETE INSTALLATION AND SATISFACTORY OPERATION OF ALL EQUIPMENT, WHETHER OR NOT SPECIFICALLY NOTED IN CONTRACT DOCUMENTS.
1. QUALIFICATIONS
- CONTRACTOR SHALL EMPLOY ON THIS PROJECT, CAPABLE, EXPERIENCED AND RELIABLE FOREMAN AND SUCH SKILLED WORKMEN AS MAY BE REQUIRED FOR VARIOUS CLASSES OF WORK TO BE PERFORMED.
 - WHEN SPECIAL SKILLS AND CERTIFICATION ARE REQUIRED, CONTRACTOR SHALL ENSURE THAT WORK IS PERFORMED BY INDIVIDUALS WITH REQUIRED EXPERIENCE, SKILL, AND CERTIFICATION.
 - IF, IN ENGINEER'S OPINION, CONTRACTOR'S EMPLOYEES DO NOT POSSESS NECESSARY QUALIFICATIONS TO PERFORM SPECIALTY WORK, CONTRACTOR WILL BE REQUIRED TO OBTAIN SERVICES OF WORKMEN WHO ARE APPROVED BY MANUFACTURER AND CERTIFIED BY APPLICABLE AGENCY OR GROUP. THESE WORKMEN, IF REQUIRED, SHALL BE PROVIDED AT NO ADDITIONAL COST.
 - REFER TO OTHER SPECIFICATION SECTIONS FOR ADDITIONAL REQUIRED CONTRACTOR QUALIFICATIONS AND CERTIFICATION.
2. LICENSING AND CERTIFICATION - ALL DIVISION 26 WORK SHALL BE ACCOMPLISHED BY ELECTRICIANS, LICENSED BY STATE IN WHICH WORK IS BEING DONE, CERTIFIED AS REQUIRED, AND SKILLED IN THEIR CRAFT. ELECTRICIAN MAY ELECT TO HIRE SUBCONTRACTORS FOR PORTIONS OF WORK (SUCH AS SYSTEMS DESIGN, INSTALLATION, AND/OR TESTING) PROVIDED THAT ALL HIRING ELECTRICIANS, BUT HAVE REQUIRED CERTIFICATES AND ARE LICENSED IN THEIR DISCIPLINE BY STATE IN WHICH WORK IS BEING DONE.
3. COORDINATION
- CONTRACTOR SHALL CONSULT ALL CONTRACT DOCUMENTS, SHOP DRAWINGS OF OTHER TRADES, AND ACTUAL BUILDING DIMENSIONS TO PREDETERMINE THAT HIS WORK AND EQUIPMENT WILL FIT AS PLANNED. DO NOT SCALE DRAWINGS FOR FABRICATION. NO EXTRA PAYMENT WILL BE ISSUED FOR MATERIALS OR ITEMS WHICH DO NOT FIT BECAUSE OF CONTRACTOR'S FAILURE TO VERIFY AS-BUILT BUILDING DIMENSIONS.
 - CONTRACTOR SHALL CHECK LOCATION OF FIXTURES, OUTLETS, EQUIPMENT, CONDUIT, ETC., TO DETERMINE THEY CLEAR ALL OPENINGS, STRUCTURAL MEMBERS, PIPING, DUCTS AND MISCELLANEOUS EQUIPMENT HAVING FIXED LOCATIONS.
 - CHANGES IN LOCATION OF ELECTRICAL WORK, NECESSARY DUE TO OBSTACLES OR INSTALLATION OF OTHER WORK, SHOWN ON CONTRACT DOCUMENTS, SHALL BE MADE BY ELECTRICAL CONTRACTOR AT NO EXTRA COST.
 - CONTRACTOR SHALL COORDINATE WITH PLUMBING AND MECHANICAL CONTRACTORS TO AVOID INSTALLATION OF PIPING AND DUCTWORK ABOVE OR BELOW PANELBOARDS IN VIOLATION OF NATIONAL ELECTRICAL CODE.
 - LAY OUT ALL WORK IN ADVANCE AND AVOID CONFLICT WITH OTHER WORK IN PROGRESS. PRELIMINARY DIMENSIONS MAY BE DETERMINED FROM ARCHITECTURAL AND STRUCTURAL PLANS. FIELD MEASUREMENTS FOR JUNCTION BOXES, DISCONNECT SWITCHES, STUB-UPS, ETC., FOR CONNECTION TO EQUIPMENT FURNISHED BY OTHERS, OR IN OTHER DIVISIONS OF THIS WORK.
 - CONTRACTOR SHALL COORDINATE AND PLAN WORK TO PROCEED WITH WORK OF OTHER TRADES.
 - CONTRACTOR SHALL INFORM GENERAL CONTRACTOR OF ALL REQUIRED OPENINGS IN BUILDING STRUCTURE FOR INSTALLATION OF ELECTRICAL EQUIPMENT.
 - CONTRACTOR SHALL CHECK DIMENSIONS OF ALL ELECTRICAL EQUIPMENT INSTALLED, PROVIDED BY HIMSELF OR BY OTHERS, SO CORRECT CLEARANCES AND CONNECTIONS CAN BE MADE.
 - CONSULTING ALL CONTRACT DOCUMENTS AND SHOP DRAWINGS OF OTHER TRADES, CONTRACTOR SHALL DETERMINE WHERE ELECTRICAL JUNCTION BOXES AND EQUIPMENT SHALL BE INSTALLED TO MAINTAIN PROPER ACCESSIBILITY. WHERE ACCESSIBILITY CANNOT BE MAINTAINED BY JUDICIOUS PLACEMENT OF BOXES, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE, FABRICATE, INSTALL, ADJUST, PAINT, ETC. ACCESS DOORS THROUGH NON-ACCESSIBLE FLOOR, WALL, AND CEILING FINISHES TO ALLOW ACCESS TO ALL ELECTRICAL JUNCTION AND PULL BOXES, ELECTRICAL DEVICES, ELECTRICAL EQUIPMENT, ETC. AT ALL REQUIRED LOCATIONS WHETHER SHOWN OR NOT SHOWN ON PLANS. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING SIZE AND LOCATION OF THE ACCESS DOORS. REPORT ANY CONFLICTS TO ARCHITECT/ENGINEER.
- G. REVIEW - ALL WORK AND MATERIAL IS SUBJECT TO REVIEW AT ANY TIME BY THE ARCHITECT/ENGINEER OR HIS REPRESENTATIVE. IF THE ARCHITECT/ENGINEER OR HIS REPRESENTATIVE FINDS MATERIAL THAT DOES NOT CONFORM TO THESE SPECIFICATIONS OR THAT IS NOT PROPERLY INSTALLED OR FINISHED, CORRECT THE MATERIAL IN A MANNER SATISFACTORY TO THE ARCHITECT/ENGINEER AT THE CONTRACTOR'S EXPENSE.
- H. TEMPORARY FACILITIES
- ELECTRICAL UTILITIES
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL POWER TO THE CONSTRUCTION SITE AS DIRECTED BY THE GENERAL CONTRACTOR. NO CONNECTIONS TO THE OWNER'S SYSTEM SHALL BE ALLOWED WITHOUT ARCHITECT'S WRITTEN APPROVAL. PROVIDE A SEPARATE UTILITY SERVICE AS REQUIRED.
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL POWER TO JOB TRAILERS AS DIRECTED BY THE GENERAL CONTRACTOR.
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY COMMUNICATIONS TO JOB TRAILERS AS DIRECTED BY THE GENERAL CONTRACTOR.
 - ALL COSTS ASSOCIATED WITH TEMPORARY POWER, COMMUNICATIONS AND UTILITY SERVICE SHALL BE PAID BY TO THE GENERAL CONTRACTOR.
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION LIGHTING AS DIRECTED BY THE GENERAL CONTRACTOR TO PROVIDE A SAFE WORKING ENVIRONMENT.
 - ALL TEMPORARY SERVICES ARE TO BE REMOVED IN THEIR ENTIRETY PRIOR TO OCCUPANCY AS DIRECTED BY THE GENERAL CONTRACTOR.
 - OFFICES
 - THE ELECTRICAL CONTRACTOR MUST HAVE THE PERMISSION OF THE OWNER AND GENERAL CONTRACTOR OR CONSTRUCTION MANAGER TO INSTALL A TEMPORARY OFFICE/JOB TRAILER ON THE PROJECT SITE.
 - CONTRACTOR SHALL COMPLETELY REMOVE HIS TEMPORARY INSTALLATIONS WHEN NO LONGER NEEDED AND THE PREMISES SHALL BE COMPLETELY CLEAN, DISINFECTED, PATCHED, AND REFINISHED TO MATCH ADJACENT AREAS.
 - LADDERS AND SCAFFOLDS - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE THEIR OWN LADDERS, SCAFFOLDS, ETC. OF SUBSTANTIAL CONSTRUCTION FOR ACCESS TO THEIR WORK IN VARIOUS PORTIONS OF THE BUILDING AS MAY BE REQUIRED. WHEN NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR.
 - PROTECTION DEVICES - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE AND MAINTAIN THEIR OWN NECESSARY BARRICADES, FENCES, SIGNAL LIGHTS, ETC., REQUIRED BY ALL GOVERNING AUTHORITIES OR SHOWN ON THE DRAWINGS. WHEN NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR.
 - TEMPORARY FIRE PROTECTION - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE ALL NECESSARY FIRST AID HAND FIRE EXTINGUISHERS FOR CLASS A, B, C AND SPECIAL HAZARDS AS MAY EXIST IN HIS OWN WORK AREA ONLY IN ACCORDANCE WITH GOOD AND SAFE PRACTICE AND AS REQUIRED BY JURISDICTIONAL SAFETY AUTHORITY.

I. RECORD DOCUMENTS (AS-BUILT DRAWINGS)

- SEE REQUIREMENTS REGARDING RECORD DOCUMENTS IN GENERAL DIVISION 01.
 - AT BEGINNING OF WORK, CONTRACTOR SHALL SET ASIDE ONE COMPLETE SET OF DRAWINGS WHICH SHALL BE MAINTAINED AS COMPLETE "AS-BUILT" SET. DRAWINGS SHALL BE UPDATED DAILY IN NEAT AND LEGIBLE MANNER AND SHALL NOT BE USED FOR ANY OTHER PURPOSE. DRAWINGS, SPECIFICATION, ADDENDA, CHANGE ORDERS, ETC. SHALL BE MAINTAINED AT JOB SITE AND AVAILABLE FOR REVIEW AT ANY TIME.
 - SHOW DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK THAT WILL BECOME PERMANENTLY CONCEALED, CAST IN CONCRETE OR BURIED UNDERGROUND.
 - SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO SYSTEMS SHOWN.
 - SHOW PROVISIONS FOR FUTURE CONNECTION, REFERENCED TO BUILDING LINES OR APPROVED BENCH MARKS.
 - PROVIDE WIRING DIAGRAMS FOR ALL INDIVIDUAL COMMUNICATIONS SYSTEMS AS INSTALLED. IDENTIFY ALL COMPONENTS AND SHOW ALL WIRE AND TERMINAL NUMBERS AND CONNECTIONS.
 - AT COMPLETION OF PROJECT, DELIVER DRAWINGS TO ENGINEER FOR REVIEW.
- WARRANTY
- THE CONTRACTOR SHALL GUARANTEE THAT ALL MATERIALS AND LABOR INSTALLED ARE NEW AND OF FIRST QUALITY AND THAT ANY MATERIAL OR LABOR FOUND DEFECTIVE SHALL BE REPLACED WITHOUT COST TO THE OWNER WITHIN ONE (1) YEAR AFTER THE DATE OF FINAL COMPLETION OF THE CONTRACT OR ONE (1) FULL SEASON OF HEATING AND COOLING OPERATION, WHICHEVER IS THE GREATER. THE GUARANTEE SHALL LIST THE DATE OF THE BEGINNING OF THE ONE (1) YEAR PERIOD, WHICH SHALL BE THE DATE THAT THE DATE OF FINAL COMPLETION CERTIFICATE IS ISSUED.
 - ANY DAMAGE TO THE BUILDING, CAUSED BY DEFECTIVE WORK OR MATERIAL OF THE CONTRACTOR WITHIN THE ABOVE-MENTIONED PERIOD, SHALL BE SATISFACTORILY REPAIRED WITHOUT COST TO THE OWNER.
 - IF THE ENGINEER APPROVES ANY PROPOSED SUBSTITUTION OF EQUIPMENT, THE OWNER SHALL ACCEPT FULL RESPONSIBILITY FOR PROPER OPERATION AND MAINTENANCE OF EQUIPMENT IMMEDIATELY UPON SUBSTANTIAL COMPLETION AND OCCUPANCY OF THE BUILDING.
 - FINAL ACCEPTANCE BY THE OWNER WILL NOT OCCUR UNTIL ALL OPERATING INSTRUCTIONS ARE MOUNTED IN EQUIPMENT ROOMS AND OPERATING PERSONNEL THOROUGHLY INDOCTRINATED IN THE OPERATION OF ALL ELECTRICAL EQUIPMENT BY THE CONTRACTOR.
 - NO EQUIPMENT INSTALLED AS PART OF THIS PROJECT SHALL BE USED FOR TEMPORARY HEAT DURING CONSTRUCTION.
- MATERIALS AND EQUIPMENT
- MANUFACTURER'S TRADE NAMES AND CATALOG NUMBERS LISTED ARE INTENDED TO INDICATE THE QUALITY OF EQUIPMENT OR MATERIALS DESIRED. MANUFACTURERS NOT LISTED IN THE SPECIFICATION WILL BE CONSIDERED SUFFICIENTLY IDENTIFIED AND MUST HAVE PRIOR APPROVAL OF THE ARCHITECT.
 - SEE DIVISION 01 FOR SUBSTITUTION PROCEDURES. REQUESTS FOR SUBSTITUTION ARE TO BE SUBMITTED SUFFICIENTLY AHEAD OF THE DEADLINE, TO GIVE AMPLE TIME FOR EXAMINATION. PRIOR APPROVAL REQUEST FOR SUBSTITUTION MUST INDICATE THE SPECIFIC ITEM OR ITEMS TO BE FURNISHED IN LIEU OF THOSE SCHEDULED, TOGETHER WITH COMPLETE TECHNICAL AND COMPARATIVE DATA ON SCHEDULED ITEMS AND ITEMS PROPOSED FOR SUBSTITUTION.
 - IF THE ENGINEER APPROVES ANY PROPOSED SUBSTITUTION, THE APPROVED PRODUCT WILL BE LISTED IN AN ADDENDUM. BIDDERS SHALL NOT RELY ON APPROVAL MADE IN ANY OTHER MANNER.
 - ELECTRICAL EQUIPMENT MAY BE INSTALLED WITH MANUFACTURER'S STANDARD FINISH AND COLOR EXCEPT WHERE SPECIFIC COLOR, FINISH OR CHOICE IS INDICATED. IF THE MANUFACTURER HAS NO STANDARD FINISH, EQUIPMENT SHALL HAVE A PRIME COAT AND TWO FINISH COATS OF GRAY ENAMEL.
 - IDENTIFY ALL MATERIALS AND EQUIPMENT TO BE INSTALLED AND MANUFACTURED TO PERFORM AT THE ELEVATION OF THE PROJECT SITE. IF NOT SPECIFICALLY INDICATED IN THE EQUIPMENT SCHEDULE OR IN THE SPECIFICATIONS PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR PROPER OPERATION AT ELEVATION OF THE PROJECT SITE.
 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROTECTION OF MATERIALS AND EQUIPMENT OF OTHERS AS A RESULT OF HIS WORK.
 - MANUFACTURED MATERIAL AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY MANUFACTURER UNLESS HEREIN SPECIFIED TO THE CONTRARY.
 - THIS CONTRACTOR SHALL MAKE THE REQUIRED ARRANGEMENT WITH GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR THE INTRODUCTION INTO THE BUILDING OF EQUIPMENT TOO LARGE TO PASS THROUGH FINISHED OPENINGS.
 - ALL MATERIALS AND EQUIPMENT SHALL BE PROTECTED FROM WEATHER IF IT IS NOT POSSIBLE. STORE ON RAISED PLATFORMS AND PROTECT FROM THE WEATHER BY MEANS OF WATERPROOF COVERS. COVERINGS SHALL PERMIT CIRCULATION OF AIR AROUND THE MATERIALS TO PREVENT CONDENSATION OF MOISTURE. SCREEN OR CAP OPENINGS IN EQUIPMENT TO PREVENT THE ENTRY OF VERMIN.
- SUBSTITUTION OF MATERIALS - WHERE SUBSTITUTED EQUIPMENT REQUIRES SIMILARITY OF FUNCTION, MECHANICAL, ELECTRICAL, OR FLUIDIC WORK THAT DIFFERS FROM BASIC DESIGN, COST OF ANY CHANGES, INCLUDING RE-DESIGN, SHALL BE RESPONSIBILITY OF CONTRACTOR USING SUBSTITUTION.
- APPROVED MANUFACTURERS
 - IN GENERAL, ONE PARTICULAR MANUFACTURER AND PART NUMBER OR SERIES IS LISTED TO DESCRIBE EQUIPMENT. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS LISTED FOR THAT ITEM MAY BE SUBSTITUTED WITHOUT PRIOR APPROVAL IF IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ITEM USED FOR BIDDING PURPOSES IS IDENTICAL TO THAT SPECIFIED. IF IT IS NOT EQUIVALENT, IT WILL BE REJECTED AT SHOP DRAWING REVIEW AND CONTRACTOR SHALL SUPPLY SPECIFIED ITEM AT HIS OWN COST.
 - IT IS UNDERSTOOD THAT MANUFACTURERS LISTED MAY NOT ACTUALLY HAVE EQUIVALENT PRODUCT TO THAT SPECIFIED. IF CONTRACTOR/DISTRIBUTOR HAS ANY QUESTIONS REGARDING DESIRED PRODUCT CHARACTERISTICS AND SUITABILITY OF PROPOSED SUBSTITUTION, HE IS ENCOURAGED TO SUBMIT FOR PRIOR APPROVAL. ALSO, ANY MANUFACTURER NOT LISTED SHALL BE SUBMITTED FOR PRIOR APPROVAL.
 - PRIOR APPROVALS
 - MANUFACTURERS NOT LISTED IN SPECIFICATION OR ON SCHEDULE FOR A PARTICULAR ITEM ARE OPEN FOR SUBSTITUTION PRIOR TO BID OPENING ONLY.
 - MANUFACTURERS DESIRING APPROVAL SHALL SUBMIT CATALOG CUTS THAT DEFINE QUALITY OF PRODUCT AND ABILITY TO PERFORM AS SPECIFIED. IT IS UNDERSTOOD THAT NO TWO MANUFACTURES USE IDENTICAL METHODS OR MAKE IDENTICAL PRODUCTS. ANY AND ALL DEVIATIONS FROM THAT SPECIFIED SHALL BE CLEARLY NOTED.
 - SUBMITTALS SHALL ARRIVE AT ENGINEER AT LEAST TEN (10) DAYS PRIOR TO BID OPENING. ALL APPROVALS WILL BE LISTED IN LAST ADDENDUM AS BEING APPROVED TO BID. ITEMS SUBSTITUTED, BUT NOT LISTED IN CONTRACT DOCUMENTS, WILL NOT BE CONSIDERED FOR SUBSTITUTION OR BIDDING.
 - APPROVAL OF SUBSTITUTION EQUIPMENT IS ON BASIS OF QUALITY ONLY. MATERIALS SUPPLIER SHALL BE RESPONSIBLE FOR HIS QUOTATION REFLECTING PROPER SELECTION OF HIS PARTICULAR EQUIPMENT WITH REGARD TO PROPER CAPACITIES, PHYSICAL DIMENSIONS, REQUIREMENTS, INTENDED FUNCTION, FINISH, COLOR, ETC. ENGINEER WILL NOT GIVE APPROVAL TO SPECIFIC MODEL NUMBERS OR CHECK CAPACITIES. DIMENSIONS, OR REQUIREMENTS EVALUATION WILL BE ON BASIS OF QUALITY AND EQUALITY TO SPECIFIED ITEMS.
 - PRIOR APPROVAL SHALL BE OBTAINED FROM ENGINEER AND NO OTHER ENTITY (ARCHITECT, OWNER, ETC.) IS AUTHORIZED TO GIVE SUCH APPROVAL.

3. SAMPLES

- WHERE, IN ENGINEER/ARCHITECT'S OPINION, PRODUCT SAMPLE IS REQUIRED ORDER TO DETERMINE APPEARANCE, QUALITY, WORKMANSHIP OR OPERATION, CONTRACTOR SHALL SUBMIT ACTUAL PRODUCTION SAMPLES OF ITEM IN QUESTION.
 - SAMPLES WILL BE RETURNED TO CONTRACTOR. APPROVED SAMPLES MAY BE USED.
 - ALL COSTS INCURRED IN PROVIDING AND RETURNING SAMPLES WILL BE CONTRACTOR'S RESPONSIBILITY.
- PRODUCT AND SYSTEM SUBMITTALS
- SUBMITTALS WILL BE REQUIRED FOR EACH PIECE OF EQUIPMENT, MATERIAL OR PRODUCT AS NOTED IN THE TABLE BELOW. ALL SUBMITTAL SHALL BE SUBMITTED, REVIEWED AND ALL DISCREPANCIES ADDRESSED PRIOR TO ORDERING EQUIPMENT OR STARTING WORK. ANY EQUIPMENT ORDERED WITHOUT HAVING FIRST COMPLETED THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR. ANY WORK PERFORMED PRIOR TO COMPLETING THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR.
 - SUBMITTAL DEFINITIONS
 - PRODUCT DATA: PROVIDE MANUFACTURERS CUT SHEETS THAT INCLUDE GENERAL PRODUCT INFORMATION INCLUDING BUT NOT LIMITED TO: MODEL NUMBER, PHYSICAL DATA, NOMINAL CAPACITIES, ROUGH-IN REQUIREMENTS.
 - PERFORMANCE DATA: PROVIDE DETAILED PERFORMANCE AND CAPACITIES BASED ON PROJECT SPECIFIC REQUIREMENTS INCLUDING BUT NOT LIMITED TO: VOLTAGE, PHASE, AMPERAGE, OVERCURRENT PROTECTION, CONDUCTOR SIZE, CONDUCTOR MATERIAL, CONDUIT SIZE, COLOR TEMPERATURE, COLOR RENDERING INDEX, LIFE EXPECTANCE, EFFICACY, EFFICIENCY, IP RATINGS, LIGHT DISTRIBUTION TYPES AND LIGHTING CONTROL.
 - SHOP DRAWINGS: PROVIDE DETAILED DRAWINGS OF THE EQUIPMENT SHOWING OVERALL DIMENSIONS, LOCATION OF ELECTRICAL CONNECTION, LOCATION OF ANCHORAGE POINTS, LOCATION OF ELECTRICAL AND CONTROL PANELS, AND ALL OPERATING, SERVICE AND MAINTENANCE CLEARANCES.
 - CUTTING AND PATCHING: PROVIDE DETAILED DRAWINGS PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER THAT DETAIL PERTINENT DESIGN CRITERIAL, THE MATERIALS AND PRODUCTS TO BE INSTALLED AND THE REQUIRED INSTALLATION LOCATIONS.
 - WIRING DIAGRAM: PROVIDE DIAGRAMS THAT IDENTIFY AND DETAIL REQUIRED FIELD WIRING.
 - COLOR CHART: PROVIDE A PHYSICAL COLOR CHART OF MATERIAL SAMPLES REQUIRED FOR SELECTION OF EQUIPMENT AND MATERIALS WITH IDENTICAL COLOR.
 - SUSTAINABILITY COMPLIANCE: PROVIDE LITERATURE THAT INDICATED A PRODUCTS COMPLIANCE WITH LEED OR GREEN GLOBES. SEE DIVISION 01 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
 - SUBMITTAL FORMATS
 - INCLUDE THE FOLLOWING INFORMATION WITH EACH SUBMITTAL:
 - PROJECT NAME
 - SUBMITTAL DATE
 - DESIGNED BY ARCHITECT
 - NAME OF ENGINEER
 - NAME OF GENERAL CONTRACTOR OR CONSTRUCTION MANAGER
 - NAME OF SUB-CONTRACTOR
 - NAME OF FIRM OR ENTITY THAT PREPARED THE SUBMITTAL
 - UNIQUE SUBMITTAL NUMBER
 - TYPE OF SUBMITTAL
 - SECTION OF CONSTRUCTION
 - NAME OR MARK OF EQUIPMENT OR MATERIAL AND DETAIL OR DRAWINGS REFERENCE.
 - ALL SUBMITTAL WITH THE EXCEPTION OF COLOR CHARTS OR MATERIAL SAMPLES SHALL BE ELECTRONICALLY TRANSMITTED PDF'S. ALL SUBMITTALS OVER 8 MB SHALL BE SETUP ON A SHARE FILE SITE AND ACCESS GRANTED THROUGH EMAIL WITH FOLDER'S LINK FOR DOWNLOAD.
 - SUBMITTAL REQUIREMENTS
 - SUBMITTALS SHALL BE SUBMITTED AS A COMPLETE SPECIFICATION SECTION. THE SUBMITTAL MUST INCLUDE ALL MATERIALS AND EQUIPMENT FOR THAT SPECIFICATION SECTION. SUBMITTALS FOR INDIVIDUAL MATERIALS OF EQUIPMENT WILL BE REJECTED WITHOUT REVIEW.
 - SUBMITTALS SHALL BE COMPLETE, CLEARLY SHOW ITEM USED, SIZE, DIMENSIONS, CAPACITY, ROUGH IN, ETC., AS REQUIRED FOR COMPLETE CHECKS AND INSTALLATION. MANUFACTURER'S LITERATURE SHOWING MORE THAN ONE ITEM IS ACCEPTED. CLEARLY MARKED AS TO WHICH ITEM IS BEING FURNISHED OR IT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
 - EACH SUBMITTAL SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR COMPLIANCE WITH THE CONTRACT DOCUMENT REQUIREMENTS, ACCURACY OF DIMENSIONS, RELATIONSHIP TO THE WORK OF OTHER TRADES, AND CONFORMANCE WITH SOUND, SAFE PRACTICES AS TO ERECTION AND INSTALLATION. EACH SUBMITTAL SHALL THEN BEAR A STAMP EVIDENCING SUCH CHECKING AND CORRECTIONS MADE. IF ANY, SUBMITTALS REQUIRING EXTENSIVE CORRECTIONS SHALL BE REVISED BEFORE SUBMISSION. EACH SUBMITTAL NOT STAMPED AND SIGNED BY THE GENERAL AND ELECTRICAL CONTRACTORS EVIDENCING SUCH CHECKING WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
 - ON EACH SUBMITTAL, CLEARLY INDICATE DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS, INCLUDING MINOR VARIATIONS AND LIMITATIONS; INCLUDE RELEVANT ADDITIONAL INFORMATION AND REVISIONS OTHER THAN THOSE REQUESTED ON PREVIOUS SUBMITTALS. INDICATE BY HIGHLIGHTING ON EACH SUBMITTAL OR NOTING ON ATTACHED SEPARATE SHEET.
 - REVIEW OF THE SHOP DRAWINGS AND LITERATURE BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FOR RESPONSIBILITY FOR DEVIATIONS FOR THE DRAWINGS OR SPECIFICATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN THE SHOP DRAWINGS OR LITERATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE MATERIALS AND EQUIPMENT WHICH MEET THE SPECIFICATIONS AND JOB REQUIREMENTS.
 - LUMINAIRES SUBMITTALS SHALL INCLUDE DIMENSIONS, QUALITY, DISTRIBUTION, COLOR RENDERING INDEX, COLOR TEMPERATURE, OPTICS, PHOTOMETRICS, ALL LISTINGS (UL, DLC, ENERGY STAR, MADE IN AMERICA, ETC.), IP RATINGS, VOLTAGE, WATTAGE, WARRANTY, INSTALLATION METHODS, CONTROL METHODS, EFFICACY, EFFICIENCY, DIFFUSER OPTIONS, EMERGENCY OPERATION AND ANY REQUIRED ACCESSORIES. PROVIDE IES AND REVIT FILES UPON REQUEST.
 - ENGINEER'S REVIEW - SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE CONTRACTOR FROM ANY REQUIREMENTS OF CONTRACT DOCUMENTS. SUBMITTALS WILL NOT BE CHECKED FOR QUANTITY, DIMENSION, FIT OR PROPER TECHNICAL DESIGN OF MANUFACTURED EQUIPMENT. WHERE PRODUCT OR SYSTEM PERFORMANCE DEVIATIONS HAVE NOT BEEN SPECIFICALLY NOTED IN SUBMITTALS, THE CONTRACTOR, ENGINEER'S REVIEW WILL NOT RELIEVE CONTRACTOR'S RESPONSIBILITY TO PROVIDE COMPLETE AND SATISFACTORY WORKING INSTALLATION OF EQUAL QUALITY AND PERFORMANCE TO SPECIFIED SYSTEM. ORDERING, MANUFACTURE, SHIPMENT OR INSTALLATION OF EQUIPMENT PRIOR TO RECEIPT OF ENGINEER'S WRITTEN REVIEW IS STRICTLY AT CONTRACTOR'S RISK AND ALL COSTS ASSOCIATED WITH SHIPPING, CHANGES, REPLACEMENT OR REWORKING SHALL BE BORNE BY CONTRACTOR.
- SUB-CONTRACTORS - WITH SHOP DRAWING SUBMITTALS, CONTRACTOR SHALL SUBMIT LIST OF ALL SUB-CONTRACTORS TO BE USED FOR THE PROJECT.

O. OPERATION AND MAINTENANCE MANUALS

- OPERATION AND MAINTENANCE MANUALS (O&M MANUALS) SHALL CONTAIN:
 - NAMES AND CONTACT INFORMATION FOR THE PROJECT ARCHITECT, PROJECT ENGINEER.
 - NAMES AND CONTACT INFORMATION FOR THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER.
 - NAMES AND CONTACT INFORMATION FOR SUB-CONTRACTORS.
 - INSTALLATION, MAINTENANCE AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT.
 - PAINTS AND LISTS
 - WIRING DIAGRAMS
 - EQUIPMENT START-UP AND INSPECTION CERTIFICATES
 - COPIES OF EQUIPMENT WARRANTIES
 - COPIES OF SUBMITTALS
 - RECORD DRAWINGS.
 - PRIOR TO SUBSTANTIAL COMPLETION SUBMIT AN ELECTRONIC COPY OF THE O&M MANUAL IN PDF FORMAT TO THE ARCHITECT, ENGINEER AND OWNER FOR REVIEW AND APPROVAL. THE PDF SHALL BE ONE FILE WITH AN INDEX AND HYPERLINKS TO EACH SECTION. INDIVIDUAL BOUND PDFS WITHOUT AUTOMATED NAVIGATION WILL BE REJECTED. ALL O&M DATA SHALL BE GROUPED BY THE EQUIPMENT TYPE AND ORDERED BY THE SPECIFICATION NUMBERING.
 - PRIOR TO FINAL PAYMENT A FINAL ELECTRONIC COPY OF THE O&M MANUAL ON AN ARCHIVAL QUALITY DVD AS WELL AS TWO PRINTED COPIES SHALL BE FURNISHED TO THE OWNER. PRINTED COPIES SHALL HAVE COMMERCIAL QUALITY 8-1/2" X 11" 3-RING BINDERS WITH TABBED DIVIDERS FOR EACH SECTION.
- SITE EXAMINATION
- PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VISIT SITE OF PROPOSED WORK AND FAMILIARIZE HIMSELF WITH CONDITIONS AFFECTING WORK. ALLOWANCE SHALL BE MADE IN BID FOR THESE CONDITIONS AND NO ADDITIONAL ALLOWANCE SHALL BE GRANTED BECAUSE OF LACK OF KNOWLEDGE OF SUCH CONDITIONS.
 - CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AT BUILDING SITE.
- CUTTING AND PATCHING
- OBTAIN WRITTEN PERMISSION OF ARCHITECT/ENGINEER BEFORE CUTTING OR PIERCING STRUCTURAL MEMBERS.
 - SLEEVES THROUGH FLOORS AND WALLS SHALL BE BLACK IRON PIPE, FLUSH WITH WALLS, CEILINGS OR FINISHED FLOORS, SIZED TO ACCOMMODATE RACEWAYS. GROUT ALL PENETRATIONS THROUGH CONCRETE WALLS OR FLOORS. HOLES THROUGH EXISTING CONCRETE AND CONCRETE BLOCK (CMU) SHALL BE REPAIRED TO MATCH EXISTING.
- CLEAN-UP AND COMMISSIONING
- DURING CONSTRUCTION - THROUGHOUT CONSTRUCTION, KEEP WORK AREA REASONABLY NEAT AND ORDERLY BY PERIODIC CLEAN-UPS.
 - COMMISSIONING - AS INDEPENDENT PARTS OF CONSTRUCTION ARE COMPLETED, THEY MAY BE COMMISSIONED AND UTILIZED DURING CONSTRUCTION. SEE VARIOUS SECTIONS FOR RESTRICTIONS.
- AT COMPLETION OF WORK
- REMOVE ALL MATERIALS, DEBRIS AND DEBRIS, INCLUDING INTERIOR OF PANELS, OUTLET BOXES, ETC. REMOVE LABELS FROM AND CLEAN ALL FIXTURE LENSES.
 - REMOVE MATERIALS, SCRAPS, ETC., RELATIVE TO THIS WORK AND LEAVE PREMISES IN CLEAN AND ORDERLY CONDITION.
 - REMOVE ALL TEMPORARY FACILITIES AND RESTORE TO CONDITIONS PRESENT PRIOR TO WORK.
- PROJECT COMPLETION AND DEMONSTRATION
- TESTING
 - PRIOR TO FINAL TEST, ALL SWITCHES, PANELBOARDS, DEVICES, AND FIXTURES SHALL BE IN PLACE.
 - AT COMPLETION OF WORK, OR UPON REQUEST FROM ARCHITECT/ENGINEER, PLACE ENTIRE ELECTRICAL INSTALLATION, AND/OR ANY PORTION THEREOF, IN OPERATION TO DEMONSTRATE SATISFACTORY OPERATION.
 - ALL ELECTRICAL SYSTEMS SHALL BE FREE FROM SHORT CIRCUITS AND UNINTENTIONAL GROUNDING.
 - FURNISH ONE (1) COPY OF CERTIFIED TEST RESULTS TO ARCHITECT/ENGINEER PRIOR TO FINAL INSPECTION AND INCLUDE ONE (1) COPY IN EACH BROCHURE OF EQUIPMENT.
 - ADJUSTMENTS
 - MAKE ALL CHANGES NECESSARY TO BALANCE CONNECTED ELECTRICAL LOADS ON COMPLETE SYSTEM. ARRANGE FOR BALANCED CONDITIONS OF CIRCUITS UNDER CONNECTED LOAD DEMANDS, AS CONTEMPLATED BY NORMAL WORKING CONDITIONS. FINAL LOAD AND BALANCE TEST SHALL BE DEMONSTRATED IN PRESENCE OF ARCHITECT/ENGINEER.
 - IMMEDIATELY CORRECT ALL DEFICIENCIES WHICH ARE EVIDENCED DURING TESTS AND REPEAT TESTS UNTIL SYSTEM IS APPROVED. DO NOT COVER OR CONCEAL ELECTRICAL INSTALLATIONS UNTIL SATISFACTORY TESTS ARE MADE AND APPROVED.
 - FINAL WALK-THRU
 - CONDUCT OPERATING TESTS DURING FINAL INSPECTION. DEMONSTRATE INSTALLATION TO OPERATE SATISFACTORILY IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS. SHOULD ANY PORTION OF INSTALLATION FAIL TO MEET REQUIREMENTS OF CONTRACT DOCUMENTS, REPAIR OR REPLACE ITEMS FAILING TO MEET REQUIREMENTS UNTIL ITEMS CAN BE DEMONSTRATED TO COMPLY.
 - HAVE INSTRUMENTS AVAILABLE FOR MEASURING LIGHT INTENSITIES, CONTROL METHODS, EFFICACY, EFFICIENCY, DIFFUSER OPTIONS, GROUNDS, OR OPEN CIRCUIT CONDITIONS.
 - FURNISH PERSONNEL TO ASSIST IN TAKING MEASUREMENTS AND MAKING TESTS. IN EVENT THAT SYSTEMS ARE NOT COMPLETE AND FULLY OPERATIONAL AT TIME OF FINAL INSPECTION, ALL COSTS OF ANY SUBSEQUENT INSPECTIONS SHALL BE BORNE BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

CONSTRUCTION PLANS
 MARCH 2023

VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.  MODIFY SCALE ACCORDINGLY!	REVISIONS				NO. DESCRIPTION		DATE	BY
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engineers • surveyors • planners • scientists

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DRAWN BY: TJ DSGN. BY: TJ APPR. BY: JK DATE: 3/1/2023 Q.C. REVIEW BY: RM DATE: 6/20/22	SHERIDAN COUNTY BROOKS STREET GREENSPACE WYOMING	PROJECT NUMBER 6017.002 SHEET NUMBER 28 DRAWING NUMBER
ELECTRICAL SPECIFICATIONS		E-2

BIM 360//0017.002 SHR CNTY - Brooks St Greenspace/Brooks St Greenspace MEP_R21.rvt
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260519 - CONDUCTORS

- A. FEEDERS: COPPER, TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.
- B. BRANCH CIRCUITS: COPPER, TYPE THHN/THWN-2, SOLID FOR NO. 10 AWG AND SMALLER; STRANDED FOR NO. 8 AWG AND LARGER. SINGLE CONDUCTORS IN RACEWAY.
- C. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, CORD WITH STAINLESS-STEEL, WIRE-MESH, STRAIN RELIEF DEVICE AT TERMINATIONS.
- D. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120 V BRANCH CIRCUIT.

260526 - GROUNDING AND BONDING

- A. GROUNDING ELECTRODE CONDUCTOR: BARE COPPER, SIZED PER NEC 250.66.
- B. BONDING CONDUCTOR: BARE COPPER FOR LENGTHS OF 6 FEET OR LESS, COPPER WITH INSULATION IN PVC CONDUIT (METALLIC CONDUIT IN AIR PLENUM) WHERE LONGER THAN 6 FEET IN LENGTH. IF METALLIC CONDUIT IS USED, PROVIDE BONDING BUSHING AT EACH END. SIZE PER NEC 250.102.
- C. EQUIPMENT GROUND CONDUCTOR: COPPER WITH GREEN INSULATION (LARGER WIRES MAY BE PERMANENTLY MARKED WITH GREEN), SIZED PER NEC 250.122. DO NOT RELY ON CONDUIT FOR THE GROUNDING PATH.
- D. GROUNDING CONDUCTORS OF ASSOCIATED FANS, BLOWERS, ELECTRIC HEATERS, AND AIR CLEANERS, INSTALL BONDING JUMPER TO BOND ACROSS FLEXIBLE DUCT CONNECTIONS TO ACHIEVE CONTINUITY. SIZE BONDING CONDUCTORS AND JUMPERS IN ACCORDANCE WITH NEC 250.122, USING THE RATING OF THE CIRCUIT THAT IS LIKELY TO ENERGIZE THE DUCTS.
- E. POLES SUPPORTING OUTDOOR LIGHTING FIXTURES: DO NOT INSTALL A GROUNDING ELECTRODE AT THESE LOCATIONS. BOND THE EQUIPMENT GROUNDING CONDUCTOR INSTALLED WITH BRANCH-CIRCUIT CONDUCTORS TO THE GROUNDING TERMINAL AT THE POLE BASE.

260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

- A. MINIMUM RACEWAY SIZE: 1 INCH TRADE SIZE FOR TELECOM/DATA AND 3/4 INCH TRADE SIZE FOR ALL OTHER APPLICATIONS.
- B. INSTALL NONMETALLIC CONDUIT OR TUBING FOR PROTECTING BARE GROUNDING CONDUCTORS.
- C. DO NOT INSTALL RACEWAYS OR ELECTRICAL ITEMS ON ANY "EXPLOSION-RELIEF" WALLS OR ROTATING EQUIPMENT.
- D. DO NOT FASTEN CONDUITS ONTO THE BOTTOM SIDE OF A METAL DECK ROOF.
- E. KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES AND STEAM OR HOT-WATER PIPES. INSTALL HORIZONTAL RACEWAY RUNS ABOVE WATER AND STEAM PIPING.
- F. ARRANGE STUB-UPS SO CURVED PORTIONS OF BENDS ARE NOT VISIBLE ABOVE FINISHED SLAB.
- G. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR CONTROL WIRING CONDUITS, FOR WHICH FEWER BENDS ARE ALLOWED. SUPPORT WITHIN 12 INCHES OF CHANGES IN DIRECTION. SUPPORT CONDUIT WITHIN 12 INCHES OF ENCLOSEURES TO WHICH IT IS ATTACHED.
- H. UNLESS BURIED, INSTALL ALL CONDUITS PARALLEL OR PERPENDICULAR TO BUILDING LINES.
- I. INSTALL RACEWAYS SQUARE TO THE ENCLOSURE AND TERMINATE AT ENCLOSURES WITH LOCKNUTS. INSTALL LOCKNUTS HAND TIGHT PLUS 1/4 TURN MORE. DO NOT RELY ON LOCKNUTS TO PENETRATE NONCONDUCTIVE COATINGS ON ENCLOSURES. REMOVE COATINGS IN THE LOCKNUT AREA PRIOR TO ASSEMBLING CONDUIT TO ENCLOSURE TO ENSURE A CONTINUOUS GROUND PATH.
- J. RACEWAYS MAY BE INSTALLED UNDER THE CONCRETE SLAB, BUT NO CONDUITS SHALL BE EMBEDDED WITHIN THE SLAB. DIRECT-BURIED CONDUIT - INSTALL MANUFACTURED RIGID STEEL CONDUIT ELBOWS FOR STUB-UPS AT POLES AND EQUIPMENT AND AT BUILDING ENTRANCES THROUGH FLOOR. ANY METALLIC CONDUIT THAT DOES OR MAY COME INTO CONTACT WITH SOIL SHALL BE COATED WITH TWO COATS OF BITUMASTIC OR TWO LAYERS OF 10 MIL. CORROSION PROTECTION TAPE.
- K. INSTALL FIRESTOPPING AT PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES.
- L. INSTALL SLEEVES AND SLEEVE SEALS AT PENETRATIONS OF EXTERIOR FLOOR AND WALL ASSEMBLIES. INCLUDE CAST-IRON PIPE SLEEVES SIZED TO ALLOW FOR 1-INCH ANNULAR CLEAR SPACE BETWEEN RACEWAY OR CABLE AND SLEEVE FOR INSTALLING SLEEVE-SEAL SYSTEM WHICH INCLUDES MANUFACTURED EPDM RUBBER INTERLOCKING LINKS SHAPED TO FIT SURFACE OF PIPE AND WITH NUMBER REQUIRED FOR PIPE MATERIAL AND SIZE OF PIPE. INCLUDE STAINLESS STEEL PRESSURE PLATES AND CONNECTING BOLTS AND NUTS.
- M. INDOOR RACEWAYS:
 - 1. EXPOSED, NOT SUBJECT TO PHYSICAL DAMAGE: EMT.
 - 2. EXPOSED AND SUBJECT TO SEVERE PHYSICAL DAMAGE: RIGID STEEL CONDUIT.
 - 3. CONCEALED IN NEW CEILINGS AND INTERIOR WALLS AND PARTITIONS: EMT.
 - 4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFMC, EXCEPT USE LFMC IN DAMP OR WET LOCATIONS.
 - 5. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT.
 - 6. BOXES AND ENCLOSURES: NEMA 250, TYPE 1, EXCEPT USE NEMA 250, TYPE 3R, NONMETALLIC IN DAMP OR WET LOCATIONS.
 - 7. RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS AND SUITABLE FOR USE AND LOCATION.
 - 8. RIGID AND INTERMEDIATE STEEL CONDUIT: USE THREADED RIGID STEEL CONDUIT FITTINGS, UNLESS NOTED OTHERWISE.
 - 9. FLEXIBLE CONDUIT CONNECTIONS: MAXIMUM OF 72 INCHES OF FLEXIBLE CONDUIT FOR RECESSED AND SEMI-RECESSED LUMINAIRES, EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT; AND FOR TRANSFORMERS AND MOTORS. USE LFMC IN DAMP OR WET LOCATIONS SUBJECT TO SEVERE PHYSICAL DAMAGE. USE LFMC OR LFNC IN DAMP OR WET LOCATIONS NOT SUBJECT TO SEVERE PHYSICAL DAMAGE.
- N. OUTDOOR RACEWAYS:
 - 1. EXPOSED CONDUIT: RIGID STEEL CONDUIT.
 - 2. CONCEALED CONDUIT, ABOVE GROUND: EMT.
 - 3. UNDERGROUND CONDUIT: RNC, TYPE EPC-40-PVC, DIRECT BURIED. USE TYPE EPC-80-PVC UNDER PAVED SURFACES.
 - 4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFNC.
 - 5. BOXES AND ENCLOSURES, ABOVE GROUND: NEMA250, TYPE 3R.
- O. ENCLOSURES – BOXES AND ENCLOSURES FOR PANELBOARD, DISCONNECT SWITCH AND MOTOR CONTROL UNITS, ETC. BASED ON THE INSTALLATION LOCATIONS/ENVIRONMENTS.
 - 1. INDOOR, DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1.
 - 2. OUTDOOR LOCATIONS: NEMA 250, TYPE 3R.
 - 3. OTHER WET OR DAMP, INDOOR LOCATIONS: NEMA 250, TYPE 4.
 - 4. INDOOR LOCATIONS SUBJECT TO DUST, FALLING DIRT, AND DRIPPING NONCORROSIVE LIQUIDS: NEMA 250, TYPE 12.
- P. GENERAL BOX MOUNTING
 - 1. MOUNT BOXES AT HEIGHTS INDICATED ON DRAWINGS. IF MOUNTING HEIGHTS OF BOXES ARE NOT INDIVIDUALLY INDICATED, GIVE PRIORITY TO ADA REQUIREMENTS. INSTALL BOXES WITH HEIGHT MEASURED TO CENTER OF BOX UNLESS OTHERWISE INDICATED.
 - 2. HORIZONTALLY SEPARATE BOXES MOUNTED ON OPPOSITE SIDES OF WALL SO THEY ARE NOT IN THE SAME VERTICAL CHANNEL.
 - 3. LOCATE BOXES SO THAT COVER OR PLATE WILL NOT SPAN DIFFERENT BUILDING FINISHES.
 - 4. FASTEN JUNCTION AND PULL BOXES TO OR SUPPORT FROM BUILDING STRUCTURE. DO NOT SUPPORT BOXES BY CONDUITS.
 - 5. SET METAL FLOOR BOXES LEVEL AND FLUSH WITH FINISHED FLOOR SURFACE.

Q. HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- 1. POLYMER-CONCRETE HANDHOLES AND BOXES WITH POLYMER-CONCRETE COVER: MOLDED OF SAND AND AGGREGATE, BOUND TOGETHER WITH POLYMER RESIN, AND REINFORCED WITH STEEL, FIBERGLASS, OR A COMBINATION OF THE TWO. DESIGNED FOR FLUSH BURIAL WITH OPEN BOTTOM UNO. INCLUDE WEATHERPROOF, NONSKID COVER SECURED BY TAMPER-RESISTANT LOCKING DEVICES LABELED WITH "ELECTRIC" OR "COM" AS INDICATED ON DRAWINGS.
- 2. COMPLY WITH ANSISC8E 77 WITH LOAD RATINGS AS FOLLOWS.
 - a. TIER 8 FOR NON-TRAFFIC AREAS AND SIDEWALK APPLICATIONS WITH A SAFETY FACTOR FOR OCCASIONAL NON-DELIBERATE VEHICULAR TRAFFIC.
 - b. TIER 22 FOR DRIVEWAY, PARKING LOT, AND OFF-ROAD APPLICATIONS SUBJECT TO OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC.
 - c. AASHTO H-20 FOR ROADWAYS AND OTHER DELIBERATE VEHICULAR TRAFFIC APPLICATIONS.
- 3. INSTALL HANDHOLES AND BOXES LEVEL AND PLUMB AND WITH ORIENTATION AND DEPTH COORDINATED WITH CONNECTING CONDUITS TO MINIMIZE BENDS AND DEFLECTIONS REQUIRED FOR PROPER ENTRANCES. SUPPORT ON A LEVEL BED OF CRUSHED STONE OR GRAVEL, GRADED FROM 1/2-INCH SIEVE TO NO. 4 SIEVE AND COMPACTED TO SAME DENSITY AS ADJACENT UNDISTURBED EARTH.
- 4. IN PAVED AREAS, SET SO COVER SURFACE WILL BE FLUSH WITH FINISHED GRADE. SET COVERS OF OTHER ENCLOSURES 1 INCH (25 MM) ABOVE FINISHED GRADE.

260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

- A. RACEWAYS AND CABLES CARRYING CIRCUITS WITHIN BUILDINGS.
- B. CONDUCTOR COLOR-CODING:
 - 1. 208Y/120V: PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE, NEUTRAL - WHITE.
 - 2. 480Y/277V: PHASE A - BROWN, PHASE B - ORANGE, PHASE C - YELLOW, NEUTRAL - GRAY.
 - 3. GROUNDS: BARE COPPER OR GREEN.
- C. ALL EQUIPMENT SHALL HAVE AN IDENTIFICATION LABEL, BLACK LETTERS ON A WHITE FIELD. LABEL INCLUDES UNIT NAME AND CIRCUIT THAT FEEDS IT.
 - 1. 1" MINIMUM HEIGHT LETTERS FOR SERVICE DISCONNECT AND EMERGENCY SHUT-OFF SWITCHES.
 - 2. 1/2" MINIMUM HEIGHT LETTERS FOR PANELBOARDS, SWITCHBOARDS, RELAY ENCLOSURES AND TRANSFORMERS.
 - 3. 1/4" MINIMUM HEIGHT LETTERS FOR DISCONNECT SWITCHES AND MOTOR STARTERS.
 - 4. 1/8" MINIMUM HEIGHT LETTERS FOR DEVICE COVERPLATES.
- D. UNDERGROUND LINE WARNING TAPE - INSTALL UNDERGROUND-LINE WARNING TAPE FOR DIRECT-BURIED CABLES AND CABLES IN RACEWAYS. DURING BACKFILLING OF TRENCHES, INSTALL CONTINUOUS UNDERGROUND-LINE WARNING TAPE DIRECTLY ABOVE CABLE OR RACEWAY AT 6 TO 8 INCHES BELOW FINISHED GRADE. USE MULTIPLE TAPES WHERE WIDTH OF MULTIPLE LINES INSTALLED IN A COMMON TRENCH OR CONCRETE ENVELOPE EXCEEDS 16 INCHES OVERALL.
- E. PANELBOARDS/SWITCHBOARDS LABEL SHALL INCLUDE: - PANEL NAME, VOLTAGE, AMPERAGE, NUMBER OF PHASES AND WIRES, SOURCE AND AVAILABLE FAULT CURRENT WITH DATE CALCULATED. INCLUDE TYPEWRITTEN DIRECTORY OF CIRCUITS IN THE LOCATION PROVIDED BY PANELBOARD MANUFACTURER. INDICATE ENCLOSURE TO ENSURE A CONTINUOUS GROUND PATH. ROOM DESIGNATIONS SHALL BE FILLED IN BY HAND WITH PENCIL. ON MAIN DISTRIBUTION PANEL DOOR / SWITCHBOARD FRONT PROVIDE A LAMINATED ONE-LINE DIAGRAM OF THE ELECTRICAL SYSTEM AND ALL PANEL CONFIGURATIONS.

262213 - LOW-VOLTAGE DISTRIBUTION TRANSFORMERS

- A. ALL TRANSFORMERS SHALL BE FACTORY ASSEMBLED AND TESTED, AIR-COOLED UNITS FOR 60HZ SERVICE, COMPLYING WITH 10 CFR 431 (DOE 2016) EFFICIENCY LEVELS.
- B. COPPER WINDINGS UNO. TWO 2.5% TAPS ABOVE AND TWO 2.5% TAPS BELOW NORMAL FULL CAPACITY. COMPLY WITH NEMA ST 20 STANDARD SOUND LEVELS WHEN FACTORY TESTED ACCORDING TO IEEE C57.12.91.
- C. INSULATION CLASS:
 - 1. SMALLER THAN 30 KVA: 180 DEG C. UL-COMPONENT-RECOGNIZED INSULATION SYSTEM WITH A MAXIMUM OF 115 DEG C RISE ABOVE 40 DEG C AMBIENT TEMPERATURE.
 - 2. 30 KVA AND LARGER: 220 DEG C. UL-COMPONENT-RECOGNIZED INSULATION SYSTEM WITH A MAXIMUM OF 115 DEG C RISE ABOVE 40 DEG C AMBIENT TEMPERATURE.
- D. VENTILATED ENCLOSURE WITH KVA RATINGS BASED ON CONVECTION COOLING ONLY AND NOT RELYING ON AUXILIARY FANS. NEMA 250, TYPE 2 OR TYPE 3R CORE AND COIL ENCAPSULATED WITHIN RESIN COMPOUND TO SEAL OUT MOISTURE AND AIR.
- E. ENVIRONMENT: ENCLOSURES SHALL BE RATED FOR THE ENVIRONMENT IN WHICH THEY ARE LOCATED. COVERS FOR NEMA 250, TYPE 4X ENCLOSURES SHALL NOT CAUSE ACCESSIBILITY PROBLEMS.
- F. INSTALL WALL-MOUNTED TRANSFORMERS LEVEL AND PLUMB WITH WALL BRACKETS FABRICATED BY TRANSFORMER MANUFACTURER. COORDINATE INSTALLATION OF WALL-MOUNTED AND STRUCTURE-HANGING SUPPORTS WITH ACTUAL TRANSFORMER PROVIDED.
- G. INSTALL FLOOR-MOUNTED TRANSFORMERS LEVEL AND PLUMB ON A 4-INCH CONCRETE BASE WITH VIBRATION-DAMPENING SUPPORTS. LOCATE TRANSFORMERS AWAY FROM CORNERS AND NOT PARALLEL TO ADJACENT WALL SURFACE. COORDINATE SIZE AND LOCATION OF CONCRETE BASES WITH ACTUAL TRANSFORMER PROVIDED. CAST ANCHOR-BOLT INSERTS INTO BASES. SECURE TRANSFORMER TO CONCRETE BASE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. SECURE COVERS TO ENCLOSURE AND TIGHTEN ALL BOLTS TO MANUFACTURER-RECOMMENDED TORQUES TO REDUCE NOISE GENERATION.

262416 - PANELBOARDS

- A. FLUSH AND SURFACE-MOUNTED ENCLOSURES (AS NOTED ON PLANS) WITH DEAD-FRONT CABINETS. RATED FOR ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION.
- B. MAXIMUM HEIGHT CABINET
 - a. STANDARD: 84 INCHES TO TOP OF ENCLOSURE (SO THAT MAXIMUM HEIGHT OF HIGHEST BREAKER IS 78 INCHES MAXIMUM).
- C. INCOMING MAINS LOCATION: TOP OR BOTTOM AS DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, UNO.
- D. HARD-DRAWN COPPER PHASE, NEUTRAL, AND GROUND BUSES WITH 98 PERCENT CONDUCTIVITY. MECHANICAL TYPE LUGS WITH A LUG ON THE NEUTRAL AND GROUND BARS FOR EACH BREAKER POLE IN THE PANELBOARD. CONDUCTOR CONNECTORS SHALL BE SUITABLE FOR USE WITH CONDUCTOR MATERIAL, QUANTITY AND SIZES (REFER TO THE FEEDER SCHEDULE).
- E. PANELBOARD SHORT-CIRCUIT CURRENT RATING: FULLY RATED TO INTERRUPT SYMMETRICAL SHORT-CIRCUIT CURRENT AVAILABLE AT TERMINALS. ASSEMBLY SHALL BE LISTED BY AN NRTL FOR 100 PERCENT INTERRUPTING CAPACITY. ALL OVERCURRENT PROTECTIVE DEVICES (OCPDS) SHALL BE FULLY RATED FOR AVAILABLE FAULT CURRENT. NO SERIES RATING WILL BE ALLOWED.
- F. BRANCH OVERCURRENT PROTECTIVE DEVICES - BOLT-ON CIRCUIT BREAKERS OR PLUG-IN CIRCUIT BREAKERS WHERE INDIVIDUAL POSITIVE-LOCKING DEVICE REQUIRES MECHANICAL RELEASE FOR REMOVAL. REPLACEABLE WITHOUT DISTURBING ADJACENT UNITS. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE ONLY AND SUITABLE FOR INDIVIDUAL AS WELL AS PANELBOARD MOUNTING. NO BREAKERS DESIGNATED "PLUG-ON" TYPE ALLOWED UNLESS SPECIFICALLY NOTED ON PLANS.
- G. BREAKERS SHALL BE ONE-, TWO-, OR THREE-POLE AS SCHEDULED, OPERATE MANUALLY FOR NORMAL ON-OFF SWITCHING AND AUTOMATICALLY UNDER OVERLOAD AND SHORT CIRCUIT CONDITIONS.
- H. THE OPERATING HANDLE SHALL OPEN AND CLOSE ALL POLES SIMULTANEOUSLY ON MULTI-POLE BREAKERS. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITIONS. DO NOT USE SINGLE-POLE CIRCUIT BREAKERS WITH HANDLE TIES WHERE MULTI-POLE BREAKERS ARE INDICATED ON THE PANEL SCHEDULE OR WHERE REQUIRED FOR POLY-PHASE LOADS.
- I. BREAKERS SHALL BE OF THE TYPE NOTED ON PANEL SCHEDULE (SHUNT-TRIP, GFI, ARC-FAULT, ETC.) OR AS REQUIRED BY THE EQUIPMENT BEING PROVIDED.
- J. BREAKERS NOTED AS GFI PROTECTED FOR EQUIPMENT SHALL HAVE A 30mA OR GREATER TRIP.
- K. BREAKERS NOTED AS GFI PROTECTED FOR PERSONNEL SHALL HAVE A 6mA TRIP.
- L. A CONTROL TRANSFORMER WITH PRIMARY AND SECONDARY FUSING SHALL BE PROVIDED AS REQUIRED FOR CONTROL OF SHUNT-TRIP BREAKERS.
- M. DESIGN OF LIGHTING AND APPLIANCE BRANCH PANELBOARDS IS BASED ON THE SQUARE D NQ AND NF SERIES PANELBOARDS.
- N. ARRANGE CONDUCTORS IN GUTTERS INTO GROUPS AND BUNDLE AND WRAP WITH WIRE TIES.

265110 - LED LIGHTING

- A. GENERAL - ALL FIXTURES SHALL HAVE LED LIGHT SOURCES UNO.
 - 1. INTERNAL, FACTORY INSTALLED BALLAST/DRIVER UNO.
 - 2. DIMMABLE FROM 100% TO 10% OF MAXIMUM LIGHT OUTPUT.
 - 3. NOMINAL OPERATING VOLTAGE: AS NOTED ON THE PLANS.
 - 4. LENS THICKNESS: AT LEAST 0.125 INCH MINIMUM UNO.
 - 5. OUTDOOR FIXTURES: MINIMUM CRI OF 65 UNO AND CCT OF 3000K UNO.
 - 6. OUTDOOR FIXTURES SHALL HAVE FULL CUT-OFF REFLECTORS WITH MOUNTING TYPE AND DISTRIBUTION AS NOTED ON PLANS.
- B. LED ASSEMBLIES - UL RATED FOR 40 DEGREE C AMBIENT ENVIRONMENTS, 50,000 HOUR FIXTURE LIFE INCLUDING DRIVER, 5 YEAR WARRANTY AND COMPLIANT WITH IESNA LM-79 AND LM-80 STANDARDS.
- C. STANDARDS - UNO, COMPLY WITH THE FOLLOWING:
 - 1. ENERGY STAR OR DESIGN LIGHTS CONSORTIUM (DLC) CERTIFIED.
 - 2. NRTL COMPLIANCE: LUMINAIRES FOR HAZARDOUS LOCATIONS SHALL BE LISTED AND LABELED FOR INDICATED CLASS AND DIVISION OF HAZARD BY AN NRTL.
 - 3. UL LISTING: LISTED FOR DAMP AND/OR WET LOCATIONS AS REQUIRED.
 - 4. RECESSED LUMINAIRES SHALL COMPLY WITH NEMA LE 4.
 - 5. EXTERIOR LUMINAIRES SHALL HAVE INTERNATIONAL DARK-SKY ASSOCIATION (IDA) - FIXTURE SEAL OF APPROVAL (FSA).
- D. STEEL POLES - POWDER COATED, ROUND OR SQUARE TO BEST MATCH FIXTURE. STRAIGHT FOR POLES UP TO 25 FEET, TAPERED FOR POLES GREATER THAN 25 FEET. INCLUDE VIBRATION DAMPER. PROVIDE BUTT FLANGE FOR BOLTED MOUNTING ON FOUNDATION, OR BREAKAWAY SUPPORT AS REQUIRED. PROVIDE OVAL SHAPED HANDHOLE, MINIMUM CLEAR OPENING OF 2-1/2 BY 5 INCHES, WITH COVER SECURED BY STAINLESS-STEEL CAPTIVE SCREWS.
- E. COORDINATE BOLLARD AND POLE LIGHT LOCATIONS WITH CIVIL DRAWINGS, UTILITY MAPS AND GRADING PLANS, INCLUDING ANY/ALL CONTRACTUAL CLARIFICATIONS OR CHANGES. LIGHTING FIXTURES ON SITE PLANS ARE SHOWN IN SCHEMATIC FORM AND ARE NOT TO SCALE.
 - 1. VERIFY FINISH GRADE HEIGHT PRIOR TO SETTING BASES.
 - 2. POLE LIGHT LOCATIONS ARE BASED ON ACCURATE LIGHTING CALCULATIONS, BUT MAY NEED TO BE SHIFTED SLIGHTLY TO PROPERLY ALIGN THE FIXTURES AESTHETICALLY AND TO AVOID ENCROACHMENT ON TRAVEL LANES, PARKING SPOTS, CURBS, SIDEWALKS, OVERHEAD UTILITY LINES, TRAFFIC SIGNALS, ETC.
 - 3. BOLLARD LOCATIONS MAY BE SHIFTED AS REQUIRED TO ALLOW FOR AESTHETIC ALIGNMENT AND TO APPROPRIATELY LIGHT AND FOLLOW THE SIDEWALK, TRAIL OR OTHER LANDSCAPING FEATURES AS NOTED ON THE PLANS.

VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.  MODIFY SCALE ACCORDINGLY!		REVISIONS <table> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>		NO.	DESCRIPTION	DATE	BY																	PLOTTED ON: 2/23/2023 7:16:42 AM	 engineers • surveyors • planners • scientists 1470 Shepherd Drive, Suite 1, Sheridan, WY 82801 307.672.9310 www.m-m.net COPYRIGHT © MORRISON-MAIERLE, 2023		DRAWN BY: TJ DSGN. BY: TJ APPR. BY: JK DATE: 3/1/2023 Q.C. REVIEW BY: RM DATE: 6/20/22	SHERIDAN COUNTY BROOKS STREET GREENSPACE WYOMING	PROJECT NUMBER 6017.002 SHEET NUMBER 29 DRAWING NUMBER E-3
NO.	DESCRIPTION	DATE	BY																										
		SHERIDAN																											
		ELECTRICAL SPECIFICATIONS																											

LUMINAIRE SCHEDULE										
TYPE	LAMPS	LOAD (W)	OUTPUT (LM, NOMINAL)	CCT (K)	DESCRIPTION	MFR	CATALOG NO. OR SERIES	MOUNTING	VOLTAGE	NOTES
E1	LED	69 W	8,619	3000K	POST TOP ACORN GLASS REFLECTOR DOME FIXTURE WITH TYPE 3 OPTICS. FULL CUT OFF UPPER REFLECTOR MOUNTED ON A 14" DECORATIVE POLE. CUSTOM/ CITY OF SHERIDAN STANDARD FIXTURE	HADCOO/ MOUNTAIN STATES LIGHTING	HEAD: S8717M POLE: 14EFA-5.0/14S-ESSEX(RD) LEG-TT/3"x3"-BK	14" POLE	120 V	1
E2	LED	25 W	1,498	3000K	HANCOCK SERIES: 50 1/4" HIGH LED DECORATIVE BOLLARD WITH ALUMINUM BODY CONSTRUCTION, 25W LED BOARD, TYPE 3 OPTICS & CUSTOM PAINTED FINISH: WINE RED #RAL 3005	SPRING CITY ELEC MFG	ABDHNC-16-4-27-LE025EVX-1HC-CR3-Y CLO-RAL3005	SITE/ GRADE	120 V	1
E3	LED	25 W	1,581	3000K	HANCOCK SERIES: 50 1/4" HIGH LED DECORATIVE BOLLARD WITH ALUMINUM BODY CONSTRUCTION, 25W LED BOARD, TYPE 5 OPTICS & CUSTOM PAINTED FINISH: WINE RED #RAL 3005.	SPRING CITY ELEC MFG	ABDHNC-16-4-27-LE025EVX-1HC-CR5-Y CLO-RAL3005	SITE/ GRADE	120 V	1
NOTES: 1. ALTERNATE FIXTURE IS NOT ACCEPTED FOR SUBSTITUTIONS. PURCHASE FROM: MOUNTAIN STATES LIGHTING; 303-838-4430					GENERAL NOTE: THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL SITE UTILITY'S PRIOR TO INSTALLING LIGHT FIXTURE TO PREVENT SERVICE DISRUPTIONS.					

MEP COORDINATION SCHEDULE														
MARK	DESCRIPTION	ELECTRICAL DATA		CONTROL		NOTES	DISCONNECT / STARTER		DISCONNECT				FEEDER	
		LOAD	VOLT-PHASE	TYPE	DIV		TYPE	DIV	SIZE (NEMA)	SWITCH (AMPS)	FUSE (AMPS)	ENCLOSURE (NEMA)	COPPER WIRE (AWG)	CONDUIT (INCHES)
MECHANICAL EQUIPMENT														
AGF-1	AUTOMATIC GLYCOL FEEDER	0.7 W	120 - 1	INT	23/23	-	RCPT	26/26	-	-	-	1	#12	3/4"
B-1	BOILER	8 MCA	120 - 1	INT	23/26	6	MSS	26/26	-	-	-	1	#12	3/4"
BP-1	BOILER PUMP	5.6 MCA	115 - 1	BLR	23/26	-	MSS	26/26	-	-	-	1	#12	3/4"
P-1	HYDRONIC PUMP	2 HP	208 - 3	BLR	23/26	-	VFD	23/26	-	-	-	-	#12	3/4"
CONTROL TYPE:														
BAS	BUILDING AUTOMATION SYSTEM	CB	PANELBOARD CIRCUIT BREAKER WITHIN SIGHT OF EQUIPMENT											
CO	CARBON MONOXIDE DETECTOR	CSFD	COMBINATION STARTER/DISCONNECT - HOA											
CONT	CONTINUOUS OPERATION	FD	FUSED DISCONNECT											
EF	INTERLOCK WITH EXHAUST FAN	FST	FUSTAT											
HCP	HOOD CONTROL PANEL	FW	FACTORY-WIRED SINGLE POINT CONNECTION											
INT	INTEGRAL	MOCP	MOTOR OVER-CURRENT PROTECTION											
L	LIGHT SWITCH	MSS	MANUAL STARTER SWITCH WITH THERMAL OVERLOADS (1-, 2- OR 3-POLE AS REQUIRED)											
MS	MANUAL SWITCH	NFD	NON-FUSED DISCONNECT											
OS	OCCUPANCY SENSOR	RCPT	20A DUPLEX RECEPTACLE (GFCI PROTECTED AS REQUIRED), CORD AND PLUG											
PS	PRESSURE SWITCH	RVSS	REDUCED VOLTAGE SOLID-STATE											
T	THERMOSTAT	VFD	VARIABLE FREQUENCY DRIVE - HOA											
TC	TIME CLOCK	N/A	NOT APPLICABLE											
UC	UNIT CONTROLLER													
VE	VEHICLE EXHAUST DETECTION SYSTEM													
N/A	NOT APPLICABLE													
DIVISION OF RESPONSIBILITIES:														
		22/22	FURNISHED AND INSTALLED BY DIV. 22, WIRED BY DIV. 22											
		22/26	FURNISHED AND INSTALLED BY DIV. 22, WIRED BY DIV. 26											
		23/23	FURNISHED AND INSTALLED BY DIV. 23, WIRED BY DIV. 23											
		23/26	FURNISHED AND INSTALLED BY DIV. 23, WIRED BY DIV. 26											
		26/26	FURNISHED AND INSTALLED BY DIV. 26, WIRED BY DIV. 26											
GENERAL NOTES:														
1. INTEGRAL DISCONNECTS AND OVERLOADS						A. CONTROL WIRING SHALL BE CONCEALED WITHIN WALL CONSTRUCTION, ABOVE CEILING, OR RUN IN CONDUIT. EXPOSED CONTROL WIRING IS UNACCEPTABLE.								
2. INTEGRAL OVERLOADS						B. UNLESS SPECIFICALLY NOTED, ALL FEEDERS SHALL INCLUDE A FULL SIZE NEUTRAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY WITH THE MANUFACTURER OF THE ACTUAL EQUIPMENT BEING SUPPLIED WETHER A NEUTRAL IS REQUIRED PRIOR TO ROUGH-IN.								
3. SINGLE POINT CONNECTION						C. ALL DUCT SMOKE DETECTORS FURNISHED BY DIV. 26, INSTALLED BY DIV. 23, AND WIRED BY DIV. 26. DIV. 26 SHALL WIRE ALL FANS TO SHUT DOWN WHEN ALARM IS INITIATED BY ANY DUCT SMOKE DETECTOR.								
4. PROVIDE RECEPTACLE AND DATA CONNECTION FOR PANEL														
5. MOUNT ON UNI-STRUT IN FRONT OF UNIT														
6. SIZE FUSES IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES FOR INSTALLED EQUIPMENT														
7. INTEGRAL VARIABLE FREQUENCY DRIVE														

Branch Panel: LST															
Location: BOILER ROOM					Volts: 120/208 Wye					A.I.C. Rating: 6,146					
Supply From: XFRMR LST					Phases: 3					Mains Type: MCB					
Mounting: Surface					Wires: 4					Mains Rating: 125 A					
Enclosure: Type 1										MCB Rating: 125 A					
Notes:															
CKT	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT
1	LTG - SOUTH (PARKING & SIDEWALK)	Lighting	20 A	1	350	540					1	20 A	Receptacle	RCPT - SITE PERGOLA	2
3	LTG - NORTH & CENTER SIDEWALK	Lighting	20 A	1			375	540			1	20 A	Receptacle	RCPT - SITE SITTING WALL	4
5	LIGHTING CONTROL PANEL	Power	20 A	1					250	125	1	20 A	Power	IRRIGATION CONTROLLER	6
7	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	8
9	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	10
11	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	12
13	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	14
15	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	16
17	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	18
19	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	20
21	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	22
23	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	24
25	SPARE	--	20 A	1	0	--					1	--	--	SPACE	26
27	SPARE	--	20 A	1			0	--			1	--	--	SPACE	28
29	SPARE	--	20 A	1					0	--	1	--	--	SPACE	30
31	SNOW MELT ZONE CONTROLLERS	Power	20 A	1	600	0					1	20 A	--	SPARE	32
33	RCPT - GLYCOL FEEDER	Receptacle	20 A	1			720	0			1	20 A	--	SPARE	34
35	BOILER & PUMP - SNOW MELT SYSTEM	Power; Motor	20 A	1					1200	0	1	20 A	--	SPARE	36
37					937	0					1	20 A	--	SPARE	38
39	SNOW MELT SYSTEM BASE PUMP, P-1	Motor	20 A	3			937	0			2	60 A	--	FOR FUTURE GENERATOR ACCESSORY PANEL	40
41									937	0					42
Total Load:					2427 VA		2572 VA		2512 VA						
Total Amps:					20 A		22 A		21 A						
Legend:															
Load Classification			Connected Load		Demand Factor		Estimated Demand		Panel Totals						
Lighting			725 VA		125.00%		906 VA								
Motor			3410 VA		120.60%		4113 VA		Total Conn. Load: 7510 VA						
Power			1575 VA		100.00%		1575 VA		Total Est. Demand: 8394 VA						
Receptacle			1800 VA		100.00%		1800 VA		Total Conn.: 21 A						
									Total Est. Demand: 23 A						
Notes:															

CONSTRUCTION PLANS

MARCH 2023

BNW 360/10017.002 SHR CNTY - Brooks St Greenspace/ Brooks St Greenspace MEP- R21 .rvt
PLOTTED ON: 2/23/2023 7:16:43 AM

VERIFY SCALE!

THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.

MODIFY SCALE ACCORDINGLY!

NO.

DESCRIPTION

DATE

BY

REVISIONS

Morrison

Maierle

engineers • surveyors • planners • scientists

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Professional Engineer

JEFFREY L. KRAUT

9864

Date

3-1-23

WYOMING

DRAWN BY: TJ

DSGN. BY: TJ

APPR. BY: JK

DATE: 3/1/2023

Q.C. REVIEW

BY: RM

DATE: 6/20/22

SHERIDAN COUNTY

BROOKS STREET GREENSPACE

WYOMING

SHERIDAN

ELECTRICAL SCHEDULES

PROJECT NUMBER

6017.002

SHEET NUMBER

30

DRAWING NUMBER

E-4

KEY NOTES:

1. TO EXISTING 277/480V 3-PHASE PANEL "L-Z", GE CCB MODEL THAT USES "TED" STYLE BREAKERS. EC TO PROVIDE A 70A/3 POLE BREAKER IN PANEL SPACE TO FEED TRANSFORMER.

TRANSFORMER SCHEDULE

NAME	PRI. VOLTAGE (3PH)	SEC. VOLTAGE (3PH)	SIZE (KVA)
LST	480V DELTA	208Y/120V	45

FEEDER SCHEDULE - COPPER

SCHEDULE IS BASED ON 75 DEGREE C. COPPER CONDUCTORS IN NEC 310.60 TABLE.

FEEDER NUMBER KEY:
A = ALUMINUM CONDUCTORS
N = INCLUDES NEUTRAL CONDUCTOR
S = SINGLE PHASE

NOTE: GROUNDING CONDUCTOR IS SIZED ACCORDING TO NEC 250.122 TABLE, UNLESS FEEDER NUMBER IS FOLLOWED BY AN ASTERISK (*) INDICATING THAT THE GROUNDING CONDUCTOR IS SIZED ACCORDING TO NEC 250.66 TABLE.

FEEDER NUMBER	AMPS	WIRE QTY PER CONDUIT	SETS IN PARALLEL	75 DEG COPPER			
				CONDUIT	PHASE QTY AND AWG	NEUTRAL AWG	GROUND AWG
0.7	70	3W	1	1-1/4"	3#4	-	1#8
1.25N	125	4W	1	2"	3#1	1#1	1#6

1

ONE LINE DIAGRAM - SITE GREENSCAPE

N.T.S.

PROVIDE FUSE(S) IN CKT. TO BALLAST. FUSE(S) SHALL BE BUSS TYP. BBS. FUSE HOLDERS SHALL BE BUSS "TRON" HEB WATERPROOF. SIZE OF FUSE SHALL BE AS REQUIRED BY LUMINAIRE MANUFACTURER.

CONNECT GROUND TO POLE BASE W/ BOUNDARY #GB4C

BASE COVER

BUSH CONDUITS

VERT. REINF. SEE SCHEDULE

TRANSVERSE REINF. SEE SCHEDULE

ANCHOR BOLTS FROM POLE MANF.

1" CHAMFER

HEIGHT AFG SEE SCHED.

2'-6"

FINISH GRADE. BACKFILL & COMPACT AS RECOMMENDED BY GEOTECHNICAL ENGINEER (SEE CIVIL PLANS)

DEPTH *** - SEE SCHED.

REINFORCED CONC. PIER FOOTING BY ELECTRICAL CONTRACTOR

SEE SITE PLAN FOR CONDUIT SIZE

BASE SIZE SEE SCHED.

12" STRUCTURAL FILL (98% ASTM D 698, ±2% OPT. MOISTURE)

NOTE:
* CONTRACTOR SHALL GRIND EXPOSED CONCRETE SMOOTH AS REQUIRED TO REMOVE ANY FORMWORK MARKINGS.

CONCRETE BASE SCHEDULE *****

POLE HT.	BASE SIZE	VERT. REINF.	TRANSVERSE REINF.**	DEPTH ***	HEIGHT AFG
0' TO 14'	18" RND.	(6) #5 *****	#3@10"O.C.	4'-0"	0'-0"

* PROVIDE VERTICAL BARS AT EACH CORNER OF SQ. PIER.
** PROVIDE SPACING OF S/3 AT TOP 1'-0" OF PIER.
*** DEPTH BELOW FINISHED GRADE
***** SPACE VERTICAL BARS EVENLY AROUND PERIMETER.
***** PROVIDE REINF. CLEARANCE AND COVER PER ACI 318.

5

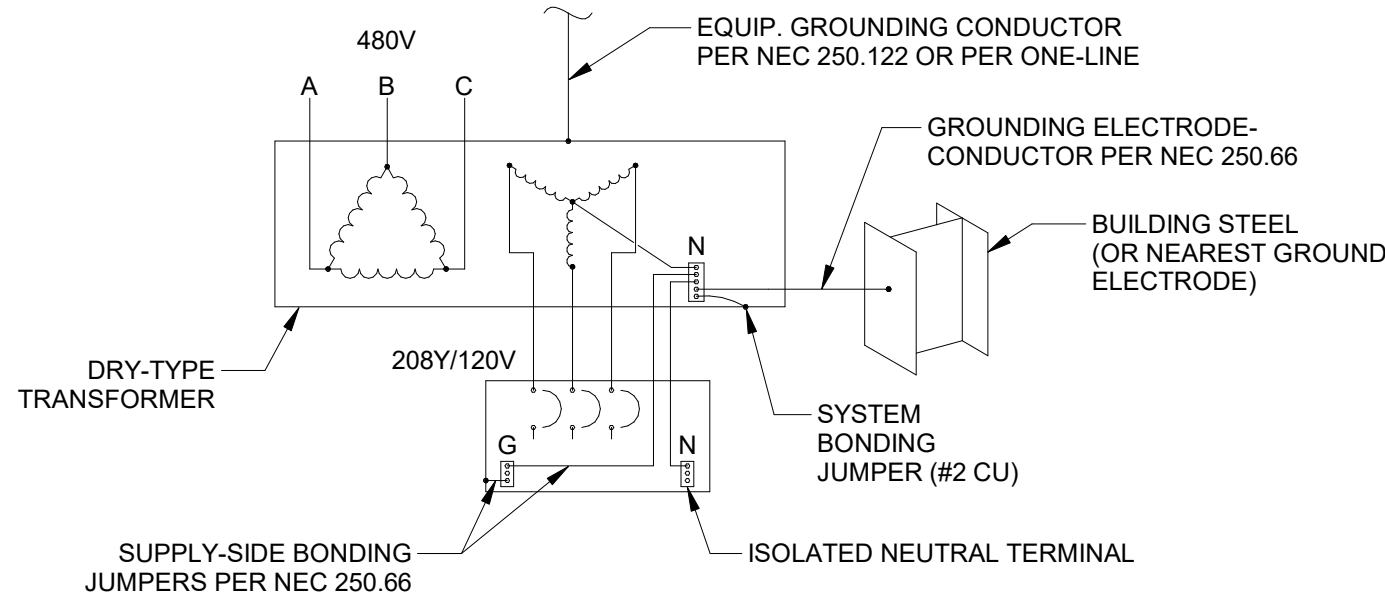
SITE POLE LIGHT BASE DETAIL

N.T.S.

TRANSFORMER GROUNDING SCHEDULE

LARGEST SERVICE CONDUCTOR SIZE	GROUNDING ELECTRODE CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	UPSTREAM OCP SIZE
#2 OR SMALLER	#8	#14	15 A
		#12	20 A
		#10	60 A
		#8	100 A

NOTES:
ALL CONDUCTORS ARE COPPER.



2

TRANSFORMER GROUNDING RISER DIAGRAM

N.T.S.

PROVIDE WITH CUSTOM PAINTED FINISH "WINE RED" RAL 3005

ACCESS DOOR

16" DIA

1 1/2" EACH SIDE

FINISHED GRADE

PROVIDE ANCHOR BOLTS PER MANUFACTURER REQUIREMENTS

CONCRETE

CONDUITS

12" STRUCTURAL FILL (98% ASTM D 698, ±2% OPT. MOISTURE)

16" DIAMETER

Ø 1'-0" BOLT CIRCLE

Ø 8 3/4" CLEAR OPENING

PROVIDE ANCHOR BOLTS PER MANUFACTURER REQUIREMENTS.

45 1/4"

51 1/4"

TO THE PHOTOMETRIC CENTER

CONCRETE FINISH PER LANDSCAPE ARCHITECT

2'-0" MIN.

3'-0"

1'-6" MIN.

8" SUBGRADE PREPARATION (95% ASTM D 698, ±3% OPT. MOISTURE)

RESURFACE TO MATCH EXISTING. PROVIDE NEW CONCRETE, ASPHALT, SEED, OR EXISTING SOD AS REQUIRED. SEE SPECS FOR MATERIAL AND INSTALLATION REQUIREMENTS.

UNDISTURBED EARTH

WARNING TAPE

COMPACTED BACKFILL (SEE CIVIL PLANS)

CONDUIT(S) AND WIRE

SAND OR CLEAN SOIL

24" MIN.

4"

WIDTH

NOTES:
1. WIDTH: MINIMUM 6"
2. WHERE POSSIBLE PUSH CONDUIT UNDER SIDEWALKS AND DRIVES TO AVOID EXCAVATION.
3. CONTRACTOR MAY USE BORING MACHINE IN LIEU OF TRENCHING WHERE CONDITIONS PERMIT. EQUIPMENT AND CONDUIT SHALL BE PRE-APPROVED BY ARCHITECT/ENGINEER.

4

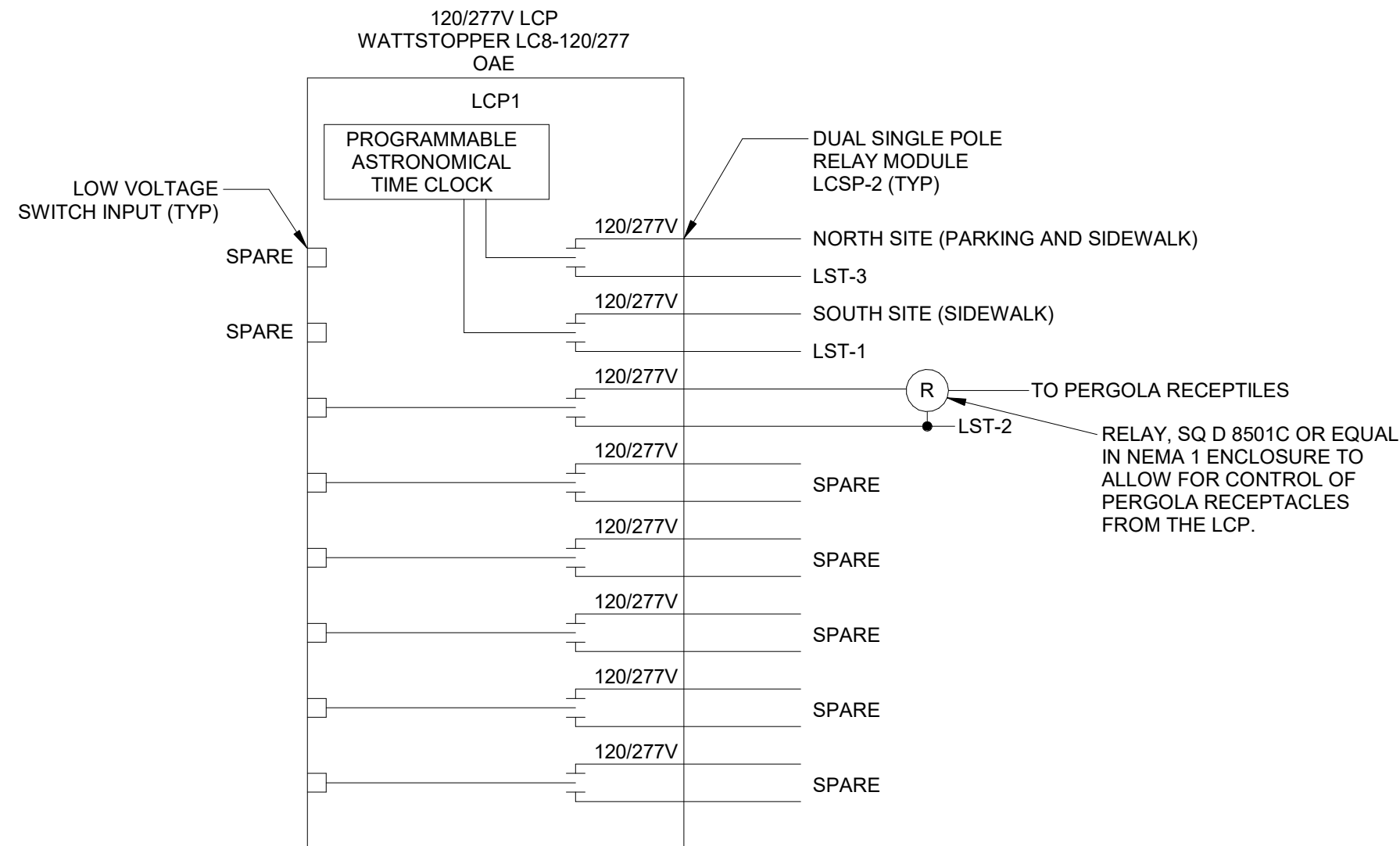
TRENCH DETAIL - SINGLE CONDUIT

N.T.S.

3

LIGHTED BOLLARD BASE DETAIL

N.T.S.



LCP START UP PROGRAMING

- INITIAL START UP PROGRAMMING FOR LIGHTING CONTROL SYSTEM SHALL BE AS FOLLOWS:
 - ALL NETWORK STYLE RELAYS SHALL ACT AS INDEPENDENT GROUPS. PROGRAMMING SHALL OPERATE IN CONFIGURATION LISTED BELOW AND IN THE LIGHTING CONTROL SYSTEM SCHEDULE.
 - ALL SITE LIGHTING, PARKING LOT FIXTURES AND PERGOLA RECEPTACLES SHALL BE PROGRAMMED FOR ON WITH ASTRONOMICAL TIME CLOCK AT 15 MINUTES BEFORE DUSK AND OFF AT 15 MINUTES AFTER DAWN.
- PROGRAMMING LISTED FOR THE LCP SHALL SERVE AS START UP BASE PROGRAMMING. THE ELECTRICAL CONTRACTOR MUST COORDINATE WITH THE OWNER FOR FINAL DESIRED LIGHT CYCLE TIMES AND ANY OTHER MODIFICATIONS TO ACCOMMODATE END USER'S FUNCTION.
- EC SHALL PROGRAM THE PANEL OR ENLIST THE SERVICES OF FACTORY TRAINED PERSONNEL TO PROGRAM THE LIGHTING CONTROL PANEL PER BASIC START UP LIST, AS WELL AS INCORPORATING ALL OWNER REQUESTS. PROGRAMMING TIME SHALL BE ALLOTTED FOR A MINIMUM OF 1 DAY TO ALLOW FOR PROGRAMMING, DIAGNOSTIC AND OWNER TRAINING ON THE SYSTEM. OWNER TRAINING SHALL BE COORDINATED WITH OWNER FOR DATE, TIME AND OUTLINE OF SUBJECTS COVERED PRIOR TO INITIAL BASE PROGRAMMING OF THE PANEL. THE TRAINING SHALL CONSIST OF AT LEAST 2 HOURS OF HANDS ON DEMONSTRATION. SUBJECTS TO BE COVERED AT A MINIMUM SHALL CONSIST OF: PANEL BASIC PROGRAMING (CYCLE TIME CHANGES), PANEL FUNCTIONS AND DEMONSTRATION OF END POINT LOADS CONTROLLED.
- EC SHALL PROVIDE (1) FOLLOW UP SITE VISIT CONSISTING OF 2 HOURS AT 8 MONTHS AFTER SYSTEM START UP TO ADJUST SETTINGS PER OWNERS REQUEST.

HADCO #S8717M

ALUMINUM TENON 3" O.D. x 3' TALL

POLE BY MOUNTAIN STATES LIGHTING. 14" ALUMINUM FLUTE POLE PAINTED WITH FIRST 16" OF POLE & BASE PLATE TO BE COATED WITH COLD ZINC GALV. MIN EPA OF 15 IN 80 MPH ZONE (1.3 GUST FACTOR) ALUMINUM WALL THICKNESS .250"

TWO-PIECE HIGH-DENSITY ELASTOMER BASE, 71 LBS PER CUBIC FOOT. HANDHOLE LOCATED BEHIND BASE (ESSEX SERIES), ROUND BOTTOM.

FINISH: BLACK

PART NUMBER: 14EFA-5.0/14S-ESSEX(RD) LEG-TT/3"x3"-BK

NOT TO SCALE

DECORATIVE LIGHTING DETAILS

DWG. NO. 26010-1

CITY of SHERIDAN

NOVEMBER 2015

PULL BOX COVER DETAIL

NON-SKID SURFACE

COVER-LIFTING DEVICE

HEX BOLTS WITH WASHERS

FINISH: BLACK

FLUTED POLE SHAFT, 25" WALL THICKNESS

BOLTS FOR ATTACHMENT OF STUMP TO BASE

4" O.D. STUMP THAT POLE SLIDES OVER

2" x 2" ANGLE IRON (.250") FROM STUMP TO BASEPLATE

OPEN SPACE FOR WIRING

ANCHOR BASEPLATE

7" WIREWAY HOLE IN BASEPLATE

2" x 2" ANGLE IRON (.250") FROM STUMP TO BASEPLATE

4" O.D. PIPE

12" BOLT CIRCLE

ANCHOR PLATE DETAIL

LIGHT POLE DETAIL

NOTES:
1. SEE CONTRACT DOCUMENTS FOR COMPLETE ROADWAY LIGHTING SPECIFICATIONS AND DETAILS, INCLUDING POSSIBLE REVISIONS TO THIS STANDARD DETAIL.

6

SITE LIGHT – CITY OF SHERIDAN STANDARD

N.T.S.

7

EXTERIOR LIGHTING CONTROL DIAGRAM - LCP

N.T.S.

CONSTRUCTION PLANS

MARCH 2023

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Morrison Maierle

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Professional Engineer

JEFFREY L. KRAVITZ

9864

3-1-23

WYOMING

DRAWN BY: TJ

DSGN. BY: TJ

APPR. BY: JK

DATE: 3/1/2023

Q.C. REVIEW BY: RM

DATE: 6/20/22

SHERIDAN COUNTY

BROOKS STREET GREENSPACE

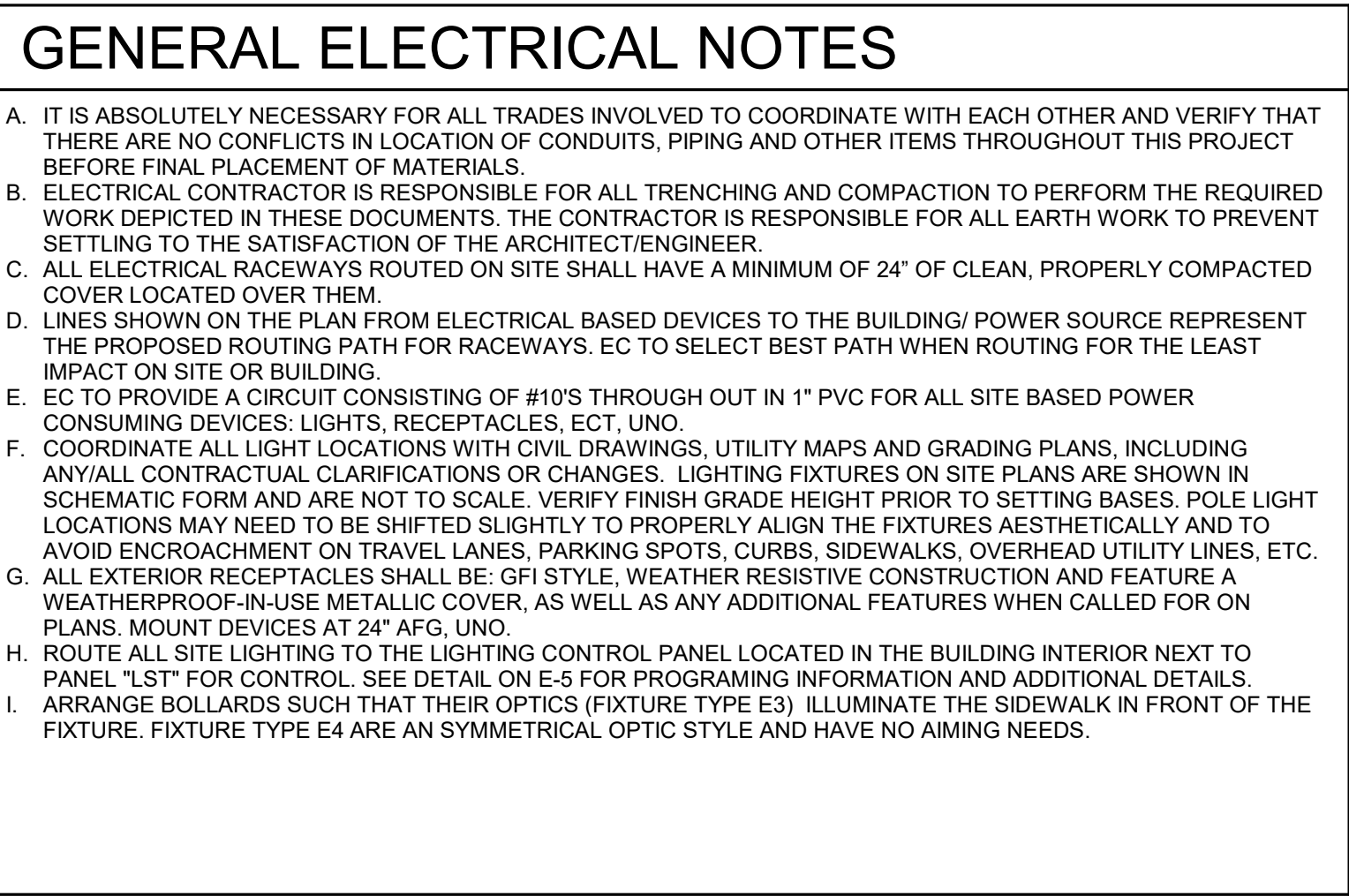
WYOMING

ELECTRICAL DETAILS & ONE-LINE

PROJECT NUMBER 6017.002

SHEET NUMBER 31

DRAWING NUMBER E-5

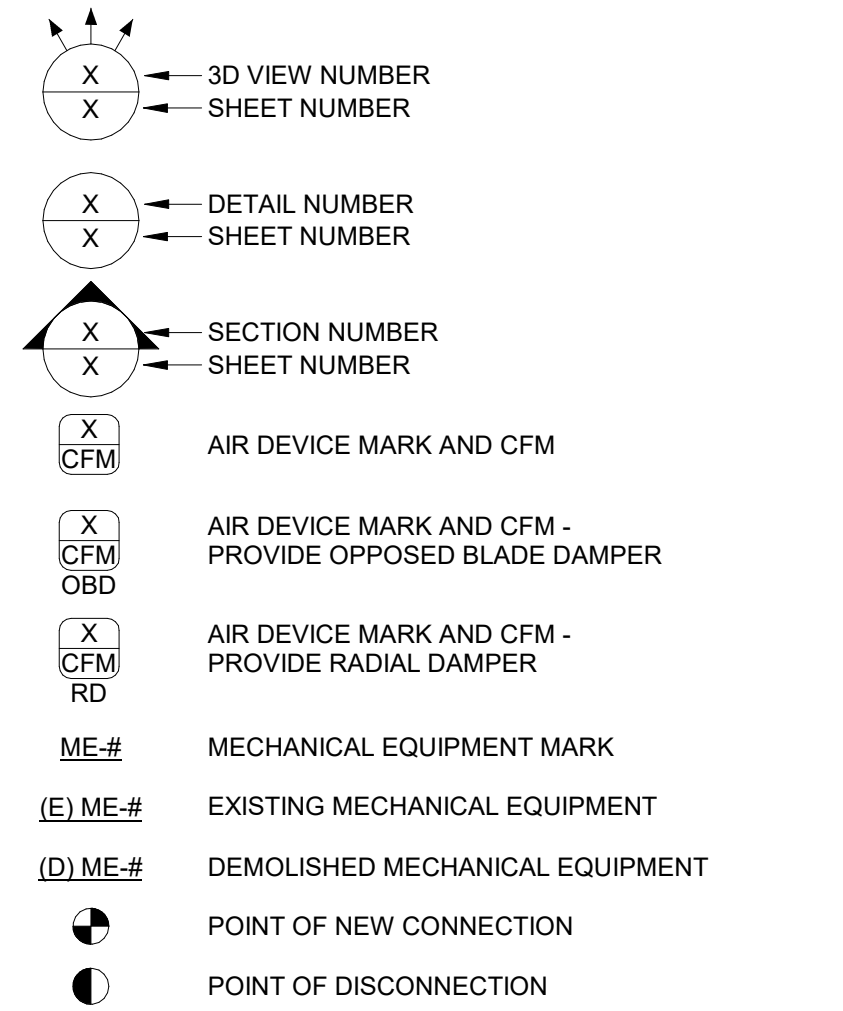


E-6

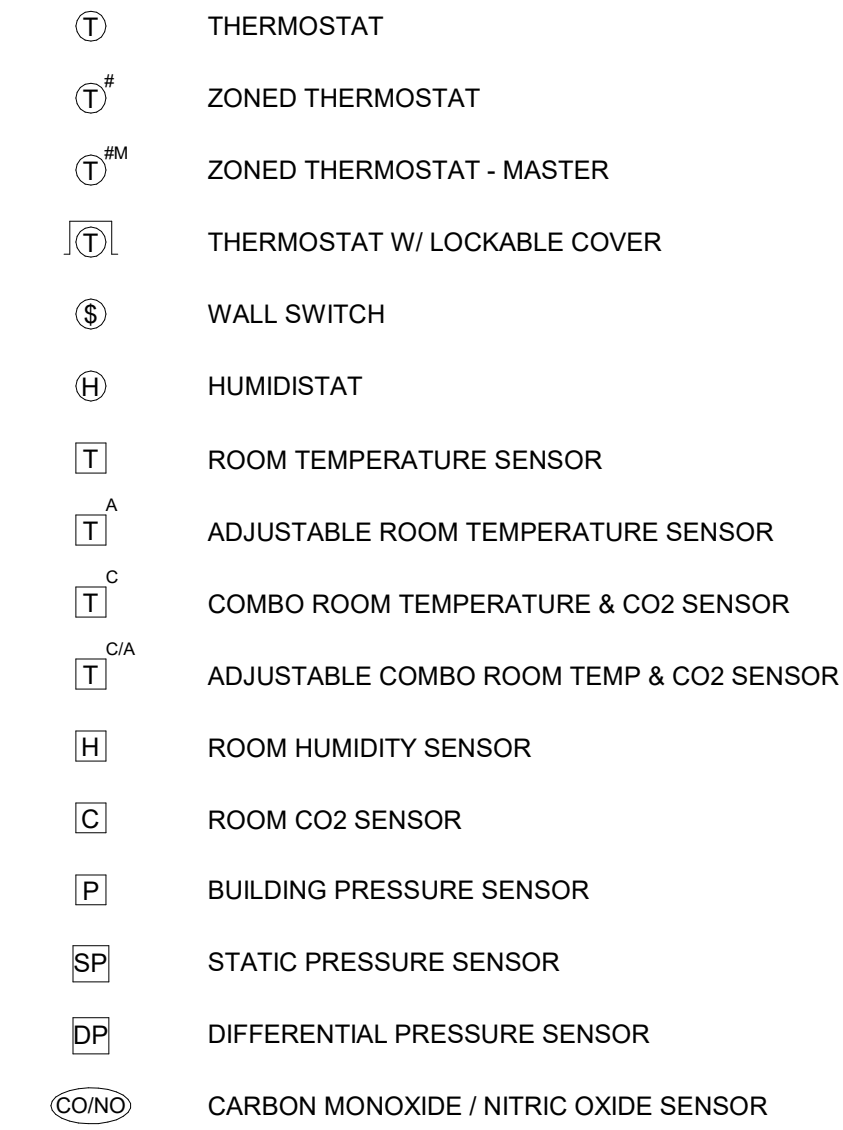
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ABBREVIATIONS			
ACC	AIR COOLED CONDENSER	ID	INSIDE DIAMETER
ACU	AIR CONDITIONING UNIT	IFB	INTEGRAL FACE & BYPASS
AD	ACCESS DOOR	IGV	INLET GUIDE VANES
ADJ	ADJUSTABLE	IPS	IRON PIPE SIZE
AF	AIR FOIL	IU	INDUCTION UNIT
AFB	ABOVE FINISHED FLOOR		
AFG	ABOVE FINISHED GRADE	KW	KILOWATTS
AFR	ABOVE FINISHED ROOF	KWH	KILOWATT HOUR
AFS	AIR FLOW STATION		
AHU	AIR HANDLING UNIT	LAT	LEAVING AIR TEMPERATURE (°F)
AP	ACCESS PANEL	LF	LINEAR FEET
ATC	AUTOMATIC TEMPERATURE CONTROL	LWT	LEAVING WATER TEMPERATURE (°F)
ATM	ATMOSPHERE		
AWG	AMERICAN WIRE GAUGE	M	MOTOR OPERATED
		MAU	MAKEUP AIR UNIT
B	BOILER	MB	MIXING BOX
BB	BASEBOARD	MBH	1000 BTU/HR
BC	BACKWARD CURVED	MC	MECHANICAL CONTRACTOR
BD	BACKDRAFT DAMPER	MFR	MANUFACTURER
BF	BOILER FEED	MS	MINI-SPLIT
BHP	BRAKE HORSEPOWER		
BI	BACKWARD INCLINED	NC	NOISE CRITERIA
BMS	BUILDING MANAGEMENT SYSTEM	NC	NORMALLY CLOSED
BOD	BOTTOM OF DUCT	NIC	NOT IN CONTRACT
BOJ	BOTTOM OF JOIST	NO	NORMALLY OPEN
BOS	BOTTOM OF STEEL	NPS	NOMINAL PIPE SIZE
BTU	BRITISH THERMAL UNIT		
		OA	OUTSIDE AIR
C	COMMON	OAD	OUTSIDE AIR DAMPER
CAV	CONSTANT AIR VOLUME	OBD	OPPOSED BLADE DAMPER
CC	COOLING COIL		
CCW	COUNTER CLOCKWISE	P	PUMP
CFM	CUBIC FEET PER MINUTE	PC	PLUMBING CONTRACTOR
CH	CHILLER	PD	PRESSURE DROP
CHI	CONTROLS & INSTRUMENTATION	PH	PHASE
CLG	CEILING	PHC	PREHEAT COIL
CMU	CONCRETE MASONRY UNIT	PPM	PART PER MILLION
CND	CONDENSATE	PROP	PROPELLER
CONT	CONTINUATION	PRV	PRESSURE REDUCING VALVE
CORR	CORRIDOR	PSIA	PSI, ABSOLUTE
CT	COOLING TOWER	PSIG	PSI, GAUGE
CU	CONDENSING UNIT		
CH	CABINET HEATER	QTY	QUANTITY
CV	CONTROL VALVE		
CVS	CONTROL VALVE STATION	R	REGISTER
CW	CLOCKWISE	RA	RETURN AIR
		RD	RADIAL DAMPER
dB	DECIBEL	RF	RETURN/RELIEF AIR FAN
DB	DRY BULB TEMPERATURE (°F)	RH	RELATIVE HUMIDITY
DDC	DIRECT DIGITAL CONTROL	RHC	REHEAT COIL
DH	DUCT HEATER		
DP	DEW POINT TEMPERATURE (°F)	SA	SUPPLY AIR
DX	DIRECT EXPANSION	SAF	SUPPLY AIR FAN
		SC	SENSIBLE COOLER
E	EXHAUST	SCFM	CFM, STANDARD CONDITIONS
EA	EXHAUST AIR	SD	SMOKE DETECTOR
EAT	ENTERING AIR TEMPERATURE (°F)	SEER	SEASONAL ENERGY EFFICIENCY RATIO
EC	ELECTRICAL CONTRACTOR	SENS	SENSIBLE
EDR	EQUIVALENT DIRECT RADIATION	SP	STATIC PRESSURE
EER	ENERGY EFFICIENCY RATIO	SPS	STATIC PRESSURE SENSOR
EF	EXHAUST FAN	SS	STAINLESS STEEL
EFF	EFFICIENCY		
ELEV	ELEVATION	T	THERMOSTAT
ERV	ENERGY RECOVERY VENTILATOR	TA	TRANSFER AIR
ESP	EXTERNAL STATIC PRESSURE	TCC	TEMPERATURE CONTROL CONTRACTOR
ET	EXPANSION TANK	TCP	TEMPERATURE CONTROL PANEL
EWT	ENTERING WATER TEMPERATURE (°F)	TG	TRANSFER GRILL
		TOD	TOP OF DUCT
F&T	FLOAT & THERMOSTATIC	TOP	TOP OF PIPE
FA	FACE AREA	TOS	TOP OF STEEL
FC	FORWARD CURVED	TSP	TOTAL STATIC PRESSURE
FC	FAN COIL	TYP	TYPICAL
FP	FIRE PROTECTION		
FPM	FEET PER MINUTE	UH	UNIT HEATER
FT	FEET	UNC	UNDERCUT
		UV	UNIT VENTILATOR
GA	GAUGE OR GAGE	VA	VOLT-AMPERE
GC	GENERAL CONTRACTOR	VAV	VARIABLE AIR VOLUME
GEN	GENERATOR	VD	VOLUME DAMPER
GH	GRAVITY HOOD	VEL	VELOCITY
GPD	GALLONS PER DAY	VFD	VARIABLE FREQUENCY DRIVE
GPH	GALLONS PER HOUR	VRF	VARIABLE REFRIGERANT FLOW
GPM	GALLONS PER MINUTE		
		WB	WET BULB TEMPERATURE (°F)
H	HUMIDIFIER	WC	WATER COLUMN
HC	HEATING COIL	WG	WATER GAUGE
HG	MERCURY	WSHP	WATER SOURCE HEAT PUMP
HOA	HAND-OFF-AUTOMATIC		
HP	HORSEPOWER	ΔT	TEMPERATURE DIFFERENCE (°F)
HR	HOUR		
HX	HEAT EXCHANGER		

ANNOTATION SYMBOLS



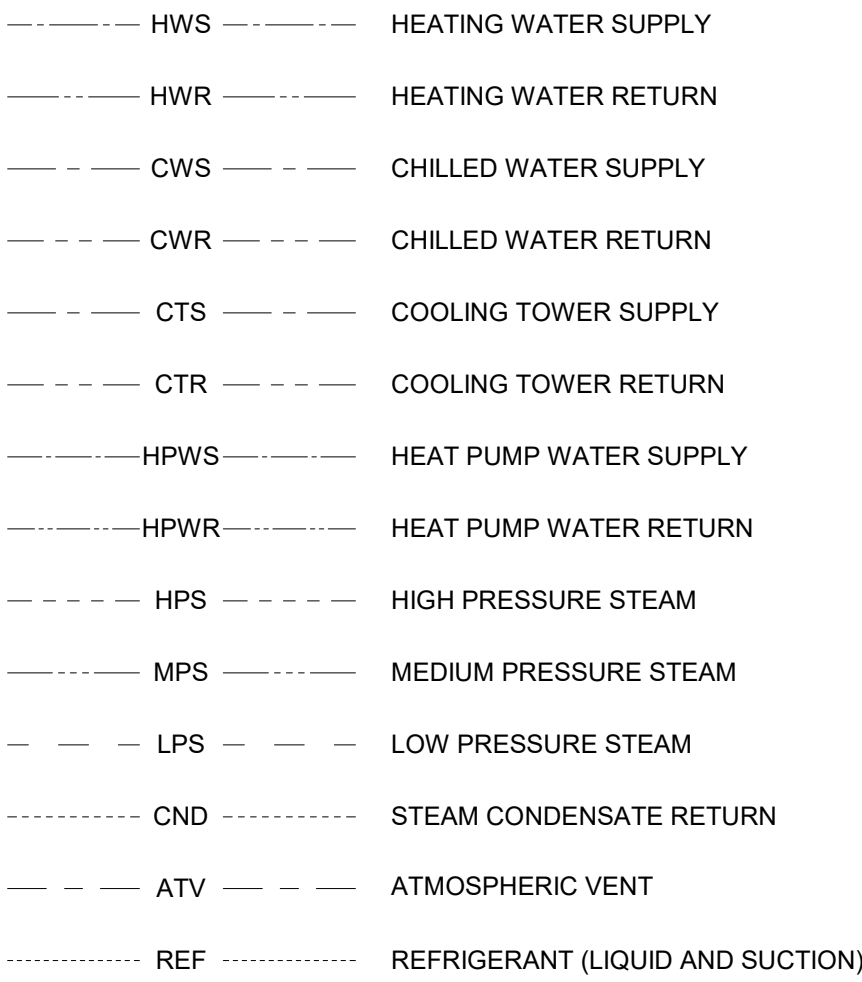
HVAC CONTROL SYMBOLS



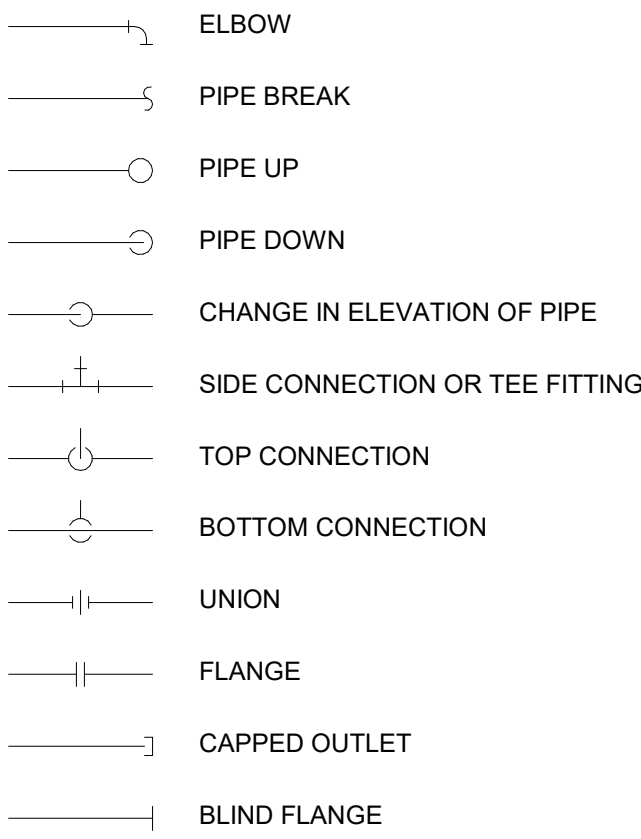
NOTE: THIS IS A STANDARD LEGEND. NOT ALL PIPE TYPES AND SYMBOLS ARE NECESSARILY UTILIZED IN THE DRAWINGS.

MECHANICAL LEGEND

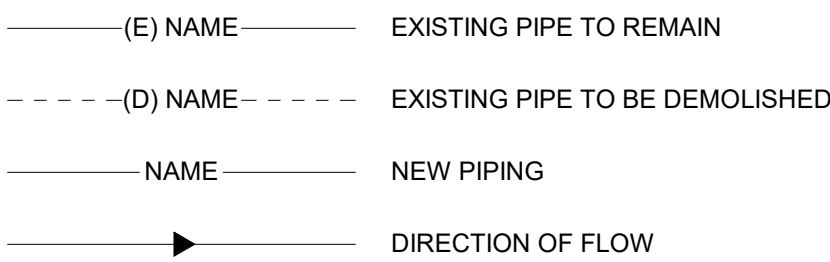
HVAC PIPING



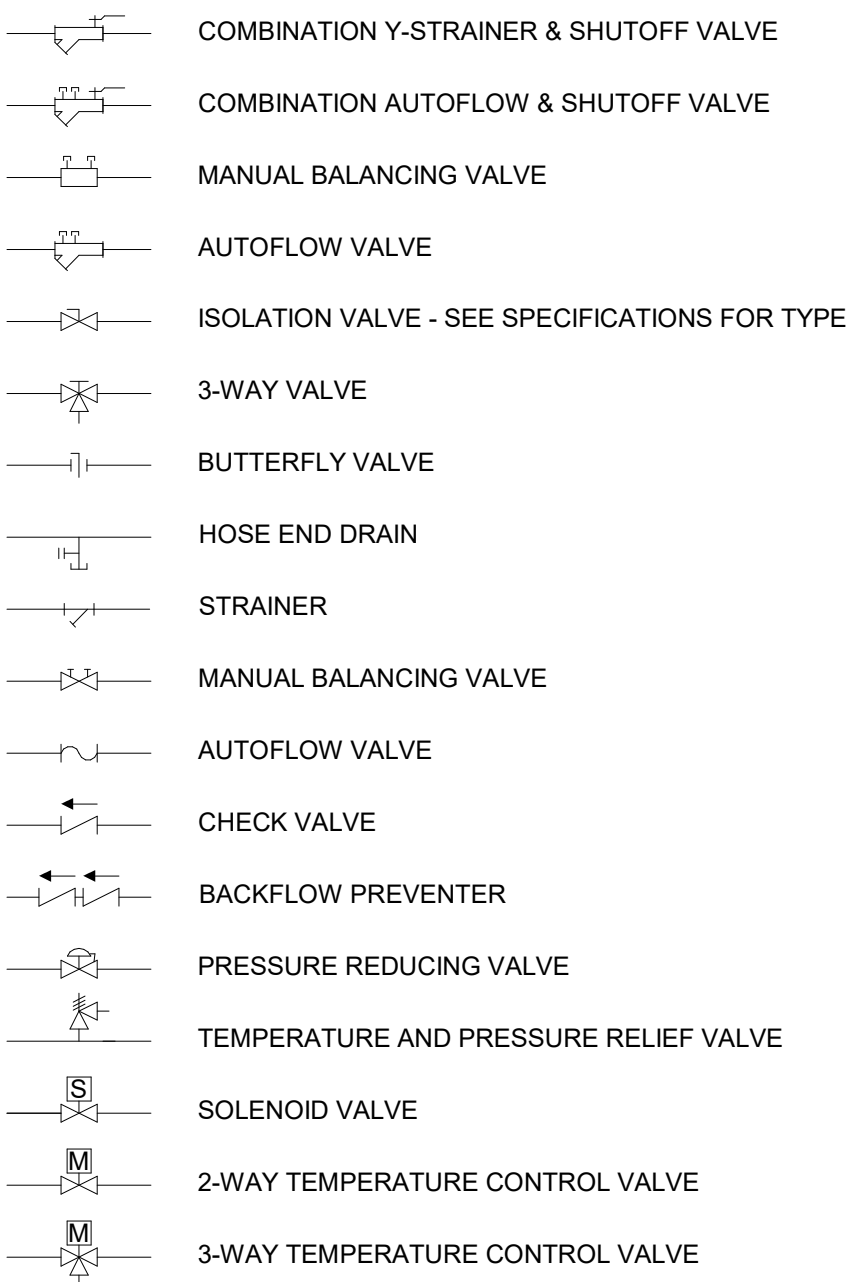
PIPE FITTINGS



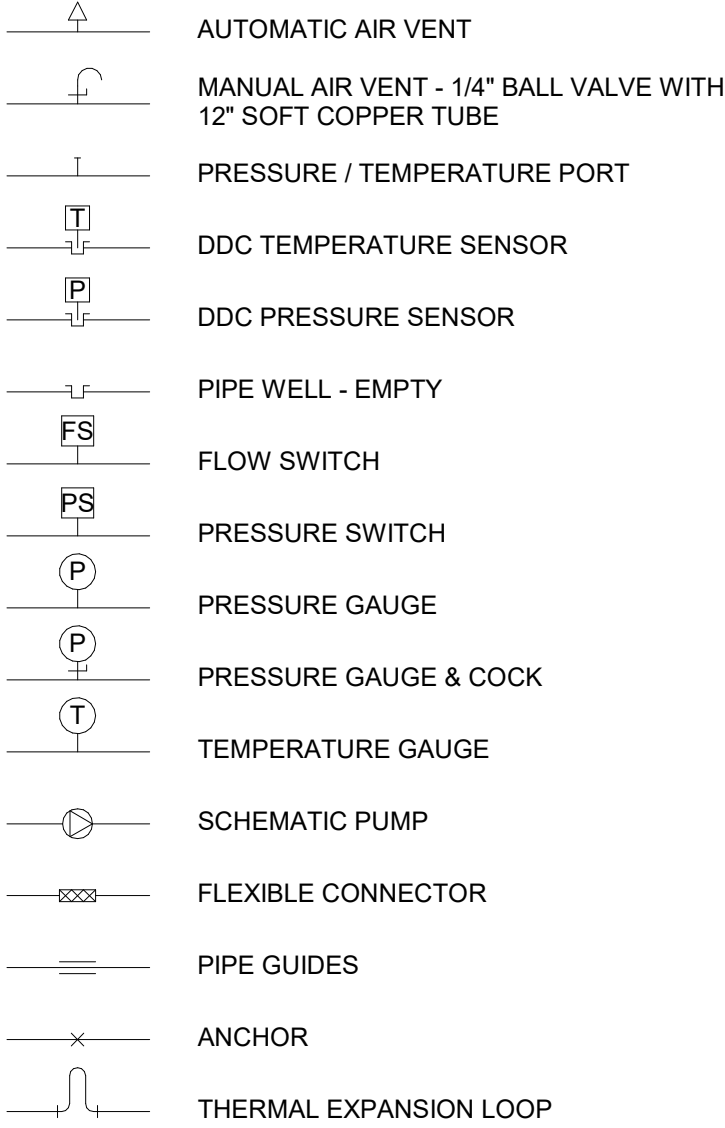
GENERAL



VALVES



PIPING SPECIALTIES



MECH. GENERAL NOTES

INSTALLATION:
 A. NEW PIPING, DUCTWORK AND EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE CURRENTLY ADOPTED INTERNATIONAL MECHANICAL AND INTERNATIONAL BUILDING CODES.
 B. EQUIPMENT SHALL BE INSTALLED LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS INDICATED ON PLAN. OBSERVE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS SERVE THEIR INTENDED FUNCTION.
 C. INSTALL EQUIPMENT, DUCTWORK, AND PIPING SO AS TO MAINTAIN CODE REQUIRED CLEARANCES FOR ELECTRICAL AND TELECOMMUNICATION EQUIPMENT.
 D. ELEMENTS PENETRATING BUILDING COMPONENTS (ROOF ASSEMBLIES, WALL ASSEMBLIES, ETC.) SHALL BE SEALED WEATHER AND WATER TIGHT. COORDINATE PENETRATIONS WITH GENERAL CONTRACTOR TO PATCH TO THE SATISFACTION OF THE ARCHITECT OR ENGINEER.

COORDINATION:
 A. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FIELD COORDINATE THE LOCATION OF EQUIPMENT, ROUTING OF DUCTWORK, AND ROUTING OF PIPING WITH OTHER TRADES.
 B. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO REVIEW THE DRAWINGS OF OTHER DISCIPLINES AND PROVIDE THE NECESSARY LABOR AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.

ELECTRICAL COORDINATION:
 A. SEE THE MEP COORDINATION SCHEDULE FOR ELECTRICAL INFORMATION. COORDINATE WITH OTHER TRADES TO ENSURE THAT ELECTRICAL DISCONNECTS, MOTOR STARTERS, VARIABLE FREQUENCY DRIVES, CONTROLS, AND ELECTRICAL ACCESSORIES ARE FURNISHED AND/OR INSTALLED BY THE APPROPRIATE TRADE.

FREEZE PROTECTION:
 A. THE MECHANICAL CONTRACTOR SHALL FILL THE HYDRONIC SYSTEMS WITH THE FOLLOWING SOLUTION:
 a. HEATING HOT WATER SYSTEM: 50% PROPYLENE GLYCOL & 50% DISTILLED WATER - GLYCOL SHALL INCLUDE CORROSION INHIBITORS.
 B. HEATING HOT WATER SYSTEMS WITH BOILERS THAT HAVE ALUMINUM HEAT EXCHANGERS SHALL USE HERCULES CRYO-TEK 100 / AL PROPYLENE GLYCOL OR APPROVED EQUAL PRODUCT.
 C. SEE SPECIFICATION SECTION 232113 FOR ADDITIONAL CHEMICAL TREATMENT REQUIREMENTS.

SITE ELEVATION:
 A. EQUIPMENT SHALL BE SELECTED FOR THE PROJECT ELEVATION OF 3,750'.

HVAC SHEET INDEX

NUMBER	SHEET NAME
M-1	MECHANICAL COVER SHEET
M-2	MECHANICAL SPECIFICATIONS
M-3	MECHANICAL SCHEDULES & DETAILS
M-4	MECHANICAL DETAILS
M-5	MECHANICAL SNOWMELT PLAN

CONSTRUCTION PLANS

MARCH 2023

VERIFY SCALE!		REVISIONS				SHERIDAN		SHERIDAN COUNTY BROOKS STREET GREENSPACE		WYOMING		PROJECT NUMBER 6017.002
NO.	DESCRIPTION	DATE	BY									SHEET NUMBER 33
												DRAWING NUMBER M-1

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Professional Engineer
 RYAN T. THOMSON
 16362
 3-1-23
 WYOMING

DRAWN BY: DT
 DSGN. BY: DT
 APPR. BY: RT
 DATE: 3/1/2023
 Q.C. REVIEW BY: MC
 DATE: 6/20/22

SHERIDAN COUNTY
 BROOKS STREET GREENSPACE

MECHANICAL COVER SHEET

MECHANICAL SPECIFICATIONS

GENERAL

- 1. THE MECHANICAL CONTRACTOR SHALL INCLUDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS AND METHODS LISTED, MENTIONED, OR SCHEDULED IN THESE SPECIFICATIONS AND THE ACCOMPANYING DRAWINGS. ALL MATERIAL, EQUIPMENT, AND LABOR SHALL BE FURNISHED TOGETHER WITH ALL INCIDENTAL ITEMS REQUIRED BY GOOD PRACTICE TO PROVIDE THE COMPLETE SYSTEMS DESCRIBED.
- 2. EXAMINE AND REFER TO ALL ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, UTILITY, LANDSCAPE AND MECHANICAL DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION CONDITIONS WHICH MAY AFFECT THE MECHANICAL WORK. INSPECT THE BUILDING SITE AND EXISTING FACILITIES FOR VERIFICATION OF PRESENT CONDITIONS. MAKE PROPER PROVISIONS FOR THESE CONDITIONS IN PERFORMANCE OF THE WORK AND COST THEREOF.
- 3. ALL WORK ON THE PROJECT SHALL CONFORM TO ALL ADOPTED CITY, STATE, AND NATIONAL CODES & REGULATIONS. SUCH CODES & REGULATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE IBC, IMC, IECC, UPC, NFPA, NEC, SERVICING UTILITY COMPANIES AND THE AUTHORITY HAVING JURISDICTION.
- 4. THE MECHANICAL AND ELECTRICAL CONTRACTORS SHALL BE RESPONSIBLE FOR AND PAY FOR ALL FEES AND PERMITS REQUIRED FOR WORK UNDER THEIR CONTRACT AND UNDER THEIR SUPERVISION BY SUBCONTRACT.
- 5. ALL USAGE CONTRACTS BETWEEN THE OWNER AND THE SERVING UTILITIES COMPANY, SUCH AS MEMBERSHIP AND USAGE CHARGES OR FEES, ETC., FOR THE PURPOSE OF OBTAINING THE SERVICES FOR THE UTILITY COMPANY SHALL BE APPLIED FOR AND PAID FOR BY THE OWNER.

RESPONSIBILITY

- 1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF A SATISFACTORY AND COMPLETE SYSTEM IN ACCORDANCE WITH THE INTENT OF THE DRAWING AND SPECIFICATIONS. PROVIDE, AT NO EXTRA COST, ALL INCIDENTAL ITEMS, MATERIALS, ACCESSORIES AND LABOR REQUIRED FOR COMPLETION OF THE WORK EVEN THOUGH THEY ARE NOT SPECIFICALLY MENTIONED OR INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- 2. THE DRAWINGS DO NOT ATTEMPT TO SHOW COMPLETE DETAILS OF THE BUILDING CONSTRUCTION WHICH AFFECT THE MECHANICAL INSTALLATION; AND REFERENCE IS THEREFORE REQUIRED TO THE ARCHITECTURAL, CIVIL, STRUCTURAL, LANDSCAPE AND ELECTRICAL DRAWINGS AND SPECIFICATIONS AND TO SHOP DRAWINGS OF ALL TRADES FOR ADDITIONAL DETAILS WHICH AFFECT THE INSTALLATION OF THE WORK COVERED UNDER THIS DIVISION OF THE CONTRACT.
- 3. LOCATION OF MECHANICAL SYSTEM COMPONENTS SHALL BE CHECKED FOR CONFLICTS WITH OPENINGS, STRUCTURAL MEMBERS AND COMPONENTS OF OTHER SYSTEMS HAVING FIXED LOCATIONS. IN THE EVENT OF ANY CONFLICTS, THE ARCHITECT/ENGINEER SHALL BE CONSULTED AND THEIR DECISION SHALL GOVERN. NECESSARY CHANGES SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- 4. DO NOT INSTALL EQUIPMENT UNTIL COMPLETE SHOP DRAWINGS OF SUCH EQUIPMENT HAVE BEEN APPROVED BY THE ARCHITECT/ENGINEER. ANY WORK INSTALLED BY THE CONTRACTOR, PRIOR TO APPROVAL OF SHOP DRAWINGS, WILL BE AT THE CONTRACTOR'S RISK.
- 5. ALL MODIFICATIONS AND CHANGES REQUIRED DUE TO INSTALLATION OF EQUIPMENT OTHER THAN THE EQUIPMENT SCHEDULED AND SPECIFIED SHALL BE MADE AT THE CONTRACTOR'S EXPENSE. THIS INCLUDES WORK BY OTHER TRADES. IF THE INSTALLATION OF EQUIPMENT OTHER THAN THE SCHEDULED AND SPECIFIED EQUIPMENT REQUIRES MODIFICATIONS TO STRUCTURE, ELECTRICAL SYSTEMS, PLUMBING SYSTEMS, FIRE PROTECTION OR FIRE ALARM SYSTEMS, ANY AND ALL CHANGES SHALL BE MADE AT THE MECHANICAL CONTRACTORS EXPENSE.
- 6. ALL WORK TO BE PERFORMED SHALL FIRST BE SCHEDULED AND SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR ACCEPTANCE.
- 7. THE CONTRACTOR SHALL BE CAREFUL NOT TO BLOCK ANY PATHS OF EGRESS WHILE PERFORMING THE WORK SPECIFIED.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ALL MATERIALS RESULTING FROM HIS/HER WORK. CLEANUP SHALL BE PERFORMED TO THE LEVEL OF ACCEPTANCE OF THE OWNER'S REPRESENTATIVE & THE ENGINEER.
- 9. THE CONTRACTOR SHALL GUARANTEE THAT ALL WORK EXECUTED UNDER THEIR CONTRACT SHALL BE FREE OF DEFECTS OF MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

INTENT OF DRAWINGS

- 1. THE DRAWINGS ARE PARTLY DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EXACT LOCATION OF PIPING AND DUCTWORK UNLESS SPECIFICALLY DIMENSIONED. RISER AND OTHER DIAGRAMS ARE SCHEMATIC AND DO NOT NECESSARILY SHOW THE PHYSICAL ARRANGEMENT OF THE EQUIPMENT. THEY SHALL NOT BE USED FOR OBTAINING LINEAL RUNS OF PIPING OR DUCTWORK, NOR SHALL THEY BE USED FOR SHOP DRAWINGS FOR PIPING AND DUCTWORK FABRICATION OR ORDERING. DISCREPANCIES SHOWN ON DIFFERENT PLANS, OR BETWEEN PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION.

MATERIALS AND EQUIPMENT

- 1. MANUFACTURER'S TRADE NAMES AND CATALOG NUMBERS ARE LISTED TO INDICATE THE QUALITY OF EQUIPMENT OR MATERIALS DESIRED FOR INSTALLATION. ALTERNATIVE EQUIPMENT OR MATERIALS MAY BE SUBMITTED FOR PRIOR APPROVAL BEFORE BIDDING THE PROJECT. NO SUBSTITUTIONS WILL BE ALLOWED AFTER BIDDING.
- 2. WRITTEN PRIOR APPROVAL FOR SUBSTITUTIONS MUST BE SUBMITTED TO AND RECEIVED BY THE ARCHITECT/ENGINEER SEVEN (7) DAYS PRIOR TO BID OPENING. REQUESTS FOR SUBSTITUTION ARE TO BE SUBMITTED SUFFICIENTLY AHEAD OF THE DEADLINE TO GIVE AMPLE TIME FOR EXAMINATION. PRIOR APPROVAL REQUEST FOR SUBSTITUTION MUST INDICATE THE SPECIFIC ITEM OR ITEMS TO BE FURNISHED IN LIEU OF THOSE SCHEDULED, TOGETHER WITH COMPLETE TECHNICAL AND COMPARATIVE DATA ON SCHEDULED ITEMS AND ITEMS PROPOSED FOR SUBSTITUTION.
- 3. HIGH ALTITUDE OPERATION: CAPACITY OF ALL EQUIPMENT IS TO BE SIZED AND MANUFACTURED TO PERFORM AT THE ELEVATION OF THE PROJECT SITE. IF NOT SPECIFICALLY INDICATED IN THE EQUIPMENT SCHEDULE OR IN THE SPECIFICATIONS PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR PROPER OPERATION AT ELEVATION OF THE PROJECT SITE.
- 4. STORE MATERIALS AND EQUIPMENT INDOORS AT THE JOB SITE OR, IF THIS IS NOT POSSIBLE, STORE ON RAISED PLATFORMS AND PROTECT FROM THE WEATHER BY MEANS OF WATERPROOF COVERS. COVERINGS SHALL PERMIT CIRCULATION OF AIR AROUND THE MATERIALS TO PREVENT CONDENSATION OF MOISTURE. SCREEN OR CAP OPENINGS IN EQUIPMENT TO PREVENT THE ENTRY OF VERMIN.
- 5. ALL NEW PIPING SHALL BE IDENTIFIED WITH SETON SET MARK PIPE MARKERS, LETTERED TO MATCH EXISTING - IF APPLICABLE - AND MARKED AT A MAXIMUM OF EVERY 25 FT. ALL NEW VALVES SHALL BE IDENTIFIED WITH BRASS OR ALUMINUM VALVE TAGS.

MATERIALS AND EQUIPMENT (CONT.)

- 6. SEE MECHANICAL PIPING SCHEDULE ON THE DRAWINGS FOR MATERIAL AND INSULATION REQUIREMENTS.
- 7. VERIFY THE LOCATION OF SENSORS WITH THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
- 8. PROVIDE AND INSTALL SEISMIC BRACING FOR ALL EQUIPMENT AND PIPING PER THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE.
- 9. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE-CAULKING ALL FIRE-RATED AND SMOKE-RATED WALL PENETRATIONS OF PIPING, DUCTWORK, ETC.
- 10. PROVIDE ACCESS DOORS TO ALLOW SERVICE AND INSPECTION OF EQUIPMENT, VALVES, DAMPERS AND DEVICES INSTALLED ABOVE NON-REMOVABLE CEILINGS.

SHOP DRAWINGS AND SUBMITTALS

- 1. WITHIN 30 DAYS OF AWARDING OF THE CONTRACT, THE MECHANICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR SUBMITTALS FOR ALL SCHEDULED EQUIPMENT AND MATERIALS INCLUDED IN THE CONSTRUCTION DOCUMENTS.
- 2. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE IN THE FORM OF ELECTRONICALLY TRANSMITTED PDFS. SHOP DRAWINGS AND SUBMITTALS SHALL INCLUDE SHOP DRAWINGS AND LITERATURE SHOWING ITEMS TO BE USED, SIZE, DIMENSIONS, CAPACITY, ROUGH-IN, AND ANY OTHER INFORMATION NECESSARY FOR A COMPLETE REVIEW. MANUFACTURER'S LITERATURE SHOWING MORE THAN ONE ITEM SHALL BE CLEARLY MARKED AS TO WHICH ITEM IS BEING FURNISHED OR IT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
- 3. EACH SUBMITTED ITEM MUST BE CLEARLY MARKED WITH THE PROJECT NAME, DATE, BRANCH OF WORK, SUBMITTING PARTY, REVISION NUMBER, AND ASSOCIATED SCHEDULE. SUBMITTALS NOT IDENTIFIED AS DESCRIBED ABOVE WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
- 4. PRIOR TO THEIR SUBMISSION, EACH SUBMITTAL SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR COMPLIANCE WITH THE CONTRACT DOCUMENT REQUIREMENTS. EACH SUBMITTAL SHALL THEN BEAR A STAMP EVIDENCING SUCH CHECKING AND SHALL SHOW CORRECTIONS MADE. IF ANY, SUBMITTALS REQUIRING EXTENSIVE CORRECTIONS SHALL BE REVISED BEFORE SUBMISSION TO THE ENGINEER. EACH SUBMITTAL NOT STAMPED AND SIGNED BY THE CONTRACTOR EVIDENCING SUCH CHECKING WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
- 5. REVIEW OF THE SHOP DRAWINGS AND LITERATURE BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FOR RESPONSIBILITY FOR DEVIATIONS FOR THE DRAWINGS OR SPECIFICATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN THE SHOP DRAWINGS OR LITERATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE MATERIALS AND EQUIPMENT WHICH MEET THE SPECIFICATIONS AND JOB REQUIREMENTS.

REVIEW & SITE INSPECTIONS

- 1. ALL WORK AND MATERIAL IS SUBJECT TO REVIEW AT ANY TIME BY THE ARCHITECT/ENGINEER OR THEIR REPRESENTATIVE. IF THE ARCHITECT/ENGINEER OR THEIR REPRESENTATIVE FINDS MATERIAL THAT DOES NOT CONFORM TO THESE SPECIFICATIONS OR THAT IS NOT PROPERLY INSTALLED OR FINISHED, CORRECT THE DEFICIENCIES IN A MANNER SATISFACTORY TO THE ARCHITECT/ENGINEER AT THE CONTRACTOR'S EXPENSE.

STARTUP, TESTING AND OWNER TRAINING

- 1. ENGAGE A FACTORY AUTHORIZED REPRESENTATIVE TO CONDUCT AN INSPECTION OF THE INSTALLATION OF THEIR COMPANIES EQUIPMENT PRIOR TO START-UP OF ANY EQUIPMENT. THE REPRESENTATIVE SHALL SUBMIT A REPORT IDENTIFYING ANY DEFICIENCIES TO THE ARCHITECT, ENGINEER AND CONSTRUCTION MANAGER. ANY DEFICIENCIES IDENTIFIED SHALL BE ADDRESSED PRIOR TO START-UP. START-UP SHALL BE CONDUCTED BY A FACTORY AUTHORIZED REPRESENTATIVE. STARTUP REPORTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER ONCE COMPLETED.
- 2. NEW AIR AND WATER SYSTEMS SHALL BE BALANCED IN THEIR ENTIRETY TO THE SATISFACTION OF THE ENGINEER IN ACCORDANCE WITH NEBB STANDARDS. APPROVED TEST AND BALANCE CONTRACTORS ARE: AIR COMMANDER, TEST COMM, RGO INC., AND PRECISION
- 3. THE MECHANICAL CONTRACTOR SHALL PROVIDE 4 HRS OF TRAINING TO THE OWNER TO ENSURE THE OWNER KNOWS HOW TO OPERATE THE SYSTEMS INSTALLED UNDER THE MECHANICAL CONTRACT, PROVIDE AN ADDITIONAL 4 HRS OF ADDITIONAL SERVICE THROUGH THE FIRST YEAR OF OPERATION TO ADDRESS QUESTIONS THAT MAY ARISE.

FINAL COMPLETION

- 1. THE MECHANICAL CONTRACTOR SHALL MAINTAIN AT THE PROJECT SITE, A "RECORD SET OF DRAWINGS" SHOWING FIELD CHANGES, AS-BUILT ELEVATIONS, UNUSUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION, AND SUCH OTHER DATA AS REQUIRED TO PROVIDE THE OWNER WITH AN ACCURATE "AS CONSTRUCTED" SET OF RECORD DRAWINGS. THE CONTRACTOR SHALL FURNISH THIS "RECORD SET" TO THE ENGINEER FOLLOWING THE FINAL INSPECTION OF THE PROJECT.
- 2. THE MECHANICAL CONTRACTOR SHALL PROVIDE AN "OPERATION AND MAINTENANCE MANUAL" (O&M MANUAL) PRIOR TO THE COMMENCEMENT OF OWNER TRAINING. THE O&M MANUAL SHALL BE PROVIDED IN DIGITAL OR THREE PAPER COPIES (BOUND & LABELED) FORMAT AS REQUESTED BY THE ENGINEER OR OWNER. THE O&M MANUAL SHALL CONSIST OF A TITLE PAGE, TABLE OF CONTENTS, AND MANUAL CONTENTS. THE MANUAL CONTENTS SHALL CONSIST OF PRODUCT DATA INFORMATION, PRODUCT SERVICE/MAINTENANCE MANUAL, AND EXECUTED WARRANTY FOR EACH AND ALL EQUIPMENT AND PRODUCTS INSTALLED UNDER THE SCOPE OF THIS PROJECT.
- 3. THE CONTRACTOR SHALL GUARANTEE THAT MATERIALS AND LABOR INSTALLED ARE NEW AND OF FIRST QUALITY.

MECHANICAL PIPE SCHEDULE

NOTE:

- 1. INSULATION THICKNESS IS BASED ON A CONDUCTIVITY NOT EXCEEDING 0.27 BTU • INCH / (HR • FT² • °F)
- 2. PROVIDE SEISMIC BRACING OF PIPING 2-1/2" AND LARGER OR AS REQUIRED BY LOCAL CODES.
- 3. ALL PIPE INSULATION MUST HAVE A FLAME SPREAD LESS THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL723.
- 4. EXPOSED PLASTIC PIPING IS NOT ALLOWED IN AIR PLENUMS. IF PLASTIC PIPE IS USED, IT MUST BE WRAPPED IN PLENUM RATED PIPE INSULATION.
- 5. HYDRONIC WATER PIPING SHALL BE ONE OF THE MATERIALS SPECIFIED AT THE CONTRACTORS OPTION.
- 6. ANY CONNECTIONS THAT ARE DISSIMILAR METALS SHALL REQUIRE A DIELECTRIC NIPPLE. DIELECTRIC UNIONS ARE NOT ALLOWED.
- 7. PROVIDE FIBERGLASS ALL-SERVICE JACKET (ASJ).
- 8. ASJ TO BE SEALED AT ALL SEAMS AND EDGES.
- 9. PROVIDE PVC COATED JACKET ON ALL EXPOSED PIPING.
- 10. PROVIDE ALUMINUM JACKET WITH UV PROTECTIVE COATING ON ALL OUTDOOR PIPING INSTALLATIONS (POLYGUARD OR APPROVED EQUAL).
- 11. ALL EXTERIOR WATER PIPING AND PIPING IN UNCONDITIONED SPACES TO BE ENCASED IN 3" OF INSULATION.

SYSTEM	ABBREV	PIPE MATERIAL	INSULATION
COMBUSTION AIR	CA	SCHEDULE 40 PVC	NONE
FLUE/VENT	V	SCHEDULE 40 PVC	1-1/2"
HOT WATER SUPPLY & RETURN < 1-1/2"ø	HWS / HWR	'L' COPPER / STEEL / AQUATHERM	1-1/2"
HOT WATER SUPPLY & RETURN ≥ 1-1/2"ø	HWS / HWR	'L' COPPER / STEEL / AQUATHERM	2"
NATURAL GAS - ABOVE GRADE	NG	THREADED BLACK IRON	NONE
OUTDOOR BELOW GROUND HOT WATER SUPPLY & RETURN	HWS / HWR	REHAU TWO-PIPE INSULPEX PEX-a	PRE-INSULATED
IRRIGATION - INTERIOR	IRR	'L' COPPER	NONE
IRRIGATION - EXTERIOR	IRR	HDPE	NONE

CONSTRUCTION PLANS

MARCH 2023

BNW 360/10017.002 SHR CNTY - Brooks St Greenspace/Brooks St Greenspace MEP - R21.rvt

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Professional Engineer

RYAN T. THOMSON

16362

Date: 3-1-23

WYOMING

DRAWN BY: DT

DSGN. BY: DT

APPR. BY: RT

DATE: 3/1/2023

Q.C. REVIEW

BY: MC

DATE: 6/20/22

SHERIDAN COUNTY

BROOKS STREET GREENSPACE

WYOMING

MECHANICAL SPECIFICATIONS

PROJECT NUMBER

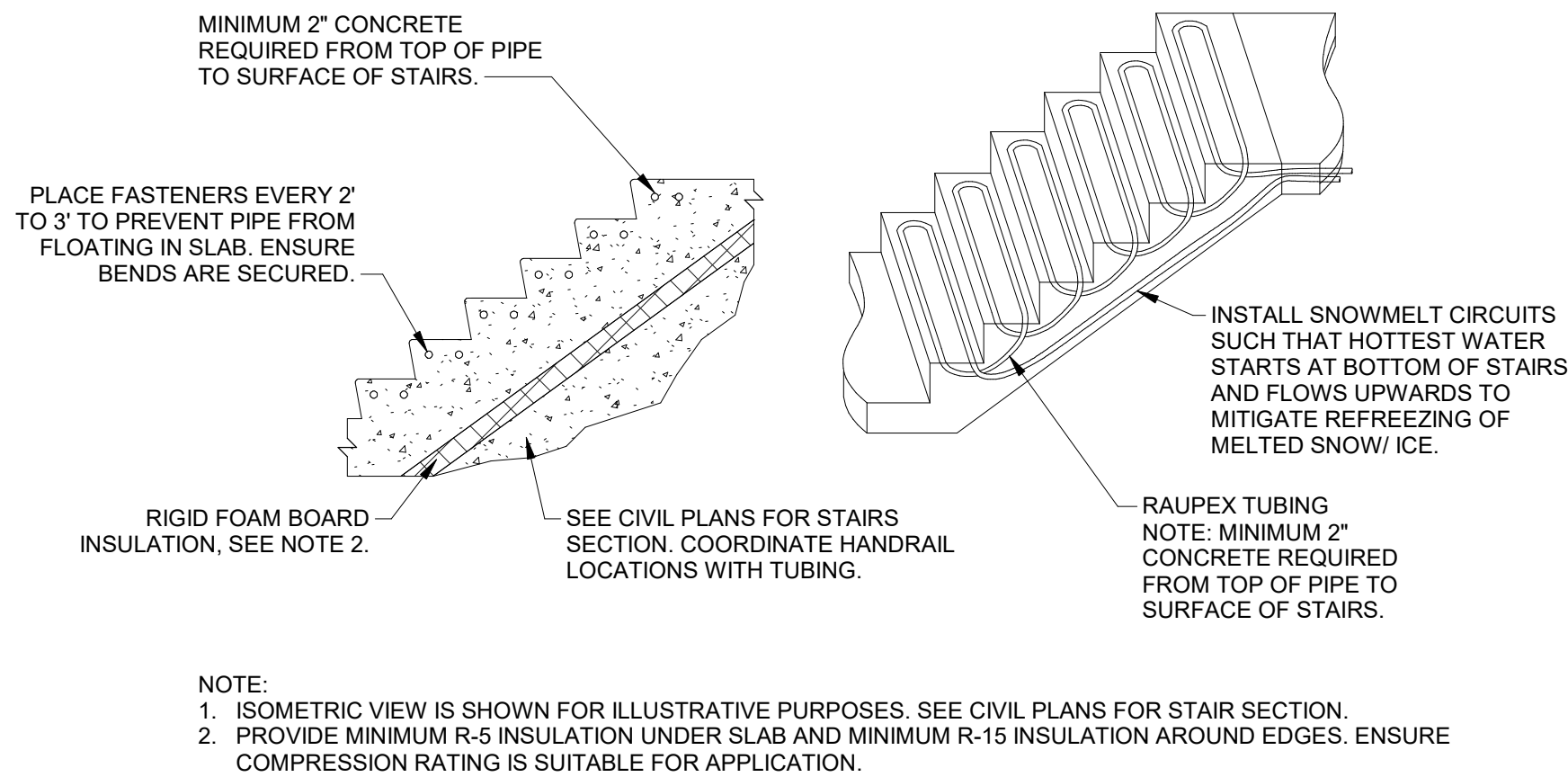
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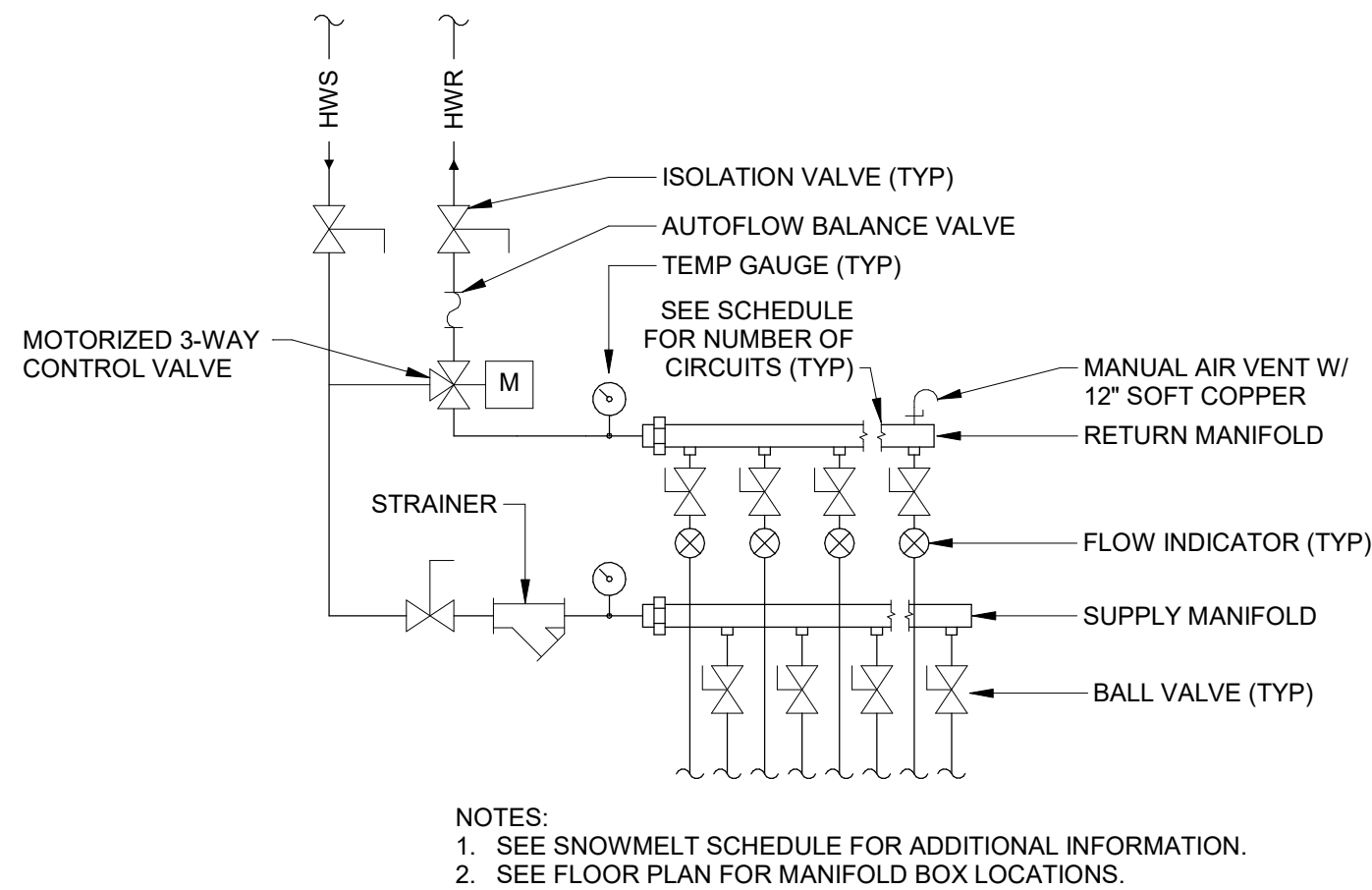
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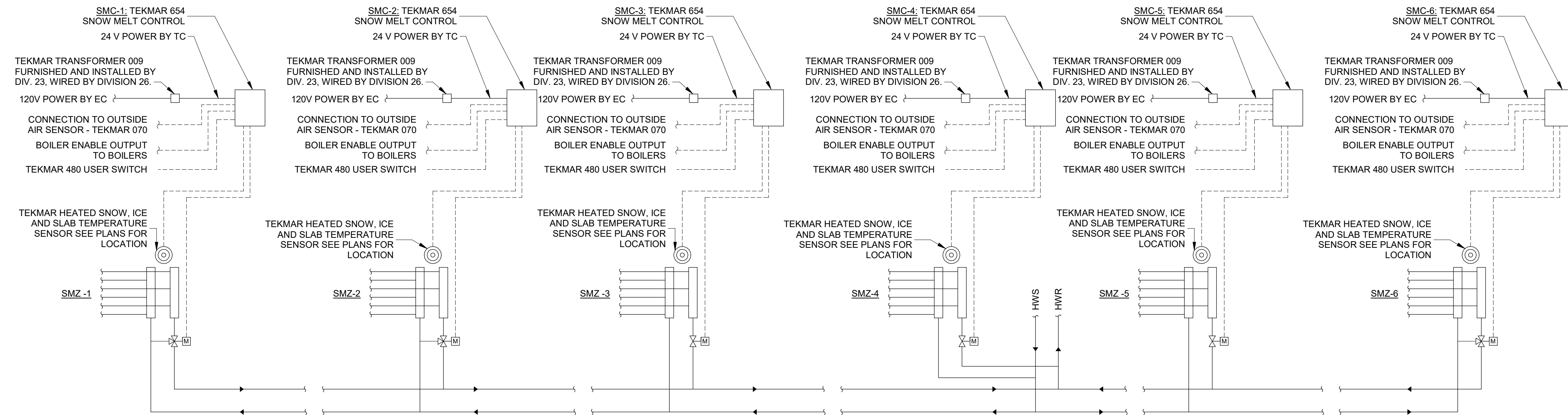
M-2



7 SNOWMELT TUBING - STAIRWAY DETAIL
N.T.S.

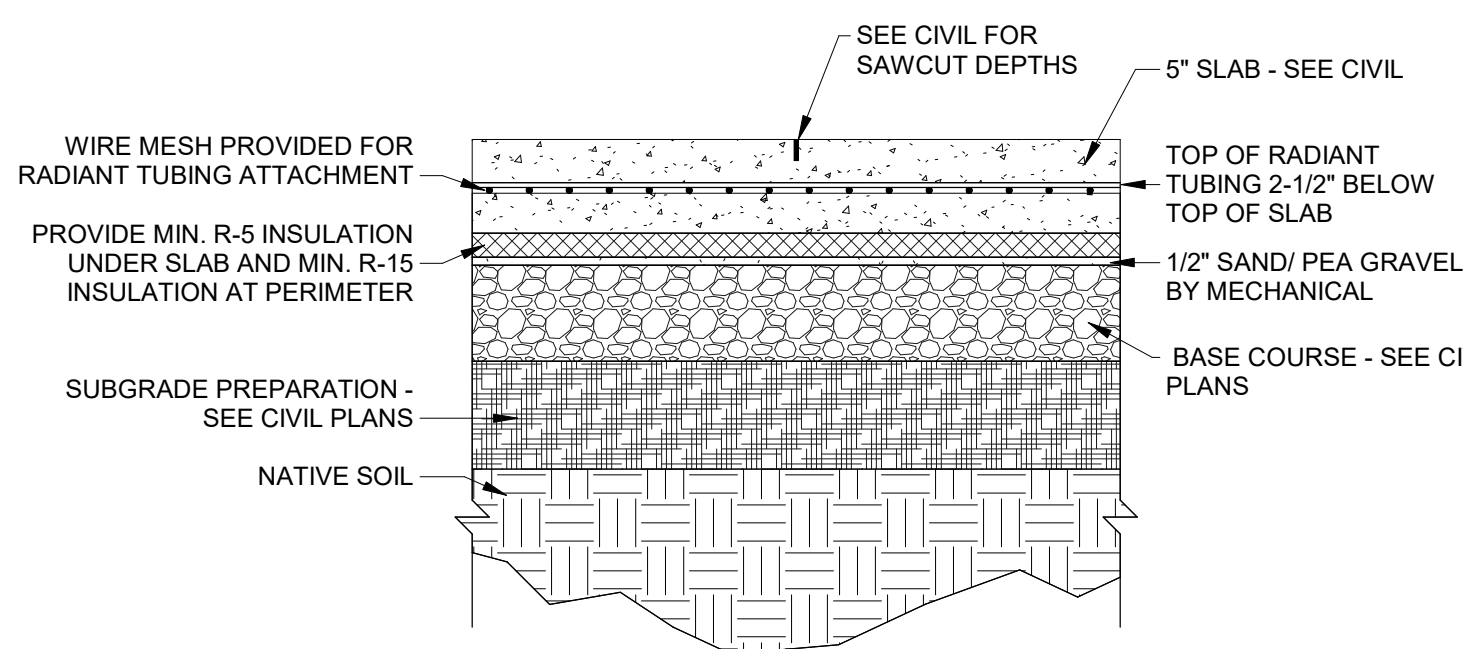


2 RADIANT MANIFOLD PIPING DETAIL
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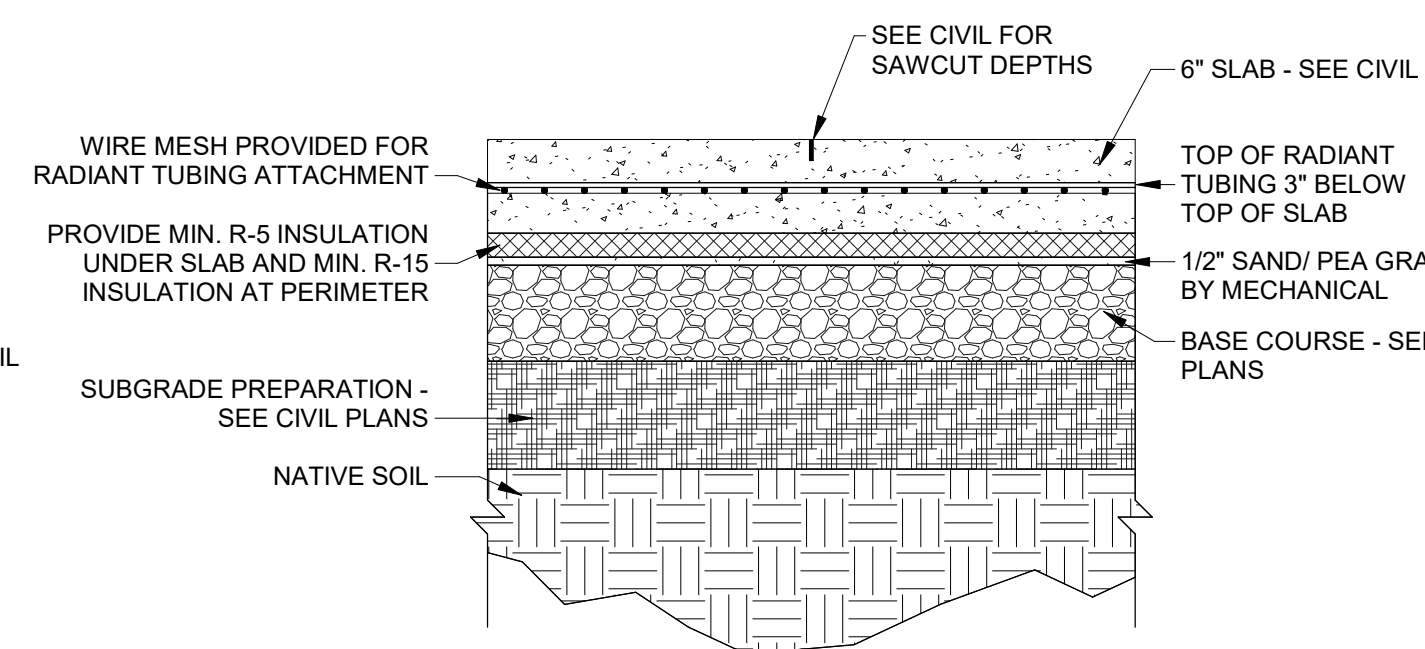


6 SNOWMELT
N.T.S.

1 SNOWMELT SYSTEM SCHEMATIC
N.T.S.

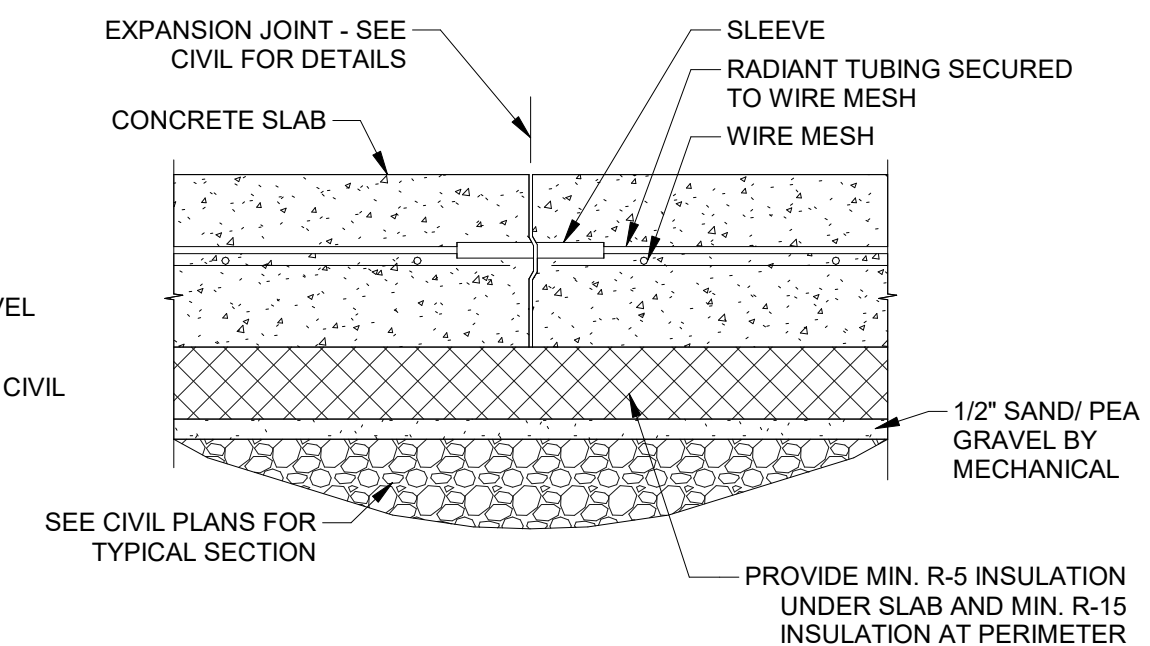


3 SNOWMELT TUBING - 5" SLAB DETAIL
N.T.S.



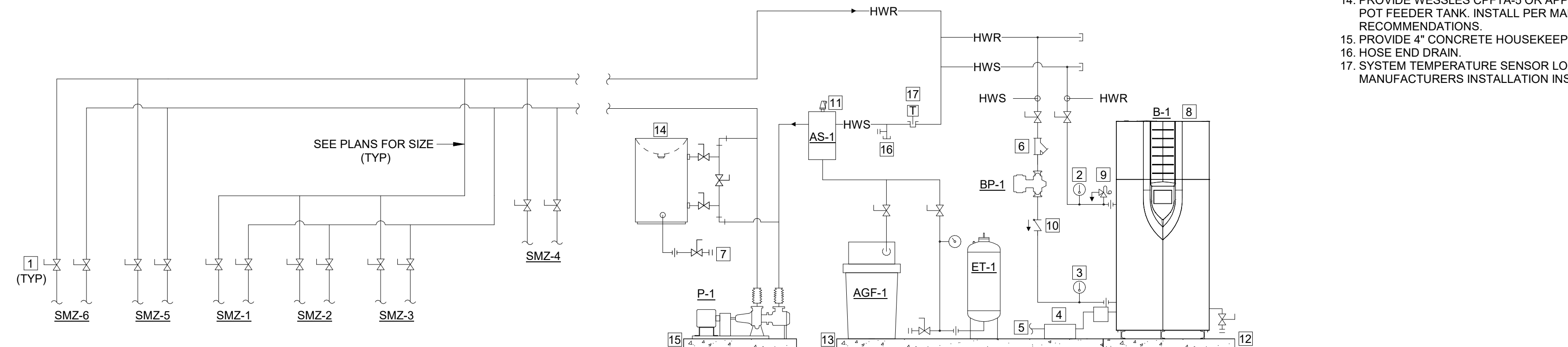
4 SNOWMELT TUBING - 6" SLAB DETAIL
N.T.S.

5 SNOWMELT TUBING AT EXPANSION JOINT DETAIL
N.T.S.



- DETAIL KEY NOTES:**
1. ISOLATION VALVE.
 2. TEMPERATURE GAUGE.
 3. COMBINATION TEMPERATURE/PRESSURE GAUGE.
 4. CONDENSATE NEUTRALIZATION TANK AND TRAP. INSTALL PER MANUFACTURER'S REQUIREMENTS.
 5. ROUTE 1" CONDENSATE DRAIN TO NEAREST FLOOR DRAIN.
 6. Y-STRAINER.
 7. DRAIN VALVE - BALL VALVE WITH HOSE THREAD OUTLET AND CAP.

8. HIGH EFFICIENCY CONDENSING BOILER. INSTALL COMBUSTION AND AND FLUE VENT PER MANUFACTURES INSTRUCTIONS. PIPE T&P VALVES TO GLYCOL FEEDER.
9. RELIEF VALVE.
10. CHECK VALVE.
11. AIR VENT - PIPE TO GLYCOL FEEDER.
12. EXISTING CONCRETE HOUSEKEEPING PAD.
13. EXTEND EXISTING CONCRETE HOUSEKEEPING PAD AS NECESSARY TO ACCOMMODATE AGE-1 AND ET-1.
14. PROVIDE WESSLES CPFTA-5 OR APPROVED EQUAL POT FEEDER TANK. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
15. PROVIDE 4" CONCRETE HOUSEKEEPING PAD.
16. HOSE END DRAIN.
17. SYSTEM TEMPERATURE SENSOR LOCATED PER MANUFACTURERS INSTALLATION INSTRUCTIONS.



SEQUENCE OF OPERATIONS

GENERAL:

THE ARE SIX (6) ZONES OF SNOWMELT. THE SNOWMELT ZONES SHALL BE GROUPED AS FOLLOWS:

- SMZ-1
- SMZ-2
- SMZ-3
- SMZ-4
- SMZ-5
- SMZ-6

EACH SNOW MELT GROUP SHALL BE CONTROLLED BY A TEKMAR 654 SNOWMELT CONTROLLER. SEE THE PLANS FOR THE LOCATION OF SNOW/ICE SENSORS AND SLAB TEMPERATURE SENSORS.

OPERATION:

IDLE:

WHEN THE OUTSIDE AIR IS 35F OR BELOW AND SNOW AND OR ICE IS NOT DETECTED BY THE SNOW/ICE SENSOR, AN ENABLE SHALL BE SENT TO THE BOILERS AND THE SNOW MELT ZONE VALVES SHALL BE CYCLED TO MAINTAIN A SLAB IDLE TEMPERATURE SETPOINT OF 25F.

ACTIVE:

WHEN THE OUTSIDE AIR TEMPERATURE IS 32F OR BELOW AND SNOW OR ICE IS DETECTED BY THE SNOW/ICE SENSOR, AN ENABLE SIGNAL SHALL BE SENT TO THE BOILER B-1 AND SYSTEM PUMP P-1 AND THE SNOWMELT ZONE VALVES SHALL BE CYCLED TO MAINTAIN A SLAB TEMPERATURE SETPOINT OF 35F.

COLD WEATHER SHUTDOWN:

WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW -5F SNOWMELTING SHALL NOT BE ALLOWED.

WARM WEATHER SHUTDOWN:

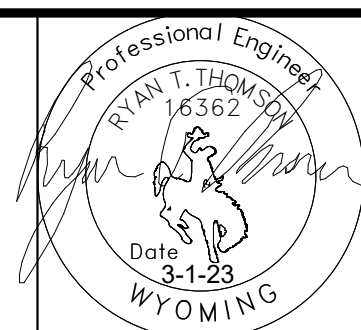
WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 40F SNOWMELTING SHALL NOT BE ALLOWED.

PROVIDE ALL REQUIRED RELAYS FOR A COMPLETE INSTALLATION.

CONSTRUCTION PLANS MARCH 2023

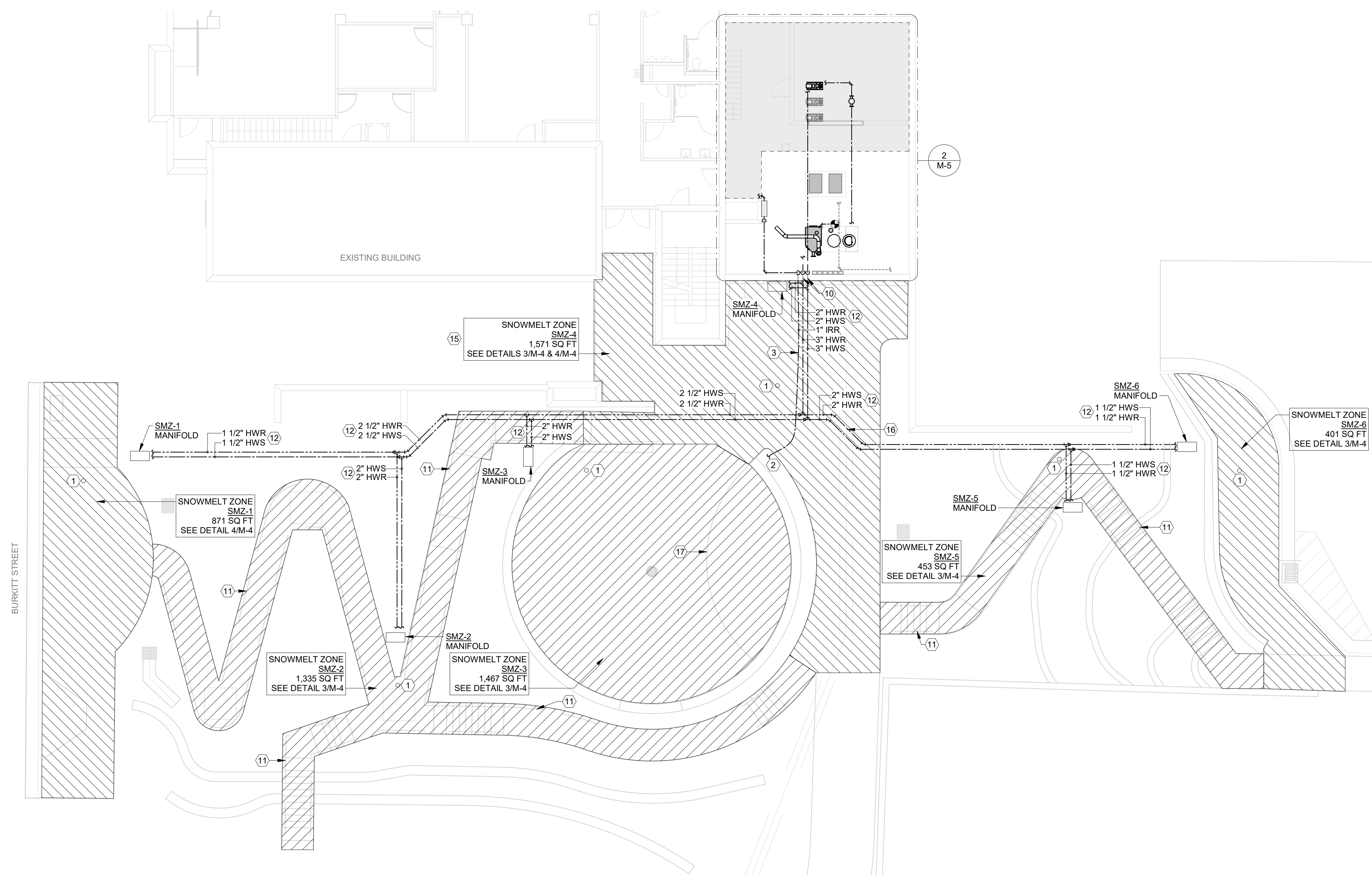
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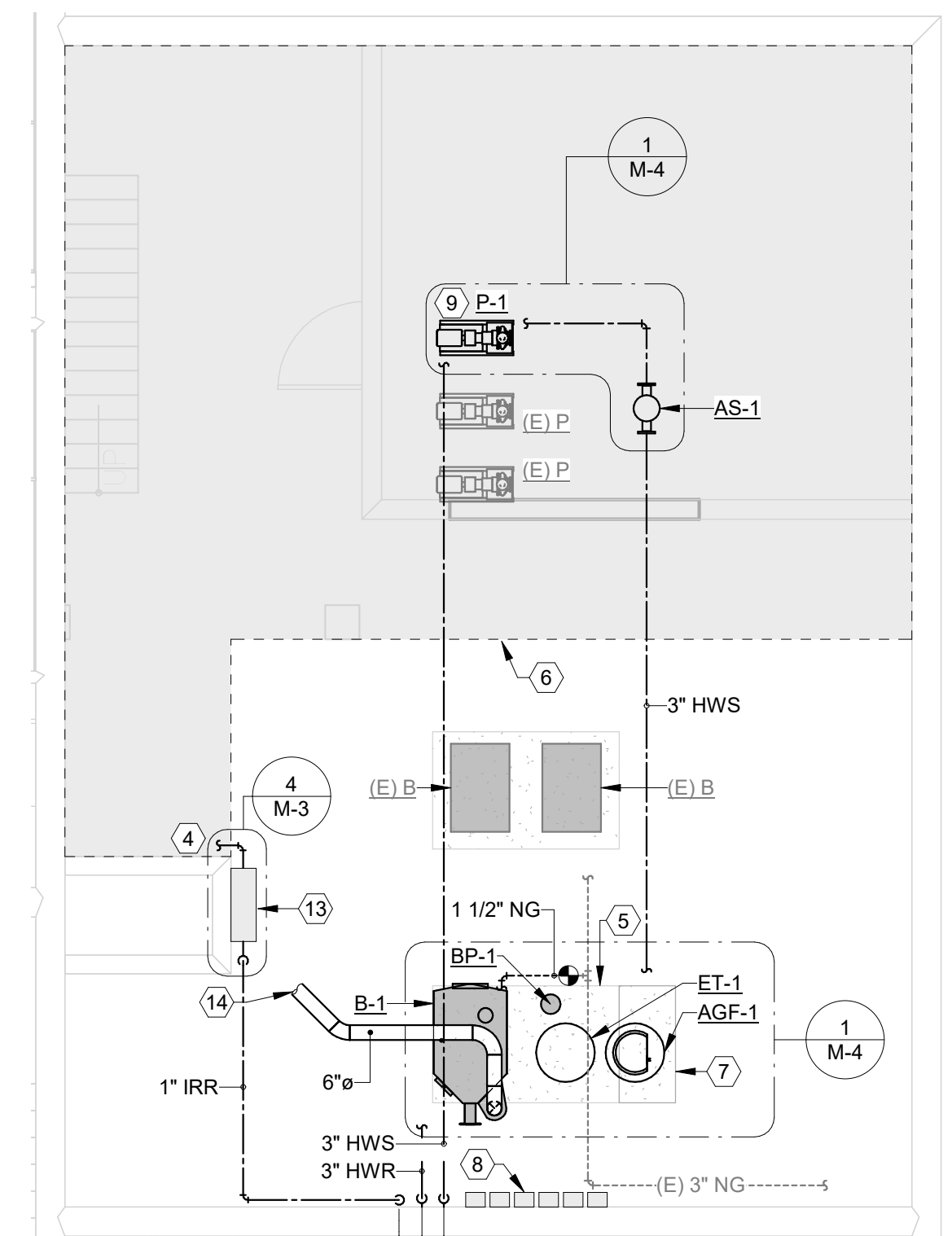


DRAWN BY: DT
DSGN. BY: DT
APPR. BY: RT
DATE: 3/1/2023
Q.C. REVIEW BY: MC
DATE: 6/20/22

SHERIDAN	SHERIDAN COUNTY BROOKS STREET GREENSPACE	WYOMING	PROJECT NUMBER 6017.002
			SHEET NUMBER 36
	MECHANICAL DETAILS		DRAWING NUMBER M-4

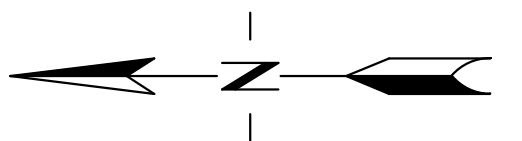


- | | |
|-----|--|
| # | <h2>KEY NOTES:</h2> |
| 1. | SNOW, ICE, AND SLAB TEMPERATURE SENSOR. |
| 2. | 1" IRRIGATION LINE LOCATED APPROXIMATELY 18" BELOW FINISH GRADE. SEE LANDSCAPE PLANS FOR CONTINUATION. |
| 3. | SLOPE IRRIGATION LINE AWAY FROM BUILDING. |
| 4. | CONNECT 1" IRR TO EXISTING DCW. CONTRACTOR TO VERIFY EXISTING CONDITIONS. |
| 5. | EXISTING HOUSEKEEPING PAD. |
| 6. | MEZZANINE ABOVE. |
| 7. | EXTEND HOUSEKEEPING PAD TO ACCOMMODATE NEW EQUIPMENT AS NECESSARY. |
| 8. | SNOWMELT CONTROLLERS (SMC-1, SMC-2, SMC-3, SMC-4, SMC-5, SMC-6) LOCATION. |
| 9. | P-1 LOCATED ON MEZZANINE ABOVE. |
| 10. | PENETRATE BUILDING PER PIPING MANUFACTURER'S INSTALLATION INSTRUCTIONS. |
| 11. | COORDINATE SNOWMELT TUBING WITH HANDRAIL POST LOCATIONS TO AVOID DAMAGING SNOWMELT TUBING DURING HANDRAIL POST INSTALLATION. |
| 12. | INSULPEX TWO-PIPE SYSTEM. |
| 13. | COORDINATE IRRIGATION EQUIPMENT LOCATION WITH EXISTING CHIMNEY CLEANOUT. |
| 14. | CONNECT 6" FLUE INTO (E) 20" FLUE. CONTRACTOR TO VERIFY EXISTING CONDITIONS. |
| 15. | SEE CIVIL PLANS FOR CONCRETE THICKNESS BOUNDARIES. |
| 16. | COORDINATE PIPING WITH EXISTING UTILITY TRENCH. |
| 17. | RAISED STEP, SEE CIVIL PLANS. |



1 MECHANICAL SNOW MELT PLAN

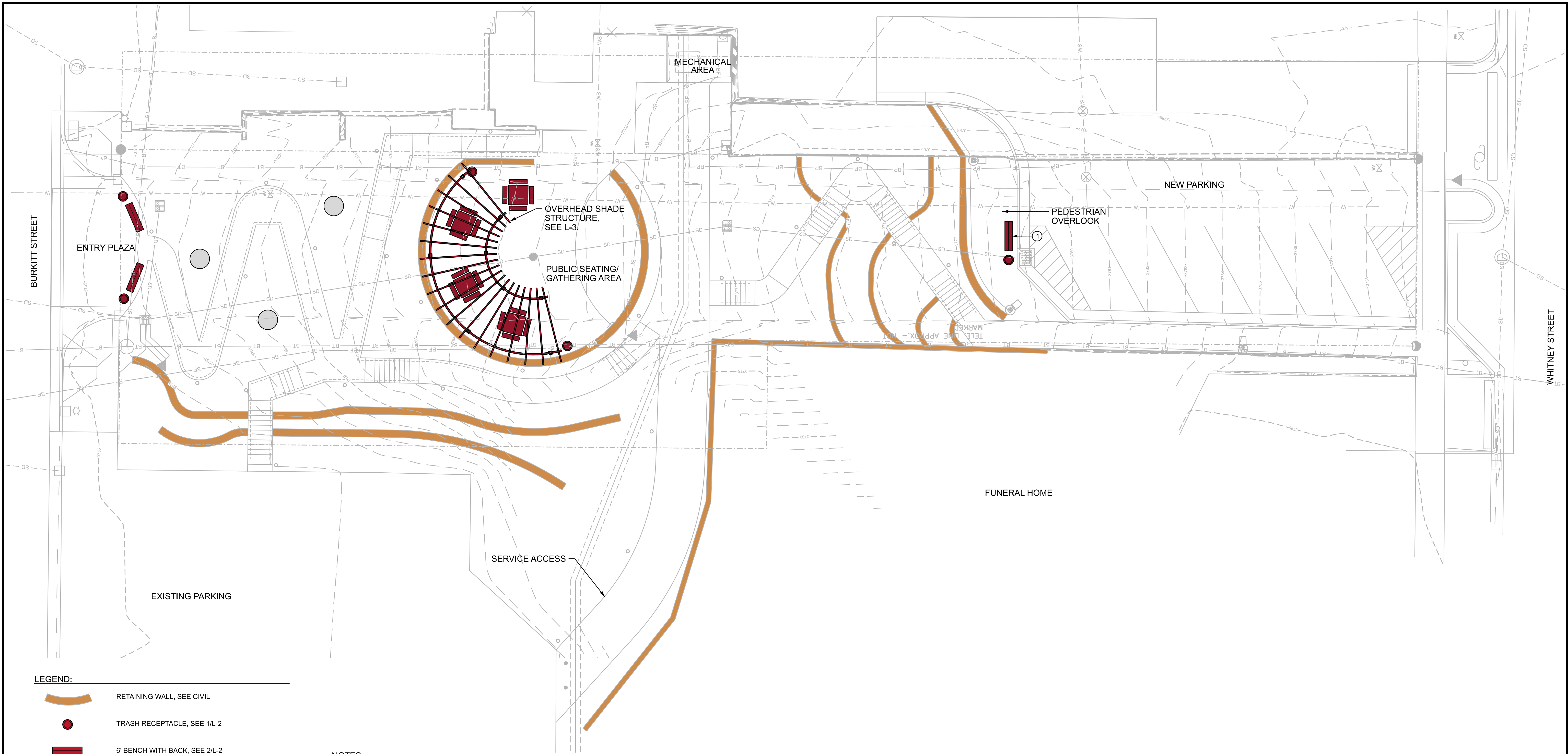
2 MECHANICAL ENLARGED BOILER ROOM PLAN
3/16" = 1'-0"



CONSTRUCTION PLANS

MARCH 2023

<div>VERIFY SCALE!</div> <div>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</div> <div><div></div></div> <div>MODIFY SCALE ACCORDINGLY!</div> <div>PLOTTED ON: 2/21/2023 3:26:57 PM</div>	<div>REVISIONS</div> <table><thead><tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th><th>BY</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></tbody></table>			NO.	DESCRIPTION	DATE	BY																	<div><div><div></div><div></div><div></div></div><div>Morrison Maierle</div><div>engineers • surveyors • planners • scientists</div><div>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801</div><div>307.672.3510 @ www.m-m.net</div><div>COPYRIGHT © MORRISON-MAIERLE P. 2023</div></div> <div><div>Professional Engineer</div><div>RYAN T. THOMAS</div><div>16362</div><div><div></div></div><div>Date 3-1-23</div><div>WYOMING</div></div>	<div>DRAWN BY: DT</div> <div>DSGN. BY: DT</div> <div>APPR. BY: RT</div> <div>DATE: 3/1/2023</div> <div>Q.C. REVIEW BY: MC</div> <div>DATE: 6/20/22</div>	<div>SHERIDAN</div> <div>SHERIDAN COUNTY BROOKS STREET GREENSPACE</div> <div>WYOMING</div> <div>MECHANICAL SNOWMELT PLAN</div>	<div>PROJECT NUMBER 6017.002</div> <div>SHEET NUMBER 37</div> <div>DRAWING NUMBER M-5</div>
	NO.	DESCRIPTION	DATE	BY																							



LEGEND:

- RETAINING WALL, SEE CIVIL
- TRASH RECEPTACLE, SEE 1/L-2
- 6" BENCH WITH BACK, SEE 2/L-2
- PICNIC TABLE(S), SEE DETAIL 3/L-2
- BOLLARD LIGHT, SEE ELECTRICAL
- REMOVEABLE BOLLARD, SEE CIVIL
- DECORATIVE LIGHT, SEE ELECTRICAL
- SCULPTURE BASE, SEE 4/L-2 & 5/L-2

NOTES:

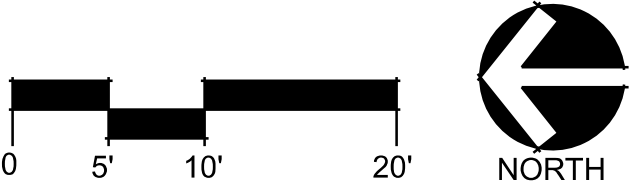
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES ON-SITE OR ADJACENT PROPERTY SHALL BE CONTRACTOR'S RESPONSIBILITY.

2. FINAL LOCATION OF SITE FURNISHINGS TO PROVIDE PROPER ADA ACCESS.

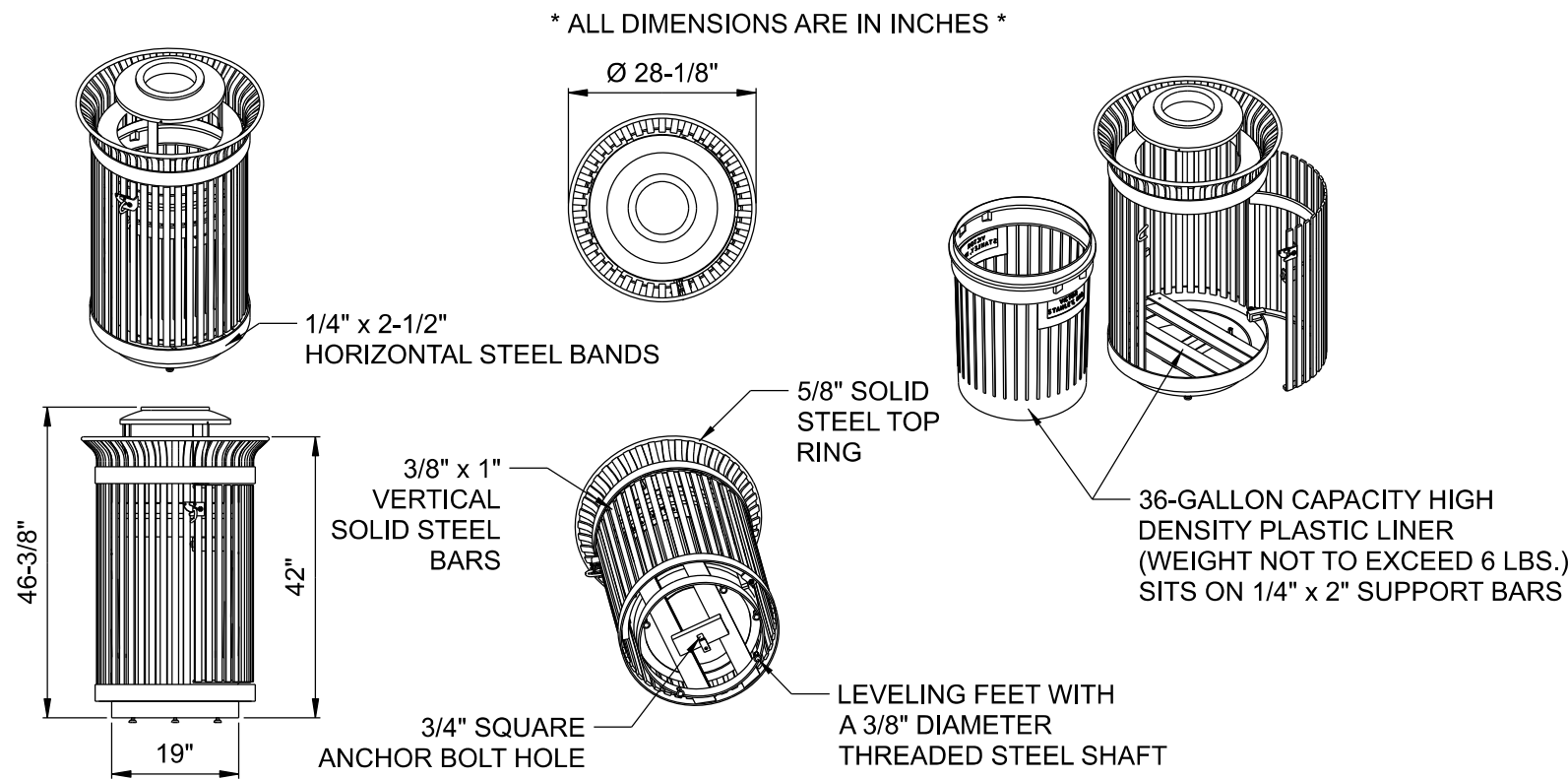
3. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEY NOTES:

① BENCH TO FACE NORTH.



<p>VERIFY SCALE!</p> <p>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>MODIFY SCALE ACCORDINGLY!</p> <p>PLOTTED BY: ON -</p>	<table><tr><th>NO.</th><th>DESCRIPTION</th><th>BY</th><th>DATE</th></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>			NO.	DESCRIPTION	BY	DATE													<p>STEINER THUESEN PLLC</p> <p>GOLF COURSE ARCHITECTURE IRRIGATION DESIGN LANDSCAPE ARCHITECTURE</p> <p>1925 Grand Avenue, Suite 105 Billings, MT 59102 (406) 252-5545 WWW.STEINERTHUESEN.COM</p>	<p>Morrison Maierle</p> <p>engineers • surveyors • planners • scientists</p> <p>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801 307.672.9310 • www.m-m.net COPYRIGHT © MORRISON-MAIERLE, INC.</p>	<p>LICENSED LANDSCAPE ARCHITECT</p> <p>NATHAN G. MAIERLE</p> <p>DATE: 3/1/2023</p> <p>STATE OF WYOMING</p>	DRAWN BY: GSG	SHERIDAN COUNTY BROOKS STREET GREENSPACE		PROJECT NUMBER 6017.002
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DSGN. BY: NGS	SHEET NUMBER																									
APPR. BY: NGS	DATE: 3/1/2023		SHERIDAN	WYOMING	DRAWING NUMBER L-1																					
Q.C. REVIEW	BY: DATE:		SITE FURNISHINGS PLAN																							

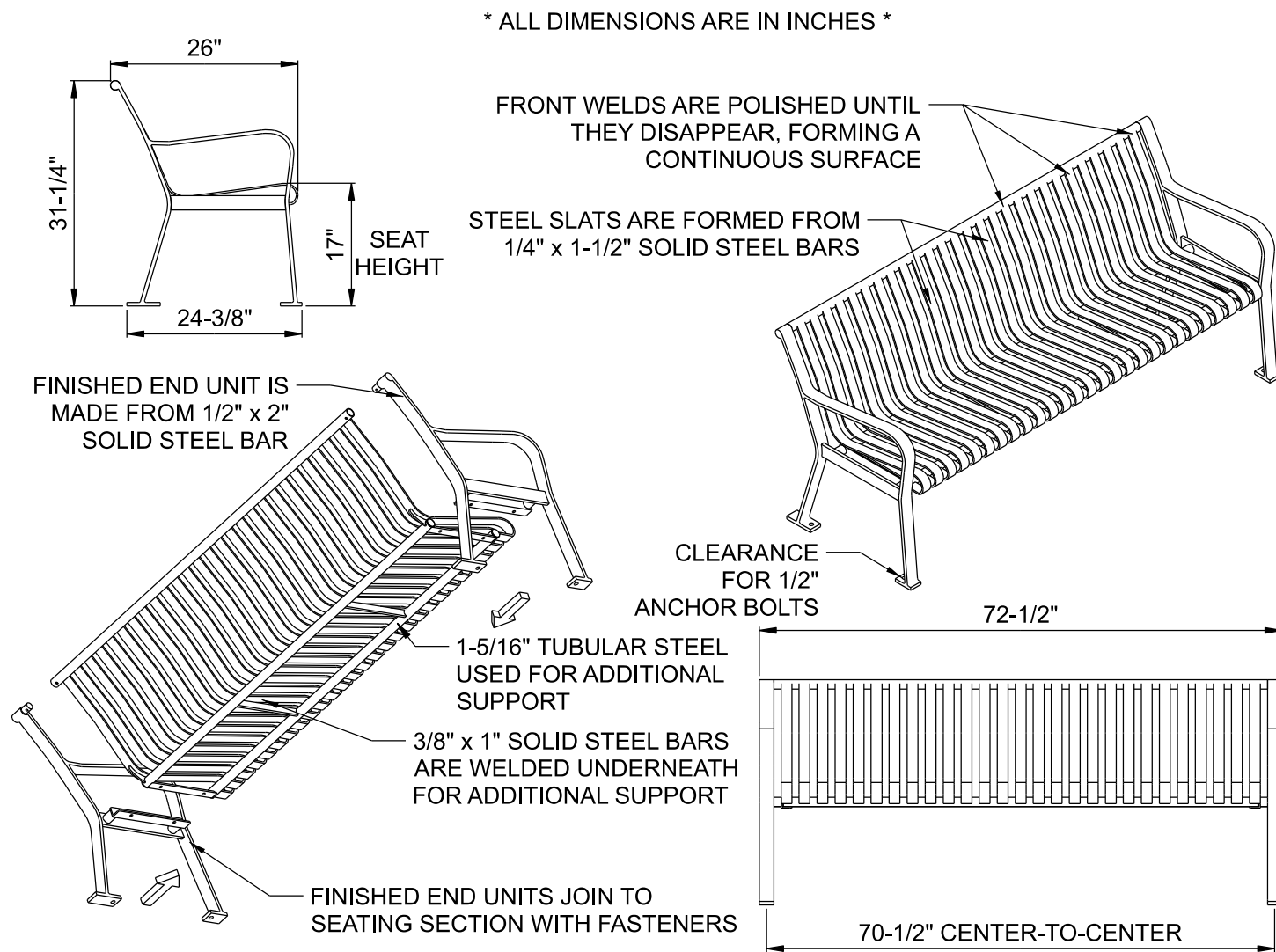


NOTES:

1. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD FILM COATING. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
2. RECEPTACLE SHALL BE PERMANENTLY AFFIXED TO THE GROUND.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 TRASH RECEPTACLE

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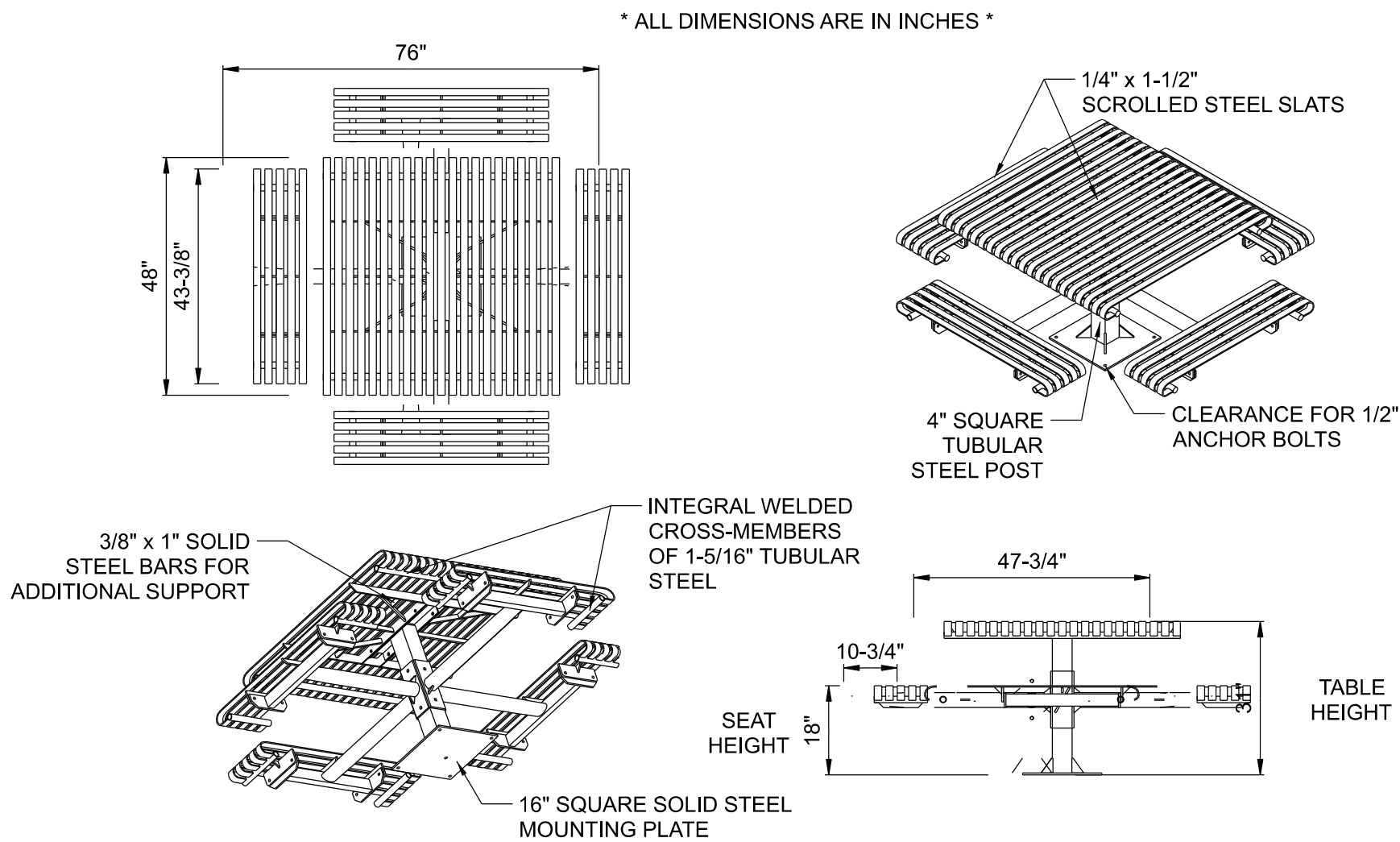


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1. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD COATING FILM. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
2. LOCATE ANCHOR BOLTS AFTER BENCH IS IN PLACE. BENCH SHALL BE PERMANENTLY AFFIXED TO THE GROUND.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2 BENCH WITH BACK

NOT TO SCALE

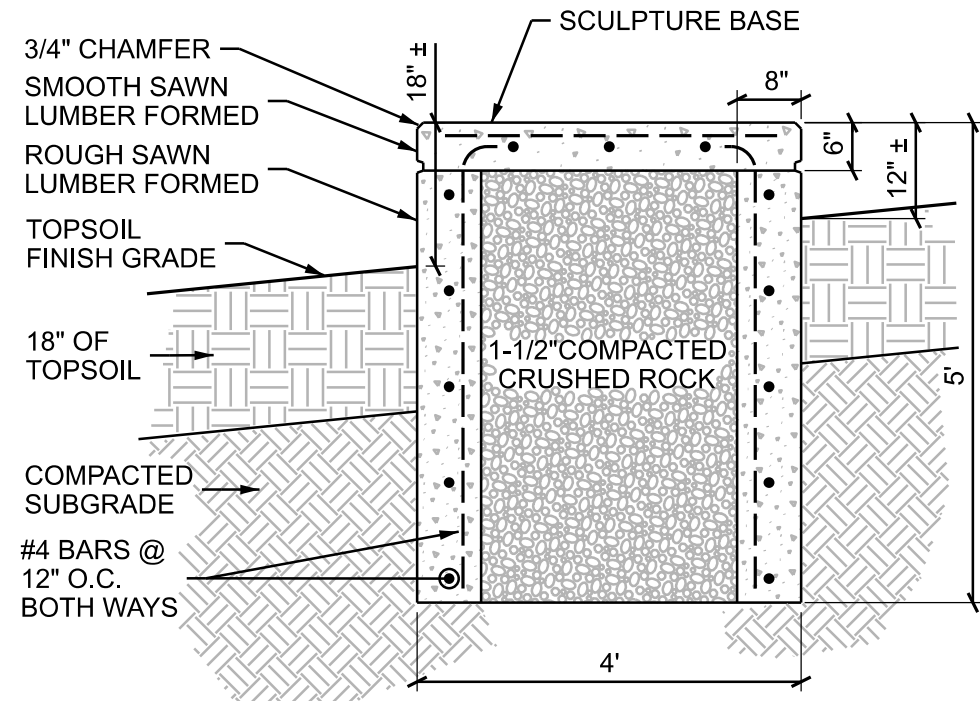


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2. LOCATE ANCHOR BOLTS AFTER TABLE AND SEATS ARE IN PLACE. TABLE SHALL BE PERMANENTLY AFFIXED TO THE GROUND.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

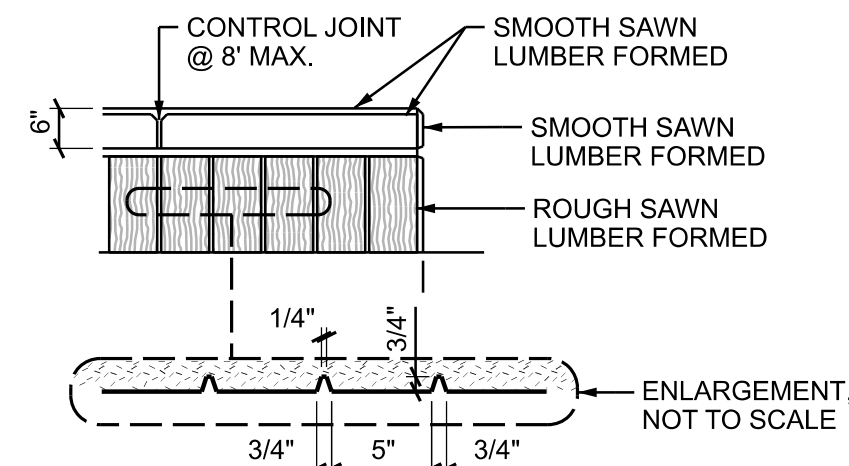
3 TABLE

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4 SCULPTURE BASE SECTION

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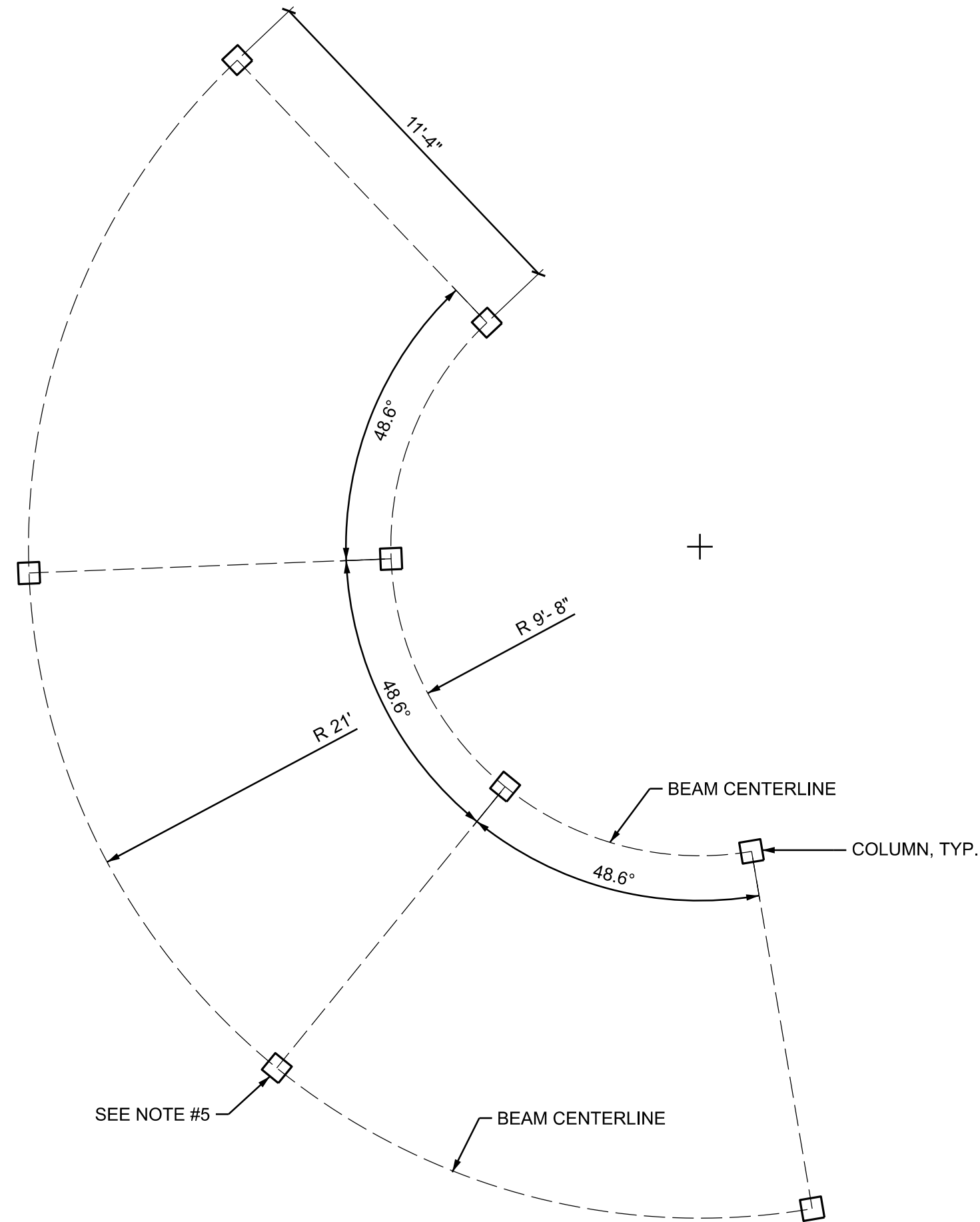
NOTES:

1. CONCRETE FINISH FOR PLANTER WALL TO MATCH FINISH ON EXISTING PLANTERS ON GRINNELL PLAZA AT CITY HALL. PROVIDE MOCK-UP.

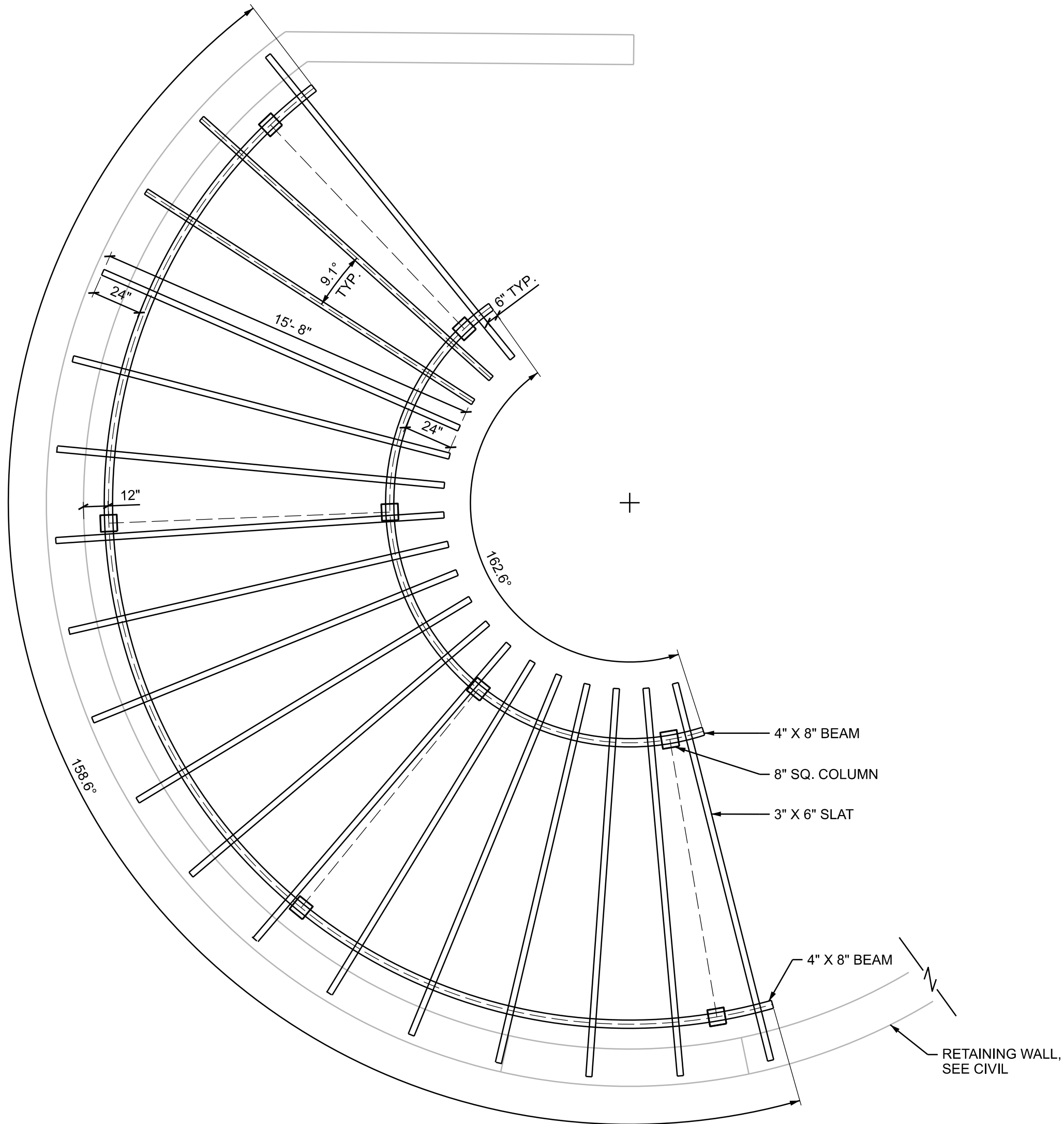
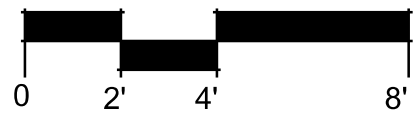
5 SCULPTURE BASE ELEVATION

SCALE: 1/2" = 1'-0"

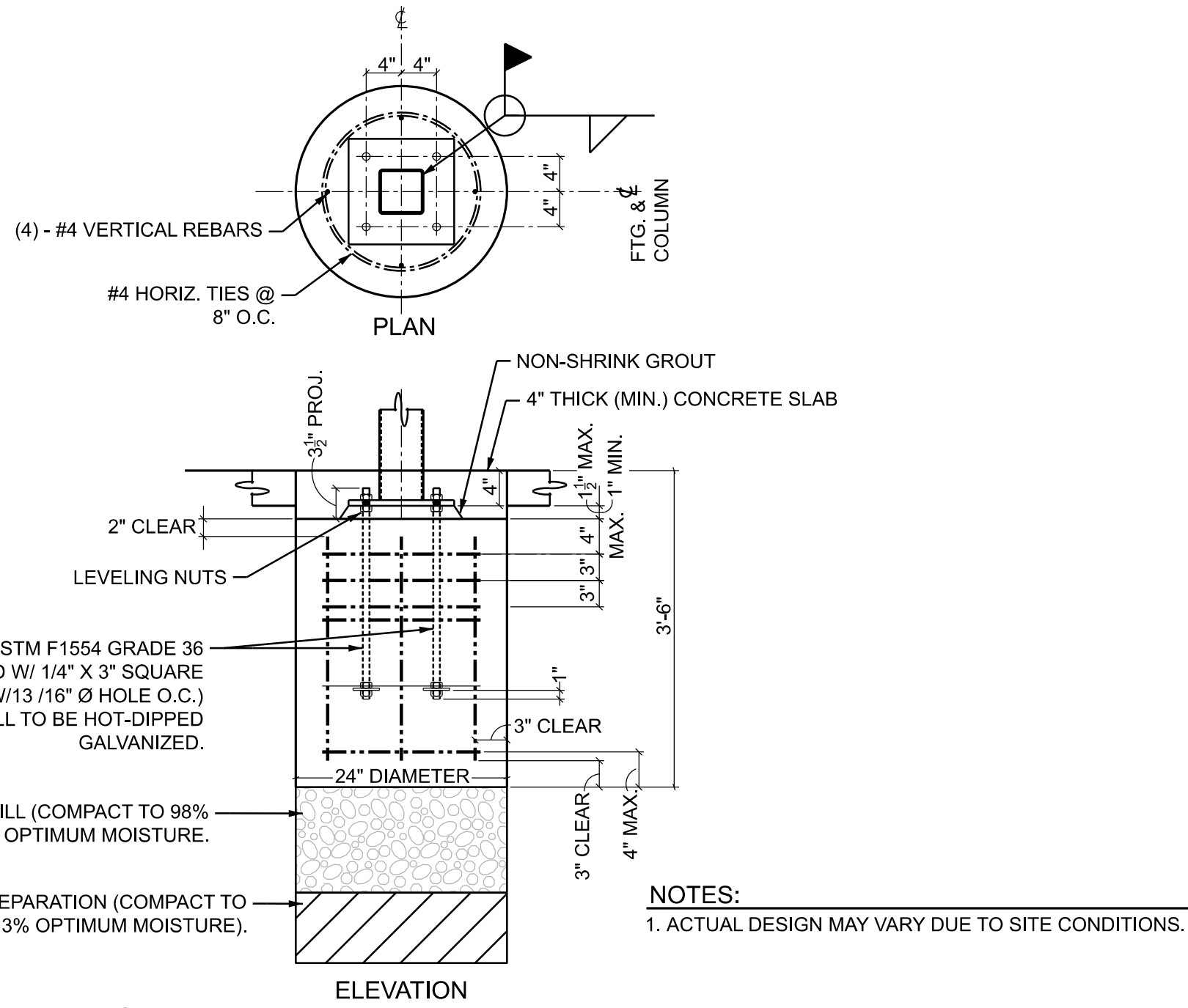
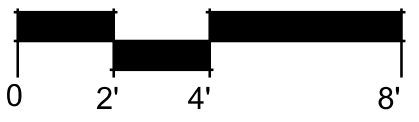
VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING. MODIFY SCALE ACCORDINGLY! PLOTTED BY:- ON -	REVISIONS				STEINER THUESEN PLLC GOLF COURSE ARCHITECTURE IRRIGATION DESIGN LANDSCAPE ARCHITECTURE 1925 Grand Avenue, Suite 105 Billings, MT 59102 (406) 252-5545 WWW.STEINERTHUESEN.COM	Morrison Maierle engineers • surveyors • planners • scientists 1470 Sugarland Drive, Suite 1, Sheridan, WY 82801 307.672.9310 • www.m-m.net COPYRIGHT © MORRISON-MAIERLE, INC.	DRAWN BY: GSG DSGN. BY: NGS APPR. BY: NGS DATE: 3/1/2023 Q.C. REVIEW BY: DATE:	SHERIDAN COUNTY BROOKS STREET GREENSPACE		PROJECT NUMBER 6017.002 SHEET NUMBER
	NO.	DESCRIPTION	BY	DATE				SHERIDAN	WYOMING	
								SITE FURNISHING DETAILS		DRAWING NUMBER L-2



1 COLUMN LAYOUT PLAN

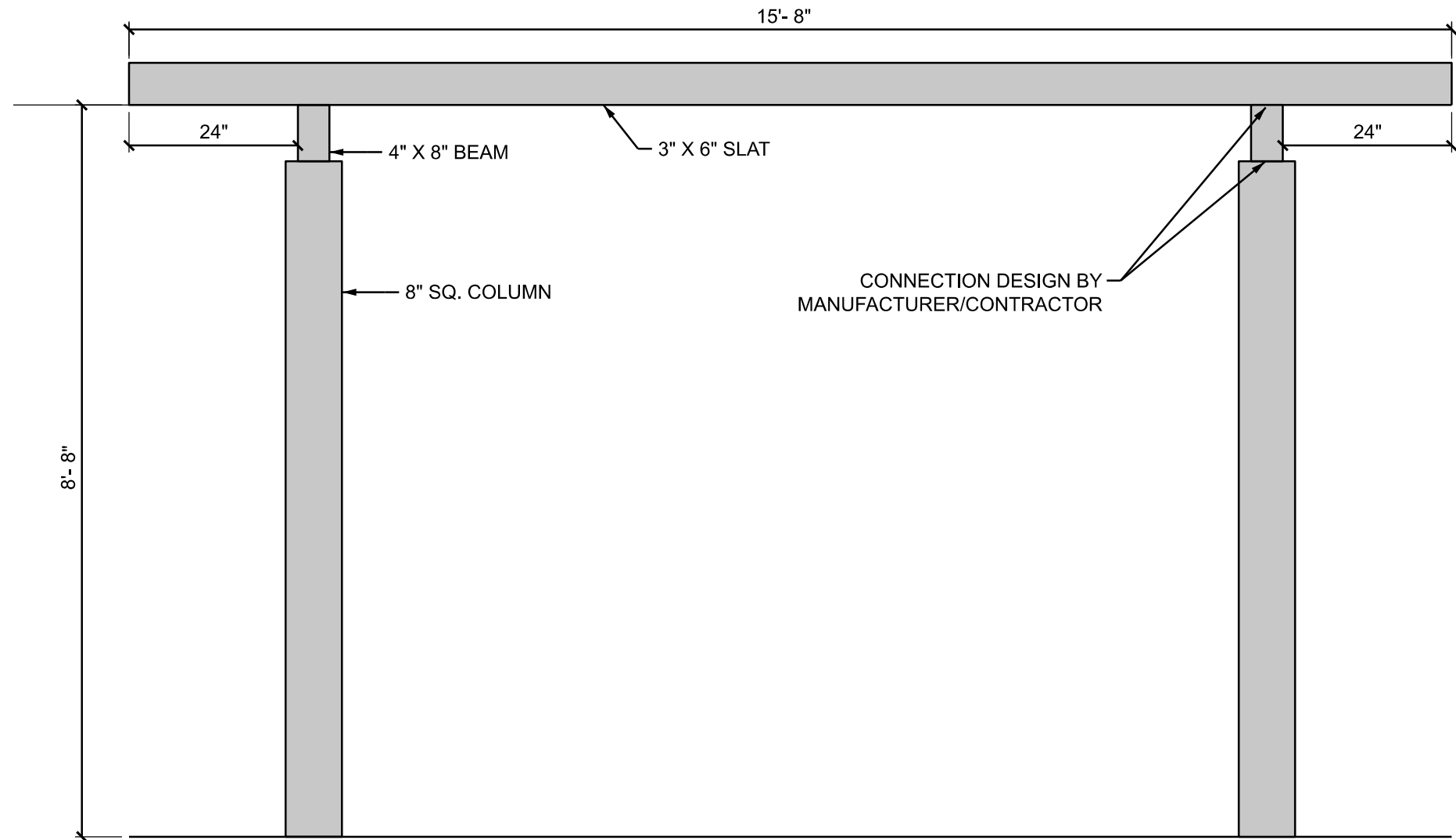


2 FRAMING PLAN



3 COLUMN FOUNDATION DETAIL

NOT TO SCALE



4 ELEVATION

NOT TO SCALE

- GENERAL NOTES:**
1. BASIC INFORMATION PROVIDED IN THIS PLAN IS TO PROVIDE BIDDERS INFORMATION NECESSARY TO PROVIDE A BID AND TO CONVEY THE INTENT OF THE DESIGN. THE BIDDER SHALL PROVIDE FULL DESIGN OF THE STRUCTURE AND FOUNDATION. DESIGN DRAWINGS SHALL BE PROVIDED FOR REVIEW AND ADJUSTMENT PRIOR TO THE FINAL SET OF SHOP DRAWINGS. THE BIDDER SHALL PROVIDE A FULL SET OF SHOP DRAWINGS, INCLUDING STRUCTURE AND FOUNDATION DESIGN CALCULATIONS, STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. DESIGN SHALL BE SPECIFIC TO PROJECT LOCATION.
 2. DIGITAL SITE INFORMATION WILL BE PROVIDED FOR USE IN THE DESIGN. DESIGN SHALL TAKE INTO ACCOUNT THE SITE FURNISHINGS LOCATIONS AND ADA REQUIREMENTS.
 3. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION REGARDING EXISTING CONDITIONS AND RECOMMENDATIONS.
 4. BASIC WIND SPEED FOR THIS LOCATION IS 115 MPH. GROUND SNOW LOAD IS 30. MANUFACTURER TO VERIFY.
 5. FOOTINGS FOR PERGOLA SHALL BE INSIDE OF THE UTILITIES ROUTED ON EITHER SIDE OF THE STRUCTURE (EAST-WATER, WEST-LUMEN).
 6. ANY MEMBER SIZING SHOWN IS APPROXIMATE. ACTUAL MEMBER SIZING SHALL BE BY THE MANUFACTURER IN CONSULTATION WITH THE ARCHITECT/ENGINEER.
 7. ALL FABRICATED STEEL COMPONENTS SHALL BE PRIMED AND A POWDER COATED, OR EQUAL. COLOR SHALL BE BURGUNDY (RAL 3005). PROVIDE COLOR CHART FOR VERIFICATION.
 8. COORDINATE WORK WITH ALL OTHER TRADES ON SITE.
 9. DRAWING IS NOT FOR CONSTRUCTION.

<div>VERIFY SCALE!</div> <div>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</div> <div>—————</div> <div>MODIFY SCALE ACCORDINGLY!</div> <div>PLOTTED BY:- ON -</div>	REVISIONS				<div>STEINER THUESEN P.L.L.C.</div> <div>GOLF COURSE ARCHITECTURE IRRIGATION DESIGN LANDSCAPE ARCHITECTURE</div> <div>1925 Grand Avenue, Suite 105 Billings, MT 59102 (406) 252-5545 WWW.STEINERTHUESEN.COM</div>	<div><div></div><div>Morrison Maierle</div><div>engineers • surveyors • planners • scientists</div><div>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801</div><div>307.672.9310 • www.m-m.net</div><div>COPYRIGHT © MORRISON-MAIERLE, INC. ©</div></div>	<div>LICENSED LANDSCAPE ARCHITECT</div> <div>NATHAN G. MAIERLE</div> <div>DATE: 3/1/2023</div> <div>STATE OF WYOMING</div>	DRAWN BY: GSG	SHERIDAN COUNTY BROOKS STREET GREENSPACE WYOMING		PROJECT NUMBER 6017.002			
	NO.	DESCRIPTION	BY	DATE				DSGN. BY: NGS			SHEET NUMBER			
								APPR. BY: NGS			DRAWING NUMBER L-3			
									DATE: 3/1/2023	OVERHEAD STRUCTURE DETAILS				
									Q.C. REVIEW BY: _____ DATE: _____					



- NOTES:**
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES ON-SITE OR ADJACENT PROPERTY SHALL BE CONTRACTOR'S RESPONSIBILITY.
 2. ALL PLANT MATERIAL SHALL CONFORM TO THE CURRENT AMERICAN ASSOCIATION OF NURSERYMANS NATIONAL STANDARD SPECIFICATIONS.
 3. ALL PLANT MATERIAL SHALL BE INSTALLED AS DETAILED AND PER SPECIFICATIONS.
 4. IN THE EVENT OF A DISCREPANCY, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY.
 5. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN CONSENT FROM THE LANDSCAPE ARCHITECT.
 6. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE PLANTED AND SEEDING AS SPECIFIED. A DISTURBED AREA SHALL BE WHERE CONSTRUCTION ACTIVITIES INCLUDING TRENCHING, DEMOLITION, EARTHWORK, MATERIAL STORAGE, STAGING AND PARKING OR ANY OTHER FORM OF EXCAVATION, COMPACTION, OR TRAFFIC THAT RESULTS IN THE REMOVAL OR DISPLACEMENT OF EXISTING GROUND COVER OR GRADE. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW ALL OTHER CONTRACT DOCUMENTS TO DETERMINE FULL SCOPE OF POTENTIAL SITE DISTURBANCE TO BE RECLAIMED.
 7. THE INSTALLATION OF PLANT MATERIAL AND IRRIGATION SYSTEM SHALL BE PERFORMED BY ONE CONTRACTOR.
 8. CONTRACTOR SHALL COORDINATE IRRIGATION SYSTEM LAYOUT WITH PLANTINGS.
 9. DO NOT INSTALL WEED BARRIER UNDER PERENNIALS AND GRASSES.
 10. NO TREES SHALL BE PLANTED CLOSER THAN 10' TO A FIRE HYDRANT. ADJUST LAYOUT IF NECESSARY.
 11. NO TREE OR SHRUB SHALL BE PLANTED OVER OR WITHIN 5' LATERALLY FROM ANY UNDERGROUND UTILITIES.
 12. FINISH SUBGRADE ELEVATIONS SHALL BE APPROVED BY ENGINEER PRIOR TO TOPSOIL PLACEMENT.
 13. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEY NOTES:

① MULCH OVER WEED BARRIER, NO PLANTS.

LEGEND:

2'-5" DIAMETER, LANDSCAPE BOULDERS

MULCH, AS SPECIFIED

RETAINING WALL, SEE CIVIL DRAWINGS

PLANT SCHEDULE:

KEY	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	NOTES
TREES						
DP	5	DAKOTA PINNACLE JAPANESE WHITE BIRCH	BETULA PLATYPHYLLA 'FARGO'	1-1/2"	B&B	
IH	3	IMPERIAL HONEYLOCUST	GLEDITSIA TRIACANTHOS 'IMPCOLE'	2-1/2"	B&B	
IP	8	IVORY PILLAR JAPANESE TREE LILAC	SYRINGA RETICULATA 'WILLAMETTE'	1-1/2"	B&B	
PR	4	PRAIRIE ROSE FLOWERING CRABAPPLE	MALUS 'PRAIRIE ROSE'	1-1/2"	B&B	NO FRUIT
SHRUBS						
AF	8	ARCTIC FIRE DOGWOOD	CORNUS SERICEA 'FARROW'	#5	CTN	PINEY ISLAND NATIVE PLANTS (PIN)
CR	34	CRIMSON PYGMY BARBERRY	BERBERIS THUNBERGII 'CRIMSON PYGMY'	#5	CTN	
GC	5	GOLDEN CURRANT	RIBES AUREUM	#5	CTN	PIN
TL	5	THREE LEAFED SUMAC	RHUS TRILOBATA	#5	CTN	PIN
GL	43	GRO-LOW SUMAC	RHUS AROMATICA 'GRO-LOW'	#5	CTN	
GP	38	GOLDFINGER POTENTILLA	POTENTILLA FRUTICOSA 'GOLDFINGER'	#5	CTN	
MJ	6	MEDORA JUNIPER	JUNIPERUS SCOPULORUM 'MEDORA'	#5	CTN	
MN	7	MOUNTAIN NINEBARK	PHYSOCARPUS MONOGYNUS	#5	CTN	PIN
MP	48	MCKAY'S WHITE POTENTILLA	POTENTILLA FRUTICOSA 'MCKAY'S WHITE'	#5	CTN	
NB	17	LITTLE DEVIL NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'	#5	CTN	
AJ	22	ARCADIA JUNIPER	JUNIPERUS SABINA 'ARCADIA'	#5	CTN	
PJ	23	PRINCE OF WALES JUNIPER	JUNIPERUS HORIZONTALIS 'PRINCE OF WALES'	#5	CTN	
PERENNIALS						
BE	40	BLACK-EYED SUSAN	RUDBECKIA HIRTA	#1	CTN	PIN
BL	5	BLANKET FLOWER	GAILLARDIA ARISTATA	#1	CTN	PIN
DL	42	HAPPY RETURNS DAYLILY	HEMEROCALLIS 'HAPPY RETURNS'	#1	CTN	PIN
LI	9	BLAZING STAR	LIATRIS PUNCTATA	#1	CTN	PIN
PE	35	PRAIRIE DUSK BEARD TONGUE	PENSTEMON BARBATUS 'PRAIRIE DUSK'	#1	CTN	
SE	134	STONECROP MIX	SEDUM LANCEOLATUM/SEDUM 'LIME ZINGER'/SEDUM 'FIRECRACKER'	10" CI	CTN	PIN - PLANT 8" O.C.
ORNAMENTAL GRASSES						
BB	2	BIG BLUESTEM	ANDROPOGON GERARDII	#1	CTN	PIN
BO	44	BLUE OAT GRASS	HELICOTRICHON SEMPERVIRENS	#1	CTN	
BR	31	BASIN WILDRIE	LEYMUS CINEREUS	#1	CTN	PIN
BW	5	BLUEBUNCH WHEATGRASS	PSEUDOROEGNERIA SPICATA	#1	CTN	PIN
PD	47	PRAIRIE DROPSEED	SPOROBOLUS HETEROLEPIS	#1	CTN	PIN
SG	58	NORTHWIND SWITCH GRASS	PANICUM VIRGATUM 'NORTHWIND'	#1	CTN	

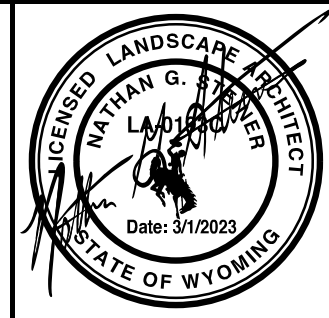
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IRRIGATION DESIGN
LANDSCAPE ARCHITECTURE

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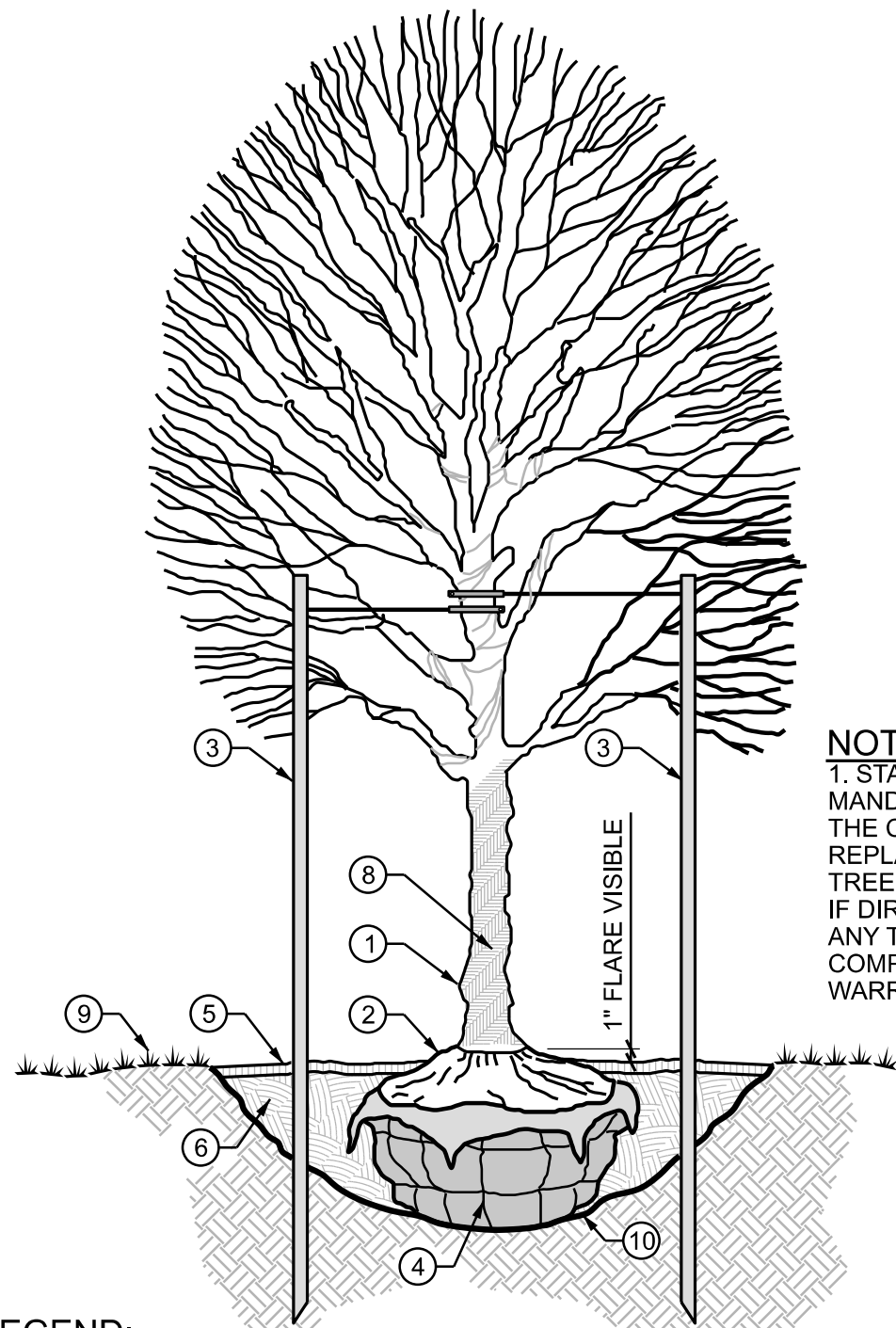


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DSGN. BY: NGS
APPR. BY: NGS
DATE: 3/1/2023
Q.C. REVIEW
BY:
DATE:

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING

PLANTING PLAN

PROJECT NUMBER
6017.002
SHEET NUMBER
DRAWING NUMBER
L-4

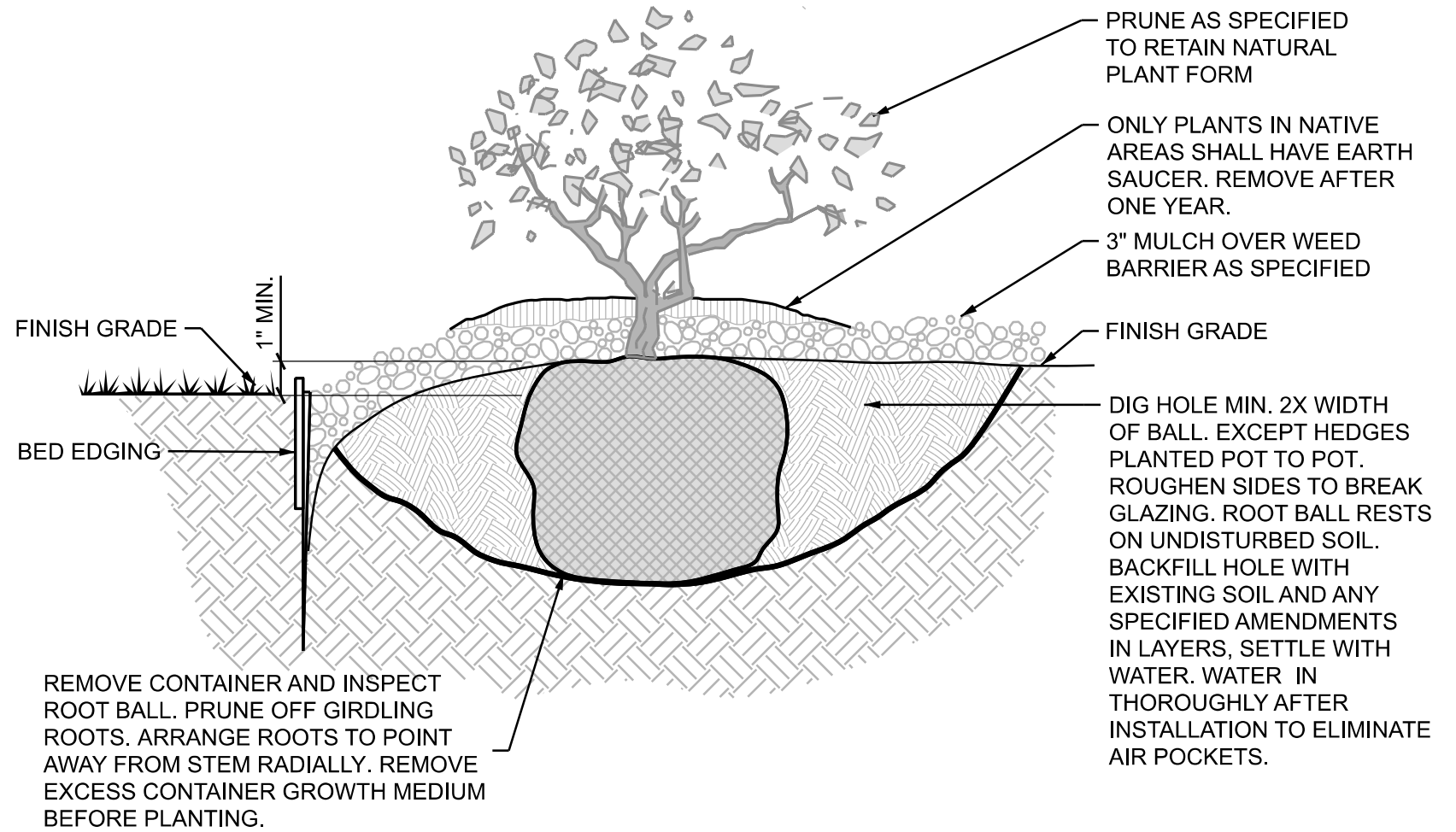


NOTES:
1. STAKING IS NOT MANDATORY, HOWEVER, THE CONTRACTOR SHALL REPLACE ANY UNSTAKED TREE WITHOUT QUESTION IF DIRECTED TO DO SO AT ANY TIME THROUGH COMPLETION OF THE WARRANTY PERIOD.

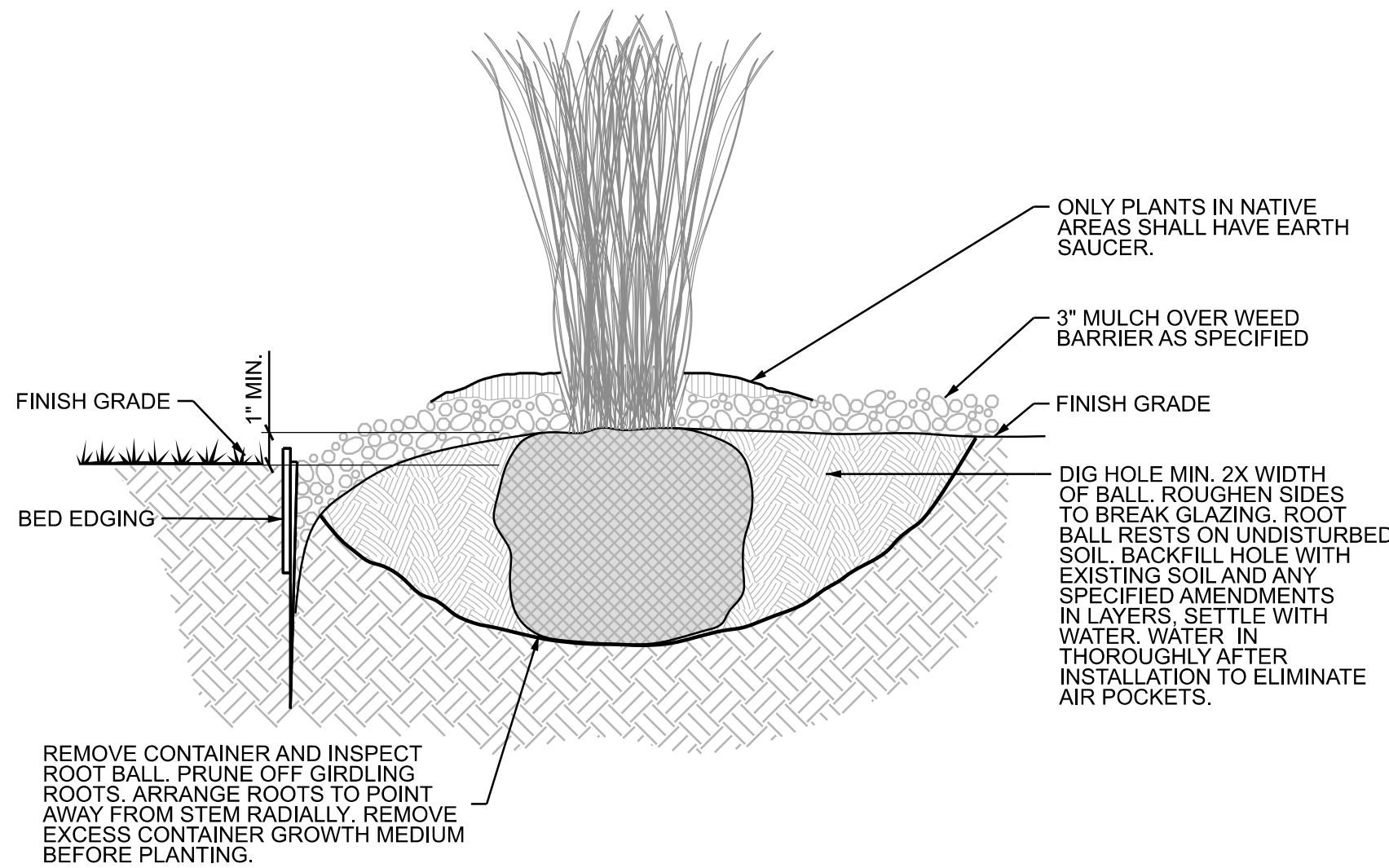
LEGEND:

- 1 GRAFT UNION TYP. 4-6" ABOVE ROOT FLARE.
- 2 ROOT FLARE VISIBLE ABOVE FINISH GRADE. REMOVE EXCESS SOIL FROM BALL AS NEEDED.
- 3 6" STEEL TEE POSTS, 2/TREE W/ 14 GA. SOFT WIRE AND 1-1/2"x18" NYLON STRAP WITH BRASS GROMET TIES ON TRUNK. STAKES SHALL NOT PENETRATE ROOT BALL. DO NOT OVER-TIGHTEN AROUND TREE. TIES SHOULD BE SNUG ENOUGH TO PROVIDE SUPPORT WHILE ALLOWING TREE TO SWAY. CONTRACTOR TO REMOVE TRUNK WRAP, STAKES & TIES AT END OF WARRANTY PERIOD.
- 4 REMOVE WIRE BASKET & ALL BURLAP. INSPECT ROOT BALL & PRUNE OFF ANY GIRDLING ROOTS. PRESS ALL HAIR ROOTS DOWN UNDER STRUCTURAL ROOT FLARE. ARRANGE ROOTS TO LEAVE TRUNK & ROOT FLARE RADIALY.
- 5 3" MULCH AS SPECIFIED. NO WEED BARRIER. END MULCH 3" FROM TRUNK. MULCH TO EXTEND BEYOND STAKES.
- 6 DIG HOLE MIN. 2X WIDTH OF BALL. ROUGHEN SIDES TO BREAK GLAZING. ROOT BALL TO REST ON UNDISTURBED SOIL. BACKFILL HOLE WITH EXISTING SOIL AND ANY SPECIFIED AMENDMENTS IN LAYERS. SETTLE WITH WATER. WATER IN THOROUGHLY AFTER INSTALLATION TO ELIMINATE AIR POCKETS.
- 7 PRUNE AS SPECIFIED TO RETAIN NATURAL FORM.
- 8 ASPHALT COATED PAPER TREE WRAP TO BOTTOM OF FIRST BRANCH, SECURE WITH ELECTRICAL TAPE. DO NOT WRAP TIGHTLY.
- 9 FINISH GRADE - SLOPE AWAY FROM TREES WHEREVER POSSIBLE.
- 10 OVER EXCAVATE TREE PIT A MINIMUM OF 12" INTO SUBGRADE TO LOOSEN MATERIAL. ADJUST ROOTBALL DEPTH AS REQUIRED TO ACCOUNT FOR SETTLEMENT.

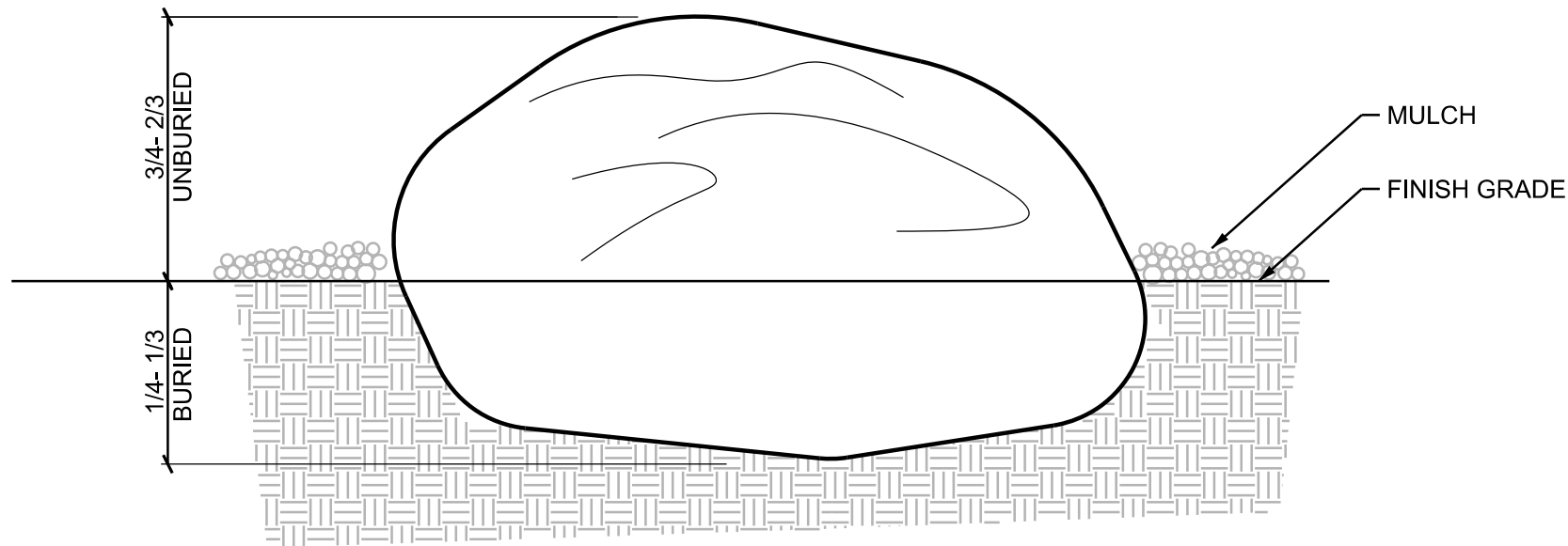
1 DECIDUOUS TREE PLANTING NOT TO SCALE



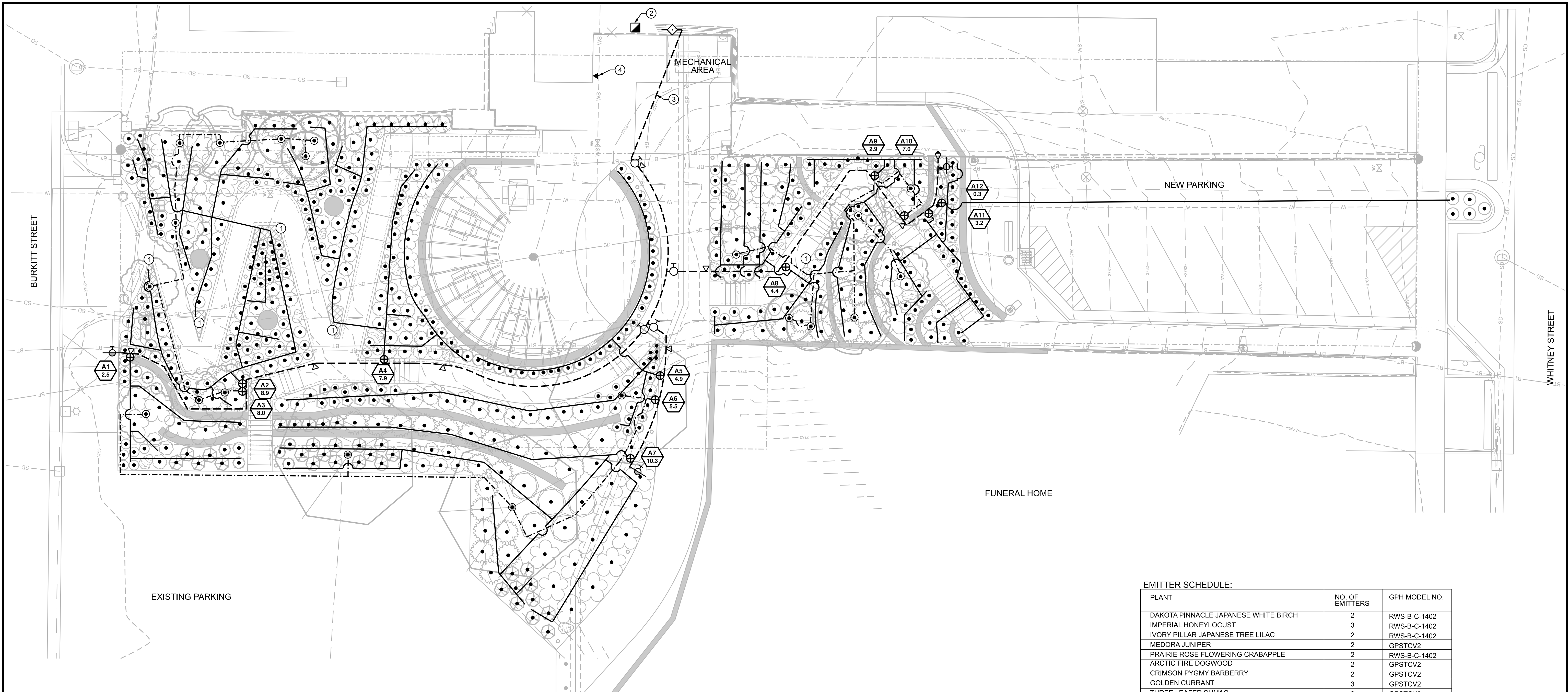
2 SHRUB PLANTING NOT TO SCALE



3 ORNAMENTAL GRASS PLANTING NOT TO SCALE



4 LANDSCAPE BOULDER PLACEMENT NOT TO SCALE



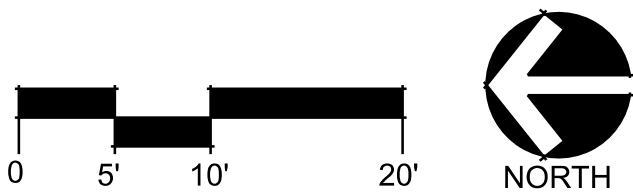
LEGEND:				
SYMBOL	DESCRIPTION	SIZE	MANUF.	MODEL NUMBER
●	DRIP EMITTER AT PLANT	1/2"	GPH	SEE DRIP EMITTER SCHEDULE FOR MODEL AND QUANTITY
○	ROOT WATERING SYSTEM	36"	RAINBIRD	SEE DRIP EMITTER SCHEDULE FOR MODEL AND QUANTITY
◇	AIR RELIEF VALVE	1"	BERMAD	C10-SP
○	ISOLATION VALVE	LINE SIZE	AS SPECIFIED	
○	MAINLINE DRAIN VALVE	AS SPECIFIED	AS SPECIFIED	
▽	QUICK COUPLING VALVE	3/4"	RAINBIRD	33 DLRC
⊕	DRIP CONTROL ZONE	1"	RAINBIRD	XCZ-100-FLOW
◇	MASTER VALVE/FLOW SENSOR	1"	RAINBIRD/FLOMEC	100-PEB/QS200-10
▽	RAIN + FREEZE SENSOR	1"	RAINBIRD	WR2-RFC
■	CONTROLLER	12 STATION	RAINBIRD	ESPLXME2P W/ PSM LXME2
---	IRRIGATION MAIN	1"		CLASS 200 PVC
---	LATERAL LINE TO PLANTS	1"		CLASS 200 PVC
---	LATERAL LINE TO TREES	1"		CLASS 200 PVC
---	SLEEVES - PVC	SEE NOTES		SCHEDULE 40
○	ZONE #			
○	GPM			

- KEY NOTES:
- SEE DRIP EMITTER SCHEDULE FOR EMITTER QUANTITY AT STONECROP.
 - COORDINATE CONTROLLER LOCATION WITH OWNER'S REPRESENTATIVE. ROUTE CONTROL CABLE AND FLOW SENSOR WIRE IN CONDUIT FROM CONTROLLER TO SYSTEM. SIZE AS REQUIRED, 1" MIN. EXTEND CONDUIT TO INITIAL PLANTER.
 - IRRIGATION SUPPLY LINE BY MECHANICAL FROM BUILDING TO INITIAL PLANTER. IRRIGATION CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR.
 - INSTALL RAIN SENSOR ON FACE OF BUILDING, OUT OF REACH OF PUBLIC. COORDINATE LOCATION WITH OWNER'S REPRESENTATIVE.

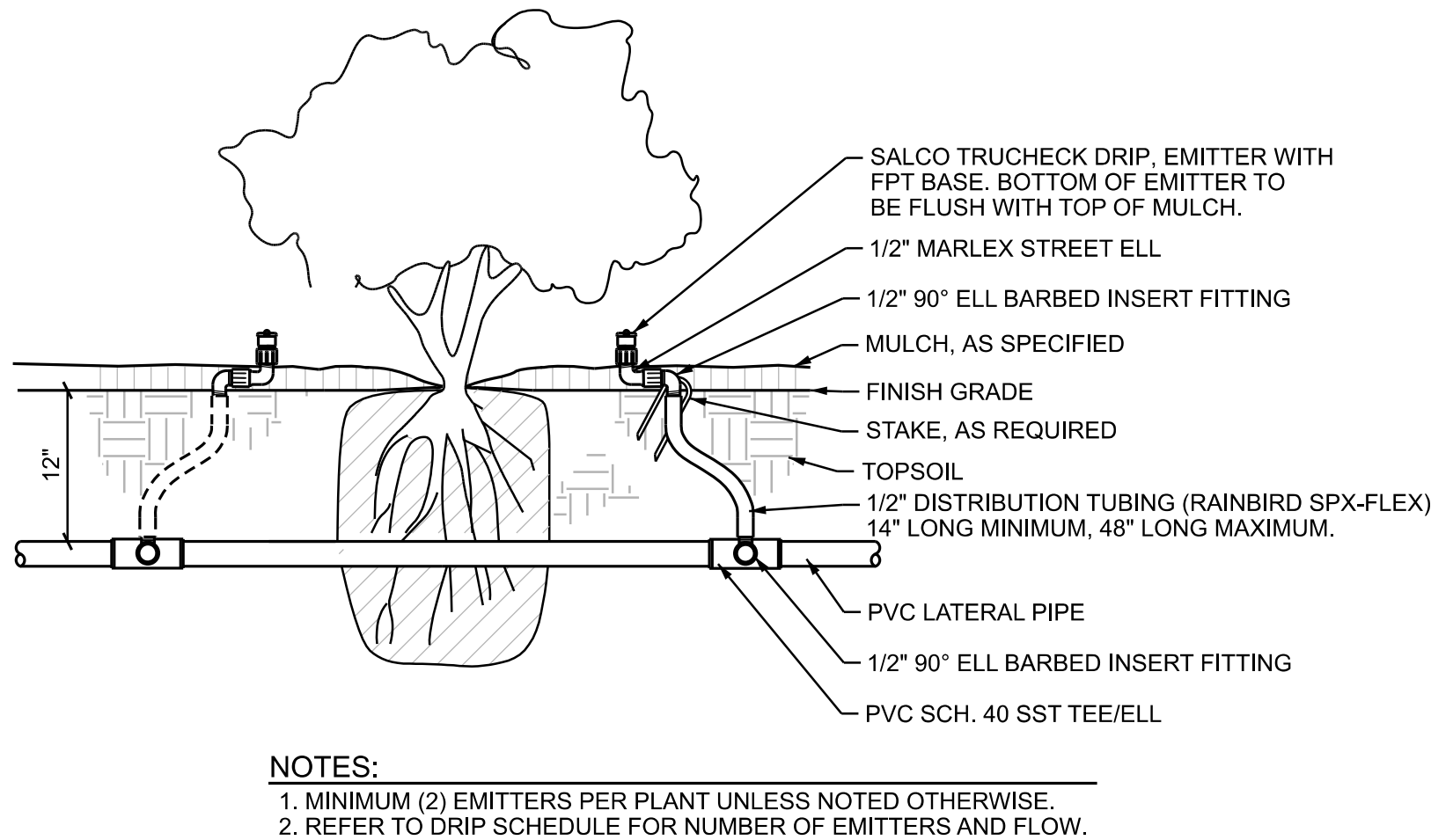
- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES ON SITE OR ADJACENT PROPERTY SHALL BE CONTRACTOR'S RESPONSIBILITY.
 - IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. FIELD ADJUSTMENT OF IRRIGATION COMPONENTS MAY BE NECESSARY TO AVOID CONFLICTS WITH EXISTING SITE FEATURES. REASONABLE CHANGES IN PIPE LAYOUT MAY BE MADE BY THE CONTRACTOR WITH THE ADVANCE APPROVAL OF THE LANDSCAPE ARCHITECT.
 - SCHEDULE 40 PVC SLEEVES ARE REQUIRED UNDER ALL HARD AND GRAVEL SURFACES, EXISTING AND PROPOSED. SLEEVES ARE ALSO REQUIRED AT ALL WALL PENETRATIONS. LOCATION AND NUMBER OF SLEEVES IS THE RESPONSIBILITY OF THE CONTRACTOR FOR INSTALLATION OF THE IRRIGATION SYSTEM AS SHOWN. ALL PIPE SLEEVES TO BE 2 PIPE SIZES LARGER THAN PIPE TO BE INSTALLED THROUGH SLEEVE. PROVIDE SEPARATE SLEEVES FOR BOTH 120 V. AND 24 V. WIRING. WIRE SLEEVES TO BE 3" MIN. IRRIGATION CONTRACTOR SHALL COORDINATE WITH THE CONCRETE CONTRACTOR TO ENSURE PROPER NUMBER, SIZE, AND LOCATION IS PROVIDED. COORDINATE WITH ELECTRICAL CONTRACTOR TO CONSOLIDATE SLEEVES WHERE POSSIBLE.
 - CONTRACTOR SHALL PROVIDE ALL DEVICES, WIRING AND PROGRAMMING AT CONTROLLER FOR A COMPLETE OPERATIONAL SYSTEM. CONTRACTOR SHALL COORDINATE AND PAY FOR ALL TECHNICAL SUPPORT NEEDS WITH CONTROL SYSTEM MANUFACTURER AND SERVICE PROVIDERS AS REQUIRED FOR COMPLETE AND FUNCTIONAL SYSTEM.
 - LOCATION BASED ON 15 GPM @ 60 PSI.
 - LOCATIONS OF AIR RELIEF VALVES MAY VARY. ACTUAL LOCATIONS SHALL BE IN ALL HIGH SPOTS ALONG THE MAINLINE IN APPROXIMATE LOCATIONS AS SHOWN, FIELD VERIFY.
 - CONTRACTOR SHALL MAINTAIN AN ACCURATE, CURRENT AS-BUILT ON THE JOB AT ALL TIMES.
 - ALL CONDUIT TO BE 1" MINIMUM. CONCEAL OR BURY WHEREVER POSSIBLE. ALL VISIBLE CONDUITS SHALL BE ROUTED AS DIRECTED. ALL BURIED CONDUITS SHALL BE ELECTRICAL GRADE SCHEDULE 40 PVC. ALL CONDUITS ABOVE GRADE SHALL BE SCHEDULE 80 PVC.
 - DESIGN BASED ON 15 GPM @ 60 PSI.
 - PIPING AND EQUIPMENT MAY BE SHOWN IN PAVED AREAS FOR GRAPHICAL CLARITY. PIPING AND EQUIPMENT TO BE INSTALLED IN ADJACENT LANDSCAPING AREAS.
 - DRIP ZONE FLOWS BASED ON MATURE PLANTS. EMITTER SCHEDULE BASED ON INITIAL INSTALLATION. EMITTER SIZES TO BE INCREASED BY END USER AS PLANTS MATURE AND REQUIRE ADDITIONAL WATER.
 - REFER TO CIVIL DRAWINGS FOR EXISTING AND FINAL PROPOSED CONTOURS AND GRADE INFORMATION. REFER TO CIVIL FOR FINAL UTILITY ROUTING.
 - REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

EMITTER SCHEDULE:

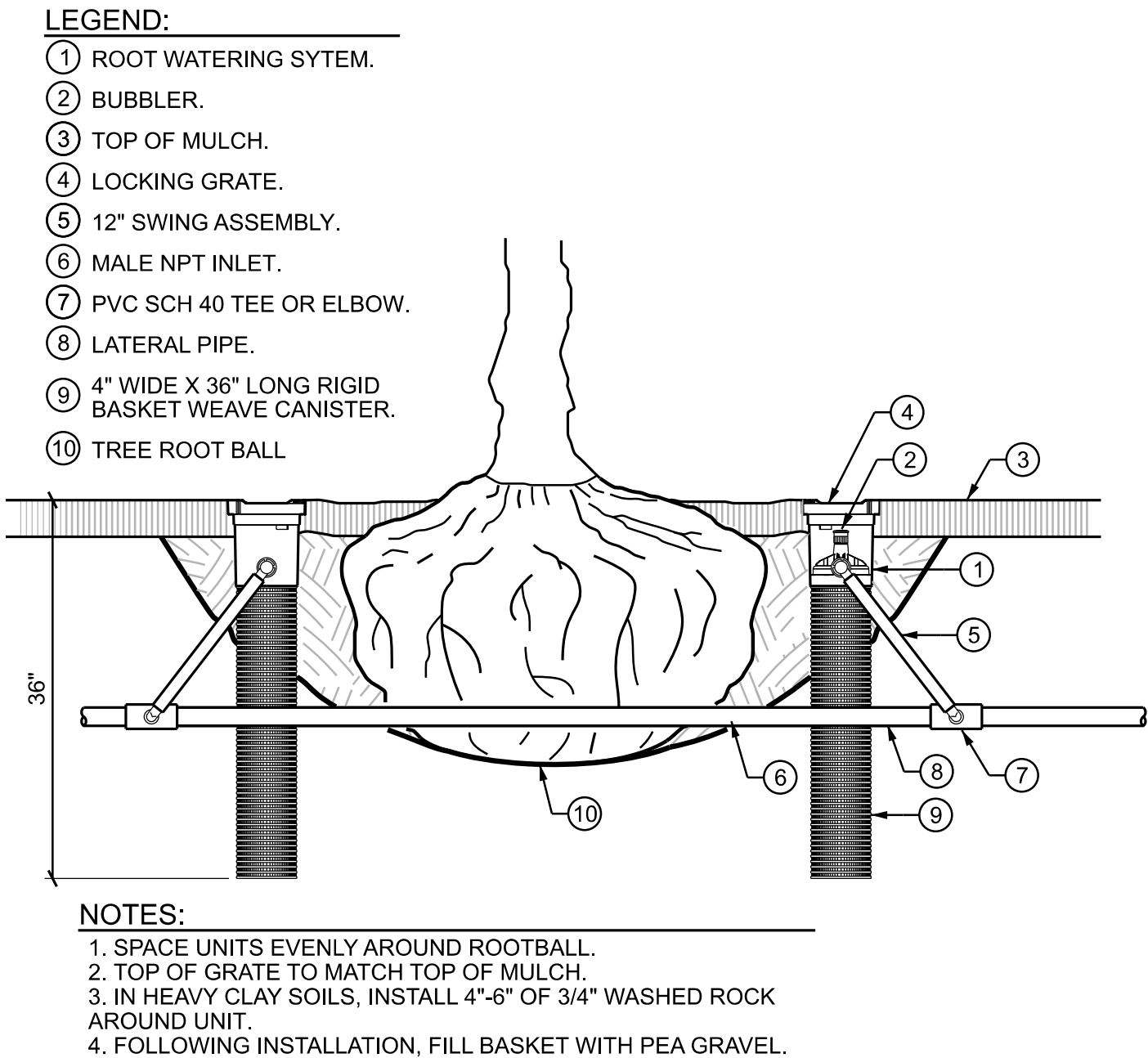
PLANT	NO. OF EMITTERS	GPH MODEL NO.
DAKOTA PINNACLE JAPANESE WHITE BIRCH	2	RWS-B-C-1402
IMPERIAL HONEYLOCUST	3	RWS-B-C-1402
IVORY PILLAR JAPANESE TREE LILAC	2	RWS-B-C-1402
MEDORA JUNIPER	2	GPSTCV2
PRAIRIE ROSE FLOWERING CRABAPPLE	2	RWS-B-C-1402
ARCTIC FIRE DOGWOOD	2	GPSTCV2
CRIMSON PYGMY BARBERRY	2	GPSTCV2
GOLDEN CURRANT	3	GPSTCV2
THREE LEAFED SUMAC	3	GPSTCV2
GRO-LOW SUMAC	2	GPSTCV2
GOLDFINGER POTENTILLA	2	GPSTCV2
MOUNTAIN NINEBARK	2	GPSTCV2
MCKAY'S WHITE POTENTILLA	2	GPSTCV2
LITTLE DEVIL NINEBARK	2	GPSTCV2
ARCADIA JUNIPER	2	GPSTCV2
PRINCE OF WALES JUNIPER	2	GPSTCV2
BLACK-EYED SUSAN	1	GPSTCV1
BLANKET FLOWER	1	GPSTCV1
HAPPY RETURNS DAYLILY	1	GPSTCV2
BLAZING STAR	1	GPSTCV1
PRAIRIE DUSK BEARD TONGUE	1	GPSTCV1
STONECROP MIX	1 PER 2 PLANTS	GPSTCV05
BIG BLUESTEM	2	GPSTCV1
BLUE OAT GRASS	2	GPSTCV1
BASIN WILDRYE	2	GPSTCV1
BLUEBUNCH WHEATGRASS	2	GPSTCV1
PRAIRIE DROPSEED	1	GPSTCV1
NORTHWIND SWITCH GRASS	2	GPSTCV1



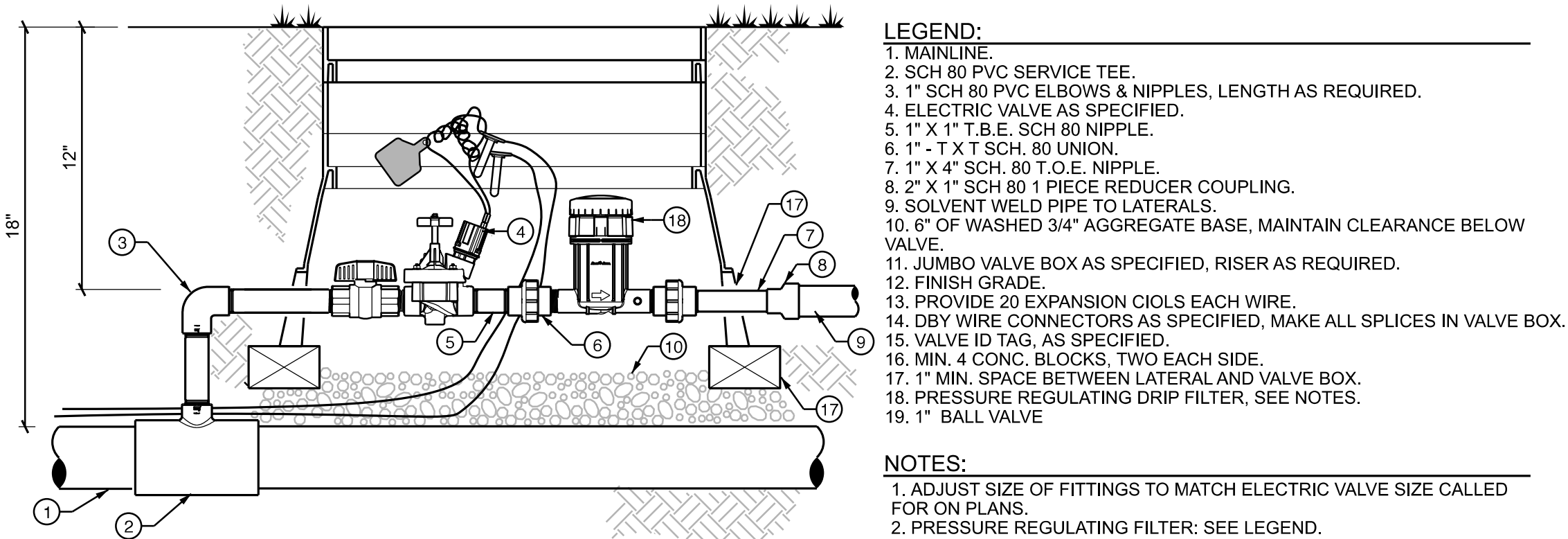
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								APPR. BY: NGS			
								DATE: 3/1/2023			
								Q.C. REVIEW			
								BY:			
								DATE:			
										IRRIGATION PLAN	DRAWING NUMBER L-6



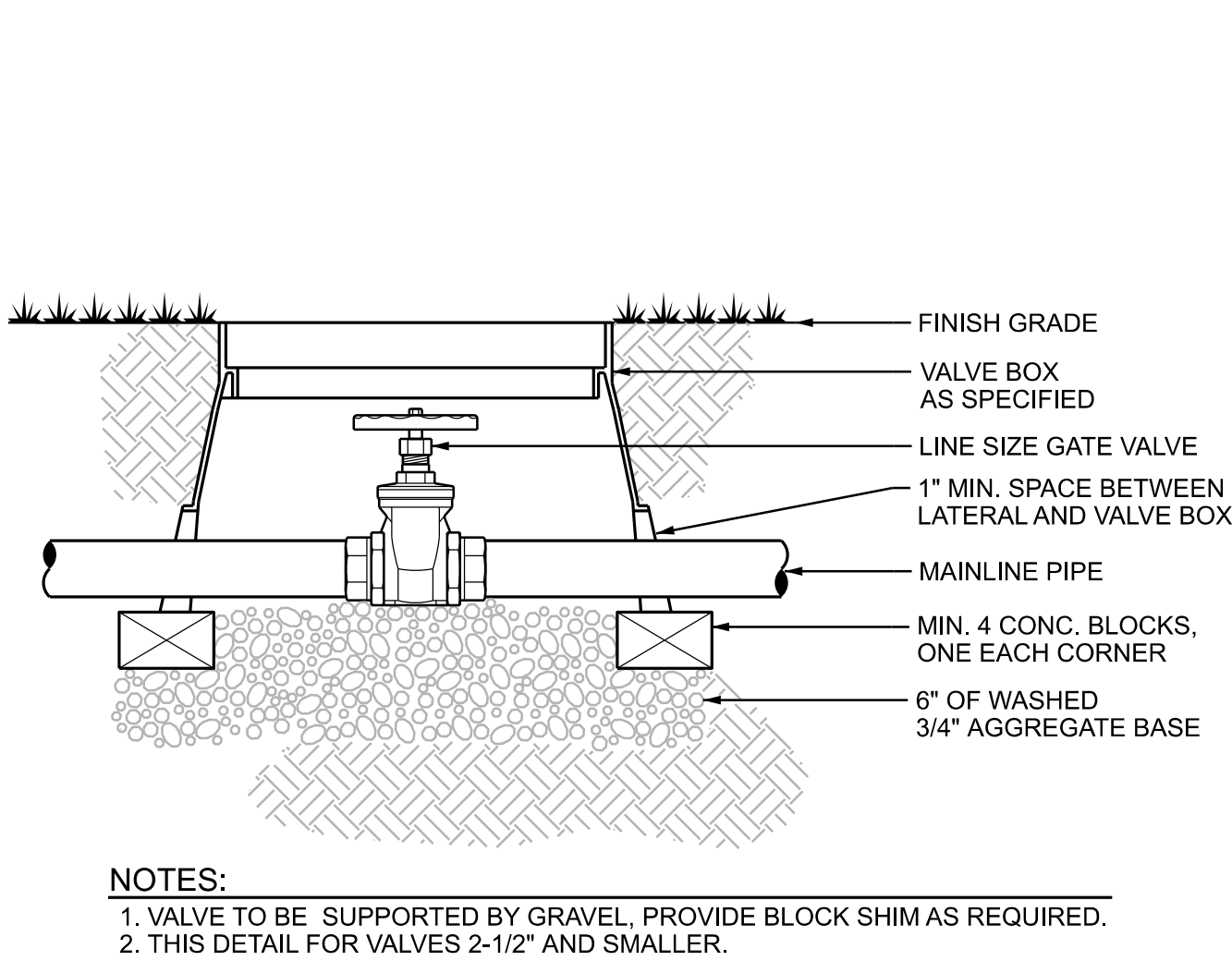
1 DRIP EMITTER AT PLANT NOT TO SCALE



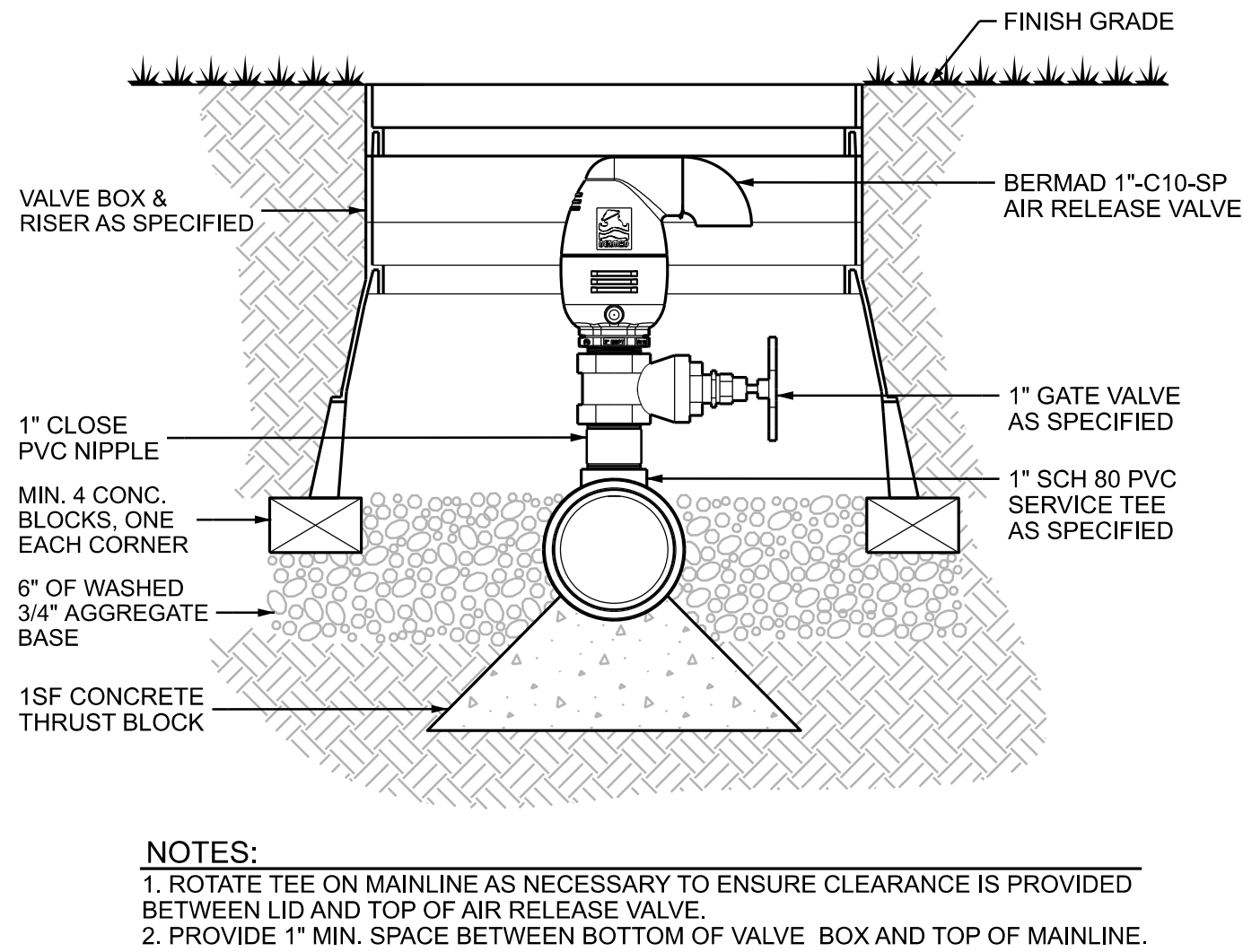
2 ROOT WATERING SYSTEM NOT TO SCALE



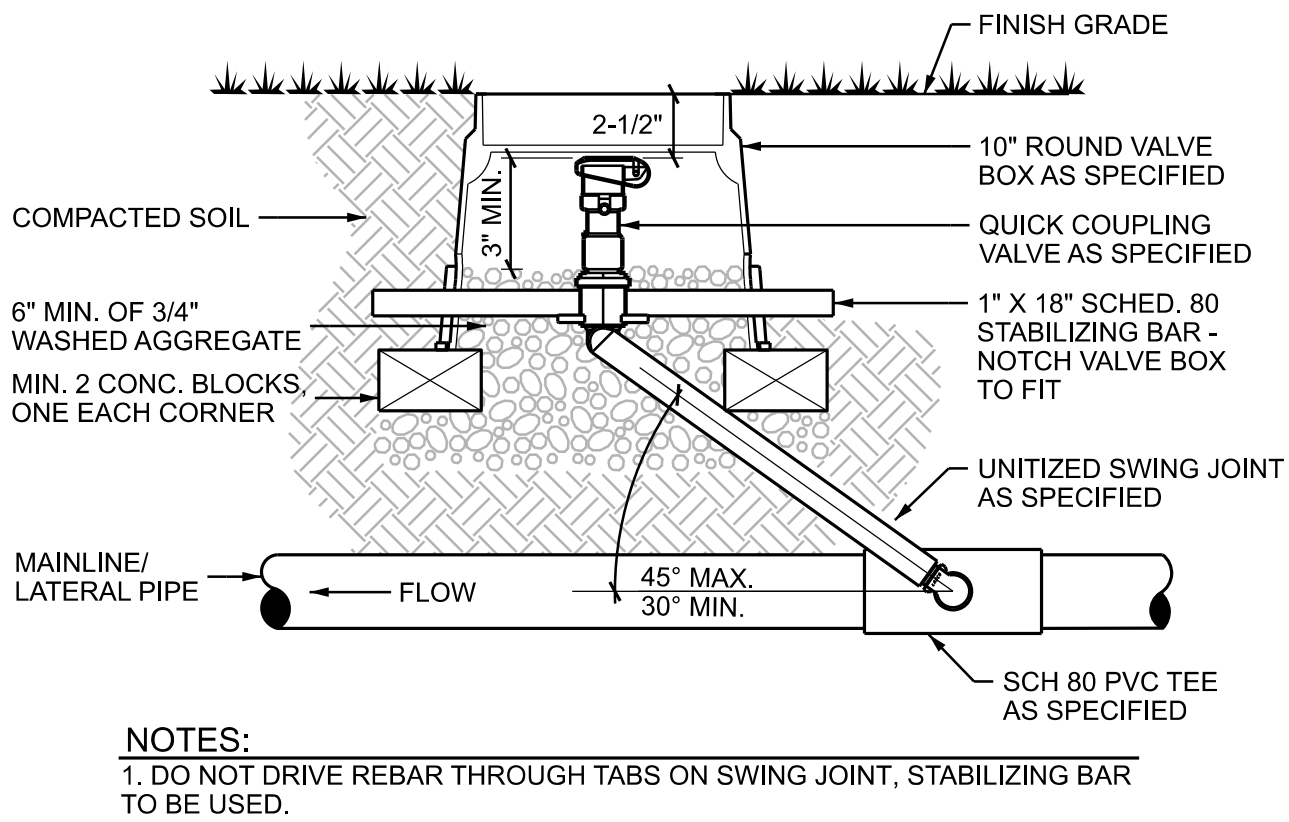
3 TYPICAL ELECTRIC CONTROL VALVE NOT TO SCALE



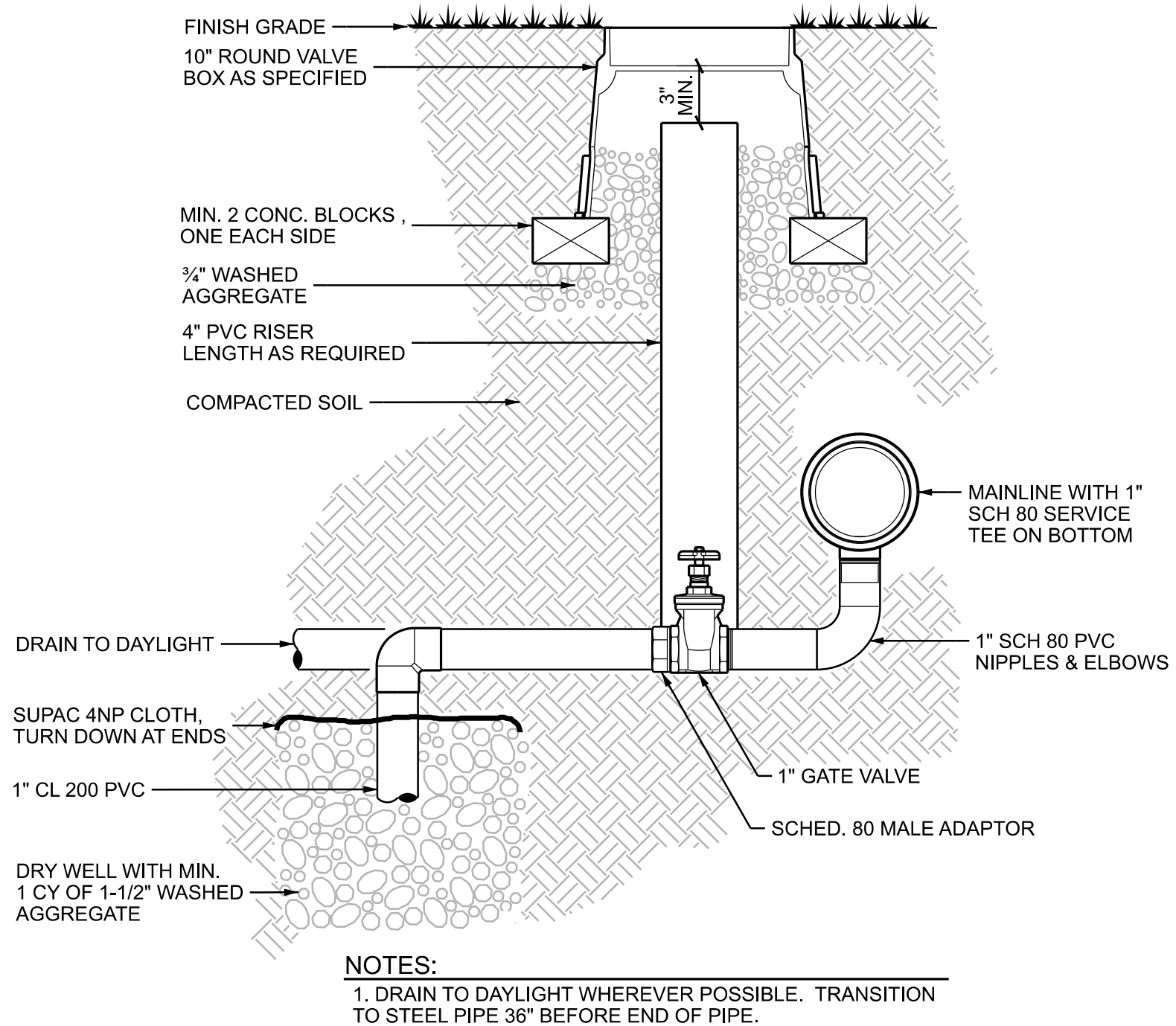
4 MANUAL ISOLATION VALVE NOT TO SCALE



5 AIR RELIEF VALVE NOT TO SCALE



6 TYPICAL QUICK COUPLER NOT TO SCALE



7 TYP. MAINLINE DRAIN NOT TO SCALE

REVISIONS				
NO.	DESCRIPTION	BY	DATE	

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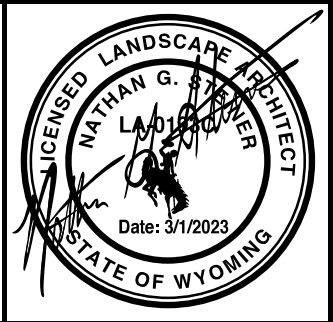
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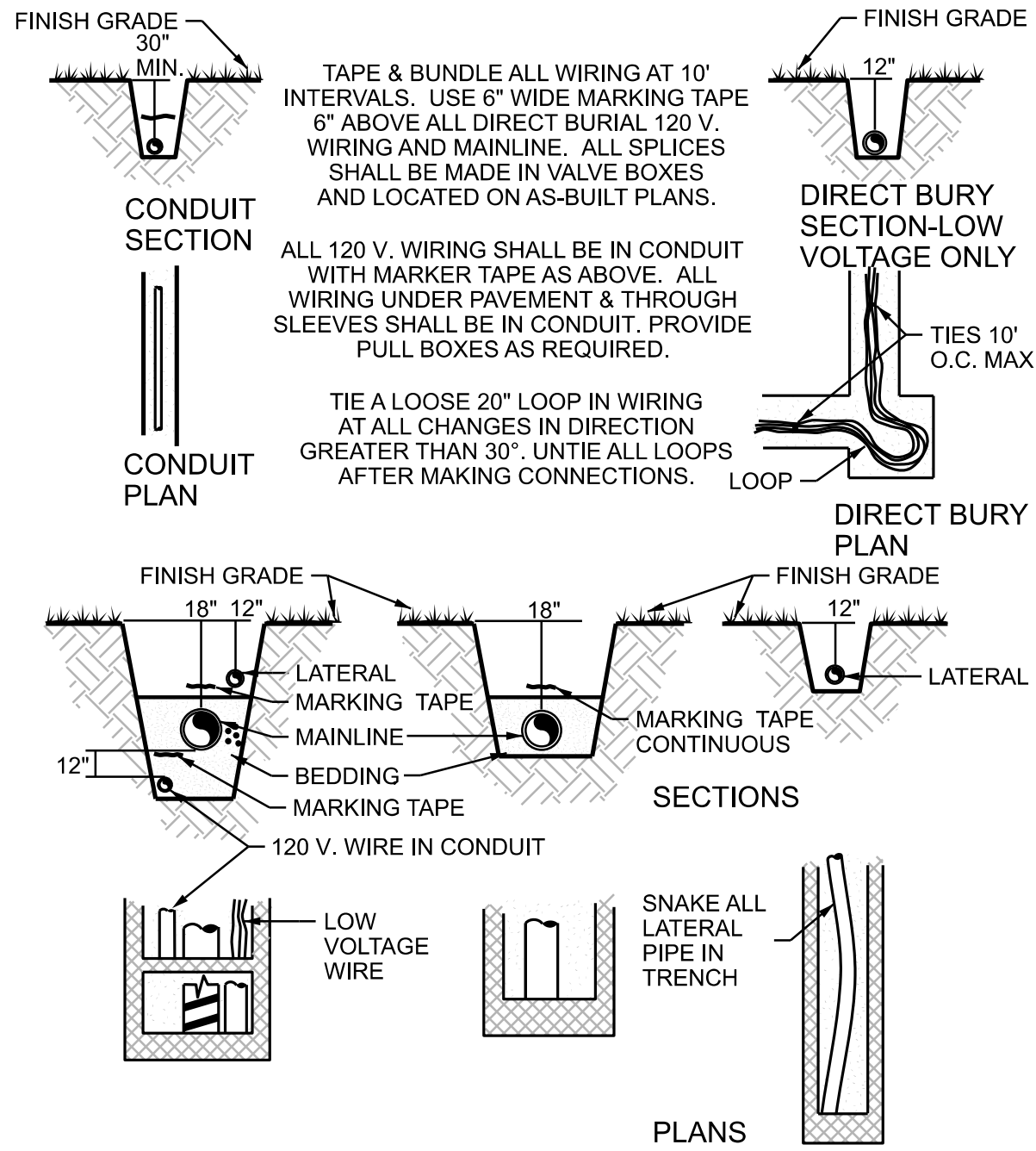


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DSGN. BY: NGS
APPR. BY: NGS
DATE: 3/1/2023
Q.C. REVIEW
BY:
DATE:

SHERIDAN COUNTY
BROOKS STREET GREENSPACE
WYOMING

IRRIGATION DETAILS

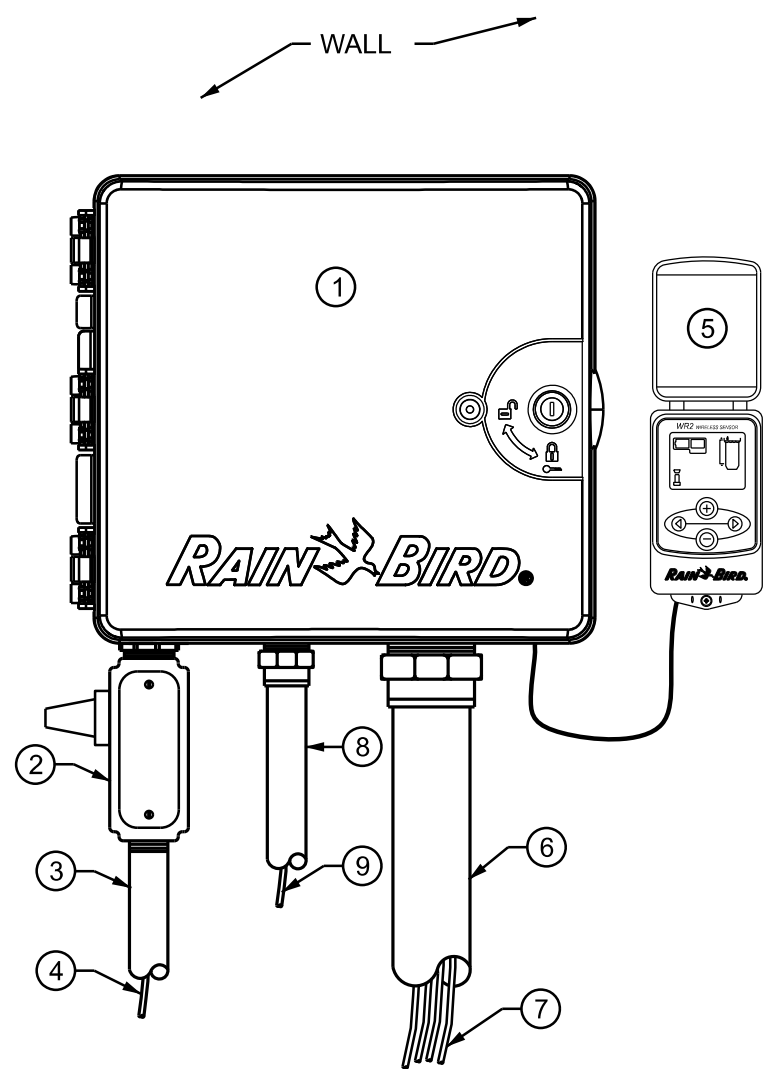
PROJECT NUMBER
6017.002
SHEET NUMBER
DRAWING NUMBER
L-7



- NOTES:
1. 120 V. WIRE TO BE INSTALLED ON THE SIDE OF THE MAINLINE AS SHOWN ON THE PLANS.
 2. LOW VOLTAGE WIRE TO BE BUNDLED AND INSTALLED OPPOSITE THE 120 V. WIRE AT MAINLINE PIPE DEPTH.

1 TRENCHING DETAILS

NOT TO SCALE

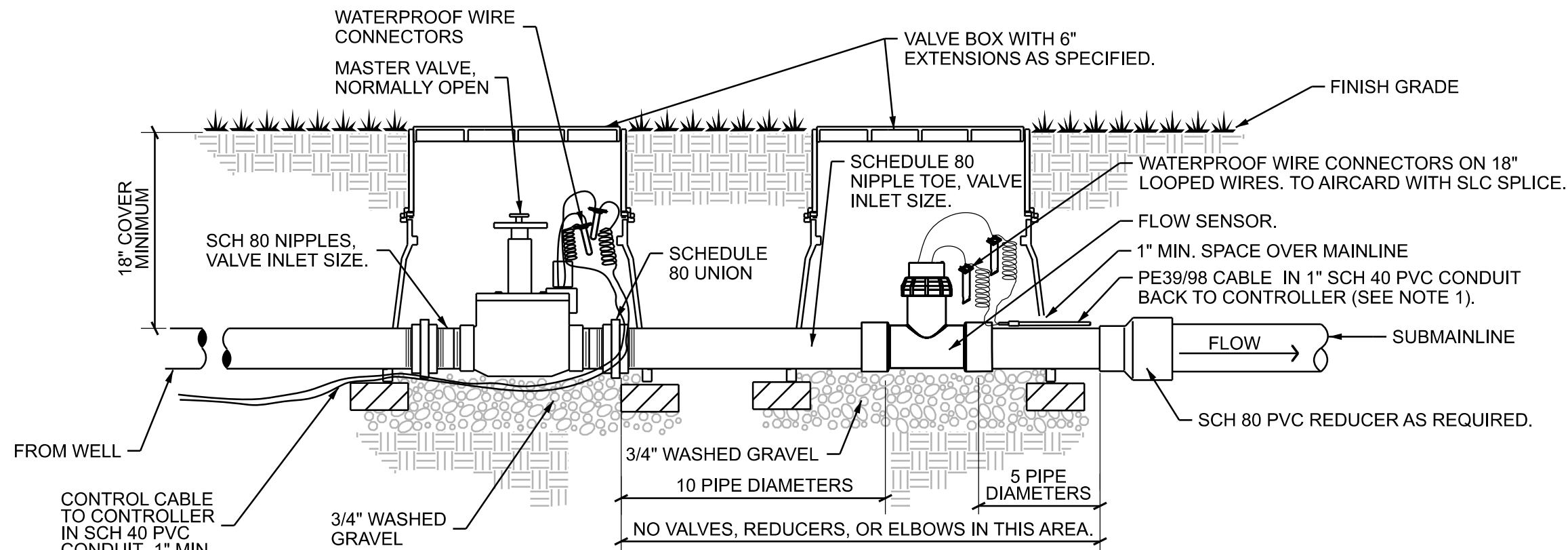


- KEY NOTES:
- 1 WALL MOUNT CONTROLLER AS SPECIFIED.
 - 2 120 V. JUNCTION BOX WITH INTERMATIC #AG-2401 120 V SURGE ARRESTOR.
 - 3 1" CONDUIT AND FITTINGS TO POWER SUPPLY.
 - 4 120 V. POWER SUPPLY WIRE.
 - 5 RAIN SENSOR CONTROLLER INTERFACE WITH CABLE HARNESS.
 - 6 2" CONDUIT AND FITTINGS FOR CONTROL CABLE.
 - 7 CONTROL CABLE TO VALVES.
 - 8 1" CONDUIT AND FITTINGS TO GROUNDING GRID.
 - 9 #10 BARE COPPER WIRE TO GROUNDING GRID.

- NOTES:
1. SEAL ALL PENETRATIONS.
 2. PROVIDE ALL FITTINGS AS REQUIRED FOR PROPER INSTALLATION.
 3. ALL CONDUIT SHALL BE INSTALLED IN A NEAT AND CLEAN MANNER AND BE SECURED TO ALL SURFACES.

2 CONTROLLER

NOT TO SCALE



- NOTES:
1. 1 PAIR, TWISTED SHIELDED CABLE-MINIMUM CONDUCTOR SIZE 20 AWG. DO NOT EXCEED 2,000 FEET IN LAYING DISTANCE FROM FLOW SENSOR TO IRRIGATION CONTROLLER.
 2. FLOW SENSOR PIPE RUN SIZE SAME AS FLOW SENSOR SIZE NOTED ON PLANS.
 3. MINIMUM DISTANCES BETWEEN ANY FITTING OR VALVE AND FLOW SENSOR ARE NOTED ABOVE.
 4. COORDINATE WITH MECHANICAL FOR INTERIOR INSTALLATION. IRRIGATION CONTRACTOR TO SUPPLY MASTER VALVE & FLOW SENSOR FOR INSTALLATION BY MECHANICAL.

3 MASTER VALVE AND FLOW SENSOR

NOT TO SCALE

<p>VERIFY SCALE!</p> <p>THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>MODIFY SCALE ACCORDINGLY!</p> <p>PLOTTED BY:- ON -</p>	REVISIONS				<p>STEINER THUESEN PLLC</p> <p>GOLF COURSE ARCHITECTURE IRRIGATION DESIGN LANDSCAPE ARCHITECTURE</p> <p>1925 Grand Avenue, Suite 105 Billings, MT 59102 (406) 252-5545 WWW.STEINERTHUESEN.COM</p>	<p>Morrison Maierle</p> <p>engineers • surveyors • planners • scientists</p> <p>1470 Sugarland Drive, Suite 1, Sheridan, WY 82801 307.672.9310 www.m-m.net COPYRIGHT © MORRISON-MAIERLE, INC.</p>	<p>DRAWN BY: GSG</p> <p>DSGN. BY: NGS</p> <p>APPR. BY: NGS</p> <p>DATE: 3/1/2023</p> <p>Q.C. REVIEW</p> <p>BY:</p> <p>DATE:</p>	SHERIDAN COUNTY BROOKS STREET GREENSPACE		PROJECT NUMBER 6017.002
	NO.	DESCRIPTION	BY	DATE				SHERIDAN	WYOMING	SHEET NUMBER
								IRRIGATION DETAILS		DRAWING NUMBER L-8