BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS

VOLUME II OF II

Contract No. E13-087

File No. 1776

ENGINEERING DEPARTMENT

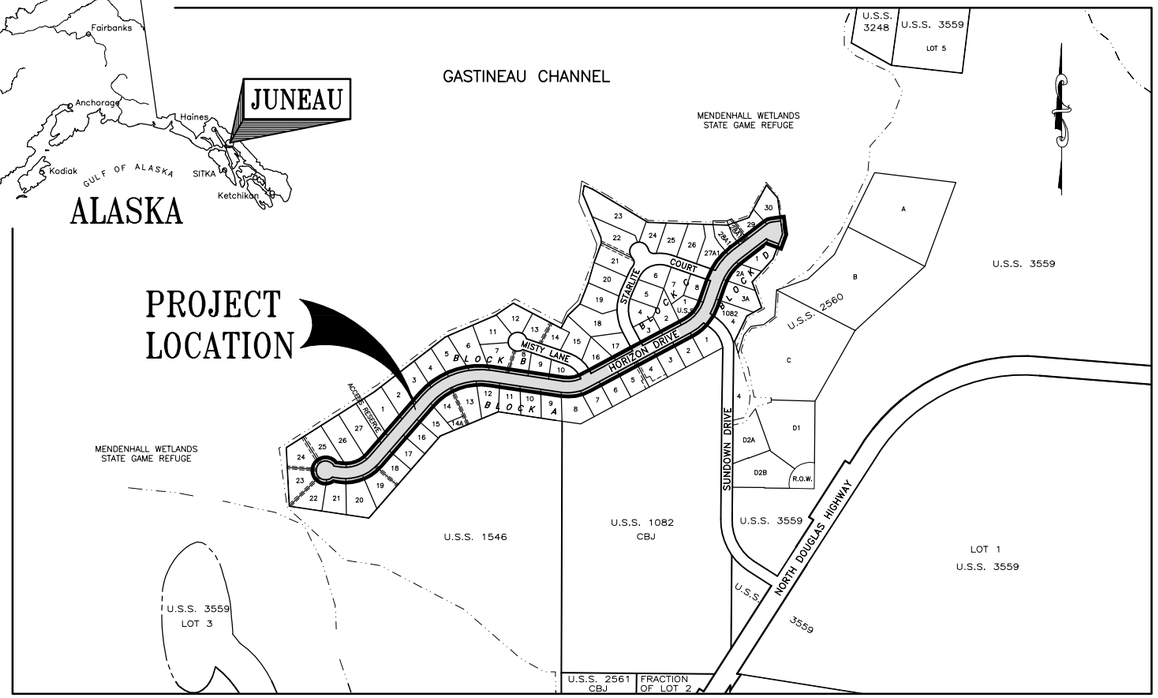
R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

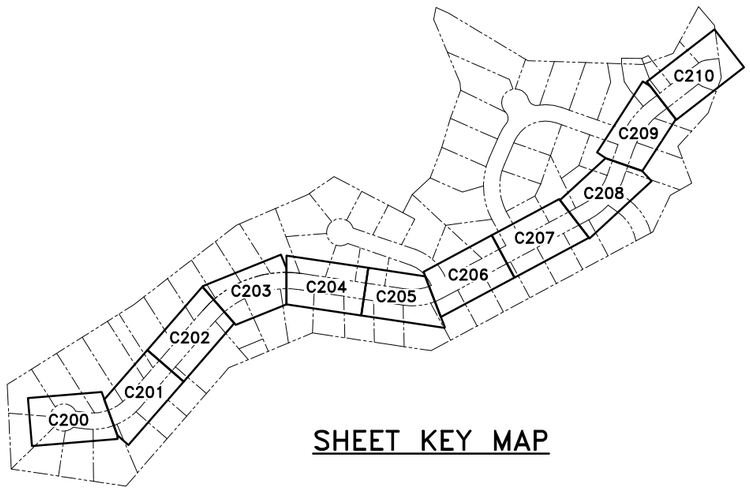
SHEET INDEX

SHEET No.	DESCRIPTION
C001	COVER SHEET
C002	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
C003	SURVEY CONTROL MAP
C100	SUMMARY TABLES
C101	TYPICAL SECTION & SUMMARY TABLES
C102	CONSTRUCTION DETAILS
C200	PLAN VIEW STA 10+00 to STA 12+50
C201	PLAN VIEW STA 12+50 to STA 15+30
C202	PLAN VIEW STA 15+30 to STA 18+25
C203	PLAN VIEW STA 18+25 to STA 20+95
C204	PLAN VIEW STA 20+95 to STA 23+85
C205	PLAN VIEW STA 23+85 to STA 26+35
C206	PLAN VIEW STA 26+35 to STA 29+30
C207	PLAN VIEW STA 29+30 to STA 32+25
C208	PLAN VIEW STA 32+25 to STA 35+00
C209	PLAN VIEW STA 35+00 to STA 37+80
C210	PLAN VIEW STA 37+80 to STA 40+30
C300	PROFILE VIEW STA 10+00 to STA 15+90
C301	PROFILE VIEW STA 15+90 to STA 21+90
C302	PROFILE VIEW STA 21+90 to STA 27+90
C303	PROFILE VIEW STA 27+90 to STA 33+90
C304	PROFILE VIEW STA 33+90 to STA 39+90
C305	PROFILE VIEW STA 39+90 to STA 40+30
C400	PAVEMENT LAYOUT & GRADING STA 10+00 to STA 15+30
C401	PAVEMENT LAYOUT & GRADING STA 15+30 to STA 20+95
C402	PAVEMENT LAYOUT & GRADING STA 20+95 to STA 26+35
C403	PAVEMENT LAYOUT & GRADING STA 26+35 to STA 32+25
C404	PAVEMENT LAYOUT & GRADING STA 32+25 to STA 35+00
C405	PAVEMENT LAYOUT & GRADING STA 35+00 to STA 40+30



PROJECT LOCATION MAP

GRAPHIC SCALE
0' 200' 400' 800' 1600'



SHEET KEY MAP

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

I:\2012\121360\Eagle Point\R&M Drawings\121360 Cover.dwg PLOT: November 16, 2012 at: 2:31pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

COVER SHEET

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087
CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C001

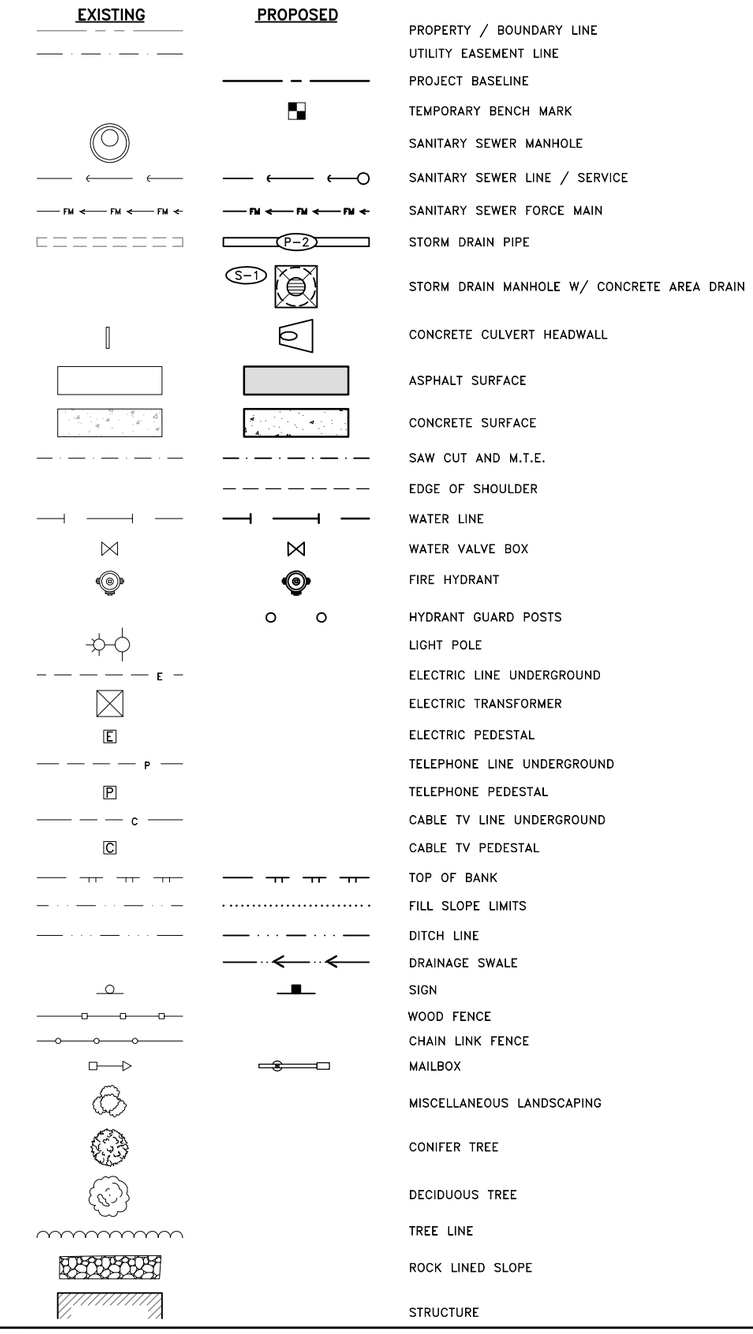
GENERAL CONSTRUCTION NOTES

1. CBJ ENGINEERING STANDARD DETAILS BOOK FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS DATED AUGUST, 2011 AND CBJ ENGINEERING STANDARD SPECIFICATIONS DATED DECEMBER, 2003 ARE MADE A PART OF THIS CONTRACT, WITH CURRENT REVISIONS AS APPLICABLE.
2. LARGE BOULDERS, HARDPAN, STUMPS, LOGS, ORGANICS AND GROUND WATER MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING, DITCHING AND ROADWAY EXCAVATION OPERATIONS. THESE MATERIALS SHALL BE DISPOSED OF AS REQUIRED BY THE ENGINEER.
3. GRADES AND ALIGNMENTS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS AS APPROVED BY THE ENGINEER.
4. LOCATION OF WATER SYSTEM IMPROVEMENTS, SANITARY SEWER FORCE MAIN, STORM DRAIN CATCH BASINS, PIPING AND PIPE LENGTHS ARE SUBJECT TO MINOR REVISIONS AS APPROVED BY THE ENGINEER.
5. CONNECTIONS TO EXISTING SIDE STREETS AND DRIVEWAYS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. LOCATIONS OF EXISTING UNDERGROUND SEWER, WATER, TELEPHONE, CABLE TELEVISION, AND POWER UTILITIES SHOWN ON THESE PLANS WERE DERIVED FROM CBJ AS-BUILTS OR FIELD LOCATES. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. ANY DAMAGE RESULTING TO THESE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. CALL "DIAL BEFORE YOU DIG" @ 586-1333 FOR UNDERGROUND UTILITY LOCATES PRIOR TO ANY EXCAVATION ACTIVITIES.
7. CONTRACTOR SHALL ASSURE GARBAGE PICKUP, DAILY MAIL SERVICE, FUEL AND SERVICE DELIVERIES WILL BE UNINTERRUPTED TO ALL RESIDENTS AFFECTED BY THIS PROJECT.
8. PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT A BOUNDARY SURVEY.
9. ALL SIGN INSTALLATIONS OR RELOCATIONS SHALL BE PERFORMED ACCORDING TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) WITH THE ALASKA SUPPLEMENT.
10. THE CONTRACTOR SHALL DELIVER ALL ASPHALT PAVEMENT REMOVED FROM THIS PROJECT TO A STOCKPILE AREA IN THE CBJ LEMON CREEK PIT TO BE DESIGNATED BY THE ENGINEER. CONTACT THE ENGINEER FOR THE EXACT LOCATION OF THE STOCKPILE AREA.
11. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS.
12. PROVIDE KNOCKOUTS IN CATCH BASINS AND MANHOLES FOR ALL PIPES SHOWN ON THE PLANS.
13. ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN ON THE PLANS. ADDITIONAL FITTINGS WILL BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTION TO EXISTING PIPES, AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
14. THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT OR OPERATE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY WITHOUT THE WRITTEN APPROVAL OF THE PROPERTY OWNER.
15. THE CONTRACTOR SHALL NOTIFY CBJ WATER UTILITIES AT 780-6808 OF PROPOSED WATER SERVICE INTERRUPTION AND SUBMIT THE "WATER SYSTEM SPECIAL USE PERMIT" (COSIGNED BY THE ENGINEER) AT LEAST 48-HOURS PRIOR TO SHUTDOWN OR FLUSHING OF MAINLINE WATER PIPE. NO WATER SERVICE INTERRUPTION MAY PROCEED UNTIL THIS APPROVAL IS OBTAINED.
16. CONTRACTOR SHALL REFERENCE ALL EXISTING PROPERTY CORNER MONUMENTS (I.E. BRASS CAP MONUMENTS, REBARS OR CHISELED X'S) PRIOR TO CONSTRUCTION THAT WILL BE DISTURBED DURING HIS WORK, AND REMONUMENT AFTER CONSTRUCTION OPERATIONS. ALL WORK SHALL BE DONE BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR. ALL EXISTING PROPERTY CORNERS ARE NOT NECESSARILY SHOWN ON THE PLANS.
17. THE PLAN DRAWINGS DO NOT NECESSARILY SHOW ALL TREES AND SHRUBS THAT MAY BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. NO TREES, SHRUBS OR LANDSCAPING ARE TO BE REMOVED OR DAMAGED, UNLESS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
18. AEL&P, ACS AND GCI MAY CONDUCT WORK WITHIN THE PROJECT LIMITS TO RELOCATE UTILITIES AND TO UPGRADE THEIR RESPECTIVE SYSTEMS. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH EACH UTILITY COMPANY AND PROVIDE ACCESS AS NECESSARY FOR UTILITY COMPANIES TO COMPLETE THEIR WORK.
19. "JUMPING JACK", OR SIMILAR TYPE COMPACTORS SHALL BE USED FOR COMPACTION WITHIN 18 INCHES OF THE OUTSIDE SURFACE OF ALL WATER VALVE BOXES AND MANHOLES WITHIN THE STREET LIMITS.
20. 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 ON THIS PROJECT. SEE CBJ STANDARD SPECIFICATIONS, SECTION 02502 – STORM SEWER MANHOLES, INLETS AND CATCH BASINS AND THE DRAWINGS FOR CATCH BASIN FRAME SUPPORT REQUIREMENTS.
21. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ENGINEER APPROVED EROSION CONTROL DEVICES DURING CONSTRUCTION AS STATED IN THEIR APPROVED SWPPP.
22. TEMPORARY RAMPS SHALL BE PROVIDED AS REQUIRED FOR RESIDENT ACCESS TO THEIR DRIVEWAYS DURING THE CONSTRUCTION PERIOD.
23. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING WATER AND SEWER PIPES, INCLUDING ALL SERVICES ALONG THE STORM DRAIN AND WATER PIPE ALIGNMENTS TO DETERMINE PIPE INSULATION LOCATIONS AND TO ENSURE DAMAGE DOES NOT OCCUR TO THE SERVICE PIPES.
24. WATER PIPES WILL REQUIRE MORE THAN 60-INCHES OF COVER IN AREAS WHERE STORM DRAINAGE PIPES ARE CLOSE TO OR BELOW A DEPTH OF 60-INCHES TO INVERT. DEPTHS OF ALL STORM DRAINAGE PIPES SHALL BE DETERMINED PRIOR TO INSTALLING WATER PIPES TO ENSURE CONFLICTS BETWEEN THESE PIPES DO NOT OCCUR. A MINIMUM CLEARANCE OF 8-INCHES SHALL BE OBTAINED BETWEEN WATER AND OTHER PIPES.
25. THE CONTRACTOR SHALL PROVIDE TOP OF WATER PIPE ELEVATIONS TO THE ENGINEER AT A MAXIMUM SPACING OF 50-FEET AND AT ALL GRADE BREAKS PRIOR TO BACKFILLING OVER THE PIPE. IF THE PIPE IS BACKFILLED PRIOR TO PROVIDING THESE TOP OF PIPE ELEVATIONS, THE PIPE SHALL BE EXPOSED AND THE TOP OF PIPE SURVEYED BY THE CONTRACTOR.
26. THE CONTRACTOR SHALL NOTIFY EACH RESIDENT OF EACH DRIVEWAY CLOSURE THE DAY PRECEDING THE CLOSURE. 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.

ABBREVIATIONS

AC	ASBESTOS CEMENT
ACS	ALASKA COMMUNICATIONS SYSTEMS
AEL&P	ALASKA ELECTRIC LIGHT & POWER
AST	ABOVEGROUND STORAGE TANK
BC	BEGINNING OF CURVE
BOP	BEGINNING OF PROJECT
CB	CATCH BASIN
CBJ	CITY & BOROUGH OF JUNEAU
CHB	CHORD BEARING
CHL	CHORD LENGTH
C/L	CENTERLINE
CIP	CAST IRON PIPE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONT	CONTINUOUS
CPP	CORRUGATED POLYETHYLENE PIPE
CTE	CONNECT TO EXISTING
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DOT/PF	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
E	EASTING
EG	EXISTING GRADE
EJIW	EAST JORDAN IRON WORKS
EL	ELEVATION
EOP	END OF PROJECT
EP	EDGE OF PAVEMENT
EXIST	EXISTING
EXP	EXPANSION
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
GCI	GENERAL COMMUNICATION INC.
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HIGH POINT
IE	INVERT ELEVATION
L	LENGTH
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTE	MATCH TO EXISTING
N	NORTHING
N/A	NOT APPLICABLE
NF	NEENAH FOUNDRY CO.
NFS	NON-FROST SUSCEPTIBLE
NTS	NOT TO SCALE
NVC	NO VERTICAL CURVE
OC	ON CENTER
OFCO	OLYMPIC FOUNDRY CO.
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PERF	PERFORATED
PI	POINT OF INTERSECTION
P/L	PROPERTY LINE
POC	POINT ON CURVE
POL	POINT ON LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RAP	RECYCLED ASPHALT PAVEMENT
ROW	RIGHT-OF-WAY
RP	RADIUS POINT
RT	RIGHT
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
T	TANGENT
TBM	TEMPORARY BENCH MARK
TBC	TOP BACK OF CURB
TOB	TOP OF BANK
TOP	TOP OF PIPE
TYP	TYPICAL
UD	UNDERDRAIN
UST	UNDERGROUND STORAGE TANK
VC	VERTICAL CURVE
VERT	VERTICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W/	WITH

SYMBOLS



PROPERTY / BOUNDARY LINE
UTILITY EASEMENT LINE
PROJECT BASELINE
TEMPORARY BENCH MARK
SANITARY SEWER MANHOLE
SANITARY SEWER LINE / SERVICE
SANITARY SEWER FORCE MAIN
STORM DRAIN PIPE
STORM DRAIN MANHOLE W/ CONCRETE AREA DRAIN
CONCRETE CULVERT HEADWALL
ASPHALT SURFACE
CONCRETE SURFACE
SAW CUT AND M.T.E.
EDGE OF SHOULDER
WATER LINE
WATER VALVE BOX
FIRE HYDRANT
HYDRANT GUARD POSTS
LIGHT POLE
ELECTRIC LINE UNDERGROUND
ELECTRIC TRANSFORMER
ELECTRIC PEDESTAL
TELEPHONE LINE UNDERGROUND
TELEPHONE PEDESTAL
CABLE TV LINE UNDERGROUND
CABLE TV PEDESTAL
TOP OF BANK
FILL SLOPE LIMITS
DITCH LINE
DRAINAGE SWALE
SIGN
WOOD FENCE
CHAIN LINK FENCE
MAILBOX
MISCELLANEOUS LANDSCAPING
CONIFER TREE
DECIDUOUS TREE
TREE LINE
ROCK LINED SLOPE
STRUCTURE

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

GENERAL NOTES, ABBREVIATIONS AND SYMBOLS

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087
CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C002

I:\2012\121360\Eagle Point\R&M Drawings\General Notes & Typicals.dwg PLOT: November 16, 2012 at: 2:31pm

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

TABLE OF HORIZONTAL CONTROL

POINT #	NORTHING	EASTING	DESCRIPTION
500	11,008.56	51,148.90	SURVEY SPIKE IN ASPHALT
501	10,915.68	51,008.81	SURVEY SPIKE IN ASPHALT
502	10,879.83	50,960.65	SURVEY SPIKE IN ASPHALT
503	10,816.77	50,897.56	SURVEY SPIKE IN ASPHALT
504	10,765.83	50,832.90	SURVEY SPIKE IN ASPHALT
505	10,689.33	50,834.53	SURVEY SPIKE IN ASPHALT
506	10,615.57	50,807.87	SURVEY SPIKE IN ASPHALT
507	10,552.46	50,785.29	SURVEY SPIKE IN ASPHALT
508	10,497.98	50,711.13	SURVEY SPIKE IN ASPHALT
509	10,445.13	50,619.47	SURVEY SPIKE IN ASPHALT
510	10,407.21	50,549.43	SURVEY SPIKE IN ASPHALT
511	10,360.64	50,460.33	SURVEY SPIKE IN ASPHALT
512	10,286.60	50,325.87	SURVEY SPIKE IN ASPHALT
513	10,241.89	50,241.51	SURVEY SPIKE IN ASPHALT
514	10,209.46	50,178.24	SURVEY SPIKE IN ASPHALT
515	10,174.52	50,082.81	SURVEY SPIKE IN ASPHALT
516	10,183.95	49,976.48	SURVEY SPIKE IN ASPHALT
517	10,203.58	49,851.14	SURVEY SPIKE IN ASPHALT
518	10,224.17	49,727.89	SURVEY SPIKE IN ASPHALT
519	10,233.96	49,654.72	SURVEY SPIKE IN ASPHALT
520	10,237.25	49,564.70	SURVEY SPIKE IN ASPHALT
521	10,211.80	49,494.97	SURVEY SPIKE IN ASPHALT
522	10,187.19	49,411.35	SURVEY SPIKE IN ASPHALT
523	10,154.17	49,356.23	SURVEY SPIKE IN ASPHALT
524	10,104.20	49,313.90	SURVEY SPIKE IN ASPHALT
525	10,058.03	49,272.13	SURVEY SPIKE IN ASPHALT
526	9,969.52	49,195.18	SURVEY SPIKE IN ASPHALT
527	9,874.30	49,114.16	SURVEY SPIKE IN ASPHALT
528	9,800.26	49,051.30	SURVEY SPIKE IN ASPHALT
529	9,740.37	48,941.42	SURVEY SPIKE IN ASPHALT
530	9,710.81	48,865.90	SURVEY SPIKE IN ASPHALT
532	9,770.65	48,783.13	SURVEY SPIKE IN ASPHALT
534	11,239.40	50,149.60	1410-S PRIMARY MONUMENT
535	11,104.87	51,209.39	HUB AND TACK

BASELINE LINE TABLE

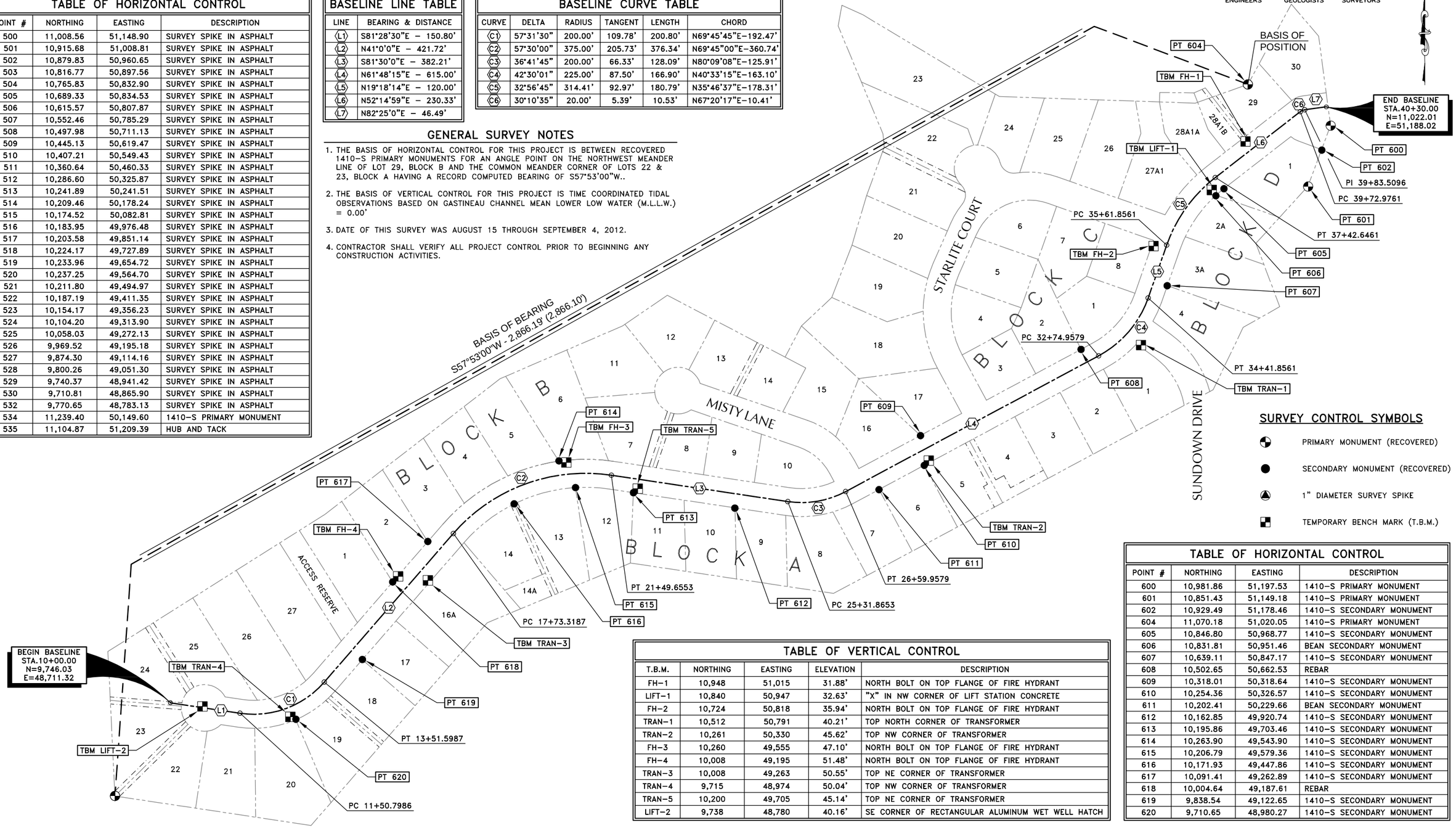
LINE	BEARING & DISTANCE
L1	S81°28'30"E – 150.80'
L2	N41°0'0"E – 421.72'
L3	S81°30'0"E – 382.21'
L4	N61°48'15"E – 615.00'
L5	N19°18'14"E – 120.00'
L6	N52°14'59"E – 230.33'
L7	N82°25'0"E – 46.49'

BASELINE CURVE TABLE

CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD
C1	57°31'30"	200.00'	109.78'	200.80'	N69°45'45"E-192.47'
C2	57°30'00"	375.00'	205.73'	376.34'	N69°45'00"E-360.74'
C3	36°41'45"	200.00'	66.33'	128.09'	N80°09'08"E-125.91'
C4	42°30'01"	225.00'	87.50'	166.90'	N40°33'15"E-163.10'
C5	32°56'45"	314.41'	92.97'	180.79'	N35°46'37"E-178.31'
C6	30°10'35"	20.00'	5.39'	10.53'	N67°20'17"E-10.41'

GENERAL SURVEY NOTES

1. THE BASIS OF HORIZONTAL CONTROL FOR THIS PROJECT IS BETWEEN RECOVERED 1410-S PRIMARY MONUMENTS FOR AN ANGLE POINT ON THE NORTHWEST MEANDER LINE OF LOT 29, BLOCK B AND THE COMMON MEANDER CORNER OF LOTS 22 & 23, BLOCK A HAVING A RECORD COMPUTED BEARING OF S57°53'00"W..
2. THE BASIS OF VERTICAL CONTROL FOR THIS PROJECT IS TIME COORDINATED TIDAL OBSERVATIONS BASED ON GASTINEAU CHANNEL MEAN LOWER LOW WATER (M.L.L.W.) = 0.00'
3. DATE OF THIS SURVEY WAS AUGUST 15 THROUGH SEPTEMBER 4, 2012.
4. CONTRACTOR SHALL VERIFY ALL PROJECT CONTROL PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.



SURVEY CONTROL SYMBOLS

- PRIMARY MONUMENT (RECOVERED)
- SECONDARY MONUMENT (RECOVERED)
- 1" DIAMETER SURVEY SPIKE
- TEMPORARY BENCH MARK (T.B.M.)

TABLE OF VERTICAL CONTROL

T.B.M.	NORTHING	EASTING	ELEVATION	DESCRIPTION
FH-1	10,948	51,015	31.88'	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT
LIFT-1	10,840	50,947	32.63'	"X" IN NW CORNER OF LIFT STATION CONCRETE
FH-2	10,724	50,818	35.94'	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT
TRAN-1	10,512	50,791	40.21'	TOP NORTH CORNER OF TRANSFORMER
TRAN-2	10,261	50,330	45.62'	TOP NW CORNER OF TRANSFORMER
FH-3	10,260	49,555	47.10'	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT
FH-4	10,008	49,195	51.48'	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT
TRAN-3	10,008	49,263	50.55'	TOP NE CORNER OF TRANSFORMER
TRAN-4	9,715	48,974	50.04'	TOP NW CORNER OF TRANSFORMER
TRAN-5	10,200	49,705	45.14'	TOP NE CORNER OF TRANSFORMER
LIFT-2	9,738	48,780	40.16'	SE CORNER OF RECTANGULAR ALUMINUM WET WELL HATCH

TABLE OF HORIZONTAL CONTROL

POINT #	NORTHING	EASTING	DESCRIPTION
600	10,981.86	51,197.53	1410-S PRIMARY MONUMENT
601	10,851.43	51,149.18	1410-S PRIMARY MONUMENT
602	10,929.49	51,178.46	1410-S SECONDARY MONUMENT
604	11,070.18	51,020.05	1410-S PRIMARY MONUMENT
605	10,846.80	50,968.77	1410-S SECONDARY MONUMENT
606	10,831.81	50,951.46	BEAN SECONDARY MONUMENT
607	10,639.11	50,847.17	1410-S SECONDARY MONUMENT
608	10,502.65	50,662.53	REBAR
609	10,318.01	50,318.64	1410-S SECONDARY MONUMENT
610	10,254.36	50,326.57	1410-S SECONDARY MONUMENT
611	10,202.41	50,229.66	BEAN SECONDARY MONUMENT
612	10,162.85	49,920.74	1410-S SECONDARY MONUMENT
613	10,195.86	49,703.46	1410-S SECONDARY MONUMENT
614	10,263.90	49,543.90	1410-S SECONDARY MONUMENT
615	10,206.79	49,579.36	1410-S SECONDARY MONUMENT
616	10,171.93	49,447.86	1410-S SECONDARY MONUMENT
617	10,091.41	49,262.89	1410-S SECONDARY MONUMENT
618	10,004.64	49,187.61	REBAR
619	9,838.54	49,122.65	1410-S SECONDARY MONUMENT
620	9,710.65	48,980.27	1410-S SECONDARY MONUMENT

I:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 16, 2012 at: 2:32pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

SURVEY CONTROL MAP

GRAPHIC SCALE
0' 50' 100' 200' 400'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS

CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C003

NEW MAILBOX SUMMARY

HOUSE ADDRESS	MAILBOX LOCATION	REMARKS
10754 HORIZON DR.	10+33.0, 0.3' LT.	SINGLE MAILBOX
10761 HORIZON DR.	10+45.6, 28.8' RT.	SINGLE MAILBOX
10757 HORIZON DR.	10+79.7. 38.0' RT.	SINGLE MAILBOX
10741 HORIZON DR.	13+35.0, 14.2' LT.	SEE CUSTOM GANG MAILBOX SUPPORT DETAIL 4/C102
10742 HORIZON DR.		
10746 HORIZON DR.		
10749 HORIZON DR.		
10750 HORIZON DR.		
10753 HORIZON DR.		
10737 HORIZON DR.	14+85.0, 13.0' RT.	SINGLE MAILBOX
10738 HORIZON DR.	16+05.0, 13.0' LT.	SINGLE MAILBOX
10734 HORIZON DR.	16+88.0, 13.0' LT.	SINGLE MAILBOX
10730 HORIZON DR.	18+40.0, 13.0' LT.	GANG MAILBOX
10726 HORIZON DR.		
10725 HORIZON DR.	19+05.0, 13.0' RT.	SINGLE MAILBOX
10721 HORIZON DR.	19+84.0, 13.0' RT.	SINGLE MAILBOX
10718 HORIZON DR.	21+05.5, 13.0' LT.	SINGLE MAILBOX
10717 HORIZON DR.	22+01.5, 13.0' RT.	GANG MAILBOX
10719 HORIZON DR.		
10713 HORIZON DR.	22+28.0, 13.0' RT.	SINGLE MAILBOX
10709 HORIZON DR.	23+35.0, 13.0' RT.	SINGLE MAILBOX
10705 HORIZON DR.	24+91.5, 13.0' RT.	SINGLE MAILBOX
10701 HORIZON DR.	26+00.0, 13.0' RT.	SINGLE MAILBOX
10641 HORIZON DR.	26+33.0, 13.0' RT.	SINGLE MAILBOX
10637 HORIZON DR.	28+07.0, 13.0' RT.	SINGLE MAILBOX
10633 HORIZON DR.	29+43.0, 13.0' RT.	SINGLE MAILBOX
10625 HORIZON DR.	30+86.0, 13.0' RT.	SINGLE MAILBOX
10624 HORIZON DR.	31+71.0, 13.0' RT.	GANG MAILBOX
10622 HORIZON DR.		
10621 HORIZON DR.	32+13.0, 13.0' RT.	SINGLE MAILBOX
10620 HORIZON DR.	32+75.0, 13.0' RT.	GANG MAILBOX
10619 HORIZON DR.		
10615 HORIZON DR.	35+45.0, 13.0' RT.	SINGLE MAILBOX
10611 HORIZON DR.	36+84.0, 13.0' RT.	SINGLE MAILBOX
10601 HORIZON DR.	37+53.0, 13.0' RT.	SINGLE MAILBOX
10608 HORIZON DR.	37+98.0, 13.0' LT.	GANG MAILBOX
10606 HORIZON DR.		
10604 HORIZON DR.	39+17.0, 13.0' LT.	SINGLE MAILBOX
10600 HORIZON DR.	39+75.0, 19.0' LT.	SINGLE MAILBOX

NOTES:
1. MAILBOX STATION & OFFSETS ARE GIVEN TO THE MIDDLE FRONT FACE OF MAILBOX.
2. CANTILEVERED SINGLE MAILBOX PER CBJ STD No. 116.
3. CANTILEVERED GANG MAILBOX PER CBJ STD No. 117.
4. REATTACH EXISTING EMPIRE BOXES TO NEW MAILBOX ASSEMBLIES.

CULVERT REMOVAL SUMMARY

LOCATION	APPROX. LENGTH	TYPE	REMARKS
10+61, 48' RT.	31'	CMP/CPP	
11+09, 28' LT.	30'	CMP	SEE NOTE 2
11+25, 27' RT.	20'	CMP	SEE NOTE 2
12+12, 21' LT.	20'	CMP	SEE NOTE 2
12+27, 18' RT.	21'	CPP	SEE NOTE 2
13+52, 21' RT.	29'	CMP	SEE NOTE 2
13+71, 22' LT.	8'	CMP	
13+89, 22' LT.	20'	CMP	
15+87, 18' RT.	23'	CPP	SEE NOTE 2
15+89, 23' LT.	24'	CMP	
16+17, 23' LT.	10'	CMP	
16+68, 21' LT.	31'	CMP	SEE NOTE 2
17+74, 19' LT.	28'	CMP/CPP	SEE NOTE 2
18+89, 19' RT.	21'	CMP	SEE NOTE 2
19+02, 21' LT.	70'	CMP	SEE NOTE 2
19+62, 19' RT.	27'	CMP	SEE NOTE 2
20+16, 23' LT.	20'	CMP	
20+66, 23' LT.	45'	CMP	
21+27, 22' LT.	29'	CMP	
22+16, 21' LT.	16'	CMP	
23+27, 31' RT.	17'	CMP	
23+31, 8' RT.	71'	CMP	
24+26, 22' LT.	9'	CMP	
24+68, 21' RT.	30'	CMP	
25+86, 20' RT.	20'	CMP	SEE NOTE 2
26+25, 1' LT.	48'	CMP	SEE NOTE 2
26+48, 23' RT.	24'	CMP	SEE NOTE 2
27+88, 20' RT.	20'	CMP	
29+22, 20' RT.	34'	CMP	SEE NOTE 2
30+10, 26' LT.	11'	CMP	
31+00, 22' RT.	20'	CPP	SEE NOTE 2
31+07, 19' LT.	21'	CMP	SEE NOTE 2
31+89, 18' LT.	33'	CPP	SEE NOTE 2
32+95, 17' RT.	20'	CMP	
33+07, 25' LT.	20'	CMP	
34+68, 19' LT.	28'	CMP	SEE NOTE 2
35+51, 20' LT.	10'	CMP	SEE NOTE 2
35+91, 35' LT.	41'	CMP	SEE NOTE 2
36+81, 20' LT.	20'	CMP	
37+20, 23' LT.	11'	CMP	
37+50, 23' LT.	24'	CMP	
37+72, 18' RT.	25'	CMP	
38+16, 24' LT.	21'	CPP	
38+86, 48' LT.	?	CMP	

NOTES:
1. LOCATIONS GIVEN ARE TO MIDPOINT OF EXISTING CULVERT.
2. REMOVE & DISPOSE OF CONCRETE HEADWALLS.

NEW WATER SERVICE SUMMARY

STREET ADDRESS	STATION & OFFSET	TYPE	SIZE	REMARKS
10761 HORIZON DR.	10+25.8, 7.2' RT.	CU	1"	
10754 HORIZON DR.	10+31.6, 24.1' LT.	CU	1"	
10757 HORIZON DR.	10+75.7, 49.0' RT.	CU	1"	
10750 HORIZON DR.	10+84.2, 48.0' LT.	CU	1"	
10753 HORIZON DR.	11+38.5, 15.6' RT.	CU	1"	
10746 HORIZON DR.	12+21.3, 29.0' LT.	CU	1"	
10749 HORIZON DR.	12+25.9, 29.0' RT.	CU	1"	
LOT 19, BLOCK A	13+28.4, 29.0' RT.*	CU	1"	
10742 HORIZON DR.	13+70.1, 29.0' LT.	CU	1"	
10741 HORIZON DR.	13+95.7, 29.0' RT.	CU	1"	
10737 HORIZON DR.	14+96.2, 19.5' RT.	CU	1"	
10738 HORIZON DR.	15+62.9, 29.0' LT.	CU	1"	
10731 HORIZON DR.	15+93.4, 29.0' RT.	CU	1"	
10734 HORIZON DR.	16+37.6, 27.5' LT.	CU	1"	
10730 HORIZON DR.	17+65.2, 29.0' LT.	CU	1"	
10725 HORIZON DR.	18+87.3, 29.0' RT.	CU	1"	
10726 HORIZON DR.	18+92.1, 29.0' LT.	CU	1"	
10721 HORIZON DR.	19+34.8, 29.0' RT.	CU	1"	
10722 HORIZON DR.	19+57.4, 29.0' LT.*	CU	1"	
10718 HORIZON DR.	21+01.8, 29.0' LT.	CU	1"	
10717 HORIZON DR.	21+56.0, 29.0' RT.	CU	1"	
10713 HORIZON DR.	22+78.5, 29.0' RT.	CU	1"	
10709 HORIZON DR.	23+69.7, 29.0' RT.	CU	1"	
10705 HORIZON DR.	24+92.5, 29.0' RT.	CU	1"	
10701 HORIZON DR.	25+77.9, 29.0' RT.	CU	1"	
10641 HORIZON DR.	26+84.0, 29.0' RT.	CU	1"	
10637 HORIZON DR.	27+92.2, 29.0' RT.	CU	1"	
10656 STARLITE CT.	28+91.6, 29.0' LT.	CU	1"	
10633 HORIZON DR.	28+97.5, 29.0' RT.	CU	1"	
10628 HORIZON DR.	30+44.6, 29.0' LT.	CU	1"	
10629 HORIZON DR.	30+48.0, 29.0' RT.	CU	1"	
10625 HORIZON DR.	30+62.1, 29.0' RT.	CU	1"	
10622 HORIZON DR.	31+47.2, 29.0' LT.	CU	1"	
10620 HORIZON DR.	32+53.9, 29.0' LT.	CU	1"	
10621 HORIZON DR.	32+67.1, 29.0' RT.	CU	1"	
10619 HORIZON DR.	32+83.0, 29.0' RT.	CU	1"	
10460 SUNDOWN DR.	34+73.3, 29.0' RT.	CU	1"	SEE NOTE 2
10615 HORIZON DR.	35+08.6, 29.0' RT.	CU	1"	
10616 STARLITE CT.	36+71.7, 29.0' LT.	CU	1"	
10611 HORIZON DR.	36+72.1, 29.0' RT.	CU	1"	
10608 HORIZON DR.	37+89.3, 29.0' LT.	CU	1"	
10606 HORIZON DR.	38+39.8, 29.0' LT.	CU	1"	SEE NOTE 2
10601 HORIZON DR.	38+49.8, 29.0' RT.	CU	1"	
10604 HORIZON DR.	38+52.9, 29.0' LT.	CU	1"	
10600 HORIZON DR.	39+76.5, 29.0' LT.	CU	1"	

* UNDEVELOPED PARCEL, NO CTE REQUIRED.
1. STATION & OFFSET ARE GIVEN TO CENTER OF WATER VALVE BOX. CONNECT TO EXISTING WATER SERVICE, TYPICAL.
2. THIS WATER SERVICE BOX WAS NOT FIELD LOCATED. CONTRACTOR SHALL DETERMINE THE LOCATION OF THE EXISTING WATER SERVICE.

NEW SEWER CLEANOUT SUMMARY

STREET ADDRESS	STATION & OFFSET	REMARKS
10761 HORIZON DR.	10+38.8, 33.8' RT.*	
10757 HORIZON DR.	10+72.1, 49.0' RT.*	
10750 HORIZON DR.	10+87.1, 47.3' LT.*	SEE NOTE 3
10753 HORIZON DR.	11+36.3, 17.2' RT.	
10746 HORIZON DR.	12+18.6, 29.0' LT.*	
10749 HORIZON DR.	12+28.8, 29.0' RT.	
LOT 19, BLOCK A	13+12.9, 29.0' RT.**	
10742 HORIZON DR.	13+75.9, 29.0' LT.*	
10741 HORIZON DR.	14+00.5, 29.0' RT.	
10737 HORIZON DR.	14+91.2, 19.4' RT.	
10738 HORIZON DR.	15+59.0, 29.0' LT.*	
10731 HORIZON DR.	15+98.2, 29.0' RT.	
10734 HORIZON DR.	16+40.6, 27.5' LT.*	
10730 HORIZON DR.	17+86.9, 20.8' LT.*	
10725 HORIZON DR.	18+64.7, 29.0' RT.	
10726 HORIZON DR.	18+55.0, 29.0' LT.	SEE NOTE 4
10721 HORIZON DR.	20+62.0, 29.0' RT.	
10722 HORIZON DR.	20+31.4, 29.0' LT.**	
10718 HORIZON DR.	21+03.2, 29.0' LT.*	
10717 HORIZON DR.	21+52.8, 29.0' RT.	
10615 MISTY LANE	21+81.7, 29.0' LT.*	
10713 HORIZON DR.	22+75.4, 29.0' RT.	
LOT 8, BLOCK B	22+76.8, 29.0' LT.**	
10709 HORIZON DR.	23+67.9, 29.0' RT.	
10645 MISTY LANE	23+80.6, 29.0' LT.*	
10705 HORIZON DR.	24+97.1, 29.0' RT.	
10701 HORIZON DR.	25+75.0, 29.0' RT.	
10641 HORIZON DR.	26+86.2, 29.0' RT.	
10637 HORIZON DR.	27+87.7, 29.0' RT.	
10656 STARLITE CT.	28+94.9, 29.0' LT.	
10633 HORIZON DR.	28+92.2, 29.0' RT.	
10628 HORIZON DR.	30+33.4, 29.0' LT.	
10629 HORIZON DR.	30+30.1, 29.0' RT.	
10625 HORIZON DR.	31+33.4, 29.0' RT.	
10624 HORIZON DR.	31+97.8, 29.0' LT.	
10622 HORIZON DR.	32+00.1, 29.0' LT.	
10621 HORIZON DR.	32+03.1, 29.0' RT.	
10620 HORIZON DR.	32+95.2, 29.0' LT.	
10619 HORIZON DR.	32+95.9, 29.0' RT.	
10460 SUNDOWN DR.	34+30.6, 29.0' RT.	
10615 HORIZON DR.	35+21.8, 29.0' RT.	
10608 HORIZON DR.	37+92.9, 29.0' LT.	
10606 HORIZON DR.	38+08.0, 29.0' LT.	
10601 HORIZON DR.	38+03.1, 29.0' RT.*	
10604 HORIZON DR.	38+68.9, 29.0' LT.	
10600 HORIZON DR.	39+80.2, 16.5' LT.	

* INDICATES PRESSURE SEWER SERVICE.
** UNDEVELOPED PARCEL, NO CTE REQUIRED.
1. SEWER SERVICE LOCATIONS SHOWN ARE FROM LIMITED AS-BUILT INFORMATION, THEY WERE NOT FIELD LOCATED. CONTRACTOR SHALL FIELD LOCATE ALL SEWER SERVICES TO CONFIRM FINAL LOCATION FOR NEW SEWER SERVICE CLEANOUTS.
2. ALL GRAVITY SEWER SERVICES ARE 4" PVC.
3. RECONSTRUCT EXISTING SEWER SERVICE AND INSTALL NEW CLEANOUT NEAR PROPERTY LINE AS SHOWN.
4. RECONSTRUCT EXISTING SEWER SERVICE AND INSTALL NEW CLEANOUT NEAR PROPERTY LINE AS SHOWN. NEW SEWER SERVICE SHALL CONNECT TO THE MAIN LINE BETWEEN THE 1 AND 2 O'CLOCK POSITION ON THE PIPE.

I:\2012\121360\Eagle Point\R&M Drawings\General Notes & Typicals.dwg PLOT: November 16, 2012 at: 2:31pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

SUMMARY TABLES

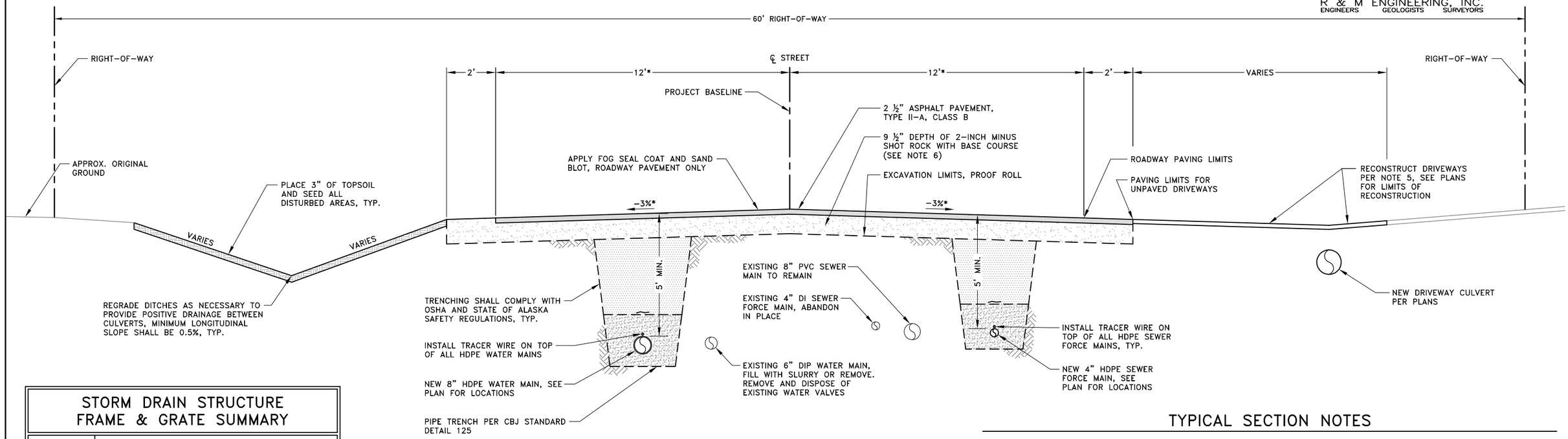
STATE OF ALASKA 49TH — Kevin A. Puustinen CE 12474 — REGISTERED PROFESSIONAL ENGINEER — 11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087
CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C100



1 HORIZON DRIVE TYPICAL SECTION

(VIEW LOOKING AHEAD IN STATIONING)
N.T.S.

* WIDTHS AND GRADES VARY AT INTERSECTIONS AND CUL-DE-SACS. SEE GRADING SHEETS C400-C405 FOR ADDITIONAL GRADING INFORMATION.

STORM DRAIN STRUCTURE FRAME & GRATE SUMMARY

STRUCTURE No.	EAST JORDAN IRON WORKS, OLYMPIC FOUNDRY CO., NEENAH FOUNDRY, CBJ STANDARD No., OR APPROVED EQUAL.
S-1	OF-MH34SCDI
S-2	OF-MH34SCDI
S-3	OF-MH30 & SHALL HAVE "STORM DRAIN" CAST IN

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

SIGN ASSEMBLY TABLE

SIGN NO.	SIGN LOCATION	MUTCD DESIGNATION	LEGEND AND COMMENTS
1	26+57, 29' LT	R1-1	STOP (30"x30"), SALVAGE AND REUSE STREET NAME SIGNS
2	29+60, 24' LT	R1-1	STOP (30"x30"), SALVAGE AND REUSE STREET NAME SIGNS
3	32+45, 23' LT	R2-1	SPEED LIMIT 20 (24"x30")
4	34+95, 22' RT	R2-1	SPEED LIMIT 20 (24"x30")
5	35+67, 28' LT	R1-1	STOP (30"x30"), SALVAGE AND REUSE STREET NAME SIGNS
6	40+04, 8' LT	W14-100 OM-4	"END" (30"x30") RED REFLECTOR (18"x18") MOUNT BELOW "END" SIGN

NOTES:

1. ALL SIGNS TO BE CONSTRUCTED IN ACCORDANCE WITH CBJ STANDARD DETAIL No. 127A.
2. ALL SIGNS SHALL BE HIGH INTENSITY.
3. SALVAGE ALL EXISTING SIGN PANELS AND DELIVER TO CBJ STREET MAINTENANCE CITY SHOP. DISPOSE OF ALL EXISTING POSTS, POST SOCKETS AND FOUNDATION MATERIALS.
4. REPLACE ALL LOWER BRACKETS FOR STREET IDENTIFICATION PANELS. BRACKET BETWEEN PANELS MAY BE REUSED.
5. ALL POSTS SHALL BE "TELSPAR", OR APPROVED EQUAL.
6. POSTS SHALL BE PRE-PUNCHED WITH ALL KNOCKOUTS REMOVED.

TRAFFIC CONTROL NOTES

1. TRAFFIC CONTROL SHALL MEET THE REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL (U.S. DEPARTMENT OF TRANSPORTATION "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" WITH THE ALASKA SUPPLEMENT).
2. ALL DETOURS AND ROAD CLOSURES SHALL BE AS APPROVED BY THE ENGINEER.
3. THE CONTRACTOR WILL NOT BE PERMITTED TO OBSTRUCT VEHICULAR TRAFFIC BETWEEN THE HOURS OF 4:30 PM AND 8:00 AM SEVEN DAYS A WEEK. DURING THIS PERIOD, TWO LANES SHALL BE OPEN TO VEHICULAR TRAFFIC WITH A MINIMUM TOTAL WIDTH OF 20-FEET.
4. PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
5. A MINIMUM OF ONE 11-FOOT WIDE LANE SHALL BE KEPT OPEN TO VEHICULAR TRAFFIC AT ALL TIMES, EXCEPT A 5 MINUTE MAXIMUM STOPPAGE TO VEHICULAR TRAFFIC WILL BE PERMITTED, WITH NO MORE THAN ONE TRAFFIC STOPPAGE PER HOUR. THESE REQUIREMENTS WILL BE APPLICABLE TO ALL OPERATIONS, INCLUDING ASPHALT PAVING AND FOG SEALING OPERATIONS.
6. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED 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.

TYPICAL SECTION NOTES

1. SIDE SLOPES MAY VARY AT SOME LOCATIONS. SEE PLAN VIEW SHEETS FOR EXCEPTIONS TO SIDE SLOPES SHOWN.
2. UNDERGROUND SEWER AND WATER SERVICES NOT SHOWN FOR CLARITY. SEE PLAN VIEW SHEETS FOR APPROXIMATE LOCATIONS.
3. ADDITIONAL EXCAVATION BELOW THE NEATLINE SUBCUT LEVEL MAY BE REQUIRED 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. BACKFILLING WITH USABLE MATERIAL FROM EXCAVATION WILL BE CONSIDERED INCIDENTAL TO OTHER WORK.
4. REMOVE AND DISPOSE OF EXISTING STORM DRAIN, SANITARY SEWER, AND WATER PIPES THAT ARE BEING REPLACED, UNLESS NOTED OTHERWISE.
5. DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE RECONSTRUCTED TO EQUAL OR BETTER CONDITION WITH SUBGRADE REPLACED IN LAYERS TO MATCH THOSE REMOVED, EXCEPT:
   A. EXISTING ASPHALT PAVED DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 8-INCHES BELOW FINISH GRADE AND REPLACED WITH 6-INCHES OF 2" MINUS SHOT ROCK W/ BASE COURSE, GRADING D-1 AND 2-INCHES OF ASPHALT PAVEMENT, TYPE II-A, CLASS B.
   B. CONCRETE DRIVEWAYS SHALL BE SUBCUT TO 12-INCHES BELOW FINISH GRADE AND REPLACED WITH 6-INCHES OF 2" MINUS SHOT ROCK W/ BASE COURSE, GRADING D-1 AND 6-INCHES OF CONCRETE.
   C. EXISTING GRAVEL DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 4-INCHES BELOW FINISH GRADE AND REPLACED WITH 4-INCHES OF BASE COURSE, GRADING D-1.
   D. ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND DISPOSED OF AT AN APPROVED OFFSITE DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBCUT LAYER WITH USABLE EXCAVATION.
6. THE BASE COURSE LAYER SHALL BE 7 ½" TO 8 ½" OF 2-INCH MINUS SHOT ROCK WITH 1" TO 2" TOP LAYER OF BASE COURSE, GRADING D-1 FOR A TOTAL COMPACTED THICKNESS OF 9 ½". THE 2-INCH MINUS SHOT ROCK SHALL BE WELL COMPACTED PRIOR TO PLACING BASE COURSE, GRADING D-1. THIS APPLIES TO ALL TYPICAL SECTIONS FOR THIS PROJECT.
7. CONSTRUCT HYDRANT ACCESS PADS AS FOLLOWS:
   A. EXCAVATE TO 12" BELOW FINISH GRADE TO CONSTRUCTION LIMITS.
   B. PLACE A 6" DEPTH OF 2" MINUS SHOT ROCK TO SHOULDER LIMITS.
   C. COVER SHOT ROCK WITH A 4" DEPTH OF BASE COURSE, GRADING D-1.
   D. SURFACE WITH A 2" LAYER OF ASPHALT PAVEMENT.
8. EXISTING ASPHALT PAVEMENT ON HORIZON DRIVE, INTERSECTING SIDE STREETS AND DRIVEWAYS SHALL BE REMOVED AND DISPOSED. SEE SHEETS C400-C405 FOR NEW PAVING LIMITS.
9. ASPHALT APRONS FOR GRAVEL DRIVEWAYS SHALL BE PAVED SIMULTANEOUSLY WITH THE ROADWAY PAVING.

I:\2012\121360\Eagle Point\R&M Drawings\General Notes & Typicals.dwg PLOT: November 16, 2012 at: 2:31pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

TYPICAL SECTION & SUMMARY TABLES

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER Kevin A. Puustinen CE 12474 11-16-12

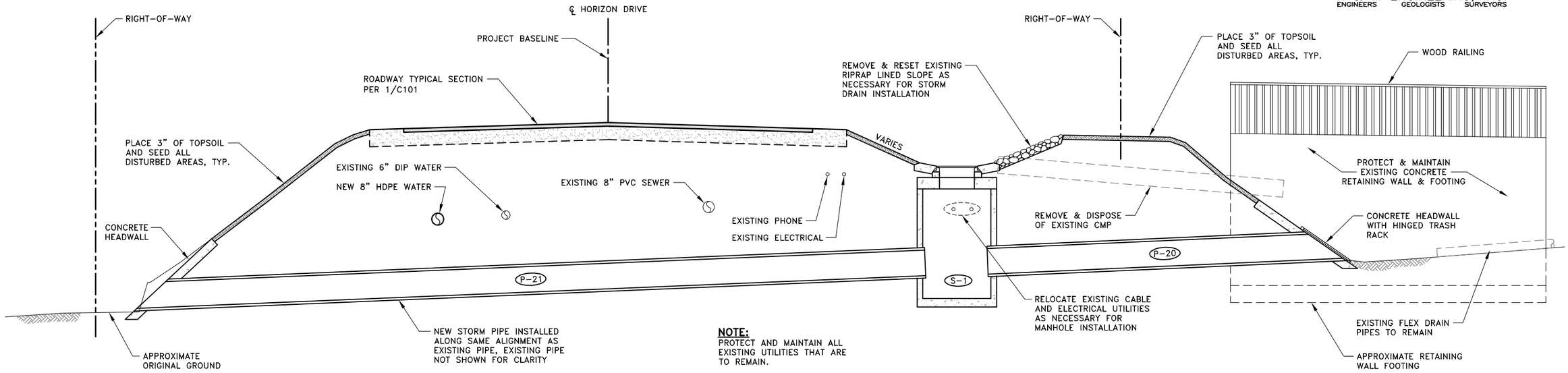
R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

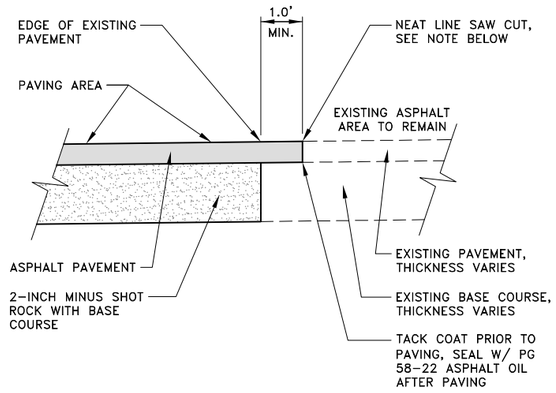
SHEET C101



NOTE:
PROTECT AND MAINTAIN ALL EXISTING UTILITIES THAT ARE TO REMAIN.

1 HORIZON DRIVE STORM DRAIN CROSSING, STATION 23+32

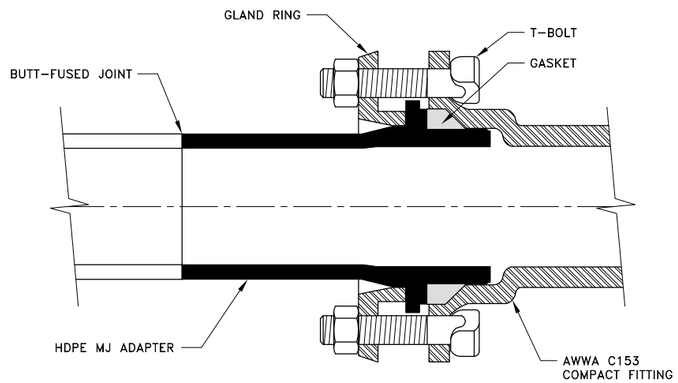
(VIEW LOOKING AHEAD IN STATIONING)
N.T.S.



NOTE: SAW CUT OF EXISTING PAVEMENT SHALL NOT BE MADE UNTIL 24 HOURS PRIOR TO FINAL PAVING.

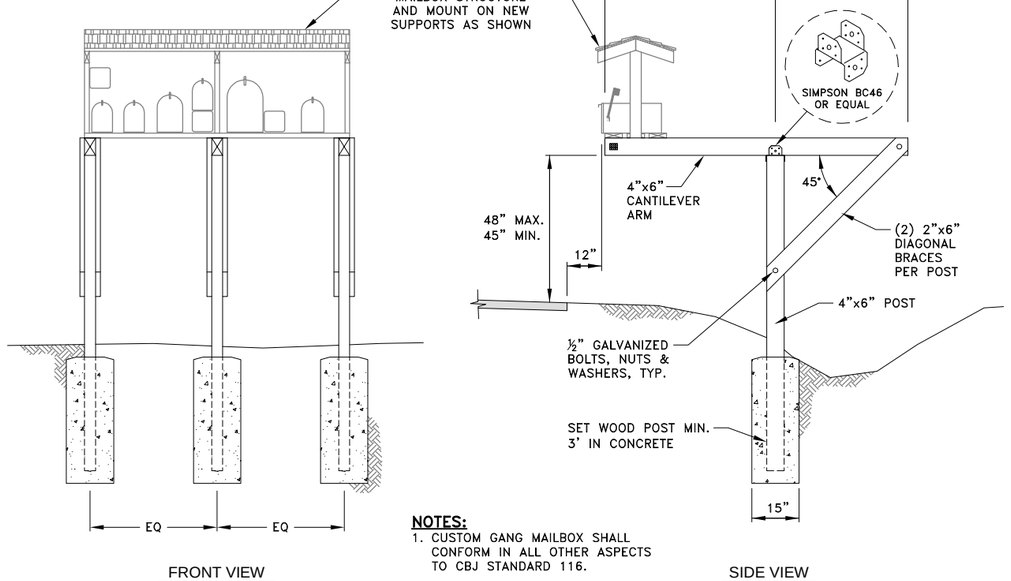
2 PAVEMENT MATCH JOINT DETAIL

N.T.S.



3 TYPICAL HDPE MJ CONNECTION TO DI FITTING

N.T.S.



NOTES:
1. CUSTOM GANG MAILBOX SHALL CONFORM IN ALL OTHER ASPECTS TO CBJ STANDARD 116.

4 CUSTOM GANG MAILBOX SUPPORT

N.T.S.

I:\2012\121360\Eagle Point\R&M Drawings\General Notes & Typicals.dwg PLOT: November 16, 2012 at: 2:31pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

CONSTRUCTION DETAILS

STATE OF ALASKA 29TH Kevin A. Puustinen CE 12474 REGISTERED PROFESSIONAL ENGINEER 11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C102

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

MATCH LINE, INSET

MATCH LINE

PROTECT & MAINTAIN TIMBER WALL

10750

DECK

P-46

20' UTILITY & DRAINAGE EASEMENT

PROTECT & MAINTAIN EXISTING UNDERGROUND FUEL TANK

ESMAIL PEIROVI
10750 HORIZON DRIVE
586-6940
LOT 25 BLOCK A

SCOTT & SANDRA SPICKLER
10754 HORIZON DRIVE
586-4718
LOT 24 BLOCK A

S-3 SDMH TYPE-I*	
STA.10+43.6,	35.2' LT.
GRATE EL=	38.65'
P-45 I.E.=	36.00'
P-46 I.E.=	35.40'
SUMP=	24" MIN.

* INSTALL OIL-WATER SEPARATOR PER CBJ STD No. 305

CULVERT SUMMARY

PIPE	DIA.	LENGTH	TYPE	FROM STA/OFFSET	FROM INVERT	TO STA/OFFSET	TO INVERT	SLOPE
P-1	12"	35'	CPP	10+78.6, 45.4' RT	37.70'	10+43.9, 50.3' RT	36.90'	2.29%
P-2	12"	27'	CPP	11+37.3, 22.7' RT	39.60'	11+11.1, 29.0' RT	39.19'	1.52%
P-3	12"	30'	CPP	11+21.7, 25.4' LT	38.40'	10+93.2, 34.8' LT	38.10'	1.00%
P-4	12"	24'	CPP	12+26.3, 20.0' LT	43.50'	11+99.6, 20.2' LT	43.14'	1.50%
P-5	12"	26'	CPP	12+38.1, 19.2' RT	44.70'	12+14.4, 19.2' RT	44.31'	1.50%
P-44	12"	16'	CPP	11+82.2, 18.7' LT	42.18'	11+64.6, 18.1' LT	41.22'	6.00%
P-45	12"	10'	CPP	10+52.1, 40.5' LT	37.65'	S-3	36.00'	16.50%
P-46	12"	87'	CPP	S-3	35.90'	9+86.9, 101.2' LT	25.00'	11.95%

RAYMOND & SALLY MATIASHOWSKI
10746 HORIZON DRIVE
523-3007
LOT 26 BLOCK A

NEW SEWER SERVICE

REMOVE & DISPOSE OF SPRUCE TREES

CONCRETE BASKETBALL COURT

GRAVEL DRIVE

HEDGE

GRAVEL

4" DRAIN TILE

CONCRETE DRIVE

GRAVEL

MTE CONCRETE

8" HDPE

ASPHALT PATCH

EXIST. 6" D.I.

EXIST. 8" PVC

6" HDPE FORCE MAIN

SSCO

BEGIN BASELINE
STA.10+00.00
N=9,746.03
E=48,711.32

MH-18

10+50

11+00
S81°28'30"E-150.80'

11+50

12+00

HORIZON DRIVE

PC 11+50.80

MATCH LINE STA 12+50, SHEET C201

MH-18 EXIST. LIFT STATION	
STA 10+69.7,	6.6' LT.
EXIST. LID EL=	40.87'
E 8" PVC (IN) IE=	33.99'

PROTECT & MAINTAIN EXISTING CONCRETE SLAB

TBM "LIFT-2" EL=40.16'

PROTECT & MAINTAIN ROCK WALLS

GRAVEL DRIVE

4" VENT PIPE

LIFT STATION CONTROL PANEL

4" GALV. STEEL VENT

BOLLARDS

DONALD GORMAN JR.
10761 HORIZON DRIVE
LOT 23 BLOCK A

P-1

P-2

P-3

P-4

P-5

P-44

SAW CUT & MTE

GRAVEL

ASPHALT DRIVE

BRICK AND MORTAR PATIO, TYP.

THERE ARE NUMEROUS LOCATIONS WHERE UTILITIES CROSS BENEATH CULVERTS, DIG WITH CAUTION, TYP.

REMOVE COVER OF EXISTING CURB BOX AND FILL WITH SAND, CAP WITH 4" OF CONCRETE

MAPLE

COTTONWOOD

GRAVEL DRIVE

CL CURVE DATA
Δ=57°31'30"
R=200.00'
T=109.78'
L=200.80'
CHL=192.47'
CHB=N69°45'45"E

JAMES USTASIEWSKI & MARY IRVINE
10757 HORIZON DRIVE
586-1480
LOT 22 BLOCK A

JASON & STEPHANIE KOHLHASE
10753 HORIZON DRIVE
523-0617
LOT 21 BLOCK A

JEFFREY & JULIE MACHAKOS
10749 HORIZON DRIVE
500-7487
LOT 20 BLOCK A

CONSTRUCTION NOTES, SHEET C200:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

(C) STA 11+73.6, 24.5' LT. REMOVE EXISTING FIRE HYDRANT AND INSTALL NEW FIRE HYDRANT, ACCESS PAD AND GUARD POSTS PER CBJ STD No. 403, 404 & 405.

(D) REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

(E) STA 10+55.0, 29.8' LT. END 8" HDPE WATER LINE, INSTALL HDPE FLANGE FUSION WELDED TO PIPE WITH BLIND FLANGE BOLTED ON.

(F) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(G) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

(H) INSTALL CONCRETE CULVERT HEADWALL WITH HINGED TRASH RACK PER CBJ STD No. 104A.

(I) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

(J) STA 11+73.3, 17.8' LT. INSTALL 8"x6"x8" HDPE TEE.

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

I:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 29, 2012 at: 11:30am

DESIGN	KAP
DRAWN	KAP
CHECK	MAJ
APPROVED	JMP
FILE:	

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 10+00 to STA 12+50

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-29-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS

CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C200

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

CONSTRUCTION NOTES, SHEET C201:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

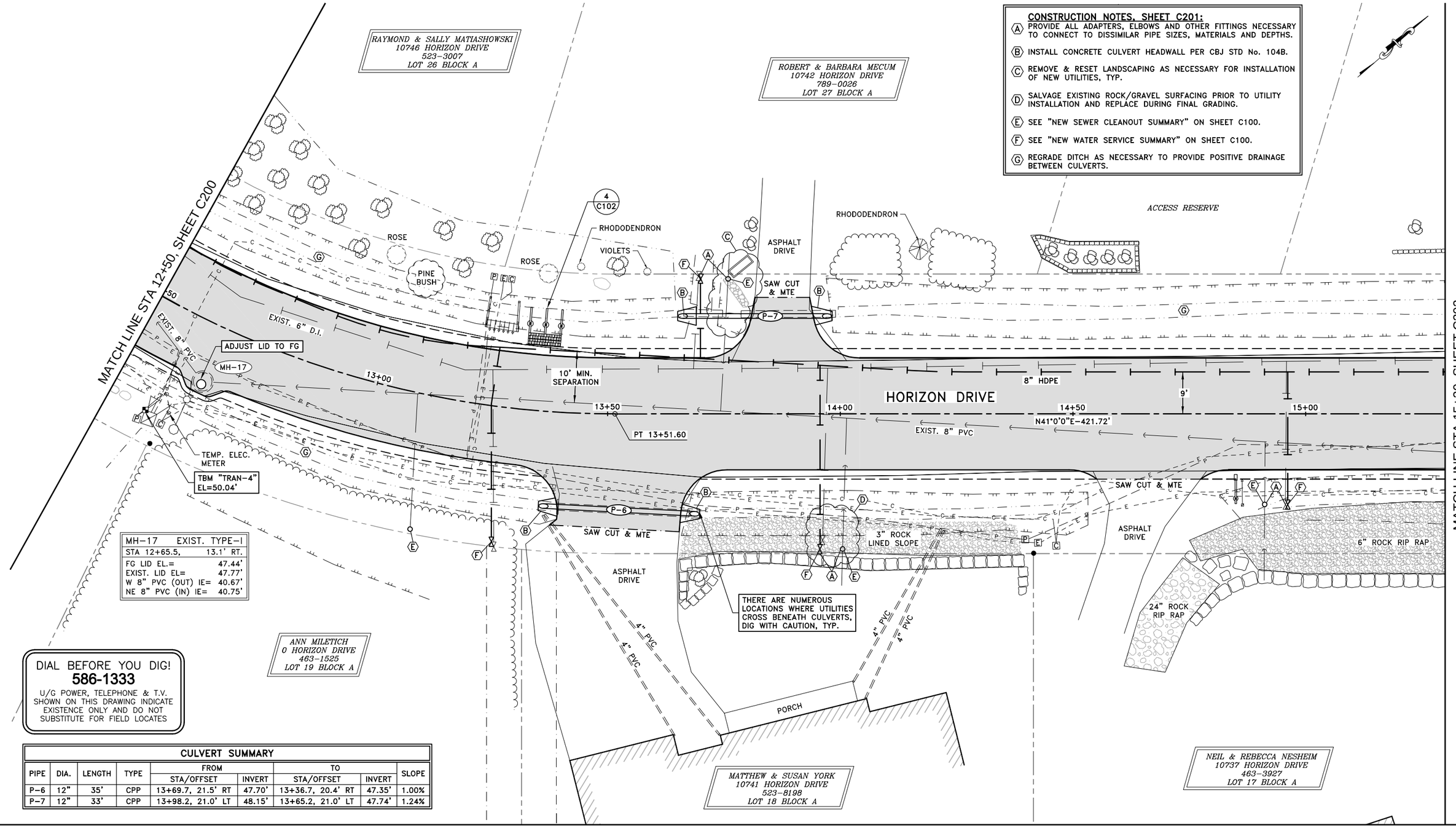
(C) REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

(D) SALVAGE EXISTING ROCK/GRAVEL SURFACING PRIOR TO UTILITY INSTALLATION AND REPLACE DURING FINAL GRADING.

(E) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(F) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

(G) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.



MH-17 EXIST. TYPE-I	
STA 12+65.5,	13.1' RT.
FG LID EL.=	47.44'
EXIST. LID EL=	47.77'
W 8" PVC (OUT) IE=	40.67'
NE 8" PVC (IN) IE=	40.75'

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

CULVERT SUMMARY

PIPE	DIA.	LENGTH	TYPE	FROM		TO		SLOPE
				STA/OFFSET	INVERT	STA/OFFSET	INVERT	
P-6	12"	35'	CPP	13+69.7, 21.5' RT	47.70'	13+36.7, 20.4' RT	47.35'	1.00%
P-7	12"	33'	CPP	13+98.2, 21.0' LT	48.15'	13+65.2, 21.0' LT	47.74'	1.24%

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 12+50 to STA 15+30

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER Kevin A. Puustinen CE 12474 11-29-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

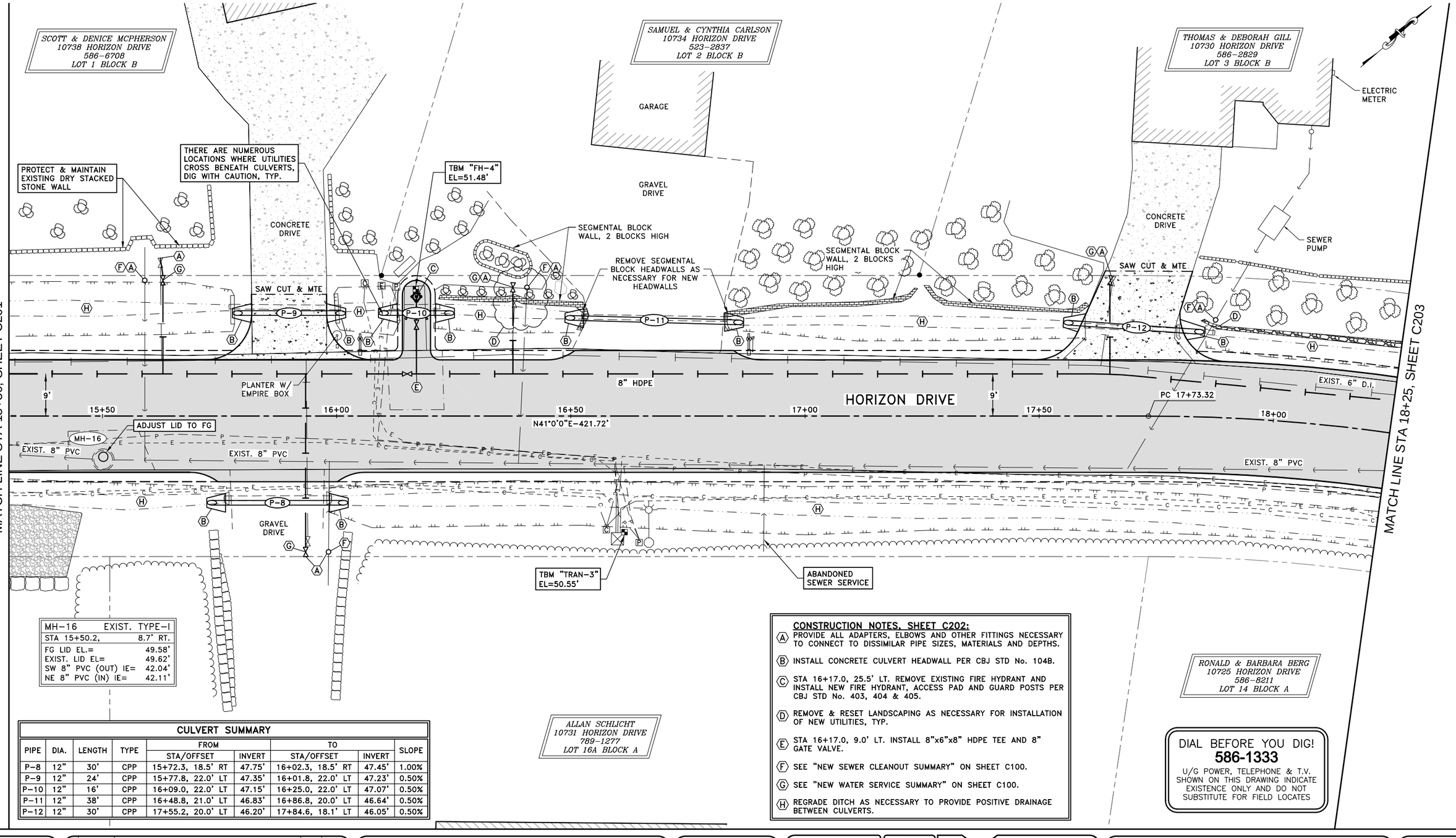
CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C201

I:\2012\12136O\Eagle Point\121360wk.DWG PLOT: November 29, 2012 at: 11:30am

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS



MH-16 EXIST. TYPE-I	
STA 15+50.2,	8.7' RT.
FG LID EL.=	49.58'
EXIST. LID EL=	49.62'
SW 8" PVC (OUT) IE=	42.04'
NE 8" PVC (IN) IE=	42.11'

CULVERT SUMMARY

PIPE	DIA.	LENGTH	TYPE	FROM STA/OFFSET	FROM INVERT	TO STA/OFFSET	TO INVERT	SLOPE
P-8	12"	30'	CPP	15+72.3, 18.5' RT	47.75'	16+02.3, 18.5' RT	47.45'	1.00%
P-9	12"	24'	CPP	15+77.8, 22.0' LT	47.35'	16+01.8, 22.0' LT	47.23'	0.50%
P-10	12"	16'	CPP	16+09.0, 22.0' LT	47.15'	16+25.0, 22.0' LT	47.07'	0.50%
P-11	12"	38'	CPP	16+48.8, 21.0' LT	46.83'	16+86.8, 20.0' LT	46.64'	0.50%
P-12	12"	30'	CPP	17+55.2, 20.0' LT	46.20'	17+84.6, 18.1' LT	46.05'	0.50%

ALLAN SCHLICHT
10731 HORIZON DRIVE
789-1277
LOT 16A BLOCK A

RONALD & BARBARA BERG
10725 HORIZON DRIVE
586-8211
LOT 14 BLOCK A

CONSTRUCTION NOTES, SHEET C202:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

(C) STA 16+17.0, 25.5' LT. REMOVE EXISTING FIRE HYDRANT AND INSTALL NEW FIRE HYDRANT, ACCESS PAD AND GUARD POSTS PER CBJ STD No. 403, 404 & 405.

(D) REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

(E) STA 16+17.0, 9.0' LT. INSTALL 8"x6"x8" HDPE TEE AND 8" GATE VALVE.

(F) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(G) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

(H) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 15+30 to STA 18+25

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C202

I:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 16, 2012 at: 2:29pm

R & M ENGINEERS ENGINEERING, INC. GEOLOGISTS SURVEYORS

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

CULVERT SUMMARY								
PIPE	DIA.	LENGTH	TYPE	FROM STA/OFFSET	FROM INVERT	TO STA/OFFSET	TO INVERT	SLOPE
P-13	12"	27'	CPP	18+74.0, 20.0' RT	45.35'	19+78.1, 19.0' RT	45.21'	0.52%
P-14	12"	50'	CPP	18+87.0, 20.6' LT	45.10'	19+34.3, 23.0' LT	44.85'	0.50%
P-15	12"	31'	CPP	19+45.4, 19.1' RT	44.80'	19+78.1, 19.0' RT	44.64'	0.52%
P-16	12"	26'	CPP	20+03.6, 23.2' LT	42.90'	20+28.2, 22.2' LT	42.77'	0.50%
P-17	12"	46'	CPP	20+44.2, 22.8' LT	42.60'	20+87.7, 21.7' LT	42.37'	0.50%

MARK & BETTY JOHNSON
10726 HORIZON DRIVE
463-5807
LOT 4 BLOCK B

GARAGE

INGEBORG LORENSEN
10722 HORIZON DRIVE
(520) 498-1188
LOT 5 BLOCK B

KENNETH & TERESA FISHER
10718 HORIZON DRIVE
523-0800
LOT 6 BLOCK B

CL CURVE DATA
Δ=57°30'00"
R=375.00'
T=205.73'
L=376.34'
CHL=360.74'
CHB=N69°45'00"E

DITCH APPROXIMATELY 19', FORESLOPE & BACKSLOPE TO MATCH ADJACENT

GRAVEL PARKING

ASPHALT DRIVE

2" SEWER FM

NEW SEWER SERVICE

SHRUBS

SSCO

SAW CUT & MTE

P-14

TBM "FH-3"
EL=47.10'

P-16

GRAVEL PARKING PAD

EXIST. 6" D.I.

8" HDPE

REMOVE & DISPOSE OF WV ASSEMBLY

19+00

19+50

20+00

EXIST. 4" DI FM

MH-15

18+50

HORIZON DRIVE

4" HDPE FM

20+50

EXIST. 8" PVC

ADJUST LID TO FG

P-15

P-17

MH-12

4" FLEX PIPE

P-13

SAW CUT & MTE

4" PVC

THERE ARE NUMEROUS LOCATIONS WHERE UTILITIES CROSS BENEATH CULVERTS, DIG WITH CAUTION, TYP.

CUT / ADJUST EXISTING FLEX PIPE AS NECESSARY

WOOD PLANTER

WOOD PLANTERS

DWARF APPLE TREES

GRAVEL DRIVE

ASPHALT DRIVE

SSCO

MATCH LINE STA 18+25, SHEET C202

MATCH LINE STA 20+95, SHEET C204

MH-15 EXIST. TYPE-I	
STA 18+64.4,	1.6' RT.
FG LID EL.=	48.11'
EXIST. LID EL=	48.15'
SW 8" PVC (OUT) IE=	43.39'
NE 4" DI (IN) IE=	43.47'

MH-12 EXIST. TYPE-I	
STA 20+81.2,	2.3' LT.
FG LID EL.=	45.16'
EXIST. LID EL=	45.35'
SE 8" PVC (OUT) IE=	39.96'

LARRY & JACQUELINE PERSON
10721 HORIZON DRIVE
523-1162
LOT 13 BLOCK A

RONALD & BARBARA BERG
10725 HORIZON DRIVE
586-8211
LOT 14 BLOCK A

ELECTRIC METER

CONSTRUCTION NOTES, SHEET C203:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

(C) STA 20+52.6, 25.5' LT. REMOVE EXISTING FIRE HYDRANT AND INSTALL NEW FIRE HYDRANT, ACCESS PAD AND GUARD POSTS PER CBJ STD No. 403, 404 & 405.

(D) REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

(E) STA 20+54.4, 11.7' LT. INSTALL 8"x6"x8" HDPE TEE AND 8" GATE VALVE.

(F) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(G) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

(H) CONNECT NEW 4" HDPE FORCE MAIN TO MH-15. COORDINATE SEWER PUMP STATION SHUTDOWN WITH CBJ WASTEWATER UTILITY DEPARTMENT. THE ESTIMATED DURATION THAT THE PUMP STATION CAN BE SHUTDOWN IS 6 HOURS AND IS DEPENDENT ON WEATHER AND TIME OF DAY.

(I) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

E:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 16, 2012 at: 2:29pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 18+25 to STA 20+95

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION
WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087
CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C203

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

CONSTRUCTION NOTES, SHEET C204:

Ⓐ PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

Ⓑ INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

Ⓒ REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

Ⓓ STA 22+38, 30' LT. FIELD LOCATE EXISTING 4" DI SEWER FORCE MAIN, CONNECT TO NEW 4" HDPE LINE WITH MJ CONNECTION. COORDINATE SEWER PUMP STATION SHUTDOWN WITH CBJ WASTEWATER UTILITY DEPARTMENT. THE ESTIMATED DURATION THAT THE PUMP STATION CAN BE SHUTDOWN IS 6 HOURS AND IS DEPENDENT ON WEATHER AND TIME OF DAY.

Ⓔ INSTALL CONCRETE CULVERT HEADWALL WITH HINGED TRASH RACK PER CBJ STD No. 104A.

Ⓕ SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

Ⓖ SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

Ⓗ REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

S-1 SDMH TYPE-I*	
STA.23+30.2,	20.5' RT.
GRATE EL=	40.00'
P-20 I.E.=	34.28'
P-21 I.E.=	34.18'
SUMP=	16" MIN.
* W/ CONCRETE AREA DRAIN	

CULVERT SUMMARY

PIPE	DIA.	LENGTH	TYPE	FROM STA/OFFSET	FROM INVERT	TO STA/OFFSET	TO INVERT	SLOPE
P-18	12"	32'	CPP	21+09.7, 21.0' LT	42.14'	21+40.0, 21.0' LT	41.98'	0.50%
P-19	12"	26'	CPP	22+03.3, 20.4' LT	41.34'	22+29.3, 21.0' LT	41.08'	1.00%
P-20	18"	23'	CPP	23+28.5, 43.1' RT	35.20'	S-1	34.28'	4.00%
P-21	18"	48'	CPP	S-1	34.18'	23+33.7, 27.7' LT	32.26'	4.00%

KENNETH & TERESA FISHER
10718 HORIZON DRIVE
523-0800
LOT 6 BLOCK B

CHRISTOPHER & RAEANNE HOLMES
10651 MISTY LANE
523-0381
LOT 7 BLOCK B

RAY & REZVANYE HERMANN
0 MISTY LANE
(509) 933-3219
LOT 8 BLOCK B

ROBERT LOESCHER
10645 MISTY LANE
586-2032
LOT 9 BLOCK B

MATCH LINE STA 20+95, SHEET C203

MATCH LINE STA 23+85, SHEET C205

SECOND STORY DECK

STAIRS

GRAVEL DRIVE

STA 22+72, 28' LT.
REMOVE & DISPOSE OF LARGE COTTONWOOD TREE

1 C102

EXIST. 18" CMP

8" HDPE

HORIZON DRIVE

PT 21+49.66

21+00 21+50 22+00 22+50 23+00 23+50

10' 10'

EXIST. 6" D.I.

P-21

S81°30'0"E-382.21'

ADJUST LID TO FG

MH-11

EXIST. 8" PVC

EXIST. 4" DI FM

4" HDPE FM

EXIST. 12" CPP

EXIST. 12" CPP

S-1

SAW CUT & MTE

TBM "TRAN-5"
EL=45.14'

RELOCATE EXISTING CABLE AND ELECTRICAL UTILITIES AS NECESSARY FOR MANHOLE INSTALLATION

P-20

PROTECT & MAINTAIN RETAINING WALL

WOOD RAILING ON TOP OF CONCRETE RETAINING WALL

CONCRETE DRIVE

6" PVC FLEX PIPE

4" PVC FLEX PIPE

MH-11 EXIST. TYPE-I	
STA 22+62.0,	11.6' RT.
FG LID EL.=	43.73'
EXIST. LID EL=	43.73'
W 8" PVC (IN) IE=	38.17'
E 8" PVC (OUT) IE=	38.14'

ELECTRIC METER

COVERED PORCH

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

MIKE & STACIE BENTLEY
10717 HORIZON DRIVE
364-3763
LOT 12 BLOCK A

ANTHONY & LORI CRUPI
10713 HORIZON DRIVE
463-2598
LOT 11 BLOCK A

ERIC & DEBRA VANCE
10709 HORIZON DRIVE
523-8481
LOT 10 BLOCK A

E:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 16, 2012 at: 2:29pm

DESIGN	KAP
DRAWN	KAP
CHECK	MAJ
APPROVED	JMP
FILE:	

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 20+95 to STA 23+85

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C204

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

CULVERT SUMMARY								
PIPE	DIA.	LENGTH	TYPE	FROM		TO		SLOPE
				STA/OFFSET	INVERT	STA/OFFSET	INVERT	
P-22	12"	16'	CPP	24+17.0, 22.0' LT	38.90'	24+33.0, 22.0' LT	38.74'	1.00%
P-23	12"	26'	CPP	24+60.1, 21.0' RT	39.22'	24+86.1, 21.0' RT	38.96'	1.00%
P-24	12"	26'	CPP	25+73.7, 20.2' RT	38.04'	25+97.3, 20.2' RT	37.78'	1.00%
P-25	18"	49'	CPP	26+15.0, 20.7' RT	37.65'	26+37.5, 23.0' LT	37.16'	1.00%

ROBERT LOESCHER
10645 MISTY LANE
586-2032
LOT 9 BLOCK B

JIM & PEGGY PETROPULOS
10641 MISTY LANE
463-1259
LOT 10 BLOCK B

CL CURVE DATA
Δ=36°41'45"
R=200.00'
T=66.33'
L=128.09'
CHL=125.91'
CHB=N80°09'08"E

MATCH LINE STA 23+85, SHEET C204

MATCH LINE STA 26+35, SHEET C206

P-22 P-23 P-24 P-25

8" HDPE

EXIST. 8" PVC

EXIST. 6" D.I.

24+00 24+50 25+00 25+50 26+00

S81°30'0"E-382.21'

PC 25+31.87

HORIZON DRIVE

RELOCATE LANDSCAPING IN CONFLICT WITH NEW WORK

EXIST. 12" CPP

SAW CUT & MTE

ASPHALT DRIVE

GRAVEL

DITCH APPROXIMATELY 7', FORESLOPE & BACKSLOPE TO MATCH ADJACENT

THERE ARE NUMEROUS LOCATIONS WHERE UTILITIES CROSS BENEATH CULVERTS, DIG WITH CAUTION, TYP.

ELECTRIC METER

SSCO

GRAVEL DRIVE

DAVID EPSTEIN & SA PLOTNICK-EPSTEIN
10705 HORIZON DRIVE
523-9880
LOT 9 BLOCK A

STEVE & NEALA PIERCE
10701 HORIZON DRIVE
LOT 8 BLOCK A

CONSTRUCTION NOTES, SHEET C205:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

(C) STA 24+25.0, 25.5' LT. REMOVE EXISTING FIRE HYDRANT AND INSTALL NEW FIRE HYDRANT, ACCESS PAD AND GUARD POSTS PER CBJ STD No. 403, 404 & 405.

(D) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(E) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

(F) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

(G) STA 24+25.0, 10.0' LT. INSTALL 8"x6"x8" HDPE TEE.

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

I:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 16, 2012 at: 2:29pm

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 23+85 to STA 26+35

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C205

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

CONSTRUCTION NOTES, SHEET C206:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

(C) REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

(D) STA 26+65.6, 7.0' LT. INSTALL 8"x8"x8" HDPE TEE AND (2) 8" GATE VALVES.

(E) STA 26+69.7, 50.6' LT. INSTALL 8"x6" REDUCER AND (2) 45° FITTINGS TO CONNECT TO EXISTING 6" DIP WATER LINE.

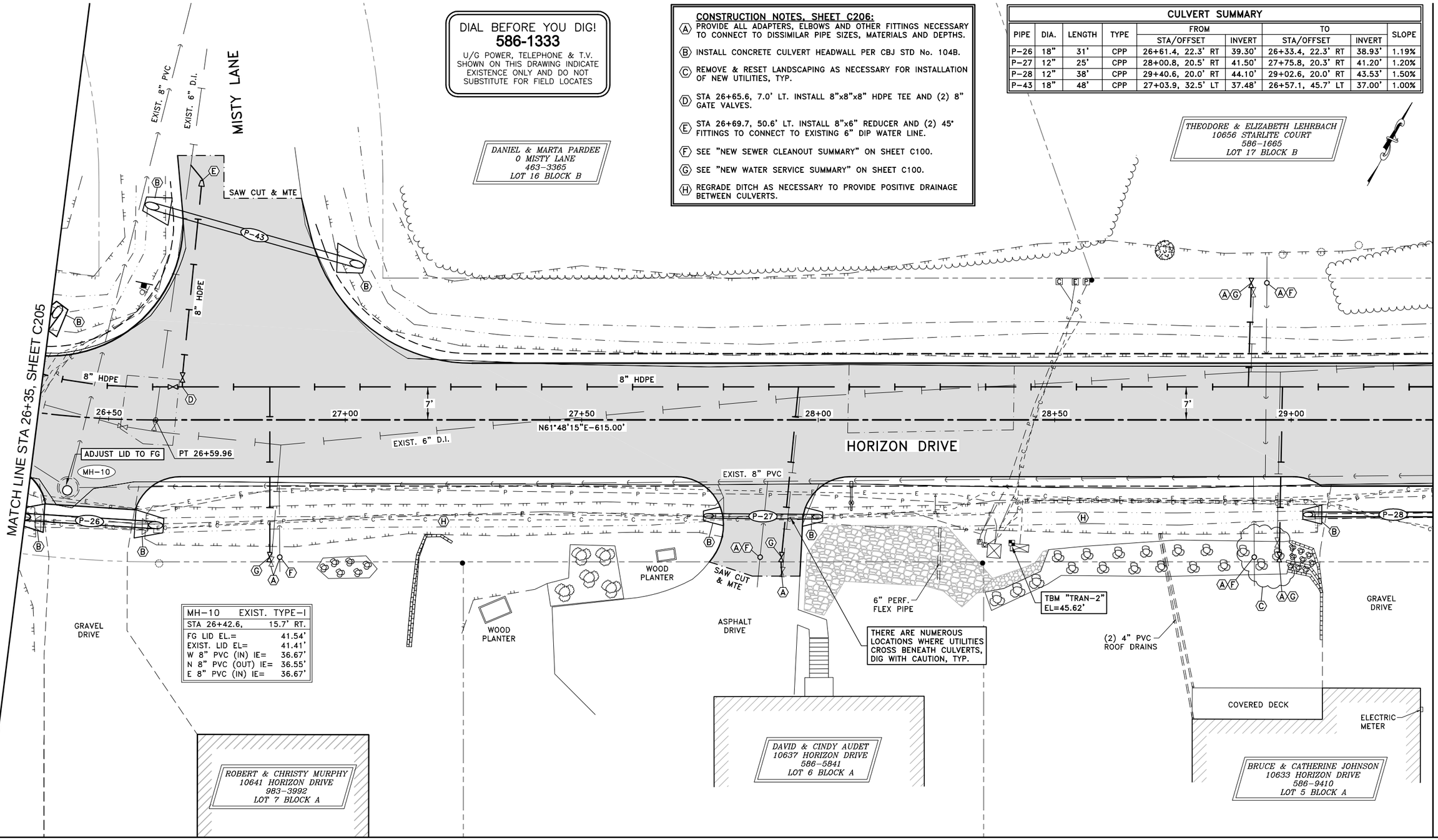
(F) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(G) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

(H) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

CULVERT SUMMARY

PIPE	DIA.	LENGTH	TYPE	FROM STA/OFFSET	FROM INVERT	TO STA/OFFSET	TO INVERT	SLOPE
P-26	18"	31'	CPP	26+61.4, 22.3' RT	39.30'	26+33.4, 22.3' RT	38.93'	1.19%
P-27	12"	25'	CPP	28+00.8, 20.5' RT	41.50'	27+75.8, 20.3' RT	41.20'	1.20%
P-28	12"	38'	CPP	29+40.6, 20.0' RT	44.10'	29+02.6, 20.0' RT	43.53'	1.50%
P-43	18"	48'	CPP	27+03.9, 32.5' LT	37.48'	26+57.1, 45.7' LT	37.00'	1.00%



PLOT: November 16, 2012 at: 2:29pm
I:\2012\121360\Eagle Point\121360wk.DWG

DESIGN	KAP
DRAWN	KAP
CHECK	MAJ
APPROVED	JMP
FILE:	

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 26+35 to STA 29+30

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH
Kevin A. Puustinen
CE 12474
REGISTERED PROFESSIONAL ENGINEER
11-16-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C206

DIAL BEFORE YOU DIG!
586-1333
U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

CULVERT SUMMARY

PIPE	DIA.	LENGTH	TYPE	FROM		TO		SLOPE
				STA/OFFSET	INVERT	STA/OFFSET	INVERT	
P-29	12"	16'	CPP	30+09.7, 24.2' LT	44.90'	30+24.2, 17.5' LT	44.74'	1.00%
P-30	12"	26'	CPP	30+87.8, 21.5' RT	43.90'	31+13.8, 21.2' RT	43.38'	2.00%
P-31	12"	29'	CPP	30+93.8, 19.4' LT	43.25'	31+22.8, 18.2' LT	42.82'	1.48%
P-32	12"	38'	CPP	31+69.8, 18.8' LT	41.20'	32+07.8, 18.8' LT	40.25'	2.50%

CONSTRUCTION NOTES CONTINUED:

(K) CONNECT NEW 4" HDPE FORCE MAIN TO MH-9. COORDINATE SEWER PUMP STATION SHUTDOWN WITH CBJ WASTEWATER UTILITY DEPARTMENT. THE ESTIMATED DURATION THAT THE PUMP STATION CAN BE SHUTDOWN IS 6 HOURS AND IS DEPENDENT ON WEATHER AND TIME OF DAY.

(L) REGRADE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE BETWEEN CULVERTS.

CONSTRUCTION NOTES, SHEET C207:

(A) PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.

(B) INSTALL CONCRETE CULVERT HEADWALL PER CBJ STD No. 104B.

(C) STA 30+18.6, 24.8' LT. REMOVE EXISTING FIRE HYDRANT AND INSTALL NEW FIRE HYDRANT, ACCESS PAD AND GUARD POSTS PER CBJ STD No. 403, 404 & 405.

(D) REMOVE & RESET LANDSCAPING AS NECESSARY FOR INSTALLATION OF NEW UTILITIES, TYP.

(E) STA 32+25.3, 7.1' RT. FIELD LOCATE CRACK IN EXISTING 8" PVC SEWER LINE. REPAIR LINE USING ROMAC LSS-1 REPAIR CLAMPS AND NEW PIPE OR OTHER METHODS AS APPROVED BY THE ENGINEER.

(F) STA 20+95, 20' RT. ABANDONED WATER WELL, REMOVE & DISPOSE OF EXISTING CONCRETE REDUCING SLAB & METAL COVER. FILL VAULT WITH SAND AND CAP WITH 3" OF TOPSOIL.

(G) STA 29+77.2, 7.0' LT. INSTALL 8"x8"x8" HDPE TEE AND (2) 8" GATE VALVES.

(H) STA 29+77.2, 30.0' LT. INSTALL 8"x6" REDUCER AND CONNECT TO EXISTING 6" DIP WATER LINE.

(I) SEE "NEW SEWER CLEANOUT SUMMARY" ON SHEET C100.

(J) SEE "NEW WATER SERVICE SUMMARY" ON SHEET C100.

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

MATCH LINE STA 29+30, SHEET C206

STARLITE COURT

EXIST. 6" D.I.

8" HDPE

SAW CUT & MTE

EXIST. 6" D.I.

EXIST. 6" D.I.

DITCH APPROXIMATELY 8', FORESLOPE & BACKSLOPE TO MATCH ADJACENT

DOUGLAS & SHAUNA MURRAY
10628 HORIZON DRIVE
463-3373
LOT 3 BLOCK C

SPRUCE TREES

P-29

ASPHALT DRIVE

SAW CUT & MTE

P-31

P-32

10624

10622

JOSEPH & BERNADINE SORENSON
10624 & 10622 HORIZON DRIVE
790-2252
LOT 2 BLOCK C

GRAVEL DRIVE

MATCH LINE STA 32+25, SHEET C208

8" HDPE

HORIZON DRIVE

N61°48'15"E-615.00'

ABANDONED SEWER SERVICE

ADJUST LID TO FG

SAW CUT & MTE CONCRETE

29+50 30+00 30+50 31+00 31+50 32+00

7' 7'

ABANDONED SEWER SERVICE

STA 30+18.6, 7.0' LT. INSTALL 8"x6"x8" HDPE TEE

MH-9

4" HDPE FM

EXIST. 4" DI FM

MH-5

EXIST. 8" PVC

EXIST. 8" PVC

ADJUST LID TO FG

P-30

EXIST. 12" CPP

4" VERT STEEL PIPE

GRAVEL DRIVE

REMOVE & RESET ROCKERY WALL AS NECESSARY FOR UTILITY INSTALLATION

THERE ARE NUMEROUS LOCATIONS WHERE UTILITIES CROSS BENEATH CULVERTS, DIG WITH CAUTION, TYP.

REMOVE & RESET ROCKERY WALL AS NECESSARY FOR UTILITY INSTALLATION

CONCRETE DRIVE

GRAVEL DRIVE

MH-9 EXIST. TYPE-I	
STA 30+38.8,	11.4' RT.
FG LID EL.=	46.24'
EXIST. LID EL=	46.49'
SW 8" PVC (OUT) IE=	40.48'
NE 4" DI (IN) IE=	40.59'

MH-5 EXIST. TYPE-I	
STA 31+25.1,	9.2' LT.
FG LID EL.=	44.59'
EXIST. LID EL=	44.76'
NE 8" PVC (OUT) IE=	39.58'

ELECTRIC METER

ELECTRIC METER

ELECTRIC METER

MICHAEL & NOREEN FOLKERTS
10629 HORIZON DRIVE
789-2189
LOT 4 BLOCK A

MATTHEW BROWN
10625 HORIZON DRIVE
523-0625
LOT 3 BLOCK A

BRADLEY & TAINA CLARE
10621 HORIZON DRIVE
463-1560
LOT 2 BLOCK A

I:\2012\121360\Eagle Point\121360wk.DWG PLOT: November 29, 2012 at: 11:30am

DESIGN KAP
DRAWN KAP
CHECK MAJ
APPROVED JMP
FILE:

No.	DATE	REVISION	BY	APRVD.

PLAN VIEW
STA 29+30 to STA 32+25

GRAPHIC SCALE
0' 5' 10' 20' 40'

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER Kevin A. Puustinen CE 12474 11-29-12

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS
6205 GLACIER HIGHWAY
JUNEAU, AK. 99801
Phone 907-780-6060
Fax 907-780-4611
rmengineering@rmjuneau.com

BAYVIEW SUBDIVISION WATER SYSTEM IMPROVEMENTS
CBJ CONTRACT No. E13-087

CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV. 16, 2012
R & M NO. 121360

SHEET C207