WREN DRIVE PAVING

VOLUME II of II

Contract No. E16-143

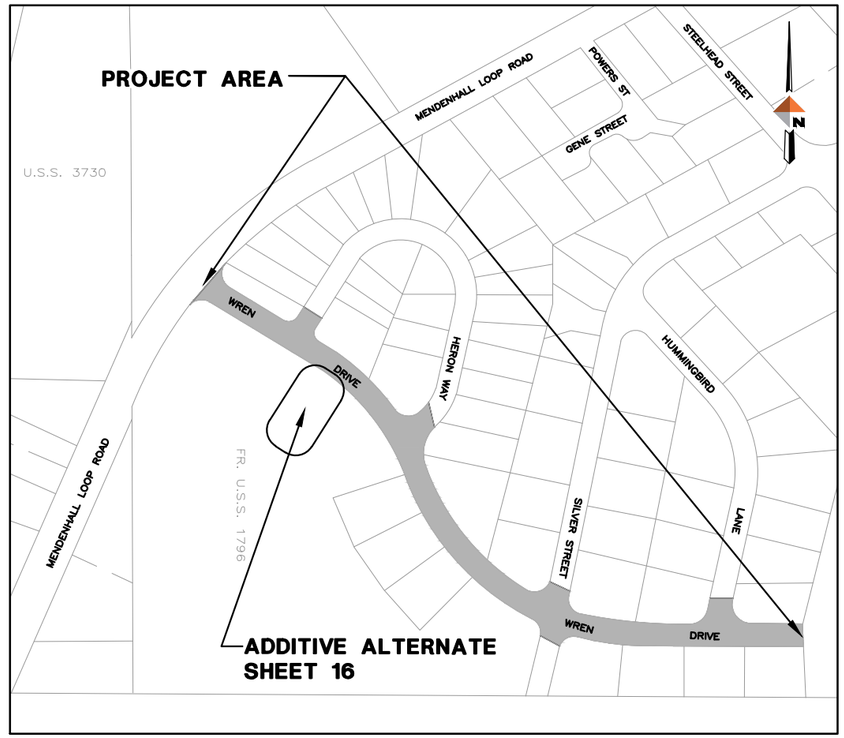
File No. 1882

ENGINEERING DEPARTMENT

INDEX

WREN DRIVE PAVING

CONTRACT NO. E16-143



VICINITY MAP
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CITY/BOROUGH OF JUNEAU
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DOWL
5368 Commercial Blvd.
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(907) 780-3533 Office
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SHEET NO.
1 of 25

LEGEND

DESCRIPTION	EXISTING	REMOVE	PROPOSED
BURIED ELECTRICAL UTILITIES	E T		
CATCH BASIN			CB-1
CONCRETE PAVEMENT			
CONTROL POINT			
CURB & GUTTER			
DITCH BOTTOM			
DITCH CENTERLINE			
DITCH TOP			
FENCE			
FIRE HYDRANT			
HOUSE NO	9333		
MAILBOX	MB	MB	MB OR MMBB
MATCH TO EXISTING GRAVEL DRIVE			
PROJECT CONTROL LINE			
PROPERTY LINE			
LIGHT POLE			
SANITARY SEWER PIPE			
SANITARY SEWER MANHOLE			MH-1
SHRUB			
SIGN			SEE SIGN ASSEMBLY TABLE
STORM DRAIN PIPE			S-1
STORM DRAIN MANHOLE			CB-1
SURVEY MONUMENT– REBAR W/ PLASTIC CAP			
TREE CONIFER			
TREE DECIDUOUS			
WATER LINE PIPE			
WATER VALVE BOX			

ABBREVIATIONS

AC	ASPHALT PAVING
ADOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BOP	BEGINNING OF PROJECT
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DI	DUCTILE IRON
DIA	DIAMETER
EOP	END OF PROJECT
FL	FLOW LINE
FG	FINISHED GRADE
GV	GATE VALVE
INV	INVERT
LG	LIP OF GUTTER
LT	LEFT
MH	MANHOLE
MN	MAGNETIC NAIL
MTE	MATCH TO EXISTING
NO	NUMBER
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PT	POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
POC	POINT ON CURVE
PCC	POINT OF COMPOUND CURVE
PVC	POLYVINYL CHLORIDE PIPE
ROW	RIGHT–OF–WAY
RT	RIGHT
SHLD	SHOULDER
STA	STATION
STD	STANDARD
TBC	TOP BACK OF CURB
TP	TOP OF PAVEMENT
TSW	TOP OF SIDEWALK
TTCP	TEMPORARY TRAFFIC CONTROL PLAN
UD	UNDER DRAIN

ABBREVIATIONS TO BE USED WITHOUT PERIODS

GENERAL NOTES

1. BEGIN SUBCUT AT 24 INCHES FROM PAVEMENT SAWCUT LINE AT STREET CONNECTIONS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS, OR DIRECTED BY THE ENGINEER. REMOVE AND REPLACE BASE COURSE WITH 6 INCHES OF 2" MINUS SHOT ROCK/BASE COURSE TO 12 INCHES FROM PAVEMENT SAWCUT LINE. SAWCUT AS NECESSARY ALONG ALL STREET, DRIVEWAY AND SIDEWALK APPROACHES TO PROVIDE A NEAT MATCH LINE.
2. LARGE BOULDERS, STUMPS, LOGS, ORGANICS AND GROUND WATER MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING EXCAVATION OPERATIONS.
3. CONTRACTOR SHALL ASSURE GARBAGE PICKUP AND DAILY MAIL SERVICE WILL BE UNINTERRUPTED TO ALL RESIDENCES AFFECTED BY THIS PROJECT.
4. THE 4TH EDITION OF THE CBJ STANDARD DETAILS, DATED AUGUST 14 2011, IS MADE PART OF THIS CONTRACT, WITH CURRENT REVISIONS AS APPLICABLE.
5. ALL EXISTING STORM DRAIN PIPES (6 INCH DIAMETER AND LARGER), AND APPURTENANCES (TO BE ABANDONED) THAT ARE WITHIN THE STREET AND SIDEWALK LIMITS, SHALL BE REMOVED AND DISPOSED OF, UNLESS OTHERWISE NOTED.
6. EXISTING PIPE LOCATIONS ARE DERIVED FROM CBJ AS–BUILTS OR FIELD LOCATED. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. DEPTH OF THE EXISTING PIPES SHOWN ON THE ELEVATIONS ARE ASSUMED. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EACH EXISTING SERVICE PIPE PRIOR TO INSTALLING THE STORM DRAIN PIPES. DIAL BEFORE YOU DIG 586–1333.
7. GRADING AND ALIGNMENT ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
8. LOCATION OF STORM CATCH BASINS, PIPING AND PIPE LENGTHS ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY CBJ WATER UTILITIES AT 780–6888 OF ANY WATER MAIN INTERRUPTION.
10. PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT BOUNDARY SURVEY. EXISTING RECORD PLATS DO NOT CLOSE WITH EACH OTHER IN SOME CASES. THE PROPERTY LINES SHOWN ON THESE PLANS ARE A BEST FIT APPROXIMATION OF CLOSURE.
11. PROVIDE KNOCKOUTS OR OPENINGS IN CATCH BASINS AND MANHOLES FOR ALL PIPES SHOWN ON THE PLANS.
12. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING WATER AND SEWER PIPES, INCLUDING ALL SERVICES ALONG THE STORM DRAIN ALIGNMENT, TO DETERMINE PIPE INSULATION LOCATIONS, AND TO ENSURE DAMAGE DOES NOT OCCUR TO THE SERVICE PIPES. THE SERVICE LOCATIONS SHALL BE MARKED WITH PAINT WHERE CROSSINGS WITH THE NEW PIPING WILL OCCUR PRIOR TO PROCEEDING WITH THE PIPE INSTALLATION.
13. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS.
14. SAWCUT AS NECESSARY ALONG ALL DRIVEWAY APPROACHES TO PROVIDE A NEAT MATCH LINE.
15. CONTRACTOR SHALL REFERENCE ALL EXISTING PROPERTY CORNER MONUMENTS (I.E. REBARS, CONCRETE NAILS, BRASS CAP MONUMENT AND ETC.) PRIOR TO CONSTRUCTION, REMONUMENT AFTER SURFACING IS REPLACED, AND SUBMIT A RECORD OF MONUMENT TO THE ENGINEER. ALL WORK SHALL BE DONE BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR.
16. ALL ASPHALT AND CHIP SEAL PAVEMENT TO BE REMOVED AND DISPOSED OF SHALL BE DELIVERED TO A STOCKPILE AREA AT THE LEMON CREEK CITY PIT TO BE DESIGNATED BY THE ENGINEER. CONTACT THE ENGINEER FOR THE EXACT LOCATION OF THE STOCKPILE.
17. AEL&P, ACS, AND GCI MAY CONDUCT WORK WITHIN THE PROJECT LIMITS TO RELOCATE UTILITIES AND UPGRADE THEIR RESPECTIVE SYSTEMS. THE CONTRACTOR SHALL COORDINATE ITS ACTIVITIES WITH EACH UTILITY COMPANY AND PROVIDE ACCESS AS NECESSARY FOR UTILITY COMPANIES TO CONDUCT THEIR WORK.
18. ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN ON PLANS. ADDITIONAL FITTINGS MAY BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTIONS TO EXISTING PIPES AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
19. THE CONTRACTOR SHALL RESTRICT ITS COMPACTION AND OTHER VIBRATION INDUCING OPERATIONS AS NECESSARY TO ASSURE NO DAMAGE OCCURS TO ADJACENT BUILDINGS OR STRUCTURES. REFER TO SECTION 01530, ARTICLE 1.7 FOR FURTHER REQUIREMENTS.
20. THE PLAN SHEETS DO NOT SHOW ALL OF THE TREES AND OTHER VEGETATION THAT WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. NO TREES OR OTHER VEGETATION ARE TO BE REMOVED OR DAMAGED, UNLESS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
21. THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT, OR OPERATIVE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY, WITHOUT WRITTEN APPROVAL OF THE PROPERTY OWNER.
22. THE USE OF GROUT AND QUICKSET CEMENT PRODUCTS WITH ADJUSTING RINGS, BRICKS, WOOD, STONES AND OTHER SIMILAR GRADE ADJUSTMENT DEVICES TO SUPPORT CATCH BASIN FRAMES OVER CATCH BASINS AND MANHOLES WILL NOT BE PERMITTED. CATCH BASIN FRAME AND GRATES SHALL BE SET AT 6–3/4" BELOW TOP BACK OF CURB ELEVATION WITH 3 FOOT LONG CONCRETE TRANSITIONS TO BOTH SIDES OF GRATE. A 6 FOOT LONG SEGMENT OF #4 REBAR SHALL BE CENTERED OVER THE CATCH BASIN HOOD PLACED 1/2 INCH OVER THE TOP OF IRON.
23. THE CONTRACTOR SHALL NOTIFY EACH RESIDENT OF EACH DRIVEWAY CLOSURE THE DAY PRECEDING THE DAY THE DRIVEWAY IS TO BE CLOSED TO VEHICULAR ACCESS. THE RESIDENT SHALL BE INFORMED OF THE PERIOD OF TIME THE CLOSURE WILL BE IN EFFECT. NO DRIVEWAY CLOSURES WILL BE PERMITTED UNTIL THIS REQUIREMENT HAS BEEN MET TO THE SATISFACTION OF THE ENGINEER.
24. ALL FORMS FOR CONCRETE SEGMENTS BETWEEN PC'S AND PT'S WITH A RADIUS LESS THAN 200' SHALL BE ARCED TO MATCH THE REQUIRED CURVATURE. NO STRAIGHT FORMS SHALL BE USED WITHIN ANY CURVED SEGMENT WITH A RADIUS OF LESS THAN 200'. STRAIGHT FORMS USED FOR ANY ARCED SEGMENT WITH A RADIUS OF MORE THAN 200' SHALL NOT EXCEED 10' IN LENGTH.
25. APPLY "CONCRETE INTERNATIONAL CORPORATION" ASHFORD FORMULA CURING COMPOUND, OR APPROVED EQUAL, TO ALL NEWLY PLACED CONCRETE SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
26. "JUMPING JACK" OR SIMILAR TYPE COMPACTORS SHALL BE USED TO THOROUGHLY COMPACT ALL LAYERS OF MATERIAL AROUND WATER VALVE BOXES, CATCH BASINS, MANHOLES AND OTHER STRUCTURES.
27. SHADED AREAS AT ACCESS RAMPS SHALL BE 5' WIDE, 6" THICK CONCRETE, WITH 6' LONG SIDE RAMPS AND 5' LONG MIDSECTION, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
28. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TTCP FOR THE WORK WITHIN ADOT&PF ROW TO THE ENGINEER AND ADOT&PF FOR APPROVAL. WRITTEN APPROVAL OF THE TTCP SHALL BE GIVEN TO THE CONTRACTOR PRIOR TO THE CONTRACTOR BEGINNING WORK IN ADOT&PF ROW.

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780–3533 Office
(907) 780–3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

JOB No. J70784.02 | DRAWN BY: STAFF | DESIGNED BY: STAFF | CHECKED BY: STAFF | DATE: APRIL 2016

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

LEGEND, ABBREVIATIONS, AND GENERAL NOTES

SHEET NO. 2 of 25

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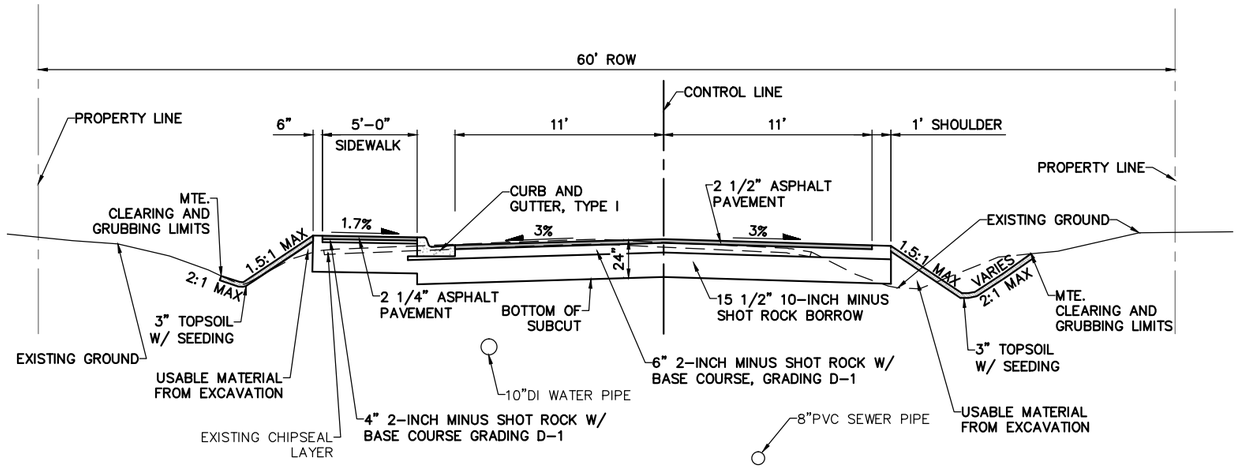

TYPICAL SECTION WITH SIDEWALK BOP TO STA "W" 28+10

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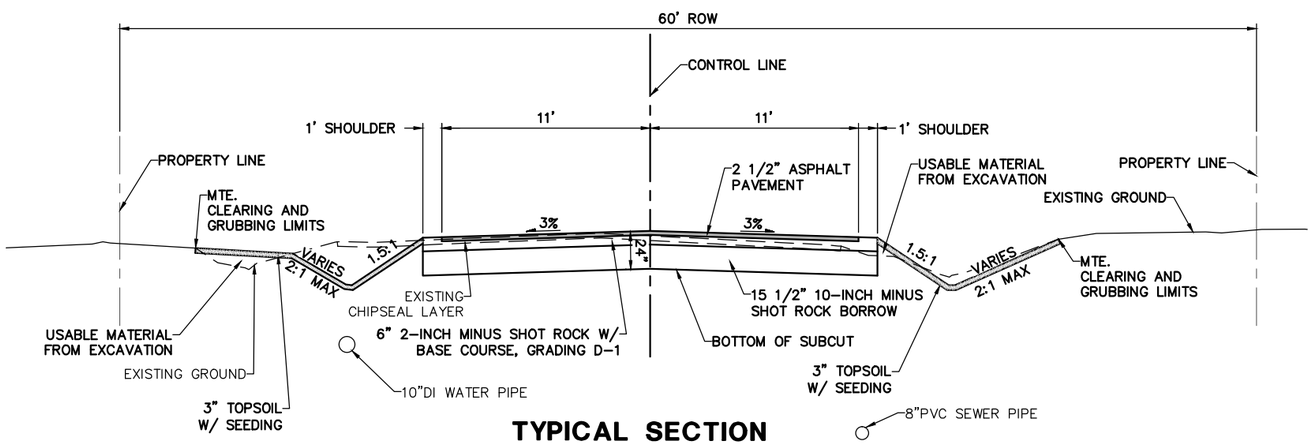

TYPICAL SECTION WITHOUT SIDEWALK STA "W" 28+10 TO EOP

NTS

NOTES FOR TYPICAL SECTION

1. ADDITIONAL EXCAVATION BELOW THE NEATLINE SUBCUT LEVEL MAY BE REQUIRED AS DIRECTED BY THE ENGINEER, IF ORGANIC OR OTHER UNSUITABLE MATERIALS ARE FOUND AT OR NEAR THE PLANNED SUBCUT LEVEL. USABLE MATERIAL FROM EXCAVATION SHALL BE USED TO BACKFILL THE ADDITIONAL AREAS OF EXCAVATION, WHICH MAY VARY FROM 6" IN DEPTH TO A DEPTH OF UP TO 5'-0" BELOW FINISH GRADE. THE BACKFILLING WITH USABLE MATERIAL FROM EXCAVATION WILL BE CONSIDERED INCIDENTAL TO OTHER WORK.
2. IF EXISTING SOILS WITHIN THE PLANNED SUBCUT LAYER ARE FOUND TO BE SUITABLE, AS DETERMINED BY THE ENGINEER, THE DEPTH OF EXCAVATION AND BACKFILL MAY BE DECREASED.
3. SEE HORIZONTAL AND VERTICAL CONTROL, CURB AND GUTTER LAYOUT AND GRADE DRAWINGS FOR GRADING DETAILS.
4. UNDERGROUND ELECTRICAL AND WATER, SANITARY SEWER AND STORM SERVICES NOT SHOWN ON TYPICAL SECTION. SEE PLAN SHEETS FOR LOCATIONS.
5. ALL FILL AREAS BEYOND SUBCUT LIMITS SHALL BE BACKFILLED WITH SUITABLE MATERIAL FROM EXCAVATION AND GRADED TO DRAIN, AS APPROVED BY THE ENGINEER.
6. DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE RECONSTRUCTED TO EQUAL, OR BETTER CONDITION WITH SUBGRADE REPLACED IN LAYERS TO MATCH THOSE REMOVED EXCEPT:
   A) PAVED DRIVEWAYS SHALL BE SUBCUT TO 24 INCHES BELOW FINISH GRADE AND REPLACED WITH 17-1/2 INCHES OF SHOT ROCK BORROW, 4 INCHES OF 2-INCH SHOT ROCK W/ BASE COURSE, AND 2-1/2 INCHES OF A.C. PAVEMENT FOR SIDEWALKS AND DRIVEWAYS. SUBCUT SETBACKS FROM SAWCUT LINES FOR DRIVEWAYS SHALL BE 12".
   B) CONCRETE DRIVEWAYS SHALL BE SUBCUT TO 24 INCHES BELOW FINISH GRADE AND REPLACED WITH 14 INCHES OF SHOT ROCK BORROW, 4 INCHES OF 2-INCH MINUS SHOT ROCK W/ BASE COURSE, AND 6 INCHES OF CONCRETE.
   C) GRAVEL DRIVEWAYS SHALL BE SUBCUT TO 24 INCHES BELOW FINISH GRADE AND REPLACED WITH 17-1/2 INCHES OF SHOT ROCK BORROW, 4 INCHES OF 2"-MINUS SHOT ROCK WITH BASE COURSE, AND 2-1/2 INCHES OF A.C. PAVEMENT FOR SIDEWALKS AND/OR A 24-FT WIDE BY 2-FOOT APRON AT THE EDGE OF ROADWAY. THE APRON SHALL BE CENTERED ON THE EXISTING DRIVEWAY UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. FINISH THE REMAINING AREA WITH 2-1/2 INCHES OF BASE COURSE, GRADING D-1.
   D) ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL NOT BE REPLACED, BUT SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBBASE LAYER WITH USABLE MATERIAL FROM EXCAVATION.
7. ACCESS RAMPS SHALL CONFORM TO THE PLAN DRAWINGS AND CBJ STANDARD DETAIL No. 105 REGARDING CROSS SLOPES AND TRANSITIONS FOR THE DEPRESSED SIDEWALK, EXCEPT THE BACK OF SIDEWALK SHALL BE DEPRESSED TO PROVIDE A MAXIMUM 2% CROSS SLOPE.
8. TOP OF A.C. PAVEMENT SHALL BE ¼ INCH TO ½ INCH ABOVE THE TOP EDGE OF CONCRETE GUTTER OR TOP OF CURB. TOP OF PAVEMENT GRADES GIVEN ON THE PLANS ARE ¼ INCH BELOW ACTUAL FINISH PAVEMENT SURFACE.
9. GRADE TOP OF CURB AT 2%
10. THE BASE COURSE LAYER SHALL BE 4" TO 5" OF 2-INCH MINUS SHOT ROCK WITH 1" TO 2" TOP LAYER OF BASE COURSE, GRADING D-1 FOR A TOTAL THICKNESS OF 6". THE 2-INCH MINUS SHOT ROCK SHALL BE WELL COMPACTED PRIOR TO PLACING THE BASE COURSE GRADING D-1.
11. BASE COURSE, GRADING D-1, MAY BE USED FOR THE FULL DEPTH OF THE BASE COURSE UNDER THE SIDEWALKS AND DRIVEWAYS AS A NO COST SUBSTITUTION.
12. DRIVEWAY DEPRESSIONS ALONG THE SIDEWALK WITH EXTENSIONS FOR POSTAL SERVICE MAIL DELIVERIES ARE MARKED ON THE PLAN DRAWINGS. MINIMUM LENGTHS FROM THE MAILBOX TO THE END OF THE DEPRESSED CURB MUST BE MET TO ENSURE DELIVERY OF MAIL BY THE POSTAL SERVICE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN THE LOCATION OF THE CURB DEPRESSIONS ARE READY FOR APPROVAL PRIOR TO PLACEMENT OF CONCRETE.
13. CATCH LINE FOR USABLE MATERIAL AND TOPSOIL WILL VARY IN DISTANCE FROM RIGHT-OF-WAY LINES. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER. SEE PLAN DRAWINGS FOR APPROXIMATE CATCH LINES.
14. ASPHALT THICKNESS FOR DRIVEWAY APPROACHES AND DRIVEWAYS SHALL BE 2 ½".
15. APPROXIMATE LIMITS FOR TOPSOIL AND SEEDING ARE SHOWN ON PLAN VIEW DRAWINGS. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES NOT RESURFACED WITH ASPHALT PAVEMENT OR CONCRETE SHALL BE GRADED TO A UNIFORM, WELL DRAINED APPEARANCE AND COVERED WITH TOPSOIL AND SEEDED, AS DIRECTED BY THE ENGINEER.
16. THE CONTRACTOR SHALL USE GRADING HUBS ALONG THE FLOW LINE OF THE NEW DITCH TO ENSURE EVEN FLOW BETWEEN CULVERT ENDS AS SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE ENGINEER.

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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TYPICAL SECTIONS

SHEET NO. 3 of 25

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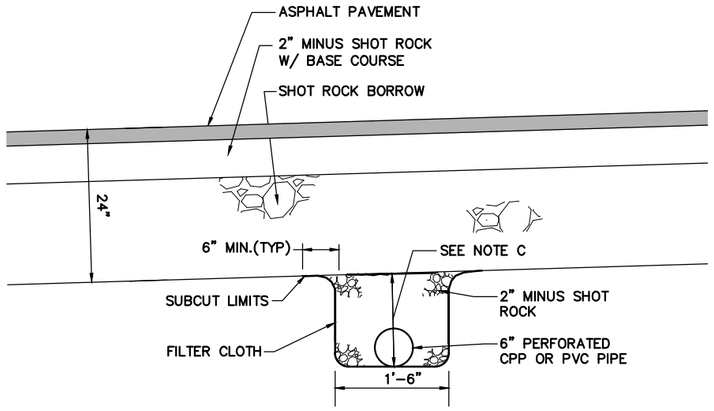


6-INCH UNDERDRAIN

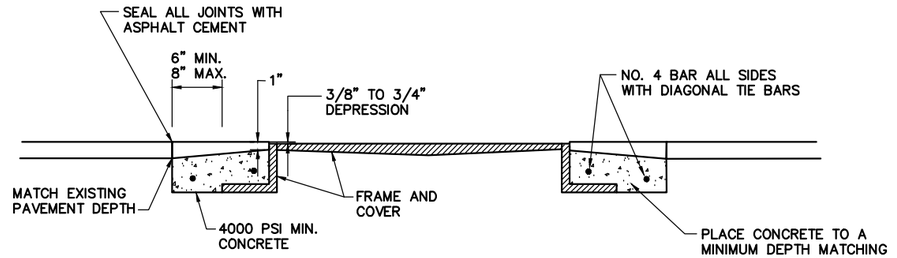
NTS

A. OUTFALL CONNECTIONS WILL BE EITHER INTO CATCH BASINS, OR CPP SADDLE TEES.

B. UPPER END OF PIPES SHALL BE CAPPED AND THE FILTER CLOTH FOLDED AND OVERLAPPED TO SEAL END OF DRAINAGE ROCK SECTION. VARIES AS DIRECTED BY THE ENGINEER.

C. VARIES 12" TO 30", PER PLANS SHEETS AND AS DETERMINED BY THE ENGINEER.

D. MINIMUM PIPE GRADIENT SHALL BE 1%.



CONCRETE SHALL CURE FOR 48 HOURS MINIMUM BEFORE PLACING PAVEMENT OVERLAY

*THIS TRANSITION SLAB WILL NOT BE REQUIRED IF DEPRESSION TO COVER LUGS OR FRAME, WHICHEVER IS HIGHER, MEETS THE REQUIRED DEPRESSION RANGE FOLLOWING THE FINISH PAVING OPERATIONS

TRANSITION SLAB W/ ASPHALT PAVEMENT OVERLAY*

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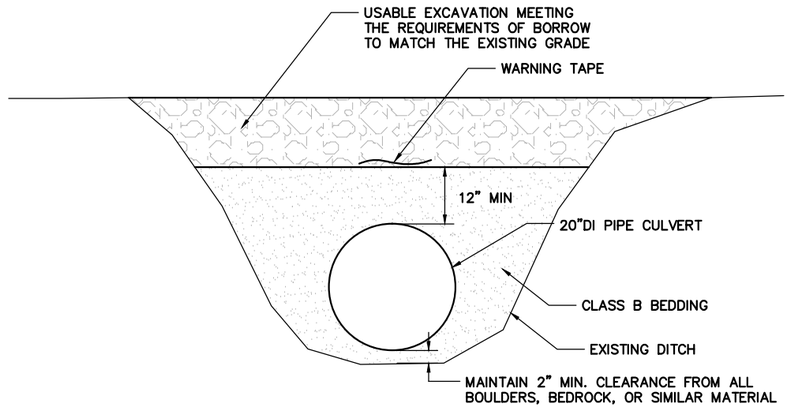

1 OUTFALL SECTION

NTS

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL

5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax

Consulting Engineers • Land Surveyors • Construction Administration

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DETAILS

SHEET NO. 4 of 25

CORROSION PROTECTION SPECIFICATIONS AND NOTES:

ANODES

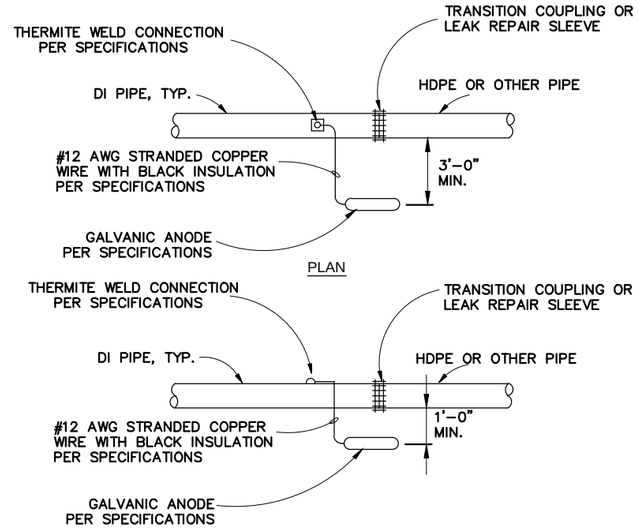
1. ANODES SHALL BE 18# BARE WEIGHT ZINC WITH PREPACKAGED ANODE BACKFILL.
2. ACCEPTABLE ANODE MODELS ARE:
   a. MODEL NO. ZUR–18 FROM FARWEST INDUSTRIES
   b. MODEL S18 FROM MESA PRODUCTS
   c. APPROVED EQUAL
3. INSTALL TYPE, SIZE, AND NUMBER OF ANODES SPECIFIED.
4. INSTALL 2 ANODES TO ALL CONNECTIONS TO EXISTING C.I. OR D.I. PIPE 12–INCH DIAMETER AND LARGER.
5. CONDUCTOR WIRE SHALL BE A MINIMUM SIZE OF 12 AWG STRANDED COPPER WITH INSULATION SUITABLE FOR WET LOCATION DIRECT BURIAL AND SHALL BE A MINIMUM OF 10 FEET LONG FROM ANODE.
6. PREPACKAGED ANODE SHALL BE SATURATED WITH WATER PRIOR TO BACKFILL.
7. ANODES SHALL BE PLACED IN NATIVE EARTH BACKFILL. DO NOT PLACE IN PIPE BEDDING MATERIAL.

THERMITE (EXOTHERMIC) WELDING

1. THERMITE WELD MATERIALS SHALL BE DESIGNED FOR CONNECTION OF COPPER TO DUCTILE IRON AND CAST IRON SURFACES AND SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. ACCEPTABLE MANUFACTURES OF THERMITE WELD PRODUCTS ARE:
   a. CADWELD BY ERICO PRODUCTS INC.
   b. THERMOWELD BY CONTINENTAL INDUSTRIES INC.
   c. APPROVED EQUAL
3. A 2–INCH SQUARE AREA IN THE PIPE SURFACE SHALL BE GROUND CLEAN PER MANUFACTURERS RECOMMENDATIONS PRIOR TO THERMITE WELDING.
4. WIRE ENDS SHALL HAVE PROPER ADAPTER SLEEVES TO ENSURE PROPER BOND. 12 AWG SHALL HAVE ADAPTER SLEEVES SPECIFIED BY THERMITE WELD MANUFACTURER. FIELD INSTALLED SLEEVES SHALL HAVE WIRE CONDUCTOR EXTEND ¼–INCH BEYOND ENDS OF SLEEVE.
5. WIRE CONNECTION SHALL BE TESTED FOR INTEGRITY PRIOR TO COATING.
6. CONTINUITY STRAPS SHALL BE #2 AWG COPPER STRANDED WIRE WITH THW INSULATION AND SHALL BE ATTACHED TO THE PIPE BY THERMITE WELDING AND COATED AND SEALED AS DESCRIBED BELOW.

COATING AND SEALING

1. ALL THERMITE WELDS SHALL BE PROTECTED AND SEALED BY:
   a. PREFABRICATED THERMITE WELD CAPS, SIZED ACCORDING TO WIRE SIZE, MINIMUM DIMENSIONS OF 4–INCH BY 4–INCH FILLED WITH ELASTOMERIC MASTIC COATING OR,
   b. HEAT SHRINK SLEEVE PIPE ENCASEMENT AFTER COATING THERMITE WELD WITH ELASTOMERIC MASTIC COATING – HEAT SHRINK SLEEVE SHALL BE CANUSA AQUA SEAL OR APPROVED EQUAL.
2. ALL PIPE SURFACE COATING DAMAGED BEYOND THE WELD CAPS OR HEAT SHRINK SHALL BE COATED WITH PROTAL 7125 FROM DENSO NORTH AMERICA OR APPROVED EQUAL.



GALVANIC ANODE INSTALLATION FOR EXISTING METALLIC PIPE CONNECTIONS OR LEAK REPAIR LOCATIONS DETAIL

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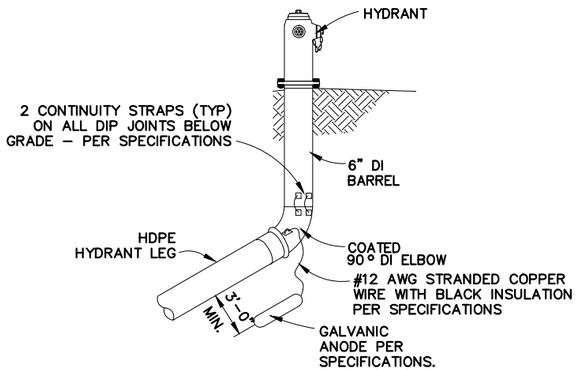

GALVANIC ANODE INSTALLATION AT HYDRANT ASSEMBLIES W/ HDPE

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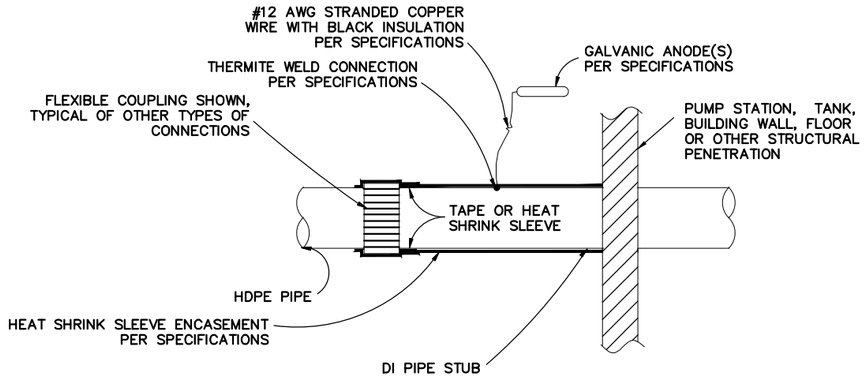

ENCASED METAL PIPE STUB BETWEEN PLASTIC PIPE, FEXIBLE COUPLING AND CONCRETE STRUCTURE CONNECTION

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CORROSION PROTECTION DETAILS

SIGN ASSEMBLY TABLE

NO.	LOCATION	MUTCD DESIGNATION OR DESCRIPTION	LEGEND AND COMMENTS
1	STA "W" 11+06.4, 31.2' LT	R1-1	"STOP" (30"X30") W/ STREET NAMES (SEE NOTE E)
2	STA "W" 12+10, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
3	STA "W" 12+90, 20' LT	R7-1	"NO PARKING ANY TIME" (12"X18") DOUBLE ARROW
4	STA "W" 13+54, 31.3' LT	R1-1	"STOP" (30"X30") W/ STREET NAMES (SEE NOTE F)
5	STA "W" 14+60, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
6	STA "W" 15+00, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
7	STA "W" 16+75, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
8	STA "W" 17+05, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
9	STA "W" 17+54.3, 36.9' LT	R1-1	"STOP" (30"X30") W/ STREET NAMES (SEE NOTE F)
10	STA "W" 19+00, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
11	STA "W" 19+10, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
12	STA "W" 21+20, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
13	STA "W" 21+75, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
14	STA "W" 23+20, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
15	STA "W" 23+60, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
16	STA "W" 23+80.5, 31' LT	R1-1	"STOP" (30"X30") W/ STREET NAMES (SEE NOTE F)
17	STA "W" 24+55, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
18	STA "W" 25+00, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
19	STA "W" 26+70, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
20	STA "W" 26+85, 14' RT	R7-1	"NO PARKING NOV 1-APRIL 30" (12"X18") W/ DOUBLE ARROW
21	STA "W" 28+78.4, 26.7' LT	R7-1	"STOP" (30"X30") W/ STREET NAMES (SEE NOTE E)
22	STA "W" 29+45, 14' RT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
23	STA "W" 29+80, 20' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW
24	STA "W" 30+68, 22' LT	R7-1	"NO PARKING ANYTIME" (12"X18") W/ DOUBLE ARROW

A) ALL SIGNS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY & BOROUGH STANDARD DETAIL NO. 127.

B) ALL SIGNS TO BE LOCATED AS DIRECTED BY THE ENGINEER.

C) FOR ALL NEW SIGN ASSEMBLIES, SALVAGE ALL SIGN PANELS AND DELIVER TO CBJ STREETS MAINTENANCE SHOP. DISPOSE OF ALL EXISTING POSTS AND POST SOCKETS. REPLACE ALL POST ASSEMBLY MATERIALS.

D) ALL NEW POSTS SHALL BE "TELSPAR", OR APPROVED EQUAL AND SHALL BE PRE-PUNCHED WITH ALL KNOCKOUTS REMOVED.

E) SIGN ASSEMBLY TO REMAIN. NO WORK REQUIRED.

F) REMOVE EXISTING SIGN ASSEMBLY AND RESET TO NEW OFFSET LOCATION.

CATCH BASIN FRAME AND GRATE TABLE

CATCH BASIN No.	EAST JORDAN IRON WORKS, OLYMPIC FOUNDRY CO., CBJ STANDARD No., OR APPROVED EQUAL
CB-1	EJIW 7701 T2 HOOD W/7700 M3 GRATE
CB-2	EJIW 7701 T2 HOOD W/7700 M3 GRATE
CB-3	OF MH34SC
CB-4	OF MH34SC
CB-5	EJIW 7701 T2 HOOD W/7700 M2 GRATE
CB-6	EJIW 7701 T2 HOOD W/7700 M3 GRATE
CB-7	EJIW 7701 T2 HOOD W/7700 M2 GRATE
CB-8	EJIW 7701 T2 HOOD W/7700 M2 GRATE
CB-9	EJIW 7701 T2 HOOD W/7700 M3 GRATE
CB-10	EJIW 7701 T2 HOOD W/7700 M3 GRATE
CB-11	EJIW 7701 T2 HOOD W/7700 M3 GRATE

CATCH BASIN TOP SLAB OPENINGS SHALL BE DIMENSIONED TO FIT THE FRAME DIMENSIONS. ALL COVERS SHALL BE HEAVY DUTY CONSTRUCTION AND BICYCLE SAFE. ALL FRAMES AND GRATES SHALL BE DUCTILE IRON.

LOCAL FLOW LINE DEPRESSION AT CATCH BASIN SHALL BE ¾ INCH, WITH 36" TRANSITIONS TO EACH SIDE OF FRAME, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

RECONSTRUCT MAILBOX TABLE

HOUSE NUMBER	LOCATION	COMMENTS
4980	STA "W" 13+19, 12' RT	SINGLE
4962	STA "W" 14+94, 12' RT	SINGLE
4956	STA "W" 16+39, 12' RT	SINGLE
4950/4948	STA "W" 17+10, 12' RT	DOUBLE
4944	STA "W" 19+23, 12' RT	SINGLE
4938	STA "W" 20+27, 12' RT	SINGLE
4937	STA "W" 21+15, 12' RT	SINGLE
4932/4935	STA "W" 21+16.2, 12' RT	DOUBLE
4930	STA "W" 22+08, 12' RT	SINGLE
4933/4931	STA "W" 22+55, 12' RT	DOUBLE
4928	STA "W" 23+17, 12' RT	SINGLE
10205 (SILVER STREET)	STA "W" 23+92, 16.5' RT	SINGLE
4925/4926	STA "W" 25+32, 12' RT	DOUBLE
4927	STA "W" 25+33.1, 12' RT	SINGLE
4920	STA "W" 26+87, 12' RT	SINGLE
4916	STA "W" 28+90, 12' RT	SINGLE
4915	STA "W" 30+32, 16' LT	SINGLE
4910	STA "W" 30+25.3, 15.6' RT	SINGLE
4900	STA "W" 30+70, 20.5' LT	SINGLE

STATION AND OFFSET FOR NEW MAILBOX LOCATIONS ARE GIVEN TO THE FRONT FACE OF THE MAILBOX RECEPTACLE.

CONTRACTOR SHALL STAKE MAILBOX POST LOCATION FOR APPROVAL BY THE ENGINEER.

REINSTALL EXISTING MAILBOX AND NEWSPAPER RECEPTACLES TO NEW POST ASSEMBLIES. IF THE RECEPTACLES ARE DAMAGED BY THE CONTRACTOR, NEW RECEPTACLES OF SAME SIZE AND COLOR AND NEW HOUSE NUMBERS SHALL BE PROVIDED BY THE CONTRACTOR.

GANG MAILBOX ASSEMBLIES SHALL BE MEASURED FOR PAYMENT UNDER PAY ITEM 2719.1. RECONSTRUCT MAILBOX, AS ONE PAY UNIT.

MAIL DELIVERY SERVICE SHALL NOT BE INTERRUPTED AND ACCESS TO EACH MAILBOX RECEPTACLE SHALL BE AVAILABLE TO THE UNITED STATES POSTAL SERVICE AND THE RESIDENTS AT ALL TIMES.

EXISTING MAILBOXES THAT ARE MOVED BY THE CONTRACTOR SHALL HAVE TEMPORARY SUPPORTS PROVIDED AS REQUIRED FOR CONTINUED USAGE.

PAVING SEQUENCE REQUIREMENTS:

- LAYDOWN OPERATIONS MAY BEGIN IN EITHER LANE AND AT EITHER END OF PROJECT.
- THE EDGE OF PAVEMENT ALONG THE CENTERLINE SHALL NOT BE ALLOWED TO DROP BELOW 200°F PRIOR TO THE ASPHALT MIX FROM THE ADJACENT LANE BEING PLACED AGAINST THIS JOINT.
- LAYDOWN OPERATIONS SHALL NOT PROCEED UNTIL ALL RESIDENTS ALONG WREN DRIVE HAVE BEEN NOTIFIED OF THE PERIOD OF TIME THAT VEHICULAR ACCESS TO AND FROM THEIR RESIDENCE WILL BE UNAVAILABLE.

NOTES FOR TRAFFIC CONTROL:

- ALL TRAFFIC TO BE CONTROLLED PER THE REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL (U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ALASKA SUPPLEMENT).
- ALL DETOURS SHALL BE AS APPROVED BY THE ENGINEER.
- ROAD CLOSURES WILL BE PERMITTED ONLY AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR WILL NOT BE PERMITTED TO OBSTRUCT VEHICULAR TRAFFIC BETWEEN THE HOURS OF 4:30pm AND 8:00am SEVEN DAYS A WEEK. DURING THIS PERIOD, TWO LANES SHALL BE OPEN TO VEHICULAR TRAFFIC AND WITH A MINIMUM TOTAL WIDTH OF 18 FEET.
- PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
- A MINIMUM OF ONE LANE (11 FOOT MINIMUM WIDTH) SHALL BE KEPT OPEN TO VEHICULAR TRAFFIC AT ALL TIMES, EXCEPT A FIVE (5) MINUTE MAXIMUM STOPPAGE TO VEHICULAR TRAFFIC WILL BE PERMITTED, WITH NO MORE THAN ONE TRAFFIC STOPPAGE PER HOUR.
- PEDESTRIAN TRAFFIC SHALL BE AVAILABLE ALONG AT LEAST ONE SIDE OF THE STREET AT ALL TIMES. THE PEDESTRIAN PATHWAY SHALL BE CLEARLY MARKED AND SHALL SATISFY THE REQUIREMENTS AS DESCRIBED IN THE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL SUBMIT THEIR TEMPORARY TRAFFIC CONTROL PLAN TO, AND HAVE RECEIVED WRITTEN APPROVAL FROM ADOT&PF PRIOR TO BEGINNING WORK IN ADOT&PF ROW AT THE INTERSECTION OF WREN DRIVE AND MENDENHALL LOOP ROAD.

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-1-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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CITY/BOROUGH OF JUNEAU ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

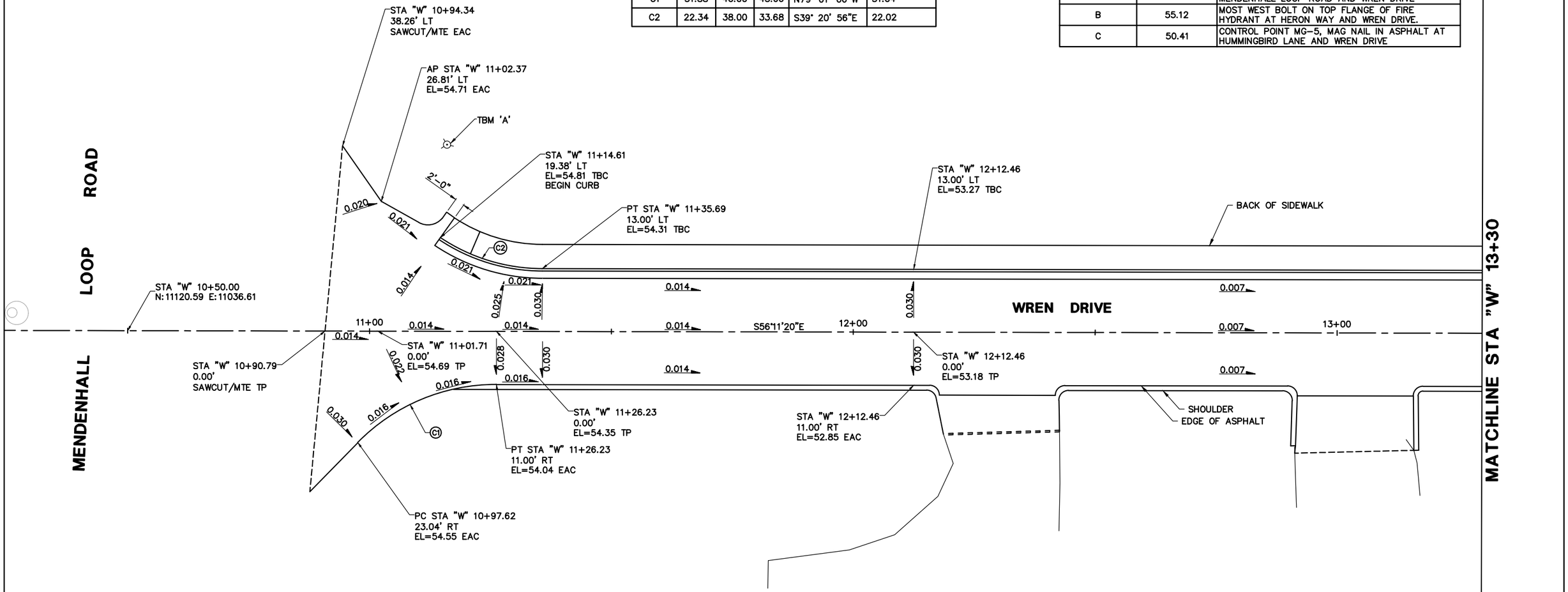
WREN DRIVE PAVING
CONTRACT NO. E16-143

TRAFFIC CONTROL NOTES, TABLES, AND PAVING SEQUENCE REQUIREMENTS

SHEET NO. 6 of 25

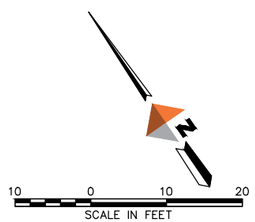
Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	31.88	40.00	45.66	N79° 01' 06"W	31.04
C2	22.34	38.00	33.68	S39° 20' 56"E	22.02

VERTICAL CONTROL		
TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
C	50.41	CONTROL POINT MG-5, MAG NAIL IN ASPHALT AT HUMMINGBIRD LANE AND WREN DRIVE



NOTES:

1. STATIONS, OFFSETS, ELEVATIONS AND CURVE INFORMATION ALONG CURBING ARE TO TOP BACK OF CURB (TBC), UNLESS OTHERWISE NOTED. TOP OF PAVEMENT ARE TP.
2. SEE TYPICAL SECTIONS FOR OTHER GRADING INFORMATION.
3. ESTABLISH VERTICAL CURVES AS NECESSARY FOR A SMOOTH ALIGNMENT (NO ANGLE POINTS) BY VISUALLY ALIGNING TOP OF CURB THROUGH VERTICAL CONTROL POINTS.



STATE OF ALASKA 49th
Naomi R. Hobbs
No.CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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WREN DRIVE PAVING
CONTRACT NO. E16-143

HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
MENDENHALL LOOP ROAD TO
STA "W" 13+30

SHEET NO. 7 of 25

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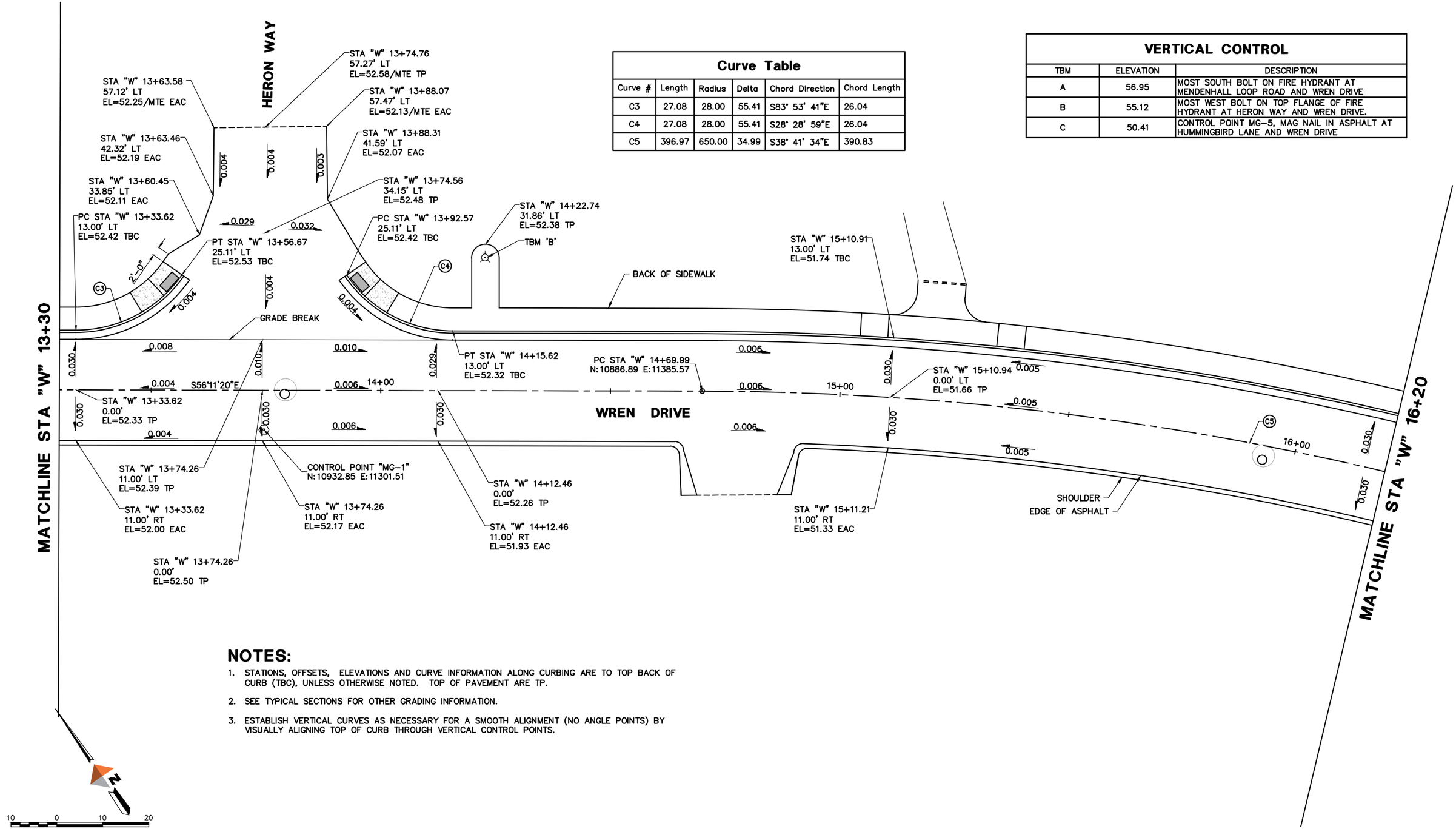
Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C3	27.08	28.00	55.41	S83° 53' 41"E	26.04
C4	27.08	28.00	55.41	S28° 28' 59"E	26.04
C5	396.97	650.00	34.99	S38° 41' 34"E	390.83

VERTICAL CONTROL		
TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
C	50.41	CONTROL POINT MG-5, MAG NAIL IN ASPHALT AT HUMMINGBIRD LANE AND WREN DRIVE



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STATE OF ALASKA 49th
Naomi R. Hobbs
No. CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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WREN DRIVE PAVING
CONTRACT NO. E16-143

HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
STA "W" 13+30 TO STA "W" 16+20

SHEET NO. 8 of 25

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Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C5	396.97	650.00	34.99	S38° 41' 34"E	390.83
C6	26.60	28.00	54.44	S60° 03' 55"E	25.61
C7	42.75	78.00	31.40	S7° 11' 50"E	42.22

VERTICAL CONTROL		
TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
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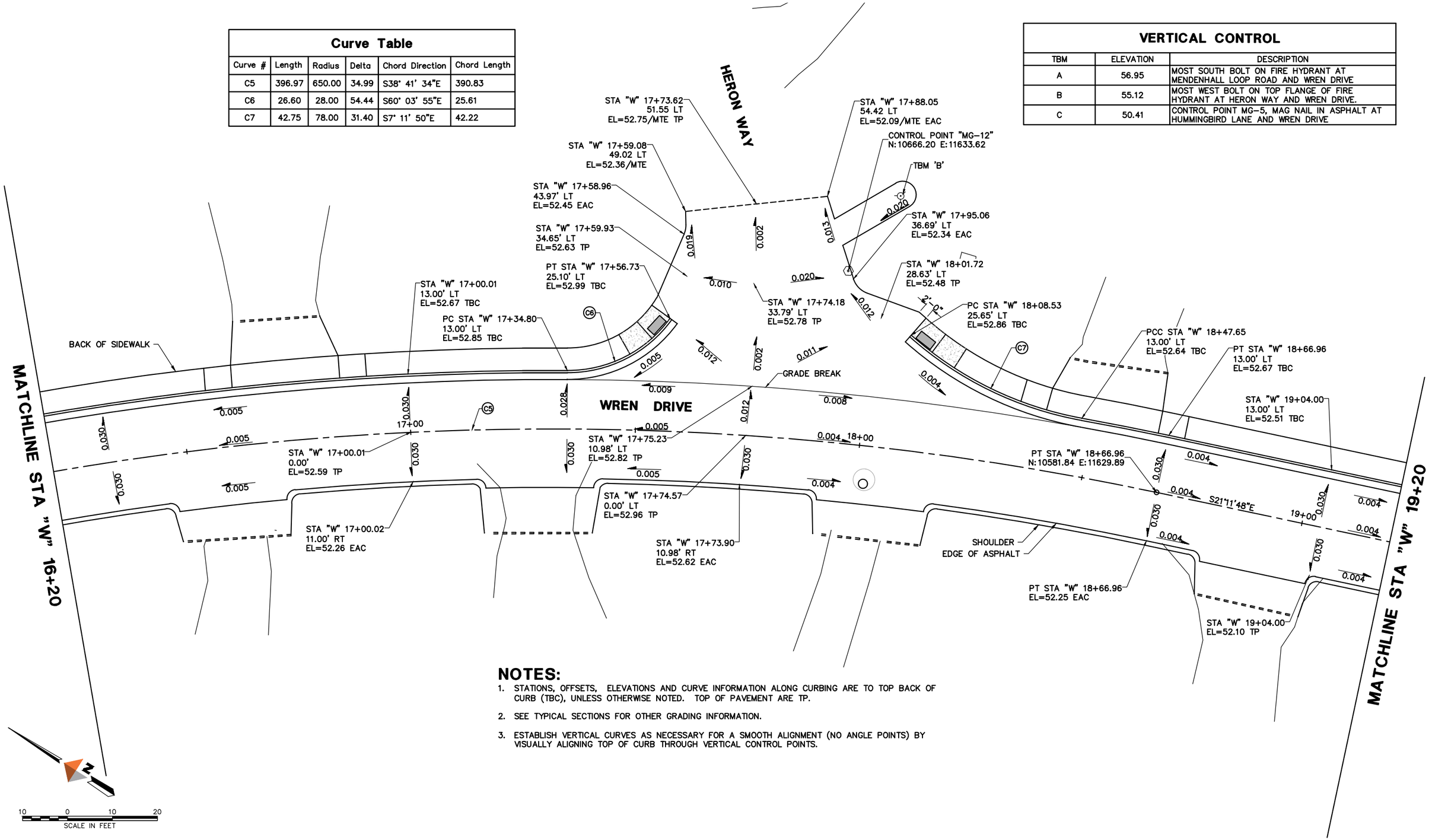

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STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
STA "W" 16+20 TO STA "W" 19+20

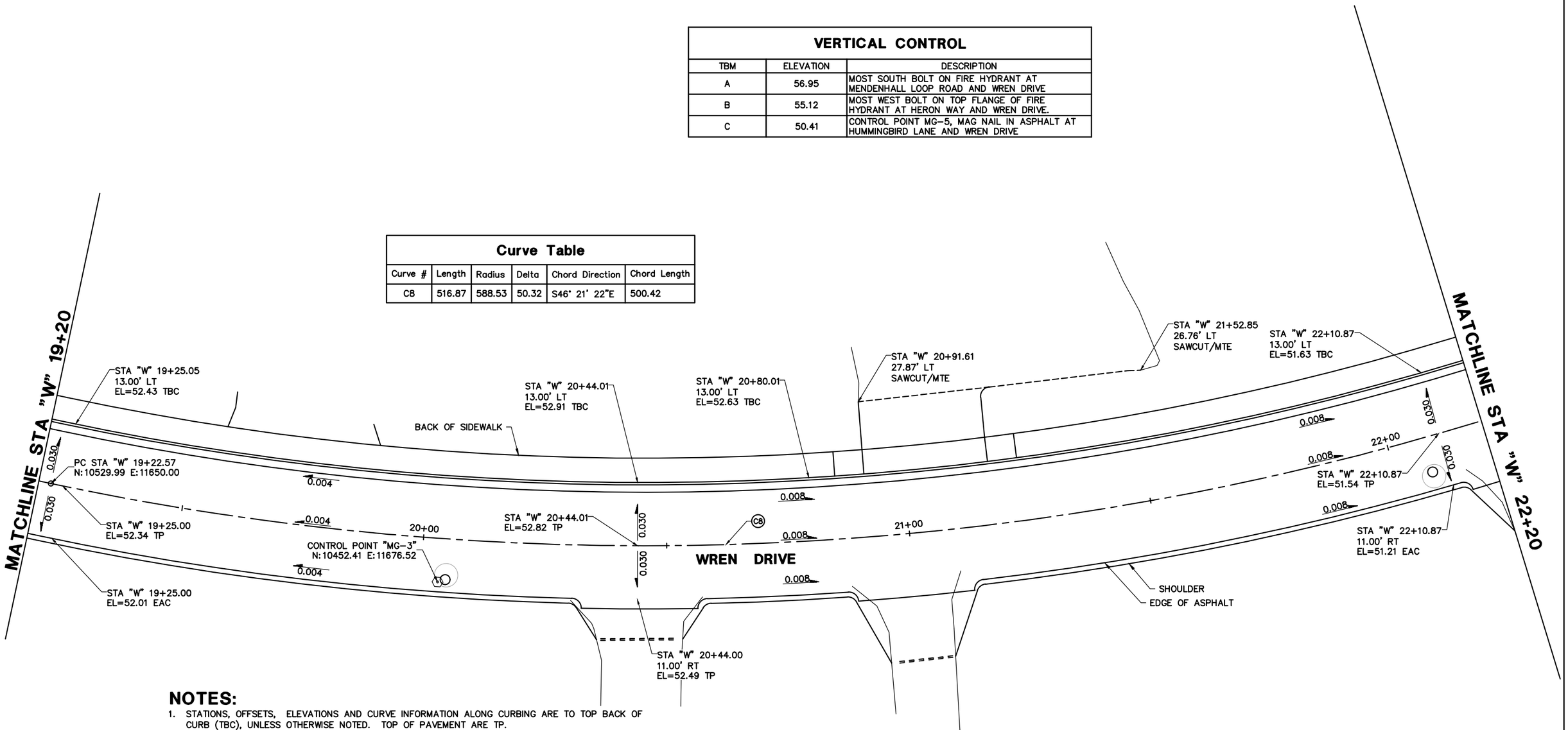
SHEET NO. 9 of 25

VERTICAL CONTROL

TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
C	50.41	CONTROL POINT MG-5, MAG NAIL IN ASPHALT AT HUMMINGBIRD LANE AND WREN DRIVE

Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C8	516.87	588.53	50.32	S46° 21' 22"E	500.42



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SCALE IN FEET

STATE OF ALASKA 49th
Naomi R. Hobbs
No.CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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WREN DRIVE PAVING
CONTRACT NO. E16-143

HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
STA "W" 19+20 TO STA "W" 22+20

SHEET NO.
10 of 25

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Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C8	516.87	588.53	50.32	S46° 21' 22"E	500.42
C9	233.81	600.00	22.33	S82° 40' 45"E	232.33

VERTICAL CONTROL

TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
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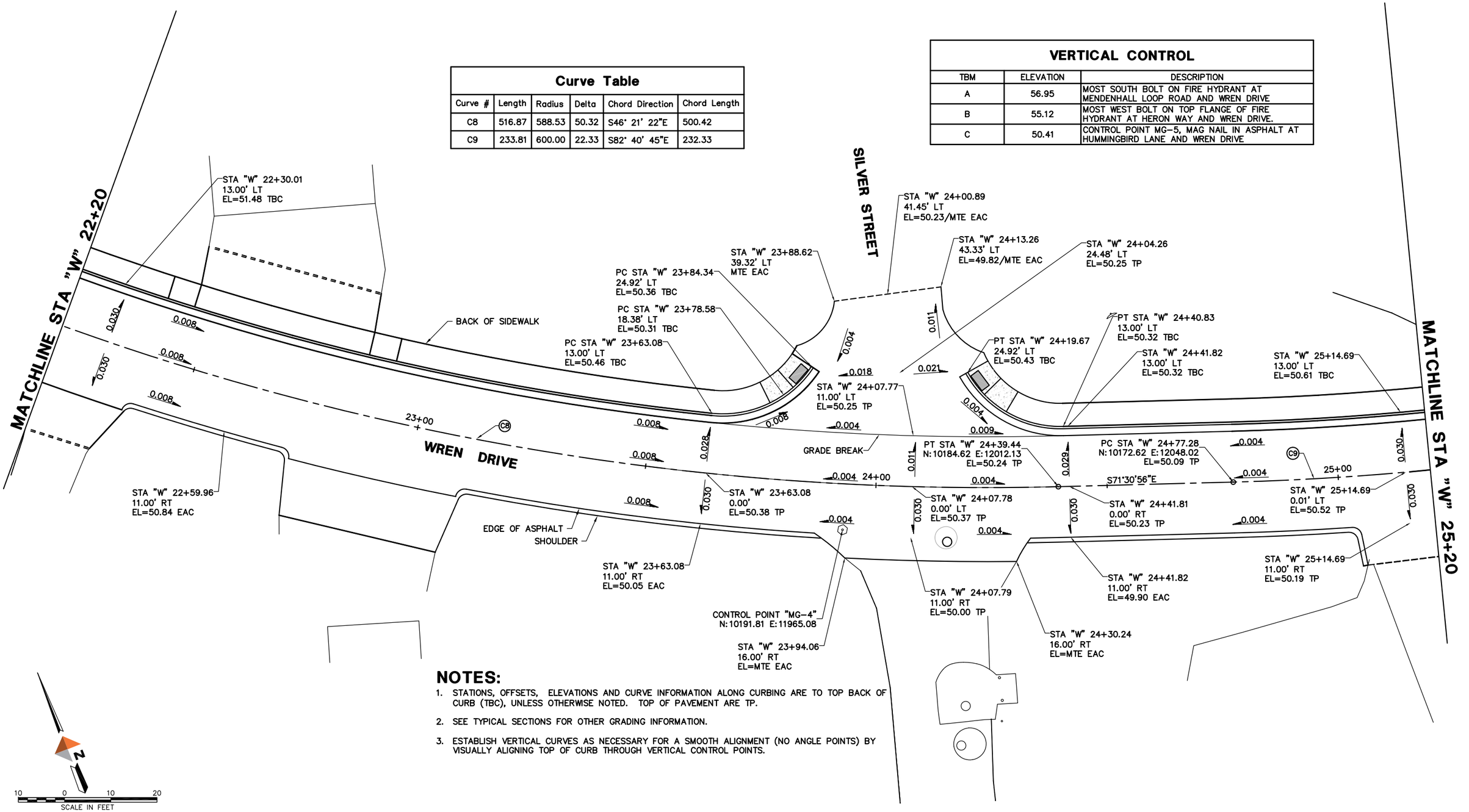

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STATE OF ALASKA
49th
Naomi R. Hobbs
No. CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
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HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
STA "W" 22+20 TO STA "W" 25+20

SHEET NO. 11 of 25

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C9	233.81	600.00	22.33	S82° 40' 45"E	232.33
C10	44.44	78.00	32.64	N71° 21' 18"E	43.84
C11	208.54	2000.00	5.97	N89° 08' 41"E	208.45

VERTICAL CONTROL		
TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
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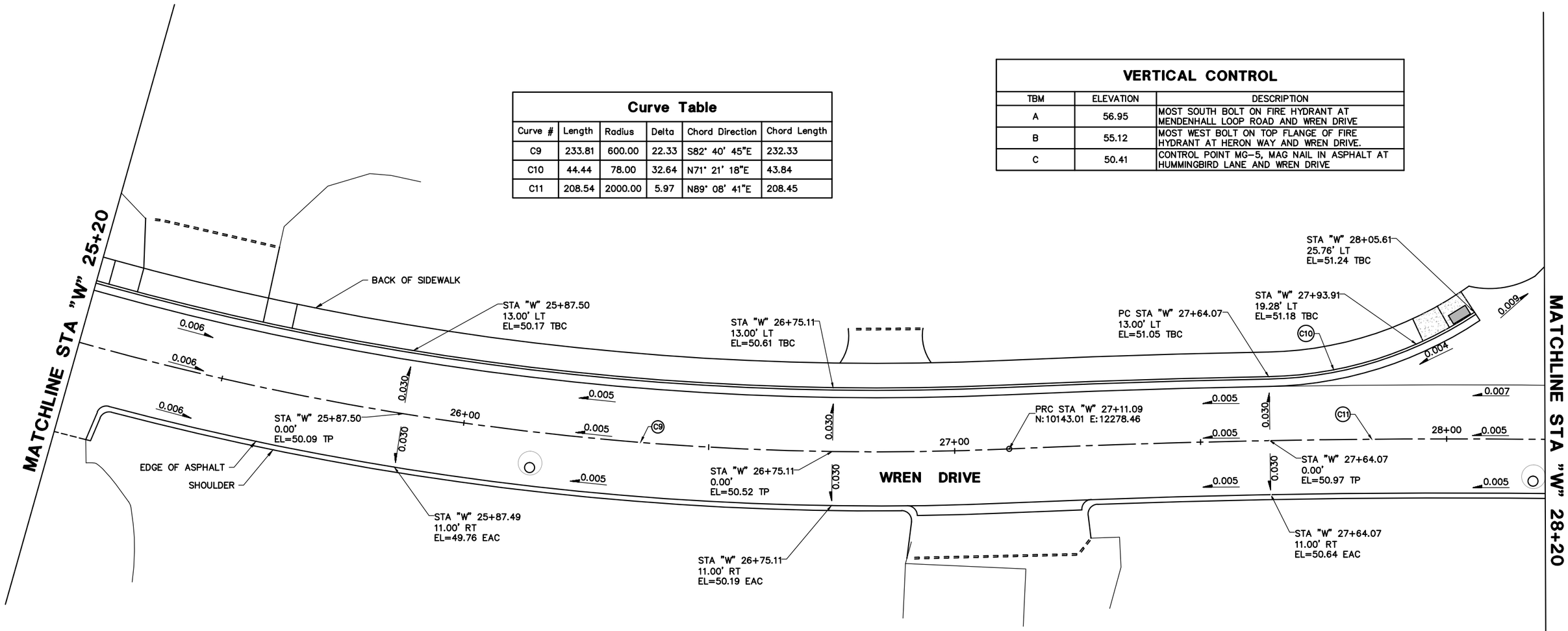

NOTES:

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STATE OF ALASKA 49th
Naomi R. Hobbs
No. CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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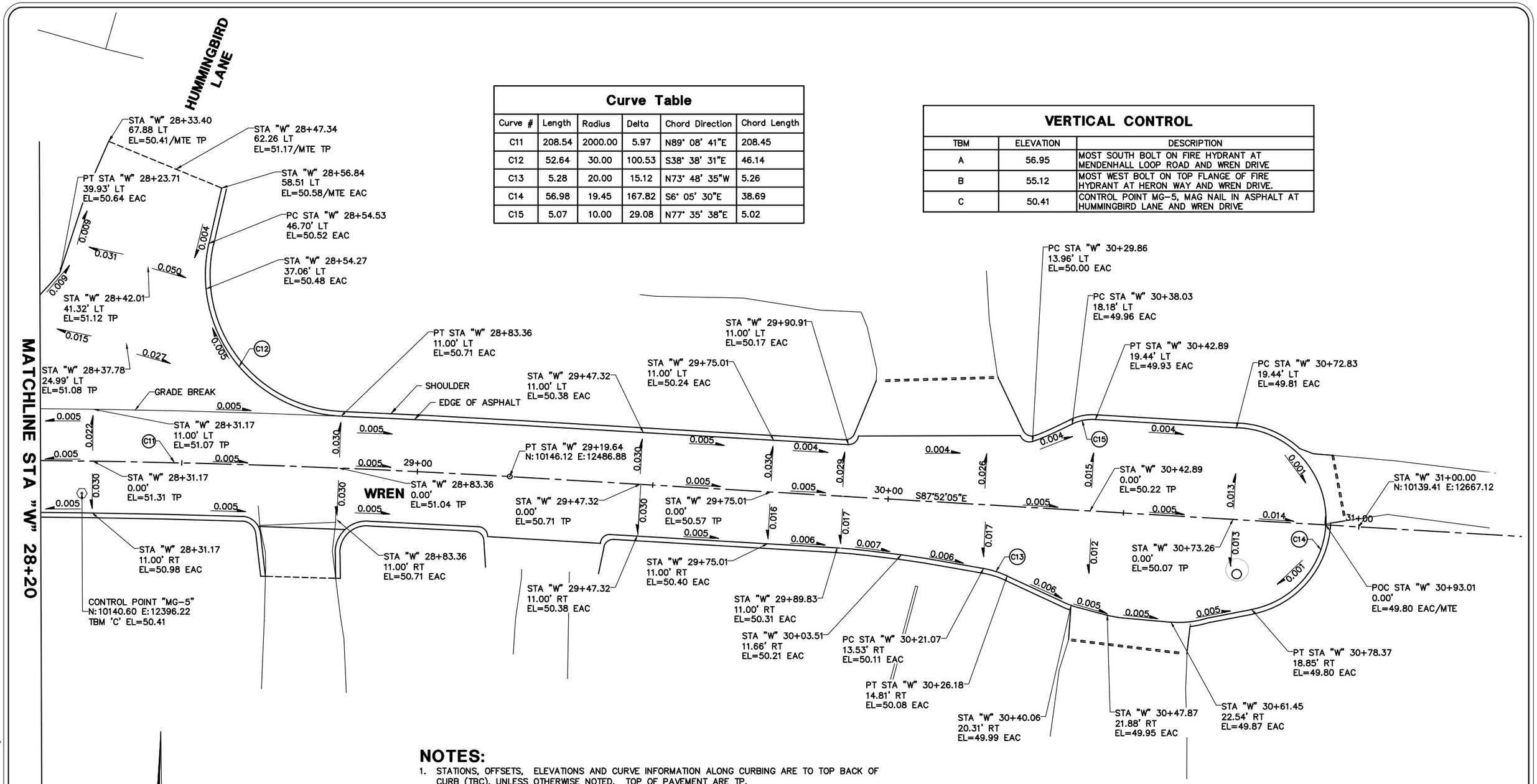
HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
STA "W" 25+20 TO STA "W" 28+20

SHEET NO. 12 of 25



Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C11	208.54	2000.00	5.97	N89° 08' 41"E	208.45
C12	52.64	30.00	100.53	S38° 38' 31"E	46.14
C13	5.28	20.00	15.12	N73° 48' 35"W	5.26
C14	56.98	19.45	167.82	S6° 05' 30"E	38.69
C15	5.07	10.00	29.08	N77° 35' 38"E	5.02

VERTICAL CONTROL

TBM	ELEVATION	DESCRIPTION
A	56.95	MOST SOUTH BOLT ON FIRE HYDRANT AT MENDENHALL LOOP ROAD AND WREN DRIVE
B	55.12	MOST WEST BOLT ON TOP FLANGE OF FIRE HYDRANT AT HERON WAY AND WREN DRIVE.
C	50.41	CONTROL POINT MG-5, MAG NAIL IN ASPHALT AT HUMMINGBIRD LANE AND WREN DRIVE

NOTES:

1. STATIONS, OFFSETS, ELEVATIONS AND CURVE INFORMATION ALONG CURBING ARE TO TOP BACK OF CURB (TBC), UNLESS OTHERWISE NOTED. TOP OF PAVEMENT ARE TP.
2. SEE TYPICAL SECTIONS FOR OTHER GRADING INFORMATION.
3. ESTABLISH VERTICAL CURVES AS NECESSARY FOR A SMOOTH ALIGNMENT (NO ANGLE POINTS) BY VISUALLY ALIGNING TOP OF CURB THROUGH VERTICAL CONTROL POINTS.

STATE OF ALASKA 49th
Naomi R. Hobbs
No.CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

JOB No. J70784.02 | DRAWN BY: STAFF | DESIGNED BY: STAFF | CHECKED BY: STAFF | DATE: APRIL 2016

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

HORIZONTAL AND VERTICAL CONTROL
CURB AND GUTTER LAYOUT AND GRADES
STA "W" 28+20 TO EOP

SHEET NO.
13
of
25

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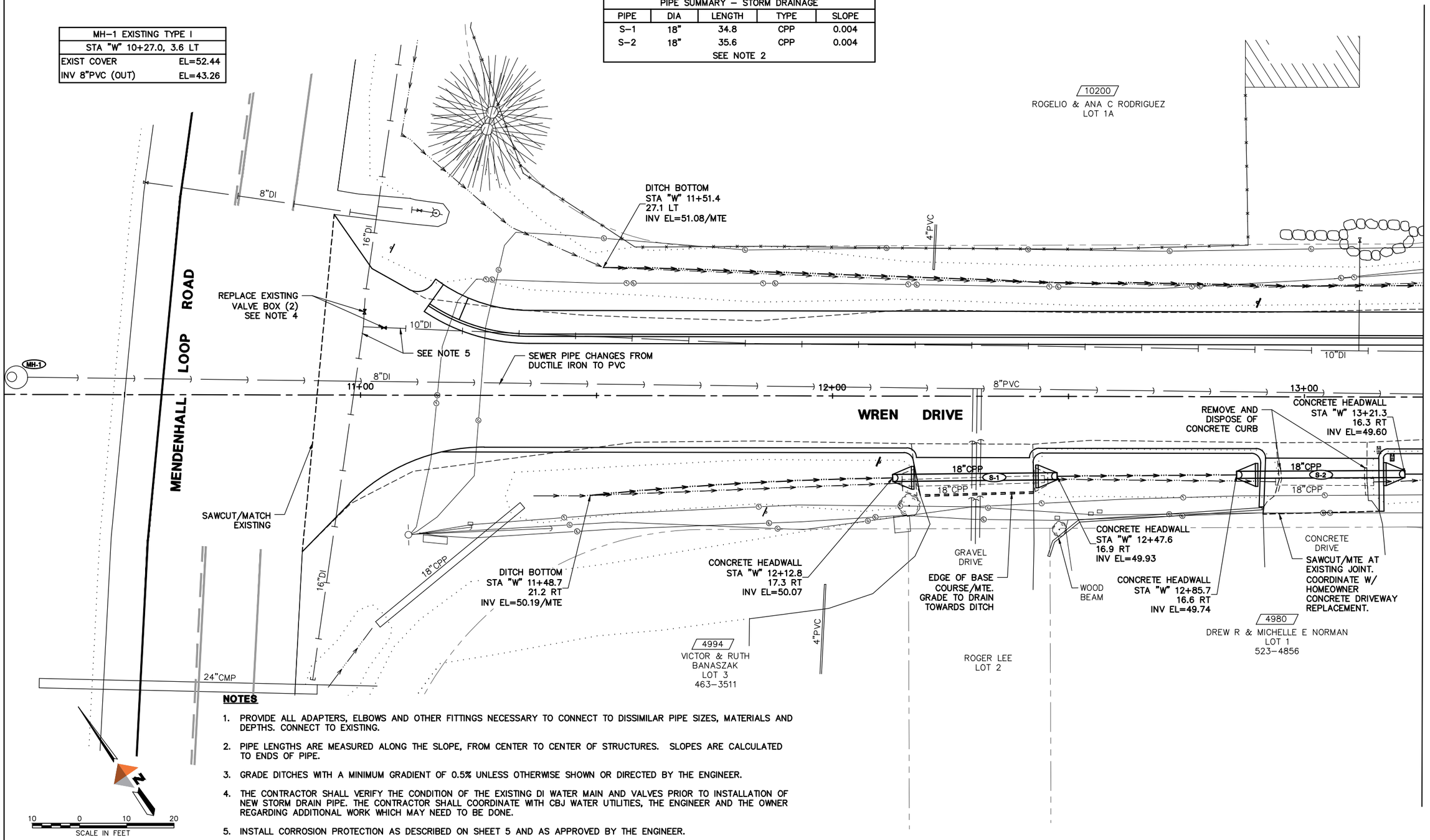
MH-1 EXISTING TYPE I	
STA "W" 10+27.0, 3.6 LT	
EXIST COVER	EL=52.44
INV 8"PVC (OUT)	EL=43.26

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S-1	18"	34.8	CPP	0.004
S-2	18"	35.6	CPP	0.004
SEE NOTE 2				



NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. GRADE DITCHES WITH A MINIMUM GRADIENT OF 0.5% UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL VERIFY THE CONDITION OF THE EXISTING DI WATER MAIN AND VALVES PRIOR TO INSTALLATION OF NEW STORM DRAIN PIPE. THE CONTRACTOR SHALL COORDINATE WITH CBJ WATER UTILITIES, THE ENGINEER AND THE OWNER REGARDING ADDITIONAL WORK WHICH MAY NEED TO BE DONE.
5. INSTALL CORROSION PROTECTION AS DESCRIBED ON SHEET 5 AND AS APPROVED BY THE ENGINEER.

STATE OF ALASKA 49th Naomi R. Hobbs No. CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
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CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
MENDENHALL LOOP ROAD
TO STA "W" 13+25

SHEET NO. 14 of 25

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CB-1 TYPE III	
STA "W" 13+33.6, MATCH GUTTER	
FG	EL=52.00
INV S-3	EL=49.91
INV 6"UD	EL=49.99
SUMP 16" MIN	

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S-3	12"	11.6	CPP	0.034
S-4	18"	43.8	CPP	0.005
S-5	18"	14.4	CPP	0.005
S-6	18"	36.0	CPP	0.004
S-7	18"	30.3	CPP	0.004
S-8	18"	12.2	CPP	0.004
S-9	18"	27.4	CPP	0.004
S-10	18"	40.8	CPP	0.004
SEE NOTE 2				

CB-2 TYPE IV	
STA "W" 15+10.9, MATCH GUTTER	
FG	EL=51.18
INV S-7	EL=48.39
INV S-8	EL=48.39
INV 6"UD	EL=48.44
SUMP 16" MIN	

MH-3 EXISTING TYPE I*	
STA "W" 15+93.3, 2.1 RT	
FG	EL=52.00
EXIST COVER	EL=52.21
TOP OF CONE	EL=50.34
INV 8"PVC (IN) WEST	EL=41.59
INV 8"PVC (OUT)	EL=41.39
*ADJUST MANHOLE TO GRADE	

MH-2 EXISTING TYPE I*	
STA "W" 13+79.1, 0.8 RT	
FG	EL=52.35
EXIST COVER	EL=52.44
TOP OF CONE	EL=50.77
INV 8"PVC (IN) NORTH	EL=43.60
INV 8"PVC (IN) WEST	EL=42.60
INV 8"PVC (OUT)	EL=42.71
*ADJUST MANHOLE TO GRADE	

MATCHLINE STA "W" 13+25

MATCHLINE STA "W" 16+22

HERON WAY

WREN DRIVE

BEGIN DITCH GRADING STA "W" 13+57.7 54.1 LT INV EL=50.24/MTE

10200 ROGELIO & ANA C RODRIGUEZ LOT 1A

SAWCUT/MATCH EXISTING

CONCRETE HEADWALL STA "W" 13+55.3 36.5 LT INV EL=49.47

BEGIN DITCH GRADING STA "W" 13+97.6 42.7 LT INV EL=49.60/MTE

CONCRETE HEADWALL STA "W" 13+98.9 34.7 LT INV EL=49.25

CONCRETE HEADWALL STA "W" 14+15.1 22.2 LT INV EL=49.15

SEE NOTE 3

CONCRETE HEADWALL STA "W" 14+30.3 22.4 LT INV EL=49.08

SEE NOTE 7

CONCRETE ACCESS PAD W/ 24"X48" DETECTABLE TILE

REPLACE EXISTING VALVE BOXES (3) (SEE NOTE 5)

CONCRETE HEADWALL STA "W" 13+33.6 23.3 LT INV EL=49.58

SEE NOTE 6

CONTROL POINT "MG-1" N:10932.85 E:11301.51

PC STA "W" 14+69.99 N:10886.89 E:11385.57

CONCRETE HEADWALL W/ TRASH RACK STA "W" 15+05.7 22.7 LT INV EL=48.43

CONCRETE HEADWALL STA "W" 15+06.4 23.5 LT INV EL=48.43

EDGE OF BASE COURSE/MTE

GRAVEL DRIVE

CONCRETE HEADWALL STA "W" 15+32.9 23.5 LT INV EL=48.54

4941 SUSAN A & TIMOTHY A MILLER LOT 5

4945 DELORES E GRAVER LOT 1 789-9453

MICHAN GALLAGHER LOT 4

CONCRETE HEADWALL STA "W" 14+60.1 16.3 RT INV EL=48.90

SAWCUT/MTE

ASPHALT DRIVE

4962 STACY J GRUMMETT LOT 3 790-4083

CONCRETE HEADWALL STA "W" 14+96.8 17.4 RT INV EL=48.76

CONCRETE HEADWALL STA "W" 15+11.7 16.8 RT INV EL=48.28

CONCRETE HEADWALL STA "W" 15+23.1 17.2 RT INV EL=48.65

SHED

CONCRETE HEADWALL STA "W" 15+65.0 16.2 RT INV EL=48.82

4956 MARY L SOLTYS & TIMOTHY G GRAY LOT 2 321-2095

4980 DREW R & MICHELLE E NORMAN LOT 1 523-4856

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. REMOVE EXISTING HYDRANT PAD. INSTALL NEW HYDRANT PAD PER CBJ STD DETAIL NOS. 405 AND 404. INSTALL 1-FOOT RAISER ON FIRE HYDRANT. REPLACE THE EXISTING VALVE BOX. CLEAN AND REPAINT HYDRANT. INSTALL NEW STORZ COUPLING.
4. GRADE DITCHES WITH A MINIMUM GRADIENT OF 0.5%, UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
5. THE CONTRACTOR SHALL VERIFY THE CONDITION OF THE EXISTING DI WATER MAIN AND VALVES PRIOR TO INSTALLATION OF NEW STORM DRAIN PIPE. THE CONTRACTOR SHALL COORDINATE WITH CBJ WATER UTILITIES, THE ENGINEER AND THE OWNER REGARDING ADDITIONAL WORK WHICH MAY NEED TO BE DONE.
6. INSTALL CORROSION PROTECTION AS DESCRIBED ON SHEET 5 AND AS APPROVED BY THE ENGINEER.
7. IF THE ADDITIVE ALTERNATE IS AWARDED, THE CONCRETE HEADWALLS ON THE OUTLET ENDS OF S-6, S-7, AND S-10 WILL BE DELETED FROM THE PLAN SET.

10 0 10 20
SCALE IN FEET

SEE SHEET 16 FOR ADDITIVE ALTERNATE

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

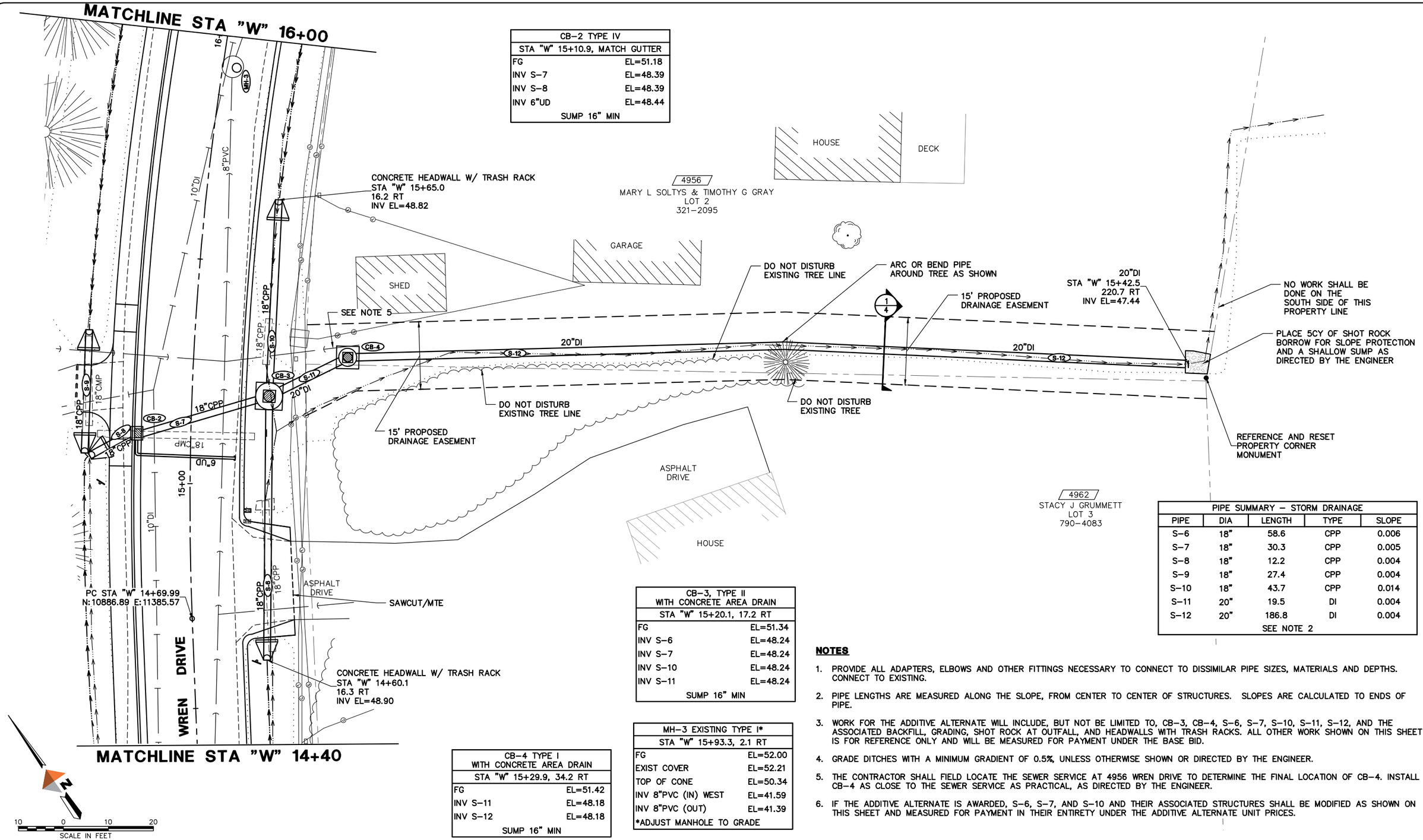
JOB No. J70784.02 | DRAWN BY: STAFF | DESIGNED BY: STAFF | CHECKED BY: STAFF | DATE: APRIL 2016

CITY/BOROUGH OF JUNEAU ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
STA "W" 13+25 TO STA "W" 16+22

SHEET NO. 15 of 25



CB-2 TYPE IV	
STA "W" 15+10.9, MATCH GUTTER	
FG	EL=51.18
INV S-7	EL=48.39
INV S-8	EL=48.39
INV 6"UD	EL=48.44
SUMP 16" MIN	

CB-3, TYPE II WITH CONCRETE AREA DRAIN	
STA "W" 15+20.1, 17.2 RT	
FG	EL=51.34
INV S-6	EL=48.24
INV S-7	EL=48.24
INV S-10	EL=48.24
INV S-11	EL=48.24
SUMP 16" MIN	

CB-4 TYPE I WITH CONCRETE AREA DRAIN	
STA "W" 15+29.9, 34.2 RT	
FG	EL=51.42
INV S-11	EL=48.18
INV S-12	EL=48.18
SUMP 16" MIN	

MH-3 EXISTING TYPE I*	
STA "W" 15+93.3, 2.1 RT	
FG	EL=52.00
EXIST COVER	EL=52.21
TOP OF CONE	EL=50.34
INV 8"PVC (IN) WEST	EL=41.59
INV 8"PVC (OUT)	EL=41.39
*ADJUST MANHOLE TO GRADE	

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S-6	18"	58.6	CPP	0.006
S-7	18"	30.3	CPP	0.005
S-8	18"	12.2	CPP	0.004
S-9	18"	27.4	CPP	0.004
S-10	18"	43.7	CPP	0.014
S-11	20"	19.5	DI	0.004
S-12	20"	186.8	DI	0.004
SEE NOTE 2				

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. WORK FOR THE ADDITIVE ALTERNATE WILL INCLUDE, BUT NOT BE LIMITED TO, CB-3, CB-4, S-6, S-7, S-10, S-11, S-12, AND THE ASSOCIATED BACKFILL, GRADING, SHOT ROCK AT OUTFALL, AND HEADWALLS WITH TRASH RACKS. ALL OTHER WORK SHOWN ON THIS SHEET IS FOR REFERENCE ONLY AND WILL BE MEASURED FOR PAYMENT UNDER THE BASE BID.
4. GRADE DITCHES WITH A MINIMUM GRADIENT OF 0.5%, UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
5. THE CONTRACTOR SHALL FIELD LOCATE THE SEWER SERVICE AT 4956 WREN DRIVE TO DETERMINE THE FINAL LOCATION OF CB-4. INSTALL CB-4 AS CLOSE TO THE SEWER SERVICE AS PRACTICAL, AS DIRECTED BY THE ENGINEER.
6. IF THE ADDITIVE ALTERNATE IS AWARDED, S-6, S-7, AND S-10 AND THEIR ASSOCIATED STRUCTURES SHALL BE MODIFIED AS SHOWN ON THIS SHEET AND MEASURED FOR PAYMENT IN THEIR ENTIRETY UNDER THE ADDITIVE ALTERNATE UNIT PRICES.

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780-3533 Office
(907) 780-3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

JOB No. J70784.02 | DRAWN BY: STAFF | DESIGNED BY: STAFF | CHECKED BY: STAFF | DATE: APRIL 2016

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
S-12 PIPE OUTFALL
ADDITIVE ALTERNATE

SHEET NO. 16 of 25

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CB–5 TYPE III	
STA "W" 17+00.0, MATCH GUTTER	
FG	EL=52.12
INV S–15	EL=50.00
INV 6"UD	EL=50.08
SUMP 16" MIN	

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S–13	18"	35.2	CPP	0.004
S–14	18"	33.3	CPP	0.004
S–15	12"	10.9	CPP	0.067
S–16	18"	35.3	CPP	0.004
S–17	12"	35.0	CPP	0.004
S–18	12"	13.2	CPP	0.005
S–19	12"	35.2	CPP	0.004
SEE NOTE 2				

MH–4 EXISTING TYPE I*	
STA "W" 18+01.6, 7.4 RT	
FG	EL=52.59
EXIST COVER	EL=52.19
TOP OF CONE	EL=48.65
INV 8"PVC (IN) NORTH	EL=40.54
INV 8"PVC (IN) EAST	EL=40.54
INV 8"PVC (OUT)	EL=39.63
*ADJUST MANHOLE TO GRADE	

MATCHLINE STA "W" 16+22

MATCHLINE STA "W" 19+22

HERON WAY

WREN DRIVE

4941 SUSAN A & TIMOTHY A MILLER LOT 5

4939 PHILIP C & KATHRYN E FAGERSTROM LOT 10A 780–4214

4956 MARY L SOLTYS & TIMOTHY G GRAY LOT 2 789–2095

4950 KARLA HART LOT 1 523–6996

4948 KARLA HART LOT 1 523–6996

4944 AMBRE R WILLIS LOT 1

DITCH BOTTOM STA "W" 17+53.2 63.3 LT INV EL=50.00/MTE

DITCH BOTTOM STA "W" 17+51.9 39.5 LT INV EL=49.78

DITCH BOTTOM STA "W" 17+33.4 23.4 LT INV EL=49.47

DITCH BOTTOM STA "W" 17+88.7 66.7 LT INV EL=50.26/MTE

DITCH BOTTOM STA "W" 18+41.4 23.4 LT INV EL=52.11

DITCH BOTTOM STA "W" 18+65.3 23.4 LT INV EL=52.06

18"CMP

SAWCUT/MATCH EXISTING

CONCRETE HEADWALL STA "W" 17+93.0 56.7 LT INV EL=50.32

SEE NOTE 3

12"CMP S–18 12"CPP 0.020

CONCRETE HEADWALL STA "W" 17+99.6 45.5 LT INV EL=50.38

CONTROL POINT "MG–12" N:10666.20 E:11633.62

CONCRETE HEADWALL STA "W" 16+89.5 23.4 LT INV EL=49.23

GRAVEL DRIVE

EDGE OF BASE COURSE/MTE

18"CMP

S–14 18"CPP

S–15 12"CPP

CB–5

CONCRETE ACCESS PAD W/ 24"X48" DETECTABLE TILE

8"PVC

REPLACE EXISTING VALVE BOXES (2) (SEE NOTE 5)

SEE NOTE 6

10"DI

CONCRETE HEADWALL STA "W" 17+00.3 22.6 LT INV EL=49.35

CONCRETE HEADWALL STA "W" 16+57.3 23.4 LT INV EL=49.10

CONCRETE HEADWALL STA "W" 16+77.1 16.7 RT INV EL=49.32

17+00

6"UD

CONCRETE HEADWALL STA "W" 17+10.6 16.8 RT INV EL=49.45

CONCRETE HEADWALL STA "W" 17+46.8 16.8 RT INV EL=49.60

18+00

MH–4

PT STA "W" 18+66.96 N:10581.84 E:11629.89

19+00

S–13 18"CPP

18"CPP

S–16 18"CPP

12"CPP

S–17 12"CPP

GRAVEL DRIVE

EDGE OF BASE COURSE/MTE. GRADE TO DRAIN TO DITCH

CONCRETE HEADWALL STA "W" 16+41.0 16.6 RT INV EL=49.18

EDGE OF BASE COURSE/MTE

CONCRETE HEADWALL STA "W" 17+85.8 16.9 RT INV EL=49.75

REMOVE AND SET ASIDE PLASTIC SHEETING FOR HOME OWNER

PLANTER

EDGE OF BASE COURSE/MTE. GRADE TO DRAIN TO DITCH

CONCRETE HEADWALL STA "W" 18+21.8 17.0 RT INV EL=49.89

REMOVE AND SET ASIDE PLASTIC SHEETING FOR HOME OWNER

REMOVE AND SET ASIDE REFLECTIVE DELINEATOR FOR HOME OWNER

CONCRETE HEADWALL STA "W" 18+74.0 16.4 RT INV EL=50.10

EDGE OF BASE COURSE/MTE. GRADE TO DRAIN TO DITCH

EXISTING DECORATIVE LIGHT. DO NOT DISTURB.

CONCRETE HEADWALL STA "W" 19+09.2 15.4 RT INV EL=50.24

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. REMOVE EXISTING HYDRANT PAD. INSTALL NEW HYDRANT PAD AND GUARD POSTS PER CBJ STD DETAIL NOS. 405 AND 404. REPLACE THE EXISTING VALVE BOX. CLEAN AND REPAINT HYDRANT. INSTALL NEW STORZ COUPLING.
4. GRADE DITCHES WITH A MINIMUM GRADIENT OF 0.5%, UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
5. THE CONTRACTOR SHALL VERIFY THE CONDITION OF THE EXISTING DI WATER MAIN AND VALVES PRIOR TO INSTALLATION OF NEW STORM DRAIN PIPE. THE CONTRACTOR SHALL COORDINATE WITH CBJ WATER UTILITIES, THE ENGINEER AND THE OWNER REGARDING ADDITIONAL WORK WHICH MAY NEED TO BE DONE.
6. INSTALL CORROSION PROTECTION AS DESCRIBED ON SHEET 5 AND AS APPROVED BY THE ENGINEER.

N

10 0 10 20
SCALE IN FEET

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780–3533 Office
(907) 780–3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

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CITY/BOROUGH OF JUNEAU ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
STA "W" 16+22 TO STA "W" 19+22

SHEET NO. 17 of 25

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CB-6 TYPE III	
STA "W" 19+25.0, MATCH GUTTER	
FG	EL=51.87
INV S-20	EL=49.87
INV 6"UD	EL=49.95
SUMP 16" MIN	

MH-6 EXISTING TYPE I*	
STA "W" 22+07.5, 7.3 RT	
FG	EL=51.35
EXIST COVER	EL=50.19
TOP OF CONE	EL=48.65
INV 8"PVC (IN) NORTH	EL=38.82
INV 8"PVC (OUT)	EL=38.75
*ADJUST MANHOLE TO GRADE	

CB-7 TYPE III	
STA "W" 20+80.0, MATCH GUTTER	
FG	EL=52.07
INV S-20	EL=49.18
INV 6"UD	EL=49.26
SUMP 16" MIN	

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S-20	12"	10.7	CPP	0.010
S-21	12"	34.6	CPP	0.005
S-22	12"	11.3	CPP	0.007
S-23	18"	34.0	CPP	0.006
S-24	12"	35.2	CPP	0.005
S-25	SEE SHEET 18			
SEE NOTE 2				

MH-5 EXISTING TYPE I*	
STA "W" 20+05.1, 7.3 RT	
FG	EL=52.41
EXIST COVER	EL=51.42
TOP OF CONE	EL=50.38
INV 8"PVC (IN) NORTH	EL=39.60
INV 8"PVC (OUT)	EL=39.48
*ADJUST MANHOLE TO GRADE	

4939
PHILIP C & KATHRYN E FAGERSTROM
LOT 10A
780–4214

4935 & 4937
PASTORINO LIVING TRUST
LOT 10B

4933

4944
AMBRE R WILLIS
LOT 1
NL

4938
JOHANNA MITCHELL
LOT 2
790–1936

4932
JAMES M & JOY M H YOUNG
LOT 3
789–7148

4930
SHAWN DAVID LOVELL
LOT 4A
780–2250

MATCHLINE STA "W" 19+22

MATCHLINE STA "W" 22+22

WREN DRIVE

ASPHALT DRIVE

CONCRETE DRIVE

GRAVEL DRIVE

GRAVEL DRIVE

PLANTER

CONCRETE HEADWALL
STA "W" 19+25.0
22.2 LT
INV EL=49.80

CONCRETE HEADWALL
STA "W" 19+54.6
23.7 LT
INV EL=49.67

CONCRETE HEADWALL
STA "W" 19+90.7
23.9 LT
INV EL=49.50

CUT TO MATCH BACK OF NEW DITCH

CONCRETE HEADWALL
STA "W" 20+79.9
23.0 LT
INV EL=49.10

CONCRETE HEADWALL
STA "W" 20+86.4
24.1 LT
INV EL=49.04

SAWCUT/MTE

CONCRETE HEADWALL
STA "W" 21+23.1
24.1 LT
INV EL=48.86

CONCRETE HEADWALL
STA "W" 21+16.8
17.3 RT
INV EL=48.76

CONCRETE HEADWALL
STA "W" 22+09.7
17.8 RT
INV EL=48.08

CONCRETE HEADWALL
STA "W" 20+83.8
17.0 RT
INV EL=48.96

EDGE OF BASE COURSE/MTE. GRADE TO DRAIN TO DITCH

EDGE OF BASE COURSE/MTE. DRAIN TO GRADE TO DITCH

SMALL PVC POST

REMOVE AND SET ASIDE REFLECTIVE DELINEATOR FOR HOME OWNER

REMOVE AND SET ASIDE REFLECTIVE DELINEATOR FOR HOME OWNER AS NEEDED

RELOCATE A PORTION OF THE PLANTER TO ACCOMODATE NEW DITCH ALIGNMENT

PC STA "W" 19+22.57
N:10529.99 E:11650.00

CONTROL POINT "MG-3"
N:10452.41 E:11676.52

S-20 12"CPP 12"CMP 10"DI 6"UD 8"PVC 20+00 MH-5 S-21 12"CPP 12"CMP 4"PVC 4"CPP CB-6 S-22 12"CPP 10"DI CB-7 S-24 12"CPP 10"DI 22+00 MH-6 8"PVC 8"PVC 21+00 6"UD 18"CMP 18"CPP S-23 18"CMP S-25

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. GRADE DITCHES WITH A MINIMUM GRADIENT OF 0.5% UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.

N

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SCALE IN FEET

STATE OF ALASKA 49th Naomi R. Hobbs No.CE9959 4-4-16 REGISTERED PROFESSIONAL ENGINEER

DOWL
5368 Commercial Blvd.
Juneau, Alaska 99801
(907) 780–3533 Office
(907) 780–3535 Fax
Consulting Engineers • Land Surveyors • Construction Administration

JOB No. J70784.02 | DRAWN BY: STAFF | DESIGNED BY: STAFF | CHECKED BY: STAFF | DATE: APRIL 2016

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
STA "W" 19+22 TO STA "W" 22+22

SHEET NO. 18 of 25

C:\Civil 3D Projects\22\70784-02\Civil\SC14-CT-BA-70784-02.dwg 2016-4-4 10:22:29

CB-8 TYPE III	
STA "W" 22+30.0, MATCH GUTTER	
FG	EL=50.92
INV S-26	EL=48.92
INV 6"UD	EL=49.00
SUMP 16" MIN	

CB-9 TYPE IV	
STA "W" 23+78.6, MATCH GUTTER	
FG	EL=49.75
INV S-29	EL=47.47
INV S-30	EL=47.55
SUMP 16" MIN	

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S-25	18"	34.0	CPP	0.005
S-26	12"	11.3	CPP	0.047
S-27	12"	48.9	CPP	0.005
S-28	18"	49.3	CPP	0.004
S-29	18"	34.5	CPP	0.005
S-30	18"	10.6	CPP	0.014
S-31	18"	32.5	CPP	0.004
S-32	18"	11.1	CPP	0.016
S-33	18"	35.5	CPP	0.006
SEE NOTE 2				

MH-7 EXISTING TYPE I*	
STA "W" 24+15.3, 10.9 RT	
FG	EL=50.01
EXIST COVER	EL=49.96
TOP OF FLATTOP	EL=49.04
INV 8"PVC (IN) NORTH	EL=42.06
INV 8"PVC (IN) WEST	EL=37.97
INV 8"PVC (IN) EAST	EL=39.74
INV 8"PVC (OUT)	EL=37.71
*ADJUST MANHOLE TO GRADE	

CB-10 TYPE IV	
STA "W" 24+41.8, MATCH GUTTER	
FG	EL=49.76
INV S-31	EL=46.91
INV S-32	EL=46.91
SUMP 16" MIN	

MATCHLINE STA "W" 22+22

MATCHLINE STA "W" 25+21

SILVER STREET

WREN DRIVE

CONCRETE HEADWALL STA "W" 22+30.3 23.1 LT INV EL=48.40

CONCRETE HEADWALL STA "W" 22+40.2 23.9 LT INV EL=48.30

EDGE OF BASE COURSE. GRADE TO DRAIN TO DITCH.

CONCRETE DRIVE

GRAVEL DRIVE

4931 MARIE R & CLAUDE MCMILLAN LOT 9 463-2684

BEGIN DITCH GRADING STA "W" 23+79.2 41.2 LT INV EL=48.00/MTE

CONCRETE HEADWALL STA "W" 22+91.0 22.0 LT INV EL=48.07

4X4 WOOD POST, DO NOT DISTURB

PLANTER

SAWCUT/MATCH EXISTING

BEGIN DITCH GRADING STA "W" 24+19.4 45.4 LT INV EL=48.27/MTE

RELOCATE EXISTING CHAIN LINK FENCE

EXISTING SATELLITE DISH

4925 CHRIS R LUNSFORD & MAYUMI L ARIMITSU LOT 5B 789-1364

CONCRETE HEADWALL W/ TRASH RACK STA "W" 24+41.8 22.8 LT INV EL=46.96

CONCRETE ACCESS PAD W/ DETECTABLE TILE 24"X48"

REPLACE EXISTING VALVE BOXES (3) (SEE NOTE 4)

SEE NOTE 5

24+00

25+00

PT STA "W" 24+39.44 N:10184.62 E:12012.13

PC STA "W" 24+77.28 N:10172.62 E:12048.02

12"CPP S-26 CB-8 6"UD 8"PVC 12"CMP 12"CPP 10"DI 18"CPP S-30 CB-9 18"CMP 18"CPP S-29 CB-10 18"CPP S-32 CB-11 18"CMP 18"CPP S-31 MH-7 12"PVC 18"CMP 18"CPP S-33

EXISTING SIGN DO NOT DISTURB

CONCRETE HEADWALL STA "W" 22+68.8 17.7 RT INV EL=47.78

CONCRETE HEADWALL STA "W" 22+42.8 17.8 RT INV EL=47.91

EDGE OF BASE COURSE/MTE. GRADE TO DRAIN TO DITCH

GRAVEL DRIVE

4930 SHAWN DAVID LOVELL LOT 4A 780-2250

EDGE OF BASE COURSE/MTE

CONCRETE HEADWALL STA "W" 23+16.7 17.5 RT INV EL=47.58

4928 MARK R & CHRISTINE M MILLAY LOT 4B NL

SHORT STONE WALL, DO NOT DISTURB

CONCRETE HEADWALL W/ TRASH RACK STA "W" 23+72.5 25.7 LT INV EL=47.68

CONCRETE HEADWALL STA "W" 23+85.9 16.5 RT INV EL=47.30

CONTROL POINT "MG-4" N:10191.81 E:11965.08

BOLLARD

AIR VENT

SEWER PUMP STATION

CONCRETE HEADWALL STA "W" 24+44.0 20.7 RT INV EL=46.78

CONCRETE HEADWALL STA "W" 24+98.6 16.6 RT INV EL=47.06

ASPHALT DRIVE

CONCRETE DRIVE

SAWCUT/MATCH EXISTING REPLACE DRIVEWAY WITH AC PAVEMENT

4926 JEFF D & MOLLY BRINK LOT 4 NL

NOTES

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3. GRADE DITCHES WITH A MINIMUM GRADIENT OF 0.5% UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL VERIFY THE CONDITION OF THE EXISTING DI WATER MAIN AND VALVES PRIOR TO INSTALLATION OF NEW STORM DRAIN PIPE. THE CONTRACTOR SHALL COORDINATE WITH CBJ WATER UTILITIES, THE ENGINEER AND THE OWNER REGARDING ADDITIONAL WORK WHICH MAY NEED TO BE DONE.
5. INSTALL CORROSION PROTECTION AS DESCRIBED ON SHEET 5 AND AS APPROVED BY THE ENGINEER.

N

10 0 10 20
SCALE IN FEET

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WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
STA "W" 22+22 TO STA "W" 25+21

SHEET NO. 19 of 25

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CB–11 TYPE III	
STA "W" 25+87.4, MATCH GUTTER	
FG	EL=49.61
INV S–35	EL=47.58
INV 6"UD	EL=47.64
SUMP 16" MIN	

PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S–33	SEE SHEET 10			
S–34	12"	38.1	CPP	0.004
S–35	10"	10.4	CPP	0.004
S–36	12"	22.4	CPP	0.004
SEE NOTE 2				

CONCRETE HEADWALL
STA "W" 25+21.4
22.9 LT
INV EL=47.27

GRAVEL DRIVE

EDGE OF BASE COURSE

CONCRETE HEADWALL
STA "W" 25+61.0
22.7 LT
INV EL=47.42

CONCRETE HEADWALL
STA "W" 25+87.4
22.2 LT
INV EL=47.53

CONCRETE HEADWALL
STA "W" 26+74.2
22.7 LT
INV EL=47.95

MTE GROUND SURFACE
3" TOPSOIL SEEDING
BEHIND SIDEWALK

CONCRETE HEADWALL
STA "W" 26+97.5
22.9 LT
INV EL=48.04

DITCH BOTTOM
STA "W" 27+68.2
22.0 LT
INV EL=48.39

4927

4920
SHERYL L WEINBERG & RICHARD D HEBHARDT
4920 HUMMINGBIRD LANE
LOT 4
789–5453

MATCHLINE STA "W" 25+21

S-34 12"CPP
12"CMP
10"DI
8"PVC
10"CPP S-35
CB-11
6"UD
S-33 12"CPP
26+00
MH-8
27+00
28+00
S-36 12"CPP
12"CMP
PRC STA "W" 27+11.09
N:10143.01 E:12278.46
CONCRETE ACCESS PAD W/ 24"X48" DETECTABLE TILE
10"DI
MH-9
8"PVC
MATCHLINE STA "W" 28+21

SAWCUT/MTE

CONCRETE HEADWALL
STA "W" 25+33.1
16.2 RT
INV EL=47.20

CONCRETE DRIVE

SET ASIDE PLANTER FOR OWNER

18"CMP

GRAVEL DRIVE

GRAVEL DRIVE

MH–8 EXISTING TYPE I*	
STA "W" 26+14.3, 6.4 RT	
FG	EL=50.00
EXIST COVER	EL=49.01
TOP OF CONE	EL=48.05
INV 8"PVC (IN)	EL=40.51
INV 8"PVC (OUT)	EL=40.54
*ADJUST MANHOLE TO GRADE	

DITCH BOTTOM
STA "W" 26+28.5
15.3 RT
INV EL=47.69

EDGE OF PLANTER

DITCH BOTTOM
STA "W" 26+91.0
14.9 RT
INV EL=50.12
MATCH TO DRIVEWAY

CONCRETE DRIVE

EDGE OF BASE COURSE/MTE.
GRADE TO DRAIN TO DITCH.

DITCH BOTTOM
STA "W" 27+26.7
15.1 RT
INV EL=50.00
MATCH TO DRIVEWAY

4926
JEFF D & MOLLY BRINK
LOT 4
NL

4922
JEFF D & MOLLY BRINK
LOT 4
NL

4920
NATHAN & MICHELLE HOUSTON
LOT 5
NL

4918

MH–9 EXISTING TYPE I*	
STA "W" 28+17.7, 7.6 RT	
FG	EL=50.98
EXIST COVER	EL=50.27
TOP OF CONE	EL=49.44
INV 8"PVC (IN) NORTH	EL=44.17
INV 8"PVC (OUT) WEST	EL=41.62
INV 8"PVC (OUT) EAST	EL=41.64
*ADJUST MANHOLE TO GRADE	

N

10 0 10 20
SCALE IN FEET

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
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ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
STA "W" 25+21 TO STA "W" 28+21

SHEET NO. 20 of 25

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PIPE SUMMARY – STORM DRAINAGE				
PIPE	DIA	LENGTH	TYPE	SLOPE
S-37	2 x 10"	48.4	CPP	0.004
S-38	12"	36.0	CPP	0.004
S-39	12"	36.0	CPP	0.004
SEE NOTE 2				

MH-10 EXISTING TYPE I*	
STA "W" 30+74.8, 10.7 RT	
FG	EL=49.91
EXIST COVER	EL=49.70
TOP OF CONE	EL=48.20
INV 8"PVC (IN)	EL=42.95
INV 8"PVC (OUT)	EL=42.78
*ADJUST MANHOLE TO GRADE	

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
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5. INSTALL CORROSION PROTECTION AS DESCRIBED ON SHEET 5 AND AS APPROVED BY THE ENGINEER.

MATCHLINE STA "W" 28+21

HUMMINGBIRD LANE

WREN DRIVE

BEGIN DITCH GRADING
STA "W" 28+79.3
135.2 LT
INV EL=49.00/MTE

12"CMP

BEGIN DITCH GRADING
STA "W" 28+32.1
83.0 LT
INV EL=49.21/MTE

SAWCUT/MATCH EXISTING

CONCRETE HEADWALL
STA "W" 28+71.7
24.9 LT
INV EL=48.43

SEE NOTE 5

1"CU

10"DI

REPLACE EXISTING VALVE BOXES (2) (SEE NOTE 4)

10"CPP

S-37

10"CPP

18"CMP

CONTROL POINT "MG-5"
N:10140.60 E:12396.22

29+00

PT STA "W" 29+19.64
N:10146.12 E:12486.88

8"PVC

12"CMP

12"CPP

S-38

CONCRETE HEADWALL
STA "W" 28+58.0
15.9 RT
INV EL=48.23

CONCRETE HEADWALL
STA "W" 28+58.7
16.6 RT
INV EL=48.20

SAWCUT/MATCH EXISTING

CONCRETE HEADWALL
STA "W" 28+95.0
16.8 RT
INV EL=48.05

ROCK WALL

CONCRETE DRIVE

ROCKERY PLANTER

4916
AARON J & TRACY L MORRISON
LOT 6
790-2501

GRAVEL DRIVE

12"CPP

S-39

CONCRETE HEADWALL
STA "W" 29+09.6
16.9 RT
INV EL=47.97

EDGE OF BASE COURSE

4915
MAUREEN A HANSEN
LOT 10
790-3220

EDGE OF BASE COURSE/MTE.
GRADE TO DRAIN TO DITCH.

END DITCH GRADING
STA "W" 29+88.5
22.0 LT
INV EL=49.20

GRAVEL DRIVE

1"CU

18"CMP

CONCRETE HEADWALL
STA "W" 29+45.6
17.1 RT
INV EL=47.82

30+00

DITCH BOTTOM
STA "W" 30+07.1
17.9 RT
INV EL=47.57

8"PVC

6"CPP

4910
BRITA BISHOP
LOT 7
789-2460

18"CPP

DITCH BOTTOM
STA "W" 30+36.1
30.4 RT
INV EL=47.51/MTE CULVERT INV

GRAVEL DRIVE

4900
THOMAS L GALLAGHER & KRISTI K ELLIOT
LOT A2

BEGIN DITCH GRADING
STA "W" 30+28.9
25.0 LT
INV EL=49.00

STONE PLANTER BOX

END DITCH GRADING
STA "W" 31+14.3
19.6 LT
INV EL=47.73/MTE

1"CU

REPLACE EXISTING VALVE BOX

EDGE OF BASE COURSE/MTE

31+00

18"CMP

12"CMP

GRAVEL DRIVE

REFERENCE AND RESET PROPERTY CORNER MONUMENT

MH-10

EDGE OF BASE COURSE. GRADE TO DRAIN TO DITCH

STA "W" 31+00.00
N:10139.41 E:12667.12

PLANTER BARREL

EXISTING PLUG

10' EXISTING DRAINAGE EASEMENT

N

10 0 10 20
SCALE IN FEET

STATE OF ALASKA
49th
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No.CE9959
4-4-16
REGISTERED PROFESSIONAL ENGINEER

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5368 Commercial Blvd.
Juneau, Alaska 99801
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(907) 780-3535 Fax
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ALASKA'S CAPITAL CITY
DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PLAN - WREN DRIVE
STA "W" 28+21 TO EOP

SHEET NO.
21
of
25

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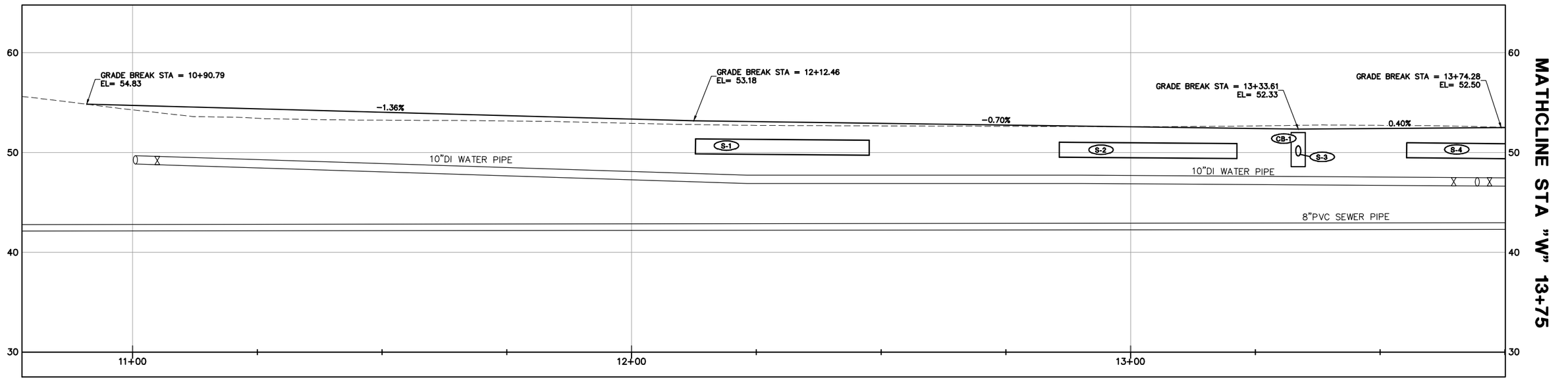
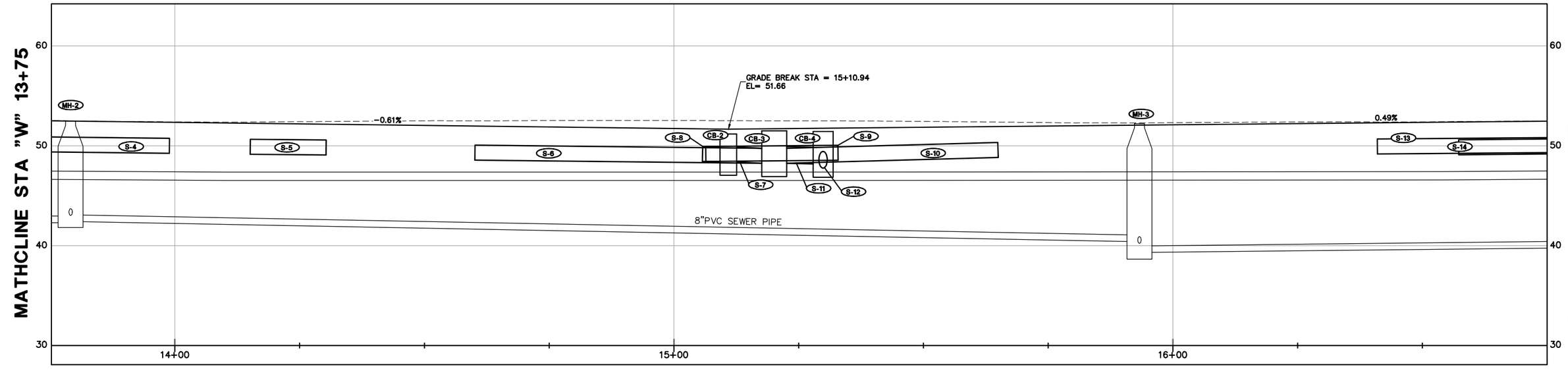


MATHCLINE STA "W" 13+75



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DEPARTMENT OF ENGINEERING

WREN DRIVE PAVING
CONTRACT NO. E16-143

PROFILE - MENDENHALL LOOP ROAD TO STA "W" 16+75

SHEET NO.
22 of 25

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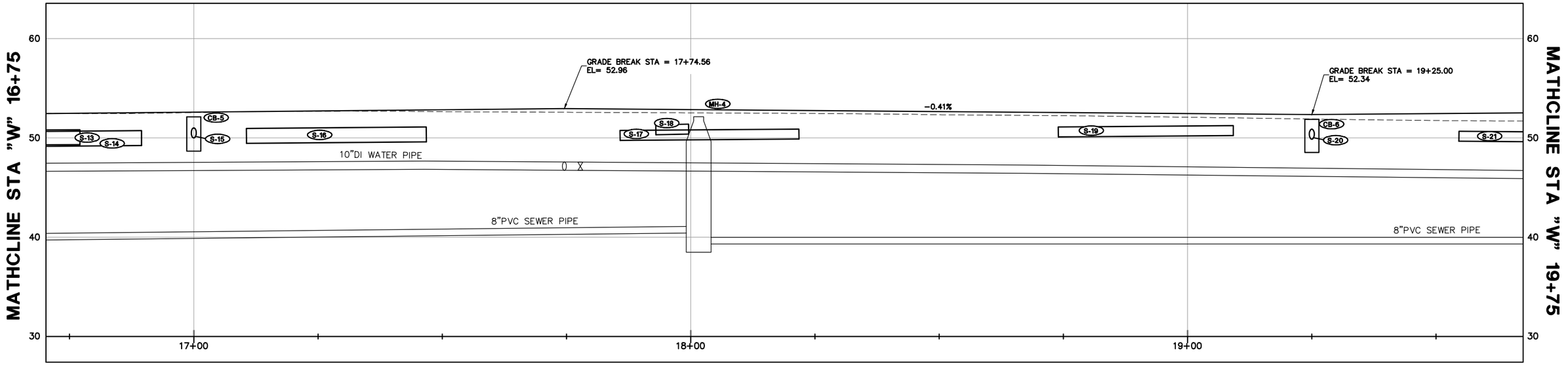

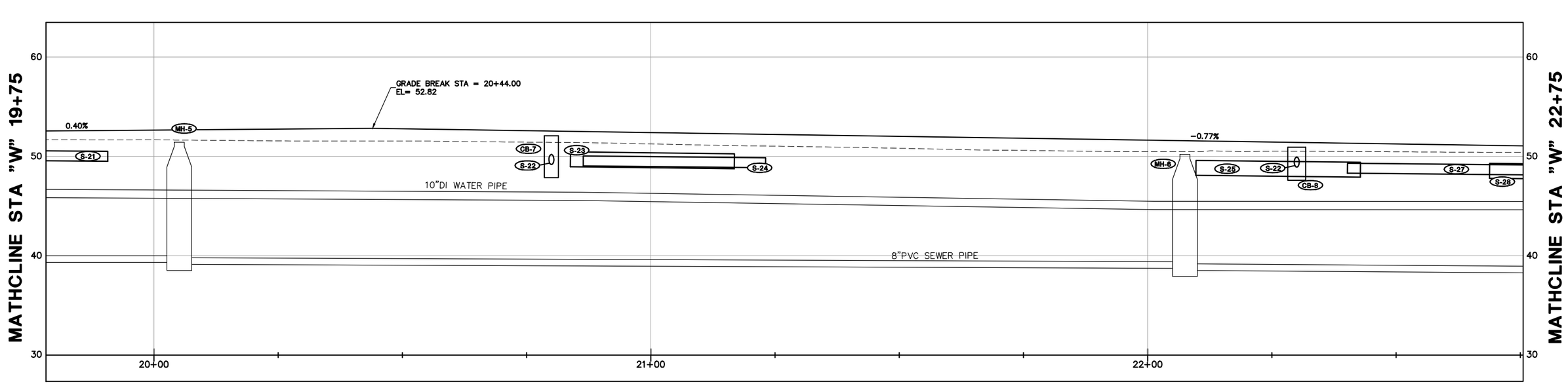

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REGISTERED PROFESSIONAL ENGINEER

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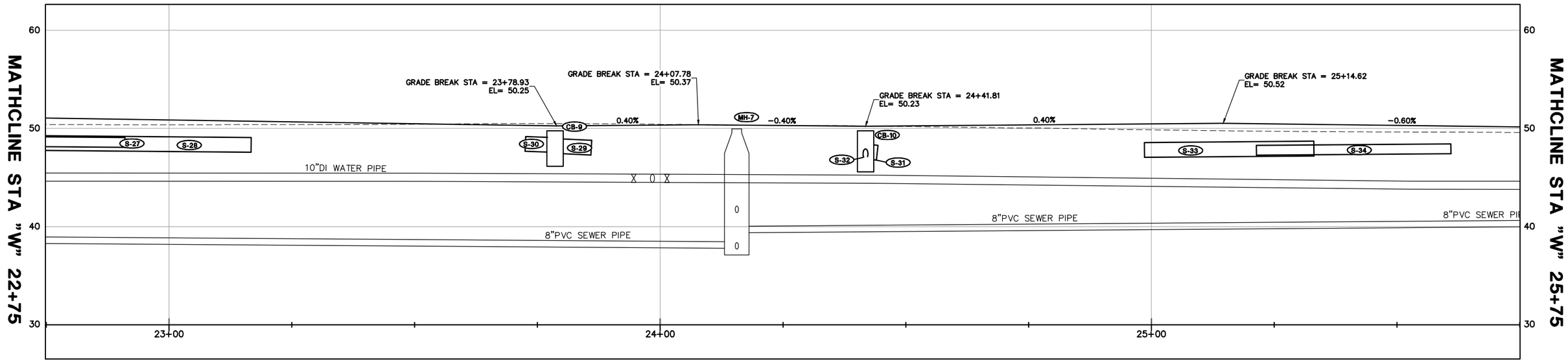
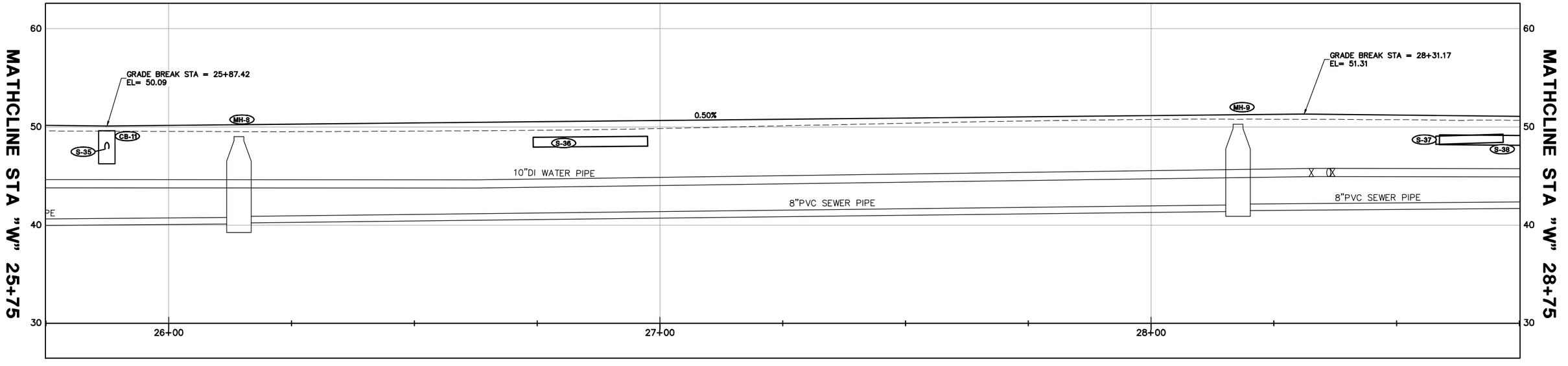
PROFILE -
STA "W" 16+75 TO STA "W" 22+75

SHEET NO.
23
of
25





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PROFILE -
STA "W" 22+75 TO STA "W" 28+75

SHEET NO.
24
of
25

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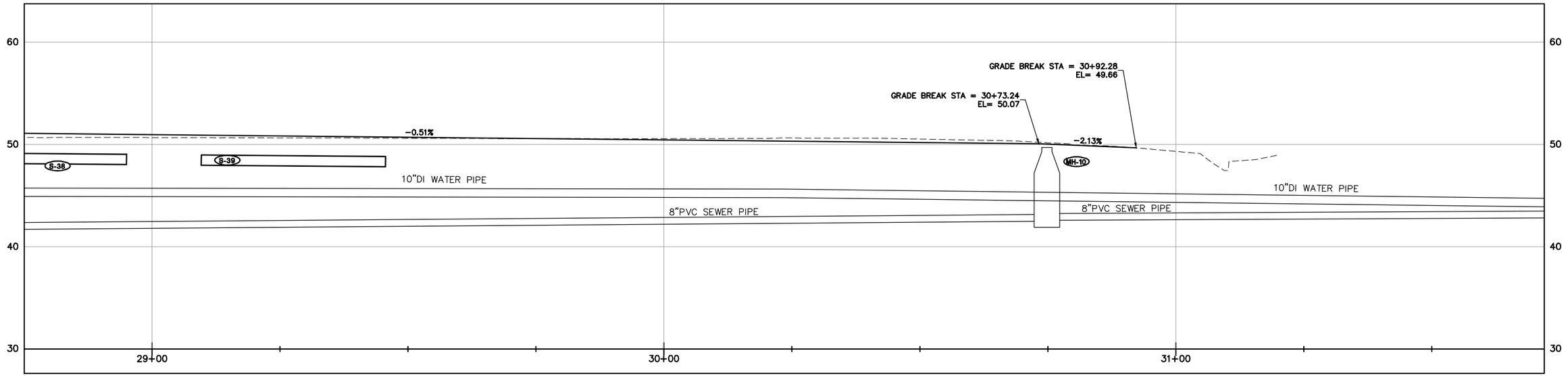
MATHCLINE STA "W" 28+75



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PROFILE -
STA "W" 28+75 TO EOP

SHEET NO.
25
of
25