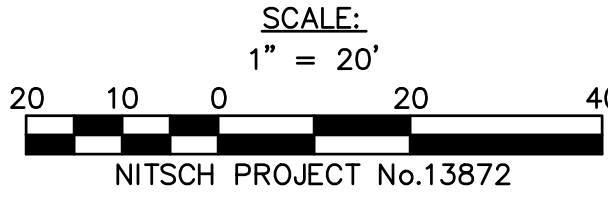
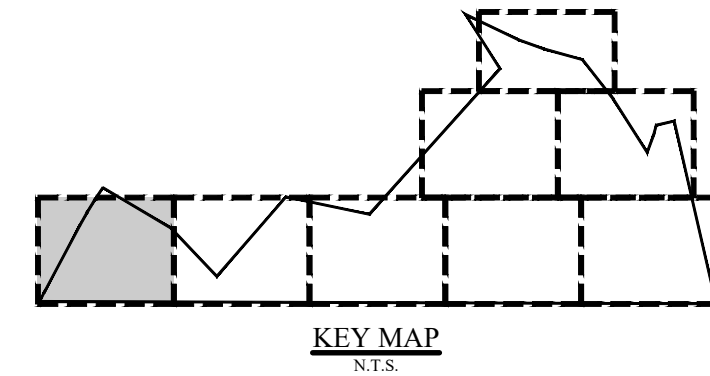


DATE: 06/17/2021 11:58 AM



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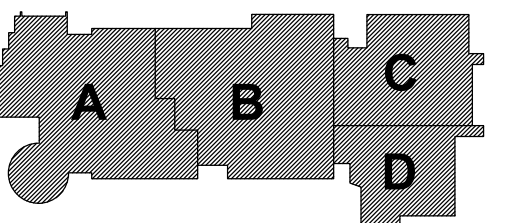
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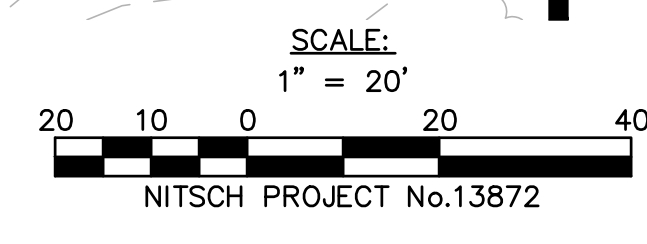
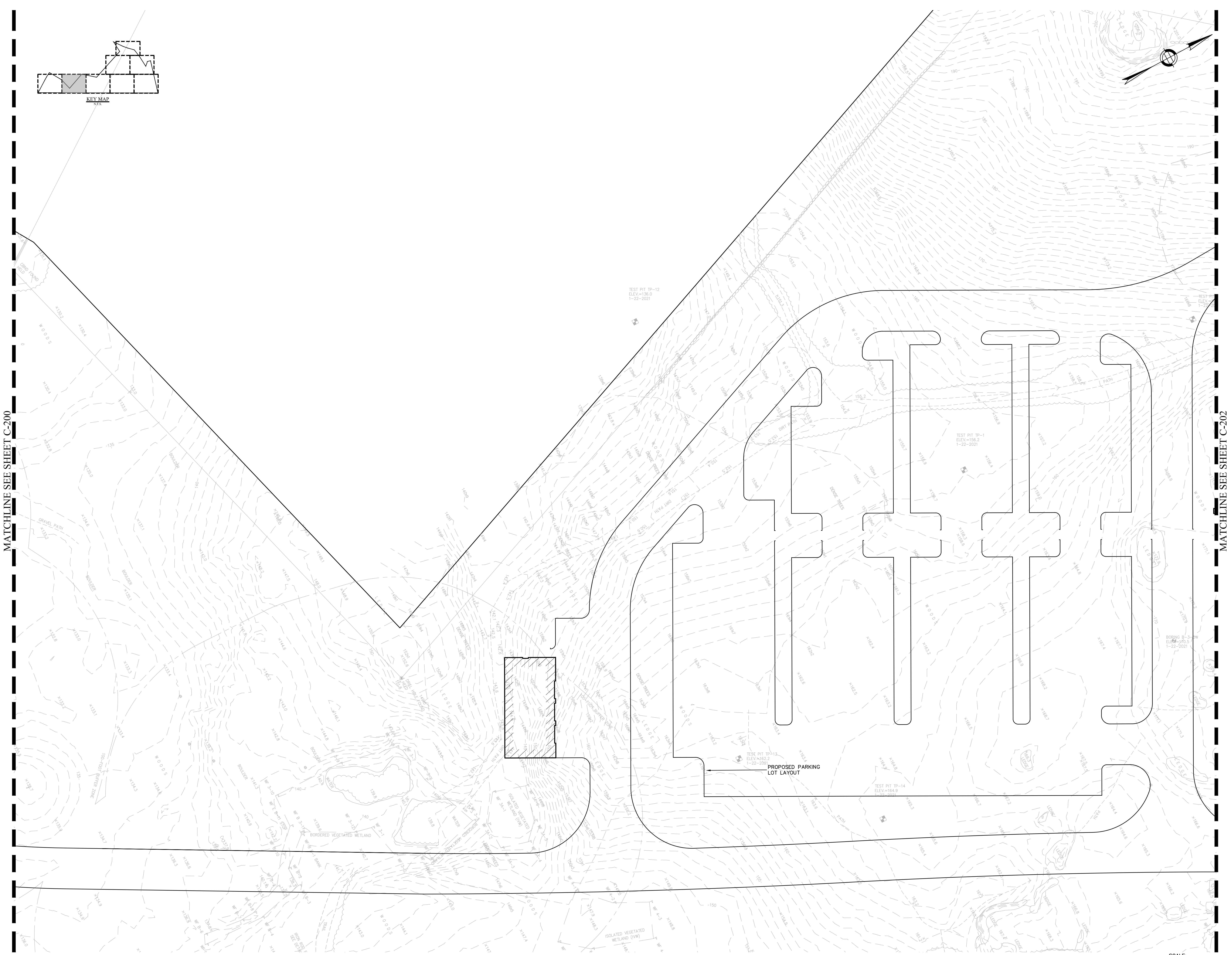
KEY PLAN

**UTILITY DEMO
PLAN**

Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

C-200

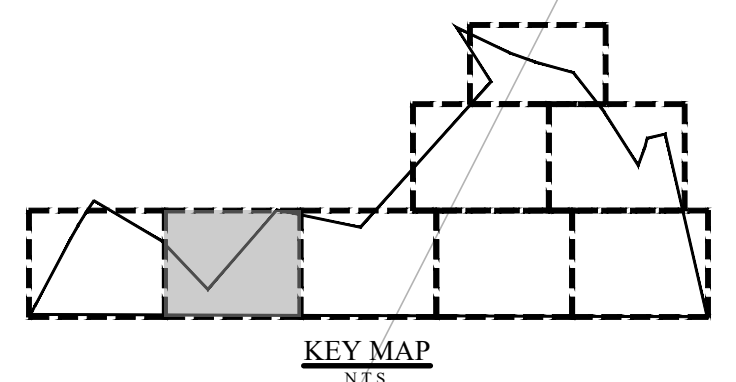
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DATE: 06/17/2021 11:58 AM

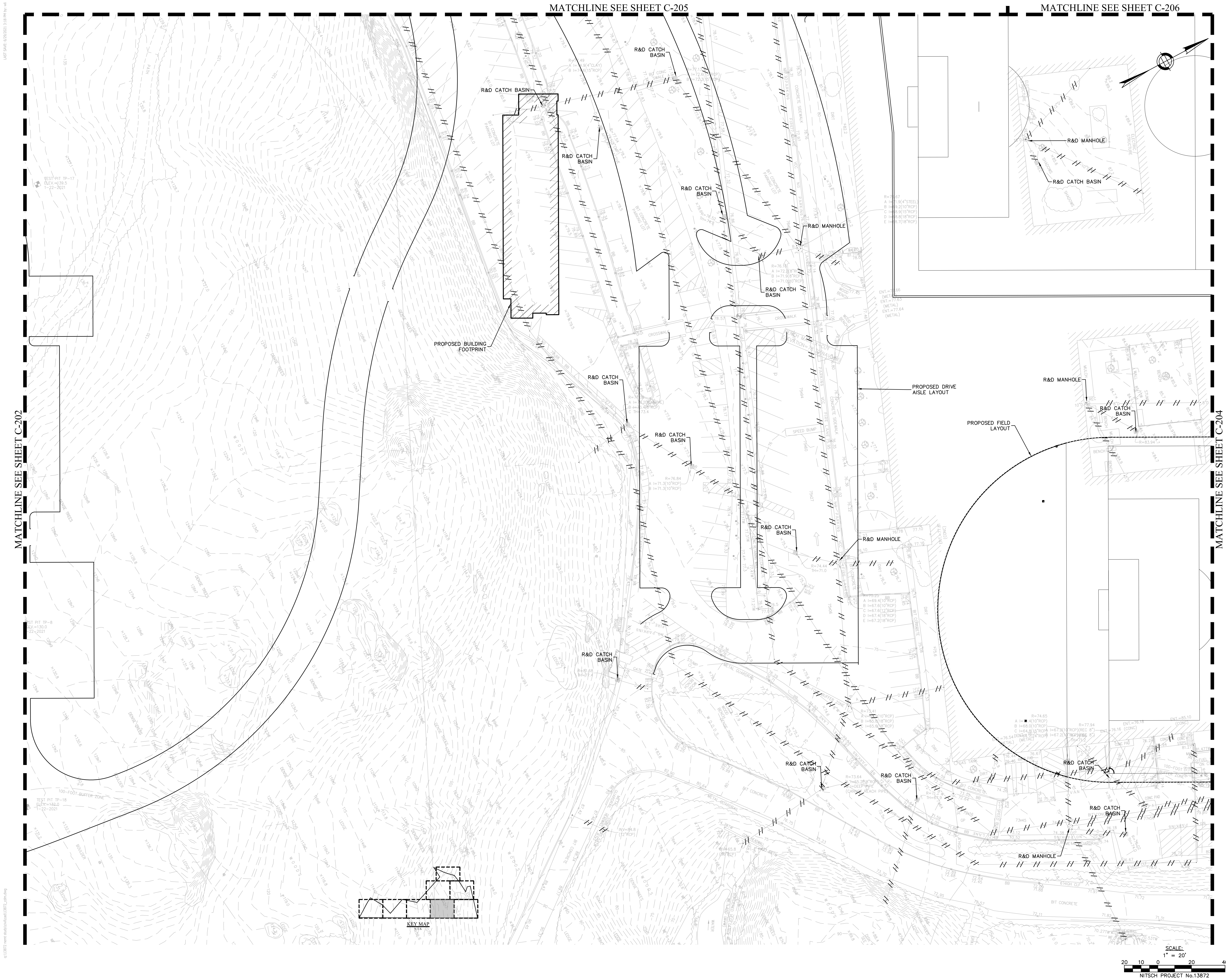
MATCHLINE SEE SHEET C-200

MATCHLINE SEE SHEET C-202



KEY MAP

06/17/2021 11:58 AM NITSCH PROJECT No.13872

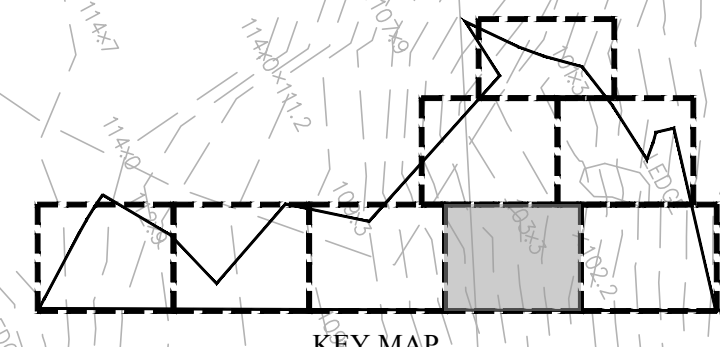


MATCHLINE SEE SHEET C-202

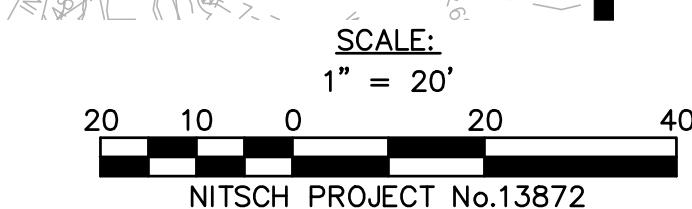
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MATCHLINE SEE SHEET C-206

MATCHLINE SEE SHEET C-204



KEY MAP

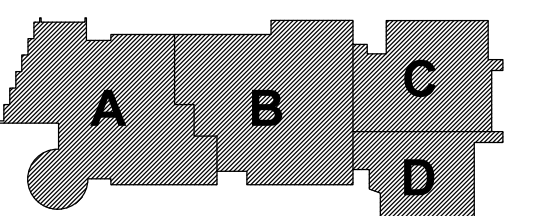


SCALE:
1" = 20'
NITSCH PROJECT No.13872

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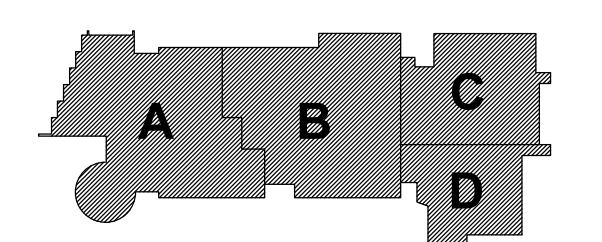


KEY PLAN

UTILITY DEMO
PLAN

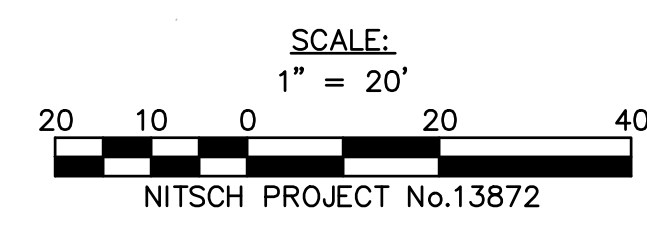
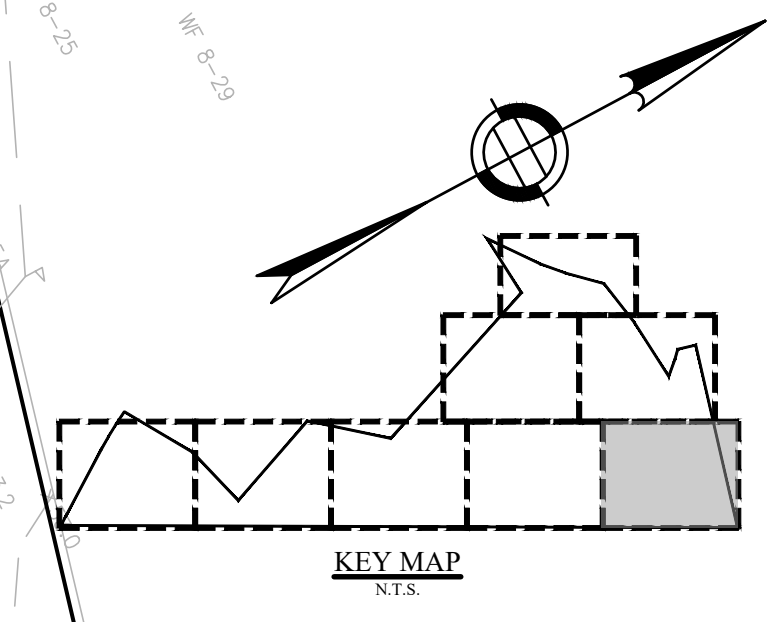
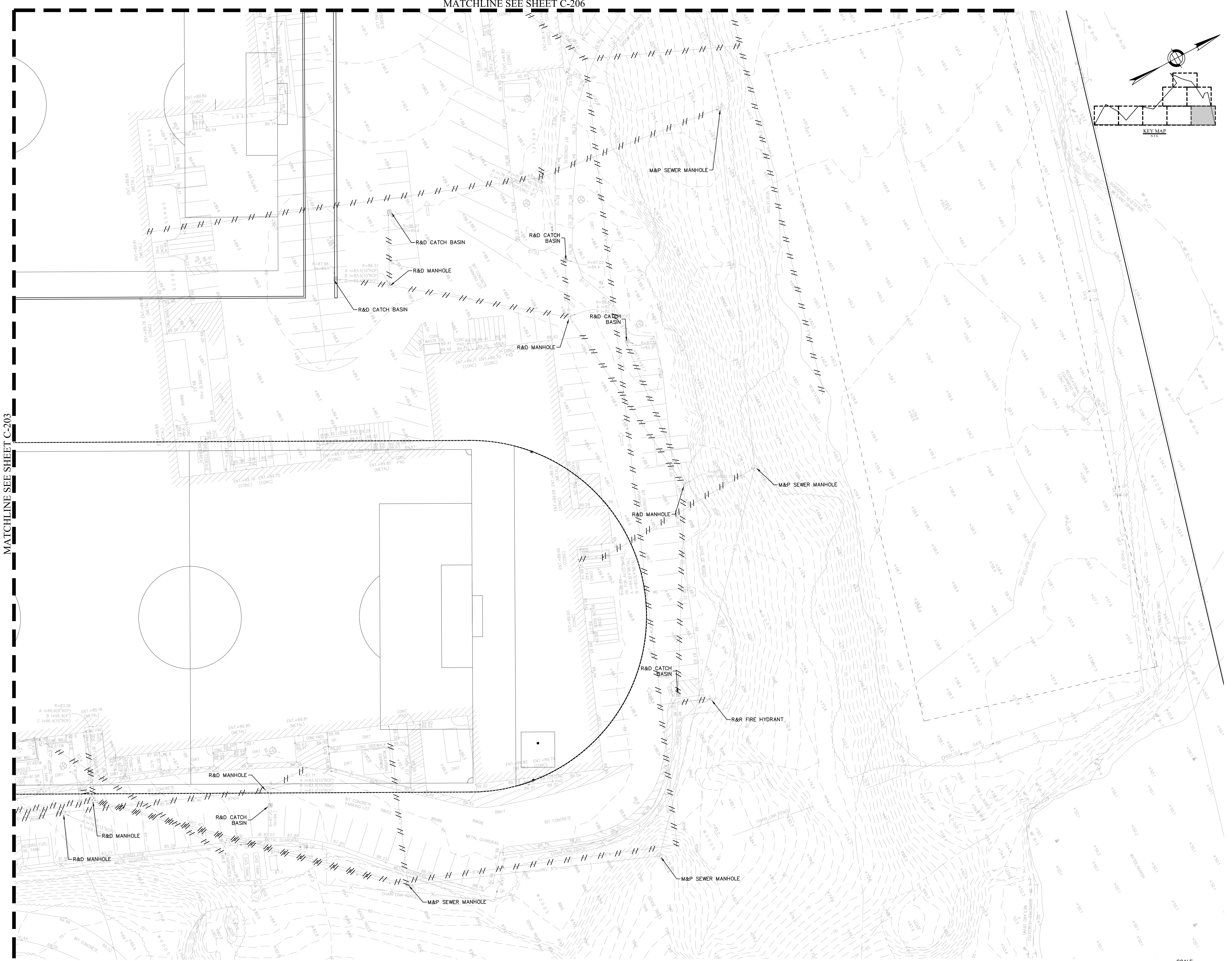
Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

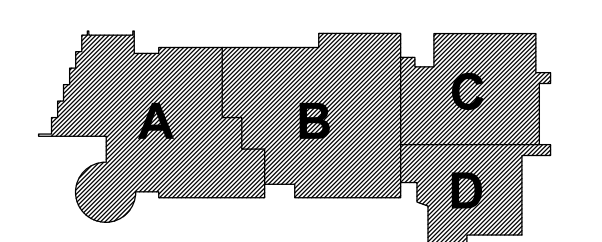
C-203



KEY PLAN

LAST DATE: 06/02/21 11:01 AM
MATCHLINE SEE SHEET C-203
MATCHLINE SEE SHEET C-206





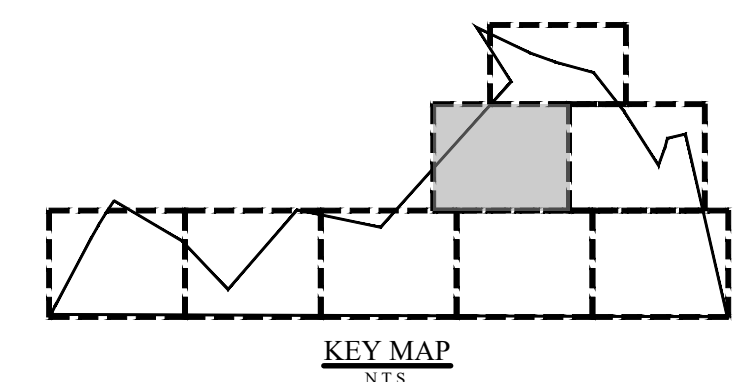
KEY PLAN

UTILITY DEMO
PLAN

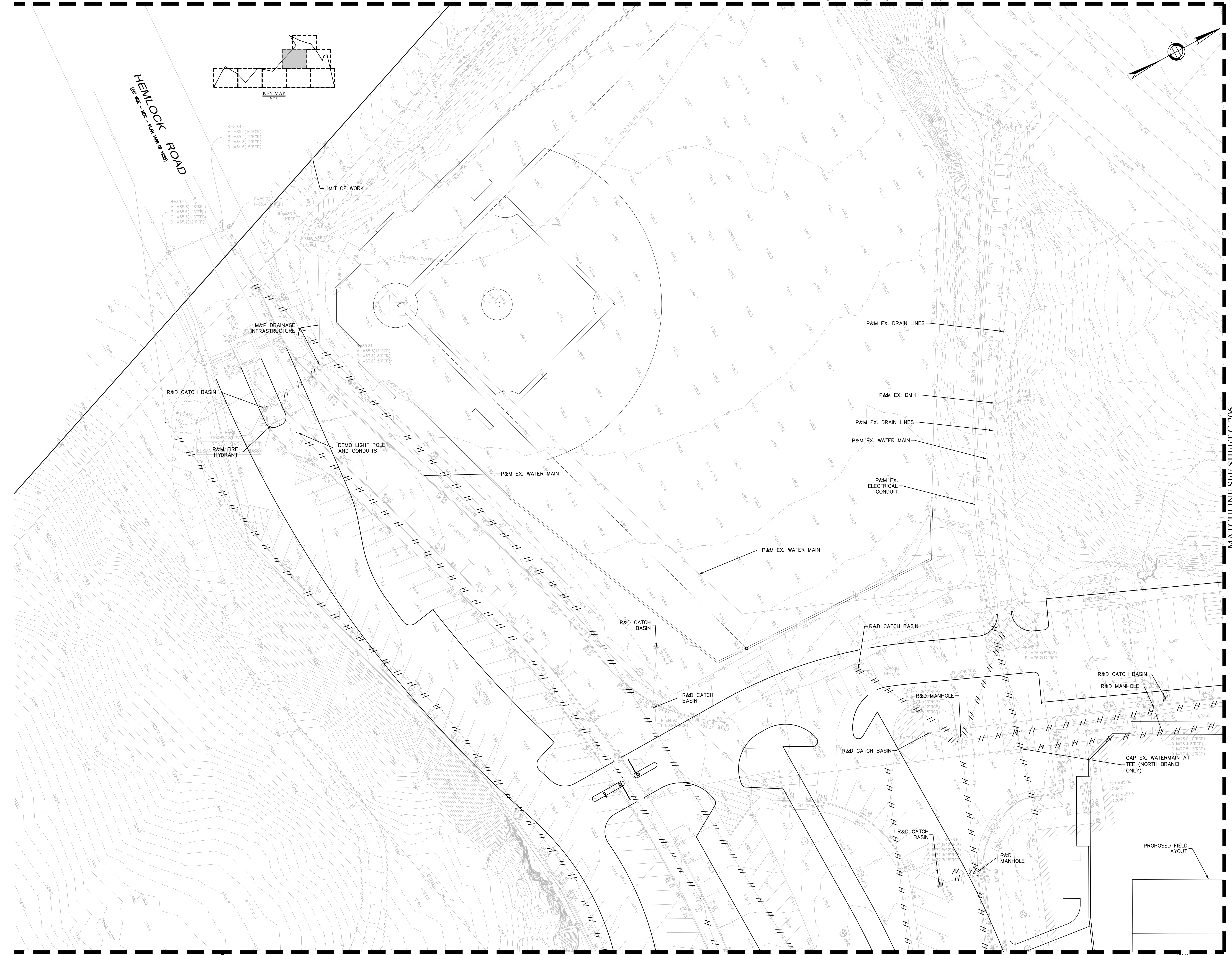
Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

MATCHLINE SEE SHEET C-207

HEMLOCK ROAD
(10' WIDE - SEE PLAN SHEET C-206)



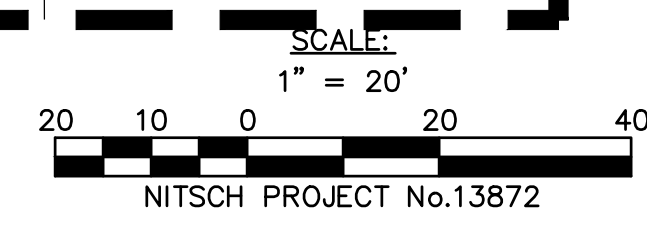
- R=85.49
A=85.2(10'RCF)
B=85.2(10'RCF)
C=84.8(12'RCF)
D=84.8(12'RCF)
- R=89.38
A=89.8(4' STEEL)
B=89.8(4' STEEL)
C=89.9(4' STEEL)
D=89.9(4' STEEL)
- R=89.32
A=89.8(10'RCF)
B=89.8(10'RCF)
C=89.8(10'RCF)
D=89.8(10'RCF)



MATCHLINE SEE SHEET C-202

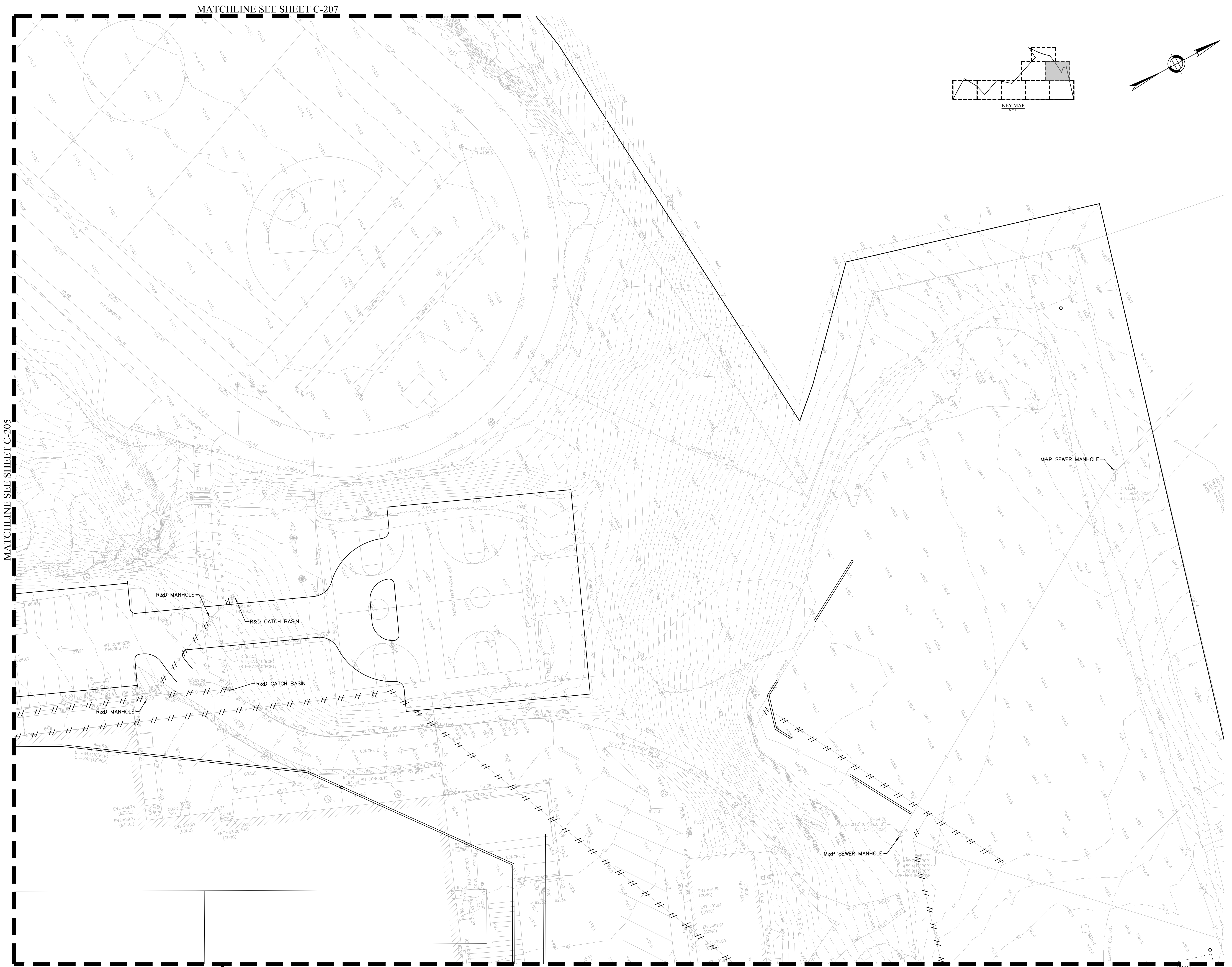
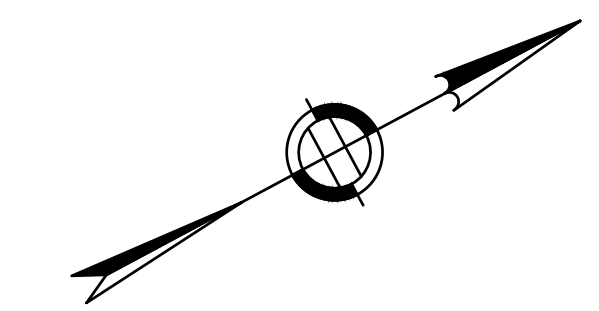
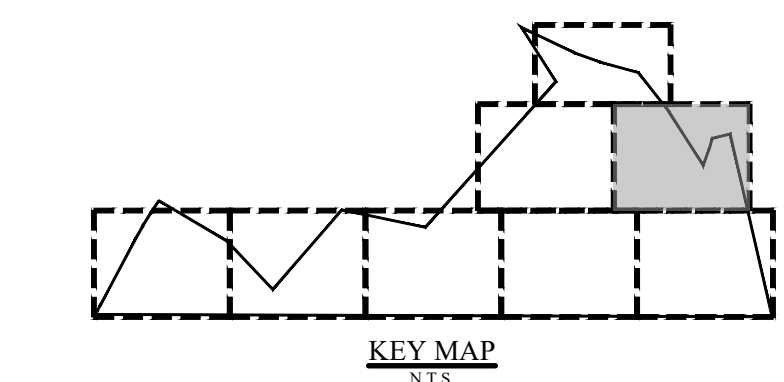
MATCHLINE SEE SHEET C-203

MATCHLINE SEE SHEET C-206



DATE: 06/17/2021 11:01 AM

13872.DWG

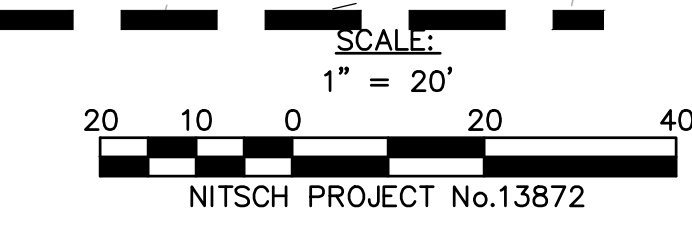


MATCHLINE SEE SHEET C-207

MATCHLINE SEE SHEET C-205

MATCHLINE SEE SHEET C-203

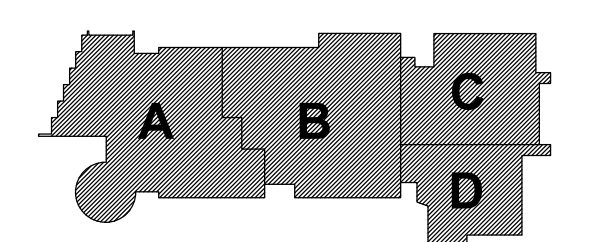
MATCHLINE SEE SHEET C-204



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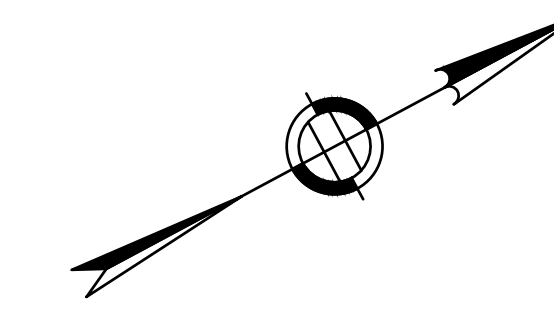
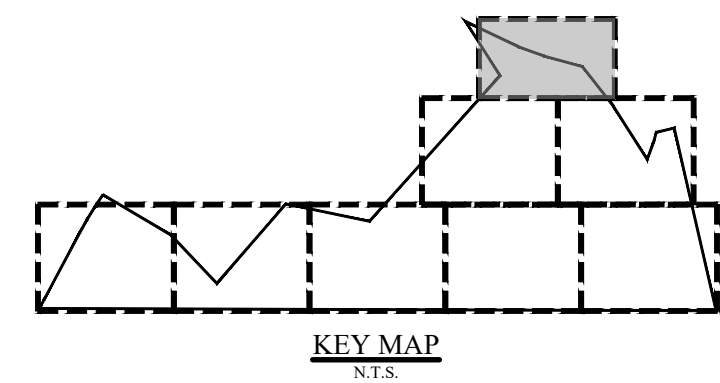
KEY PLAN

UTILITY DEMO
PLAN

Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

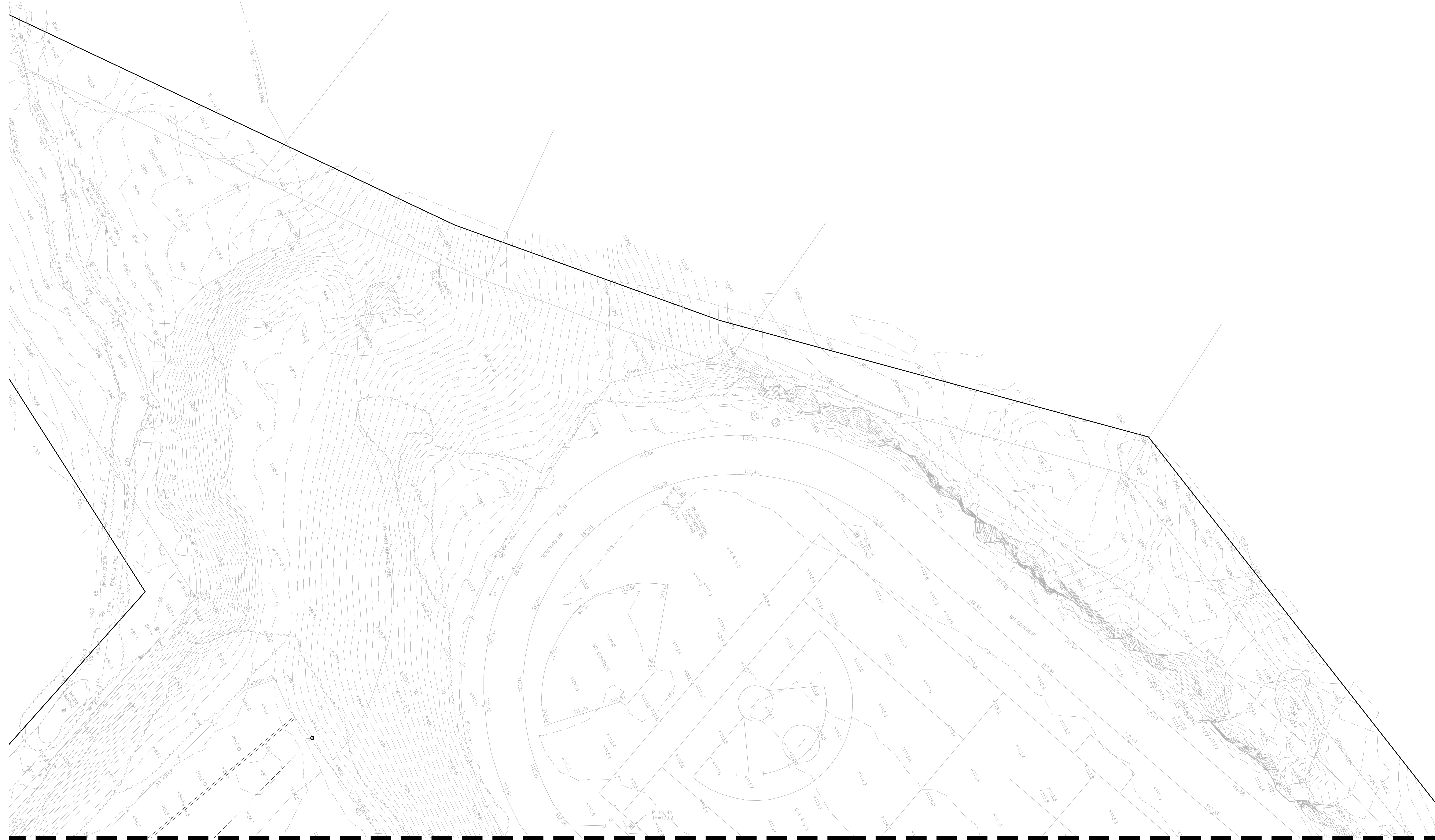
C-206

DATE: 06/17/2021 11:38 AM



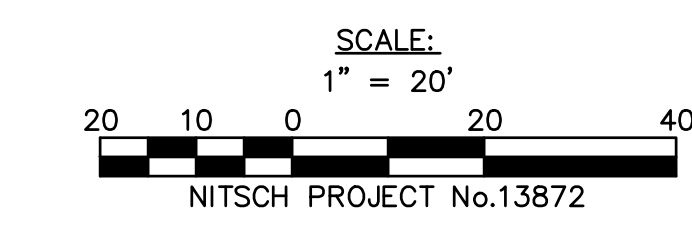
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MATCHLINE SEE SHEET C-205

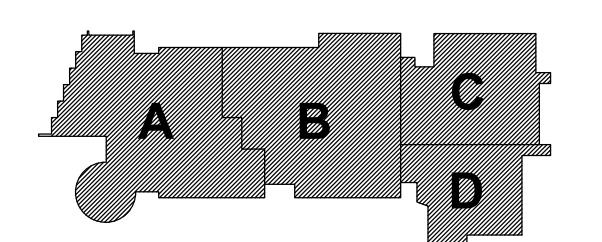
MATCHLINE SEE SHEET C-206



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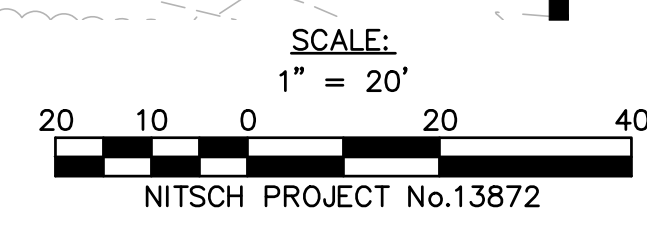
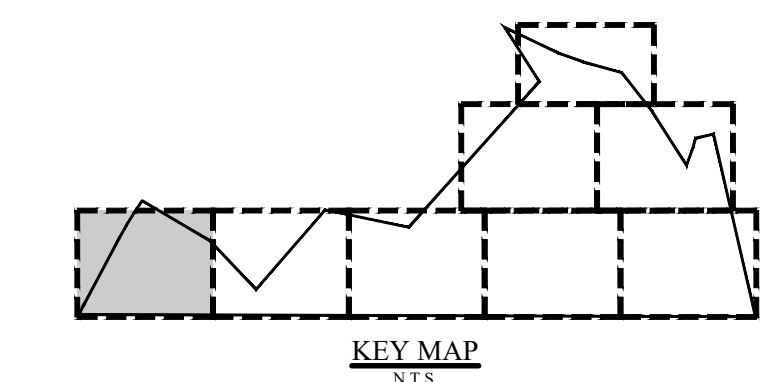
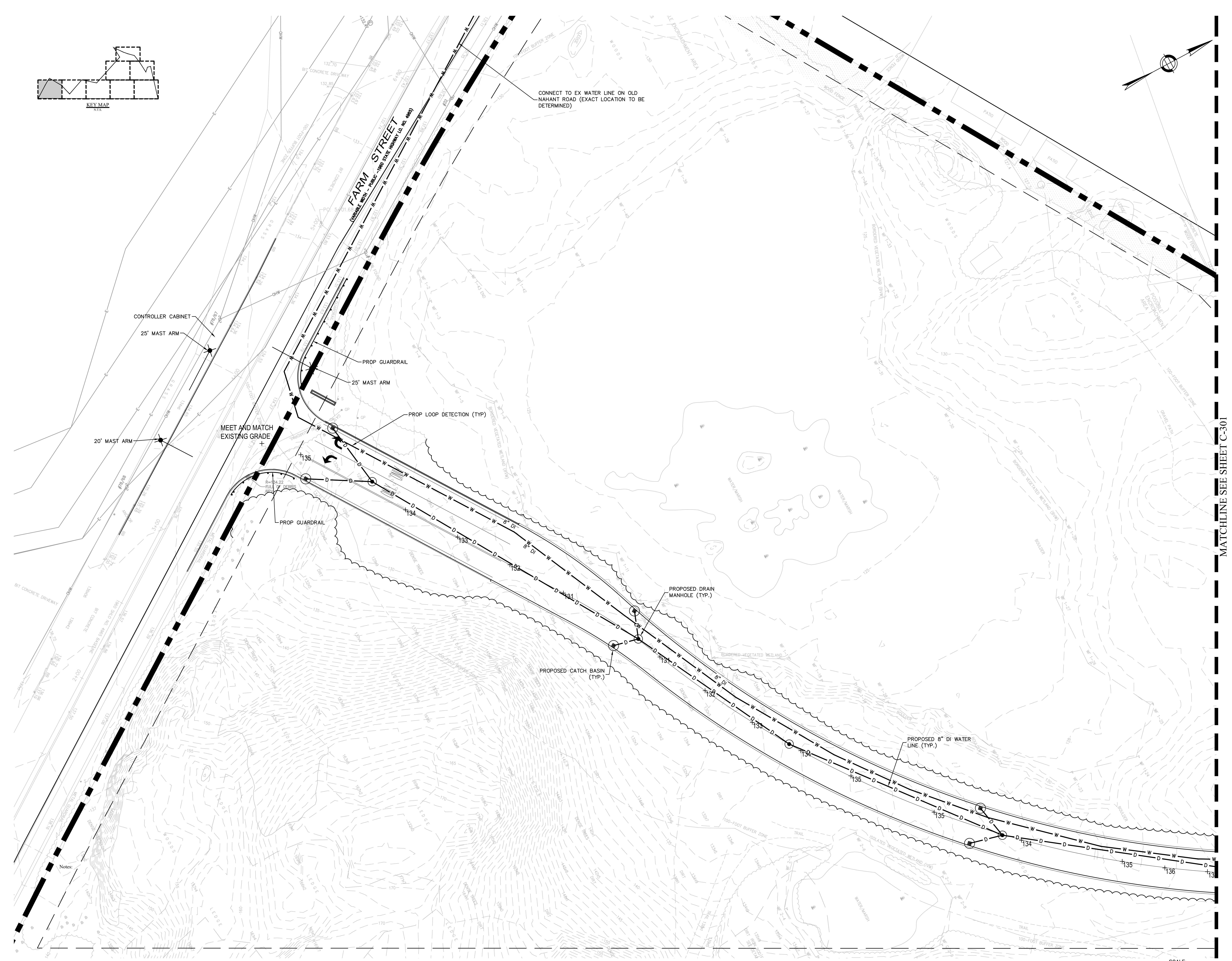
KEY PLAN

UTILITY DEMO PLAN

Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

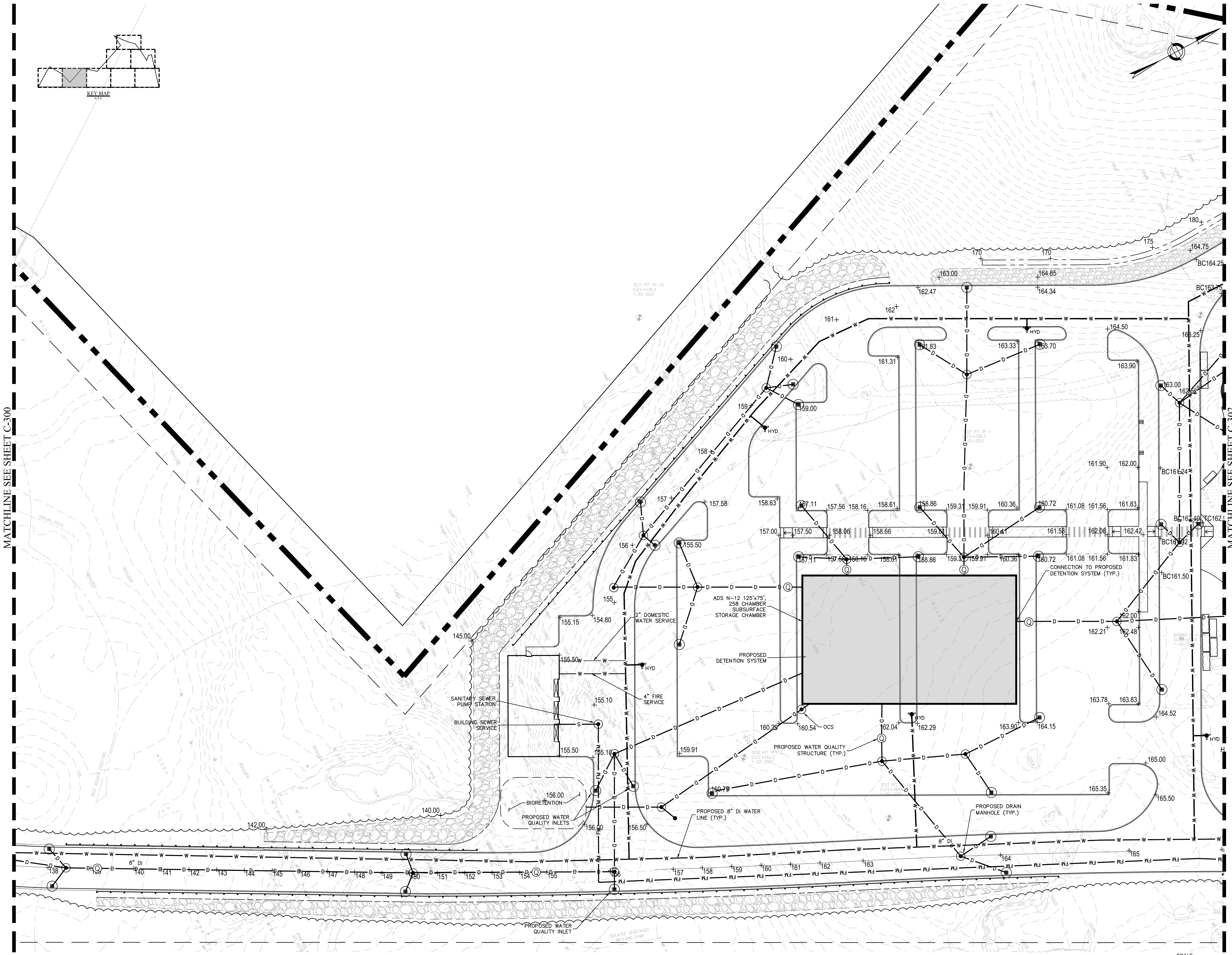
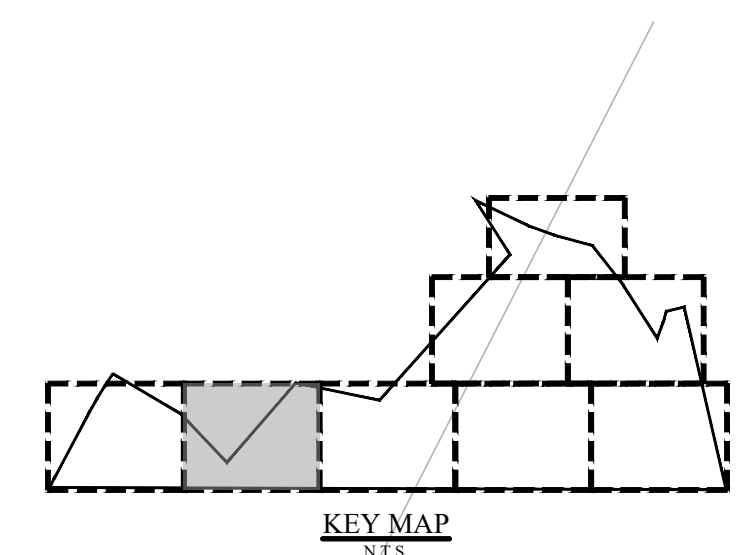
C-207

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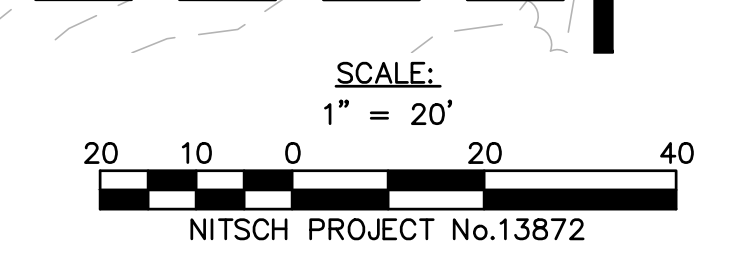
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DATE: 06/17/2021 11:38:19 AM
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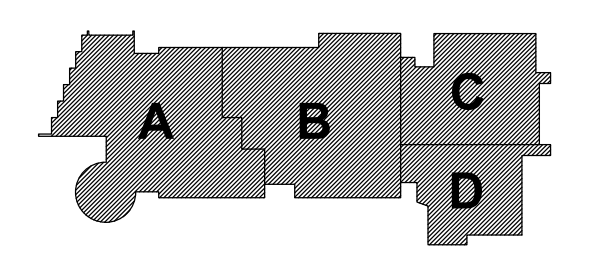


MATCHLINE SEE SHEET C-300

MATCHLINE SEE SHEET C-302



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June 17, 2021

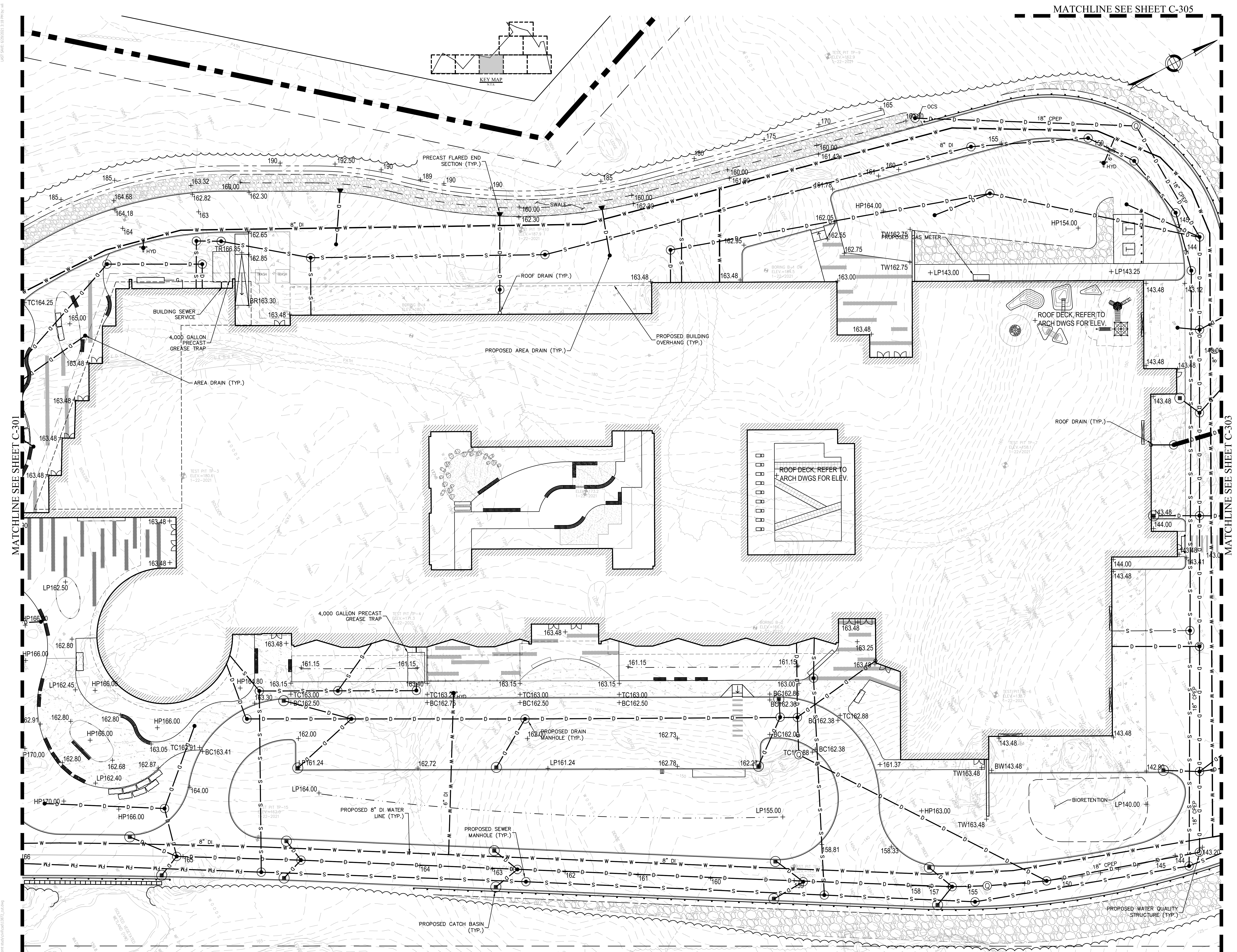


UTILITY SITE PLAN

Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021
C-301

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MATCHLINE SEE SHEET C-305



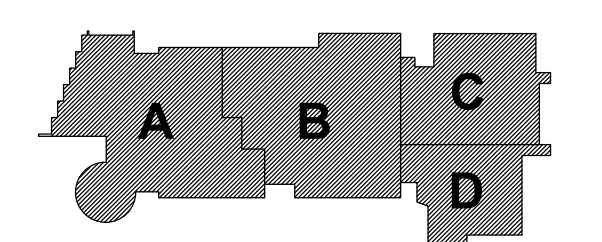
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MATCHLINE SEE SHEET C-303

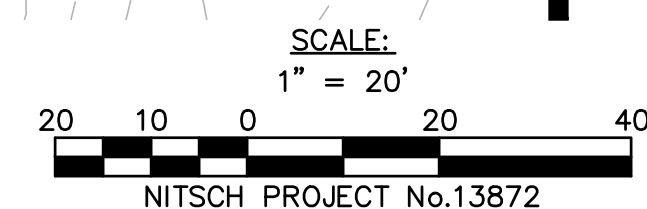
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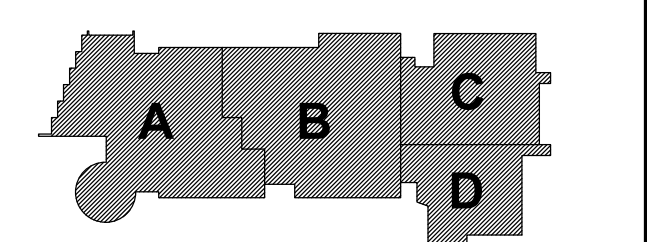


KEY PLAN



UTILITY SITE PLAN

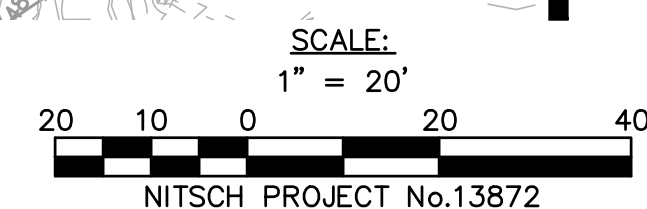
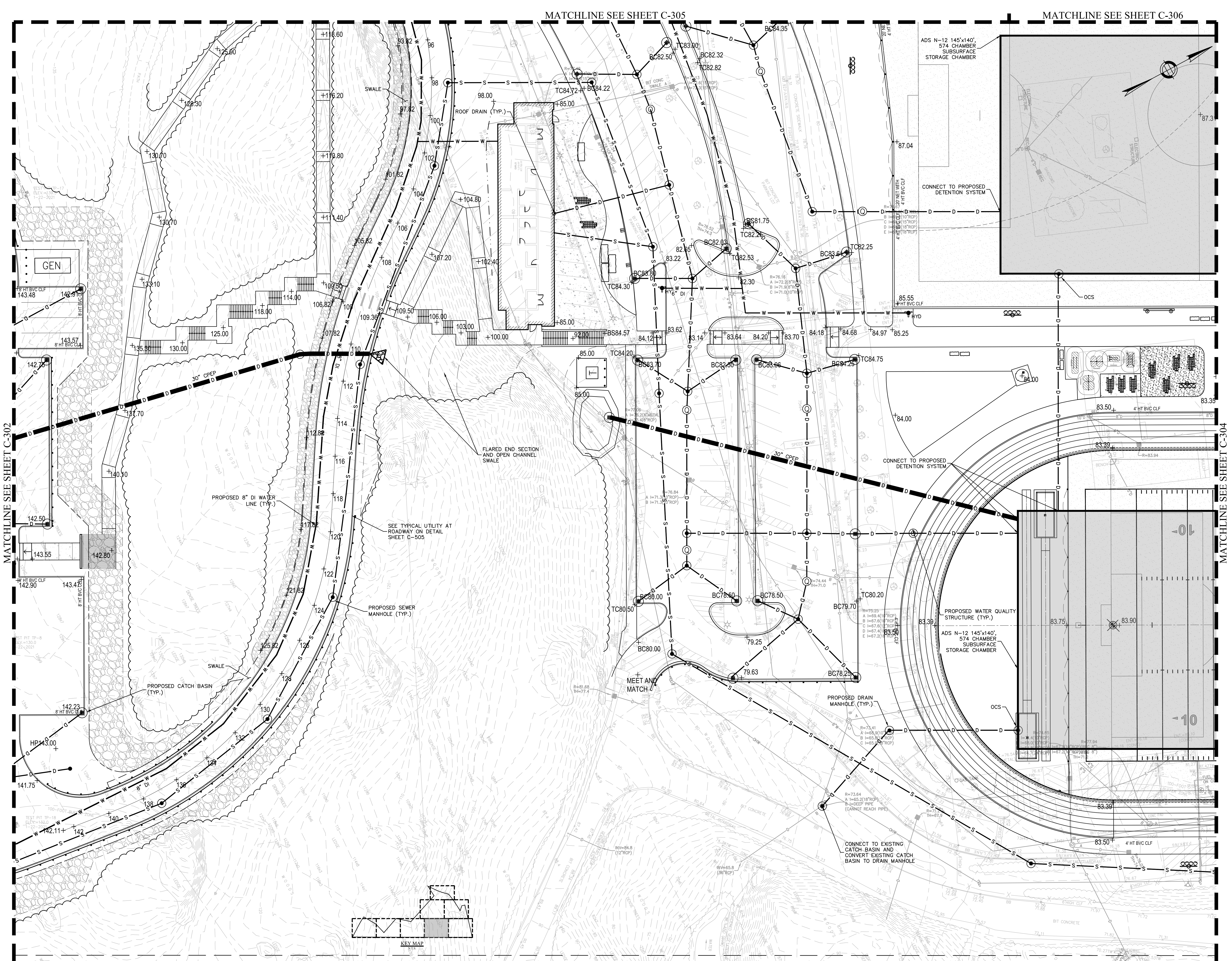
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Job No.: 13872
Drawn By: WL
Date: June 17, 2021
C-302



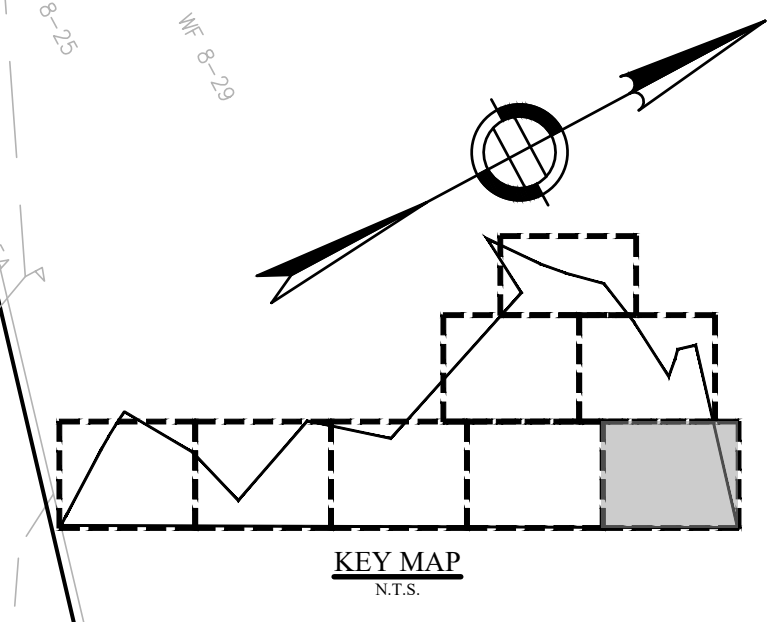
KEY PLAN

UTILITY SITE PLAN

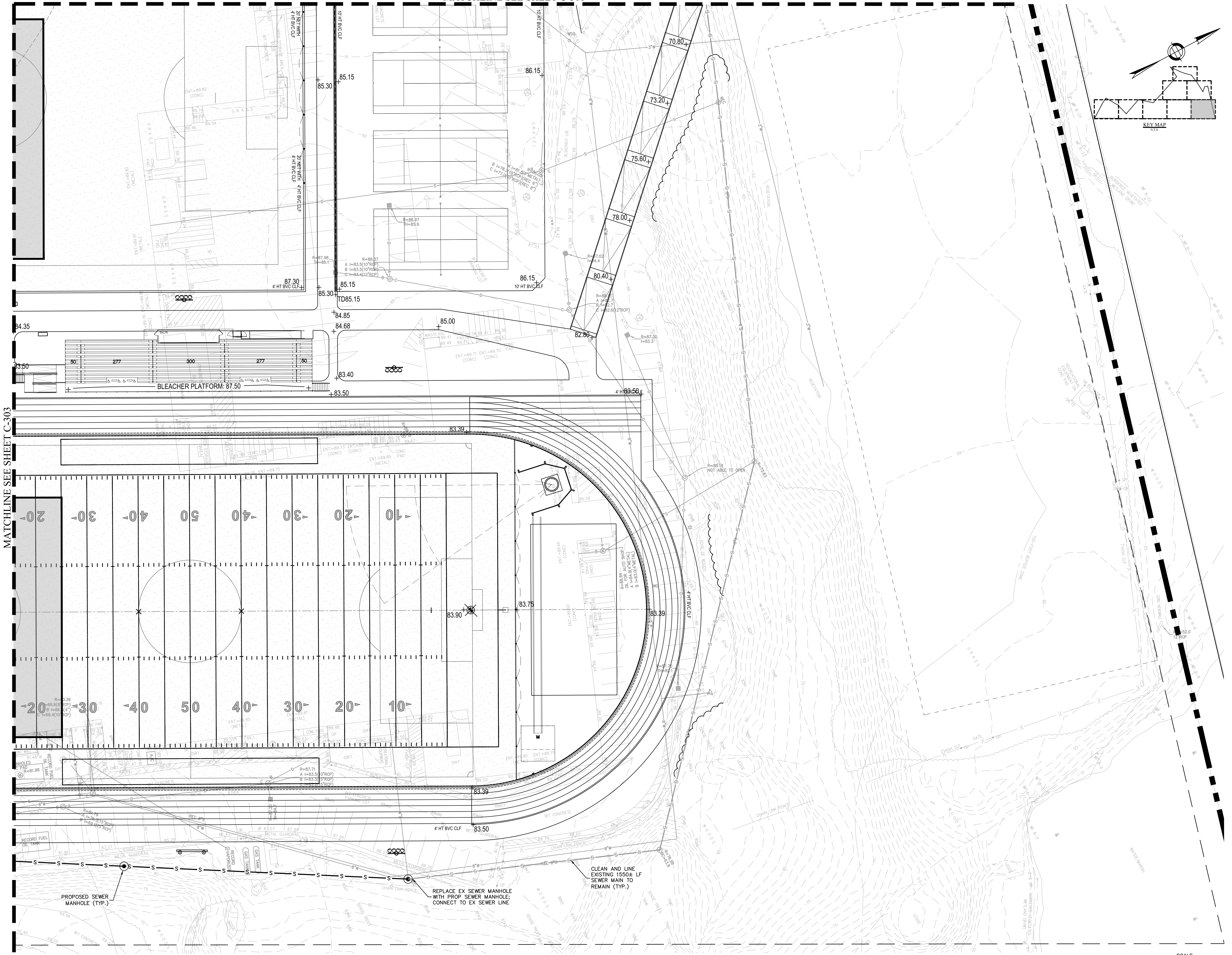
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4/15/21 11:00 AM (S:\Projects\13872\Utility\13872-Utility-Site-Plan.dwg) (PLOT) (SCALE: 1\"/>



MATCHLINE SEE SHEET C-306

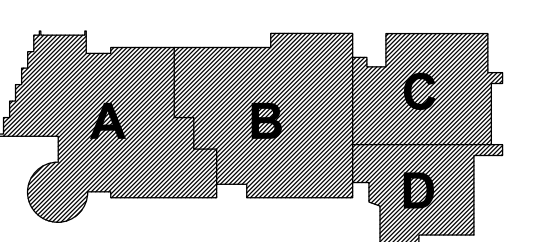


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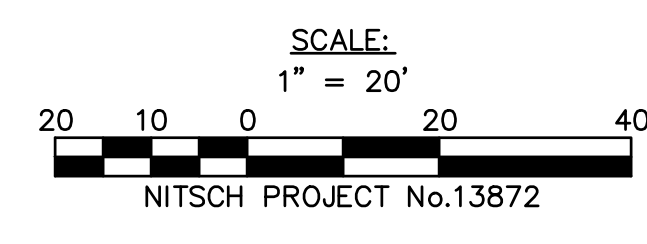
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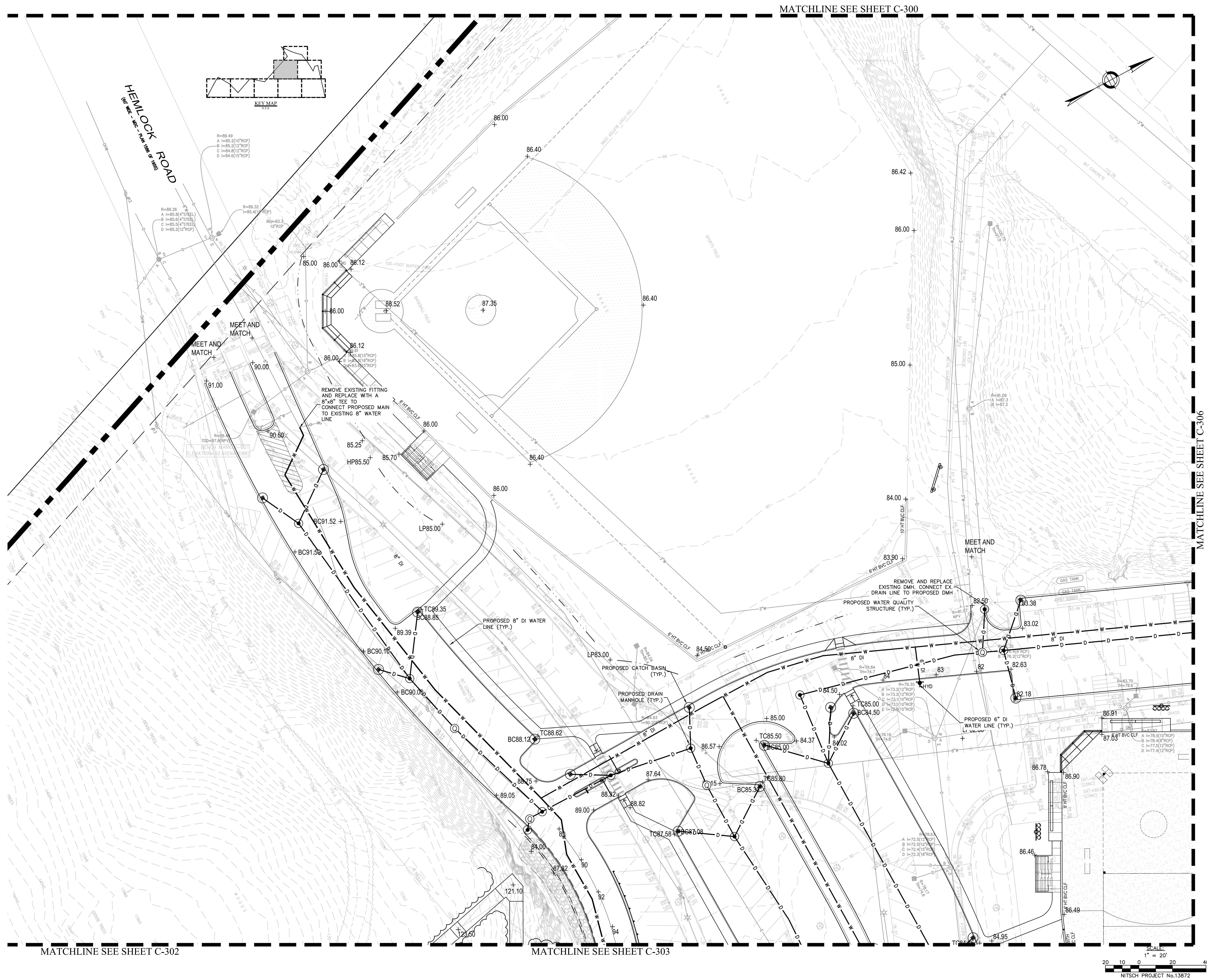
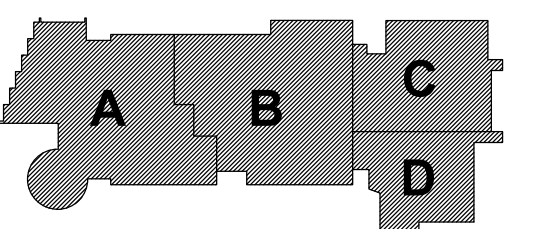
KEY PLAN



UTILITY SITE PLAN

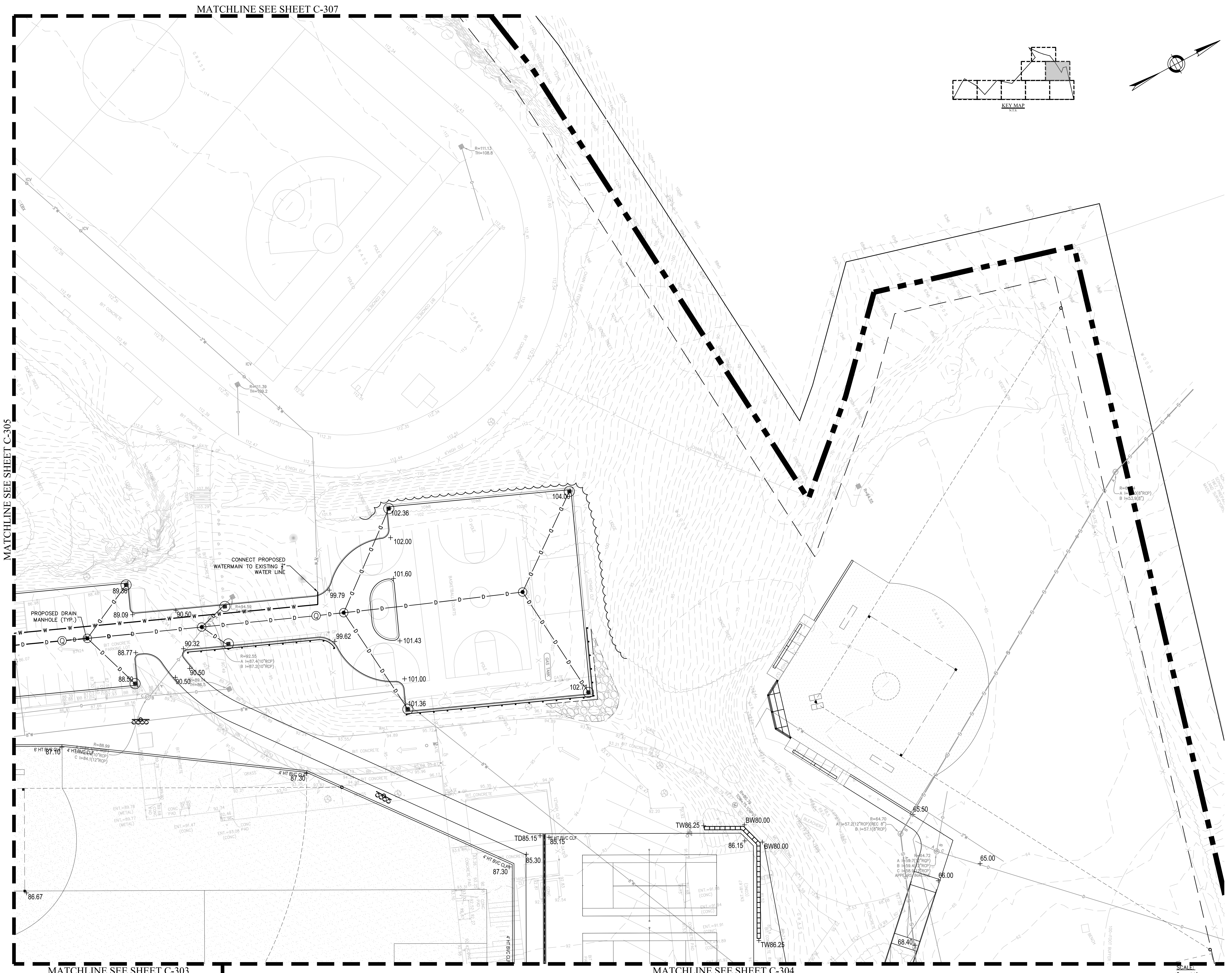
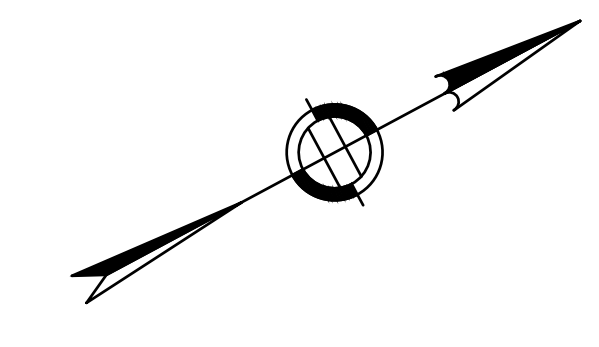
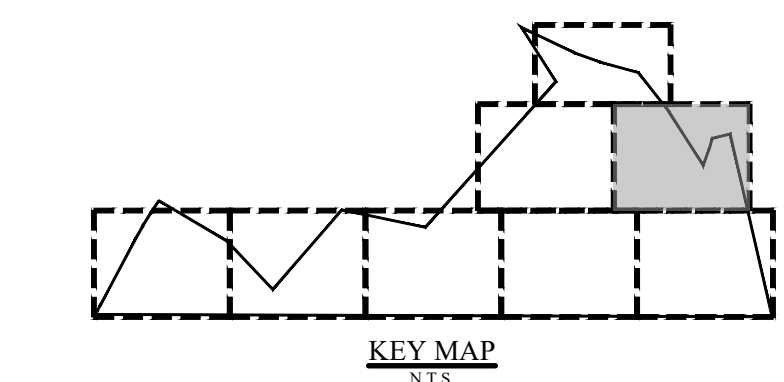
Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

C-304



DATE: 06/17/2021 11:01 AM

4/13/21 FROM: ROSANE ANDERSON

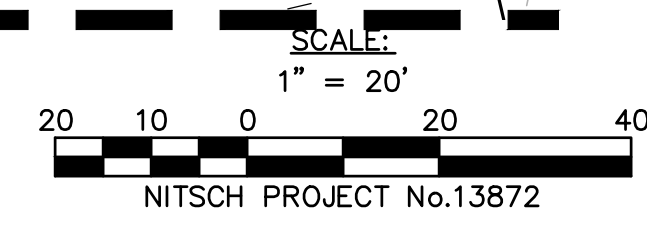


MATCHLINE SEE SHEET C-305

MATCHLINE SEE SHEET C-307

MATCHLINE SEE SHEET C-303

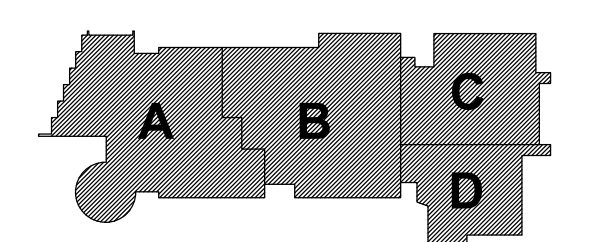
MATCHLINE SEE SHEET C-304



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June 17, 2021



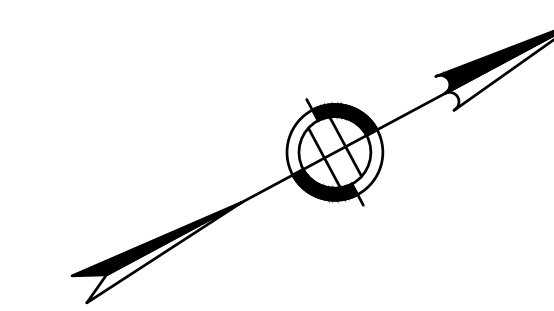
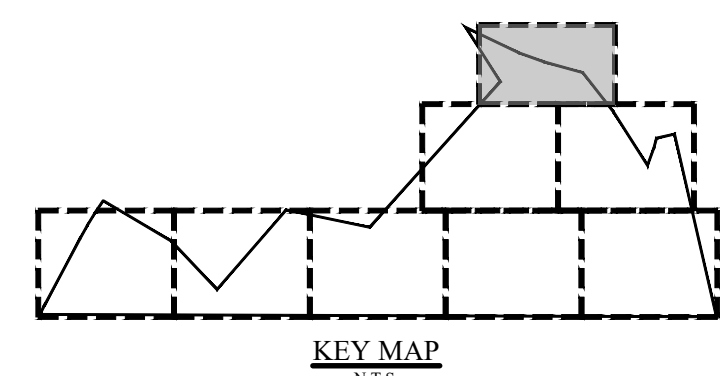
KEY PLAN

UTILITY SITE PLAN

Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

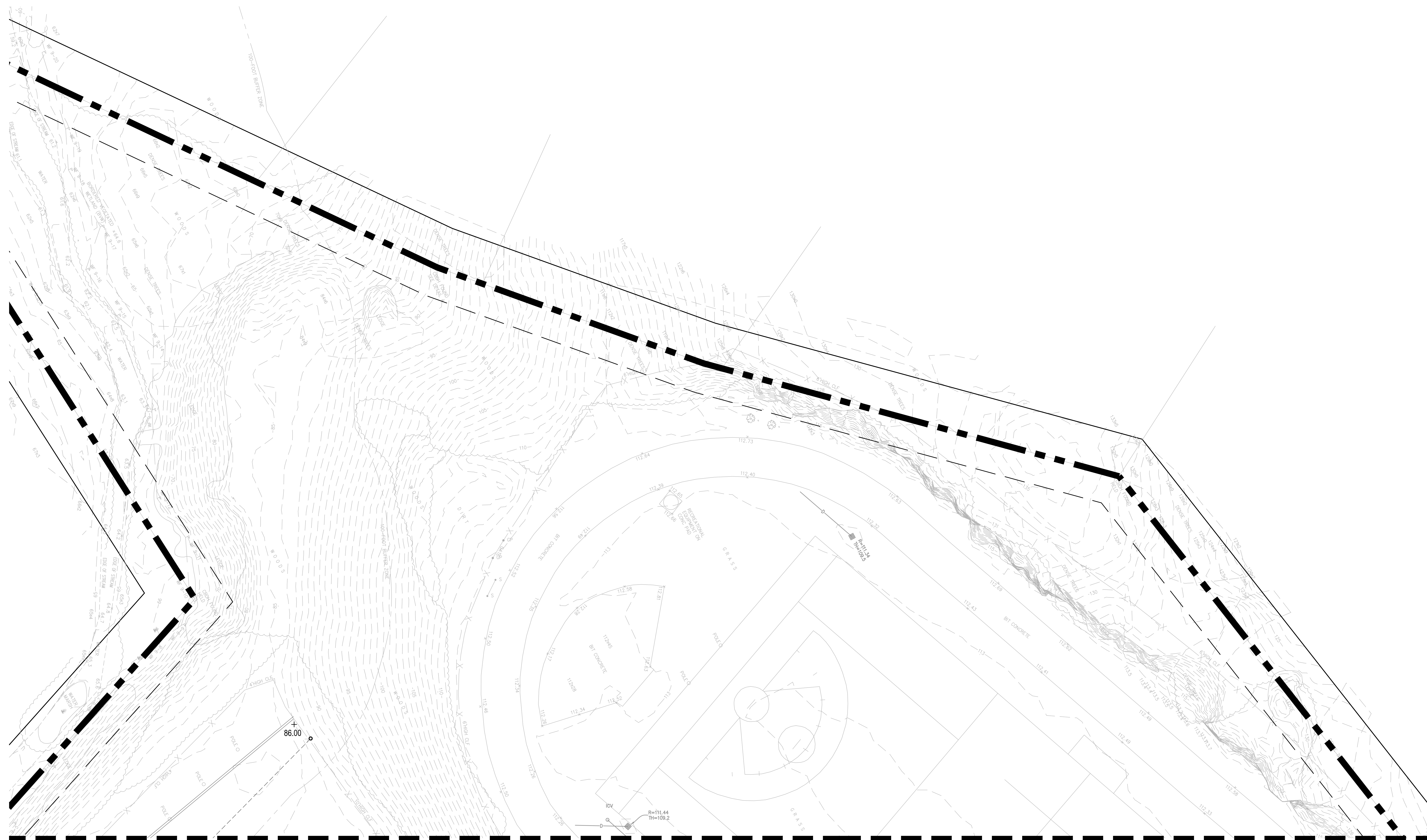
C-306

DATE: 06/17/2021 11:04 AM



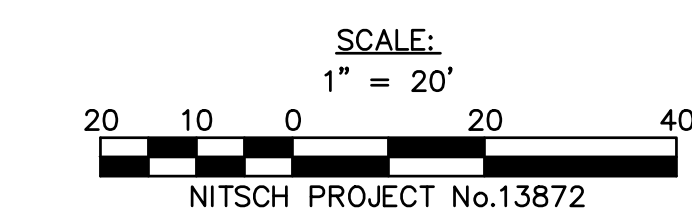
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MATCHLINE SEE SHEET C-305

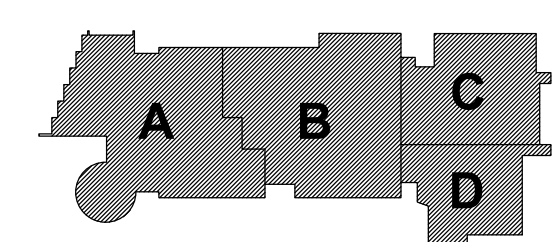
MATCHLINE SEE SHEET C-306



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June 17, 2021

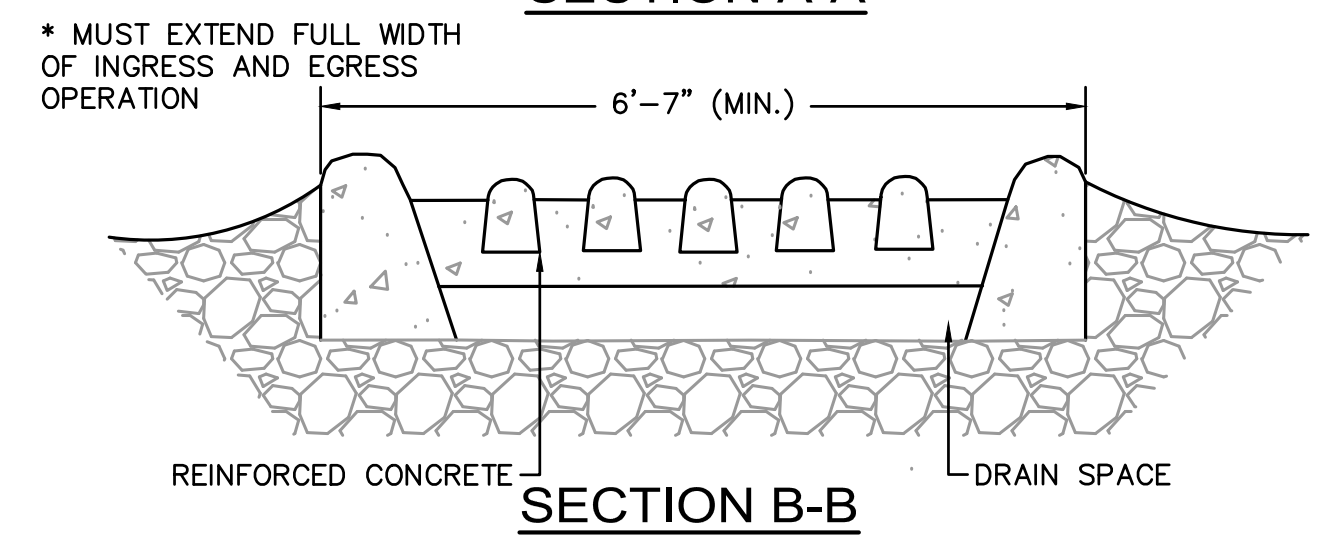
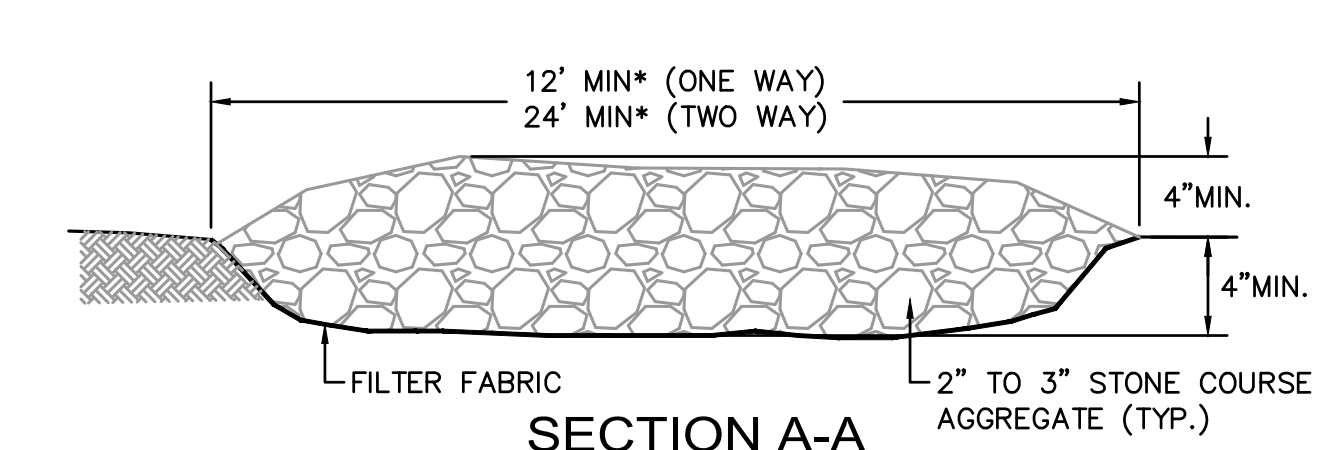
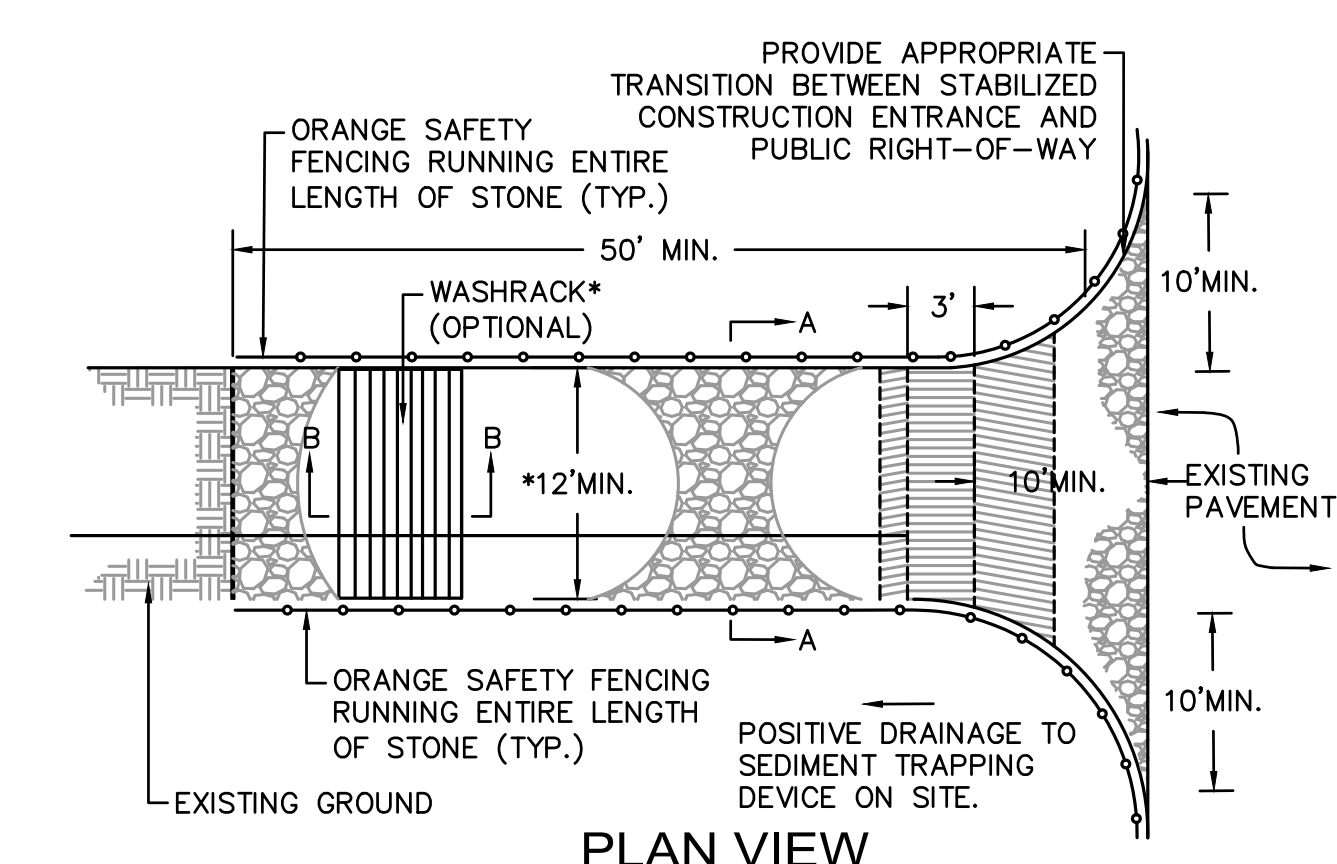
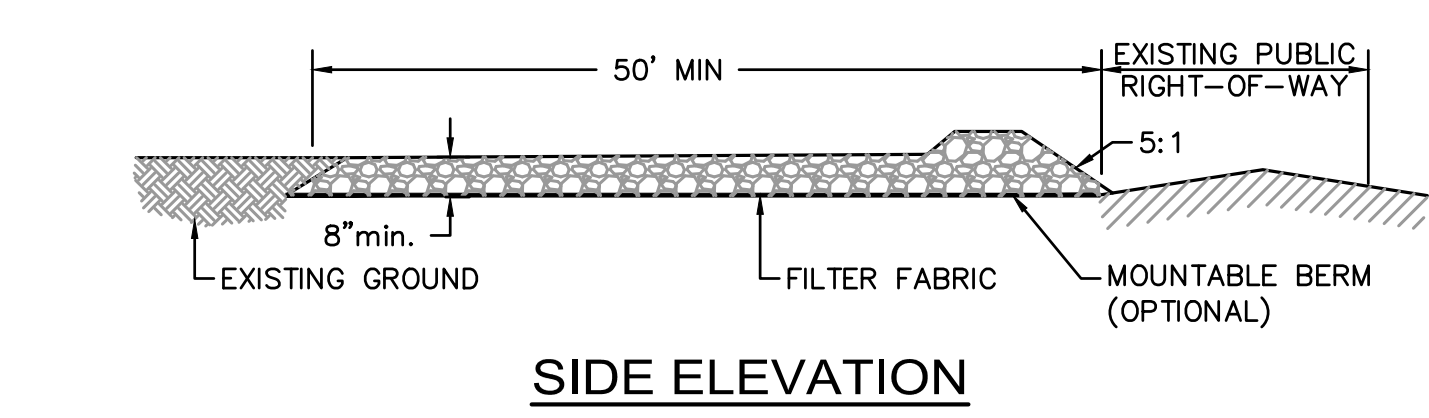
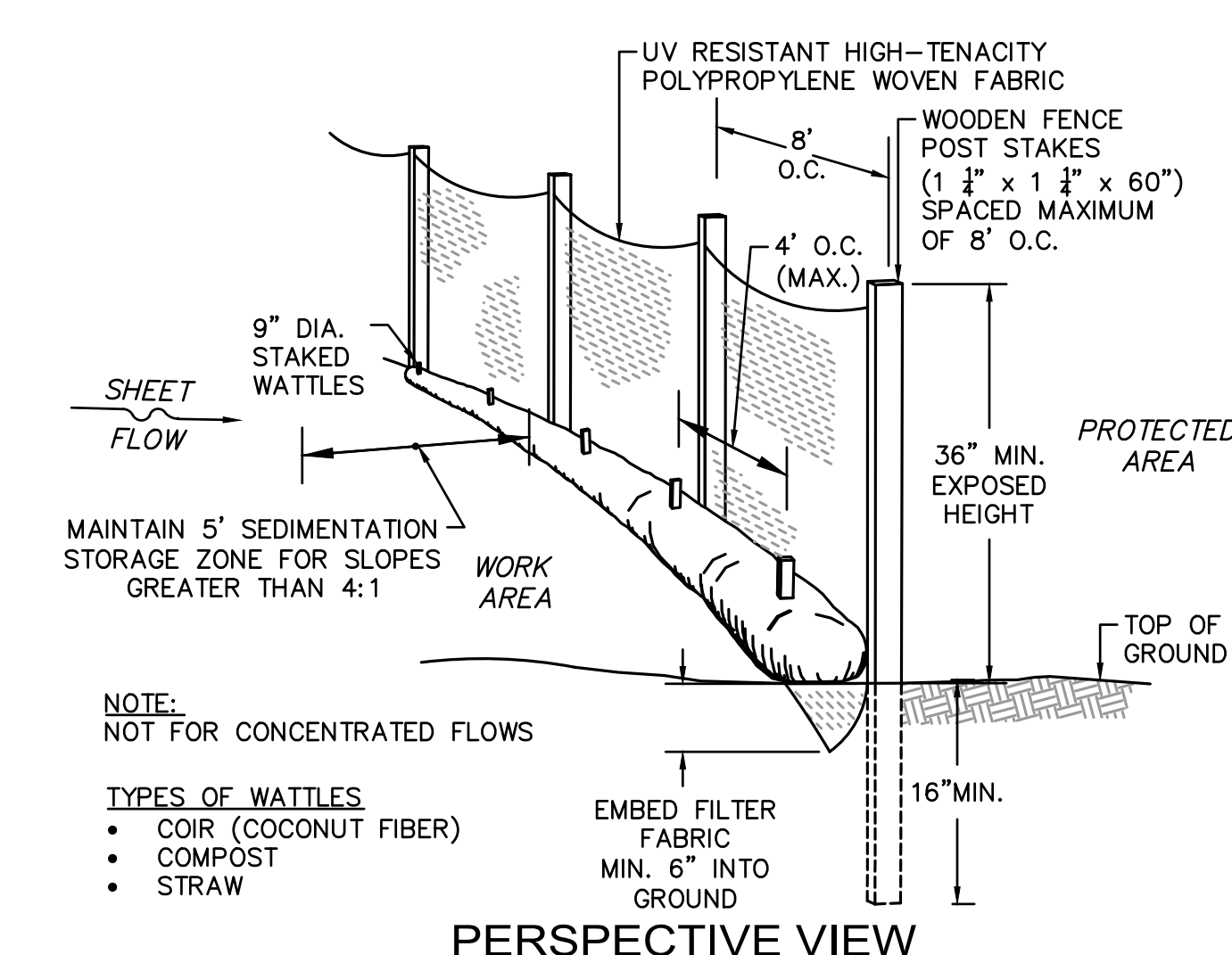
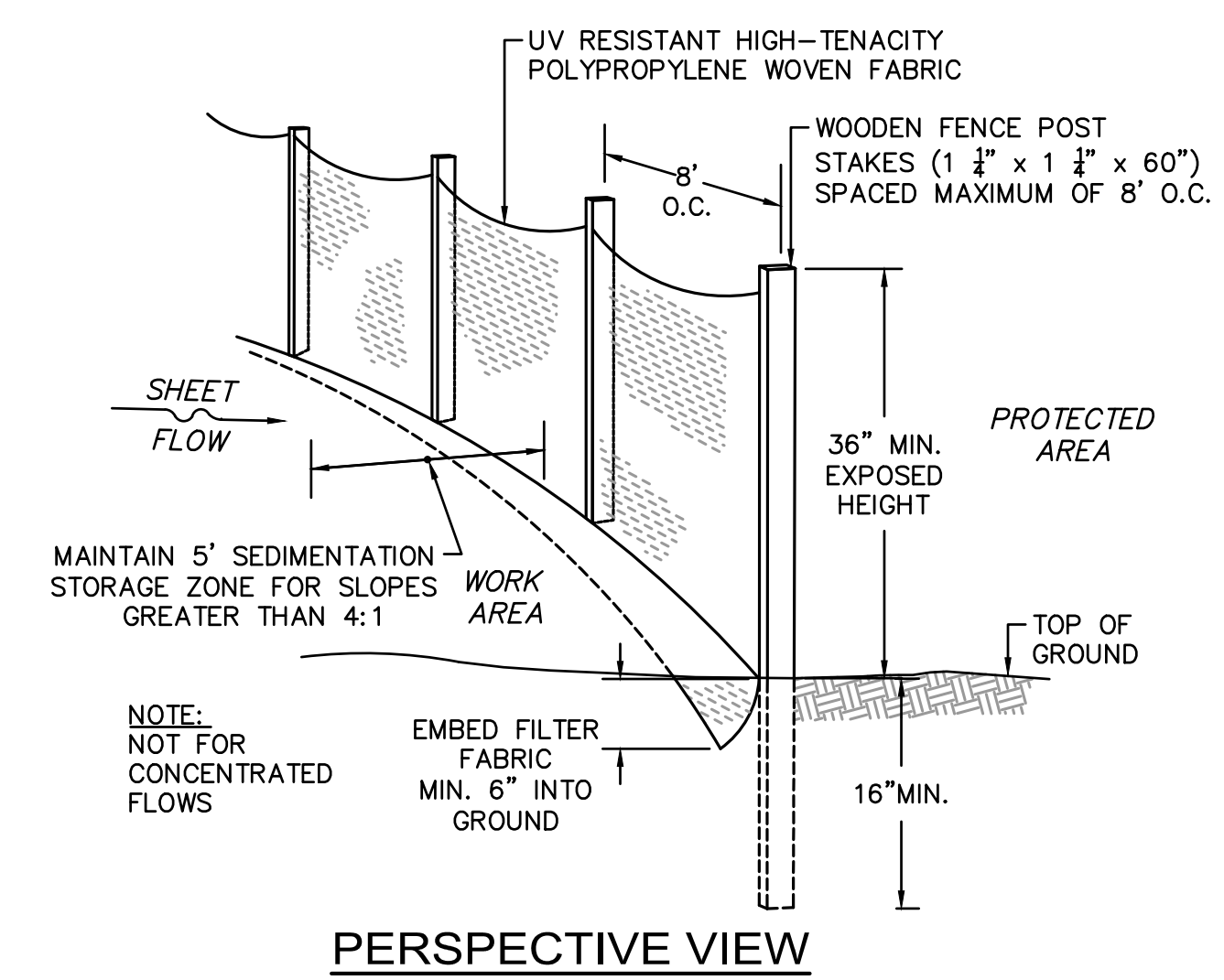


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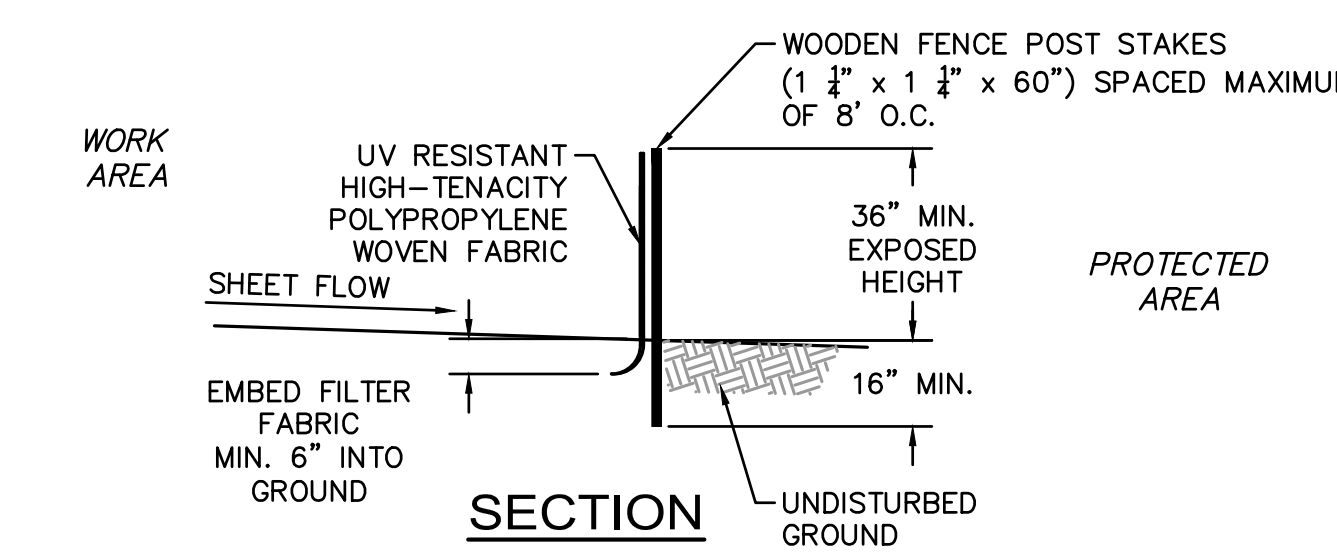
UTILITY SITE PLAN

Scale: AS NOTED
Job No.: 13872
Drawn By: WL
Date: June 17, 2021

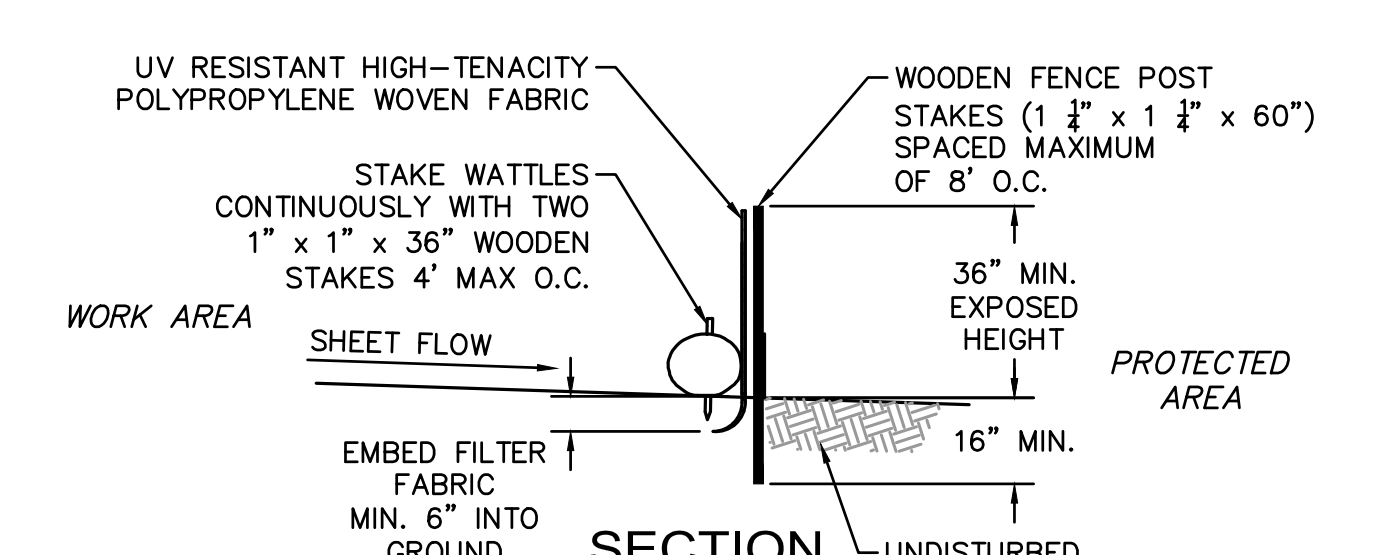
C-307



CONSTRUCTION SPECIFICATIONS
 CONSTRUCTION SPECIFICATIONS
 LENGTH - GREATER THAN OR EQUAL TO 50 FEET
 WIDTH - TWELVE FOOT MINIMUM (ONE WAY), TWENTY FOUR FOOT MINIMUM (TWO WAY), BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE PERMITTED.
 THICKNESS - 8"
 MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

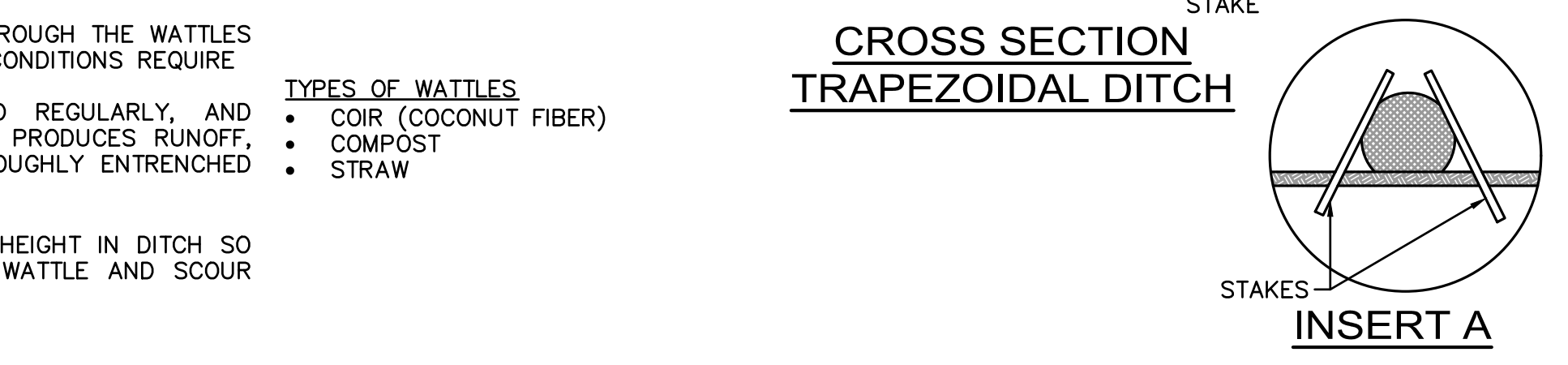
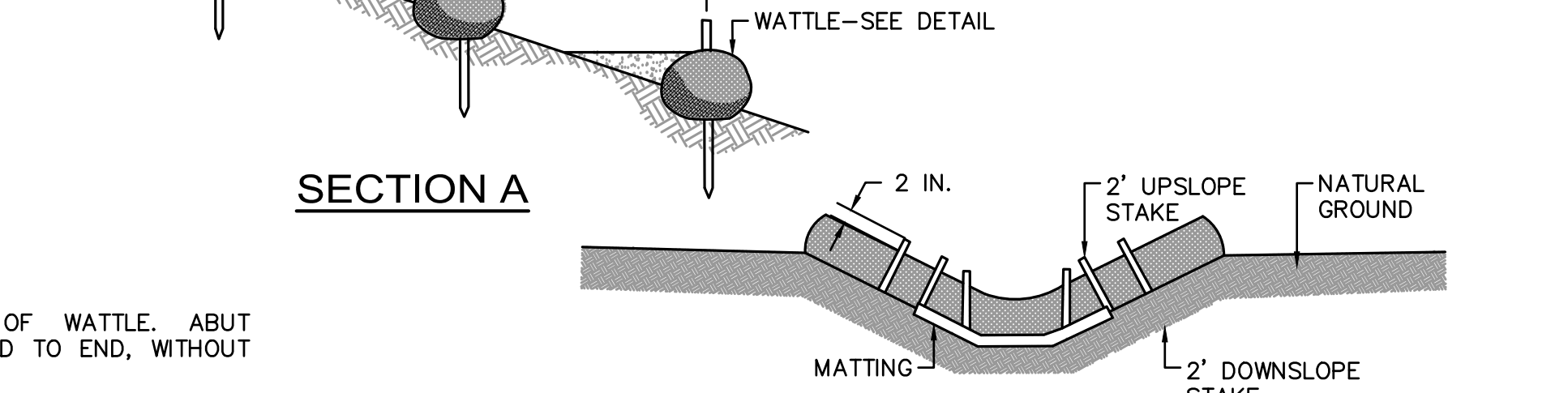
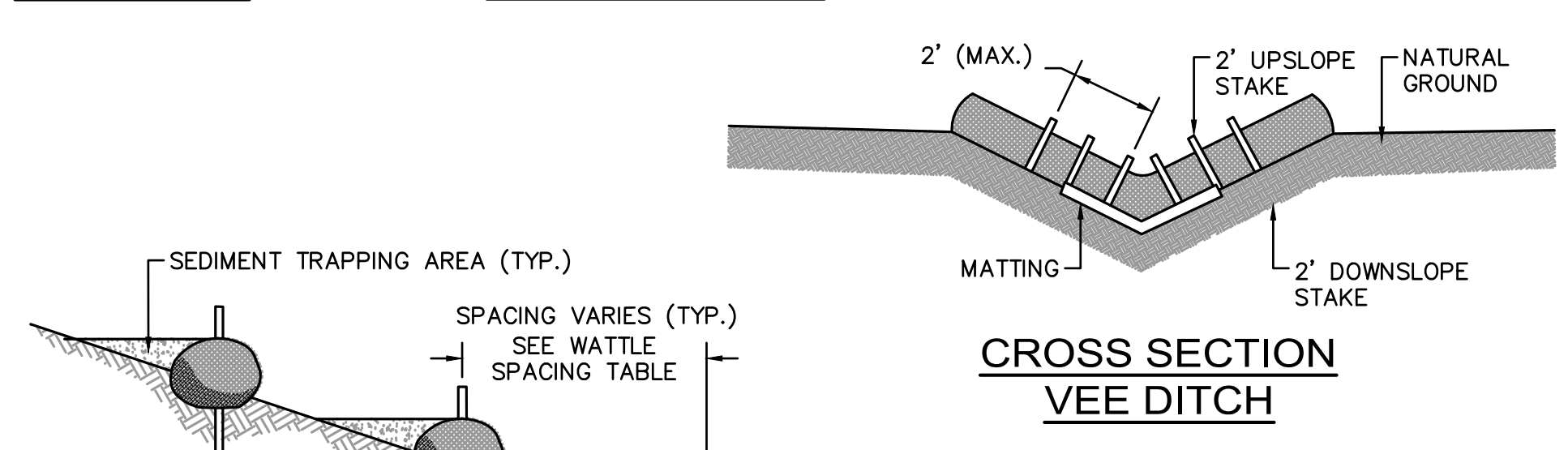
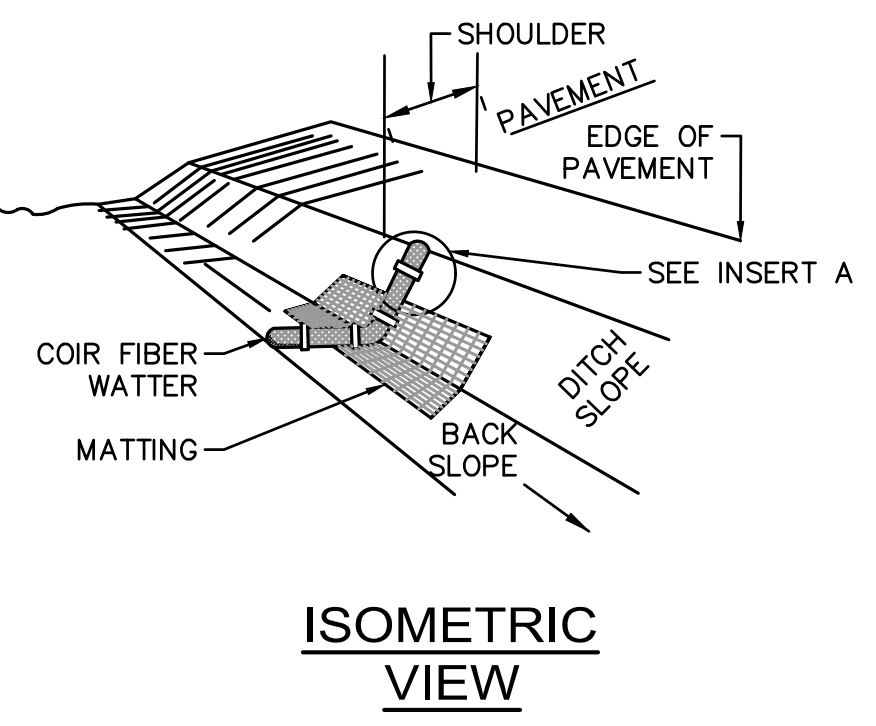
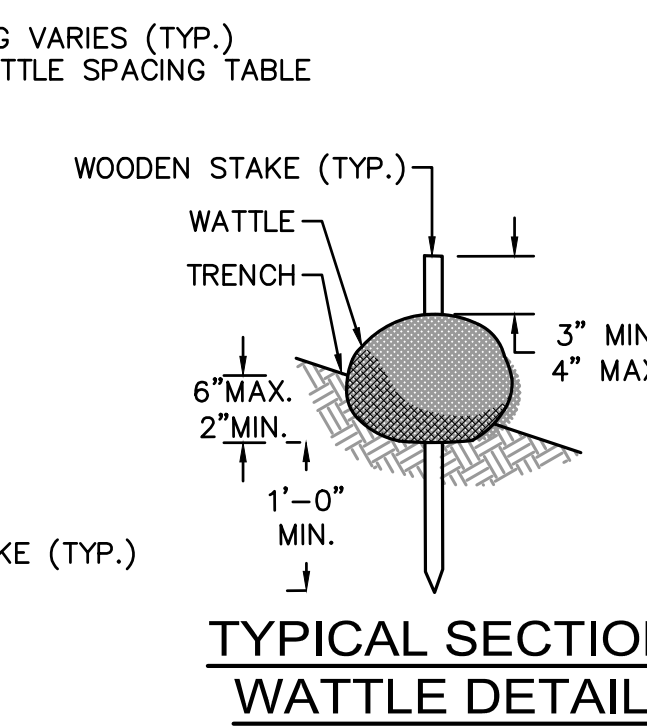
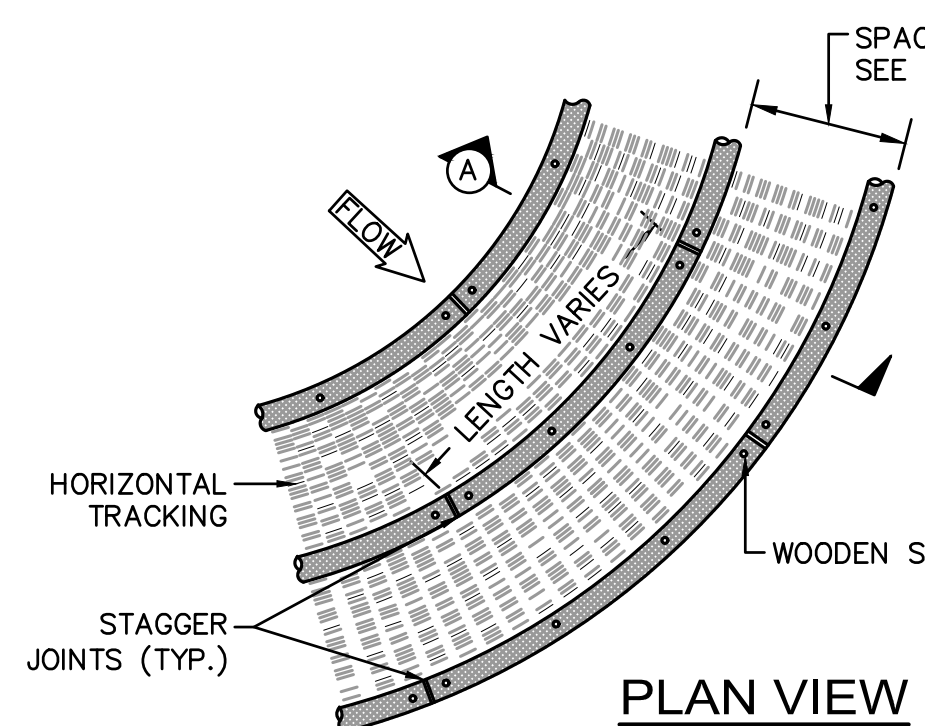


PERIMETER PROTECTION BARRIER (A)



PERIMETER PROTECTION BARRIER (B)

SILT FENCE DETAIL WITH WATTLES
 NOT TO SCALE



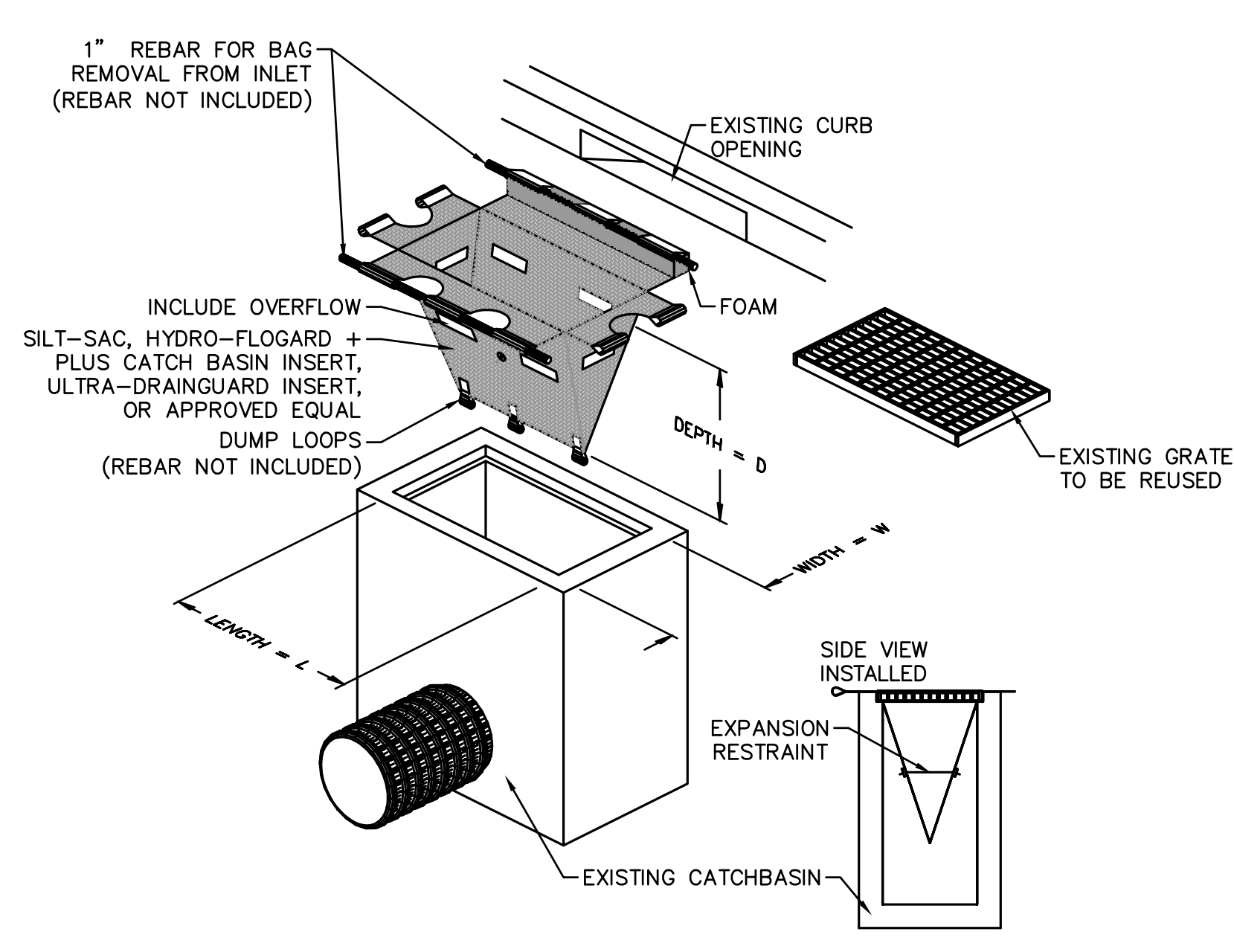
WATTLE SPACING TABLE	
SLOPE	MAX. SPACING
1:1	10'-0"
2:1	20'-0"
3:1	30'-0"
4:1	40'-0"

WATTLE SLOPE PROTECTION NOTES:

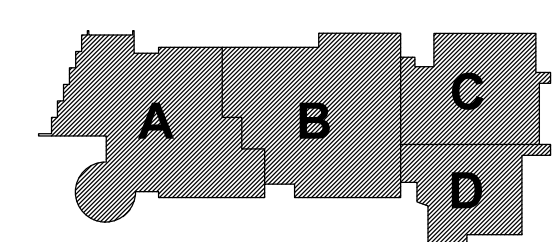
- SECURELY KNOT EACH END OF WATTLE ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
- PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE
- WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

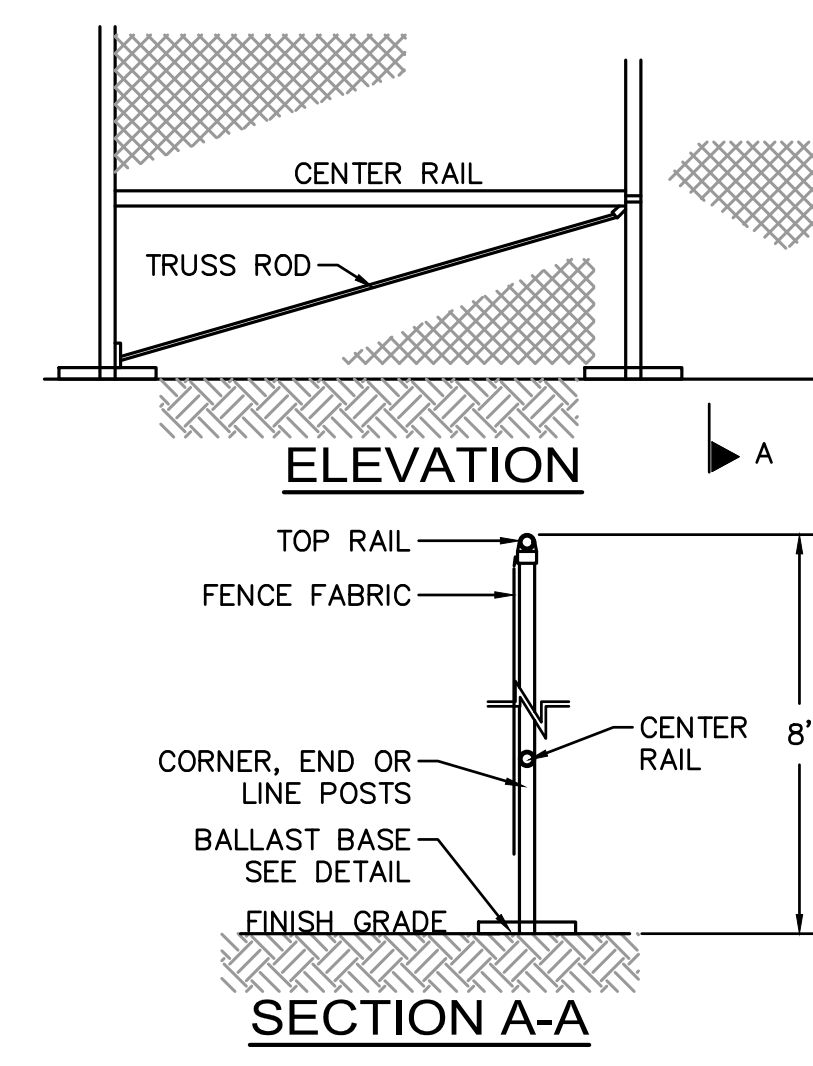
- TYPES OF WATTLES**
- COIR (COCONUT FIBER)
 - COMPOST
 - STRAW

EROSION CONTROL BARRIER (E)
WATTLES - STEEP SLOPE PROTECTION
 NOT TO SCALE



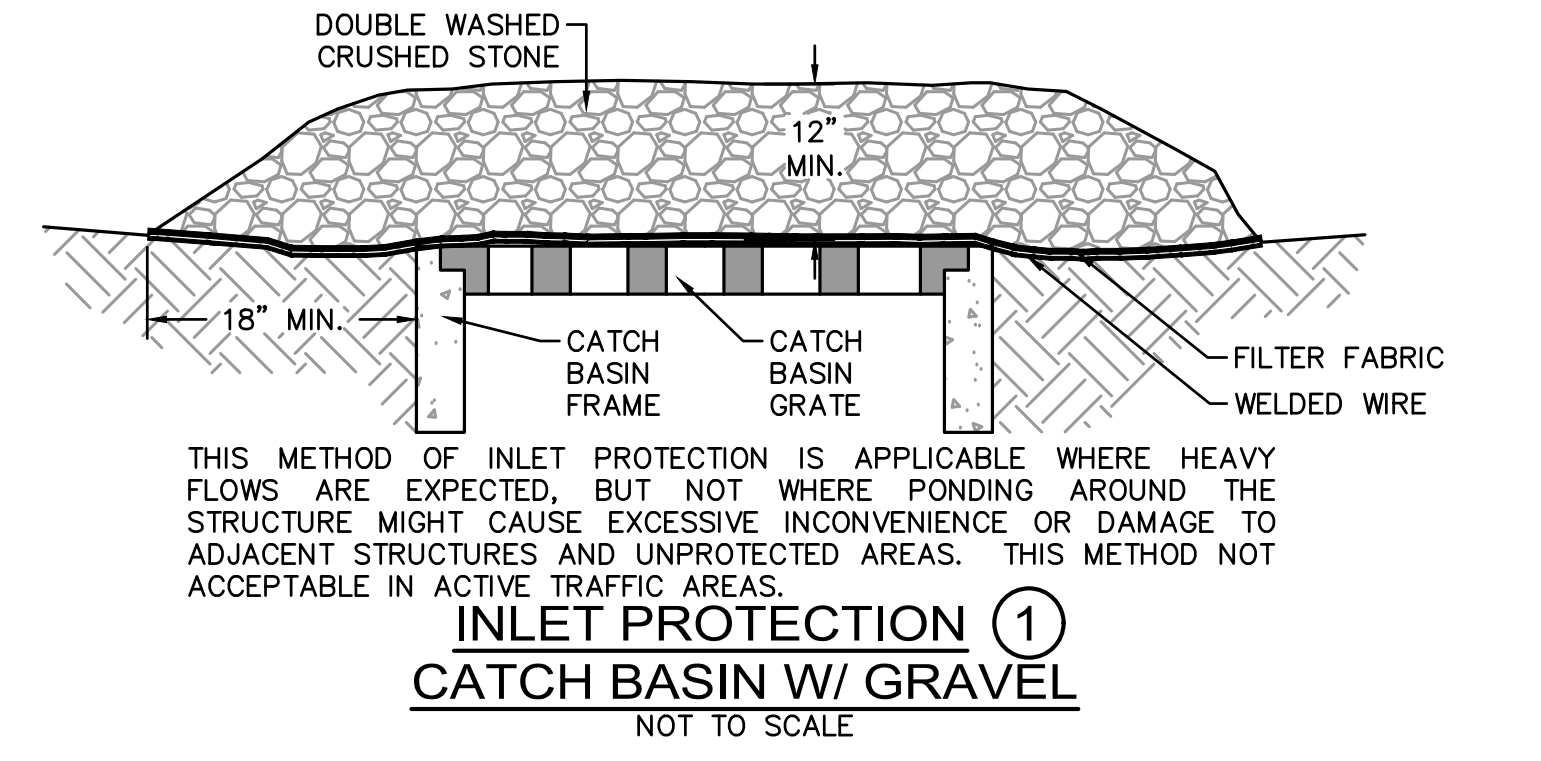
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS SHEET, OVERLAND OR CONCENTRATED FLOWS (NOT GREATER THAN 1 CFS). THE METHOD CAN DRAIN FLAT AREA TO STEEP SLOPES. INLET CAPACITY WILL BE DECREASED WITH THIS METHOD AND THE CONTRACTOR SHALL EXPECT PONDING DURING HIGH FLOW EVENTS.





TEMPORARY CONSTRUCTION CHAIN LINK FENCE WITH BALLAST BASE
 NOT TO SCALE

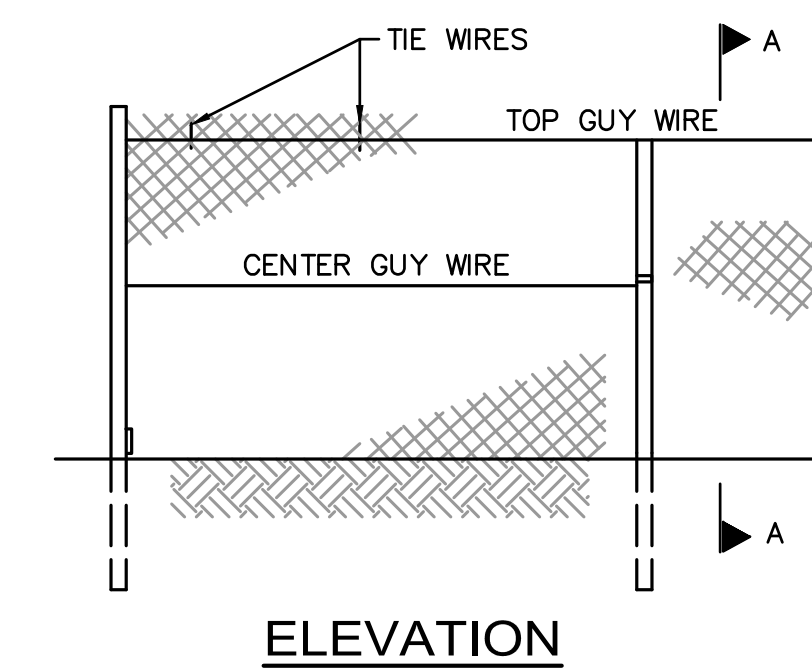
- NOTES**
1. END, GATE AND CORNER POSTS SHALL BE BRACED TO ADJACENT LINE POSTS (MORE THAN 30' CHANGE IN DIRECTION CONSTITUTES A CORNER)
 2. FABRIC SHALL BE 0.148" GAUGE MIN. WIRE, WOVEN INTO APPROXIMATELY 2" DIAMOND MESH.
 3. ZINC-COATED STEEL FABRIC BASE METAL SHALL BE COATED WITH PRIME WESTERN SPECTER OR EQUAL.
 4. ALUMINUM COATED STEEL FABRIC BASE METAL SHALL BE COATED WITH ALUMINUM ALLOY.
 5. LINE POSTS SHALL BE 2 1/2" O.D. END OR CORNER POSTS SHALL BE 3" O.D.
 6. THE CONTRACTOR IS RESPONSIBLE FOR SURFACE RESTORATION ONCE THE FENCE IS REMOVED.
 7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY CONSTRUCTION FENCE AT THE CONCLUSION OF THE PROJECT.



INLET PROTECTION ① CATCH BASIN W/ GRAVEL
 NOT TO SCALE

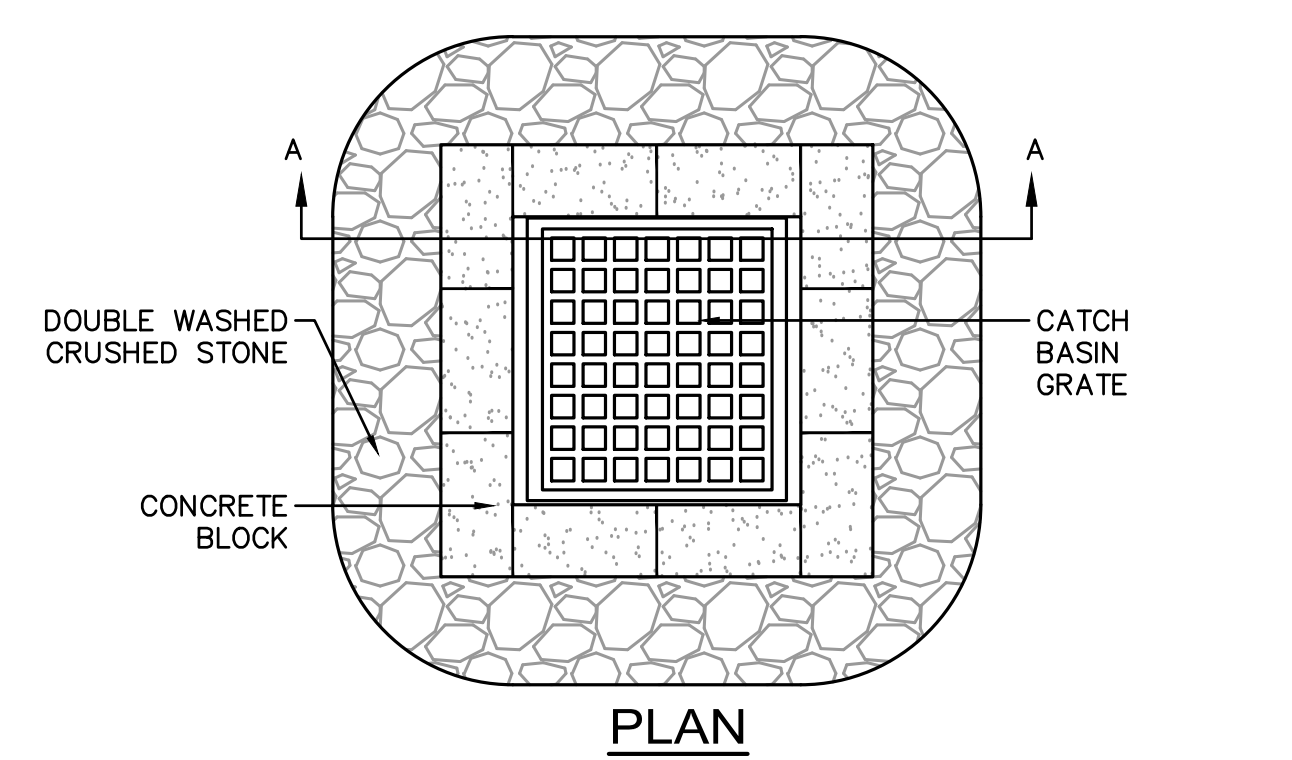
WATTLES - SLOPE PROTECTION FOR SLOPES LESS THAN 10:1
 NOT TO SCALE

- NOTES**
1. PREPARE SOIL BEFORE INSTALLING EROSION CONTROL BLANKETS (ECB's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE ECB'S IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING PORTION OF ECB'S BACK OVER SEED AND COMPACTED SOIL. SECURE ECB'S OVER COMPACTED SOIL WITH A ROW OF STAKES/STAPLES SPACED ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATIONS ACROSS THE WIDTH OF THE ECB'S.
 3. ROLL THE ECB'S DOWN (A) OR HORIZONTALLY (B) ACROSS THE SLOPE. ECB'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAKES/STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAKE/STAPLE PATTERN GUIDE.
 4. THE EDGES OF PARALLEL ECB'S MUST BE STAKED/STAPLED WITH OVERLAP DEPENDING ON ECB'S TYPE. SEE THE MANUFACTURER'S RECOMMENDATIONS.
 5. CONSECUTIVE ECB'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN OVERLAP (SEE THE MANUFACTURER'S RECOMMENDATIONS). STAKE/STAPLE THROUGH OVERLAPPED AREA, ACROSS ENTIRE ECB'S WIDTH PER MANUFACTURER'S RECOMMENDATIONS.
 6. IN LOOSE SOIL CONDITIONS, THE USE OF STAKE OR STAPLE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE ECB'S.
 7. THE CONTRACTOR SHALL FOLLOW ALL INSTALLATION INSTRUCTIONS AS RECOMMENDED BY THE MANUFACTURER.

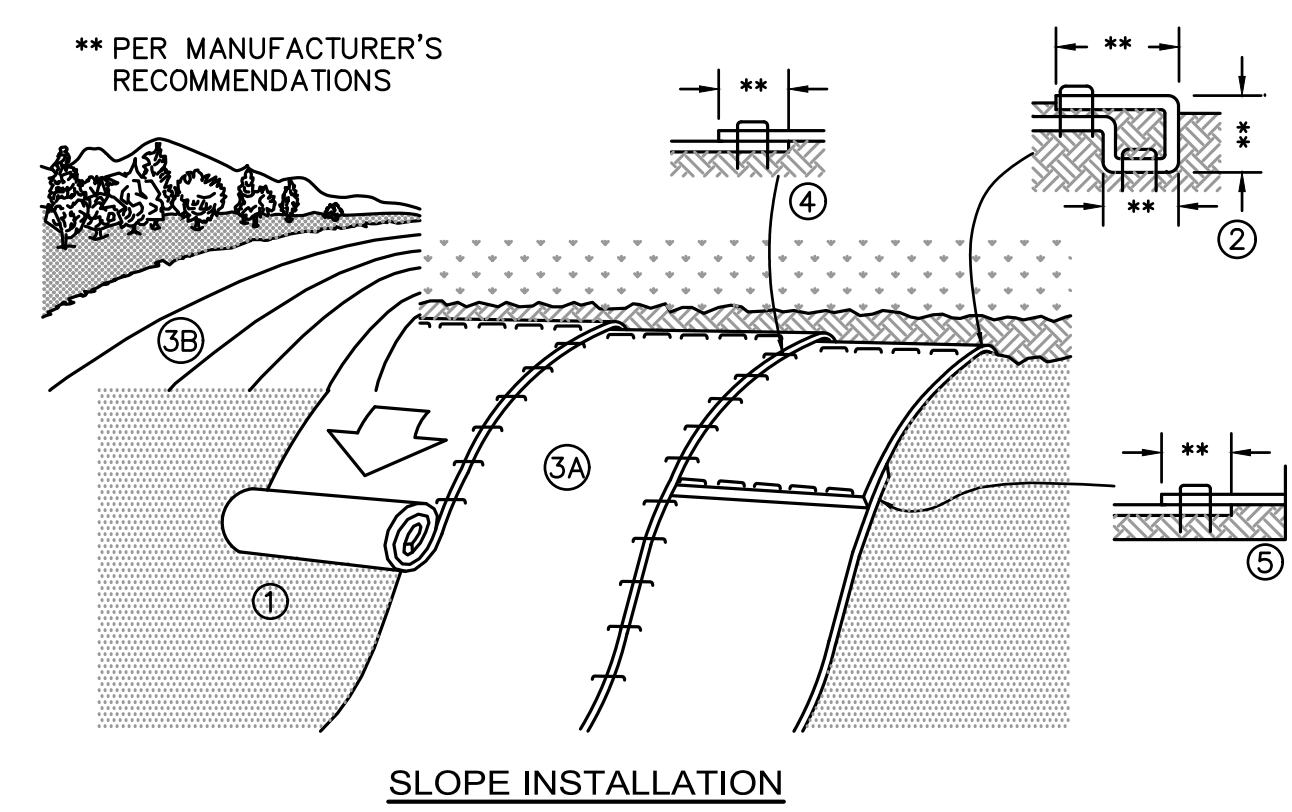


CHAIN LINK CONSTRUCTION FENCE
 NOT TO SCALE

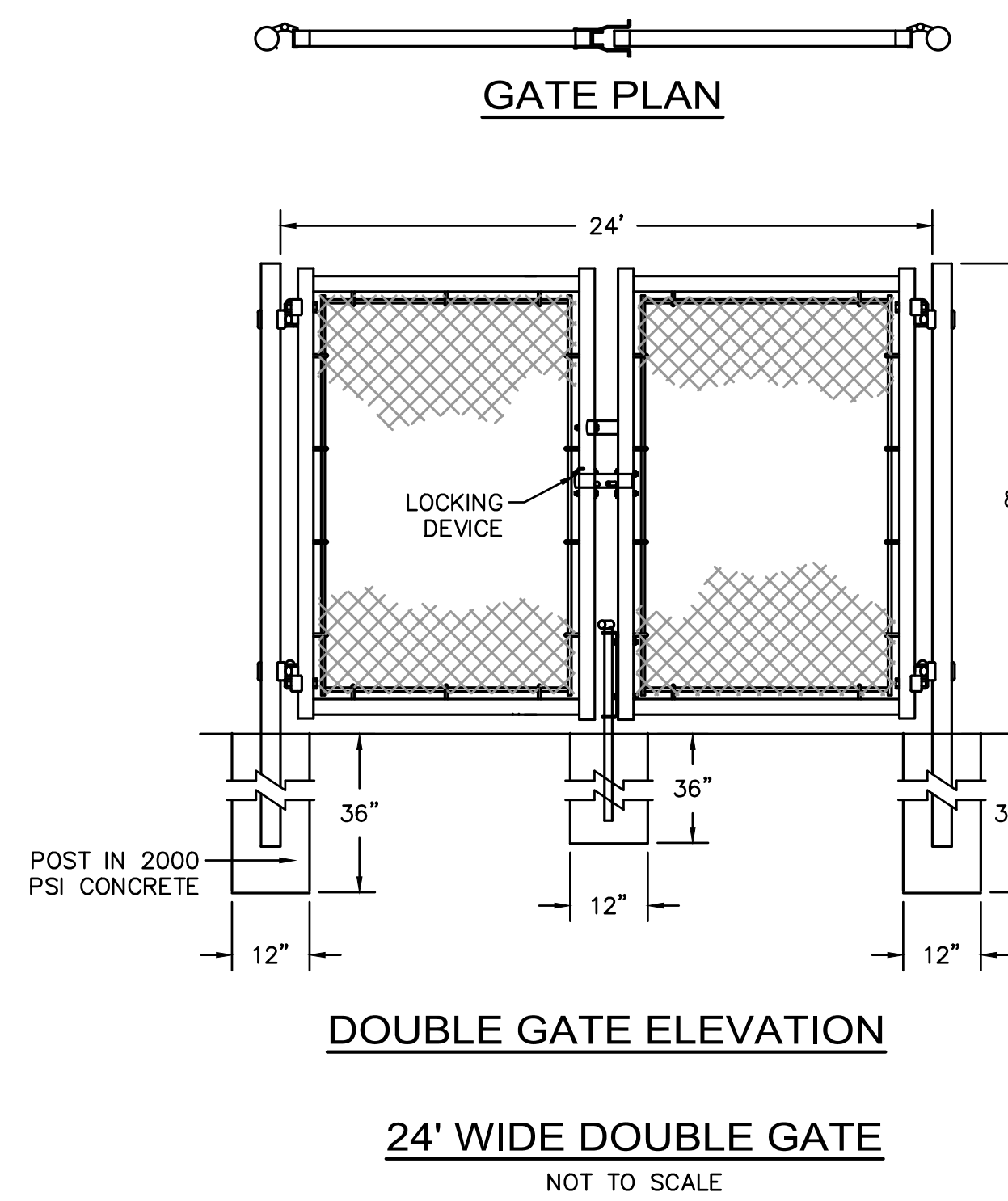
- CONSTRUCTION FENCE AND GATE NOTES**
1. FABRIC SHALL BE 0.148" WIRE, WOVEN INTO APPROXIMATELY 2" DIAMOND MESH.
 2. THE FENCE FABRIC SHALL BE ZINC COATED STEEL OR ALUMINUM COATED STEEL.
 3. FENCE POSTS SHALL RECEIVE THE SAME COATING AND TREATMENT AS THE FENCE FABRIC (DESCRIBED ABOVE).
 4. THE CONTRACTOR SHALL ADD A GREEN WIND SCREEN.
 5. LINE POSTS SHALL BE 2 1/2" O.D. END OR CORNER POSTS SHALL BE 3" O.D.
 6. THE CONTRACTOR IS RESPONSIBLE FOR SURFACE RESTORATION ONCE THE FENCE IS REMOVED.
 7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY CONSTRUCTION FENCE AT THE CONCLUSION OF THE PROJECT.



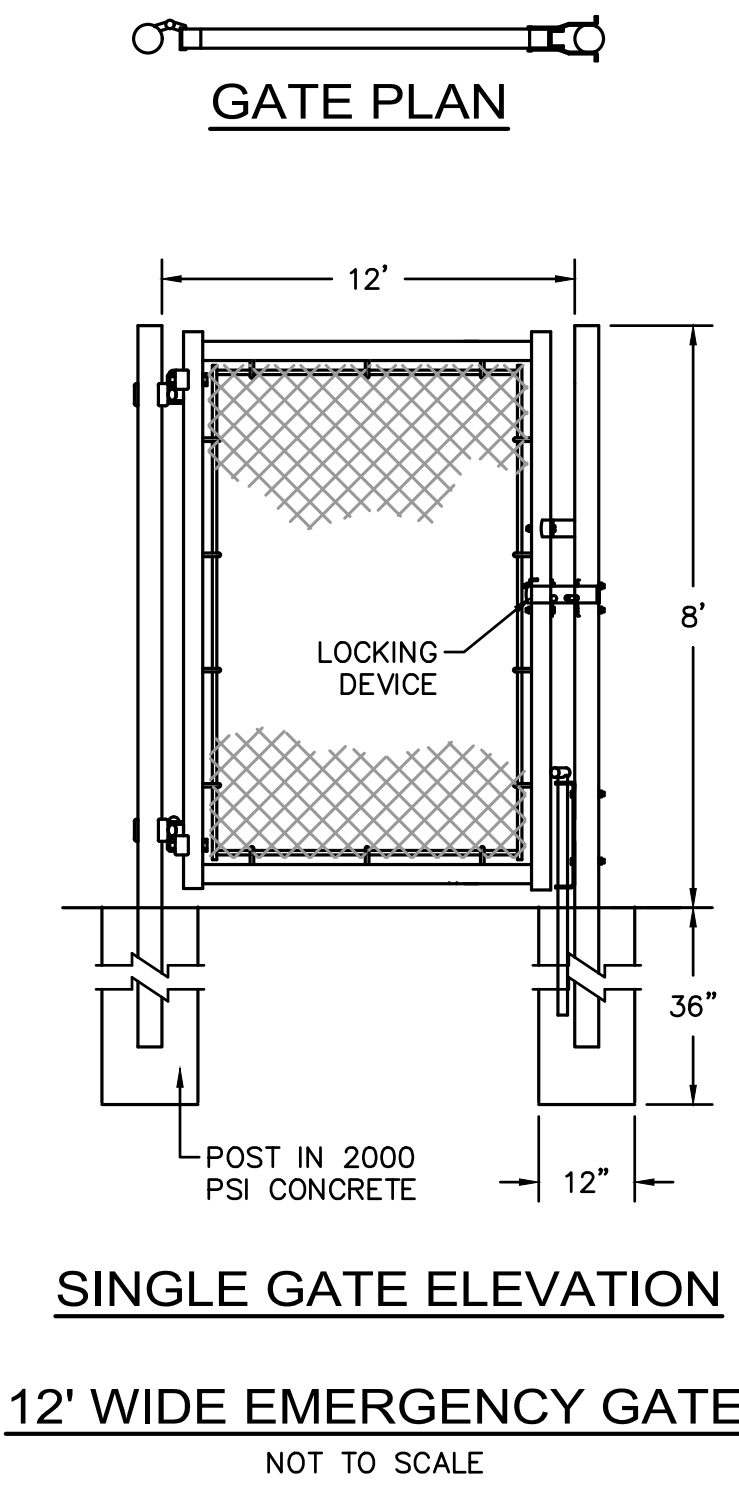
INLET PROTECTION ③ CATCH BASIN W/ BLOCK AND GRAVEL
 NOT TO SCALE



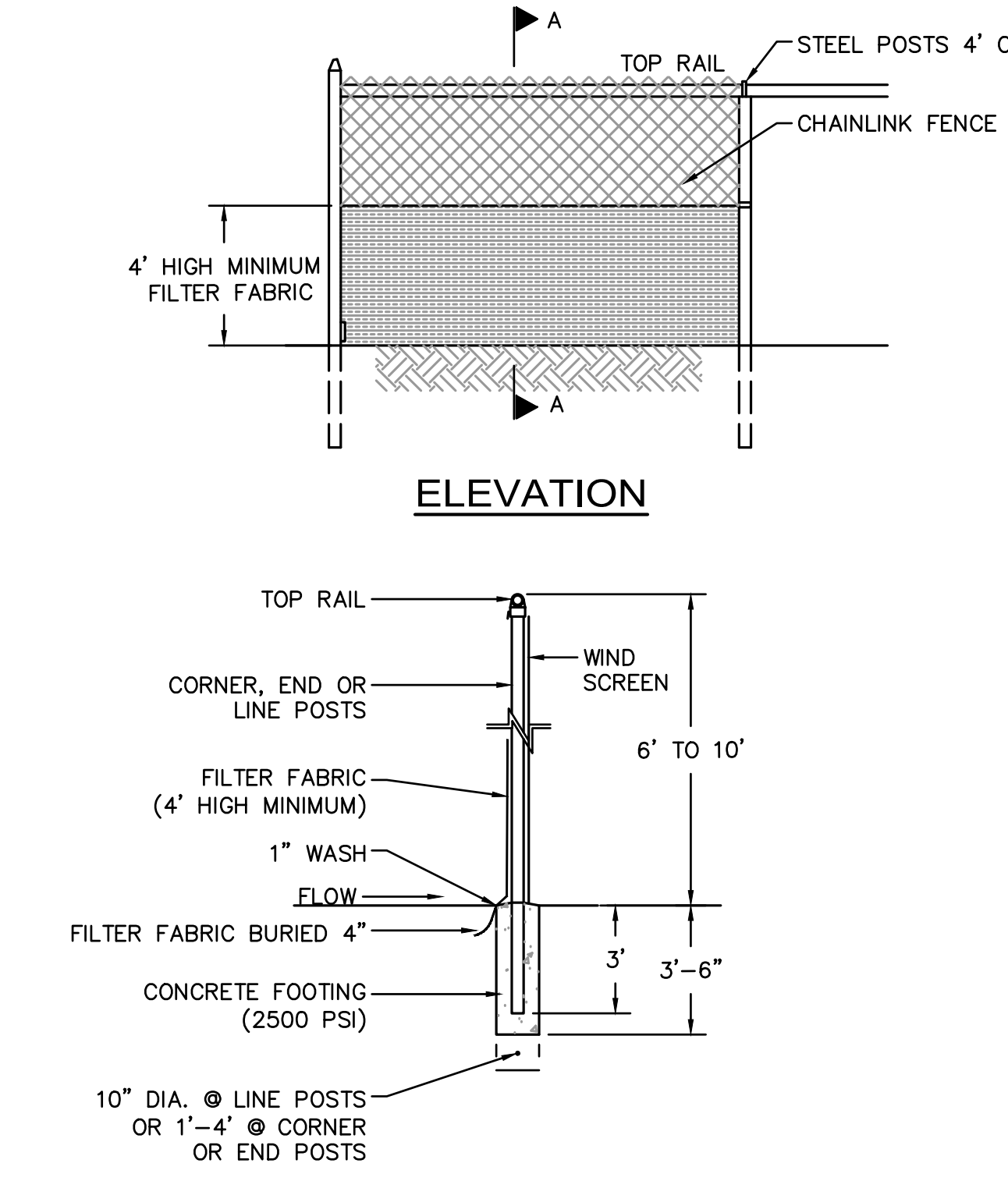
TEMPORARY EROSION CONTROL BLANKET FOR STEEP SLOPES DETAIL
 NOT TO SCALE



24' WIDE DOUBLE GATE
 NOT TO SCALE

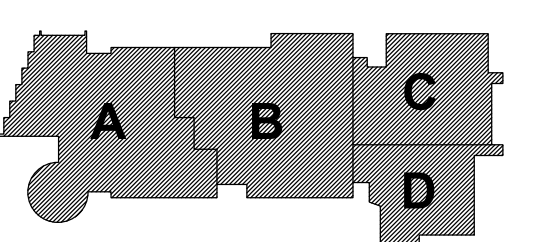


12' WIDE EMERGENCY GATE
 NOT TO SCALE

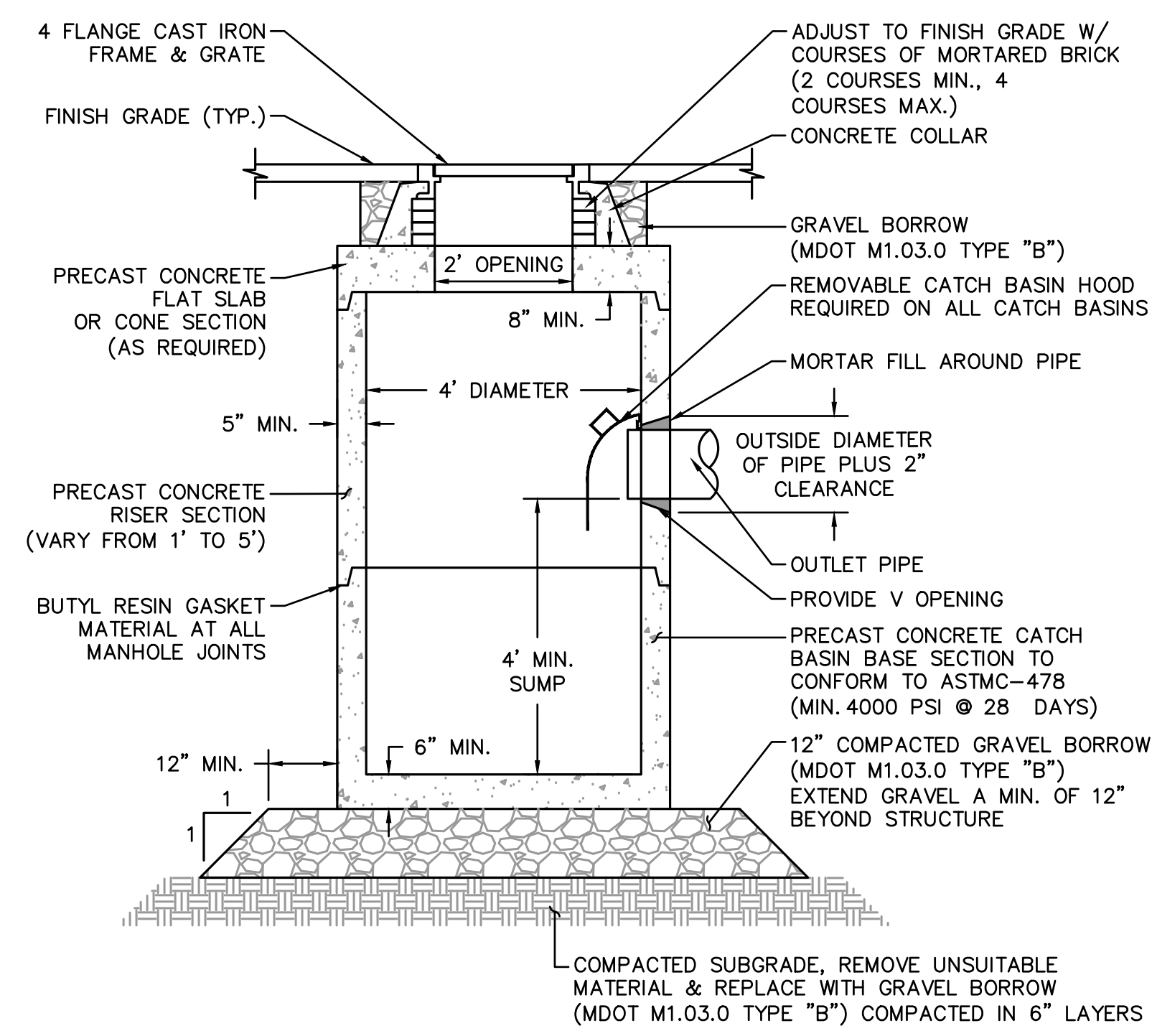


EROSION CONTROL BARRIER ④ SUPER SILT FENCE
 NOT TO SCALE

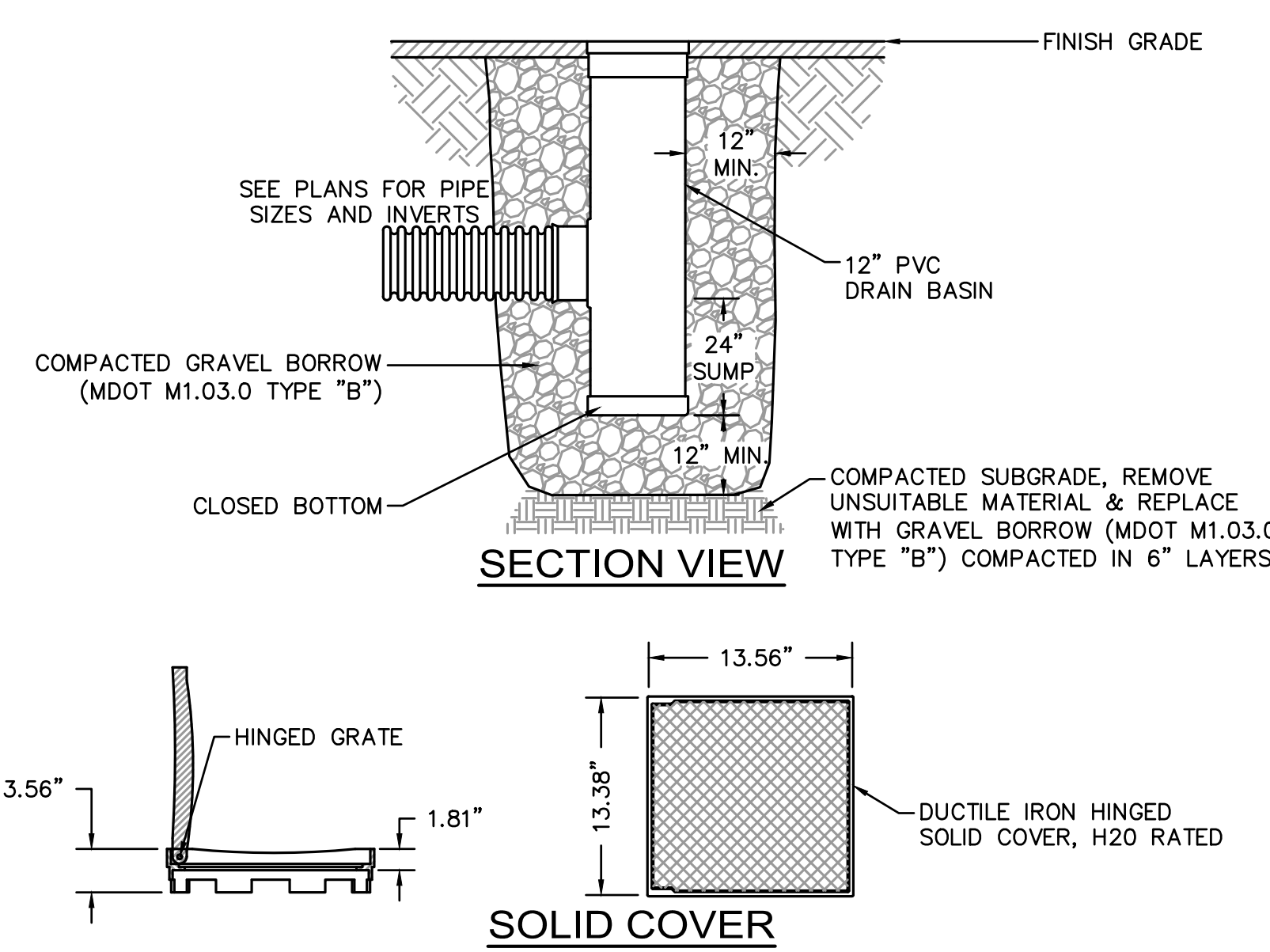
- NOTES**
1. CHAINLINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES.
 2. FILTER FABRIC SHALL BE FASTENED SECURELY TO CHAINLINK FENCE WITH TIES SPACED HORIZONTALLY 24" AS THE TOP AND MIDSECTION.
 3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6"
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 50% OF THE HEIGHT OF THE FILTER FABRIC.
 5. MAINTENANCE OF SILT FENCE SHALL BE RECORDED TO IN THE SWPPP



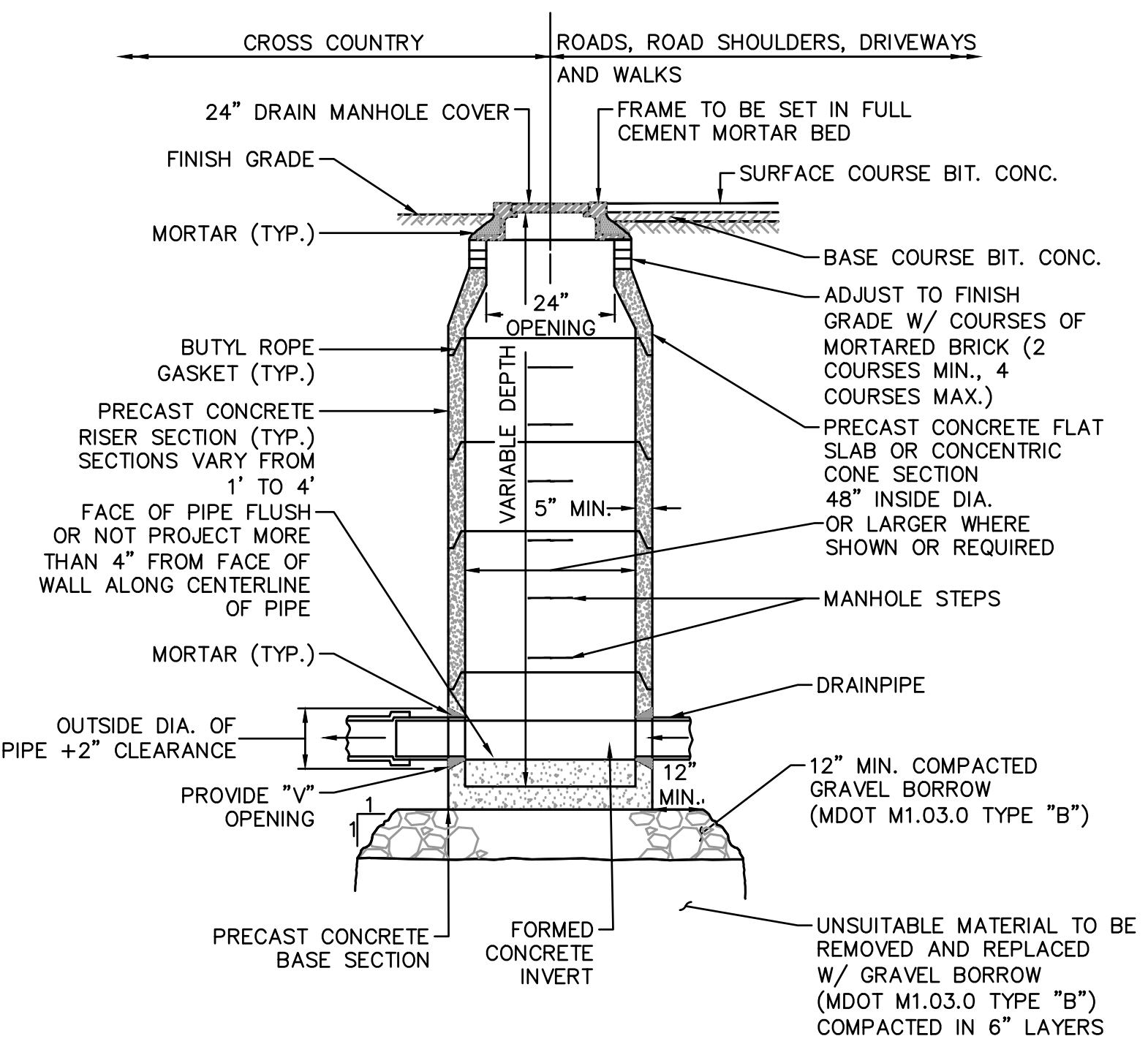
KEY PLAN



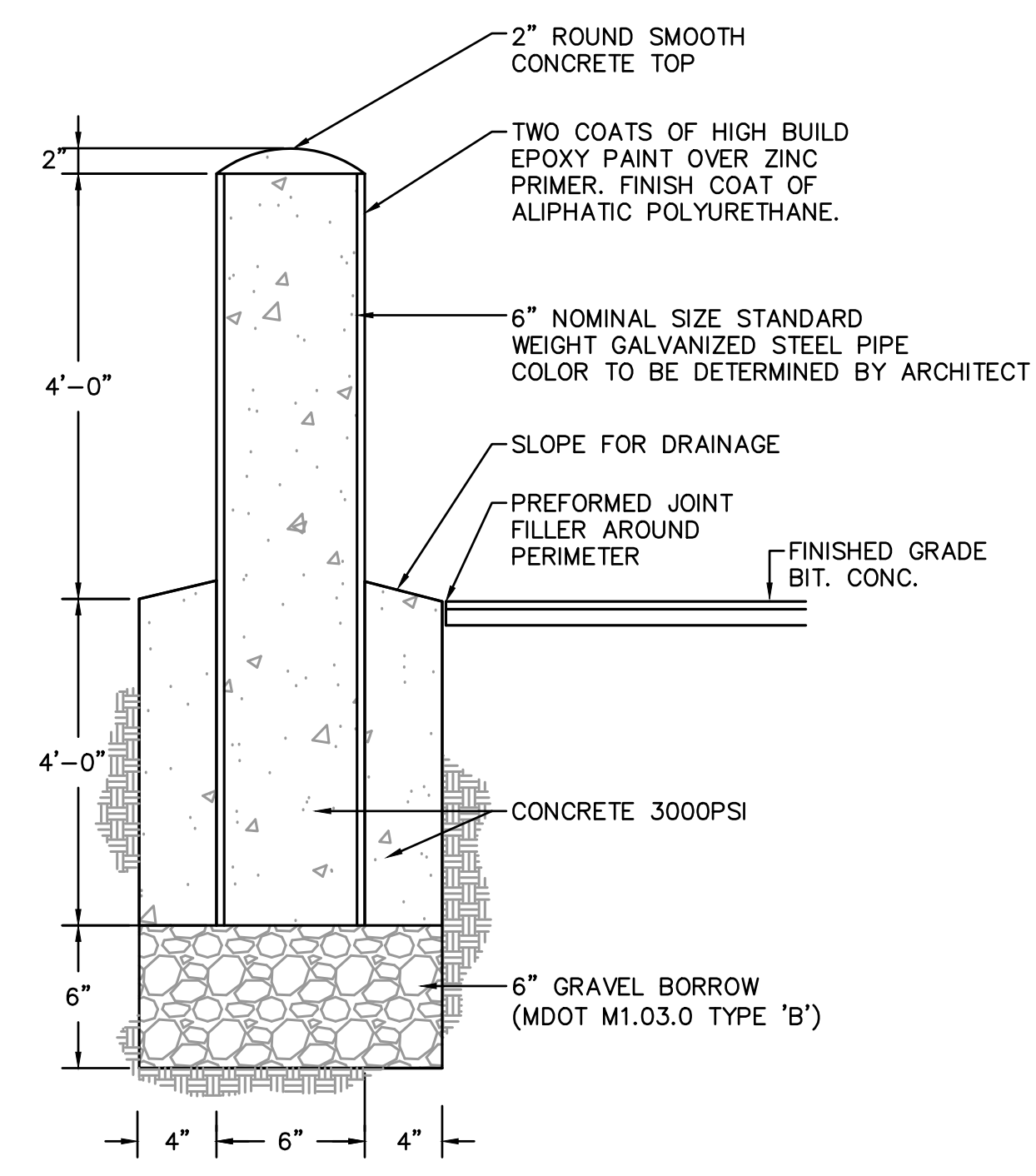
TYPICAL CATCH BASIN DETAIL
NOT TO SCALE



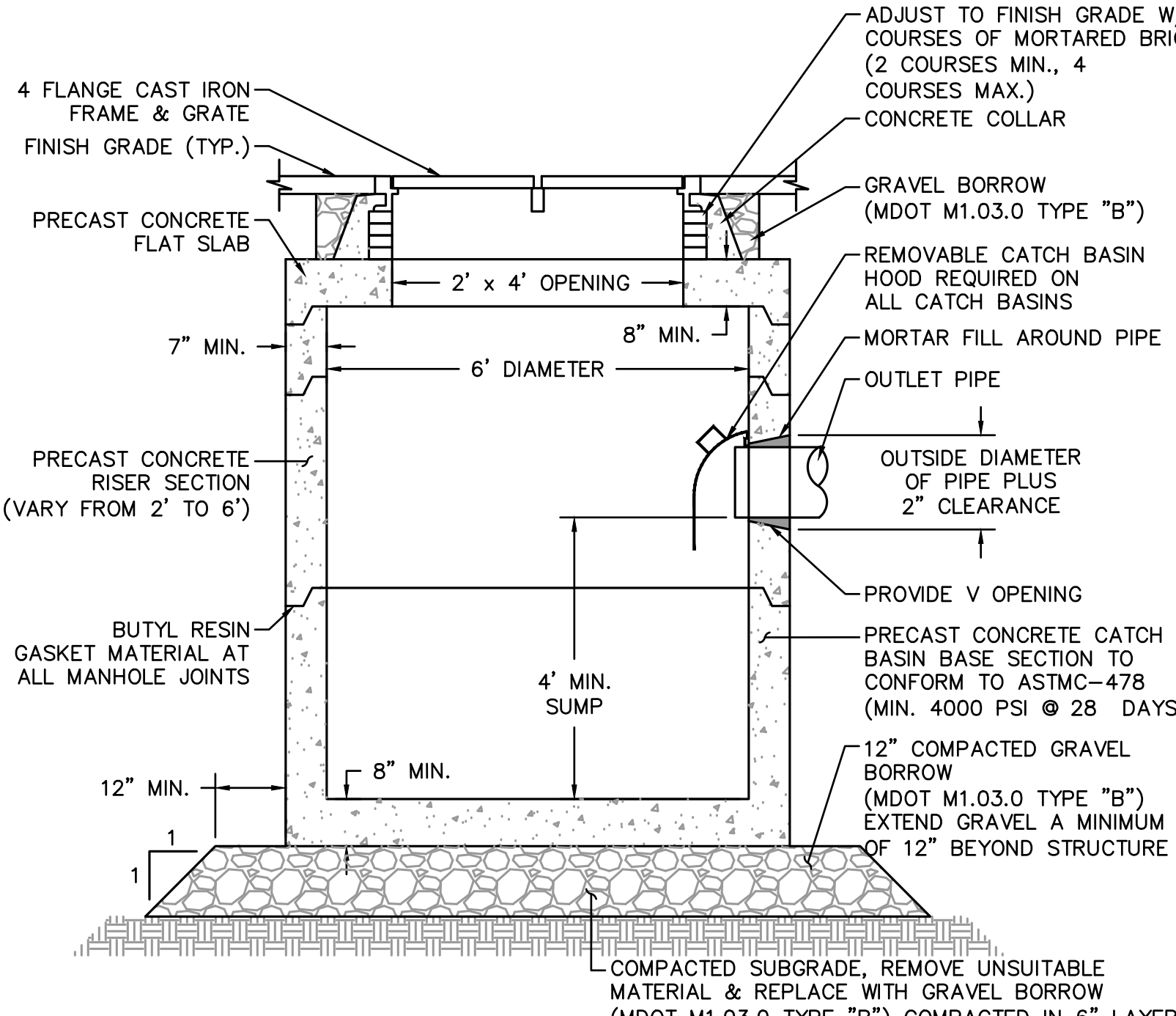
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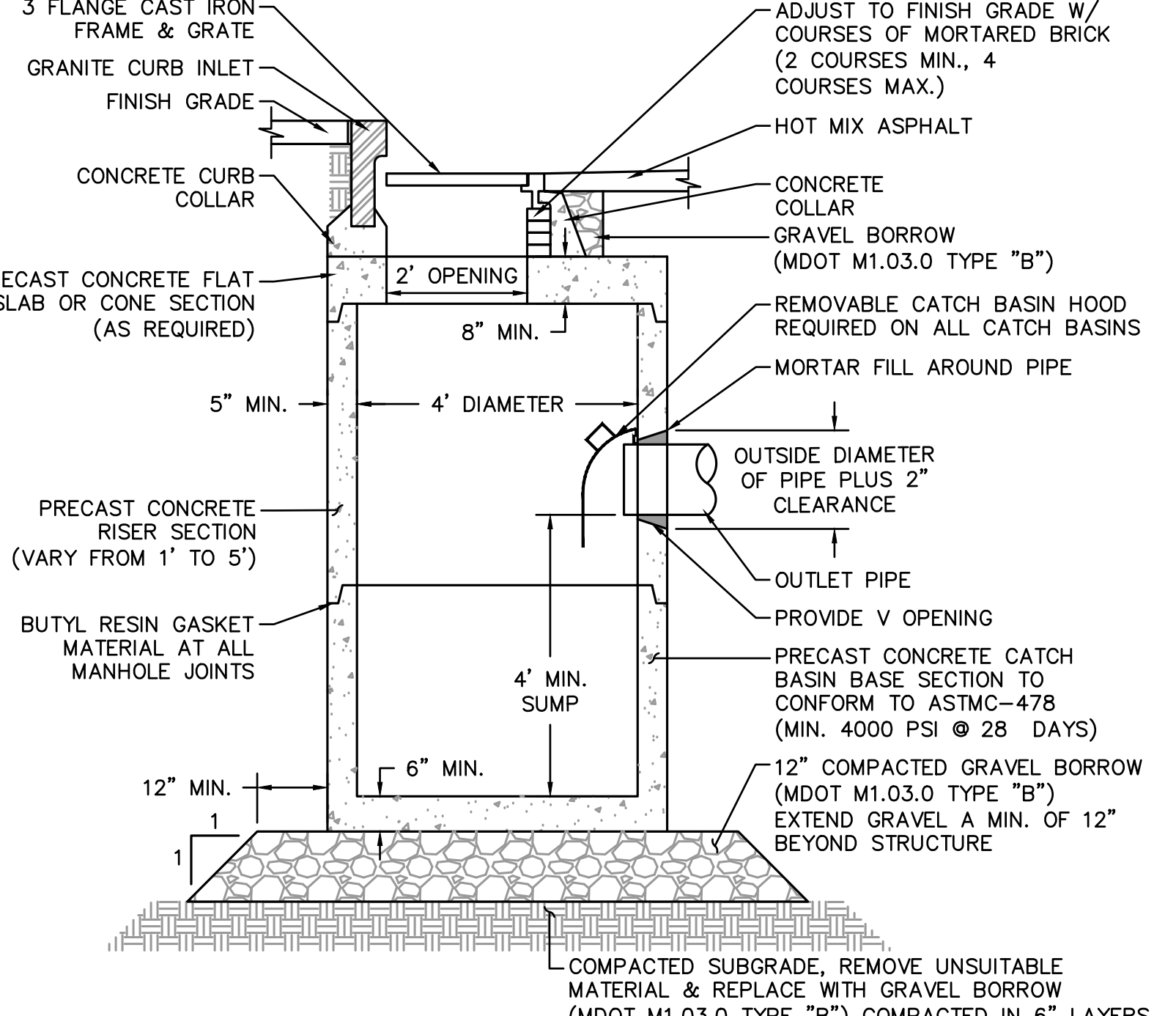
TYPICAL DRAIN MANHOLE DETAIL
NOT TO SCALE



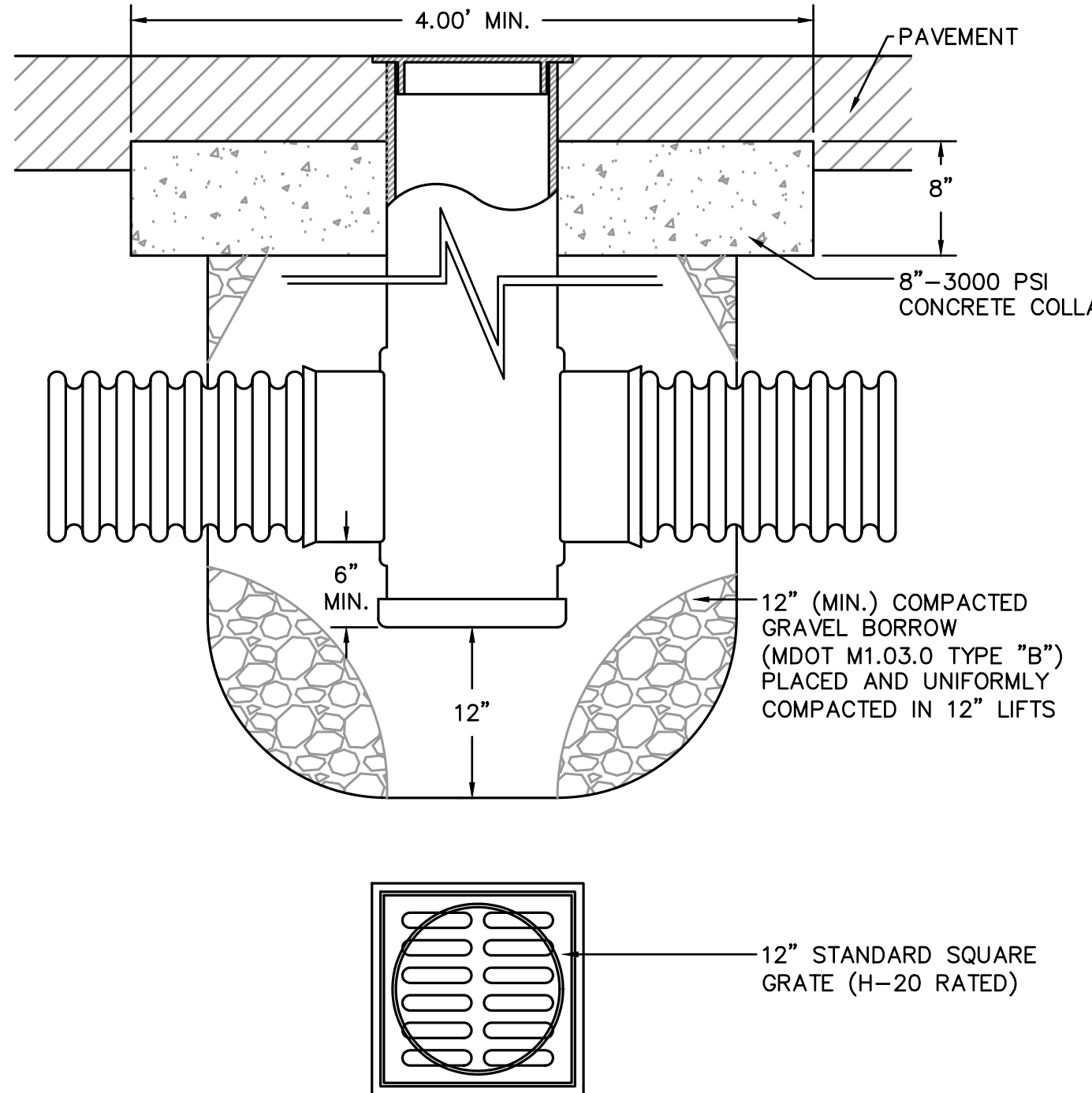
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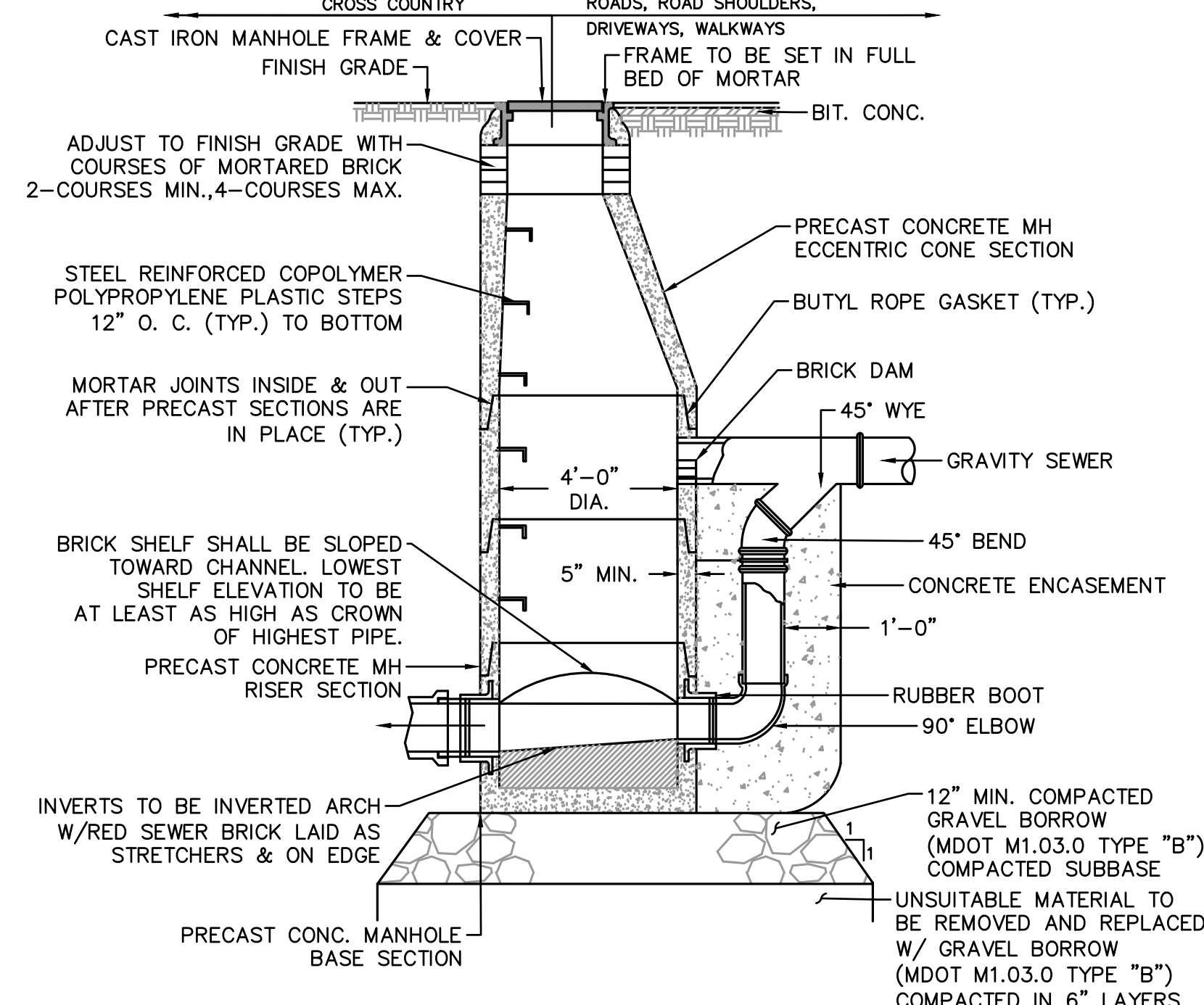
TYPICAL DOUBLE CATCH BASIN DETAIL
NOT TO SCALE



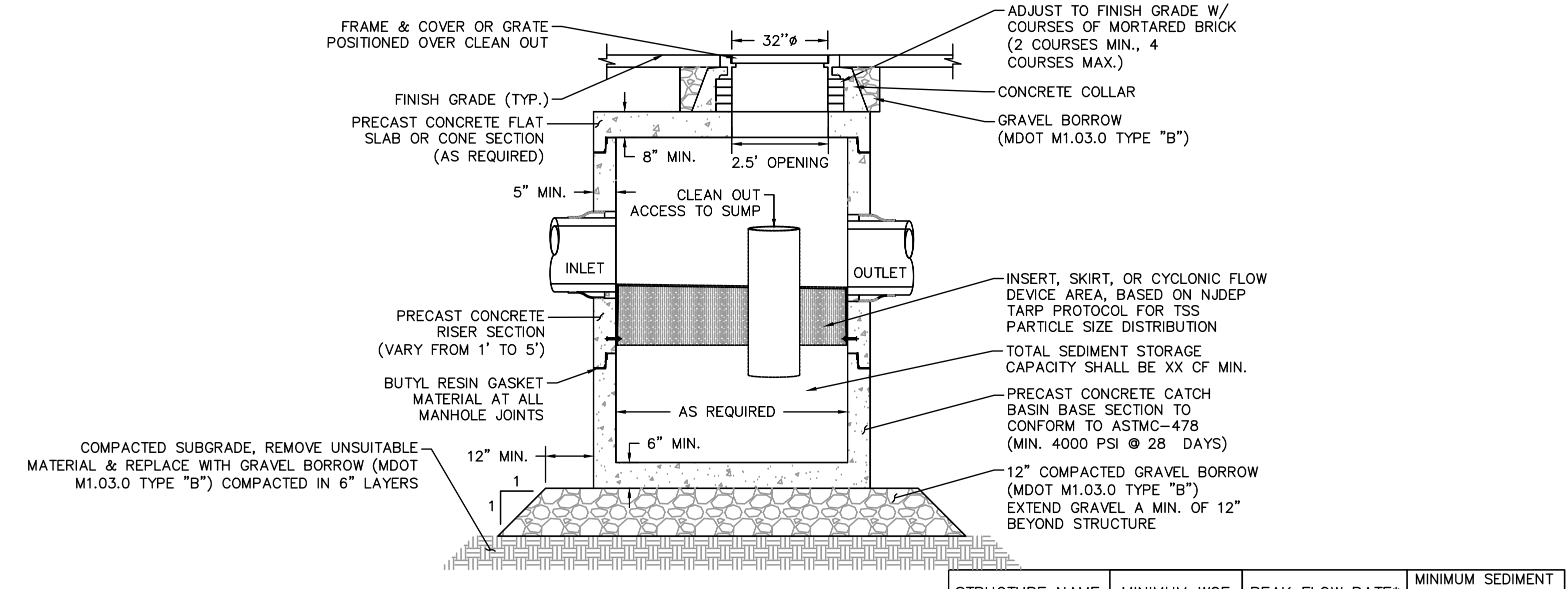
TYPICAL CATCH BASIN DETAIL (w/ GRANITE CURB INLET)
NOT TO SCALE



AREA DRAIN IN PAVEMENT
NOT TO SCALE



DROP MANHOLE DETAIL
NOT TO SCALE

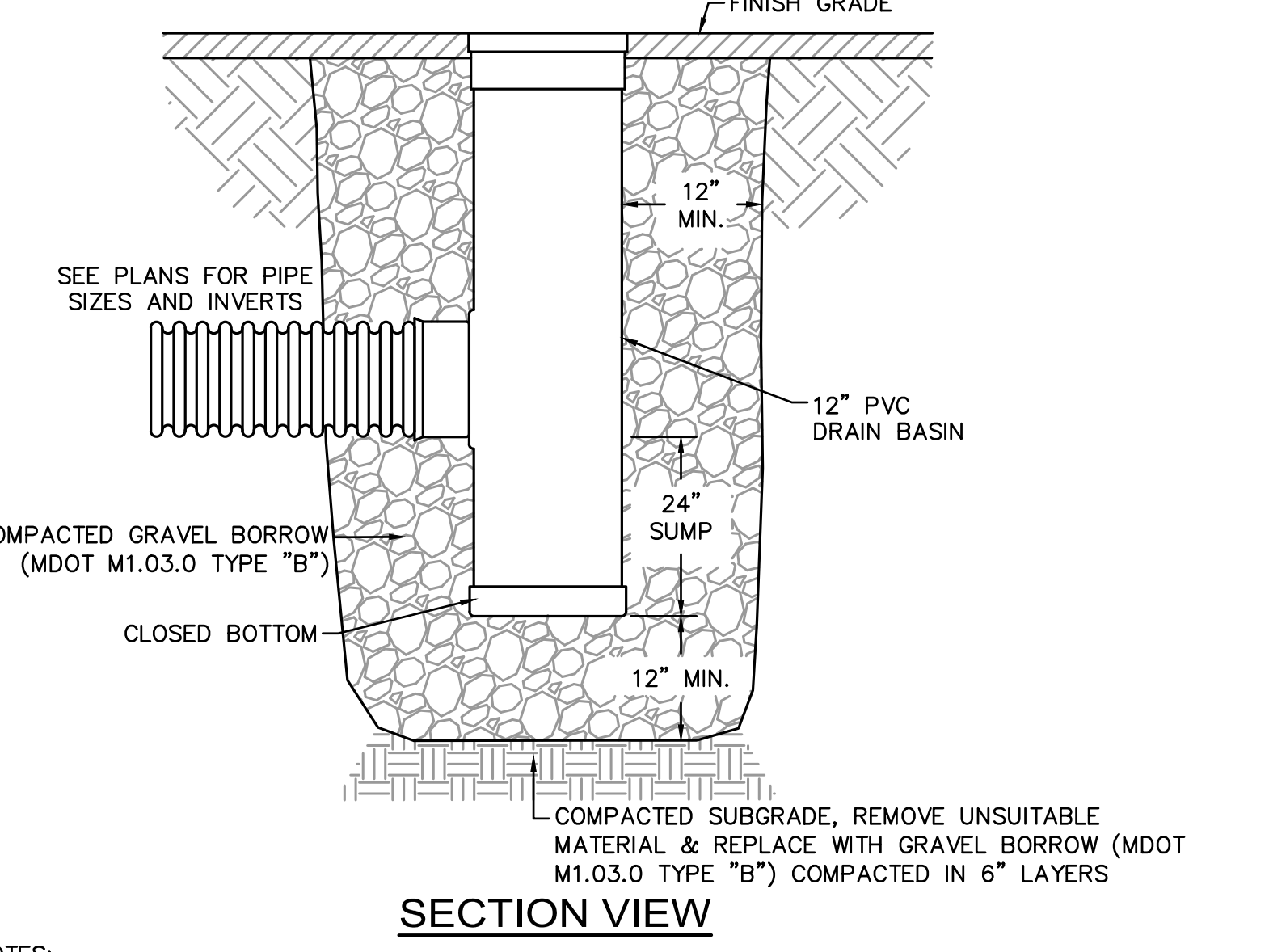


NOTE:
 1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
 2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL CLEANOUT PIPE.
 3. STRUCTURE DESIGNED FOR H2O LOADING.

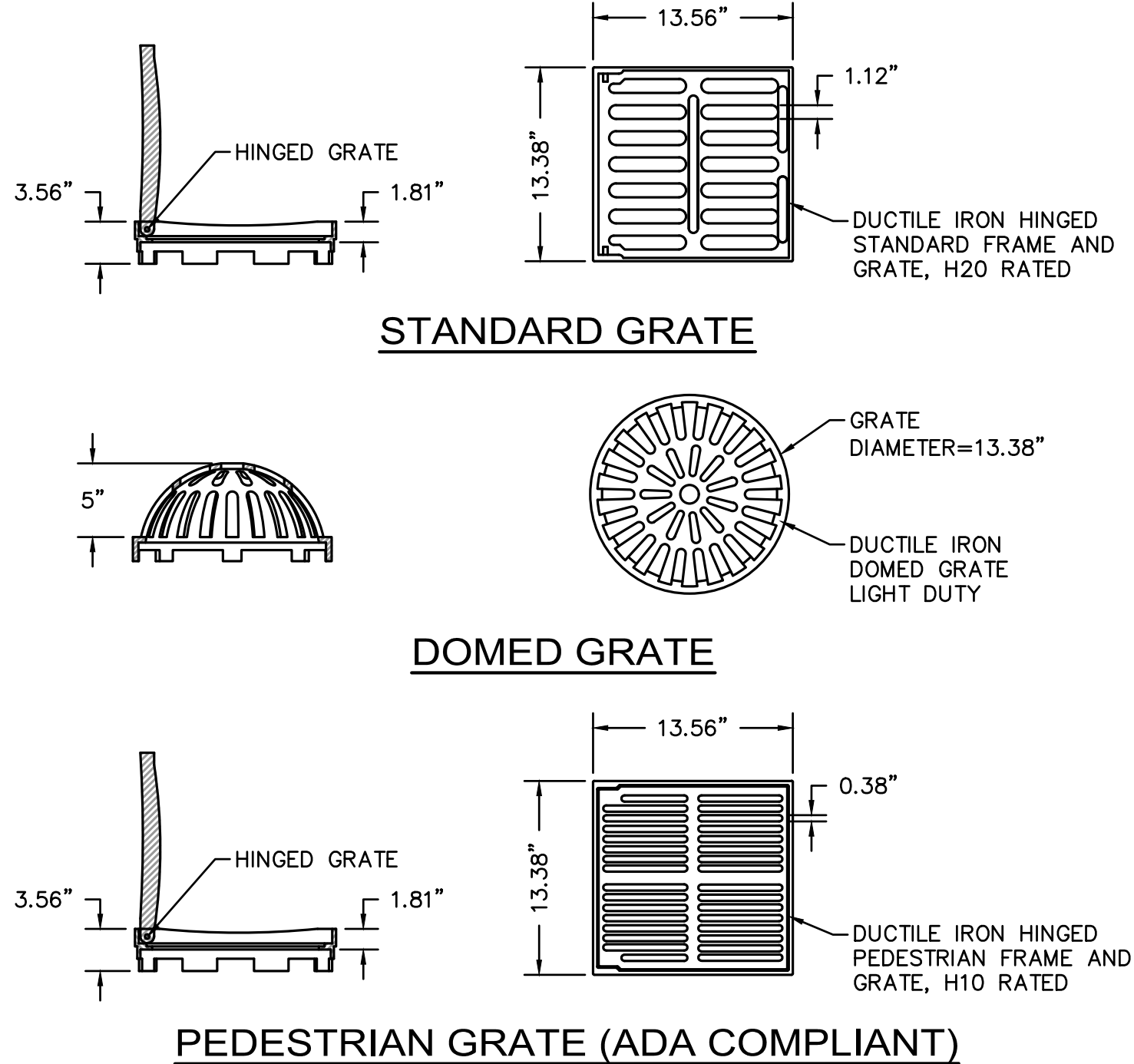
STRUCTURE NAME	MINIMUM WQF	PEAK FLOW RATE*	MINIMUM SEDIMENT STORAGE CAPACITY
WQS#XXX	X.XX CFS	X.XX CFS	XX CF
WQS#XXX	X.XX CFS	X.XX CFS	XX CF

* PEAK FLOW RATE BASED ON NATIONAL ANALYSIS FOR A 25-YEAR STORM EVENT. STRUCTURE SHALL BE ABLE TO PASS PEAK FLOW RATE WITHOUT CAUSING A BACKWATER CONDITION.

WATER QUALITY STRUCTURE DETAIL
NOT TO SCALE



12\"/>



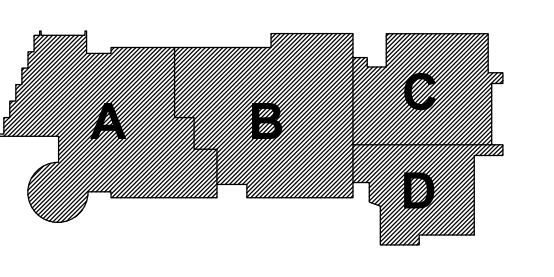
STANDARD GRATE
DOMED GRATE
PEDESTRIAN GRATE (ADA COMPLIANT)

- NOTES:
 1. FRAME AND GRATE SHALL BE DUCTILE IRON CONFORMING TO ASTM A536 GRADE 70-50-05.
 2. 12\"/>

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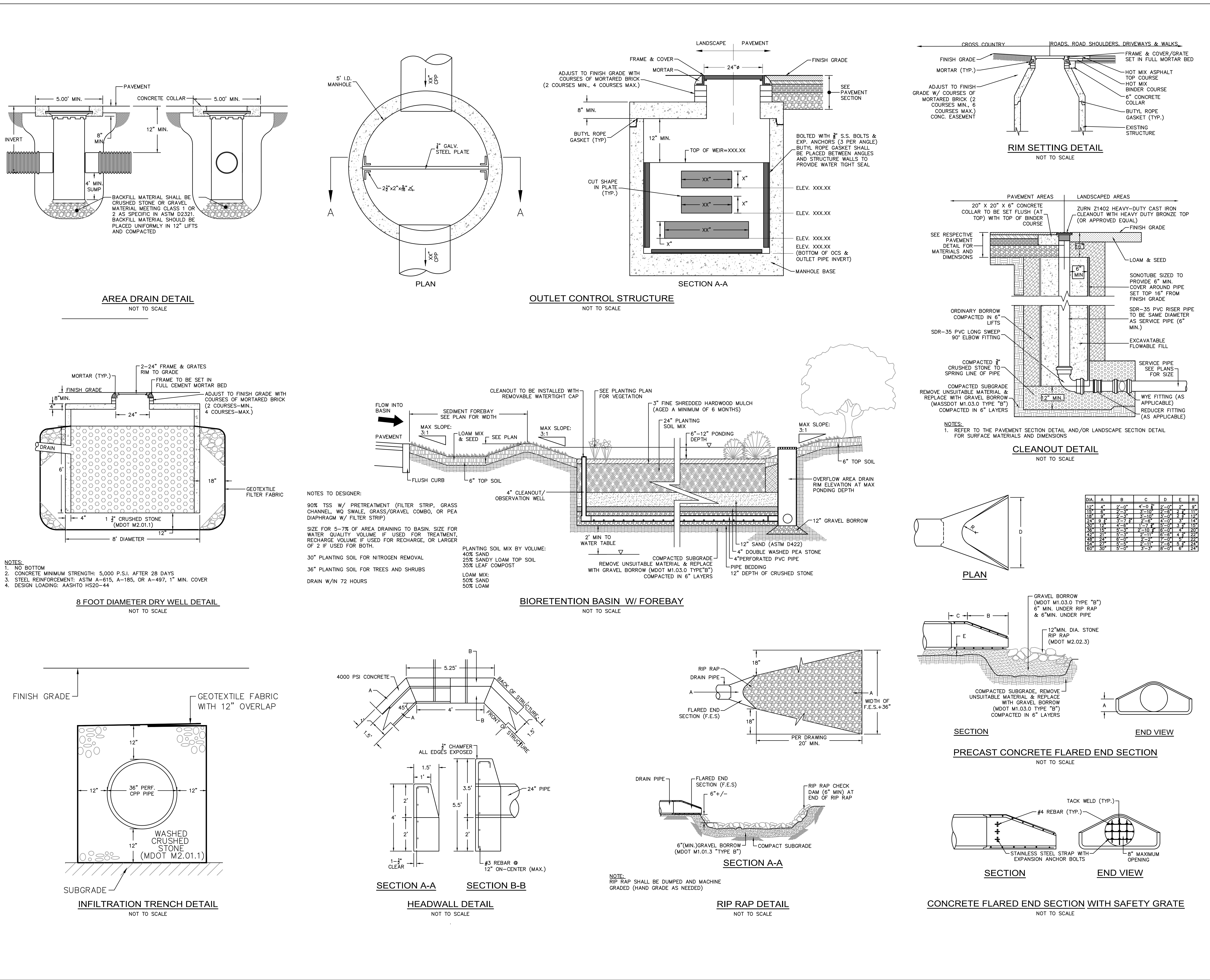
MSBA
 SCHEMATIC
 DESIGN
 SUBMITTAL

June 17, 2021



KEY PLAN

**CIVIL SITE
 DETAILS**



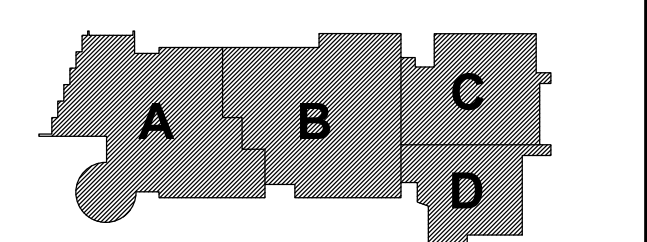
- NOTES:**
- NO BOTTOM
 - CONCRETE MINIMUM STRENGTH: 5,000 P.S.I. AFTER 28 DAYS
 - STEEL REINFORCEMENT: ASTM A-615, A-185, OR A-497, 1" MIN. COVER
 - DESIGN LOADINGS: AASHTO HS20-44

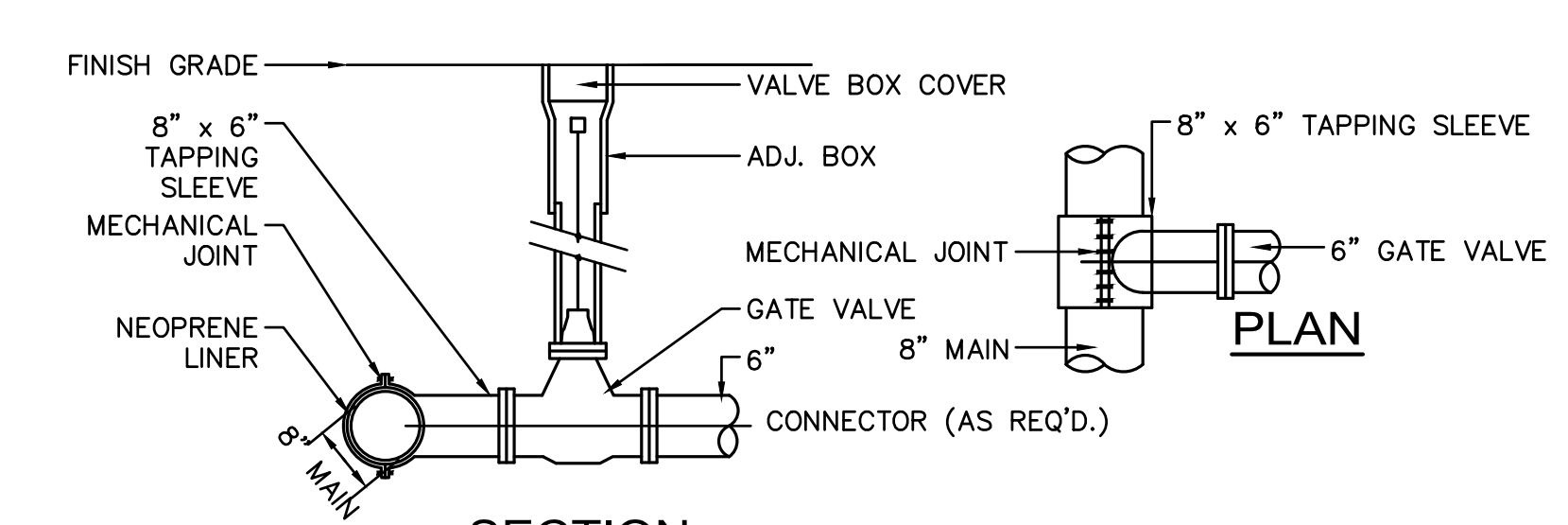
- NOTES TO DESIGNER:**
- 90% TSS W/ PRETREATMENT (FILTER STRIP, GRASS CHANNEL, WO SWALE, GRASS/GRAVEL COMBO, OR PEA DIAPHRAGM W/ FILTER STRIP)
 - SIZE FOR 5-7% OF AREA DRAINING TO BASIN. SIZE FOR WATER QUALITY VOLUME IF USED FOR TREATMENT, RECHARGE VOLUME IF USED FOR RECHARGE, OR LARGER OF 2 IF USED FOR BOTH.
 - 30" PLANTING SOIL FOR NITROGEN REMOVAL
 - 36" PLANTING SOIL FOR TREES AND SHRUBS
 - DRAIN W/IN 72 HOURS

- PLANTING SOIL MIX BY VOLUME:**
- 40% SAND
 - 25% SANDY LOAM TOP SOIL
 - 35% LEAF COMPOST
- LOAM MIX:**
- 50% SAND
 - 50% LOAM

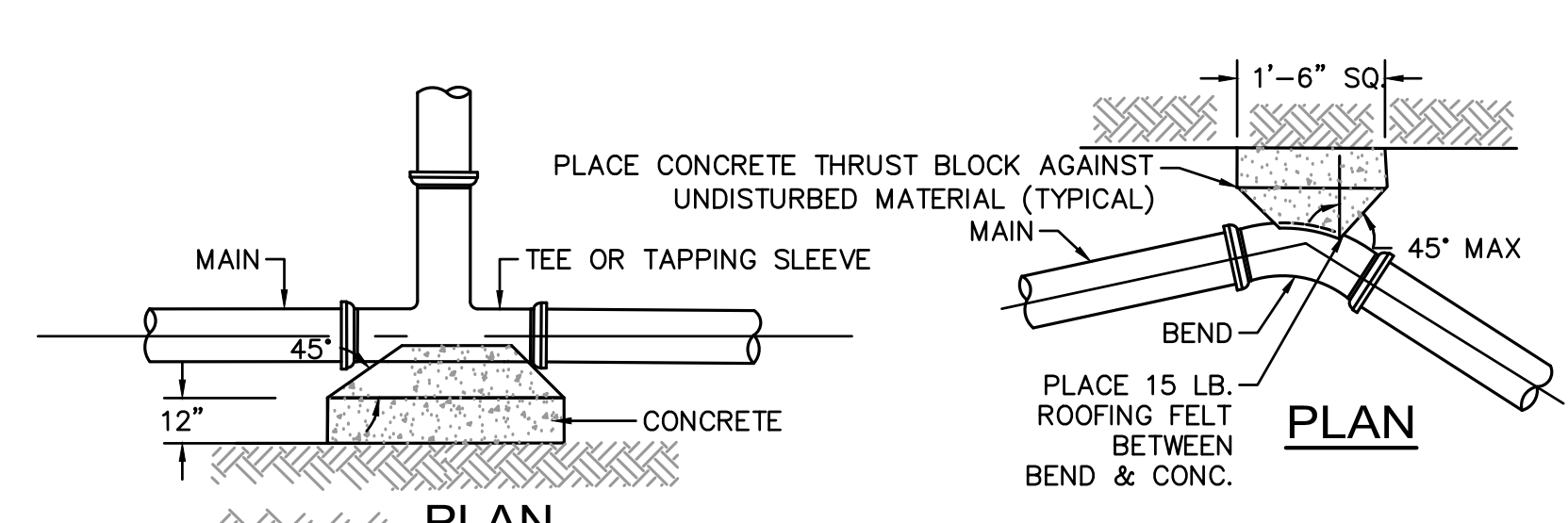
DIA	A	B	C	D	E	R
12"	4"	2'-0"	4'-0"	2'-0"	2'	18"
18"	4"	2'-0"	3'-10"	2'-0"	2'	18"
24"	4"	2'-0"	3'-10"	2'-0"	2'	18"
30"	4"	2'-0"	3'-10"	2'-0"	2'	18"
36"	4"	2'-0"	3'-10"	2'-0"	2'	18"
42"	4"	2'-0"	3'-10"	2'-0"	2'	18"
48"	4"	2'-0"	3'-10"	2'-0"	2'	18"
54"	4"	2'-0"	3'-10"	2'-0"	2'	18"
60"	4"	2'-0"	3'-10"	2'-0"	2'	18"

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TAPPING SLEEVE, VALVE & BOX DETAIL
NOT TO SCALE

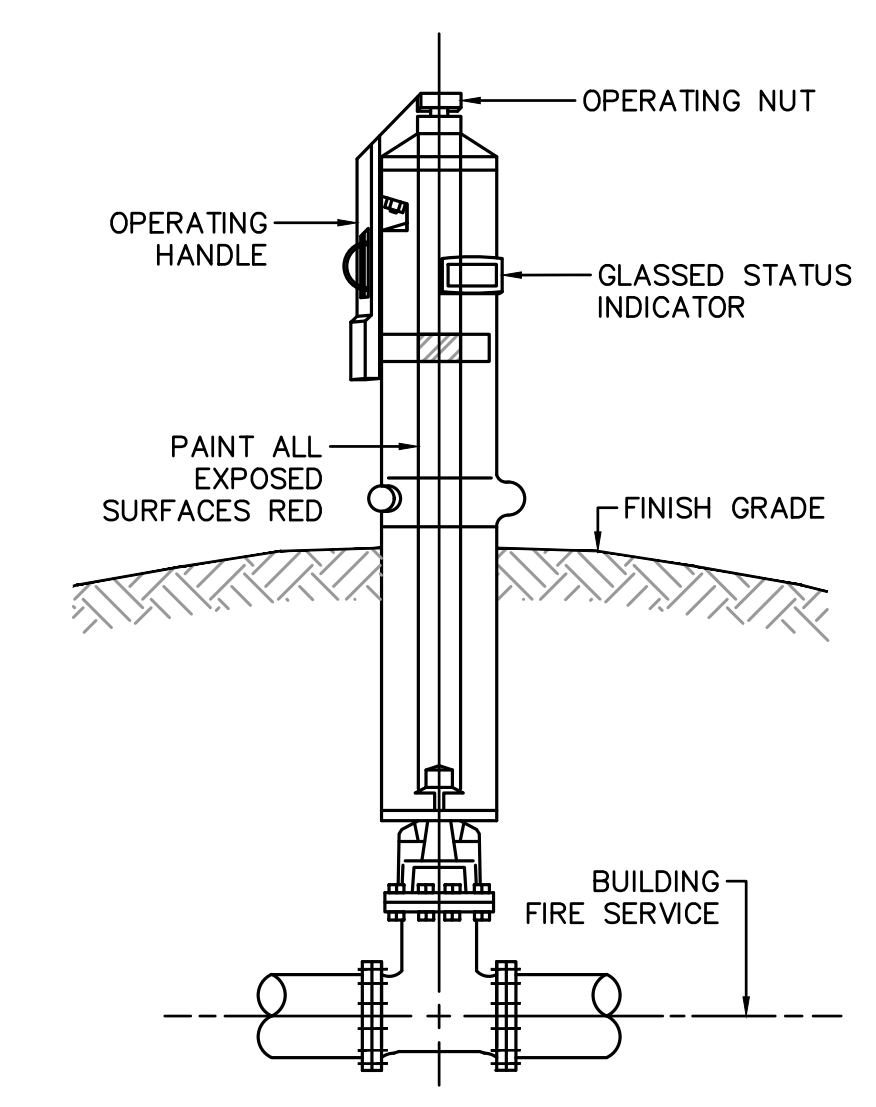


THRUST BLOCK DETAILS
NOT TO SCALE

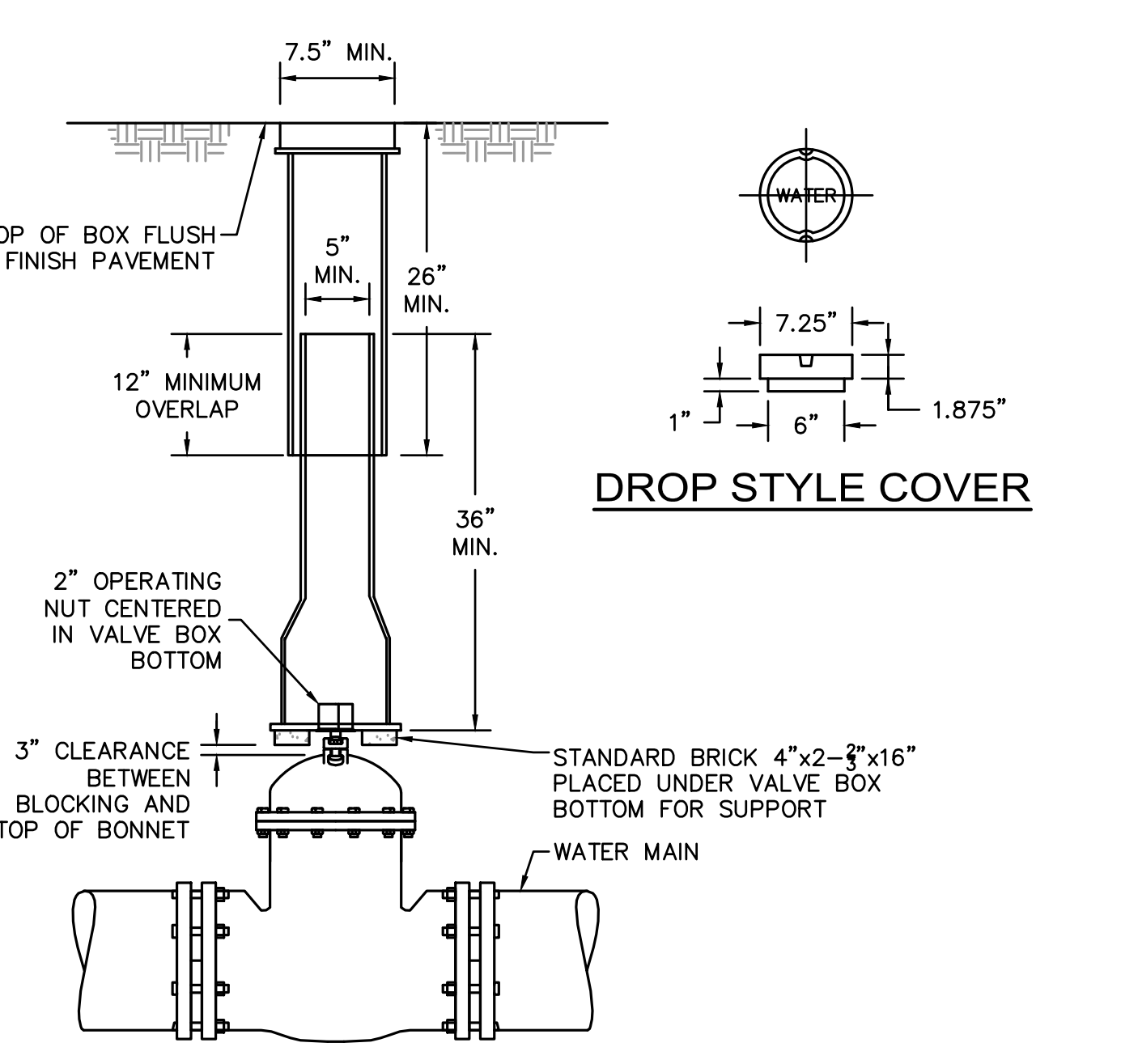
- NOTES:
- THRUST BLOCKS TO BE USED ON ALL PRESSURE PIPES AT HORIZONTAL AND VERTICAL BENDS GREATER OR EQUAL TO 45°, TEES AND DEAD ENDS.
 - FOR FITTINGS WITH LESS THAN 45° DEFLECTION USE BEARING AREAS FOR 45° BEND.
 - BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 PSF AND A MINIMUM INTERNAL WATER PRESSURE OF 175 PSIG. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND ROCK FACE.

TABLE OF BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR FITTING.

SIZE OF MAIN (INCHES)	90° BEND (S.F.)	45° BEND (S.F.)	DEAD END (S.F.)
4	2.3	1.3	1.6
6	4.7	2.5	3.3
8	8.0	4.5	6.0
12	17.0	9.5	12.0



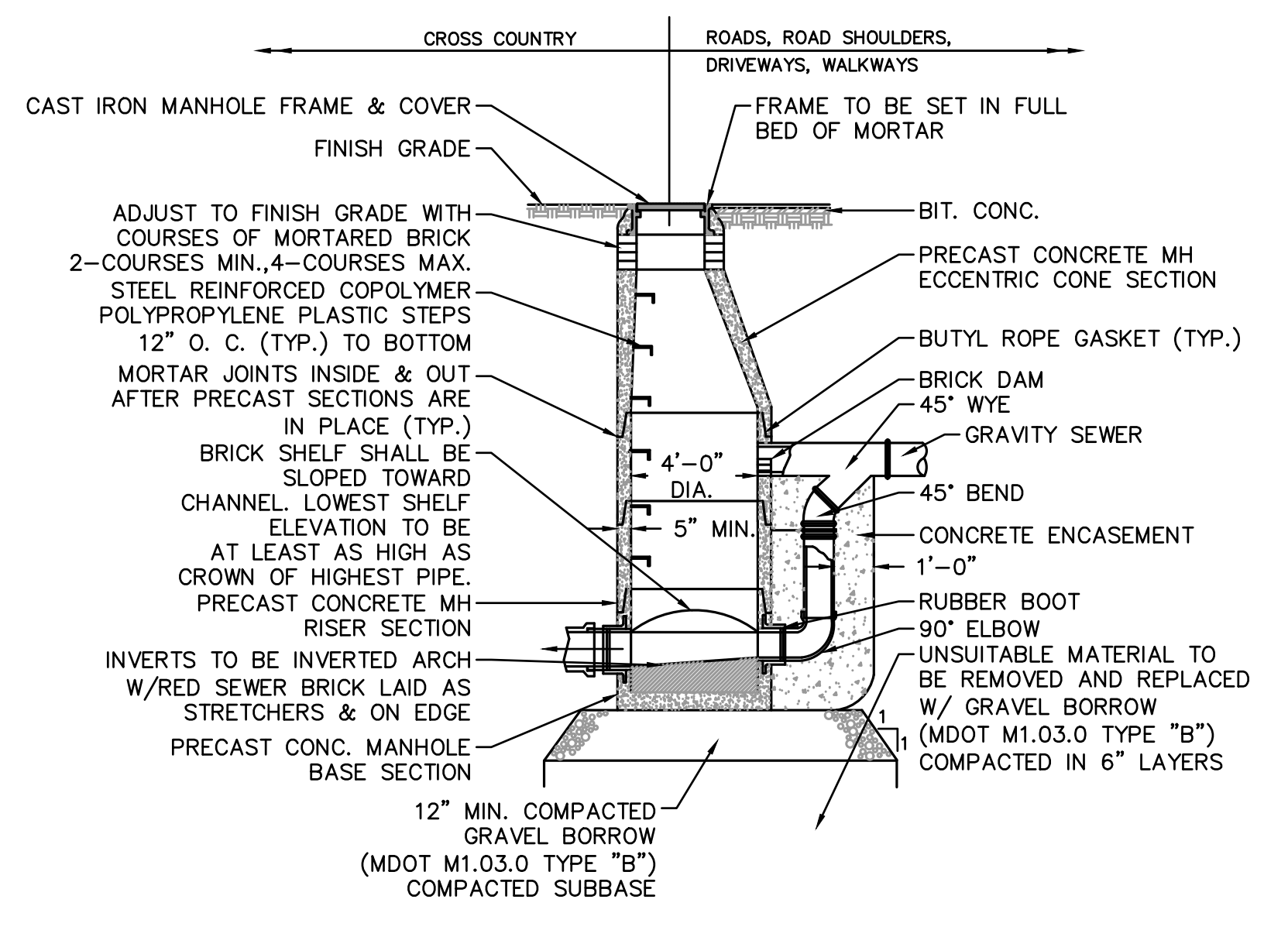
POST INDICATOR VALVE DETAIL
NOT TO SCALE



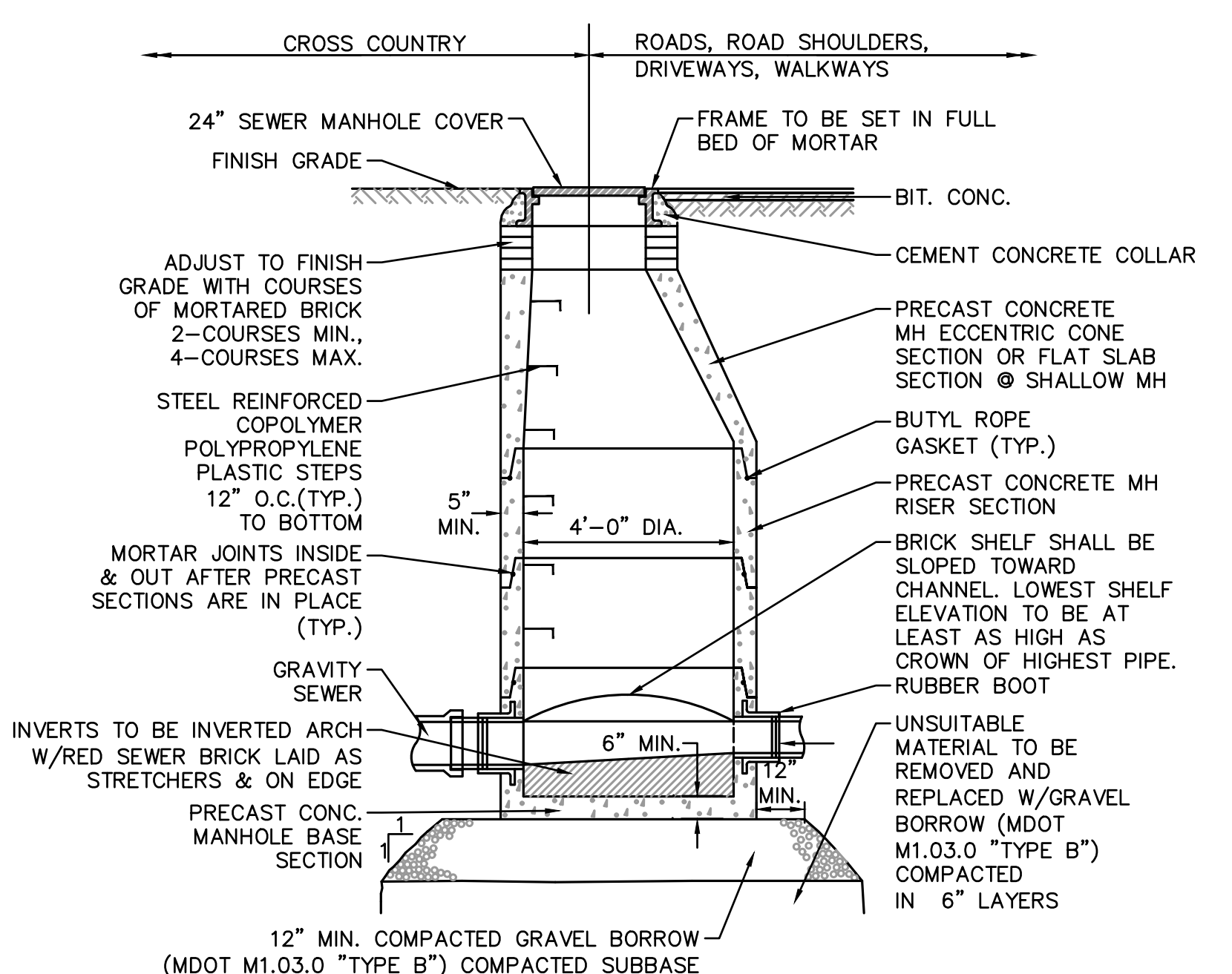
DROP STYLE COVER

- NOTES:
- ALL WATER MAINS SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
 - COVER MUST BE MARKED "WATER".

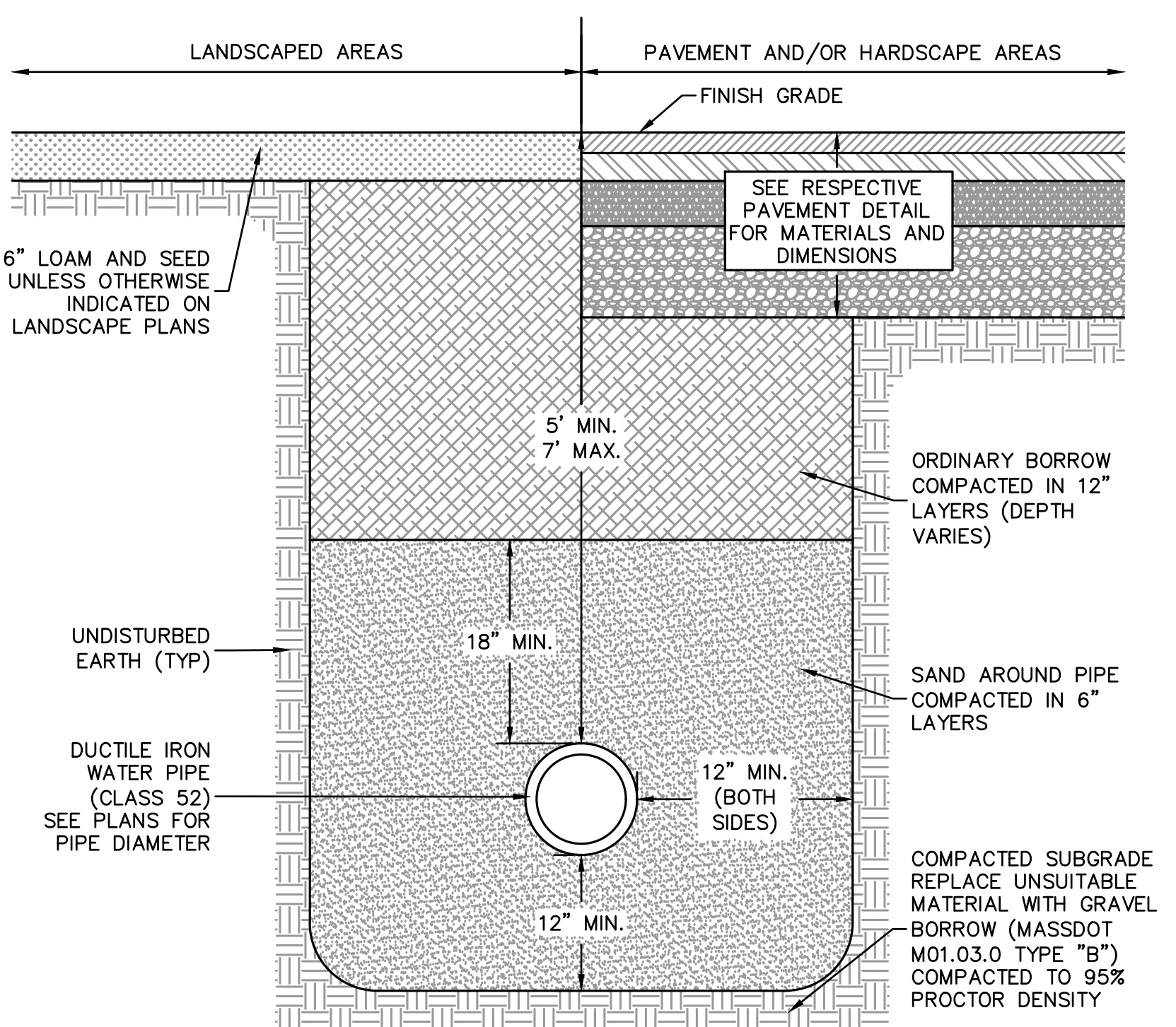
GATE VALVE BOX DETAIL
NOT TO SCALE



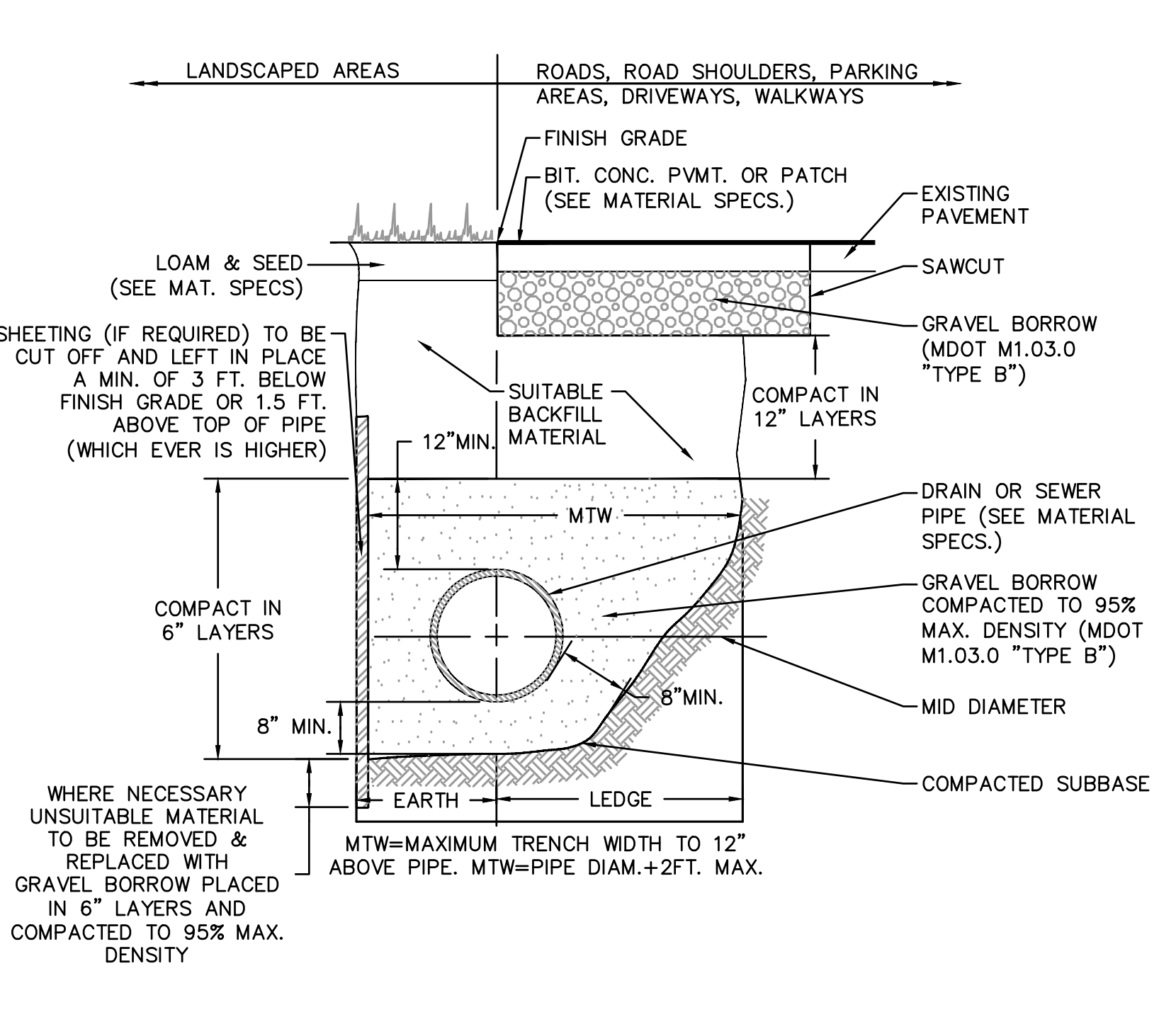
DROP SEWER MANHOLE DETAIL
NOT TO SCALE



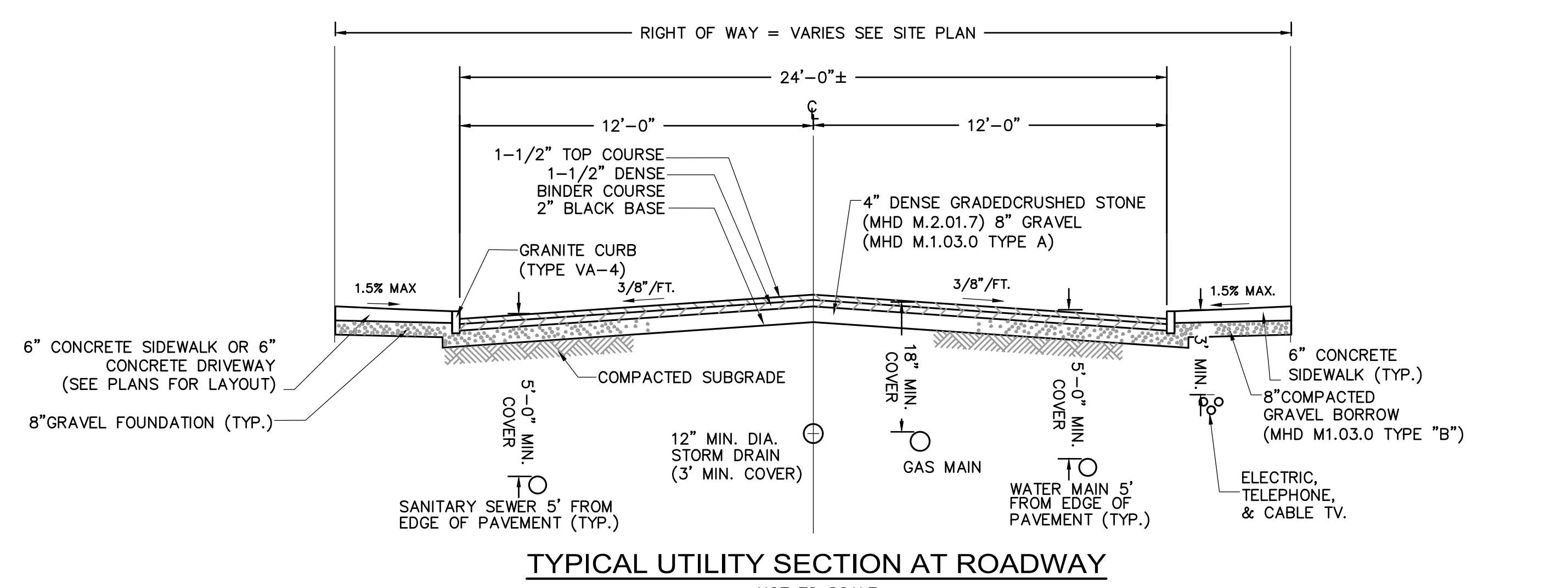
TYPICAL SEWER MANHOLE DETAIL
NOT TO SCALE



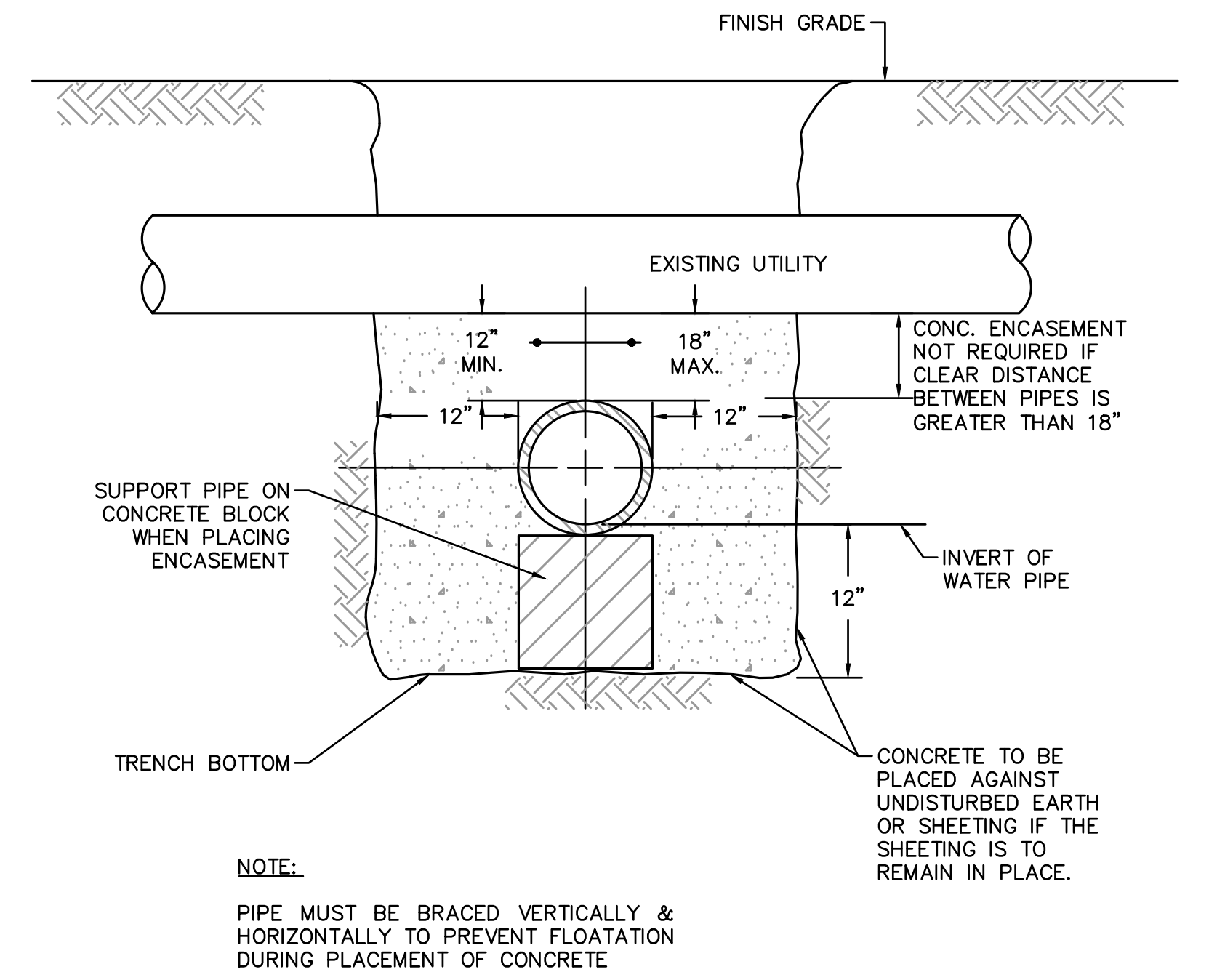
WATER TRENCH DETAIL
NOT TO SCALE



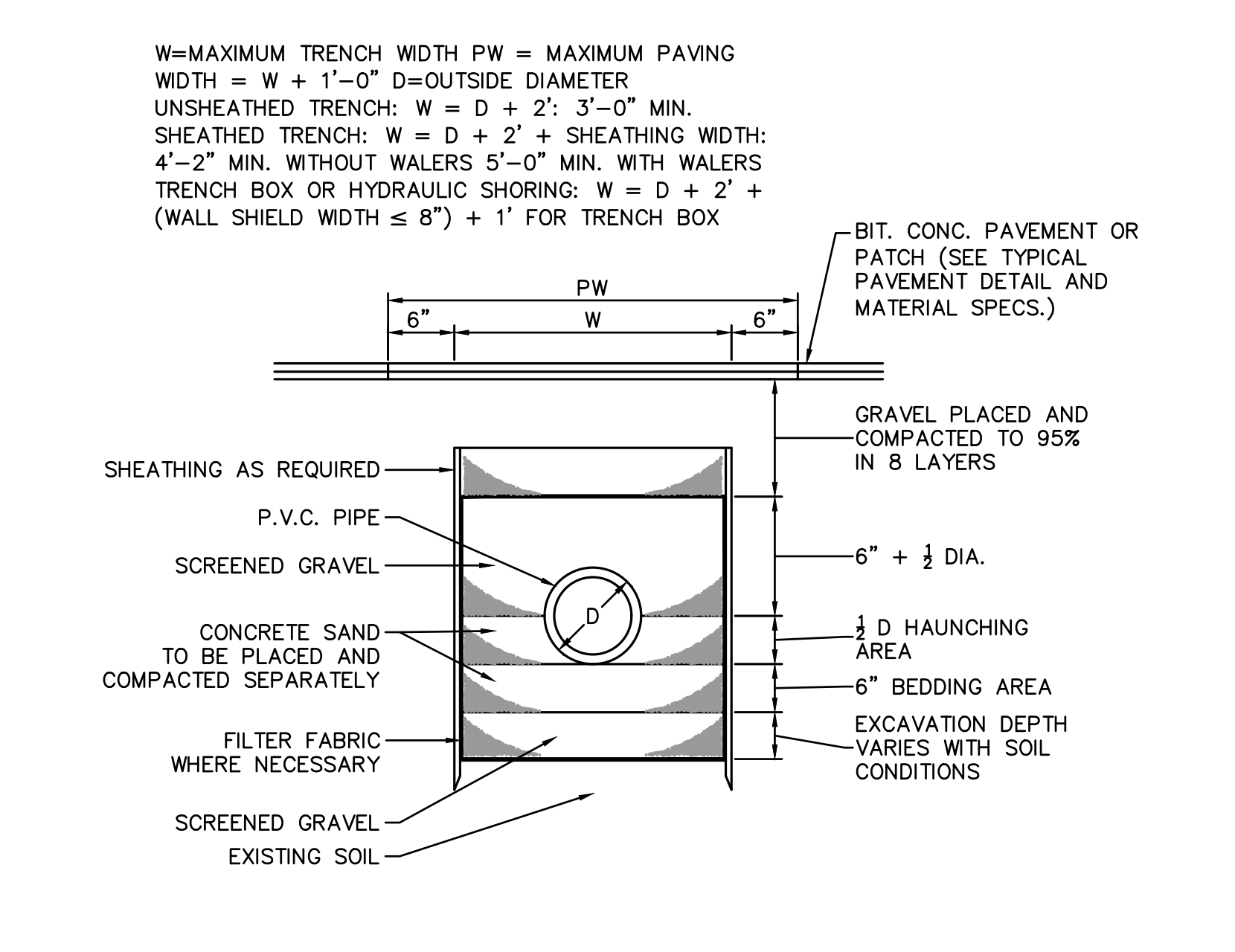
STANDARD TRENCH DETAIL FOR UTILITY PIPE
NOT TO SCALE



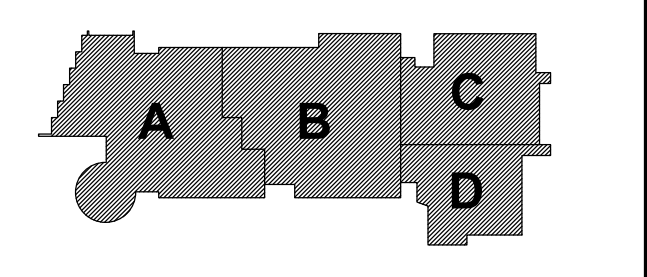
TYPICAL UTILITY SECTION AT ROADWAY
NOT TO SCALE



CONCRETE ENCASEMENT DETAIL AT UTILITY CROSSINGS
NOT TO SCALE



PVC PIPE TRENCH DETAIL
NOT TO SCALE



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