COVER SHEET

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=150'

0 75 150 300

GENERAL NOTES

1. ALL SPECIFICATIONS, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF FIFE MUNICIPAL CODE, THE LATEST EDITION OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. PLANS AND DETAILS SHALL BE IN ACCORDANCE WITH THE CITY OF FIFE MUNICIPAL CODE AND THE LATEST EDITION OF THE WSDOT/APWA STANDARD PLANS.
3. A COPY OF THE APPROVED PLANS SHALL BE ON SITE DURING CONSTRUCTION.
4. CONSTRUCTION OF PROPOSED IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS. ANY CHANGES FROM THE "APPROVED" PLANS WILL REQUIRE APPROVAL FROM THE DEVELOPER, DEVELOPER'S ENGINEER AND THE CITY OF FIFE.
5. A PRE-CONSTRUCTION MEETING AND ANY REQUIRED PERMITS SHALL BE REQUIRED PRIOR TO ANY WORK ACTIVITY. THE PRE-CONSTRUCTION MEETING SHALL BE HELD AT FIFE CITY HALL,5411 23RD STREET EAST, FIFE, WA.
6. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO CONTROL ON-SITE STORM WATER RUNOFF BY USING APPROVED TEMPORARY OR PERMANENT DRAINAGE" EROSION/SILTATION CONTROL PROCEDURES. THE CITY OF FIFE HAS ADOPTED THE 2005 STORMWATER MANAGEMENT MANUAL FOR THE PUGET SOUND BASIN (THE TECHNICAL MANUAL) DEVELOPED BY THE DEPARTMENT OF ECOLOGY.
7. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL CALL ONE-CALL (1-800-4255555) FOR UTILITY LOCATIONS (WATER, SANITARY SEWER, STORM SEWER, GAS, POWER, TELEPHONE AND CABLE TV).
8. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TRUE ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES. ANY UTILITY RELOCATIONS SHALL BE AT THE EXPENSE OF THE APPLICANT AND MUST BE IN ACCORDANCE WITH CITY OF FIFE STANDARDS.
9. NO SAW CUTTING IN THE RIGHT-OF-WAY WILL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE CITY OF FIFE. ONCE APPROVED, EXISTING PAVEMENT SURFACES SHALL BE SAW CUT FULL DEPTH WITH STRAIGHT, UNIFORM EDGES TWELVE INCHES (12") OUT FROM THE EDGE OF EXCAVATION. IF SLOUGHING OCCURS DURING EXCAVATION, THE EXISTING PAVEMENT SHALL BE SAW CUT TO ACHIEVE THE REQUIRED TWELVE INCHES (12") FROM THE EDGE OF EXCAVATION.
10. LANE CLOSURES SHALL BE RESTRICTED TO 9:00 A.M. TO 3:00 P.M. MONDAY THRU FRIDAY. ONE LANE (MINIMUM) SHALL BE RESERVED FOR TRAFFIC (BOTH DIRECTIONS) AT ALL TIMES. WORK IN THE RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY PERMIT. NIGHT, WEEKEND, OR WORK HOURS OTHER THAN HOURS MENTIONED ABOVE WILL REQUIRE THE CITY OF FIFE ENGINEER'S APPROVAL. A THREE-DAY ADVANCE NOTICE IS REQUIRED. ACCESS TO EXISTING DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
11. IF WORK IS REQUIRED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL PROVIDE PROOF OF LIABILITY INSURANCE IN AN AMOUNT NO LESS THAN ONE (1) MILLION DOLLARS PER OCCURRENCE AND A $10,000.00 OR 125 PERCENT OF THE COST OF IMPROVEMENTS BEING BUILT IN THE PUBLIC RIGHT OF WAY, WHICH EVER IS GREATER RESTORATION/DEFECT BOND ON CITY OF FIFE FORMS. THE CONTRACTOR SHALL ALSO PROVIDE A TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL A MINIMUM OF FIVE (5) DAYS PRIOR TO STARTING THE WORK. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
12. THE CONTRACTOR SHALL CONTACT PIERCE COUNTY TRANSIT AND THE FIFE SCHOOL DISTRICT FOR COORDINATING BUS STOP OPERATIONS DURING CONSTRUCTION, IF NECESSARY.
13. NO CONSTRUCTION, EXCAVATION, HAULING OR REMOVAL OF FILL SHALL BE PERMITTED BETWEEN THE HOURS OF 10:00 P.M. AND 7:00 A.M. WEEKDAYS OR 10:00 P.M. AND 9:00 A.M. ON WEEKENDS.
14. THE CONTRACTOR WILL BE REQUIRED TO WATER THE SITE, AS NECESSARY, TO REDUCE EMISSIONS AS A RESULT OF CONSTRUCTION ACTIVITY. A HYDRANT PERMIT AND METER IS REQUIRED TO OBTAIN WATER FROM THE CITY OF FIFE WATER SYSTEM. THE CONTRACTOR SHALL SWEEP ALL AFFECTED PUBLIC ROADS, AS NECESSARY, OR AS DIRECTED BY THE CITY, TO REMOVE MUD DEPOSITS AS A RESULT OF CONSTRUCTION ACTIVITY.
15. CUT SLOPES SHALL NOT BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL AND FILL SLOPES SHALL NOT BE STEEPER THAN 1-1/2 HORIZONTAL TO 1 VERTICAL, OR AS RECOMMENDED BY A SOILS ENGINEER. THE CATCH POINTS OF THE TOP OF CUT SLOPES AND BOTTOM OF FILL SLOPES SHALL BE SET BACK FROM THE SITE BOUNDARY LINES IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS A RETAINING WALL IS DESIGNED BY THE ENGINEER AND CONSTRUCTED FOR THE PROJECT:

CUT /FILL DEPTH	SET BACK DISTANCE
UNDER 5 FEET	2 FEET
FEET AND OVER	HEIGHT /2

16. ISSUANCE OF A PERMIT BY THE CITY OF FIFE DOES NOT IMPLY OR SIGNIFY THAT THE PROPOSED WORK COMPLIES WITH THE REQUIREMENTS OF OR IS ALLOWED BY OTHER COUNTY, STATE OR FEDERAL LAWS, ORDINANCES OR REGULATIONS. APPLICANT WILL ACCEPT SOLE RESPONSIBILITY AND LIABILITY FOR COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
17. "AS BUILT" DRAWINGS, CERTIFIED BY A LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER, ARE REQUIRED FOR RIGHT-OF-WAY IMPROVEMENTS AND ANY SITE CIVIL WORK. THESE DRAWINGS SHALL BE SUBMITTED ON 24" X 36" MYLAR, 3 PAPER COPIES, AND ON CD IN ELECTRONIC PDF FORMAT AS APPROVED BY THE CITY, AND RECEIVE APPROVAL FROM THE CITY BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED.
18. All STORM PIPE SHALL BE INSTALLED WITH RUBBER GASKETED JOINTS. PIPES SHALL NOT ALLOW INTRUSION OF GROUNDWATER INTO STORM SYSTEM. PIPES SHALL BE INSTALLED WATER TIGHT AND AIR TESTED.
19. All SANITARY SEWER MAINS SHALL BE CLEANED PRIOR TO VIDEO INSPECTION. PRIOR TO VIDEO INSPECTION COLORED A MINIMUM 10 GALLONS OF DIE/WATER MIX WILL BE PLACED IN THE LINES AND THE INSPECTOR WILL BE CONTACTED 48 HOURS PRIOR TO START. THE VIDEO CAMERA WILL TOW A 1" DIAMETER BALL IN FRONT OF THE CAMERA. ANY CONDITIONS FOUND TO BE UNACCEPTABLE BY THE CITY SHALL BE REMEDIED PRIOR TO ACCEPTANCE,THE SEWER MAIN SHALL HAVE NO GREATER THAN A 1/2IN BELLY SAG IN 5FT, IF GREATER IT MUST BE CORRECTED. REMEDIED SECTIONS OF PIPE SHALL BE REINSPECTED WITH VIDEO EQUIPMENT. COST OF VIDEO INSPECTIONS SHALL BE BORNE BY THE DEVELOPER. THE CITY SHALL BE PROVIDED A COPY OF A TAPE OF THE VIDEO INSPECTION.
20. All EXCAVATIONS IN ROADWAYS SHALL BE BACKFILLED FULL-DEPTH WITH CRUSHED ROCK BASE COURSE COMPACTED TO 95% MOD.
21. ALL CEMENT CONCRETE CURB AND GUTTER IN THE RIGHT-OF-WAY SHALL BE MINIMUM STRENGTH OF 4,000 PSI.
22. ALL SANITARY SEWER AND STORM DRAIN PIPE MUST BE GASKETED PIPE WITH DETECTABLE WARNING TAPE.
23. ALL TYPE II CATCH BASINS NOT DIRECTLY PICKING UP STORM DRAINAGE SHALL HAVE ROUND SOLID LOCKING LIDS. LIDS WILL NOT BE CONSTRUCTED IN THE CURB AND GUTTER LINE OR WHEEL PATH.
24. ALL SANITARY SEWERS IN OR CLOSE TO GUTTER FLOW LINE SHALL HAVE LOCKING LIDS.
25. ALL STRUCTURES LARGER THAN A TYPE I CATCH BASIN SHALL REQUIRE A MINIMUM OF 12IN THICKNESS OF 4IN TO 8IN QUARRY SPALLS FOR BASE UNDER AND MINIMUM OF 12IN OUTSIDE OF STRUCTURE, OVER 260# FABRIC PER ASTM 0-4632.
26. ALL DRIVEWAYS TO HAVE 6IN MINIMUM THICKNESS CONCRETE WITH A MINIMUM STRENGTH OF 4,000 PSI.
27. HDPE STORM PIPE TO MEET ASTM F810-93.
28. ALL UTILITY HARDWARE CASTINGS TO INCLUDE SANITARY SEWER MANHOLES, STORM DRAIN MANHOLES, WATER GATE VALVE BOXES, SEWER AND STORM CLEAN OUTS REQUIRED TO HAVE CONCRETE COLLARS. THE CONCRETE COLLAR TO BE 12IN WIDE BY 8IN THICK, UP TO 2IN BELOW RIM IN ALL PAVED AREAS, AND UP TO TOP OF RIM IN LANDSCAPING.

CONSTRUCTION SEQUENCE:

1. SCHEDULE AND ATTEND PRE-CONSTRUCTION MEETING WITH CITY OF FIFE OFFICIALS.
2. FLAG ALL CLEARING AND GRADING LIMITS FOR PROJECT AS SHOWN ON THE PLANS AND CALL FOR AN INSPECTION OF THOSE LIMITS FOR APPROVAL BY FIFE PUBLIC WORKS.
3. CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN.
4. INSTALL TEMPORARY FILTER FABRIC FENCE AS SHOWN ON TESC PLANS.
5. TIME LIMIT APPLIES TO ANY WORK PERFORMED IN THE CITY OF FIFE ROW. CONTRACTOR TO COORDINATE WITH CITY OFFICIAL FOR TIMING OF ANY CONSTRUCTION WITHIN ROW.
6. PROTECT ALL PROPERTIES ADJACENT TO THE PROJECT FROM SEDIMENT DEPOSITION.
7. NO RUNOFF IS TO LEAVE SITE WITHOUT TREATMENT.
8. CONSTRUCT TEMPORARY SEDIMENT AND EROSION CONTROL POND.
9. CONSTRUCT INTERCEPTOR DITCHES WHERE SHOWN.
10. CLEAR AND GRADE SITE AMEND E.S.C. FACILITIES AS REQUIRED. ANY AMENDED PLANS MUST BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD AND THE CITY OF FIFE.
11. WHEREVER CONSTRUCTION VEHICLES ACCESS ROUTE CROSSES PAVED ROADS, CARE MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT (MUD) ONTO THE PAVED ROAD. IF SEDIMENT IS TRANSPORTED ONTO PAVED SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY OR AS DIRECTED BY THE CITY OF FIFE.
12. CONTINUOUS MAINTENANCE AND UPGRADE OF T.E.S.C. MEASURES, INCLUDING DUST CONTROL, SHALL BE PROVIDED UNTIL ALL CONSTRUCTION HAS BEEN COMPLETED.
13. MAINTAIN E.S.C. FACILITIES UNTIL ALL RISK OF EROSION/SEDIMENTATION DRAINAGE HAS PASSED AND PERMANENT STORM DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONAL. DO NOT CONVEY SEDIMENT-LADEN WATER INTO STORM DRAINAGE SYSTEM. TEMPORARY EROSION & SEDIMENTATION CONTROL FACILITIES CAN BE REMOVED ONLY UPON FINAL SITE STABILIZATION AND APPROVAL FROM CITY OFFICIAL.
14. INSTALL UTILITIES PER APPROVED PLANS.
15. CONSTRUCT ROAD IMPROVEMENTS PER APPROVED PLANS.
16. PROVIDE CATCH BASIN PROTECTION ON ALL NEWLY INSTALLED CATCH BASINS.
17. FINE GRADE SITE AND PREPARE FOR PAVEMENT.
18. FINALIZE UTILITY AND PAVING CONSTRUCTION AND CLEAN ALL UTILITIES AS REQUIRED.
19. INSTALL LANDSCAPING AND LIGHTING PER APPROVED PLANS.
20. COMPLETE INSPECTION/ PUNCHLIST

ARCHITECT

THE RON HOVDE ARCHITECTS, LLC
14900 INTERURBAN AVENUE, SUITE 138
TUKWILA, WA 98168
PHONE: (206) 859-5500

ENGINEER

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425) 251-6222
(425) 251-8782 FAX
CONTACT: DAN BALMELLI

OWNER

DAVIS INVESTMENT PROPERTY
22757 72ND AVE. SOUTH, SUITE E-105
KENT WA, 98032
(253) 872-9522
CONTACT: JEFF DAVIS

SURVEYOR

AHBL
2215 NORTH 30TH STREET, SUITE 300
TACOMA, WA 98403
(253) 383-2422
(253) 383-2572 FAX

UTILITIES/SERVICES

SEWER:	CITY OF FIFE 5411 23rd St.E FIFE, WA 98424 (253) 922-2489	CABLE:	AT & T BROADBAND 4020 AUBURN WAY NORTH P.O. BOX 1048 AUBURN, WA 98002
WATER:	CITY OF FIFE 5411 23rd St. E FIFE, WA 98424 (253) 922-2489	FIRE:	TACOMA/FIFE FIRE DEPARTMENT 901 S. FAWCETT TACOMA, WA 98402 (253) 591-5712
POWER:	TACOMA POWER P.O. BOX 11007 TACOMA, WA 98411 (253) 502-8277	TELEPHONE:	QWEST COMMUNICATIONS 450 110th AVE N.E PREMIS BUREAU, 4th FLOOR BELLEVUE, WA 98003
GAS:	PUGET SOUND ENERGY 105 156th AVE N.E BELLEVUE, WA 98005 1(800) 321 4321		

LEGEND

PROPOSED TYPE II CATCH BASIN WITH SQUARE GRATE LID	EXISTING WATER VALVE (WV)
PROPOSED TYPE I CATCH BASIN	PROPOSED WATERMAIN (W)
EXISTING TYPE II CATCH BASIN	PROPOSED FIRE HYDRANT
EXISTING TYPE I CATCH BASIN	PROPOSED WATER VALVE
PROPOSED STORM DRAINAGE LINE	PROPOSED SPOT ELEVATIONS (23.2)
EXISTING STORM DRAINAGE LINE (SD)	EXISTING SPOT ELEVATIONS (+100.0)
PROPOSED SANITARY SEWER LINE	PROPOSED CONTOURS (100)
PROPOSED SANITARY SEWER MANHOLE	EXISTING CONTOURS (100)
PROPOSED SANITARY SEWER CLEANOUT	PROPOSED LIGHT DUTY ASPHALT CONCRETE PAVEMENT
EXISTING SANITARY SEWER MANHOLE	PROPOSED HEAVY DUTY ASPHALT CONCRETE PAVEMENT
EXISTING SANITARY SEWER LINE (SS)	PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT
EXISTING WATERMAIN (W)	SURVEY MONUMENT
EXISTING FIRE HYDRANT	

INDEX TO SHEETS:

C1 OF 21 COVER SHEET
C2 OF 21 OVERALL GRADING AND STORM DRAINAGE PLAN
C3 OF 21 GRADING AND STORM DRAINAGE PLAN
C4 OF 21 GRADING AND STORM DRAINAGE PLAN
C5 OF 21 GRADING AND STORM DRAINAGE PLAN
C6 OF 21 DETENTION AND WATER QUALITY POND PLAN AND PROFILE
C7 OF 21 OVERALL SANITARY SEWER AND WATER MAIN EXTENSION PLAN
C8 OF 21 SANITARY SEWER AND WATER MAIN EXTENSION PLAN
C9 OF 21 SANITARY SEWER AND WATER MAIN EXTENSION PLAN
C10 OF21 SANITARY SEWER AND WATER MAIN EXTENSION PLAN
C11 OF 21 WATER MAIN EXTENSION PROFILE
C12 OF 21 WATER MAIN EXTENSION PROFILE
C13 OF 21 SEWER MAIN EXTENSION PROFILE
C14 OF 21 CONSTRUCTION NOTES AND DETAILS
C15 OF 21 CONSTRUCTION NOTES AND DETAILS
C16 OF 21 WATER NOTES AND DETAILS
C17 OF 21 WATER NOTES AND DETAILS
C18 OF 21 WATER NOTES AND DETAILS
C19 OF 21 SANITARY SEWER NOTES AND DETAILS
C20 OF 21 SANITARY SEWER AND CONSTRUCTION NOTES AND DETAILS
C21 OF 21 WATER MAIN EXTENSION ENLARGED DETAIL PLAN

R1 OF 6 66TH AVENUE EAST - ROAD IMPROVEMENT PLAN AND PROFILE
R2 OF 6 66TH AVENUE EAST - ROAD IMPROVEMENT PLAN AND PROFILE
R3 OF 6 66TH AVENUE EAST - CHANNELIZATION PLAN
R4 OF 6 ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS
R5 OF 6 ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS
R6 OF 6 ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS

TR1 OF 3 TRUCK MANEUVERING DIAGRAM #1
TR2 OF 3 TRUCK MANEUVERING DIAGRAM #2
TR3 OF 3 TRUCK MANEUVERING DIAGRAM #3

CAUTION:

UTILITY CONFLICT NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 1-800-424-5555 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

VICINITY MAP
N.T.S.

FIFE, WASHINGTON

LEGAL DESCRIPTIONS

PER CHICAGO TITLE COMPANY REVISED FOURTH REPORT ORDER NO. 4379593 DATED: JANUARY 13, 2014

PARCEL A:
PARCELS B AND C, BOUNDARY LINE ADJUSTMENT 200809115001, ACCORDING TO THE SURVEY THEREOF RECORDED SEPTEMBER 11, 2008, RECORDS OF PIERCE COUNTY AUDITOR.

PARCEL B:
PARCELS A, B, D AND E, BOUNDARY LINE ADJUSTMENT 200901065001, ACCORDING TO THE SURVEY THEREOF RECORDED JANUARY 6, 2009, RECORDS OF PIERCE COUNTY AUDITOR.

PARCEL C:
THE WEST 6 FEET OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 7, TOWNSHIP 20 NORTH, RANGE 4 EAST OF THE WILLAMETTE MERIDIAN, IN PIERCE COUNTY, WASHINGTON.
EXCEPT 20TH ST. E. (MILTON AVE) ON THE NORTH.

PARCEL D:
THE EAST 6 FEET OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 7, TOWNSHIP 20 NORTH, RANGE 4 EAST OF THE WILLAMETTE MERIDIAN, IN PIERCE COUNTY, WASHINGTON.
EXCEPT 20TH ST. E. (MILTON AVE) ON THE NORTH. SITUATE IN THE CITY OF FIFE, COUNTY OF PIERCE, STATE OF WASHINGTON.

VERTICAL DATUM

2003 CITY OF FIFE VERTICAL BENCHMARKS, NGVD 29

BENCHMARK FS-24: "X' AT THE NORTHWEST CORNER OF CONCRETE PAD OF ELECTRIC VAULT AT SOUTHWEST CORNER OF INTERSECTION OF 20TH STREET EAST AND 70TH AVENUE EAST. ELEVATION=26.07'

BASIS OF BEARINGS

WASHINGTON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83/91.

EQUIPMENT USED

3" TOTAL STATION UTILIZING STANDARD FIELD TRAVERSE METHODS FOR CONTROL AND STAKING.

REFERENCES

1. REFERENCE: SURVEY RECORDED UNDER AUDITOR'S FILE NUMBER 9004250090, RECORDS OF PIERCE COUNTY, WASHINGTON.
2. PER CHICAGO TITLE COMPANY REVISED FOURTH REPORT ORDER NO. 4379593 DATED: JANUARY 13, 2014.
3. BOUNDARY LINE ADJUSTMENT 200809115001.
4. BOUNDARY LINE ADJUSTMENT 200901065001.

FLOOD HAZARD DETERMINATION

PER UPF SERVICES, LLC, INC. 1-509-327-9634
SITE LIES WITHIN NFIP COMMUNITY NUMBER 530138, PANEL NUMBER 0327C AND LIES IN FLOOD ZONE "C". LAST REVISED 8/4/1988.

THE SITE DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA.

ZONING

0420071159 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS INDUSTRIAL
0420071160 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS INDUSTRIAL
0420071161 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS COMMUNITY MIXED USE
0420071162 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS COMMUNITY MIXED USE
0420071164 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS COMMUNITY MIXED USE
0420071165 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS COMMUNITY MIXED USE
0420071014 – SHOWN AS BEING IN THE CITY OF FIFE, ZONING IS COMMUNITY MIXED USE

ESTIMATED EARTH WORK QUANTITIES
CUT =21,000 CY
FILL =38,000 CY

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

CALL BEFORE YOU DIG:
1-800-424-5555

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES, OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

RECEIVED
SEP 2 2014
FIFE BUILDING DEPT.

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: DRA14-0003 REV 9-2-14
WTR14-0013 & SWR14-0008
ROW14-0016 & ROW14-0022
PORTSIDE BUSINESS CENTER

PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI, STATE OF WASHINGTON, 25672, REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=150' Vertical N/A

Designed AS
Drawn MB
Checked AS
Approved DB
Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet C1 of 21

File:P:\16000s\16004\engineering\RAISED SITE BY .20 FEET\16004-o1.dwg Date/Time:8/5/2014 2:50 PM Scale:1" = 1' MBOUKAL Xref: ----

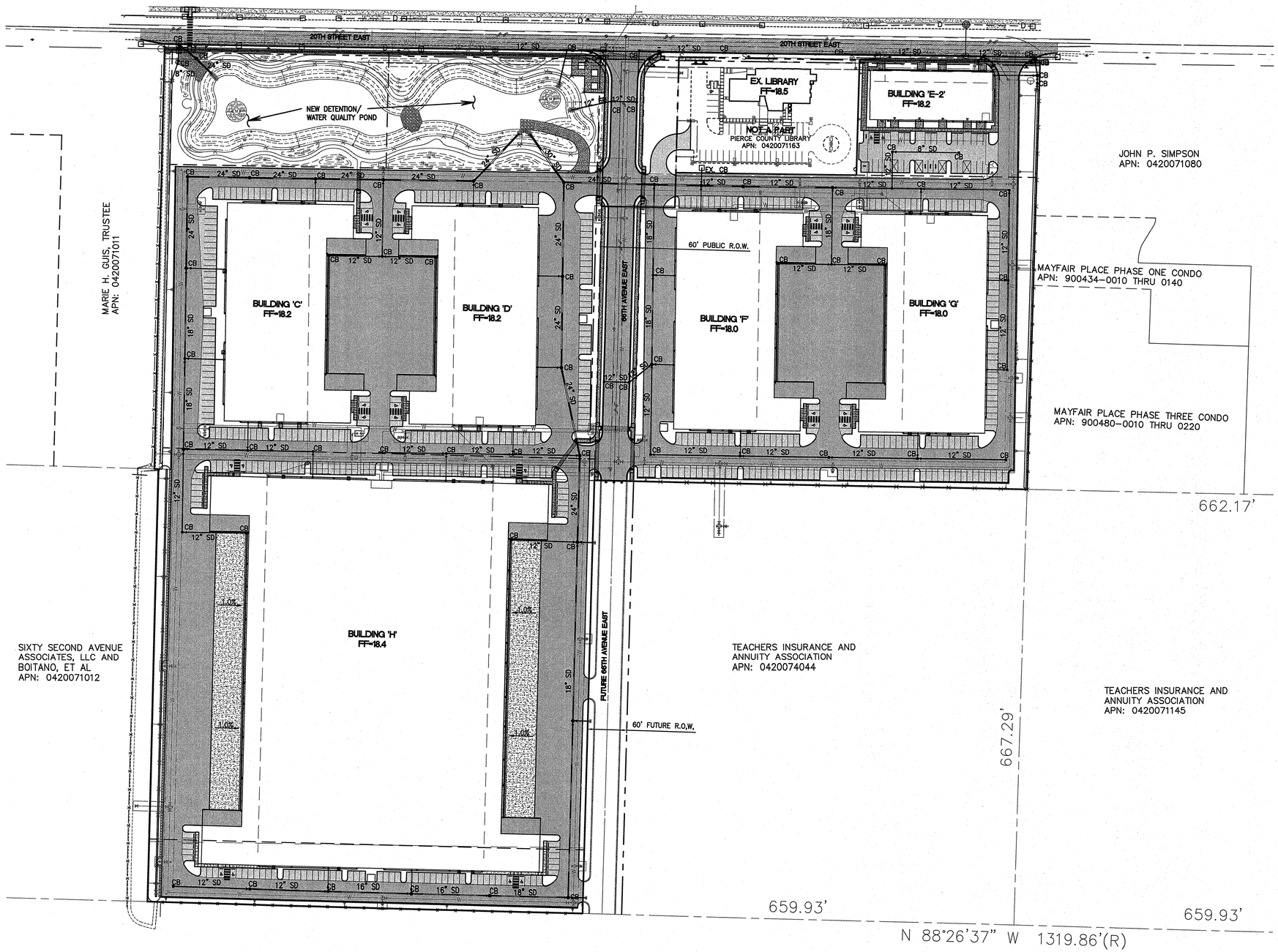
DAW B.

GRADING AND STORM DRAINAGE PLAN - OVERALL

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=80'

0 40 80 120



APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: GRADING AND STORM DRAINAGE PLAN- OVERALL FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=80' Vertical N/A

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

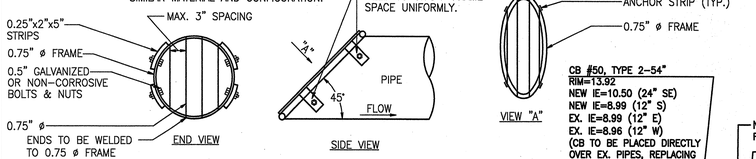
Sheet C2 of 21

File:P:\16000s\16004\engineering\RASED SITE BY 20 FEET\16004-grm-overall.dwg Date/Time:8/18/2014 7:56 AM Scale:1" = 1' MBO/KAL Xref: ------

GRADING AND STORM DRAINAGE PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

NOTE:
THE TRASH RACK SHOWN IS FOR ROUND PIPE. TRASH RACKS FOR ARCH PIPE ARE TO BE CONSTRUCTED OF SIMILAR MATERIAL AND CONFIGURATION.



TRASH RACK/DEBRIS BARRIER

NOT TO SCALE

CATCH BASIN TABLE

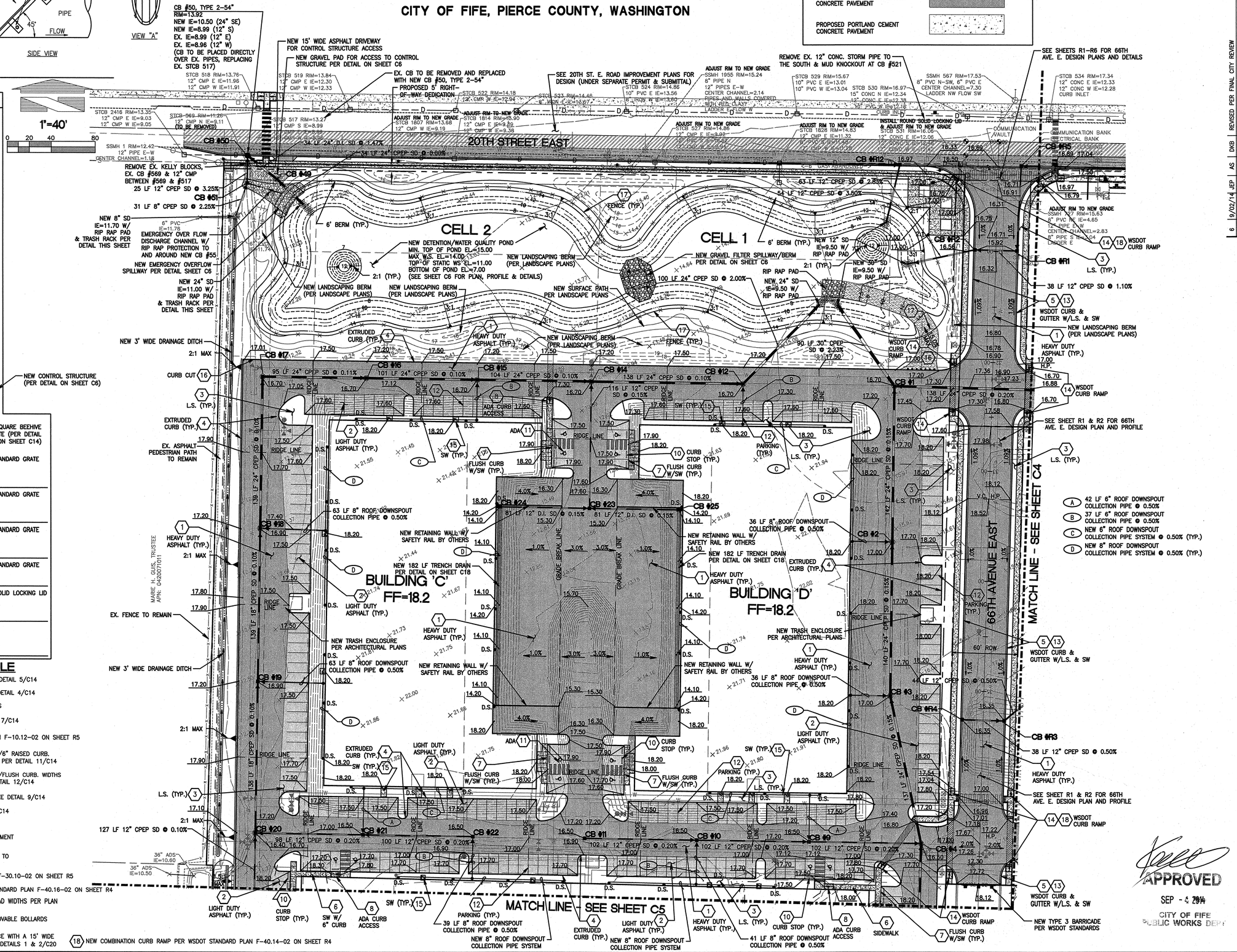
CB #1, TYPE 2–60" RIM=16.70 IE=11.50 (30" NW) IE=11.50 (24" E) IE=11.50 (24" S)	CB #19, TYPE 1L RIM=16.90 IE=12.21 (18" N) IE=12.21 (8" E) IE=12.21 (18" S)
CB #2, TYPE 2–48" RIM=17.00 IE=11.71 (24" N) IE=11.71 (8" W) IE=11.71 (24" S)	CB #20, TYPE 1L RIM=16.40 IE=12.35 (12" S) IE=12.35 (12" E) IE=12.35 (18" N)
CB #3, TYPE 2–48" RIM=17.00 IE=11.92 (24" N) IE=11.92 (8" W) IE=11.92 (24" S)	CB #21, TYPE 1 RIM=16.50 IE=12.55 (12" E) IE=12.55 (6" N) IE=12.55 (12" W)
CB #4, TYPE 2–54" RIM=16.50 IE=12.13 (24" S) IE=12.13 (24" N) IE=12.13 (12" W)	CB #22, TYPE 1 RIM=16.50 IE=12.75 (6" S) IE=12.75 (12" W)
CB #9, TYPE 1 RIM=16.50 IE=12.33 (12" E) IE=12.33 (6" N) IE=12.33 (12" W)	CB #23, TYPE 1L RIM=15.70 IE=11.81 (12" E) IE=11.81 (12" W) IE=11.81 (12" N)
CB #10, TYPE 1 RIM=16.50 IE=12.53 (12" E) IE=12.53 (6" S) IE=12.53 (12" W)	CB #24, TYPE 1 RIM=14.10 IE=11.93 (12" E) IE=11.93 (8" W)
CB #11, TYPE 1 RIM=16.50 IE=12.73 (12" E)	CB #25, TYPE 1 RIM=14.10 IE=11.93 (8" E) IE=11.93 (12" W)
CB #12, TYPE 2–48" RIM=16.70 IE=11.50 (24" NE) IE=11.50 (6" S) IE=11.50 (24" W)	CB #49, TYPE 2–60" RIM=17.00 IE=11.00 (24" SE) IE=11.00 (24" NW)
CB #14, TYPE 2–48" RIM=16.70 IE=11.64 (12" S) IE=11.64 (24" E) IE=11.64 (24" W)	CB #51, TYPE 1, W/SQUARE BEEHIVE GRATE (PER DETAIL 13 ON SHEET C14) RIM=13.50± IE=9.80 (12" N) IE=9.80 (8" S)
CB #15, TYPE 2–48" RIM=16.70 IE=11.74 (24" E) IE=11.74 (6" S) IE=11.74 (24" W)	CB #R1, TYPE 1 W/STANDARD GRATE RIM=15.92 IE=11.70 (12" N) IE=11.70 (12" W)
CB #16, TYPE 2–48" RIM=16.70 IE=11.84 (24" E) IE=11.84 (24" W)	CB #R2, TYPE 1 W/STANDARD GRATE RIM=15.92 IE=11.28 (12" E) IE=11.28 (12" W)
CB #17, TYPE 2–48" RIM=16.70 IE=11.94 (24" E) IE=11.94 (24" S)	CB #R3, TYPE 1 W/STANDARD GRATE RIM=16.35 IE=12.54 (12" W) IE=12.54 (12" NE)
CB #18, TYPE 2–48" RIM=16.90 IE=12.07 (24" N) IE=12.07 (8" E) IE=12.07 (18" S)	CB #R4, TYPE 1 W/STANDARD GRATE RIM=16.35 IE=12.73 (12" E)
	CB #R5, TYPE 1, W/SOLID LOCKING LID RIM=16.71 IE=12.50 (12" E) IE=12.50 (12" S)
	W/SOLID LOCKING LID RIM=16.90 IE=13.90 (12" S) IE=13.90 (12" N)

SITE DEVELOPMENT SCHEDULE

1. NEW HEAVY DUTY ASPHALT PAVEMENT SECTION PER DETAIL 5/C14
2. NEW LIGHT DUTY ASPHALT PAVEMENT SECTION PER DETAIL 4/C14
3. LANDSCAPING AND IRRIGATION PER LANDSCAPE PLANS
4. NEW ONSITE 6" EXTRUDED CONC. CURB PER DETAIL 7/C14
5. NEW CURB AND GUTTER PER WSDOT STANDARD PLAN F-10.12-02 ON SHEET R5
6. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK W/6" RAISED CURB. WIDTHS PER PLAN MAX. 2% CROSS SLOPE. SECTION PER DETAIL 11/C14
7. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK W/FLUSH CURB. WIDTHS PER PLAN MAX. 2% CROSS SLOPE. SECTION PER DETAIL 12/C14
8. NEW HANDICAP WHEELCHAIR CURB ACCESS RAMP. SEE DETAIL 9/C14
9. NEW CONCRETE LOADING DOCK AREA PER DETAIL 6/C14
10. CONCRETE CURB STOP PER DETAIL 8/C14
11. NEW HANDICAP ACCESSIBLE PARKING SIGN AND PAVEMENT MARKINGS PER DETAIL 1–3/C14
12. NEW 4" WIDE WHITE PARKING STALL STRIPES. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS.
13. NEW CONC. SIDEWALK PER WSDOT STANDARD PLAN F-30.10-02 ON SHEET R5
14. NEW SINGLE DIRECTION CURB RAMP PER WSDOT STANDARD PLAN F-40.16-02 ON SHEET R4
15. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK PAD WIDTHS PER PLAN MAX. 2% CROSS SLOPE. PER DETAIL 14/C14
16. NEW CURB CUT IN FRONT OF GRAVEL ACCESS. REMOVABLE BOLLARDS PER DETAILS 15 & 16/C14
17. NEW 6' HIGH BLACK VINYL COATED CHAIN LINK FENCE WITH A 15' WIDE DOUBLE SWING GATE AT GRAVEL ACCESS ROAD PER DETAILS 1 & 2/C20
18. NEW COMBINATION CURB RAMP PER WSDOT STANDARD PLAN F-40.14-02 ON SHEET R4

LEGEND

- PROPOSED LIGHT DUTY ASPHALT CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY ASPHALT CONCRETE PAVEMENT
- PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT



APPROVED
SEP - 5 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: GRADING AND STORM DRAINAGE PLAN

FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALDWIN — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40' Vertical N/A

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

Scale:1" = 1" MBOUKAL Xref: ------

BARGHAUSEN CONSULTING ENGINEERS, INC.
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Date/Time:8/15/2014 8:40 AM

Job Number 16004

Sheet C3 of 21

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GRADING AND STORM DRAINAGE PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=40'

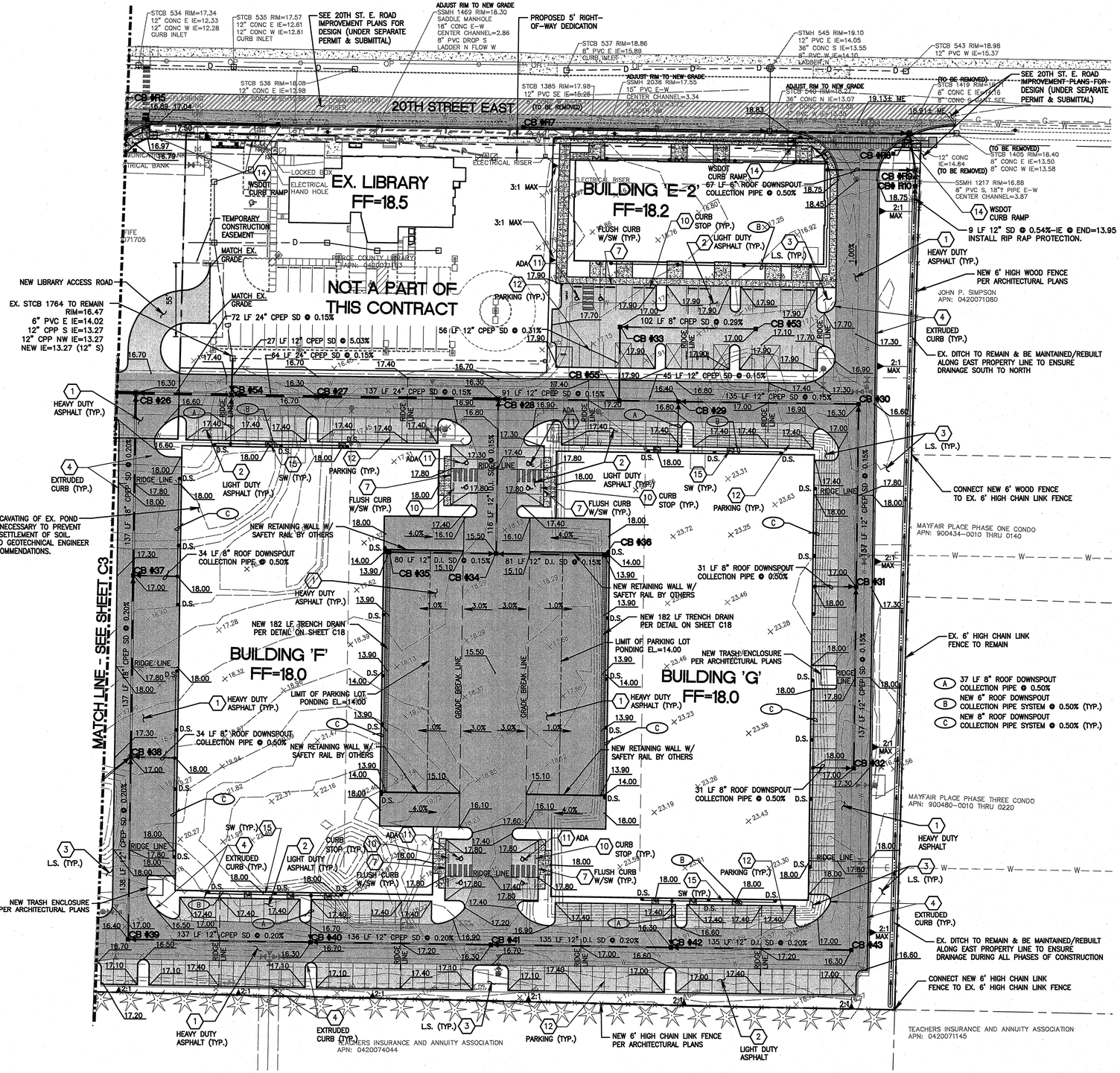
0 20 40 80

LEGEND

- PROPOSED LIGHT DUTY ASPHALT CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY ASPHALT CONCRETE PAVEMENT
- PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT

CATCH BASIN TABLE

CB #26, TYPE 2-48" RIM=16.30 IE=11.78 (24" E) IE=11.78 (18" S) IE=11.78 (24" W)	CB #36, TYPE 1 RIM=13.90 IE=12.48 (8" E) IE=12.48 (12" W)
CB #27, TYPE 2-48" RIM=16.30 IE=11.98 (24" E) IE=11.98 (24" W)	CB #37, TYPE 1L RIM=17.00 IE=12.05 (18" N) IE=12.05 (8" E) IE=12.05 (18" S)
CB #28, TYPE 2-54" RIM=16.85 IE=12.19 (12" S) IE=12.19 (12" E) IE=12.19 (24" W)	CB #38, TYPE 2-48" RIM=17.00 IE=12.32 (18" N) IE=12.32 (12" SW) IE=12.32 (8" E) IE=12.32 (12" S)
CB #29, TYPE 1 RIM=16.40 IE=12.39 (12" W) IE=12.39 (6" S) IE=12.39 (12" E)	CB #39, TYPE 1 RIM=16.40 IE=12.59 (12" N) IE=12.59 (12" E)
CB #30, TYPE 1 RIM=16.30 IE=12.59 (12" W) IE=12.59 (12" S)	CB #40, TYPE 1 RIM=16.30 IE=12.86 (12" W) IE=12.86 (6" N) IE=12.86 (12" E)
CB #31, TYPE 1 RIM=17.00 IE=12.80 (12" N) IE=12.80 (8" W) IE=12.80 (12" S)	CB #41, TYPE 1 RIM=16.30 IE=13.13 (12" W) IE=13.13 (12" E)
CB #32, TYPE 1 RIM=17.00 IE=13.00 (12" N) IE=13.00 (8" W)	CB #42, TYPE 1 RIM=16.30 IE=13.40 (12" W) IE=13.40 (6" N) IE=13.40 (12" E)
CB #33, TYPE 1 RIM=17.00 IE=12.50 (8" E) IE=12.50 (12" S)	CB #43, TYPE 1 RIM=16.30 IE=13.67 (12" W)
CB #34, TYPE 1 RIM=15.50 IE=12.36 (12" E) IE=12.36 (12" W) IE=12.36 (12" N)	CB #53, TYPE 1 RIM=17.00 IE=12.80 (8" W)
CB #35, TYPE 1 RIM=13.90 IE=12.48 (12" E) IE=12.48 (8" W)	CB #54, TYPE 2-48" RIM=17.20 IE=11.89 (24" E) IE=11.89 (12" N) IE=11.89 (6" S) IE=11.89 (24" W)
	CB #55, TYPE 1, W/ RIM=16.93 IE=12.33 (12" W) IE=12.33 (12" E) IE=12.33 (12" N)



SITE DEVELOPMENT SCHEDULE

1. NEW HEAVY DUTY ASPHALT PAVEMENT SECTION PER DETAIL 5/C14
2. NEW LIGHT DUTY ASPHALT PAVEMENT SECTION PER DETAIL 4/C14
3. LANDSCAPING AND IRRIGATION PER LANDSCAPE PLANS
4. NEW ONSITE 6" EXTRUDED CONC. CURB PER DETAIL 7/C14
5. NEW CURB AND GUTTER PER WSDOT STANDARD PLAN F-10.12-02
6. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK W/6" RAISED CURB. WIDTHS PER PLAN MAX. 2% CROSS SLOPE. SECTION PER DETAIL 11/C14
7. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK W/FLUSH CURB. WIDTHS PER PLAN MAX. 2% CROSS SLOPE. SECTION PER DETAIL 12/C14
8. NEW HANDICAP WHEELCHAIR CURB ACCESS RAMP. SEE DETAIL 9/C14
9. NEW CONCRETE LOADING DOCK AREA PER DETAIL 6/C14
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11. NEW HANDICAP ACCESSIBLE PARKING SIGN AND PAVEMENT MARKINGS PER DETAIL 1-3/C14
12. NEW 4" WIDE WHITE PARKING STALL STRIPES. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS.
13. NEW CONC. SIDEWALK PER WSDOT STANDARD PLAN F-30.10-02
14. NEW SINGLE DIRECTION CURB RAMP PER WSDOT STANDARD PLAN F-40.16-02
15. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK PAD WIDTHS PER PLAN MAX. 2% CROSS SLOPE. PER DETAIL 14/C14

APPROVED
SEP - 5 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: GRADING AND STORM DRAINAGE PLAN

FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALDWIN — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale:		Designed	AS
Horizontal	1"=40'	Drawn	MB
Vertical	N/A	Checked	AS
		Approved	DB
		Date	03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
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Job Number 16004

Sheet C4 of 21

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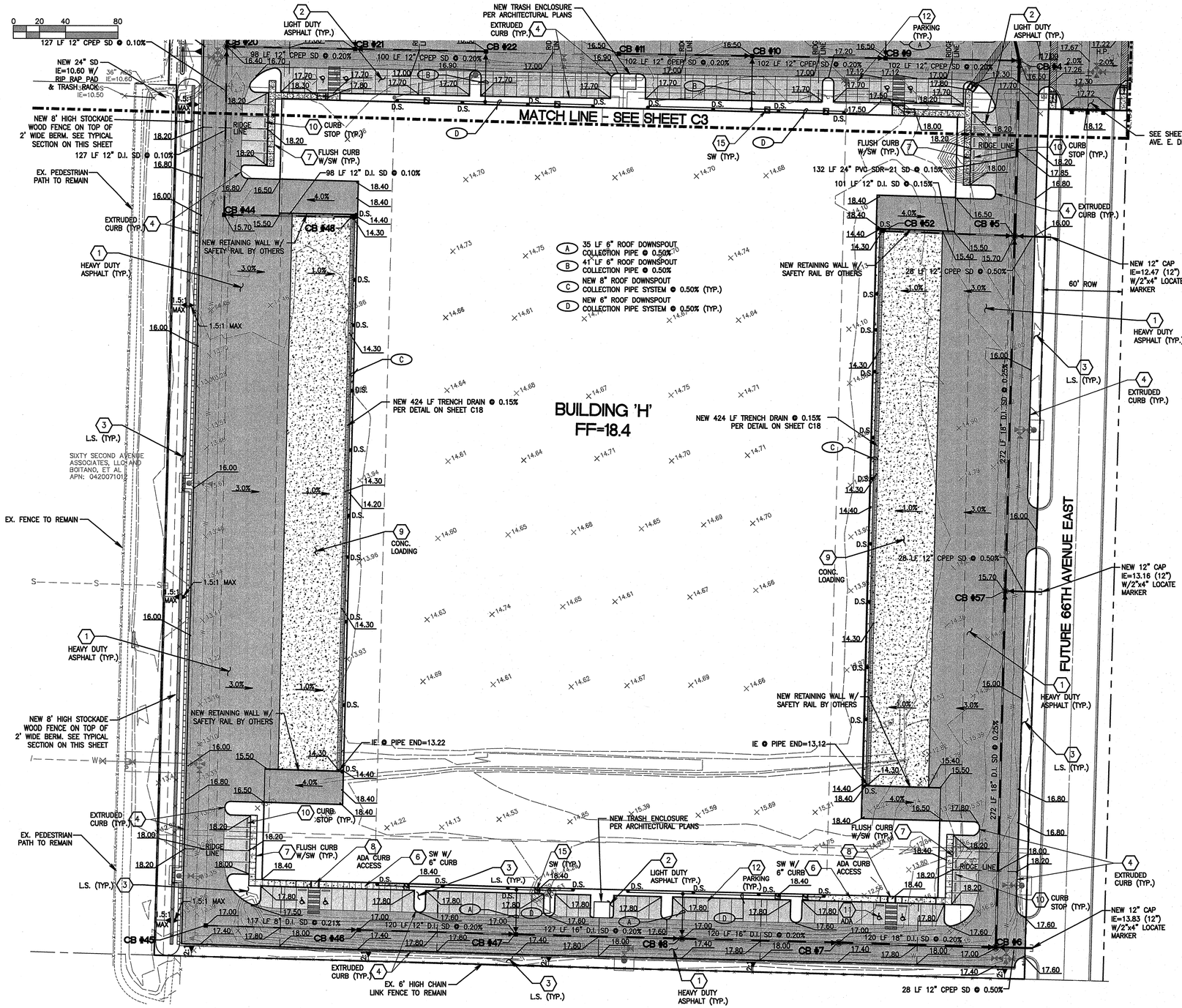
GRADING AND STORM DRAINAGE PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=40'



SITE DEVELOPMENT SCHEDULE

1. NEW HEAVY DUTY ASPHALT PAVEMENT SECTION PER DETAIL 5/C14
2. NEW LIGHT DUTY ASPHALT PAVEMENT SECTION PER DETAIL 4/C14
3. LANDSCAPING AND IRRIGATION PER LANDSCAPE PLANS
4. NEW ONSITE 6" EXTRUDED CONC. CURB PER DETAIL 7/C14
5. NEW CURB AND GUTTER PER WSDOT STANDARD PLAN F-10.12-02
6. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK W/6" RAISED CURB. WIDTHS PER PLAN MAX. 2% CROSS SLOPE. SECTION PER DETAIL 11/C14
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9. NEW CONCRETE LOADING DOCK AREA PER DETAIL 6/C14
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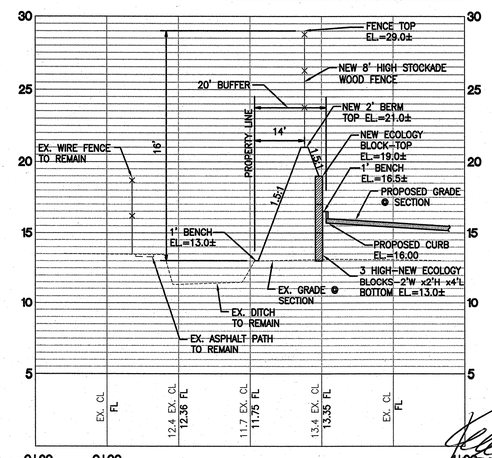
11. NEW HANDICAP ACCESSIBLE PARKING SIGN AND PAVEMENT MARKINGS PER DETAIL 1-3/C14
12. NEW 4" WIDE WHITE PARKING STALL STRIPES. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS.
13. NEW CONC. SIDEWALK PER WSDOT STANDARD PLAN F-30.10-02
14. NEW SINGLE DIRECTION CURB RAMP PER WSDOT STANDARD PLAN F-40.16-02
15. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK PAD WIDTHS PER PLAN MAX. 2% CROSS SLOPE. PER DETAIL 14/C14

CATCH BASIN TABLE

CB #4, TYPE 2-54" RIM=16.50 IE=12.13 (24" S) IE=12.13 (24" N) IE=12.13 (12" W)	CB #44, TYPE 1 RIM=15.70 IE=12.48 (12" N) IE=12.48 (12" E)
CB #5, TYPE 2-48" RIM=15.70 IE=12.33 (18" S) IE=12.33 (12" W) IE=12.33 (24" N) IE=12.33 (12" E)	CB #45, TYPE 1 RIM=17.00 IE=14.90 (8" E)
CB #6, TYPE 2-48" RIM=17.00 IE=13.69 (18" W) IE=13.69 (18" N) IE=13.69 (12" E)	CB #46, TYPE 1 RIM=17.00 IE=14.66 (12" E) IE=14.66 (8" W)
CB #7, TYPE 2-48" RIM=17.00 IE=13.93 (16" W) IE=13.93 (18" E)	CB #47, TYPE 1L RIM=17.00 IE=14.42 (12" W) IE=14.42 (6" N) IE=14.42 (16" E)
CB #8, TYPE 2-48" RIM=17.00 IE=14.17 (16" W) IE=14.17 (6" N) IE=14.17 (16" E)	CB #48, TYPE 1 RIM=14.30 IE=12.58 (12" W) IE=12.58 (8" E)
	CB #52, TYPE 1 RIM=14.30 IE=12.48 (12" E) IE=12.48 (8" W)
	CB #57, TYPE 2-48" RIM=15.70 IE=13.02 (18" S) IE=13.02 (18" N) IE=13.02 (12" E)

LEGEND

- PROPOSED LIGHT DUTY ASPHALT CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY ASPHALT CONCRETE PAVEMENT
- PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT



TYPICAL BERM SECTION AT SOUTHWEST PROPERTY LINE

SCALE: 1"=20' H. 1"=5' V.

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: GRADING AND STORM DRAINAGE PLAN

FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENTS
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

BARGHAUSEN ENGINEERS, INC. CONSULTING ENGINEERS
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

DANIEL K. BALMAT — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Designed AS | Drawn MB | Checked AS | Approved DB | Date 03/04/14
Scale: Horizontal 1"=40' | Vertical N/A

Job Number 16004
Sheet C5 of 21

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DETENTION/WATER QUALITY POND PLAN AND PROFILE

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

NOTES:

1) PIPE SIZES & SLOPES, SEE PLANS.
2) OUTLET CAPACITY NOT LESS THAN COMBINED INLETS
3) METAL PARTS:
   A) CORROSION RESISTANT OR GALVANIZED OR ALUMINIZED TYPE II,
   B) IF GALVANIZED STEEL PIPE, HAVE ASPHALT TREATMENT I.
4) FRAME & LADDER OR STEPS OFFSET SO:
   A) CLEANOUT GATE IS VISIBLE FROM TOP.
   B) CLIMBDOWN SPACE IS CLEAR OF RISER & CLEANOUT GATE BY 2'.
   C) FRAME IS CLEAR OF CURB.
5) STRUCTURE SHALL BE A TYPE II CATCH BASIN MINIMUM.
6) 1' MIN. 4" TO 8" QUARRY SPALLS OVER FABRIC 260# PER ASTM D-4632 SHALL BE PLACED UNDER ALL STRUCTURES LARGER THAN TYPE 1 CB. SEE DETAIL ON SHEET C15 FOR TYPE II CB SHOWING FABRIC & QUARRY SPALL PLACEMENT.

DETENTION/WATER QUALITY POND PLAN VIEW

SCALE: 1"=30'

DETENTION/WATER QUALITY POND SECTION A-A

SCALE: 1"=30' H. 1"=5' V.

DETENTION/WATER QUALITY POND SECTION B-B

SCALE: 1"=30' H. 1"=5' V.

EMERGENCY OVERFLOW SPILLWAY DETAIL SECTION E-E

NOT TO SCALE

QUARRY SPALL AND GRAVEL FILTER SPILLWAY SECTION C-C

NOT TO SCALE

QUARRY SPALL AND GRAVEL FILTER SPILLWAY SECTION D-D

NOT TO SCALE

MAINTENANCE ACCESS TYPICAL GRAVEL ROAD SECTION

NOT TO SCALE

ALL RIP RAP PADS SHALL BE 7.5' WIDE X 12' LONG X 1' DEEP, USING THE GRADATION SPECIFIED BELOW: (UNLESS OTHERWISE SPECIFIED). EXTEND ROCK TO 1' ABOVE CROWN OF OUTLET PIPE.

RIP RAP TO BE REASONABLY WELL GRADED WITH ROCK GRADATION AS FOLLOWS:
- MAXIMUM STONE SIZE 24" (NOMINAL DIAMETER)
- MEDAIN STONE SIZE 16"
- MINIMUM STONE SIZE 4"

RIP RAP PROTECTION DETAILS

NOT TO SCALE

APPROVED
SEP - 4 2014
CITY OF FIFE PUBLIC WORKS DEPT

NOTE: PROVIDE 1' MIN. OF 4"-8" QUARRY SPALLS EXTENDED 1' MIN. BEYOND PERIMETER OF STRUCTURE OVER FABRIC THAT MEETS ASTM D4632 (260#) AS A MINIMUM FOR MANHOLES TO BE PLACED ON PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

CB #49 CONTROL STRUCTURE, TYPE 2-60"

NOT TO SCALE

No.	Date	By	Ckd.	Appr.	Revision
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Title: DETENTION/WATER QUALITY POND PLAN AND PROFILE FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI, STATE OF WASHINGTON, 25672, REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=30' Vertical 1"=5'

Designed AS
Drawn MB
Checked AS
Approved DB
Date 03/04/14

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Job Number 16004
Sheet C6 of 21

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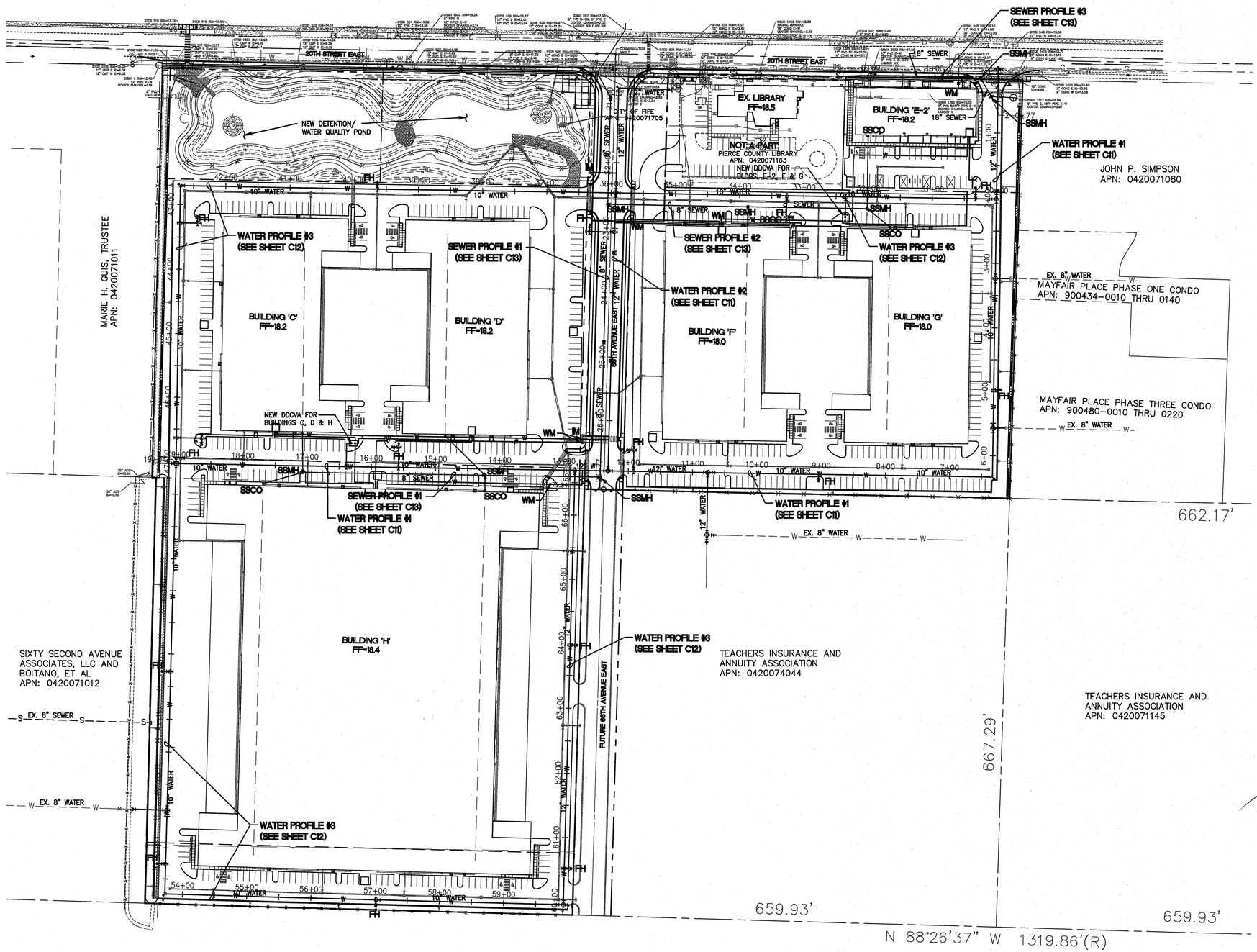
SANITARY SEWER AND WATERMAIN EXTENSION PLAN - OVERALL

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE
1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M.,
CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=80'
0 40 80 120



APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DNB	REVISED PER FINAL CITY REVIEW

Title: SANITARY SEWER AND WATERMAIN EXTENSION PLAN - OVERALL FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=80' Vertical N/A
Designed AS Drawn MB Checked AS Approved DB Date 03/04/14
Scale:1" = 1' MBOUKAL Xref: -----

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Job Number 16004
Sheet C7 of 21

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SANITARY SEWER AND WATER MAIN EXTENSION PLAN

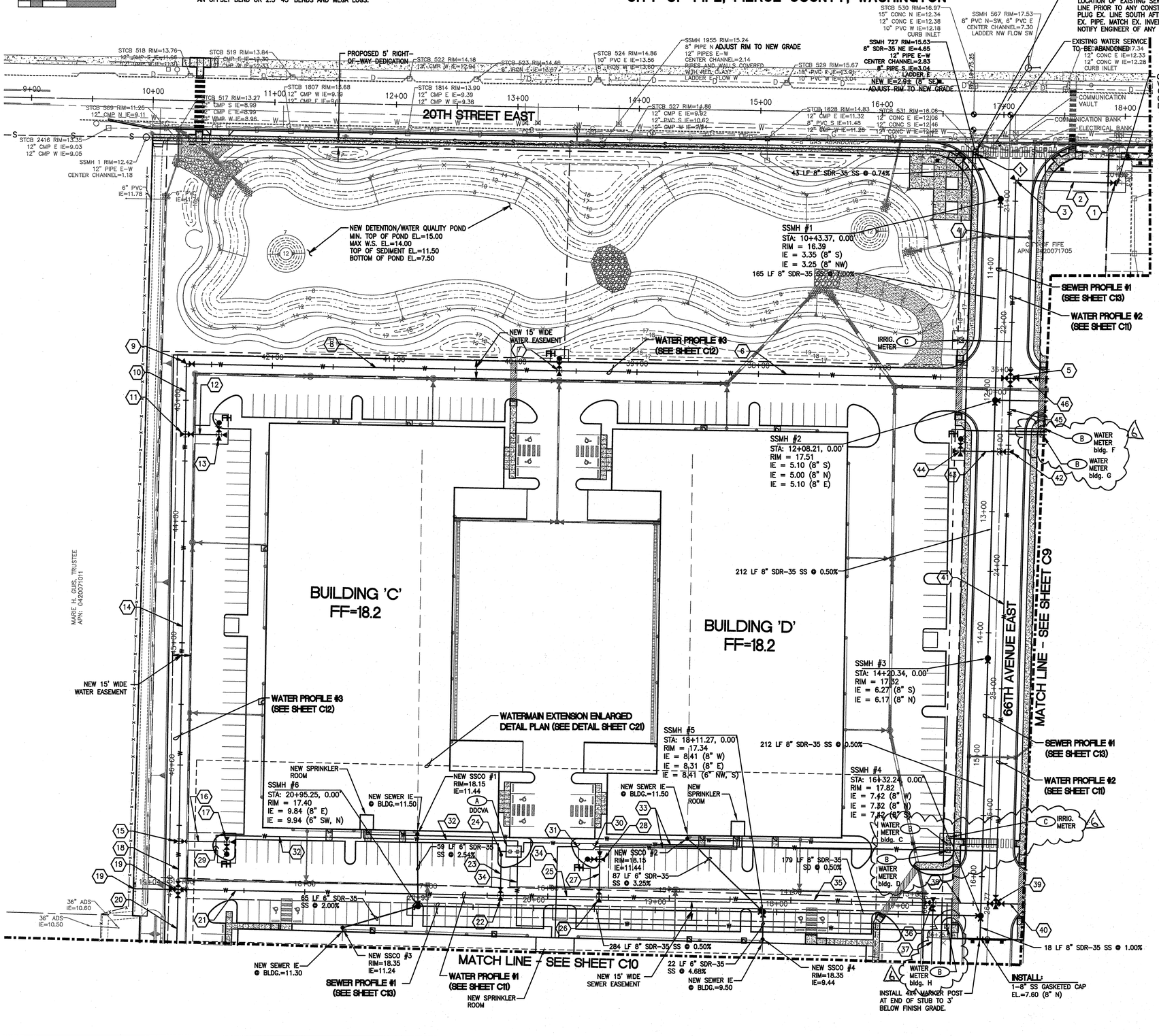
PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=40'

0 20 40 80

1. CEMENT PLUG EX. 8" PIPE INSIDE MANHOLE. CORE DRILL FOR NEW 8" SDR-35 SS (SE). NEW SEWER LINE SHALL BE CONNECTED AT MANHOLE WITH LINKSEAL OR COR-N-SEAL BOOT. RECHANNEL MH TO MATCH NEW PIPE TO THE SE

2. ALL WATER MAIN MAX HYD. BURY IS 4.5'. TEE/GATE VALVE FOR HYDRANTS THAT ARE DEEPER THAN 4.5' WILL REQUIRE AN OFFSET BEND OR 2.5' 45° BENDS AND MEGA LUGS.



SANITARY SEWER NOTES:

1. ALL TYPE 1 SANITARY SEWER MANHOLES PER WSDOT STD. PLAN B-15.20-01 ON SHEET C19
2. TYPE 2 SANITARY SEWER MANHOLE PER WSDOT STD. PLAN B-15.40-01 ON SHEET C19
3. ALL SANITARY SEWER CLEANOUTS AND BLOCKING PER DETAILS ON SHEET C19
4. SANITARY SEWER MH CONC. SLED PER DETAIL ON SHEET C19. (USE 2 SLEDS SIDE BY SIDE FOR ADDED BASE TO ALL SEWER MANHOLES)
5. EXISTING SEWER MAIN TO REMAIN IN SERVICE UNTIL THE NEW SEWER MAIN IS COMPLETED, FLUSHED, VIDEO INSPECTED AND AIR TESTED.

WATERMAIN KEYNOTE TABLE

1. **INSTALL:** STA. 20+00.00, 0.0' RT; REMOVE EX. CAP FROM TEE & CONC. BLOCKING; INSTALL 1-12" GATE VALVE (FLxMJ)
2. 83 LF 12" CL50 W
3. **INSTALL:** STA. 20+83.00, 0.0' RT; N: 700240.62; E: 1183007.48; 1-12" 90° BEND (MJxMJ); 1-CONC. THRUST BLOCKING
4. 198 LF 12" CL50 W
5. **INSTALL:** STA. 22+45.21, 0.0' RT.= STA. 35+92.74, 0.0' RT; N: 70078.60; E: 1182994.57; 1-12"X10" CROSS (FLxFL); 2-12" GATE VALVES (FLxMJ); 2-10" GATE VALVES (FLxMJ); 1-CONC. THRUST BLOCKING
6. 372 LF 10" CL50 W
7. **INSTALL:** STA. 39+63.88, 0.0' RT; N: 700394.37; E: 1182831.94; FIRE HYDRANT #1; 1-10"x6" TEE (MJxFL); 1-6" GATE VALVE (FLxMJ); 1-5 1/4" MVO FIRE HYDRANT ASSEMBLY; 1-2" AIR VAC PER DETAIL W12 ON C16; 1-CONC. THRUST BLOCKING PER DETAIL W10 ON SHEET C17
8. 307 LF 10" CL50 W
9. **INSTALL:** STA. 42+70.65, 0.0' RT; N: 700089.24; E: 1182325.06; 1-10" 90° BEND (MJxFL); 1-10" GATE VALVE (FLxMJ); 1-CONC. THRUST BLOCKING
10. 57 LF 10" CL50 W
11. **INSTALL:** STA. 43+28.14, 0.0' RT; N: 700031.77; E: 1182324.14; 1-10"x8" TEE (MJxFL); 1-8" GATE VALVE (FLxMJ); 1-CONC. THRUST BLOCKING
12. 28 LF 8" CL50 W
13. **INSTALL:** STA. 43+31.06, 28.39' LT; N: 700031.43; E: 1182349.53; FIRE HYDRANT #2; 1-8"X6" TEE (FLxMJ); 1-8" PLUG (MJ); 1-6" GATE VALVE (FLxMJ); 1-5 1/4" MVO FIRE HYDRANT ASSEMBLY; 2-CONCRETE THRUST BLOCKING PER DETAIL W10 ON SHEET C17
14. 338 LF 10" CL50 W
15. **INSTALL:** STA. 46+63.16, 0.0' RT; N: 699696.81; E: 1182318.81; 1-10"x8" TEE (MJxFL); 1-8" GATE VALVE (FLxMJ); 1-CONC. THRUST BLOCKING
16. 39 LF 8" CL50 W
17. **INSTALL:** STA. 46+68.07, 25.39' LT; N: 699694.51; E: 1182341.17; FIRE HYDRANT #3; 1-8"X6" TEE (FLxMJ); 1-8" PLUG (MJ); 1-6" GATE VALVE (FLxMJ); 1-5 1/4" MVO FIRE HYDRANT ASSEMBLY; 2-CONCRETE THRUST BLOCKING PER DETAIL W10 ON SHEET C17
18. 39 LF 10" CL50 W
19. **INSTALL:** STA. 47+02.68, 0.0' RT= STA. 19+07.07, 0.0' RT; N: 699657.29; E: 1182318.19; 1-10"X10" CROSS (FLxFL); 4-10" GATE VALVES (FLxMJ); 37 LF 10" D.I. EXTENSION; 1-10" CAP (MJ); 1-3" BLOWOFF ASSEMBLY; 1-CONC. THRUST BLOCKING
20. 324 LF 10" CL50 W
21. 265 LF 10" CL50 W
22. **INSTALL:** STA. 16+39.02, 0.0' RT; N: 699653.07; E: 1182583.21; 1-10"X8" TEE (FLxMJ); 1-8" GATE VALVE (FLxMJ); 1-2" AIR VAC PER DETAIL W12 ON C16; 1-CONC. THRUST BLOCKING
23. 40 LF 8" CL50 W FIRE LINE
24. INSTALL POST INDICATOR VALVE
25. 81 LF 10" CL50 W
26. **INSTALL:** STA. 15+57.81, 0.0' RT; N: 699651.79; E:1182664.41; 1-10"X8" TEE (FLxMJ); 1-8" GATE VALVE (FLxMJ); 1-CONC. THRUST BLOCKING
27. 31 LF 8" CL50 W
28. **INSTALL:** STA. 15+59.88, 25.97' RT; N: 699677.80; E: 1182662.75; FIRE HYDRANT #4; 1-8"X6" TEE (FLxMJ); 1-8" PLUG (MJ); 1-6" GATE VALVE (FLxMJ); 1-5 1/4" MVO FIRE HYDRANT ASSEMBLY; 2-CONCRETE THRUST BLOCKING PER DETAIL W10 ON SHEET C17
29. FIRE DEPARTMENT CONNECTION, BLDG. 'C' PER DETAIL W21 ON SHEET C17
30. FIRE DEPARTMENT CONNECTION, BLDG. 'D' PER DETAIL W21 ON SHEET C17
31. FIRE DEPARTMENT CONNECTION, BLDG. 'H' PER DETAIL W21 ON SHEET C17
32. BLDG. 'C'=272 TOTAL LF 6" FDC LINE
33. BLDG. 'D'=318 TOTAL LF 6" FDC LINE
34. BLDG. 'H'=186 TOTAL LF 8" FDC LINE
35. 274 LF 10" CL50 W
36. **INSTALL:** STA. 12+82.94, 0.0' RT= STA. 66+75.33, 0.0' RT; N: 699647.43; E: 1182939.24; 1-12"X12" TEE (FLxFL); 1-12" GATE VALVE (FLxMJ); 1-10" GATE VALVE (FLxMJ); 1-12" ADAPTER (FLxMJ); 1-CONC. THRUST BLOCKING
37. 272 LF 12" CL50 W
38. 51 LF 12" CL50 W
39. **INSTALL:** STA. 12+31.56, 0.0' RT= STA. 26+77.25, 0.0' RT; N: 699646.61; E: 1182990.63; 1-12"x12" TEE (FLxFL); 3-12" GATE VALVES (FLxMJ); 1-CONC. THRUST BLOCKING
40. 40 LF 12" CL50 W
41. 372 LF 12" CL50 W
42. **INSTALL:** STA. 23+05.53, 0.0' RT; N: 700018.18; E: 1183001.17; 1-12"x8" TEE (MJxFL); 1-8" GATE VALVE (FLxMJ); 1-CONC. THRUST BLOCKING
43. 39 LF 8" CL50 W
44. **INSTALL:** STA. 23+06.02, 39.27' RT; N: 700018.81; E: 1182961.90; FIRE HYDRANT #5; 1-8"X6" TEE (FLxMJ); 1-8" PLUG (MJ); 1-6" GATE VALVE (FLxMJ); 1-5 1/4" MVO FIRE HYDRANT ASSEMBLY; 2-CONCRETE THRUST BLOCKING PER DETAIL W10 ON SHEET C17
45. 45 LF 12" CL50 W
46. 268 LF 10" CL50 W

- (A) **INSTALL:** NEW DDCVA FOR BUILDINGS C, D, & H PER C.O.F. DETAIL W14 ON SHEET C18
- (B) **INSTALL:** 1-1 1/2" DOMESTIC WATER METER W/RPBA W/2" SERVICE PER C.O.F. DETAIL W3 & W18 ON SHEET C16
- (C) **INSTALL:** 1-1 1/2" IRRIGATION METER W/BACKFLOW PREVENTOR PER C.O.F. DETAIL W3 & W20 ON SHEET C16

APPROVED
SEP - 4 2014
CITY OF FIFE PUBLIC WORKS DEPT.

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: SANITARY SEWER AND WATER MAIN EXTENSION PLAN FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT, 22757 72ND AVE S., SUITE E-106, KENT, WA 98032, 253-872-9522

DANIEL K. BALMELLI, STATE OF WASHINGTON, 25672, REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40' Vertical N/A

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

Scale=1" = 1" MBOUKAL Xref: ----- File=P:\16000s\16004\engineering\RAISED SITE BY .20 FEET\16004-ws1-3.dwg Date/Time=9/2/2014 11:18 AM

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH, KENT, WA 98032, (425)251-6222, (425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet C8 of 21

SANITARY SEWER AND WATER MAIN EXTENSION PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=40'

0 20 40 80

SANITARY SEWER NOTES:

1. ALL TYPE 1 SANITARY SEWER MANHOLES PER WSDOT STD. PLAN B-15.20-01 ON SHEET C19
2. TYPE 2 SANITARY SEWER MANHOLE PER WSDOT STD. PLAN B-15.40-01 ON SHEET C19
3. ALL SANITARY SEWER CLEANOUTS AND BLOCKING PER DETAILS ON SHEET C19
4. SANITARY SEWER MH CONC. SLED PER DETAIL ON SHEET C19. (USE 2 SLEDS SIDE BY SIDE FOR ADDED BASE TO ALL SEWER MANHOLES)
5. EXISTING SEWER MAIN TO REMAIN IN SERVICE UNTIL THE NEW SEWER MAIN IS COMPLETED, FLUSHED, VIDEO INSPECTED AND AIR TESTED.

SPECIAL WATER AND SEWER KEYNOTES

(1) EXISTING 12" STORM LINE IS IN GRADE CONFLICT WITH NEW 12" WATER LINE. ALSO POSSIBLE CONFLICT WITH EX. 6" GAS LINE. WILL REQUIRE POTHOLING TO VERIFY LOCATIONS. NEW 12" WATER LINE CONNECTION WILL 2-12" 45° BENDS, MEGA LUGS, HAIR PINS, AND CONCRETE BLOCKING TO GO UNDER EX. STORM AND GAS LINES. SEE DETAIL 'A' ON SHEET C18

(2) EX. SEWER MAIN TO REMAIN IN SERVICE UNTIL NEW SEWER LINE IS INSTALLED AND OPERATIONAL-FLUSHED, VIDEO OF NEW LINE AND AIR TESTED.

(3) NOT USED

(4) ALL WATER MAIN MAX HYD. BURY IS 4.5'. TEE/GATE VALVE FOR HYDRANTS THAT ARE DEEPER THAN 4.5' WILL REQUIRE AN OFFSET BEND OR 2.5' 45° BENDS AND MEGA LUGS. SEE DETAIL 'B' ON SHEET C18

SEWER SECTION AT BLDG. E-2

SCALE: 1"=20' H. 1"=5' V.

WATERMAIN KEYNOTE TABLE

(46) 268 LF 10" CL50 W

(47) **INSTALL:**
STA. 33+26.52, 0.0' RT
N: 700074.25
E: 1183269.07
1-10"x8" TEE (MJxFL)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(48) 33 LF 8" CL50 W

(49) **INSTALL:**
STA. 33+26.51, 32.95' RT
N: 700041.30
E: 1183268.55
FIRE HYDRANT #6
1-8"X6" TEE (FLxMJ)
1-8" PLUG (MJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
2-CONCRETE THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

(50) BLDG. 'F'=326 TOTAL LF 6" FDC LINE

(51) BLDG. 'G'=252 TOTAL LF 6" FDC LINE

(52) BLDG. 'E-2'=393 TOTAL LF 6" FDC LINE

(53) FIRE DEPARTMENT CONNECTION, BLDG. 'E-2' PER DETAIL W21 ON SHEET C17

(54) FIRE DEPARTMENT CONNECTION, BLDG. 'F' PER DETAIL W21 ON SHEET C17

(55) FIRE DEPARTMENT CONNECTION, BLDG. 'G' PER DETAIL W21 ON SHEET C17

(56) 91 LF 10" CL50 W

(57) **INSTALL:**
STA. 32+35.26, 0.0' RT
N: 700072.79
E: 11833360.31
1-10"X6" TEE (FLxMJ)
1-6" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(58) 28 LF 6" CL50 W FIRE LINE

(59) INSTALL POST INDICATOR VALVE

(60) 203 LF 10" CL50 W

(61) **INSTALL:**
STA. 30+32.69, 0.0' RT
N: 700069.58
E: 1183562.85
FIRE HYDRANT #7
1-10"X6" TEE (MJxFL)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING

(62) 33 LF 10" CL50 W

(63) **INSTALL:**
STA. 2+00.94, 0.0 RT=
STA. 30+00, 0.0' RT
N: 700069.06
E: 1183595.54
1-12" TEE (FLxFL)
2-12"x10" REDUCERS (FL)
2-10" GATE VALVES (FLxMJ)
1-12" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(64) 200 LF 12" CL50 W

(65) **INSTALL:**
STA. 00+00.00, 0.0' RT
N: 700269.98
E: 1183598.50
1-12"X12" CUT IN TEE (FLxFL)
3-12" GATE VALVES (FLxMJ)
2-12" DI SLEEVES
1-CONC. THRUST BLOCKING

(66) 122 LF 10" CL50 W

(67) **INSTALL:**
STA. 3+23.40, 0.0 RT=
STA. 30+00, 0.0' RT
N: 699946.61
E: 1183593.73
1-10"X8" TEE (FLxFL)
2-10" GATE VALVES (FLxMJ)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(68) 23 LF 8" CL50 W

(69) 173 LF 10" CL50 W

(70) **INSTALL:**
STA. 4+96.44, 0.0' RT
N: 699773.59
E: 1183591.18
FIRE HYDRANT #8
1-10"X6" TEE (FLxMJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

(71) 61 LF 10" CL50 W

(72) **INSTALL:**
STA. 5+57.34, 0.0' RT
N: 699712.70
E: 1183590.28
1-10"X8" TEE (FLxFL)
2-10" GATE VALVES (FLxMJ)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(73) 20 LF 8" CL50 W

(74) 75 LF 10" CL50 W

(75) **INSTALL:**
STA. 6+32.94, 0.0' RT
N: 699637.11
E: 1183589.16
1-10" 90° BEND (MJxMJ)
1-CONC. THRUST BLOCKING

(76) 272 LF 10" CL50 W

(77) **INSTALL:**
STA. 9+03.80, 0.0' RT
N: 699641.47
E: 1183318.34
FIRE HYDRANT #9
1-10"X6" TEE (FLxMJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

(78) 173 LF 10" CL50 W

(79) **INSTALL:**
STA. 10+76.15, 0.0' RT
N: 699644.15
E: 1183146.01
1-12" TEE (FLxFL)
2-12" GATE VALVES (FLxMJ)
1-12"X10" REDUCER (FL)
1-10" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(80) 96 LF 12" CL50 W

(81) **INSTALL:**
STA. 10+76.15, 95.78' LT
N: 699548.38
E: 1183144.49
1-12"X12" TEE (FLxFL)
1-12" GATE VALVE (FLxMJ)
2-12"X8" REDUCERS (FL)
2-8" GATE VALVES (FLxMJ)
2-8" LONG PATTERN SLEEVES
1-CONC. THRUST BLOCKING

(82) 10 LF 8" CL50 W

(83) NOT USED

(84) 115 LF 12" CL50 W

(85) **INSTALL:**
STA. 11+91.70, 0.0' LT
N: 699548.38
E: 1183144.49
1-12"X8" TEE (FLxMJ)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

(86) 33 LF 8" CL50 W

(87) **INSTALL:**
STA. 11+91.71, 32.56' RT
N: 699678.54
E: 1183030.98
FIRE HYDRANT #10
1-8"X6" TEE (FLxMJ)
1-8" PLUG (MJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
2-CONCRETE THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

(88) 40 LF 12" CL50 W

(A) **INSTALL:**
NEW DDCVA FOR BUILDINGS E-2, F, & G
PER C.O.F. DETAIL W14 ON SHEET C18

(B) **INSTALL:**
1-1 1/2" DOMESTIC WATER METER W/RPBA W/2" SERVICE PER C.O.F. DETAIL W3 & W18 ON SHEET C16

(C) **INSTALL:**
1-1 1/2" IRRIGATION METER W/BACKFLOW PREVENTOR PER C.O.F. DETAIL W3 & W20 ON SHEET C16

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: SANITARY SEWER AND WATER MAIN EXTENSION PLAN FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI, STATE OF WASHINGTON, 25672, REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40'; Vertical N/A

Designed AS
Drawn MB
Checked AS
Approved DB
Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet C9 of 21

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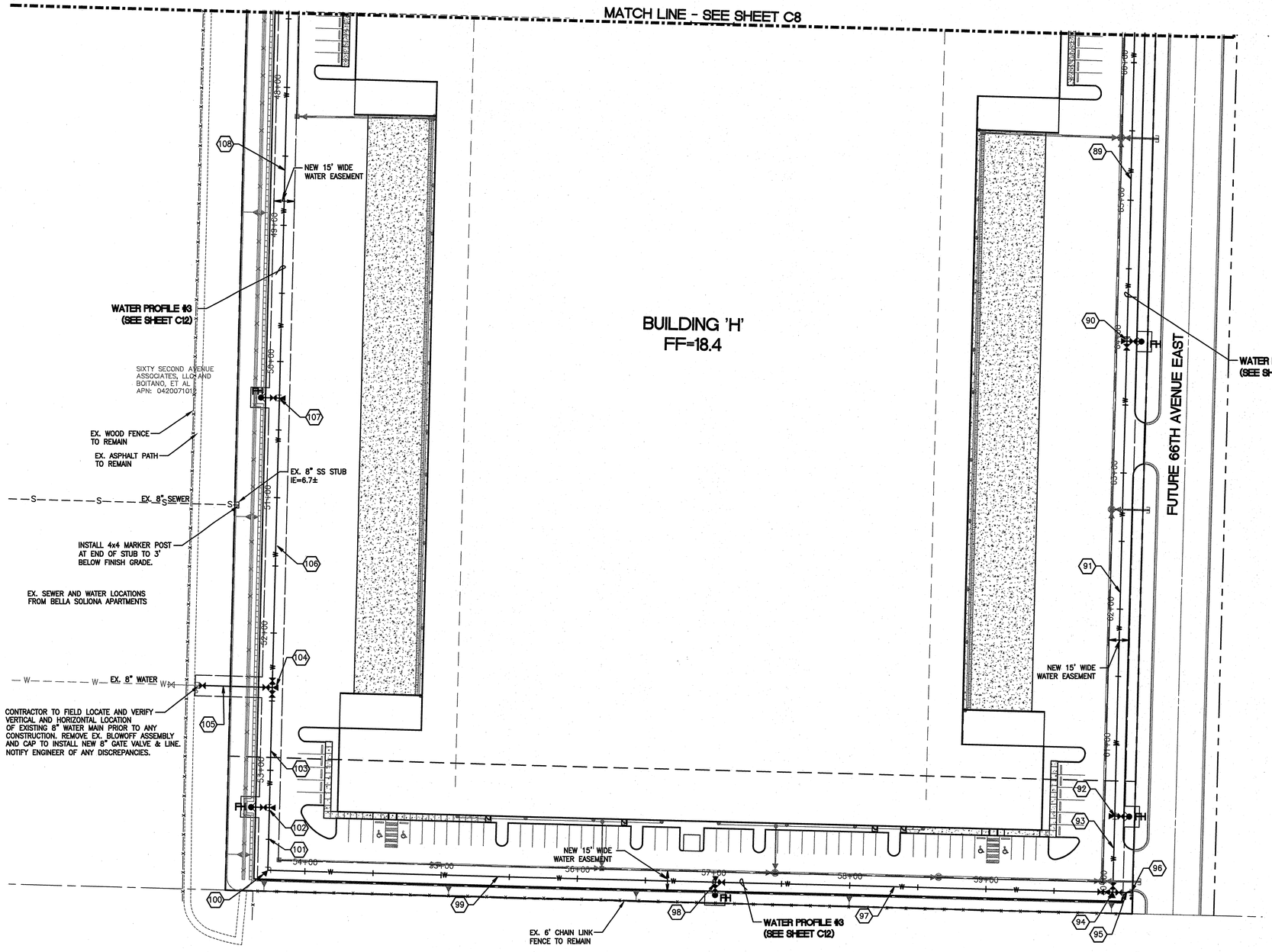
SANITARY SEWER AND WATER MAIN EXTENSION PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE
1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M.,
CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=40'
0 20 40 80



1 ALL WATER MAIN MAX HYD. BURY IS 4.5'. TEE/GATE VALVE FOR HYDRANTS THAT ARE DEEPER THAN 4.5' WILL REQUIRE AN OFFSET BEND OR 2.5' 45° BENDS AND MEGA LUGS.

WATERMAIN KEYNOTE TABLE

89 272 LF 12" CL50 W

90 **INSTALL:**
STA. 64+02.92, 0.0' RT
N: 699375.12
E: 1182931.86
FIRE HYDRANT #11
1-12"x6" TEE (FLxFL)
1-12" GATE VALVE (FLxMJ)
1-12" ADAPTOR (FLxMJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

91 348 LF 12" CL50 W

92 **INSTALL:**
STA. 60+54.92, 0.0' RT
N: 699026.97
E: 1182932.99
FIRE HYDRANT #12
1-12"x6" TEE (MJxFL)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

93 56 LF 12" CL50 W

94 **INSTALL:**
STA. 59+99.03, 0.0' RT
N: 698971.39
E: 1182920.91
1-12" TEE (FLxFL)
2-12" GATE VALVES (FLxMJ)
1-12"X10" REDUCER (FL)
1-10" GATE VALVE (FLxMJ)
1-2" AIR VAC PER DETAIL W12 ON C16
1-CONC. THRUST BLOCKING

95 15 LF 12" CL50 W

96 **INSTALL:**
STA. 59+99.06, 0.0' RT
N: 698971.01
E: 1182935.46
1-12" CAP (FLxMJ)
1-3" BLOW-OFF ASSEMBLY
PER DETAIL W19 ON SHEET C16
1-CONC. THRUST BLOCKING

97 292 LF 10" CL50 W

98 **INSTALL:**
STA. 57+07+42, 0.0' RT
N: 698969.33
E: 1192629.07
FIRE HYDRANT #13
1-10"X6" TEE (FLxFL)
1-10" GATE VALVE (FLxMJ)
1-10" ADAPTOR (FLxMJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

99 329 LF 10" CL50 W

100 **INSTALL:**
STA. 53+72.81, 0.0' RT
N: 698857.35
E: 1182300.86
1-10" 90° BEND (MJxMJ)
1-CONC. THRUST BLOCKING

101 46 LF 10" CL50 W

102 **INSTALL:**
STA. 53+26.80, 0.0' RT
N: 699033.35
E: 1182302.05
FIRE HYDRANT #14
1-10"X6" TEE (MJxFL)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

103 86 LF 10" CL50 W

104 **INSTALL:**
STA. 52+40.20, 0.0' RT
N: 699119.92
E: 1182304.29
1-10"x8" TEE (FLxFL)
2-10" GATE VALVES (FLxMJ)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

105 54 LF 8" CL50 W

106 213 LF 10" CL50 W

107 **INSTALL:**
STA. 50+26.80, 0.0' RT
N: 699333.25
E: 1182309.81
FIRE HYDRANT #15
1-10"X6" TEE (MJxFL)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

108 324 LF 10" CL50 W

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
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Title: SANITARY SEWER AND WATER MAIN EXTENSION PLAN FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40' Vertical N/A

Designed AS | Drawn MB | Checked AS | Approved DB | Date 03/04/14

BERGHAUSEN & ASSOCIATES, INC. CONSULTING ENGINEERS
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Job Number 16004 | Sheet C10 of 21

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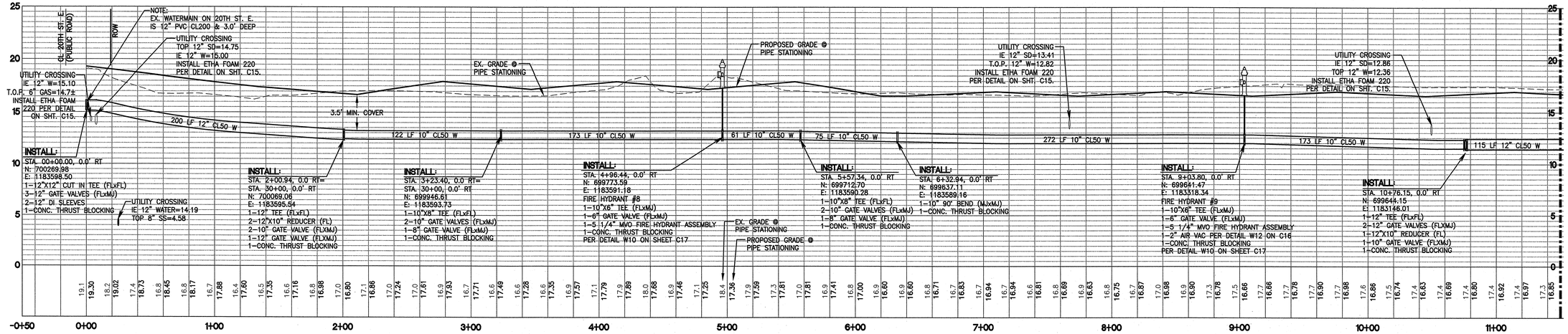
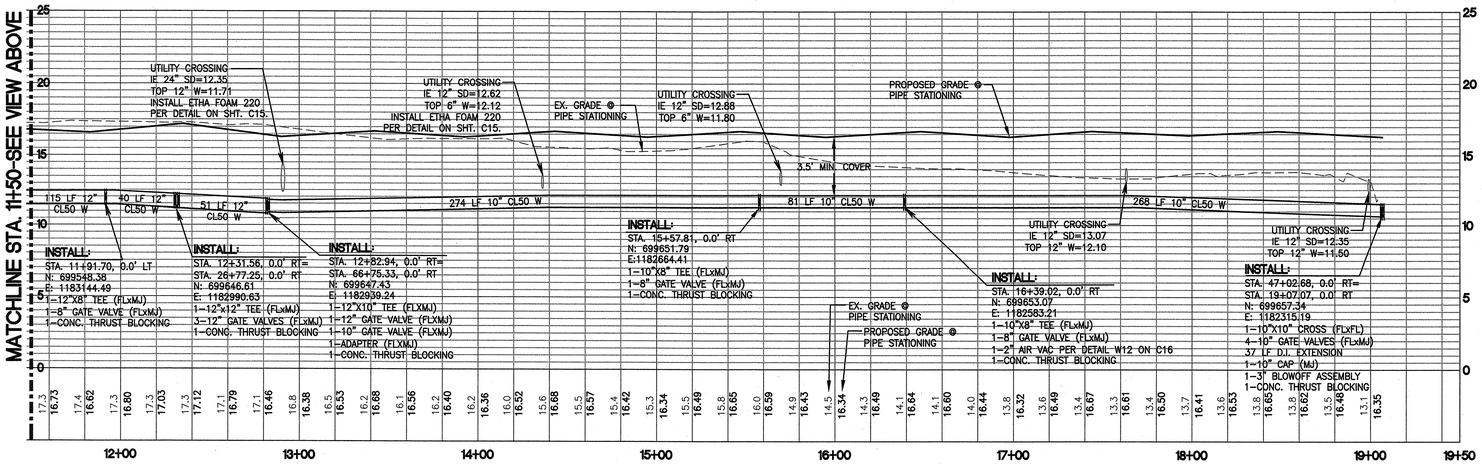
WATER MAIN EXTENSION PROFILE



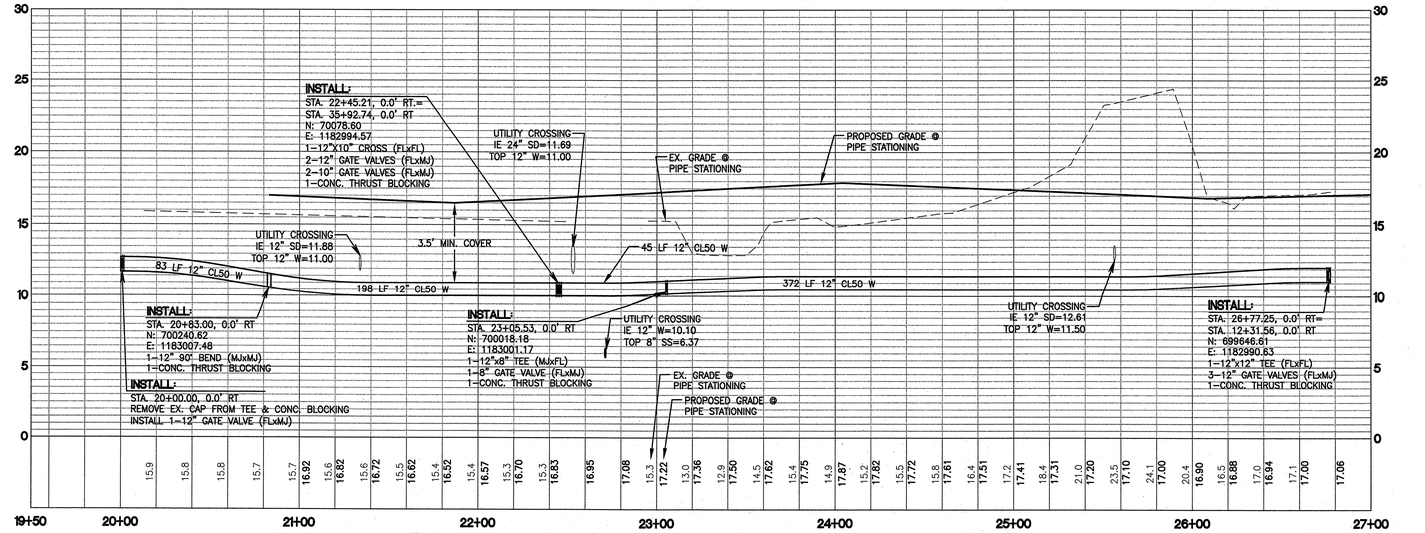
WATER MAIN PROFILE #1

SCALE: 1"=40' H. 1"=5' V.



WATER MAIN PROFILE #1

SCALE: 1"=40' H. 1"=5' V.



WATER MAIN PROFILE #2

SCALE: 1"=40' H. 1"=5' V.

(1) ALL WATER MAIN MAX HYD. BURY IS 4.5'. TEE/GATE VALVE FOR HYDRANTS THAT ARE DEEPER THAN 4.5' WILL REQUIRE AN OFFSET BEND OR 2.5' 45° BENDS AND MEGA LUGS. SEE DETAIL 'B' ON SHEET C18

NOTE:
SEE C8, C9 AND C10 FOR WATER MAIN EXTENSION PLAN VIEW DESIGN.

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: WATER MAIN EXTENSION PROFILE

FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI
STATE OF WASHINGTON
25672
REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40' Vertical 1"=5'
Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004
Sheet C11 of 21

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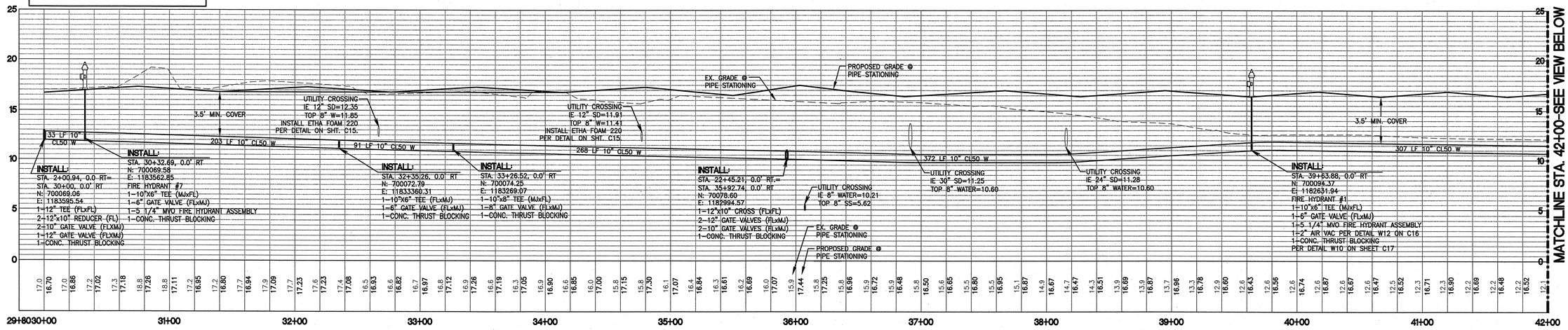
WATER MAIN EXTENSION PROFILE

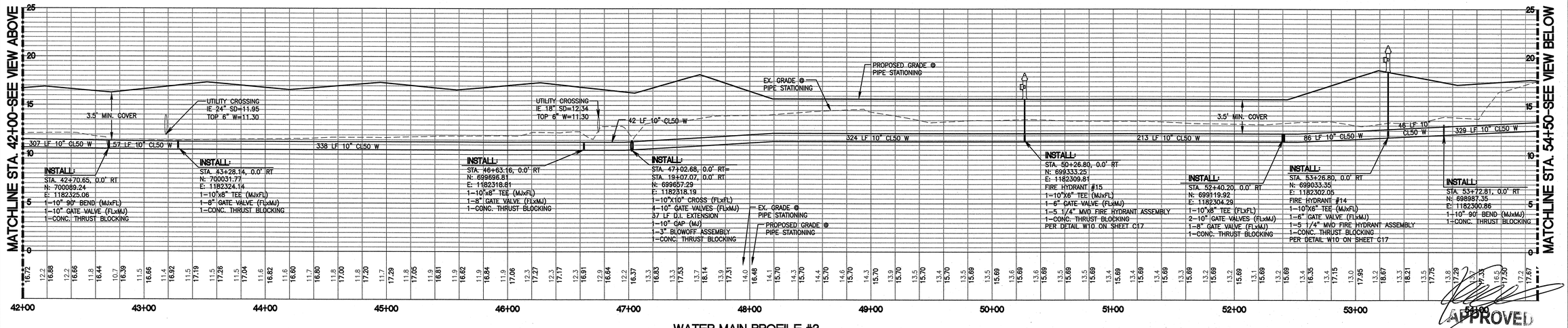
NOTE:
SEE C8, C9 AND C10 FOR WATER MAIN EXTENSION PLAN VIEW DESIGN.

(1) ALL WATER MAIN MAX HYD. BURY IS 4.5'. TEE/GATE VALVE FOR HYDRANTS THAT ARE DEEPER THAN 4.5' WILL REQUIRE AN OFFSET BEND OR 2.5' 45° BENDS AND MEGA LUGS. SEE DETAIL 'B' ON SHEET C18



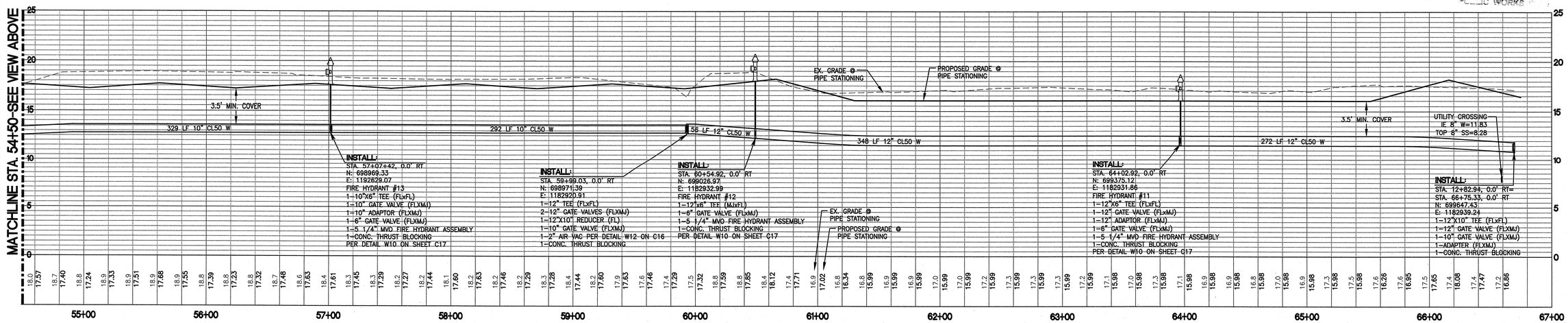
WATER MAIN PROFILE #3

SCALE: 1"=40' H. 1"=5' V.



WATER MAIN PROFILE #3

SCALE: 1"=40' H. 1"=5' V.



WATER MAIN PROFILE #3

SCALE: 1"=40' H. 1"=5' V.

APPROVED
SEP - 5 2014
CITY OF KENT
PUBLIC WORKS

No.	Date	By	Chkd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: WATER MAIN EXTENSION PROFILE

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40' Vertical 1"=5'
Designed AS Drawn MB Checked AS Approved DB Date 03/04/14
Scale:1" = 1" MBOUKAL Xref: ----

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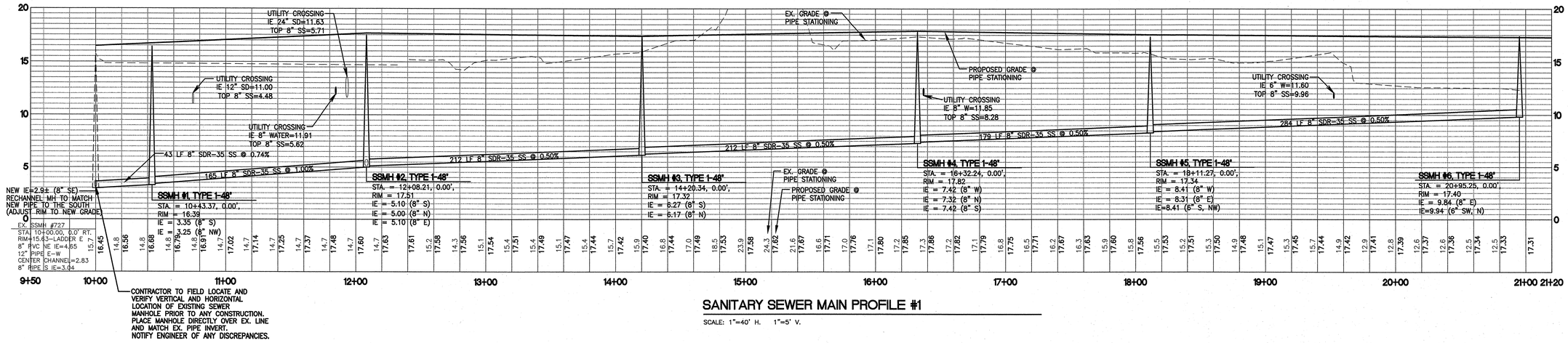
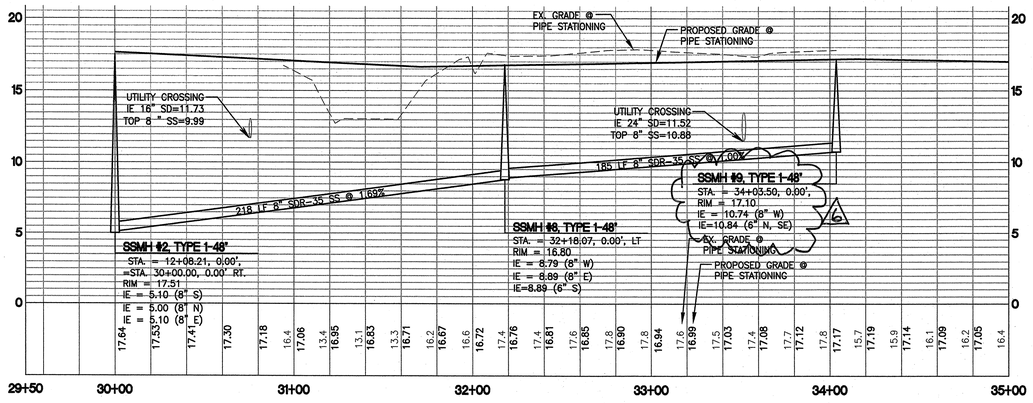
Job Number 16004
Sheet C12 of 21

SANITARY SEWER MAIN PROFILE



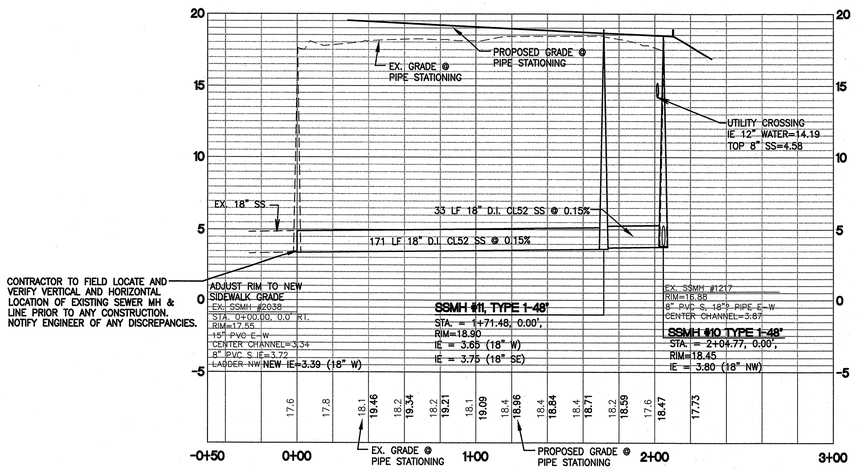
SANITARY SEWER MAIN PROFILE #1

SCALE: 1"=40' H. 1"=5' V.



SANITARY SEWER MAIN PROFILE #2

SCALE: 1"=40' H. 1"=5' V.



SANITARY SEWER MAIN PROFILE #3

SCALE: 1"=40' H. 1"=5' V.

NOTE:
SEE C8, C9 AND C10 FOR SEWER MAIN EXTENSION PLAN VIEW DESIGN.

SANITARY SEWER NOTES:

1. ALL TYPE 1 SANITARY SEWER MANHOLES PER WSDOT STD. PLAN B-15.20-01 ON SHEET C19
2. TYPE 2 SANITARY SEWER MANHOLE PER WSDOT STD. PLAN B-15.40-01 ON SHEET C19
3. ALL SANITARY SEWER CLEANOUTS AND BLOCKING PER DETAILS ON SHEET C19
4. SANITARY SEWER MH CONC. SLED PER DETAIL ON SHEET C19. (USE 2 SLEDS SIDE BY SIDE FOR ADDED BASE TO ALL SEWER MANHOLES)

APPROVED
SEP - 5 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

No.	Date	By	Revision
6	9/02/14	JEP	REVISED PER FINAL CITY REVIEW
		AS	Chkd.
		DNB	Appr.

Title: SANITARY SEWER MAIN PROFILE

FOR
PORTSIDE BUSINESS CENTER

For:
DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALKEMA — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=40' Vertical 1"=5"

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

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Job Number 16004

Sheet C13 of 21

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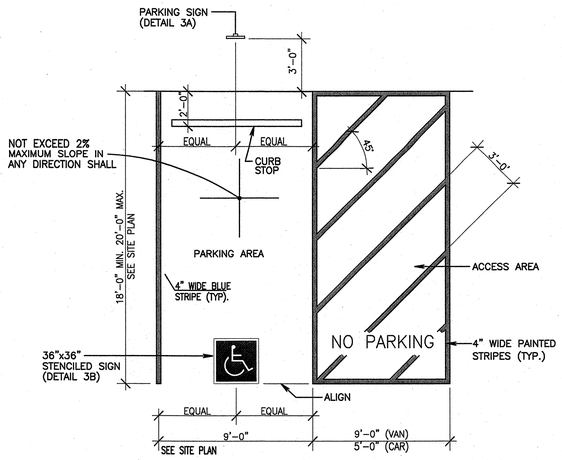
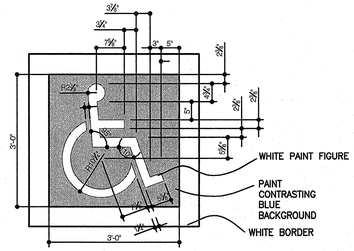
CONSTRUCTION NOTES AND DETAILS

GENERAL NOTES:

1. CONTRACTOR SHALL INSURE THAT ALL APPLICABLE PERMITS HAVE BEEN OBTAINED AND ALL NECESSARY PRE-CONSTRUCTION MEETINGS HELD PRIOR TO DEMOLITION AND CONSTRUCTION ACTIVITIES.
2. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY AGENCIES ON REMOVAL AND/OR STUBBING OF EXISTING SERVICES ON SITE PRIOR TO AND DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. ABANDONED UTILITY LINES LOCATED ON SITE SHALL BE REMOVED AND PLUGGED WITH CONCRETE OR WOOD (T20) AT PROPERTY LINE (CAPPING PERMIT REQUIRED).
3. PROTECTIVE MEASURES SHALL BE TAKEN AT ALL TIMES TO ASSURE THAT ADJACENT PROPERTIES, PUBLIC AND PRIVATE, ARE NOT DAMAGED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE LIABLE FOR DAMAGES.
4. PRIOR TO NEW CONSTRUCTION, ALL EXISTING BUILDING STRUCTURES, FENCES, CONCRETE SLABS, DEBRIS, UTILITIES, ETC., SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER AND CITY OFFICIALS.
5. ANY ENCOUNTERED SUB-SURFACE IMPROVEMENTS SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER AND CITY OFFICIALS. CONTRACTOR SHALL BACKFILL WITH APPROPRIATE FILL MATERIALS, COMPACTED PER THE SOILS ENGINEERS RECOMMENDATIONS.
6. CONTRACTOR SHALL PROVIDE TEMPORARY EROSION CONTROL MEASURES ON SITE (CONSTRUCTION ENTRANCE, DITCHING, PONDING, SILT TRAPS, ETC.) AS MAY BE REQUIRED BY THE CITY OF FIFE INSPECTOR IMMEDIATELY FOLLOWING STRIPPING OF THE SITE.
7. CONTRACTOR SHALL INSTALL THE TEMPORARY CONSTRUCTION ENTRANCES DETAILED ON SHT 2 AT LOCATIONS SATISFACTORY TO THE CITY OF FIFE INSPECTOR. UNCONTROLLED HAULING ON PUBLIC RIGHT-OF-WAY WILL NOT BE ALLOWED.
8. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN IN USE WITHIN THE CONSTRUCTION AREA.
9. CONTRACTOR SHALL ASSURE THAT SILT-LADEN WATER DOES NOT ENTER THE PUBLIC STORM SYSTEM AND THAT PUBLIC STREETS ARE KEPT CLEAR OF DIRT AND DEBRIS THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS.
10. THE CONTRACTOR WILL BE REQUIRED TO WATER THE SITE AS NECESSARY TO REDUCE DUST EMISSIONS AS A RESULT OF CONSTRUCTION ACTIVITY. A HYDRANT PERMIT AND METER IS (IF AVAILABLE) REQUIRED TO OBTAIN WATER FROM THE CITY OF FIFE'S WATER SYSTEM. THE CONTRACTOR SHALL ALSO SWEEP ALL AFFECTED PUBLIC ROADS, AS NECESSARY, OR AS DIRECTED BY THE CITY, TO REMOVE MUD DEPOSITS AS A RESULT OF CONSTRUCTION ACTIVITY.
11. PROVIDE INLET PROTECTION FOR ALL EXISTING STORM STRUCTURES WITHIN 500' OF CONSTRUCTION ENTRANCE ON 45TH STREET EAST.
12. ALL PIPE SHALL BE AIR TESTED PER THE 2014 WSDOT STANDARDS.
13. PROVIDE CITY OF FIFE PUBLIC WORKS INSPECTOR NPDES CONSTRUCTION STORMWATER PERMIT AND ALL WATER QUALITY TEST RESULTS.



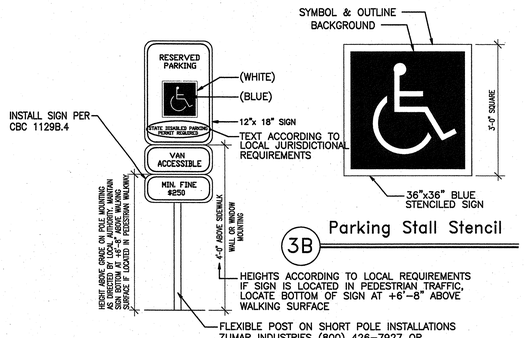
1 ADA PARKING REQUIREMENTS
NOT TO SCALE



PAVEMENT INTERNATIONAL SYMBOL OF ACCESSIBILITY NOTES:

A. SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL.
B. BOTTOM OF SYMBOL TO BE LOCATED FLUSH WITH ACCESS DRIVE,CENTERED ON PARKING SPACE.
C. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND.

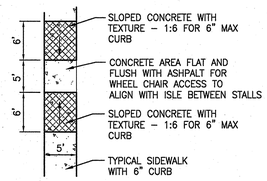
2 INTERNATIONAL SYMBOL OF ACCESSIBILITY
NOT TO SCALE



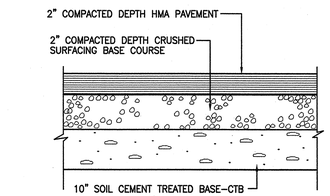
3B Parking Stall Stencil

3A Parking Sign

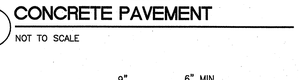
3 MARKING DETAIL (Accessible Parking)
NOT TO SCALE



9 HANDICAP CURB ACCESS (ON-SITE ONLY)
NOT TO SCALE



4 ON-SITE LIGHT DUTY PAVEMENT SECTION
NOT TO SCALE



PROVIDE #5 SMOOTH GREASED DOWELS, 24" LONG, AT ALL CONSTRUCTION JOINTS AT 18" O.C.

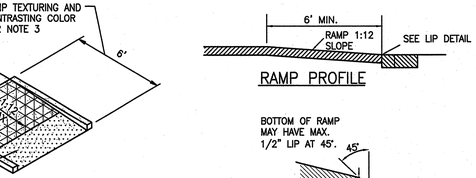
STOP REINFORCING SHORT OF ALL CONSTRUCTION JOINTS

PAVING SHALL HAVE EXPANSION JOINTS AND SAWN CONTROL JOINTS AS REQUIRED BY THE GEOTECHNICAL ENGINEER OR AS FOLLOWS: EXPANSION JOINTS AT 75' O.C. MAXIMUM

EXPANSION JOINT FILLER AT THE JUNCTION WITH THE BUILDING AND OTHER PERMANENT FEATURES

CONTROL JOINTS SHALL BE STRAIGHT, UNIFORM 1" DEEP SAWN JOINTS AT 15' O.C. EACH WAY

6 PORTLAND CEMENT CONCRETE PAVEMENT
NOT TO SCALE

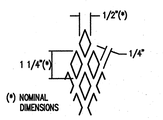


NOTES:
1. 1:48 SLOPE CORRESPONDS TO MAX 2% SLOPE ON SITE GRADING PLANS.
2. MINIMUM EXTERIOR RAMP WIDTH IS 44" REFER TO SITE PLAN FOR RAMP WIDTHS NOTED OTHERWISE.
3. RAMP TEXTURING IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTERN AS SHOWN. THE LONG AXIS OF THE DIAMOND PATTERN SHALL BE PERPENDICULAR TO THE CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE.
4. CURB RAMP WILL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES, BUT NOT AT END OF RAMP ADJACENT TO THE ROADWAY.
5. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.

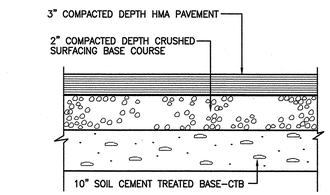
10 TYPICAL CONCRETE SIDEWALK RAMP DETAIL
NOT TO SCALE

RAMP PROFILE

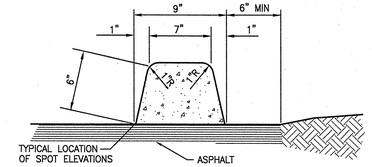
LIP DETAIL



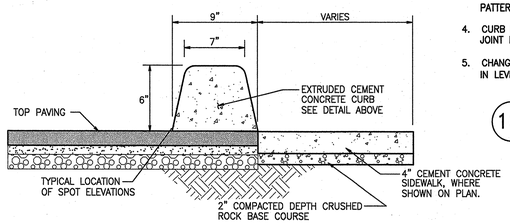
RAMP TEXTURE DETAIL



5 ON-SITE HEAVY DUTY PAVEMENT SECTION
NOT TO SCALE

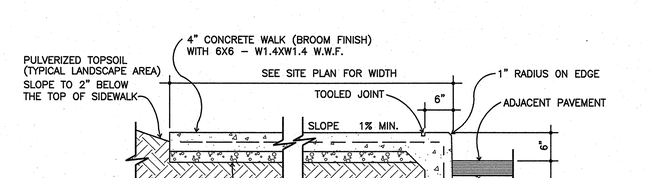


7 EXTRUDED CEMENT CONCRETE CURB DETAIL
NOT TO SCALE



14 EXTRUDED CEMENT CONCRETE CURB W/SIDEWALK PAD DETAIL
NOT TO SCALE

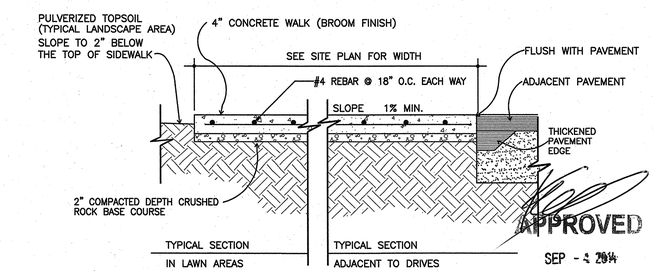
13 SQUARE BEEHIVE DRAIN GRATE
NOT TO SCALE



NOTES

A. SIDEWALKS WIDTH VARIES (WIDTH PER PLAN) CONTROL JOINTS TO BE PLACED AT SPACING EQUAL TO SIDEWALK WIDTH.
B. PROVIDE EXPANSION JOINTS AT 28' TO 30' O.C. MAXIMUM.
C. WHEN WALK IS ADJACENT TO THE BUILDING PROVIDE 3/8" X 4" IMPREGNATED FIBERBOARD.

11 ON-SITE CONCRETE SIDEWALK W/6" RAISED CURB
NOT TO SCALE

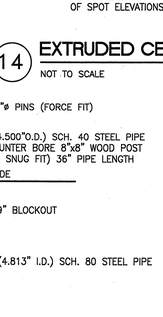


APPROVED
SEP - 3 2014
CITY OF FIFE PUBLIC WORKS

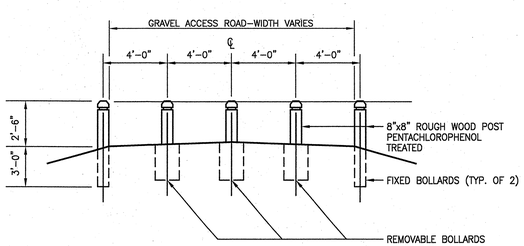
NOTES

A. SIDEWALKS VARY FROM 4' TO 7' IN WIDTH. CONTROL JOINTS TO BE PLACED AT SPACING EQUAL TO SIDEWALK WIDTH.
B. PROVIDE EXPANSION JOINTS AT 28' TO 30' O.C. MAXIMUM.
C. WHEN WALK IS ADJACENT TO THE BUILDING PROVIDE 3/8" X 4" IMPREGNATED FIBERBOARD.

12 ON-SITE FLUSH CONCRETE SIDEWALK
NOT TO SCALE



15 REMOVABLE BOLLARD DETAIL
NOT TO SCALE



16 BOLLARD PLACEMENT DETAIL
NOT TO SCALE

No.	Date	By	Chkd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: CONSTRUCTION NOTES AND DETAILS

FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
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DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale:		Designed AS	Drawn MB	Checked AS	Approved DKB	Date 03-04-14
Horizontal	AS Nt.					
Vertical	AS NOTED					

Job Number 16004
Sheet C14 of 21

File:P:\16000s\16004\engineering\RASED SITE BY 20 FEET\16004-d1-4.dwg Date/Time:8/19/2014 3:04 PM Scale:1" = 1' MBOUKAL Xref: ----

CONSTRUCTION NOTES AND DETAILS

DRAWN BY: LISA CYFORD

FRAME AND VANED GRATE

RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

PRECAST BASE SECTION

(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

NOTES

1. As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the Precast Base Section.
7. All pickup holes shall be grouted full after the basin has been placed.

CASEY M. KRAMER — STATE OF WASHINGTON — 44535 — REGISTERED PROFESSIONAL ENGINEER

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III — 06-16-11
STATE DESIGN ENGINEER — DATE
Washington State Department of Transportation

NOTES:
1. PEA GRAVEL BEDDING PER CITY OF FIFE SPECIFICATIONS.
2. ALL TESTING OF BACKFILL AND COMPACTION SHALL BE IN CONFORMANCE WITH ASTM D-1557 & WSDOT SPEC. 2-09.3 (1)E

PRIVATE UTILITY TRENCH DETAIL

NOT TO SCALE
FOR ONSITE UTILITIES ONLY

NOTES:
1. PEA GRAVEL BEDDING PER CITY OF FIFE SPECIFICATIONS.
2. ALL TESTING OF BACKFILL AND COMPACTION SHALL BE IN CONFORMANCE WITH ASTM D-1557 & WSDOT SPEC. 2-09.3 (1)E

PUBLIC UTILITY AND EASEMENT TRENCH DETAIL

NOT TO SCALE

ETHAFOAM UTILITY CROSSING DETAIL

NOT TO SCALE

STORM CLEANOUT BLOCKING DETAIL

NOT TO SCALE

STORM DRAINAGE CLEANOUT DETAIL

NOT TO SCALE

DRAWN BY: LISA CYFORD

NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification 9-04.3.**

CATCH BASIN DIMENSIONS

CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ①	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe **(Standard Specification 9-05.20)**
② **(Standard Specification 9-05.12(1))**
③ **(Standard Specification 9-05.12(2))**

CASEY M. KRAMER — STATE OF WASHINGTON — 44535 — REGISTERED PROFESSIONAL ENGINEER

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III — *02-07-12*
STATE DESIGN ENGINEER — DATE
Washington State Department of Transportation

DRAWN BY: LISA CYFORD

FRAME AND VANED GRATE

RECTANGULAR ADJUSTMENT SECTION

REDUCING SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	18"
ALL METAL PIPE	21"
CPSSP * (STD. SPEC. 9-05.20)	18"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	21"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	21"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

PRECAST BASE SECTION

(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot, shall be used with the minimum required rebar shown in the ALTERNATIVE **PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout shall not be greater than 26", in any direction. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification 9-04.3.**
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange down or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the Precast Base Section.
7. All pickup holes shall be grouted full after the basin has been placed.

APPROVED

SEP - 4 2014

CITY OF FIFE PUBLIC WORKS DEPT

CASEY M. KRAMER — STATE OF WASHINGTON — 44535 — REGISTERED PROFESSIONAL ENGINEER

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

CATCH BASIN TYPE 1L

STANDARD PLAN B-5.40-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III — 06-16-11
STATE DESIGN ENGINEER — DATE
Washington State Department of Transportation

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: CONSTRUCTION NOTES AND DETAILS FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER — 09-02-14

Scale: Horizontal AS NOTED; Vertical AS NOTED

Designed AS
Drawn MB
Checked AS
Approved DKB
Date 03-04-14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
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CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet C15 of 21

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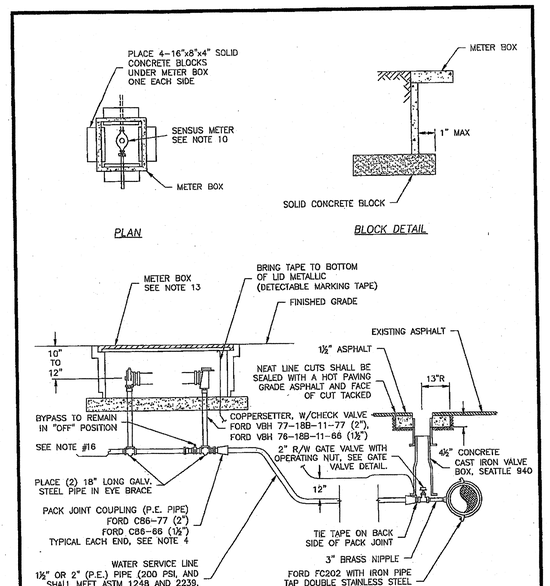
WATER NOTES AND DETAILS

GENERAL WATER NOTES:

1. Fire sprinkler systems may only be installed by contractors licensed to do so.
2. All water mains stubbed for future connection or extension shall have a 4" x 4" marker post installed at the cap or plug to denote its exact location, when required by the inspector. The post shall be painted blue and shall have the word "STUB" stenciled in black paint upon it. The post shall extend 3' feet above finished grade.
3. Grounding of customer electricity to water service lines shall not be permitted.
4. New water services shall have meters installed behind the sidewalk, at the right-of-way lines. Where there are multiple meters serving a single property, meters shall be located adjacent to one another, unless written permission is received from the Water Division. New housing developments shall have meters located adjacent to one another whenever possible. Such that two adjacent homes would have their meters next to each other, one on each side of a common lot line. Residential meters sharing a common lot line shall be within 36" of one another, measured centerline of meter to centerline of meter. A 2" PVC conduit shall span between adjacent meters extending a min. of 1" inside meter boxes.
5. All water meters shall have separate service taps, and shall not be connected to dead-end water mains where looping mains are available, or mains directly supplying fire systems without prior approval of the city engineer.
6. Water service 2" or smaller shall not be tapped onto new mains until purity and pressure testing is passed.
7. The use of deduct meters shall not be allowed, without written permission of the water division. Any deduct meters permitted must be of the same manufacture and type as normally required by the City. Maintenance and repair, or replacement of the deduct meter shall be at the customers expense. The City may require the meter be tested at a schedule which would be consistent with AWWA recommendations, and any expenses related to that testing would be the customers responsibility.
8. It is the customers responsibility to notify the City in advance when replacing a deduct meter, so that a final reading can be taken to assure proper credit for usage.
9. All commercial water service installations shall be accomplished through the use of a qualified contractor. City personnel will only install services of a residential nature. A residential customer may still elect to have a qualified contractor install a residential meter service.
10. The City, at its sole discretion, may require the installation of water quality sampling stations by developers extending or replacing water mains at points deemed appropriate by the City. Sampling stations shall be the Eclipse #88 Sampling Station as manufactured by Kupferle Foundry Company. See detail for specifications and installation requirements.
11. Vertical thrust control of water mains shall be accomplished through use of mechanical restraints and mechanically jointed pipe, properly designed by a licensed engineer. Mechanical restraints shall be megalug restraints as manufactured by EBAA Iron Inc., or approved equal. All mechanically restrained joints shall be shown on as-built plans.

Approved: [signature] 12/8/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W0
GENERAL NOTES



SHEET 1 OF 2

Approved: [signature] 11/3/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W3
1 1/2" AND 2" POSITIVE DISPLACEMENT WATER SERVICE CONNECTION

NOTES:

1. CONTRACTOR SHALL SUPPLY AND INSTALL METER.
2. ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED.
3. WATER METER SHALL BE LOCATED IN PLANTING STRIP OR ADJACENT TO RIGHT-OF-WAY AS DIRECTED BY THE CITY.
4. ALL COUPLINGS SHALL USE PIPE INSERT STIFFNER.
5. WATER SERVICE LINE SHALL HAVE UNIFORM COVER OF 36" BELOW FINISHED GRADE WITHIN RIGHT-OF-WAY.
6. METALLIC (DETECTABLE MARKING) TAPE SHALL BE COLOR CODED BLUE AND SHALL BE IMPRINTED CONTINUOUSLY OVER ITS ENTIRE LENGTH IN PERMANENT BLACK INK THE MESSAGE "WATER LINE BURIED BELOW" AND THE WORD "CAUTION" PROMINENTLY SHOWN. TAPE SHALL BE 2" MINIMUM WIDTH.
7. FOR A ¾" WATER SERVICE A 2" GATE VALVE AND TAP SHALL BE USED AND BRASS INSERT BUSHING SHALL BE USED TO REDUCE THE 2" OPENING DOWN TO ¾".
8. VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECES (IF NECESSARY), AS MANUFACTURED BY VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF ON THE TOP.
9. VALVE BOX LID EARS SHALL RUN PARALLEL TO THE WATER LINE IT SERVES.
10. METER TYPE AND SIZE SHALL BE DETERMINED BY THE CITY. METERS SHALL BE SENSUS, OMNI C2 OR T2, BASED UPON ANTICIPATED USE.
11. METER REGISTER SHALL BE TOUCH-READ/PIT LID (TR/PL) TYPE AND MANUFACTURED BY SENSUS. NO SUBSTITUTIONS. METER TO READ IN 100 CUBIC FEET. METER TO HAVE ICE REGISTER.
12. METER BOX SHALL HAVE TRAFFIC LID. TRAFFIC LID SHALL HAVE 1⅞" HOLE DRILLED IN THE LID (NOT IN HINGED READER PORTION OF LID), AND SHALL HAVE SENSUS MODEL 520M WITH LEAK DETECTION SINGLE PORT FLEXNET SMARTPOINT TRANSMITTER PROPERLY INSTALLED THROUGH IT. PER MANUFACTURERS RECOMMENDATIONS. METER REGISTER TOUCHREAD PIT/LID COUPLER SHALL BE PROPERLY CONNECTED TO TRANSMITTER. (MODEL 520M WITH LEAK DETECTION DUAL PORT TRANSMITTER MAY BE USED WITH PRIOR APPROVAL.)
    . TRAFFIC LID SHALL HAVE RECESSED HINGE READER LID.
13. METER BOX SHALL BE:
    – ¾" METER – FOG-TITE #2
    – 2" METER – FOG-TITE #3

UNLAWFUL INSTALLATIONS

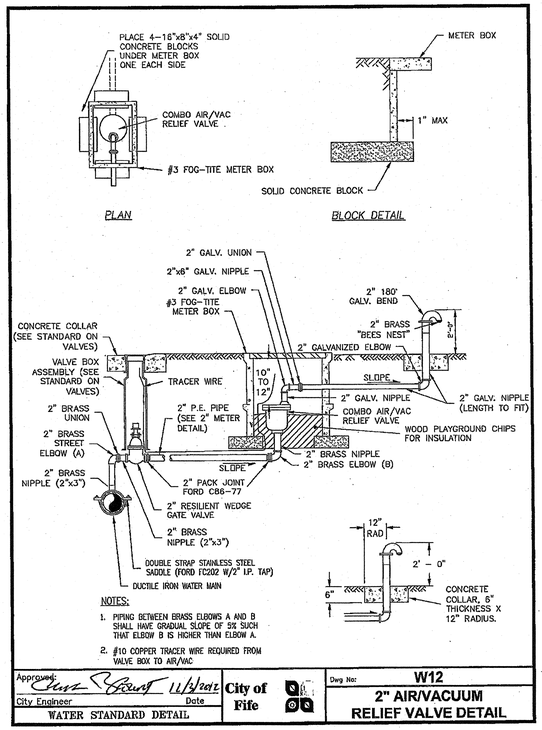
IT SHALL BE UNLAWFUL TO INSTALL, CHANGE, BYPASS, ADJUST, REMOVE, OR ALTER ANY METERING DEVICE OR ANY PIPING ARRANGEMENT CONNECTED THERE SO AS TO SHOW ANY QUANTITY OF WATER USED ON THE PREMISES TO BE LESS THAN THE ACTUAL QUANTITY.

WATER SERVICE TO BE LEFT OFF UPON INSTALLATION. ONLY CITY WATER PERSONNEL MAY TURN ON SERVICE, AND THIS MAY ONLY BE DONE FOLLOWING A CROSS-CONNECTION INSPECTION.

14. VALVE BOXES LOCATED IN LANDSCAPED AREAS SHALL HAVE SAME DIAMETER CONCRETE COLLAR, HOWEVER THICKNESS SHALL BE 6" OF CONCRETE. NO ASPHALT SHALL BE APPLIED.
15. 10 GAUGE WIRE FROM MAINLINE TAP TO METER BOX, TAPED AT 6" INCREMENTS, AND EXPOSED 6" MINIMUM IN BOX.
16. INSTALL AND EXTEND A ½" OR 2" BRASS NIPPLE A MINIMUM OF 1 FOOT FROM THE SETTER OUTLET ON CUSTOMER SIDE.

SHEET 2 OF 2

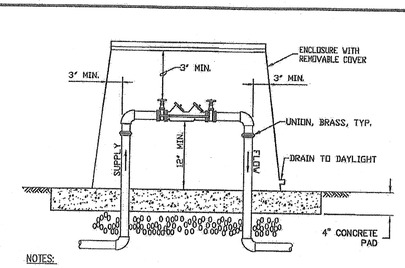
Approved: [signature] 11/3/2013 — City Engineer — Date
City of Fife
WATER SERVICE DETAIL
Dwg No: W3
1 1/2" AND 2" POSITIVE DISPLACEMENT WATER SERVICE CONNECTION



NOTES:

1. PIPING BETWEEN BRASS ELBOWS A AND B SHALL HAVE GRADUAL SLOPE OF 5% SUCH THAT ELBOW B IS HIGHER THAN ELBOW A.
2. #10 COPPER TRACER WIRE REQUIRED FROM VALVE BOX TO AIR/VAC

Approved: [signature] 11/3/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W12
2" AIR/VACUUM RELIEF VALVE DETAIL

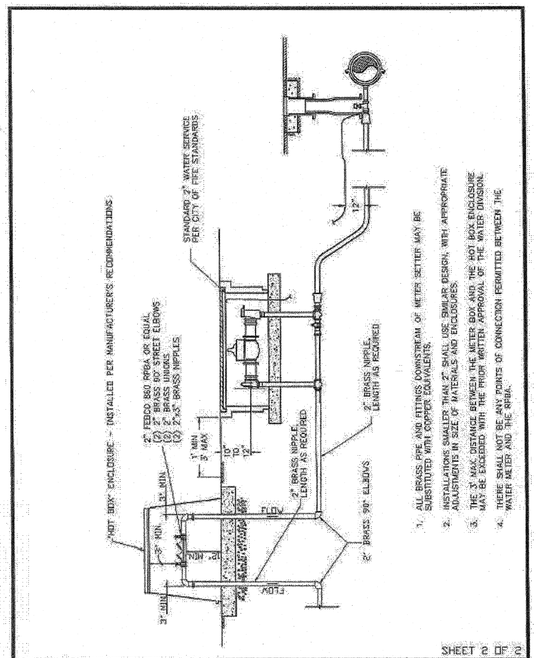


NOTES:

1. RPBA MUST BE ON MOST RECENT EDITION OF "BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE" AS PUBLISHED BY THE WASHINGTON STATE DEPT. OF HEALTH (DOH).
2. ALL BACKFLOW PREVENTERS SHALL BE INSTALLED IN THE ORIENTATION FOR WHICH THEY ARE APPROVED BY DOH.
3. RPBA'S SHALL NOT BE INSTALLED IN A LOCATION SUBJECT TO FLOODING.
4. THE RELIEF VALVE PORT SHALL NOT BE EXTENDED OR PLUGGED.
5. IT IS THE PROPERTY OWNER/OCCUPANTS RESPONSIBILITY TO PROTECT BACKFLOW PREVENTERS FROM FREEZING, VANDALISM, AND FIRE HAZARDS.
6. RPBA'S INSTALLED IN AN ENCLOSURE SHALL HAVE A DAYLIGHT DRAIN INSTALLED AT THE ENCLOSURES BASE CAPABLE OF CARRYING AWAY THE FULL DISCHARGE FLOW OF THE RELIEF VALVE WHEN VENTING.
7. ALL RPBA'S SHALL HAVE A MINIMUM 12" OF CLEARANCE BETWEEN THE BOTTOM OF THE RELIEF PORT AND THE GROUND LEVEL; IT SHALL ALSO HAVE A MINIMUM OF 3" OF CLEARANCE IN ALL OTHER DIRECTIONS, UNLESS GREATER CLEARANCE IS NECESSARY FOR TESTING AND MAINTENANCE.
8. THE MAXIMUM HEIGHT OF INSTALLATION SHALL NOT EXCEED 5' FOR ASSEMBLIES UNLESS THERE IS A PERMANENTLY INSTALLED PLATFORM MEETING OSHA STANDARDS TO FACILITATE SERVICING THE ASSEMBLY.
9. RPBA'S INSTALLED FOR THE PURPOUSE OF PREMISE ISOLATION SHALL BE INSTALLED IMMEDIATELY AFTER THE METER.
10. TEST COCKS SHALL HAVE BRASS OR PLASTIC PLUGS INSTALLED IN THEM TO PREVENT DEBRIS FROM ENTERING.

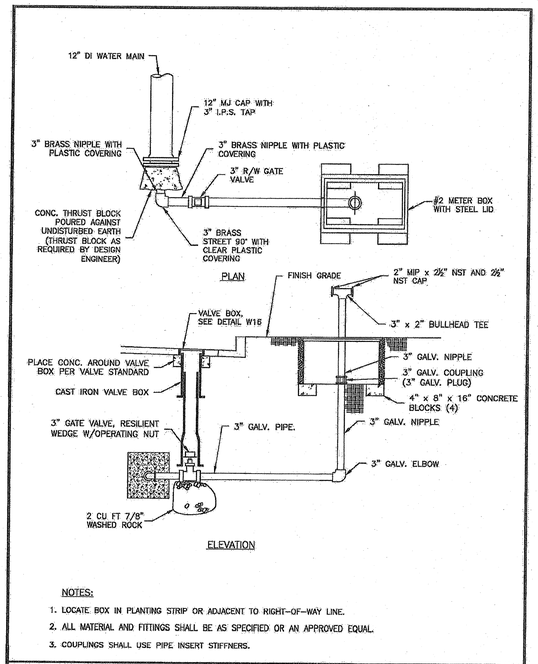
SHEET 1 OF 2

Approved: [signature] 11/27/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W18
RPBA ASSEMBLY 2" AND SMALLER



SHEET 2 OF 2

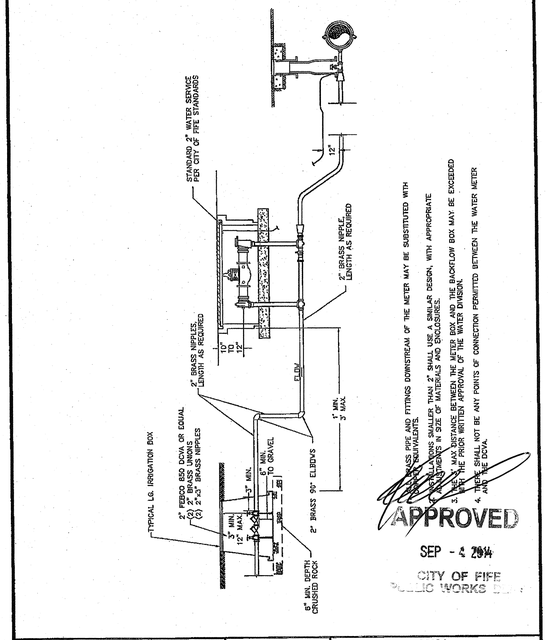
Approved: [signature] 11/27/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W18
RPBA ASSEMBLY 2" AND SMALLER



NOTES:

1. LOCATE BOX IN PLANTING STRIP OR ADJACENT TO RIGHT-OF-WAY LINE.
2. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
3. COUPLINGS SHALL USE PIPE INSERT STIFFNERS.

Approved: [signature] 11/27/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W19
3" BLOWOFF ASSEMBLY



Approved: [signature] 12/3/2012 — City Engineer — Date
City of Fife
WATER STANDARD DETAIL
Dwg No: W20
2" DCVA ASSEMBLY

No.	Date	By	Chkd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

Title: WATER NOTES AND DETAILS
FOR
PORTSIDE BUSINESS CENTER

DANIEL K. BALDWIN — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal AS Nu. Vertical AS NOTED
Designed AS Drawn MB Checked AS Approved DKB Date 03-04-14

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18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
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Job Number 16004
Sheet C16 of 21

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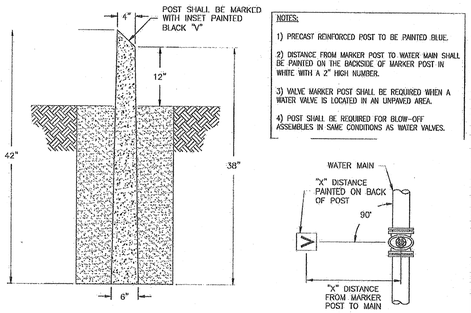
WATER NOTES AND DETAILS



NOTES:

1) PRECAST REINFORCED POST TO BE PAINTED BLUE.

2) DISTANCE FROM MARKER POST TO WATER MAIN SHALL BE PAINTED ON THE BACKSIDE OF MARKER POST IN WHITE WITH A 2" HIGH NUMBER.

3) VALVE MARKER POST SHALL BE REQUIRED WHEN A WATER VALVE IS LOCATED IN AN UNPAVED AREA.

4) POST SHALL BE REQUIRED FOR BLOW-OFF ASSEMBLIES IN SAME CONDITIONS AS WATER VALVES.

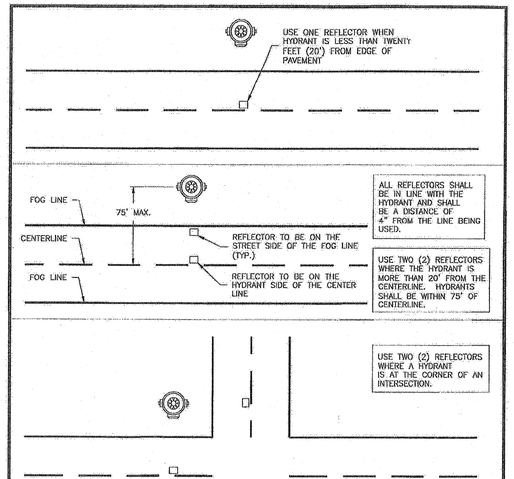
VALVE MARKER - POST

SHEET 1 OF 2

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W9
VALVE MARKER

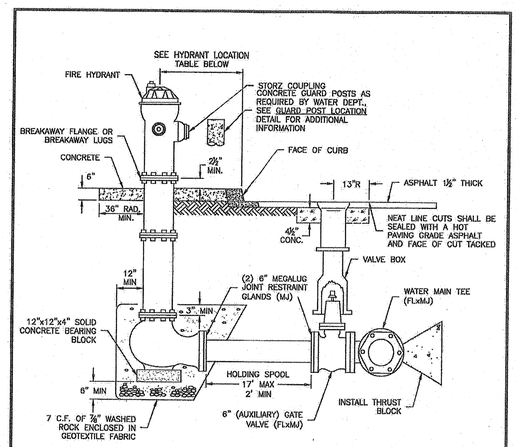


SHEET 2 OF 2

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W9
HYDRANT MARKERS



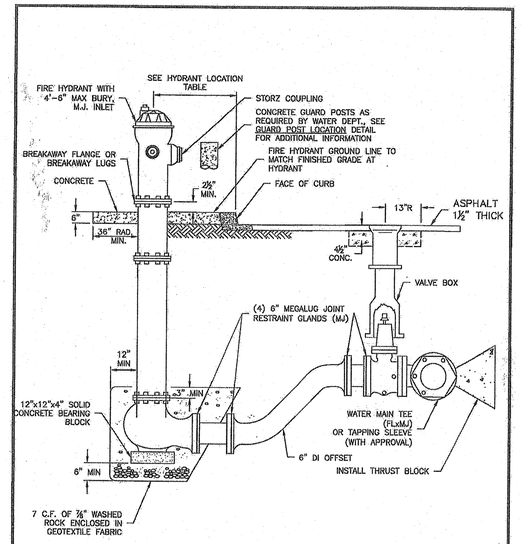
HYDRANT LOCATION TABLE	
CONDITION	FACE OF CURB TO HYDRANT CENTERLINE
NO SIDEWALK (SW) AT CURB	3'
5' SW AT CURB	7'
SW GREATER THAN 5' AT CURB	1'-6" BEHIND CURB

SHEET 1 OF 5

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W10
FIRE HYDRANT ASSEMBLY

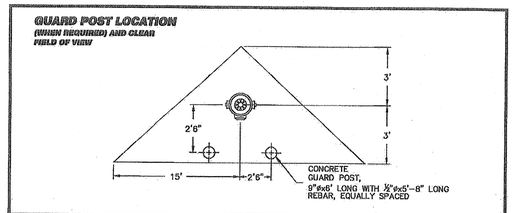


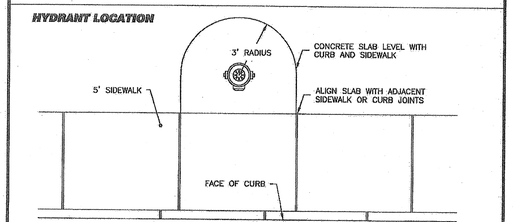
SHEET 2 OF 5

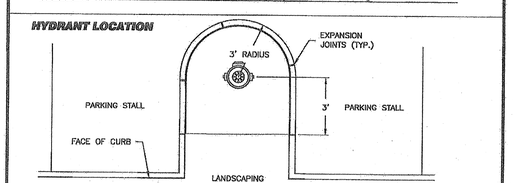
Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W10
FIRE HYDRANT ASSEMBLY (WITH OFFSET)







SHEET 3 OF 5

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W10
FIRE HYDRANT ASSEMBLY LOCATION

NOTES:

1. All materials and fittings shall be as specified.
2. Water mains shall have a uniform cover of 36", unless approved by the city.
3. Fire hydrant and concrete guard posts shall be painted only with Parker Paint -Marathon Enamel Colors possible: Brilliant White, Brilliant Green, Cardinal Red, or Safety Orange. Hydrant barrel and guard posts shall be painted Brilliant White. Hydrant dome shall be painted Brilliant Green, unless specified otherwise by the City Water Department.
4. Fire hydrants shall be of a traffic design and shall have two 2 ½" hose ports (National Standard Thread) with caps and one 4" pumper port (National Standard Thread) with a 5" "storz" coupling and blind cap installed on the steamer port, (steamer port shall face the street), 1 ½" pentagonal operating nut (counter-clockwise opening) O-ring type stuffing box, automatic barrel drains and 5 ½" foam valve opening. Hydrants shall be designed in a manner that will prevent barrel breakage when struck by a vehicle. Hydrants shall conform to the latest revision of AWWA specifications number C502 for fire hydrants for ordinary water service. Fire hydrants shall include the entire assembly complete, including hydrant, gate valve and lugs, connecting piping, fittings and accessories.
5. Valve boxes located in landscaped areas shall have same diameter concrete collar, however thickness shall be 6" of concrete. No asphalt shall be applied.
6. **Fire hydrants shall be Clow Medallion, Mueller Super Centurion 250, , M&H 929, no substitutions permitted.**
7. Valve boxes shall be two-piece, adjustable, cast iron with extension pieces (if necessary), as manufactured by the Vannich #940 Seattle or approved equal. The word "WATER" shall be cast in relief in the top. Valve box lid cast shall face in direction of water line.
8. Gate valves shall conform to the latest AWWA specifications for cold water, resilient wedge, 200 psi working pressure. They shall be D.I. or iron-bodied, bronze mounted, non-rising stem, counter-clockwise opening mechanical joint by flanged. Valve stems shall be provided with O-ring seals and shall be as manufactured by the Mueller Company or approved equal.
9. The holding spool shall use mega-lug connectors at all joints.
10. The contractor shall place a 6ox. geotextile fabric which completely encloses the washed rock area.
11. The number and placement of fire hydrants to be determined by the City Fire Marshal in consultation with local fire Department and City Water Division, and in all cases in compliance with the most recent edition of the uniform building code.
12. All materials and fittings to be new and unused.
13. Hydrant shall have a maximum 4' 6" bury. Where the main is too large or too deep to provide for the 4' 6" bury an appropriate offset shall be used. Offset shall be ductile iron MJ x MJ, and use mega-lug restrains at all joints.

SHEET 4 OF 5

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W10
FIRE HYDRANT ASSEMBLY

all joints.

14 Clearances Around Hydrant:
-Hydrant shall stand plumb and be set to the finished grade. The bottom of the lowest outlet of the hydrant shall be no less than (18") above the finished grade and no more than (24") above the finished grade, and the bottom of the barrel flange shall be a minimum of (2½") above finished grade, or ground line (if marked) to match finish grade. There shall be (36") of clear area around the hydrant for operation of a hydrant wrench. Finished grade shall remain constant within (10') feet of hydrant.

-Hydrant should have a clear field of view starting at a point 15' to either side of hydrant and proceeding at a minimum of 60' along the road to a point no less than 3' behind hydrant.

-The pumper (steamer) port shall face the street. Where the street cannot be clearly defined or recognized, the port shall face the most likely route of approach and the location of the fire truck while pumping, as determined by the City in consultation with the local fire protection district.

-All gates, fences, etc. within (12) twelve feet of hydrant shall be of a type and design, acceptable to the City and the local fire protection district.

-All hydrants shall be readily accessible and unobstructed for use by fire fighters and their equipment, under normal and emergency (fire) conditions.

-Any landscaping lying in that area as listed above for the clear field of view shall be a non-climbing ground cover only.

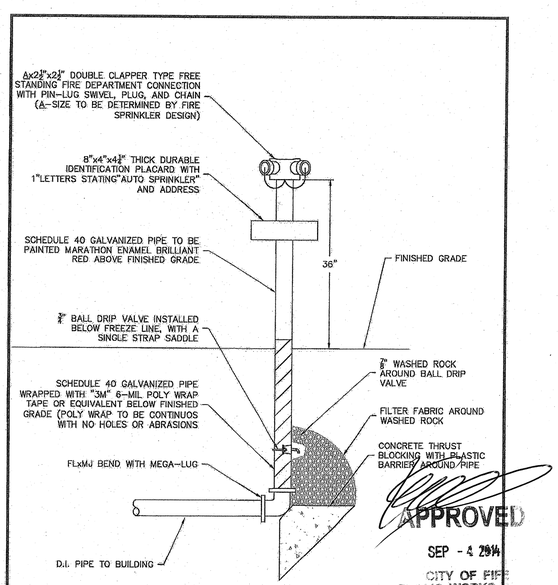
15. A minimum of 3' 0" clear space shall be maintained around the circumference of the hydrant barrel. When hydrant is within planter area, adequate side and rear clearances from curb lines must be met by this minimum. Concrete slab will be poured curb to curb in parking lot islands and a minimum of 3' around fire hydrant. Bollards may be required.
16. Concrete slab shall have a 6" thickness unless specified otherwise by city.
17. Hydrant shall not be located in sidewalk.

SHEET 5 OF 5

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W10
FIRE HYDRANT ASSEMBLY



APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS

Approved: _____ 11/20/2007
City Engineer Date
WATER STANDARD DETAIL

City of Fife

Dwg No: W21
FIRE DEPARTMENT CONNECTION DETAIL

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: WATER NOTES AND DETAILS

FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALDWIN — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal AS Nc. Vertical AS NOTED

Designed AS Drawn MB Checked AS Approved DKB Date 03-04-14

Scale:1" = 1' MBDJKAL Xref: ------

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222 FAX
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

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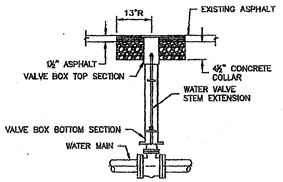
Job Number 16004

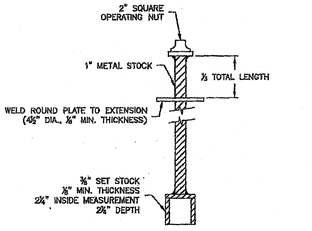
Sheet C17 of 21

CALL BEFORE YOU DIG:
1-800-424-5555

WATER NOTES AND DETAILS



VALVE BOX



VALVE OPERATING EXTENSION

SHEET 1 OF 3

Approved:			
City Engineer	Date	City of Fife	Dwg No: W6
WATER STANDARD DETAIL			WATER VALVES

NOTES

1. Valve operating nut extensions are required when the valve nut is more than three (3) feet below finished grade. Extensions are to be a minimum of one (1) foot long, only one extension to be used per valve.
2. All valve operating nut extensions are to be made of steel, sized as noted and painted with 10 mils (approximately 2 coats) of Dupont 25p Epoxy Mastic or approved equal.
3. Valve boxes shall be two piece, adjustable, cast iron with extension pieces (if necessary), as manufactured by the Vantich #940 Seattle or approved equal. The word "Water" shall be cast in relief in the top. Valve box lid ears to be parallel to water line.
4. Neat line cuts shall be sealed with a hot paving grade asphalt and face of cut tacked.
5. Water mains shall be ductile iron pipe constructed and tested in accordance with Division 7 of the latest edition of APWA Standard specifications for Road, Bridge, and Municipal Construction.
6. Section 7-09.2 of the Standard Specifications shall be supplemented by the following:
   a. Ductile iron pipe shall conform to AWWA C 151, thickness class 50, except where otherwise specified, and the exterior shall be coated with coal tar varnish. Pipe shall be cement mortar lined to a minimum thickness of 2/32 inch for 3 inch through 12" pipe, and in all sizes conform to AWWA C 104. The cement shall conform to ASTM C 150.
   b. Joints shall be Tyton push-on joints, or approved equal, or mechanical joint type per AWWA C 11 except where flanged joints are required to connect to valves or other equipment.
   c. Bolts and nuts for flanges located outdoors above ground or in open vaults in structures shall be Type 316 stainless steel conforming to ASTM A 193, Grade B8M for bolts, and ASTM A 194, Grade 8M for nuts. Bolts and nuts larger than one and one-quarter (1 1/4) inches shall be steel, ASTM A 307, Grade B, with cadmium plating, ASTM A 165, Type NS.
   d. Bolts used in flange installation sets shall conform to ASTM B 193, Grade B7. Nuts shall comply with ASTM A 194, Grade 2H.
   e. Ductile iron pipe and fittings shall be encased in polyethylene film with a minimum thickness of 8 mil. Film shall meet and be installed in accordance with AWWA C105.
   f. Metallic detectable marking tape shall be used on all mains, services, and blow-offs (see meter specifications for details).
7. Section 7-12.2 of the Standard Specifications shall be supplemented by the following:
   a. Gate valves shall be used for twelve (12) inch mains and smaller. Butterfly valves shall be used for mains greater than twelve (12) inches.
   i. Gate Valves: Gate valves shall conform to the latest version AWWA C509 or C515 for cold water, resilient wedge, 200 psi minimum working pressure. They shall be D.I. or iron bodied, bronze-mounted, non rising stem, counter clockwise opening, mechanical joint and/or flanged ends (except 6 inch valves on fire hydrant lines which shall be mechanical joint by flanged). Valve stems shall be provided with O-ring seals and shall be as manufactured by the Mueller Company or approved equal. Operator shall have standard AWWA two inch (2") square nut.
   ii. Butterfly Valves: Butterfly valves shall be HP 250 as manufactured by Pratt or approved equal. Butterfly valves shall meet or exceed AWWA C504, and shall have a 250 psi minimum working pressure rating and shall open counter clockwise. Operator shall have standard AWWA two inch (2") square nut. Butterfly Valves shall have mechanical joint and/or flanged ends.
   iii. Backfill & Bedding: Pipes will be bedded in 6" of sand minimum. Pipe shall be backfilled with sand to the top of the pipe and be compacted to 90 percent of maximum dry density. Conditions may dictate use of other backfill or bedding material, use of other material requires prior approval of City Engineer.
   iv. Water Line Separation From Sewer: A minimum horizontal separation of ten feet between gravity mainsewers and new existing potable water lines shall be maintained, measured edge to edge. When crossing over sewer lines a minimum of 3' vertical separation shall be maintained.
   v. Thrust control shall be by means of concrete thrust block or coupling connectors.
8. When installing, extending, or replacing a water main; Line valves shall be installed no further apart than 600 feet. Valves shall also be required where mains intersect on the following minimum basis:
   -Tee lines - 3 valves minimum
   -Crossed lines - 4 valves minimum
   Valve arrangement shall be determined by City Water Department.
9. Hydrant, fire line, and service connections need not have more than one valve, unless specified otherwise by the City Water Department or these specifications.
10. All materials and fittings shall be as specified or an approved equal.

SHEET 2 OF 3

Approved:			
City Engineer	Date	City of Fife	Dwg No: W6
WATER STANDARD DETAIL			WATER VALVES

10. All materials and fittings shall be as specified or an approved equal.
11. Tapping sleeves, when allowed by city, shall be Smith and Blair #622 or approved equal, with epoxy coating and stainless steel bolts and nuts for corrosive environments.
12. All materials and fittings shall be new and unused.
13. Fire lines shall have a valve at the main. Fire line valve boxes shall have a locking valve box lid, manufactured by Ampre, which utilizes a "red" pentagonal nut for the locking mechanism designed for the Vanitch 940 valve box.
14. Water mains shall have a minimum horizontal separation of 3' and vertical separation of 6" from other utilities, measured edge to edge, unless prior written approval is received from the city. Exception: see note #7A.4 above regarding sanitary sewer.
15. Water mains installed in casings require the casing be a minimum of (6") six inches larger than the outside diameter of the bells on the Ductile Iron Pipe. Chokes or skids shall be strapped to the Ductile Iron Pipe at regular intervals sufficient enough to evenly support the water main and keep it centered in the casing. Very long crossings may require the space between the main and casing be partially filled with sand, to prevent movement of the pipe. An isolation valve on the main shall normally be required at each end of the casing.
16. The standard location for water mains shall be within public streets and roads and shall be a standard distance (see chart below) from the center line of such streets and roads on the south and east side of street center lines. Exceptions to these requirements may be made in order to avoid cutting and replacing pavement or to avoid conflicts with other existing underground facilities, as determined by the City Engineer. As nearly as practical, mains shall be installed in the same relative location on a particular street with the distance from the center line of the street being varied as little as possible. Mains shall not be installed in alleys. The installation of mains within easements across privately owned property is to be done only when absolutely necessary, such as the avoidance of dead end conditions. Such easements, when required, shall be a minimum of 15 feet in width centered upon the main, and the conditions of the easement shall include provisions that the property included in the easement shall not be used for any purpose which would interfere with the unrestricted use for water main purposes. Under no circumstances will permission for the construction of a building or structure of any type within the easement be granted.

Water Main Locations
2 Lane Road . . . . . 8 Feet From Center Line
3 Lane Road . . . . . 14 Feet From Center Line
4 Lane Road . . . . . 20 Feet From Center Line
5 Lane Road . . . . . 26 Feet From Center Line

17. Distribution system mains shall be looped wherever possible. The installation of permanent dead-end mains and dependence of relatively large areas on single mains is to be avoided. Water mains shall be sized so as not to permit pipe line water velocity to exceed (9) nine feet per second during peak hour use while meeting fire flow demand, under those conditions water pressure must remain at or above 20 psi.
18. Hazardous water line crossings shall be valved on each side. These crossings include, but are not limited to: creeks, rivers, railroads, freeways, major highways, etc.
19. Water mains shall have a uniform 36" of cover, unless prior written approval from the City Engineer is granted.
20. The installation of an appropriately designed flexible expansion joint, shall be required at points in the water system (determined by the City Engineer) determined to be either critical to the integrity, or at high risk of failure when exposed to sudden or gradual motion. Flexible expansion joints shall be Flex-Tend as manufactured by EBAA Iron Inc., or approved equal.
21. It shall be the responsibility of the developer to provide the City with accurate as-built construction plans, upon the completion of the project and prior to issuance of any certificate of occupancy. As-built plans submitted to the city for review and acceptance shall include one set of mylars, two sets of blue line plans, and on CD-Rom in both PDF and CAD formats. Mylars and blue line plans shall be 24" x 36" in dimension.
22. All mechanically restrained joints shall be shown on as-built plans.
23. Valve boxes located in landscaped areas shall have the same diameter concrete collar, however thickness shall be 6"of concrete. No asphalt shall be applied.
24. When water mains are required to cross private property an easement and bill of sale are required.

SHEET 3 OF 3

Approved:			
City Engineer	Date	City of Fife	Dwg No: W6
WATER STANDARD DETAIL			WATER VALVES

ZURN Z882

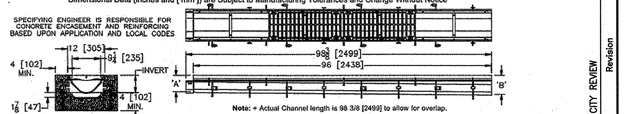
12 [305] WIDE REVEAL TRENCH DRAIN SYSTEM WITH STEEL FRAME

SPECIFICATION SHEET

TAG

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

SPECIFYING ENGINEER IS RESPONSIBLE FOR CONCRETE ENCASEMENT AND REINFORCING BASED UPON APPLICATION AND LOCAL CODES



Notes: • Actual Channel length is 98 3/8 [2499] to allow for overlap.

ENGINEERING SPECIFICATION: Zurn Z882

Channels shall be 96 [2438] long, 12 [305] wide reveal and have a 9-1/4 [235] throat. Modular channel sections shall be made of 0% water absorbent High Density Polyethylene (HDPE). Shall have a positive mechanical connection between channel sections that will not separate during the installation and shall mechanically lock into the concrete surround every 12 [305]. Channels shall weigh less than 5.05 lbs. [2.29kg] per linear foot, have a smooth, 3 [76] radiused self cleaning bottom with a Manning's coefficient of 0.009 and 1.04% or neutral 0% built in slope. Channels shall have rebar clips standard to secure trench in its final location. Shall be provided with standard DGC grates that lock down to frame. Zurn 12 [305] wide reveal Ductile iron Slotted Grate conforming to ASTM specification A536-84, Grade 80-55-06. Ductile iron grate is rated class C per the DIN EN 1433 top load classifications. Supplied in 24 [608] nominal lengths with 13/16 [21] wide slots, and 1-1/2 [38] bearing depth. Grate has an open area of 80.8 sq. in per ft. [171,027 sq. mm per metre]. The 1/4 [6] thick Heavy-Duty Carbon Steel Frame Assembly conforms to ASTM specification A36 with 10 - 4 [102] long concrete anchors per 96 [2438]. Grate lockdown bars are to be integral to the frame. The frame is supplied with a powder coated finish. All welds must be performed by a certified welder per ASTM standard AWS D1.1. Frames Shall be produced in the U.S.A.

PREFIX OPTIONS (Check/specify appropriate options)

- ☐ Z — Eight-foot High Density Polyethylene (HDPE) Channel, Heavy-Duty Frame with Anchor Studs.*

SUFFIX OPTIONS (Check/specify appropriate options)

Outlet Adapters Add/Each

- ☐ -E1 Closed End Cap
- ☐ -E4 4 [102] No-Hub End Outlet
- ☐ -E6 6 [152] No-Hub End Outlet
- ☐ -E8 8 [203] No-Hub End Outlet
- ☐ -U4 4 [102] No-Hub Bottom Outlet
- ☐ -U6 6 [152] No-Hub Bottom Outlet
- ☐ -U8 8 [203] No-Hub Bottom Outlet

Grate Options (Load Classifications are per DIN EN1433)

- ☐ -BDC Black Acid Resistant Epoxy Coated Ductile Grate - Class C
- ☐ -BDE Black Acid Resistant Epoxy Coated Ductile Grate - Class E
- ☐ -BDF Black Acid Resistant Epoxy Coated Ductile Grate - Class F
- ☐ -DC Ductile Iron Solid Cover - Class C
- ☐ -DGC Ductile Iron Slotted Grate - Class C *
- ☐ -DGE Ductile Iron Slotted Grate - Class E
- ☐ -DGF Ductile Iron Slotted Grate - Class F
- ☐ -GDC Galvanized Ductile Slotted Grate - Class C
- ☐ -GDE Galvanized Ductile Slotted Grate - Class E
- ☐ -GDF Galvanized Ductile Slotted Grate - Class F
- ☐ -GHPD Galvanized Heel-Proof Ductile Grate - Class B
- ☐ -GHPDE Galvanized Heel-Proof Ductile Slotted Grate - Class E
- ☐ -HPD Heel-Proof Ductile Slotted Grate - Class B
- ☐ -HPDE Heel-Proof Ductile Slotted Grate - Class E
- ☐ -HPDE Heel-Proof Ductile Slotted Grate - Class E
- ☐ -RFGC Reinforced Slotted Galvanized Grate - Class C
- ☐ -RPGC Reinforced Perforated Galvanized Grate - Class C
- ☐ -RPGPC Reinforced Perforated Galvanized Reverse Punch Grate - Class C
- ☐ -RFSC Reinforced Slotted Stainless Steel Grate - Class C
- ☐ -RPSC Reinforced Perforated Stainless Steel Grate - Class C
- ☐ -RPSRC Reinforced Perforated Stainless Steel Reverse Punch Grate - Class C

Miscellaneous Options

- ☐ -CBF Black Acid Resistant Coated Top Frame
- ☐ -JC Joint Connector
- ☐ -SW Sidewall Extensions - 11 [279] High
- ☐ -SW2 Double Sidewall Extensions - 22 [559] High
- ☐ -VP Vandal-Proof Lockdown

Trench No.	'A' Shallow Inv.	'B' Deep Inv.	Flow (cfs)	Flow (gpm)	Flow (lps)
8201	6.25 [159]	7.25 [184]	1.241	557	35
8202	7.25 [184]	8.25 [210]	1.725	774	49
8203	8.25 [210]	9.25 [235]	2.226	999	63
8203N	9.25 [235]	9.25 [235]	-	-	-
8204	9.25 [235]	10.25 [260]	2.745	1232	78
8205	10.25 [260]	11.25 [286]	3.271	1468	93
8206	11.25 [286]	12.25 [311]	3.808	1709	108
8206N	12.25 [311]	12.25 [311]	-	-	-
8207	12.25 [311]	13.25 [337]	4.347	1951	123
8208	13.25 [337]	14.25 [362]	4.893	2196	139
8209	14.25 [362]	15.25 [387]	5.443	2443	155
8208N	15.25 [387]	15.25 [387]	-	-	-
8210	15.25 [387]	16.25 [413]	5.996	2691	170
8211	16.25 [413]	17.25 [438]	6.551	2940	186
8212	17.25 [438]	18.25 [464]	7.106	3189	202

MADE in the U.S.A.

- ☐ -ADA-USA Meets Americans with Disabilities Act Requirements - Class C
- ☐ -BG Galvanized Steel Bar Grate - Class D
- ☐ -CDE-USA Ductile Iron Slotted Grate - Class C
- ☐ -DGE-USA Ductile Iron Slotted Grate - Class E
- ☐ -FG Fabricated Galvanized Steel Slotted Grate - Class A
- ☐ -FS Fabricated Stainless Steel Slotted Grate - Class A
- ☐ -GADA-USA Galvanized Ductile ADA Slotted Grate - Class C
- ☐ -GDC-USA Galvanized Ductile Slotted Grate - Class C
- ☐ -GDE-USA Galvanized Ductile Slotted Grate - Class E
- ☐ -GHPDE-USA Galvanized Ductile Slotted Grate - Class E
- ☐ -HPDE-USA Heel-Proof Ductile Slotted Grate - Class E
- ☐ -GG Fiberglass Grate - Class A
- ☐ -PG Perforated Galvanized Steel Grate - Class A
- ☐ -PS Perforated Stainless Steel Grate - Class A
- ☐ -RFG Reinforced Galvanized Slotted Grate - Class B
- ☐ -RFS Reinforced Stainless Steel Slotted Grate - Class B
- ☐ -RPG Reinforced Galvanized Perforated Grate - Class B
- ☐ -RPS Reinforced Stainless Steel Perforated Grate - Class B
- ☐ -SBG-L Stainless Steel Bar Grate - Class C

Miscellaneous Options

- ☐ -DB Bottom Dome Strainer

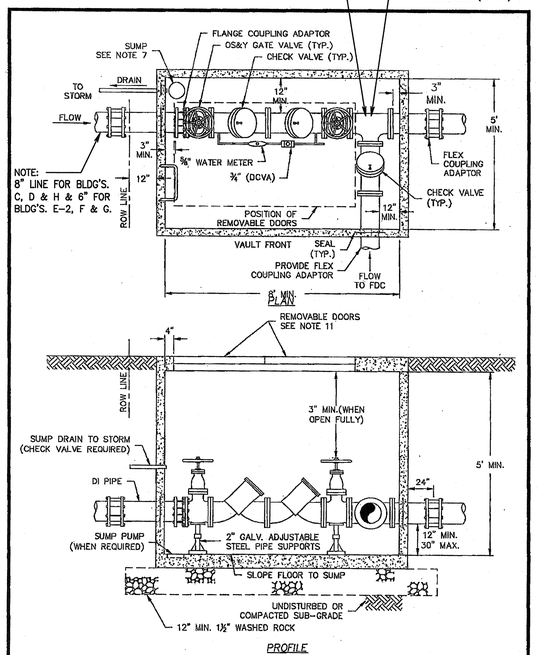
* Regularly furnished unless otherwise specified.

Zurn Industries, LLC | Specification Drainage Operation
1801 Pittsburgh Avenue, Erie, PA U.S.A. 16502 · Ph. 855-663-9876, Fax 814-454-7929
In Canada | Zurn Industries Limited
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 · Ph. 905-405-8272, Fax 905-405-1292
www.zurn.com

Rev. F
Date: 04/25/14
C.N. No. 130882
Prod. | Dwg. No. Z882

NOTE:
DDCVA FOR BUILDINGS C, D, & H WILL NEED AN 8"x6" REDUCER FOR LINES THAT GO TO BUILDING C & D. FIRE LINE FOR BUILDING H NEEDS TO BE 8".

NOTE:
REMOVE TEE AND INSTALL A CROSS WITH A CHECK VALVE ON EACH BRANCH INSIDE THE VAULT TO ALLOW DDCVA TO SERVICE 3 BUILDINGS. (VAULT IS OVERSIZED (12'x8') TO ALLOW FOR THE INSTALL)



PROFILE

1 OF 2

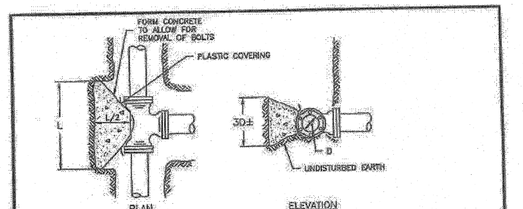
Approved:			
City Engineer	Date	City of Fife	Dwg No: W14
WATER STANDARD DETAIL			DOUBLE DETECTOR CHECK VALVE ASSEMBLY

LEGEND:

1. INSTALLATION OF THESE APPROVED ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE ACCEPTED PROCEDURE AND PRACTICE IN CROSS-CONNECTION CONTROL MANUAL, OF THE CROSS-CONNECTION COMMITTEE PACIFIC N.W. SECTION OF THE AWWA, MOST RECENT EDITION.
2. BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, MOST RECENT EDITION.
3. IMMEDIATELY UPON INSTALLATION OF AN APPROVED BACKFLOW ASSEMBLY (AND YEARLY THEREAFTER), THE DEVICE SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST RESULTS TO: CITY OF FIFE WATER DIVISION.
4. DOUBLE CHECK DETECTOR ASSY. (DCDA) SHALL HAVE OS&Y GATE VALVES, AND SHALL HAVE SUPERVISED TAMPER SWITCHES ON OS&Y GATE VALVES AND POST INDICATOR VALVES.
5. ALL ELECTRICAL SHALL BE INSPECTED BY A WASHINGTON STATE ELECTRICAL INSPECTOR.
6. SUMP PUMP (IF REQUIRED BY THE CITY ENGINEER) SHALL BE ¾" H.P., AND SHALL BE WIRED PER WASHINGTON STATE ELECTRICAL CODE TO PROTECT MAINTENANCE PERSONNEL FROM SHOCK.
7. DCVA MUST BE PURCHASED AND ASSEMBLED AS A UNIT. NO MODIFICATIONS TO ASSEMBLY ARE ALLOWED.
8. DCDA SHALL BE AN APPROPRIATELY SIZED FEBCO 805YD OR ANOTHER APPROVED EQUAL WHICH UTILIZES A SENSUS SR2 METER ON THE DETECTOR.
9. VAULT SHALL BE PRE-CAST CONCRETE SIZED TO MEET MINIMUM CLEARANCE REQUIREMENTS.
10. REMOVABLE DOORS SHALL BE A MINIMUM OF 3'0" x 6'0" DIAMOND PLATE HINGED LOCKING DOORS, WITH HINGES LOCATED AT REAR SIDE. DOORS SHALL HAVE AN H-20 LOAD RATING IN AREAS THAT ARE SUBJECT TO VEHICLE TRAFFIC. DOORS SHALL BE SPRING LOADED WITH OPEN POSITION LOCK.
11. DETECTOR ASSEMBLY WATER METER SHALL BE A SENSUS SR2 METER SUPPLIED BY THE BACKFLOW MANUFACTURER. IT SHALL HAVE A ICE REGISTER OF A TOUCHREAD/PITLID (TR/PL) DESIGN TO REGISTER IN 100 CUBIC FEET. THE VAULT DOOR SHALL HAVE A 1¾ HOLE DRILLED IN IT, AND HAVE A SENSUS MODEL 520 M WITH LEAK DETECTION SINGLE PORT FLEXNET SMARTPOINT TRANSMITTER PROPERLY INSTALLED THROUGH IT, PER MANUFACTURERS RECOMMENDATIONS. METER REGISTER TR/PL TOUCHCOUPLER SHALL BE PROPERLY CONNECTED TO THE TRANSMITTER.
12. PIPE SUPPORTS AND METALLIC LADDERS OR RUNGS SHALL BE PAINTED WITH 10 MILS (APPROXIMATELY 2 COATS) OF DUPONT 25P EPOXY MASTIC OR APPROVED EQUAL.
13. VAULT SHALL HAVE A GALVANIZED LADDER, RUNGS, OR APPROVED EQUAL OF APPROPRIATE LENGTH TO ALLOW PROPER ACCESS.
14. DOUBLE DETECTOR CHECK VALVE ASSEMBLIES OF SIZES OTHER THAN 6" SHALL USE SIMILAR DESIGN, WITH APPROPRIATE ADJUSTMENTS IN SIZE OF MATERIALS AND VAULT.
15. DOUBLE DETECTOR CHECK VALVE ASSEMBLY SHALL BE LOCATED NOT MORE THAN (1) ONE FOOT BEYOND THE RIGHT-OF-WAY LINE, UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE CITY ENGINEER. IN NO CASE MAY THE BACKFLOW ASSEMBLY BE LOCATED WITHIN THE BUILDING.

SHEET 2 OF 2

Approved:			
City Engineer	Date	City of Fife	Dwg No: W14
WATER STANDARD DETAIL			6" DOUBLE DETECTOR CHECK VALVE ASSEMBLY



PLAN ELEVATION

TOTAL POUNDS

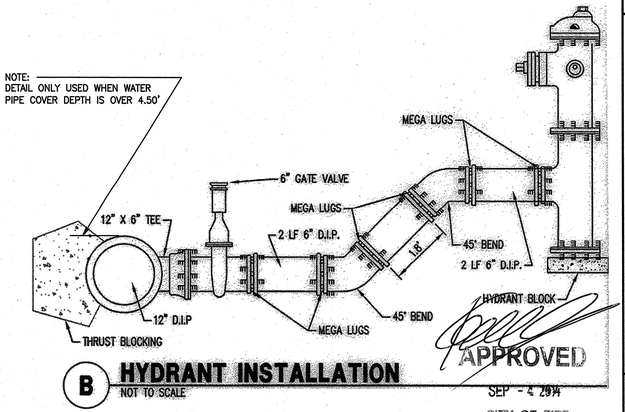
PIPE SIZE	P.S.I.	TEE/DEAD ENDS	90° BENDS	45° BENDS	22½° BENDS
3"	200	1,816	2,270	1,230	628
4"	200	2,430	3,300	1,800	919
6"	200	4,750	6,700	3,650	1,850
8"	200	7,910	11,200	6,050	3,090
10"	200	12,300	17,400	9,450	4,810
12"	200	17,700	24,900	13,500	6,740
14"	200	23,000	32,900	17,900	9,030
16"	200	30,100	42,800	23,200	11,800
18"	200	38,100	54,100	29,300	14,900
20"	200	47,200	67,000	36,300	18,500
24"	200	68,000	96,400	52,400	26,600
30"	200	106,000	150,000	81,100	41,400
36"	200	152,000	215,000	116,000	59,300

NOTES

1. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WITH CONSTRUCTION THRUST BLOCKS:
   - BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
   - THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE.
   - CONCRETE SHALL BE CURED FOR MIN. OF 5 DAYS AND SHALL HAVE A COMPRESSIVE STRENGTH OF 2,000 LBS AT 28 DAYS.
   - BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.
   - PLASTIC WRAP BETWEEN PIPE AND CONCRETE THRUST BLOCK SHALL BE PROVIDED
2. ALL PIPES SHALL BE PROPERLY BEDDED, SEE STANDARD BEDDING DETAILS.
3. TO DETERMINE THRUST AT PRESSURES OTHER THAN 200 PSI SHOWN, MULTIPLY THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE BY 100.
   EXAMPLE: THRUST ON A 12", 90° BEND AT 125 PSI
   19,500 × 125/100 = 24,375 LBS.
4. TO DETERMINE THE VOLUME OF THE THRUST BLOCK:
   EXAMPLE: (150 LB/C.F. WEIGHT OF CONCRETE)
   24,375 / 150 LB/C.F. = 162.50 C.F.
   162.50 C.F. / 27 C.Y./C.F. = 6.02 C.Y. OF CONCRETE
5. TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (S.F.) SEE TABLE 1.
   BEARING VALUE OF SOIL:
   EXAMPLE: 24,375 LBS / 2,000 LBS/S.F. OF AREA

Approved:			
City Engineer	Date	City of Fife	Dwg No: W16
WATER STANDARD DETAIL			HORIZONTAL THRUST BLOCKING

NOTE:
DETAIL ONLY USED WHEN WATER PIPE COVER DEPTH IS OVER 4.50'



B HYDRANT INSTALLATION
NOT TO SCALE

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

No.	Date	By	Chkd.	Appr.	DWG	REVISED PER FINAL CITY REVIEW	Revision
6	9/02/14	4EP	AS				

Title: WATER NOTES AND DETAILS
FOR
PORTSIDE BUSINESS CENTER

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal AS Noted | Vertical AS NOTED

Designed AS | Drawn MB | Checked AS | Approved DKB | Date 03-04-14

Scale: 1" = 1"

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING; LAND PLANNING; SURVEYING; ENVIRONMENTAL SERVICES

Job Number 16004

Sheet C18 of 21

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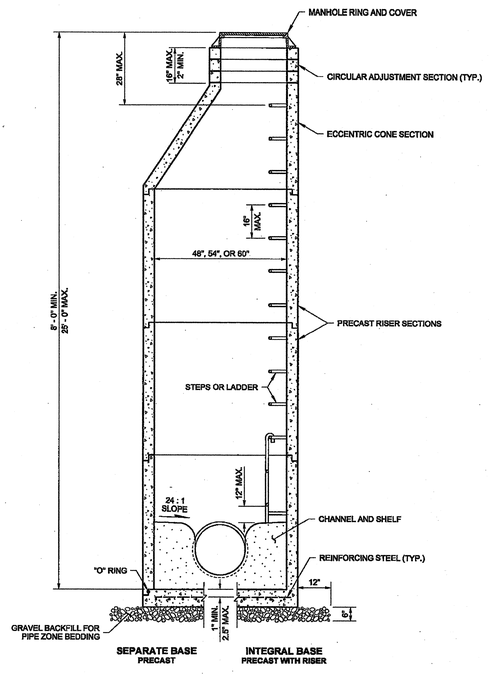
SANITARY SEWER NOTES AND DETAILS



NOTES

1. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.
2. For pipe allowances, see **Standard Plan B-10.20.**

MANHOLE DIMENSION TABLE				
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"

CASEY M. KRAMER STATE OF WASHINGTON 44535 REGISTERED PROFESSIONAL ENGINEER

AS NOTED, THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT UNLESS IT BEARS THE ORIGINAL SEAL AND SIGNATURE OF A REGISTERED ENGINEER. ANY REVISIONS MADE UNDER THE AUTHORIZATION OF A REGISTERED ENGINEER WHO APPROVED THE PLAN INDICATING, IN WRITING, THE REVISIONS MADE, SHALL RELIEVE THE ORIGINAL APPROVING ENGINEER OF RESPONSIBILITY FOR THE REVISIONS. A COPY MAY BE OBTAINED UPON REQUEST.

MANHOLE TYPE 1

STANDARD PLAN B-15.20-01

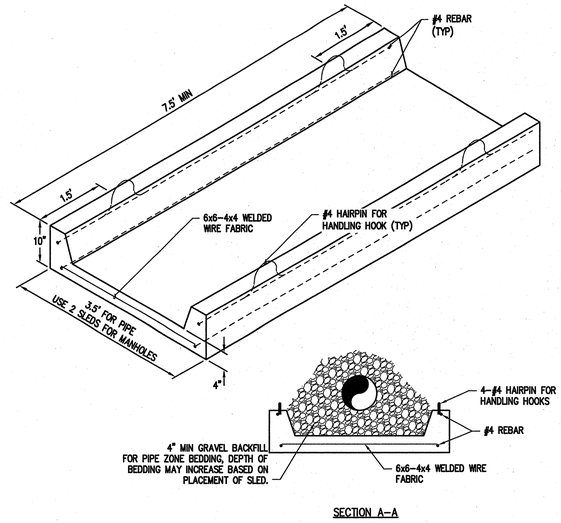
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 02-07-12

STATE DESIGN ENGINEER — DATE

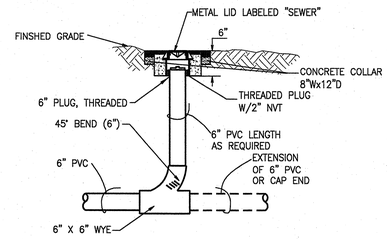
Washington State Department of Transportation



SECTION A-A

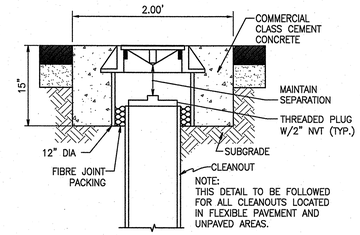
CONCRETE SLED DETAIL

NOT TO SCALE



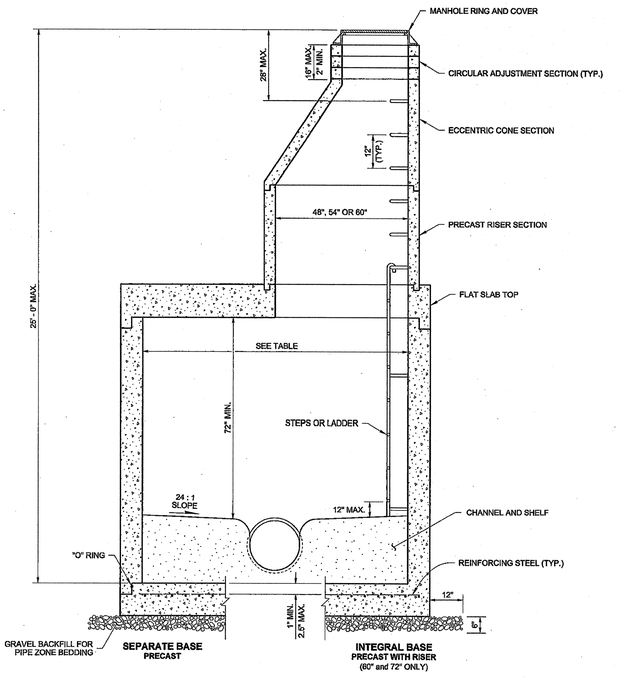
SANITARY SEWER CLEANOUT DETAIL

NOT TO SCALE



SEWER CLEANOUT BLOCKING DETAIL

NOT TO SCALE



NOTES

1. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.
2. For pipe allowances, see **Standard Plan B-10.20.**

MANHOLE DIMENSION TABLE				
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

CASEY M. KRAMER STATE OF WASHINGTON 44535 REGISTERED PROFESSIONAL ENGINEER

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MANHOLE TYPE 2

STANDARD PLAN B-15.40-01

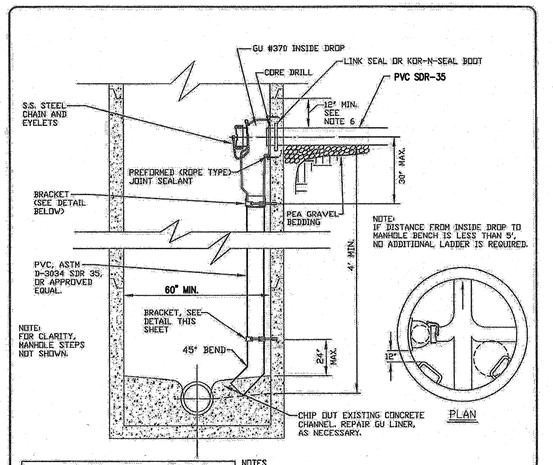
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 02-07-12

STATE DESIGN ENGINEER — DATE

Washington State Department of Transportation



NOTES

1. MINIMUM OF TWO (2) BRACKETS SHALL BE PLACED A MAXIMUM OF 10' APART VERTICAL. DROP SHALL BE 8" DIA MIN FOR MAIN LINES & 6" DIA. FOR SIDE SEWERS.
2. MANHOLE BASE TO BE RECHANNELED AS REQUIRED.
3. USE DEAD-END CHANNEL FOR MANHOLES WITH INVERT LINERS.
4. ONLY ONE INSIDE DROP STRUCTURE PER 48"ø MANHOLE UNLESS WRITTEN PERMISSION IS GIVEN BY THE COUNTY.
5. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE COATED PER PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.
6. CORE DRILL TO BE 1 FOOT ABOVE OR BELOW MANHOLE JOINT.
7. ADAPTER BY GU REQUIRED FOR MANHOLES 72" DIA. AND LARGER.

CASEY FRANK MAHLE STATE OF WASHINGTON 32160 REGISTERED PROFESSIONAL ENGINEER

PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT SEWER UTILITY DIVISION 9850 64TH STREET WEST UNIVERSITY PLACE, WASHINGTON 98467-1078 (253) 798-4000	DATE 05/01/2011 SCALE NTS
STANDARD DETAILS	
CONCRETE MANHOLE WITH SINGLE INSIDE DROP STRUCTURE FOR GRAVITY CONNECTION	STANDARD DETAIL NO. 2006 PAGE 1 OF 1

SANITARY SEWER INSIDE DROP MANHOLE DETAIL

NOT TO SCALE

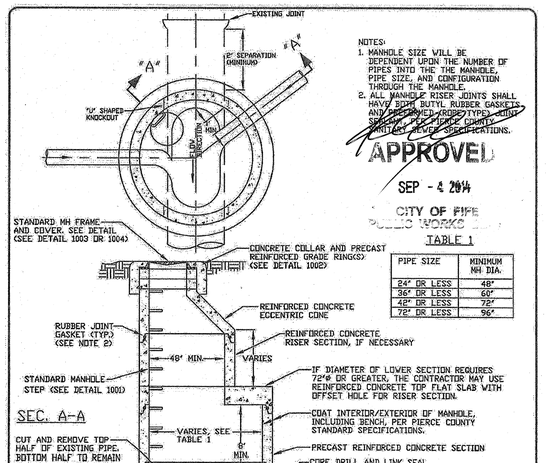


TABLE 1	
PIPE SIZE	MINIMUM MH DIA.
24" OR LESS	48"
36" OR LESS	60"
48" OR LESS	72"
72" OR LESS	96"

CASEY FRANK MAHLE STATE OF WASHINGTON 32160 REGISTERED PROFESSIONAL ENGINEER

PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT SEWER UTILITY DIVISION 9850 64TH STREET WEST UNIVERSITY PLACE, WASHINGTON 98467-1078 (253) 798-4000	DATE 12/26/2012 SCALE NTS
STANDARD DETAILS	
CONCRETE SADDLE MANHOLE	STANDARD DETAIL NO. 2004 PAGE 1 OF 1

SANITARY SEWER SADDLE MANHOLE DETAIL

NOT TO SCALE

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: SANITARY SEWER NOTES AND DETAILS

FOR

PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI STATE OF WASHINGTON 25672 REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal AS Nt. Vertical AS NOTED

Designed AS Drawn MB Checked AS Approved DKB Date 03-04-14

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Job Number 16004

Sheet C19 of 21

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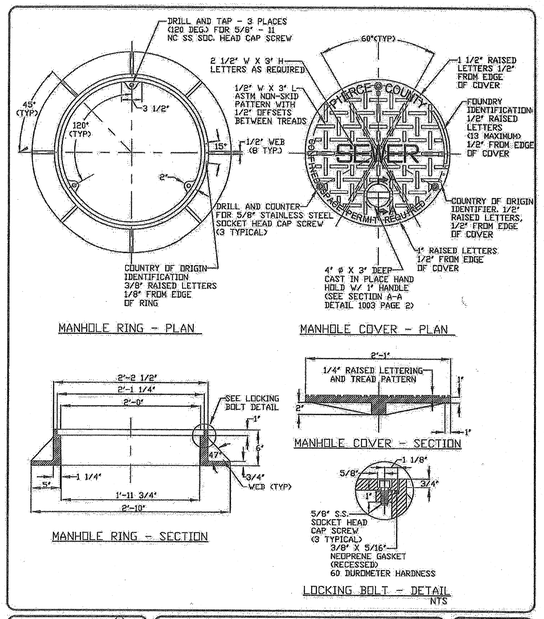
SANITARY SEWER AND CONSTRUCTION NOTES AND DETAILS



KARL FRANK MILG — STATE OF WASHINGTON — 32160 — 12-27-16 — REGISTERED PROFESSIONAL ENGINEER

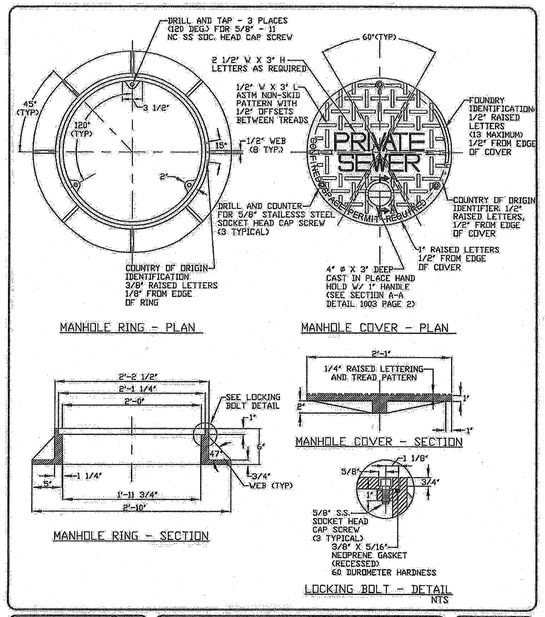
PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT
SEWER UTILITY DIVISION
9850 64TH STREET WEST
UNIVERSITY PLACE, WASHINGTON 98467-1076
(253) 798-4050

STANDARD DETAILS

DATE 05/01/2011
SCALE NTS

PUBLIC MANHOLE FRAME AND LOCKING LID

STANDARD DETAIL NO. 1003
PAGE 1 OF 2



KARL FRANK MILG — STATE OF WASHINGTON — 32160 — 12-27-16 — REGISTERED PROFESSIONAL ENGINEER

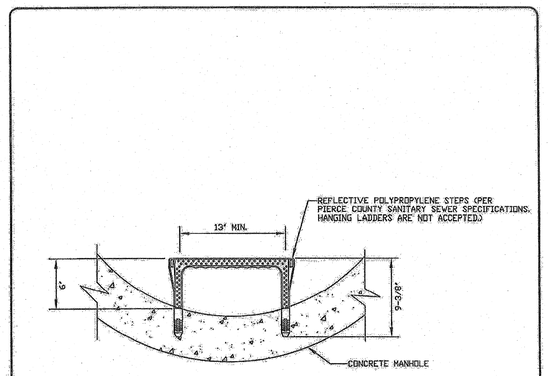
PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT
SEWER UTILITY DIVISION
9850 64TH STREET WEST
UNIVERSITY PLACE, WASHINGTON 98467-1076
(253) 798-4050

STANDARD DETAILS

DATE 05/01/2011
SCALE NTS

PRIVATE MANHOLE FRAME & LOCKING LID

STANDARD DETAIL NO. 1004
PAGE 1 OF 1



NOTES:
1. LEGS MAY BE PARALLEL OR APPROXIMATELY RADIAL AT OPTION OF MANUFACTURER EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE IDENTICAL.
2. LAST STEP SHALL BE NO MORE THAN 18" FROM BOTTOM OF MANHOLE.
3. FIRST STEP SHALL BE NO MORE THAN 24" FROM EOR/FINISH GRADE.
4. STEPS SHALL NOT INTERFERE WITH CHIMNEY SEAL (SEE DETAIL 1002).

KARL FRANK MILG — STATE OF WASHINGTON — 32160 — 12-27-16 — REGISTERED PROFESSIONAL ENGINEER

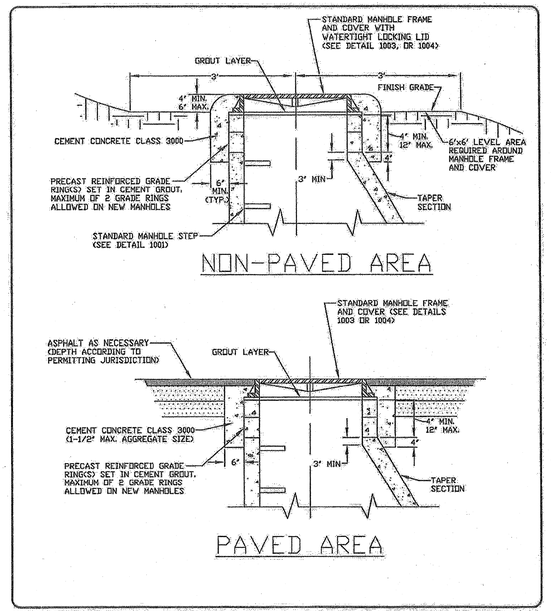
PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT
SEWER UTILITY DIVISION
9850 64TH STREET WEST
UNIVERSITY PLACE, WASHINGTON 98467-1076
(253) 798-4050

STANDARD DETAILS

DATE 05/01/2011
SCALE NTS

CONCRETE MANHOLE STEP

STANDARD DETAIL NO. 1001
PAGE 1 OF 1



KARL FRANK MILG — STATE OF WASHINGTON — 32160 — 12-27-16 — REGISTERED PROFESSIONAL ENGINEER

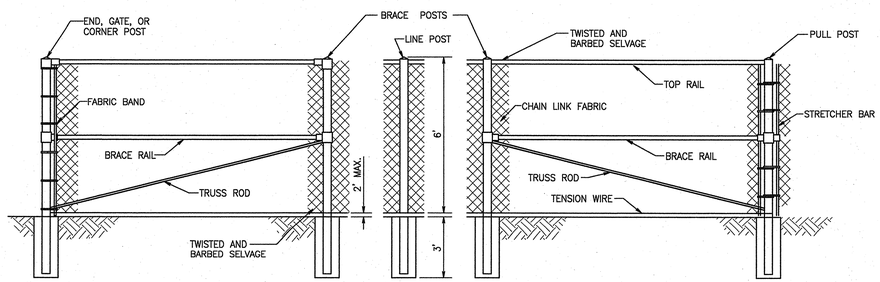
PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT
SEWER UTILITY DIVISION
9850 64TH STREET WEST
UNIVERSITY PLACE, WASHINGTON 98467-1076
(253) 798-4050

STANDARD DETAILS

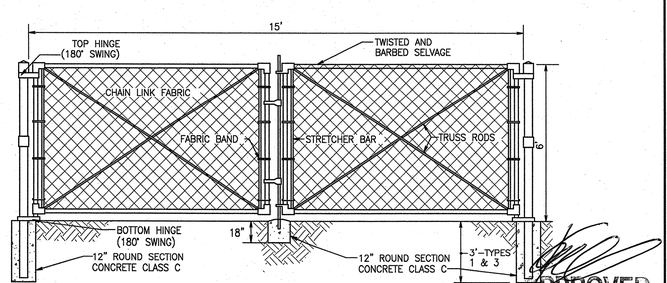
DATE 12/26/2012
SCALE NTS

CONCRETE MANHOLE COLLAR

STANDARD DETAIL NO. 1002
PAGE 1 OF 1



1 **BLACK VINYL COATED CHAIN LINK FENCE**
NOT TO SCALE



2 **FENCE GATE DETAIL**
NOT TO SCALE — PER WSDOT STANDARD PLAN L-3

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

No.	Date	By	Chkd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title:
SANITARY SEWER AND CONSTRUCTION NOTES AND DETAILS
FOR
PORTSIDE BUSINESS CENTER

For:
DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALDWIN — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal AS Nu. Vertical AS NOTED
Designed AS. Drawn MB. Checked AS. Approved DKB.
Date 03-04-14
Scale:1" = 1' MBOUKAL Xref: ------

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004
Sheet C20_21 of

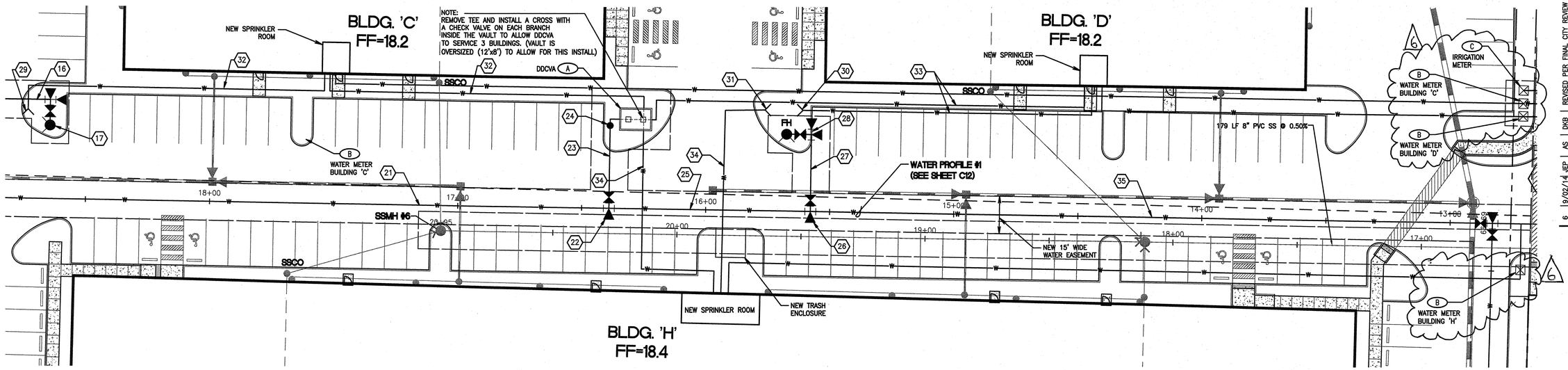
File:P:\16000s\16004\engineering\PASED SITE BY .2D FEET\16004-d1-4.dwg Date/Time:8/19/2014 3:04 PM

WATER MAIN EXTENSION ENLARGED DETAIL PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

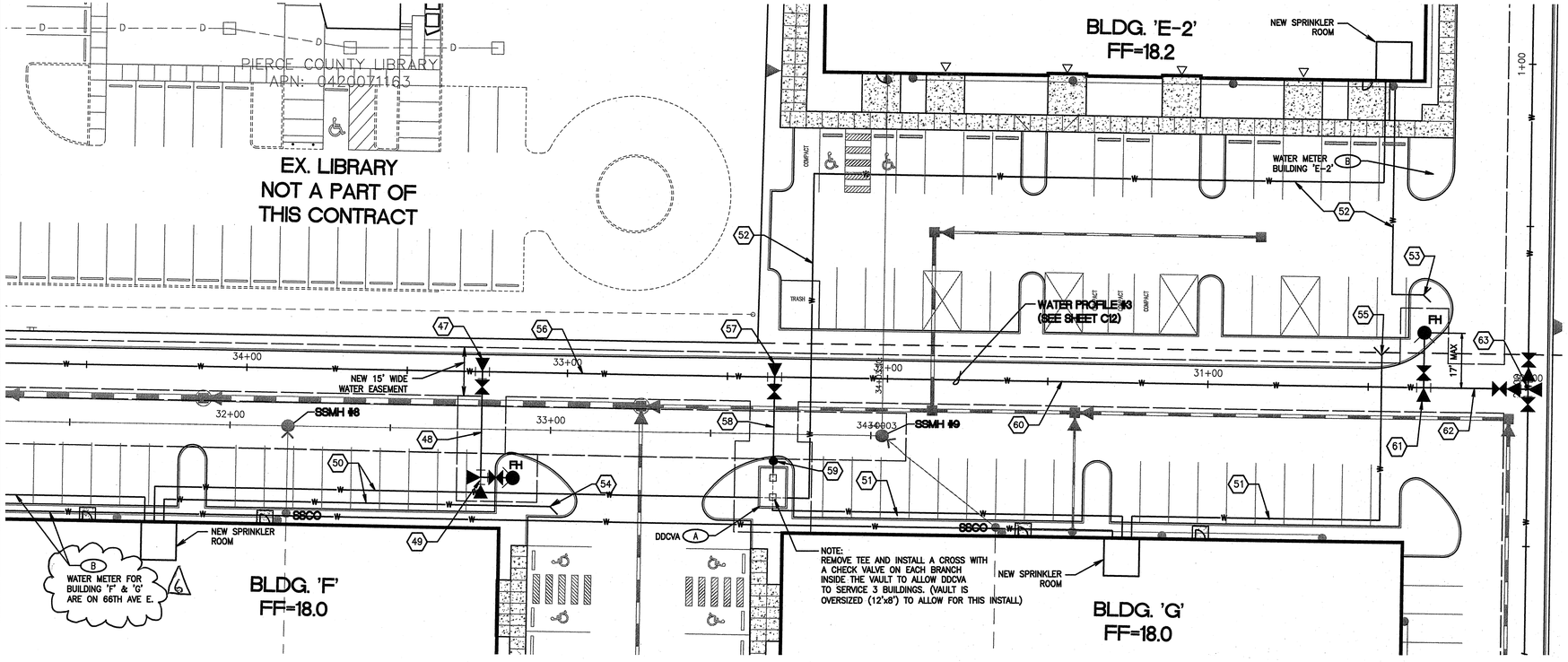
1"=20'

0 10 20 40



1"=20'

0 10 20 40



A **INSTALL:**
NEW DDCVA FOR BUILDINGS C, D, & H PER C.O.F. DETAIL W14 ON SHEET C18

B **INSTALL:**
1-1 1/2" DOMESTIC WATER METER W/RPBA W/2" SERVICE PER C.O.F. DETAIL W3 & W18 ON SHEET C16

C **INSTALL:**
1-1 1/2" IRRIGATION METER W/BACKFLOW PREVENTOR PER C.O.F. DETAIL W3 & W20 ON SHEET C16

WATERMAIN KEYNOTE TABLE

16. 39 LF 8" CL50 W

17. **INSTALL:**
STA. 46+68.07, 25.39' LT
N: 699694.51
E: 1182341.17
FIRE HYDRANT #3
1-8"X6" TEE (FLxMJ)
1-8" PLUG (MJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
2-CONCRETE THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

21. 265 LF 10" CL50 W

22. **INSTALL:**
STA. 16+39.02, 0.0' RT
N: 699653.07
E: 1182583.21
1-10"X8" TEE (FLxMJ)
1-8" GATE VALVE (FLxMJ)
1-2" AIR VAC PER DETAIL W12 ON C16
1-CONC. THRUST BLOCKING

23. 40 LF 8" CL50 W FIRE LINE

24. INSTALL POST INDICATOR VALVE

25. 81 LF 10" CL50 W

26. **INSTALL:**
STA. 15+57.81, 0.0' RT
N: 699651.79
E:1182664.41
1-10"X8" TEE (FLxMJ)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

27. 31 LF 8" CL50 W

28. **INSTALL:**
STA. 15+59.88, 25.97' RT
N: 699677.80
E: 1182662.75
FIRE HYDRANT #4
1-8"X6" TEE (FLxMJ)
1-8" PLUG (MJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
2-CONCRETE THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

29. FIRE DEPARTMENT CONNECTION, BLDG. 'C' PER DETAIL W21 ON SHEET C17

30. FIRE DEPARTMENT CONNECTION, BLDG. 'D' PER DETAIL W21 ON SHEET C17

31. FIRE DEPARTMENT CONNECTION, BLDG. 'H' PER DETAIL W21 ON SHEET C17

32. BLDG. 'C'=272 TOTAL LF 6" FDC LINE

33. BLDG. 'D'=318 TOTAL LF 6" FDC LINE

34. BLDG. 'H'=186 TOTAL LF 8" FDC LINE

35. 274 LF 10" CL50 W

46. 268 LF 10" CL50 W

47. **INSTALL:**
STA. 33+26.52, 0.0' RT
N: 700074.25
E: 1183269.07
1-10"x8" TEE (MJxFL)
1-8" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

48. 33 LF 8" CL50 W

49. **INSTALL:**
STA. 33+26.51, 32.95' RT
N: 700041.30
E: 1183268.55
FIRE HYDRANT #6
1-8"X6" TEE (FLxMJ)
1-8" PLUG (MJ)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
2-CONCRETE THRUST BLOCKING
PER DETAIL W10 ON SHEET C17

50. BLDG. 'F'=326 TOTAL LF 6" FDC LINE

51. BLDG. 'G'=252 TOTAL LF 6" FDC LINE

52. BLDG. 'E-2'=393 TOTAL LF 6" FDC LINE

53. FIRE DEPARTMENT CONNECTION, BLDG. 'E-2' PER DETAIL W21 ON SHEET C17

54. FIRE DEPARTMENT CONNECTION, BLDG. 'F' PER DETAIL W21 ON SHEET C17

55. FIRE DEPARTMENT CONNECTION, BLDG. 'G' PER DETAIL W21 ON SHEET C17

56. 91 LF 10" CL50 W

57. **INSTALL:**
STA. 32+35.26, 0.0' RT
N: 700072.79
E: 11833360.31
1-10"X6" TEE (FLxMJ)
1-6" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

58. 28 LF 6" CL50 W FIRE LINE

59. INSTALL POST INDICATOR VALVE

60. 203 LF 10" CL50 W

61. **INSTALL:**
STA. 30+32.69, 0.0' RT
N: 700069.58
E: 1183562.85
FIRE HYDRANT #7
1-10"X6" TEE (MJxFL)
1-6" GATE VALVE (FLxMJ)
1-5 1/4" MVO FIRE HYDRANT ASSEMBLY
1-CONC. THRUST BLOCKING

62. 33 LF 10" CL50 W

63. **INSTALL:**
STA. 2+00.94, 0.0 RT=
STA. 30+00, 0.0' RT
N: 700069.06
E: 1183595.54
1-12" TEE (FL)
2-12"x10" REDUCERS (FL)
2-10" GATE VALVES (FLxMJ)
1-12" GATE VALVE (FLxMJ)
1-CONC. THRUST BLOCKING

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: WATER MAIN EXTENSION ENLARGED DETAIL PLAN FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=20' Vertical N/A

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
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KENT, WA 98032
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Job Number 16004

Sheet C21 of 21

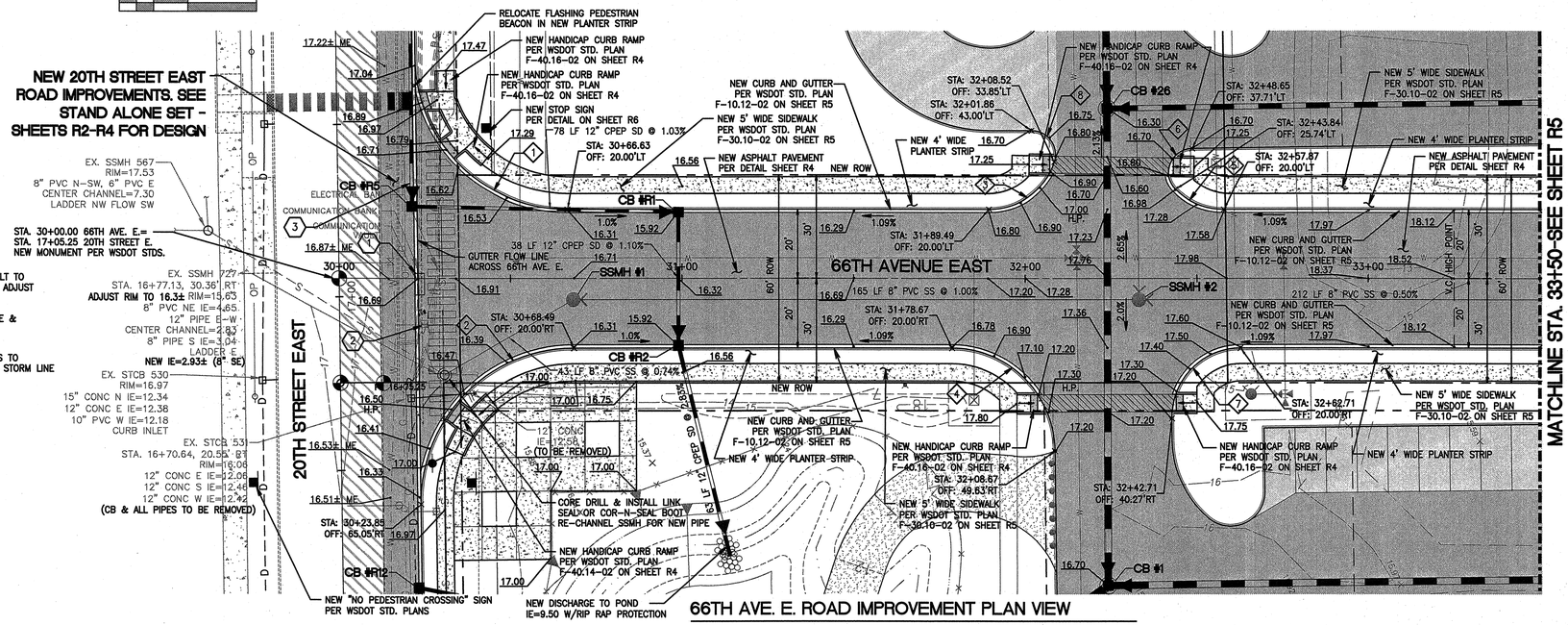
File:P:\16000s\16004\engineering\RASED SITE BY 20 FEET\16004-wd1.dwg Date/Time:9/2/2014 11:31 AM Scale:1" = 1' MBOUKAL Xref: ------

66TH AVE. E. ROAD IMPROVEMENT PLAN AND PROFILE

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=20'

0 10 20 40



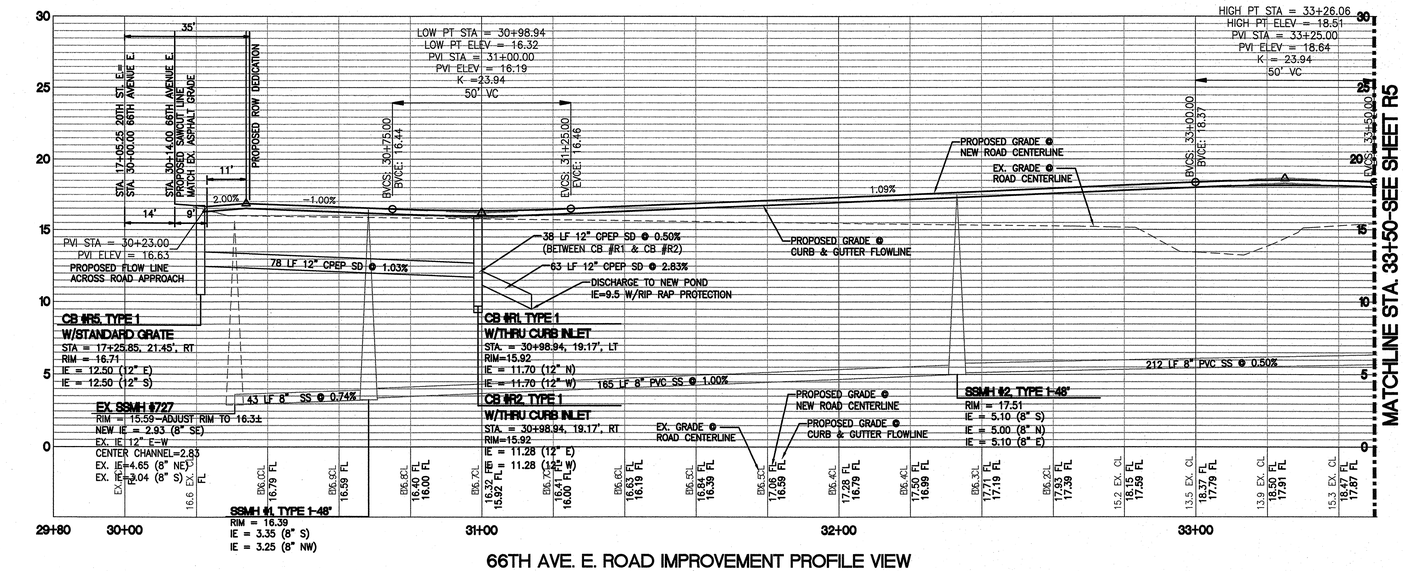
1. PROTECT EXISTING AT GRADE COMMUNICATION VAULT TO REMAIN. INSTALL NEW H-20 LOADING COVER AND ADJUST RIM TO NEW FINISH GRADE AS REQUIRED.
2. REMOVE EXISTING WATER METER AND SERVICE LINE & INSTALL BRASS CAP AT MAIN AS REQUIRED TO CONSTRUCT NEW FRONTAGE IMPROVEMENTS.
3. PROTECT EXISTING COMMUNICATION VAULT & LINES TO REMAIN. USE EXTREME CAUTION WHEN INSTALLING STORM LINE

66TH AVE. E. ROAD IMPROVEMENT PLAN VIEW

SCALE: 1"=20'

CURB CURVE TABLE

1	D=89° 13' 16" R=44.50' L=69.30'	5	D=44° 31' 41" R=20.00' L=15.54'
2	D=90° 42' 52" R=44.50' L=70.46'	6	D=134° 41' 48" R=7.00' L=16.46'
3	D=72° 04' 47" R=20.00' L=25.16'	7	D=90° 46' 23" R=20.00' L=31.69'
4	D=89° 17' 09" R=30.00' L=46.75'	8	D=107° 55' 13" R=7.00' L=13.19'



66TH AVE. E. ROAD IMPROVEMENT PROFILE VIEW

SCALE: 1"=20' H. 1"=5' V.

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

CALL BEFORE YOU DIG:
1-800-424-5555

CAUTION:

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WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

No.	Date	By	Ckd.	Appr.	Revision
5	9/02/14	JEP	AS	DNG	REVISED PER FINAL CITY REVIEW

Title: 66TH AVE. E. ROAD IMPROVEMENT PLAN AND PROFILE FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=20' Vertical 1"=5'

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet R1 of 6

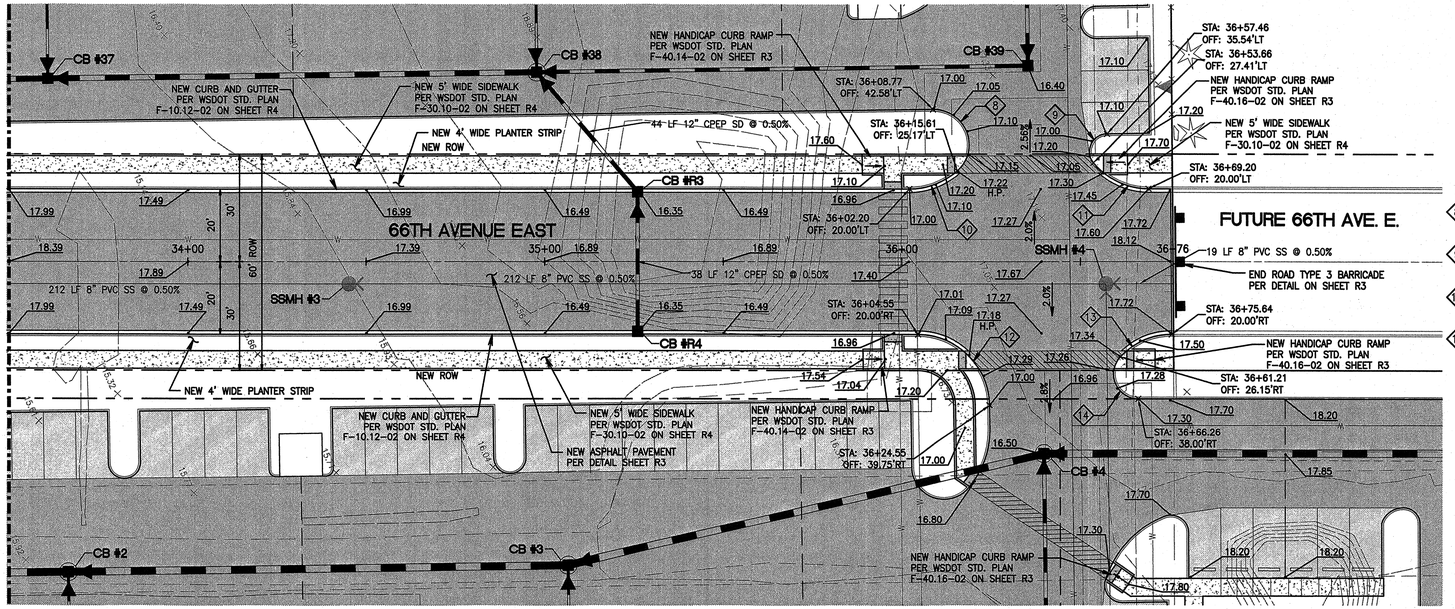
File:P:\16000s\16004\engineering\PASED SITE BY 20' FEET\16004-r4-5.dwg Date/Time:8/14/2014 1:46 PM Scales:1" = 1' MBOUKAL Xref: ----

66TH AVE. E. ROAD IMPROVEMENT PLAN AND PROFILE

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON

1"=20'

0 10 20 40

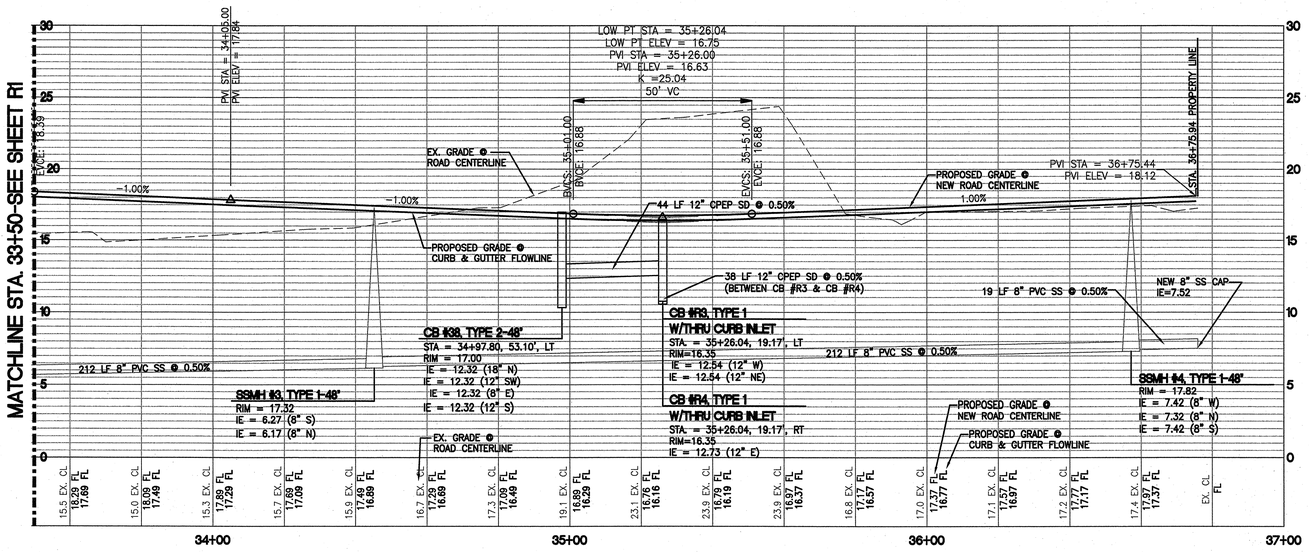


CURB CURVE TABLE

8	D=138° 39' 26" R=10.00' L=24.20'	12	D=89° 17' 09" R=20.00' L=31.17'
9	D=128° 31' 46" R=5.00' L=11.17'	13	D=46° 11' 09" R=20.00' L=16.12'
10	D=42° 07' 17" R=20.00' L=14.70'	14	D=133° 44' 29" R=7.00' L=16.34'
11	D=51° 00' 01" R=20.00' L=17.80'		

66TH AVE. E. ROAD IMPROVEMENT PLAN VIEW

SCALE: 1"=20'



66TH AVE. E. ROAD IMPROVEMENT PROFILE VIEW

SCALE: 1"=20' H. 1"=5' V.

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

CALL BEFORE YOU DIG: 1-800-424-5555

CAUTION:
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No.	Date	By	Revision
5	9/02/14	JEP	REVISED PER FINAL CITY REVIEW

Title: 66TH AVE. E. ROAD IMPROVEMENT PLAN AND PROFILE FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALAKAS — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=20' Vertical 1"=5'

Designed AS Drawn MB Checked AS Approved DB Date 03/04/14

Date/Time:9/14/2014 1:46 PM Scale:1" = 1' MBOUKAL Xref: ----- File:P:\16000s\16004\engineering\RNSED SITE BY 20 FEET\16004-r4-5.dwg

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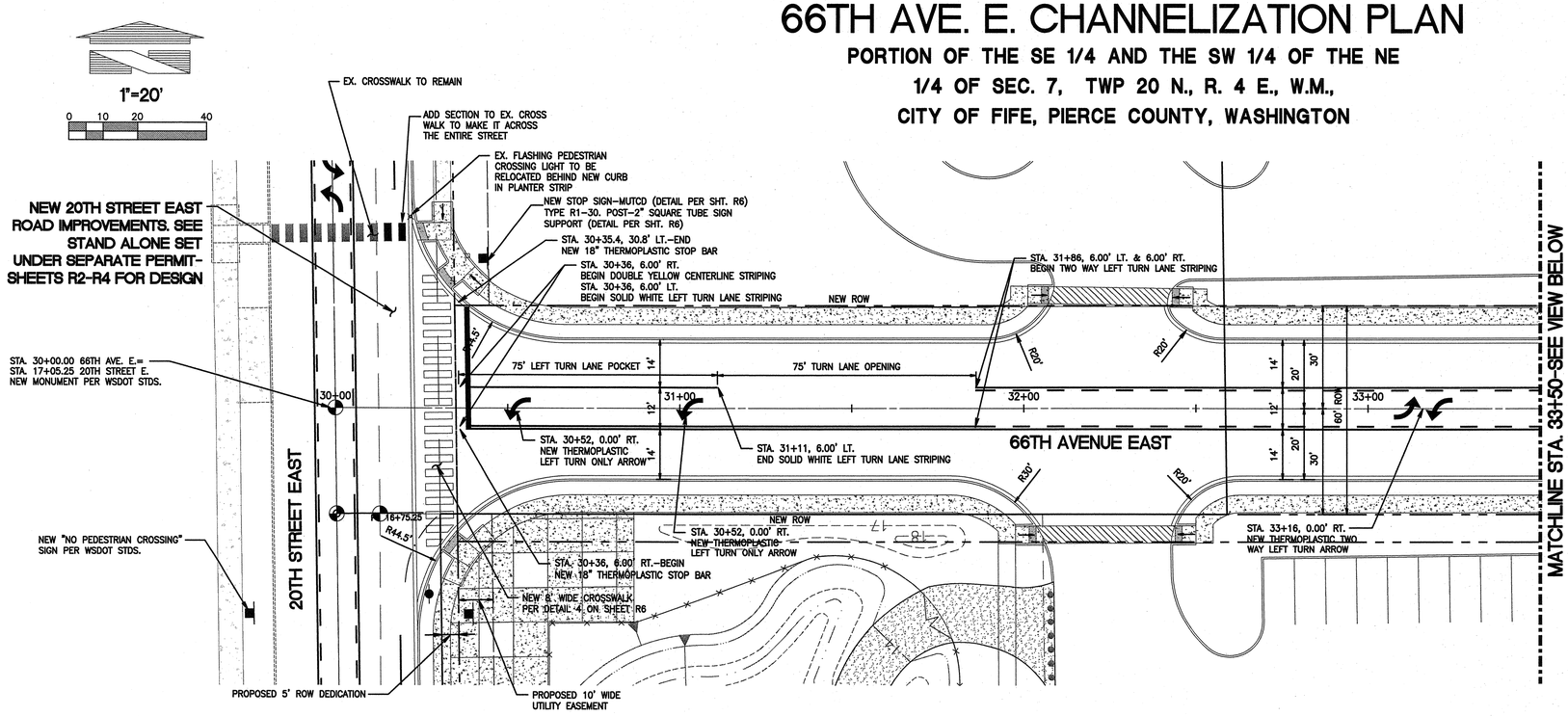
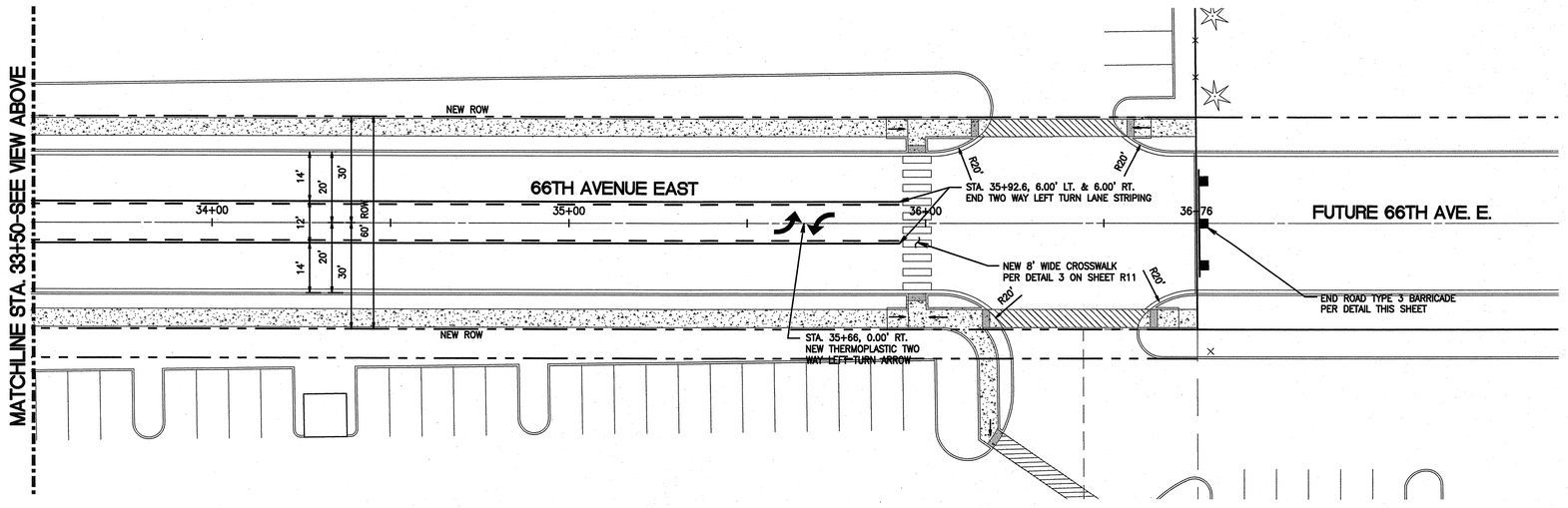
Job Number 16004

Sheet R2 of 6

66TH AVE. E. CHANNELIZATION PLAN

PORTION OF THE SE 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SEC. 7, TWP 20 N., R. 4 E., W.M., CITY OF FIFE, PIERCE COUNTY, WASHINGTON





PAVEMENT MARKINGS GENERAL NOTES

1) GENERAL. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE (MUTCD), AND TO THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AS ADOPTED BY THE COUNTY. ALL STOP BARS SHALL BE DURABLE REFLECTIVE PLASTIC MATERIALS AS APPROVED BY THE COUNTY TRAFFIC ENGINEER.

2) CENTER LINES. CENTERLINE STRIPING SHALL BE USED ON ALL ARTERIALS AND ON ALL UNDIVIDED PAVEMENTS OF THREE OR MORE LANES. TYPE 2YY RAISED PAVEMENT MARKERS (RPM'S) SHALL BE INSTALLED ALONG CENTERLINES OF TWO-LANE MAJOR AND SECONDARY ARTERIALS, SPACED AT 80 FOOT INTERVALS (40 FOOT INTERVALS ON HORIZONTAL CURVES HAVING RADII OF LESS THAN 5,000 FEET), AND CENTERED BETWEEN SKIP STRIPES (WHEN PRESENT). FOR CENTERLINES OF MULTI-LANE ROADS, DOUBLE ROWS OF TYPE 1, YELLOW RPM'S (ONE ON EACH STRIPE) SHALL BE SPACED AT 80 FOOT INTERVALS (40 FOOT INTERVALS ON HORIZONTAL CURVES HAVING RADII OF LESS THAN 5,000 FEET). (SEE RPM LAYOUT DETAILS ON SHEET 2.)

3) LANE LINES. LANE LINES ON MULTI-LANE ROADS SHALL BE DELINEATED BY PAINTED SKIP STRIPES EACH WITH FIVE RPM'S, INCLUDING THE USE OF TYPE 2W RPM'S SPACED AT 80 FOOT INTERVALS (40 FOOT INTERVALS ON HORIZONTAL CURVES HAVING RADII OF LESS THAN 5,000 FEET). (SEE RPM LAYOUT DETAILS ON SHEET 2.)

4) EDGE LINES. EDGE LINES CONSISTING OF A 4 INCH SOLID WHITE LINE SHALL BE REQUIRED UNDER THE FOLLOWING CIRCUMSTANCES, AND SHALL BE CARRIED THROUGH PRIVATE DRIVEWAYS AND PRIVATE ROAD APPROACHES:

(A) ON ALL MAJOR ARTERIALS, WHEN MINIMUM 11 FOOT LANE WIDTHS CAN BE PROVIDED, EXCEPT WHEN CONTINUOUS RAISED EDGE, CURB OR CURB AND GUTTER EXISTS ALONG THE ARTERIAL.

(B) ON ALL URBAN SECONDARY ARTERIALS AND ALL RURAL SECONDARY ARTERIALS WHICH HAVE A POSTED SPEED LIMIT OF GREATER THAN 35 MPH, WHEN A MINIMUM 11 FOOT LANE WIDTHS CAN BE PROVIDED, EXCEPT WHEN CONTINUOUS RAISED EDGE, CURB OR CURB AND GUTTER EXISTS ALONG THE ARTERIAL.

(C) ON ALL PAVEMENT WIDTH TRANSITIONS.

(D) ON ALL MAJOR/SECONDARY ARTERIALS WHERE IT IS DESIRABLE TO REDUCE DRIVING ON PAVED SHOULDERS.

5) STOP BARS. 18-INCH STOP BARS SHALL BE USED UNDER THE FOLLOWING CIRCUMSTANCES AND SHALL BE CARRIED ACROSS ALL APPROACH LANES WHICH ARE REQUIRED TO STOP:

(A) ON ALL APPROACHES TO SIGNALIZED INTERSECTIONS WHERE MARKED CROSSWALKS DO NOT EXIST.

(B) ON ALL APPROACHES TO MULTI-WAY STOP INTERSECTIONS WHERE MARKED CROSSWALKS DO NOT EXIST.

(C) ON ALL APPROACHES WHERE CHANNELIZATION EXISTS AND MARKED CROSSWALKS DO NOT EXIST.

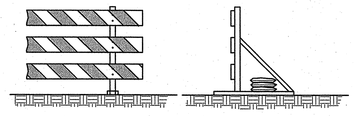
6) REMOVALS. ALL EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH NEW PAVEMENT MARKINGS SHALL BE REMOVED.

FIXED (PERMANENT)
TYPE III BARRICADE

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT.

STRIPE NOTES:
ORANGE AND WHITE IF TEMPORARY
RED AND WHITE IF PERMANENT.
REFLECTORIZED
SLANT DOWNWARD, RIGHT OR LEFT, IN DIRECTION TRAFFIC WILL PASS.
SLANT BOTH DIRECTIONS FROM MIDDLE IF TRAFFIC PASSES BOTH ENDS.
WIDTH 6" EXCEPT 4" IF RAILS ARE LESS THAN 3' LONG.
SLANT DOWNWARD TO MIDDLE AT END OF CLOSED ROAD.

SEE SEC. 5.07 AND MUTCD SEC.6C-8.



MOVABLE (TEMPORARY)
TYPE III BARRICADE

BARRICADE NOTES:			
TYPE	I	II	III
WIDTH OF RAIL	8" MIN. 12" MAX.	8" MIN. 12" MAX.	8" MIN. 12" MAX.
LENGTH OF RAIL	2' MIN.	2' MIN.	4' MIN.
HEIGHT	3' MIN.	3' MIN.	5' MIN.
TYPE OF FRAME	DEMOUNTABLE OR HEAVY 'A'	LIGHT 'A' FRAME	POST OR SKIDS
FLEXIBILITY	ESSENTIALLY MOVABLE	PORTABLE	ESSENTIALLY PERMANENT

TYPE III BARRICADE

NOT TO SCALE

CONSTRUCTION NOTES

THE DEVELOPER OR HIS/HER REPRESENTATIVE SHALL BE RESPONSIBLE FOR REMOVAL OF ANY EXISTING PAVEMENT MARKINGS AND/OR STRIPING THAT MAY BE IN CONFLICT WITH THE PROPOSED STRIPING INDICATED ON

1. THIS PLAN SET. REMOVAL OF EXISTING STRIPING SHALL BE PERFORMED PRIOR TO PLACEMENT OF ANY PERMANENT STRIPING WITHIN THE SAME WORK DAY. FURTHER, IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO PLACE AND MAINTAIN IN GOOD CONDITION, ANY TEMPORARY TRAFFIC MARKING AND/OR TEMPORARY STRIPING DEEMED NECESSARY UNTIL SUCH TIME THAT THE PERMANENT PAVEMENT MARKINGS AND STRIPING HAS BEEN INSTALLED.

THE DEVELOPER OR HIS/HER REPRESENTATIVE SHALL BE RESPONSIBLE FOR CONTACTING THE CITY OF FIFE PUBLIC WORKS AT (253) 922-9315

2. A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF FINAL LIFT PAVING FOR DETERMINATION OF COUNTY FORCE AVAILABILITY TO PERFORM THE CHANNELIZATION STRIPING AND/OR PAVEMENT MARKINGS REQUIRED ON A REIMBURSABLE BASIS AND,

GENERAL NOTES

1. ALL CHANNELIZATION LAYOUT WORK SHALL BE REDLINED AND APPROVED BY THE CITY PRIOR TO ANY STRIPING TO BE DONE. ALL TO BE DONE BY THE CITY OF FIFE FORCES.

2. CONTACT CITY OF FIFE PUBLIC WORKS THREE (3) WORKING DAYS PRIOR TO PAVING.

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No.	Date	By	Ckd.	Appr.	Revision
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Title: 66TH AVE. E. CHANNELIZATION PLAN

FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI — STATE OF WASHINGTON — 25672 — REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=20' Vertical N/A
Designed AS Drawn MB Checked AS Approved DB Date 03/04/14
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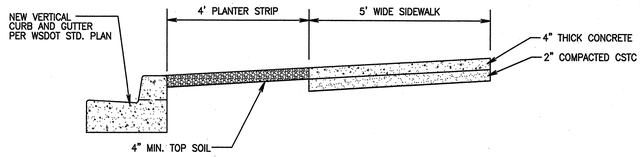
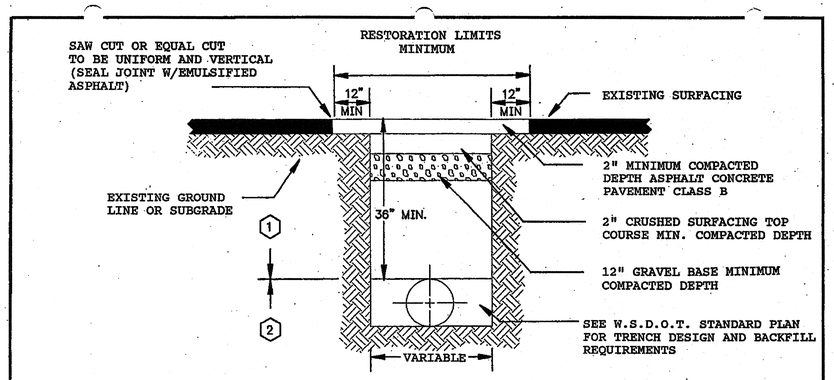
Job Number 16004
Sheet R3 of 6

ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS



1 TYPICAL CURB, SIDEWALK W/PLANTER STRIP SECTION

NOT TO SCALE (FOR 20TH ST. E. & 66TH AVE. E.)



PATCH DETAIL

NO SCALE

NOTES:

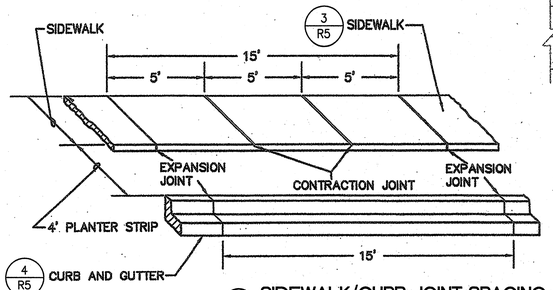
1. ALL PATCHES ACROSS CITY ROADS, OR ROAD APPROACHES IN CITY RIGHT-OF-WAY SHALL CONFORM TO THIS DETAIL.
2. TEMPORARY PATCH TO BE: BACK FILLED AND COMPACTED TO EXISTING GROUND LINE AND PATCHED WITH TEMPORARY COLD MIX ASPHALT.
3. FOR LONGITUDINAL CUTS THE CITY MAY REQUIRE THE ENTIRE DRIVING LANE TO BE OVERLAID.

BACKFILL COMPACTION LEGEND

1. BACKFILL MATERIAL PLACED IN 4" LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY.
2. BACKFILL MATERIAL PLACED IN 6" LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY.

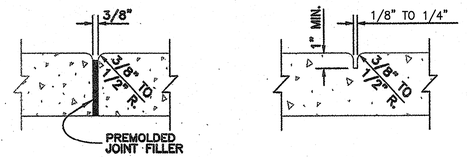
ORIGINAL DRAWING REVISIONS			

2 UTILITY PATCH DETAIL FOR ALL UTILITY ROAD CUTS FIGURE 1



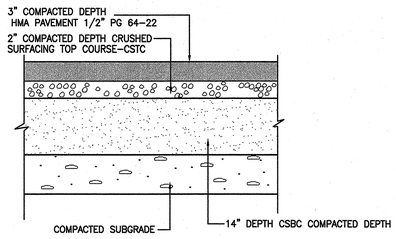
3 SIDEWALK/CURB JOINT SPACING

NOT TO SCALE



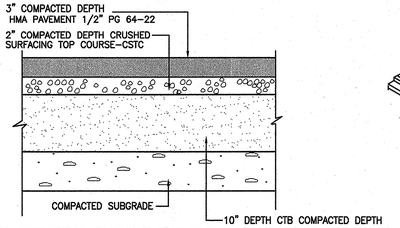
NOTES:

1. EXPANSION JOINT MATERIAL TO BE 3/8" THICK PREMOLDED JOINT FILLER TO FULL THICKNESS OF CONCRETE.
2. FORM AND SUBGRADE INSPECTION REQUIRED BY CITY OF FIFE INSPECTOR BEFORE POURING CONCRETE.
3. EXPANSION JOINTS SHALL BE INSTALLED IN CURB AND GUTTER AND IN SIDEWALK AT PC AND PT AT ALL CURB RETURNS. EXPANSION JOINTS SHALL BE PLACED IN SIDEWALK AT SAME LOCATIONS AS THOSE IN CURB AND GUTTER WHEN SIDEWALK IS ADJACENT TO CURB AND GUTTER, UNLESS OTHERWISE DIRECTED BY CITY OF FIFE INSPECTOR OR ENGINEER.



4 PUBLIC ROAD-CITY OF FIFE DESIGN ASPHALT PAVEMENT SECTION

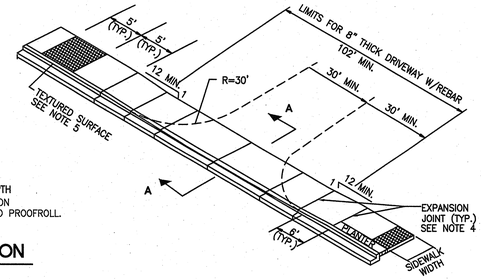
NOT TO SCALE ALL MATERIALS SHALL BE PER CITY OF FIFE STD. SPECS.



NOTE: ABOVE SECTION UTILIZING CTB IS AN ACCEPTABLE ALTERNATE. THE HMA SECTION MUST BE CONSTRUCTED OVER FIRM AND UNYIELDING SUBGRADE WHEN SUBJECTED TO PROOFROLL.

4a PUBLIC ROAD-CITY OF FIFE DESIGN ASPHALT PAVEMENT ALTERNATE SECTION

NOT TO SCALE ALL MATERIALS SHALL BE PER CITY OF FIFE STD. SPECS.



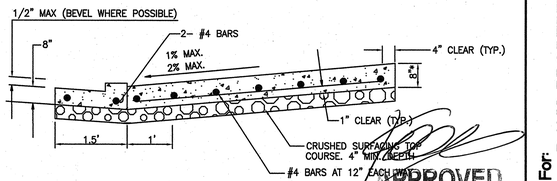
NOTES:

1. DRIVEWAYS TO DEVELOPED LOTS SHALL NOT BE BLOCKED FOR MORE THAN 4 HOURS. CONTRACTOR SHALL PROVIDE IMMEDIATE TEMPORARY ACCESS FOR DEVELOPED LOTS WHEN SO DIRECTED BY THE ENGINEER.
2. SIDEWALK GRADES SHALL BE ADJUSTED TO MATCH EXISTING GROUND OR DRIVEWAY WITHIN LIMITS SHOWN, WHEN SO DIRECTED BY THE ENGIEER.
3. DETAILS SHOWN ARE TYPICAL, THE ENGINEER RESERVES THE RIGHT TO REVISE DETAILS TO BETTER MATCH FIIELD CONDITIONS.
4. EXPANSION JOINTS SHALL BE PLACED AT 15' MAXIMUM SPACING. ELASTOMERIC JOINT MATERIAL SHALL BE IN CONFORMANCE TO SECTION 9-04.1 (4) OF THE WSDOT STANDARD SPECIFICATIONS.

SECTION A-A

5. TEXTURING IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTTERN AS SHOWN. THE LONG AXIS OF THE PATTERN SHALL BE PERPENDICULAR TO THE CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE.

*HEAVY COMMERCIAL DRIVEWAY APPROACHES SHALL BE DESIGNED FOR APPROPRIATE TURNING MOVEMENTS AND TRAFFIC LOADS AND SUBMITTED TO THE CITY FOR APPROVAL BY THE DIRECTOR.



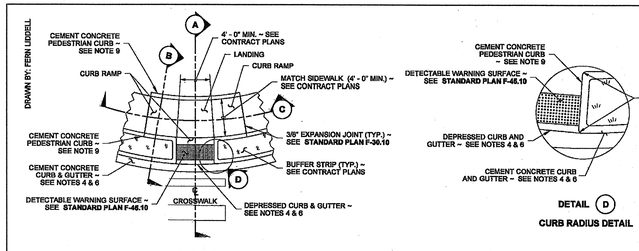
5 NEW COMMERCIAL CEMENT CONCRETE DRIVEWAY APPROACH

FILE NO.6-5(b)

APPROVED

SEP - 4 2014

CITY OF FIFE PUBLIC WORKS

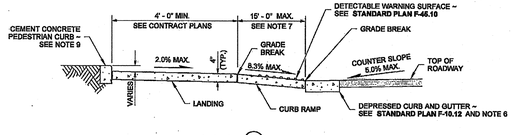


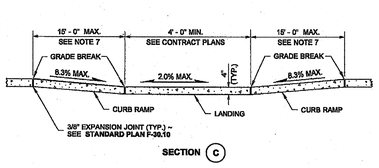
NOTES

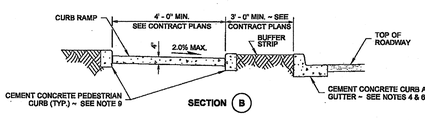
1. Provide a separate Curb Ramp for each marked or unmarked crosswalk. Curb Ramp location shall be placed within the width of the associated crosswalk or as shown in the Contract Plans.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances in front of the Curb Ramp or on any part of the Curb Ramp or Landing.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb, Gutter and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp maximum running slope shall not require the ramp length to exceed 15 feet to avoid chasing the slope indefinitely when connecting to steep grades. When applying the 15-foot max. length, the running slope of the Curb Ramp shall be as flat as feasible.
8. Curb Ramp, Landing and Flares shall receive broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.

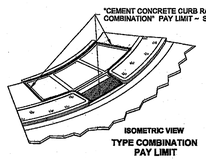
LEGEND

SLOPE IN EITHER DIRECTION









EDWARD PATRICE BARRY STATE OF WASHINGTON 34363 REGISTERED PROFESSIONAL ENGINEER

COMBINATION CURB RAMP

STANDARD PLAN F-40.14-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

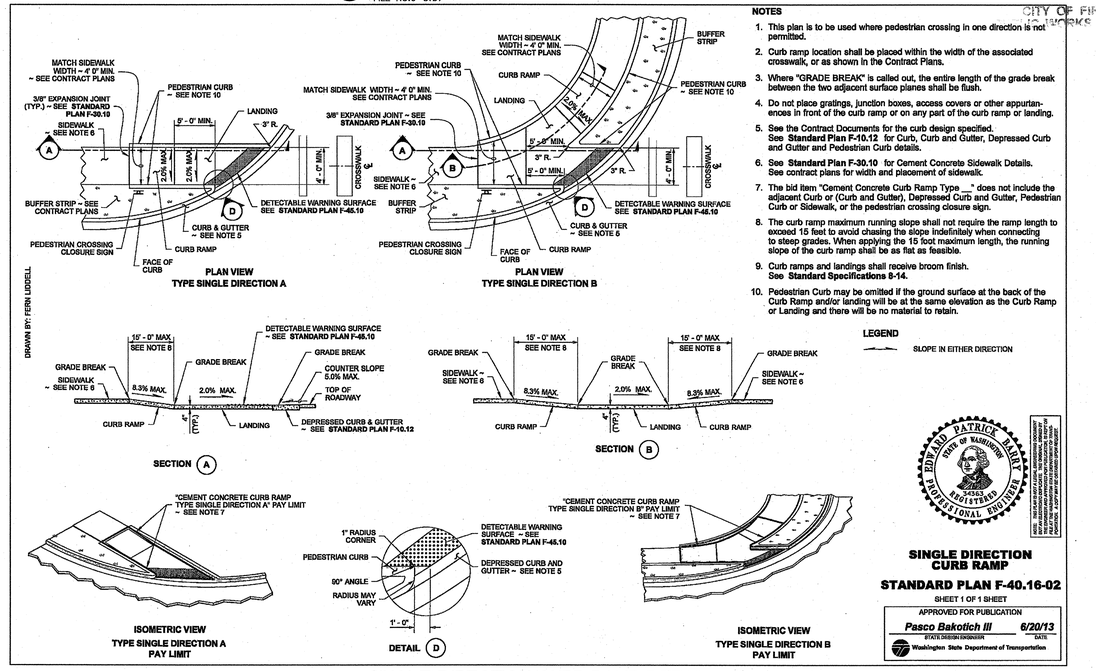
Pasco Bakotich III 6/20/13

STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

6 COMBINATION CURB RAMP DETAIL

NOT TO SCALE



NOTES

1. This plan is to be used where pedestrian crossing in one direction is not permitted.
2. Curb ramp location shall be placed within the width of the associated crosswalk, or as shown in the Contract Plans.
3. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
4. Do not place gratings, junction boxes, access covers or other appurtenances in front of the curb ramp or on any part of the curb ramp or landing.
5. See the Contract Documents for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter and Pedestrian Curb details.
6. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See contract plans for width and placement of sidewalk.
7. The bid item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb or (Curb and Gutter), Depressed Curb and Gutter, Pedestrian Curb or Sidewalk, or the pedestrian crossing closure sign.
8. The curb ramp maximum running slope shall not require the ramp length to exceed 15 feet to avoid chasing the slope indefinitely when connecting to steep grades. When applying the 15 foot maximum length, the running slope of the curb ramp shall be as flat as feasible.
9. Curb ramps and landings shall receive broom finish. See **Standard Specifications 8-14.**
10. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

LEGEND

SLOPE IN EITHER DIRECTION

EDWARD PATRICE BARRY STATE OF WASHINGTON 34363 REGISTERED PROFESSIONAL ENGINEER

SINGLE DIRECTION CURB RAMP

STANDARD PLAN F-40.16-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 6/20/13

STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

7 SINGLE DIRECTION CURB RAMP DETAIL

NOT TO SCALE

No.	Date	By	Ckd.	Appr.	Revision
5	9/02/14	AEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMAT STATE OF WASHINGTON 25672 REGISTERED PROFESSIONAL ENGINEER

09-02-14

Scale: Horizontal AS No. Vertical AS NOTED

Designed AS Drawn MB Checked AS Approved DKB Date 03-04-14

BARGHAUSEN ENGINEERS, INC. CONSULTING ENGINEERS

18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX

CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet R4 of 6

DRAWN BY: FERN LIDDELL

MBOUKAL Xref: ~~~~

Scale:1" = 1'

Date/Time:7/30/2014 9:33 AM

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ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS

NOTES

1. Provide a separate Curb Ramp for each marked or unmarked crosswalk. Curb Ramp location shall be placed within the width of the associated crosswalk, or as shown in the Contract Plans.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances in front of the Curb Ramp or on any part of the Curb Ramp or Landing.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp maximum running slope shall not require the ramp length to exceed 15 feet to avoid chasing the slope indefinitely when connecting to steep grades. When applying the 15-foot max. length, the running slope of the curb ramp shall be as flat as feasible.
8. Curb Ramp, Landing, and Flares shall receive broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

PARALLEL CURB RAMP

STANDARD PLAN F-40.12-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 6/20/13
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

1 PARALLEL CURB RAMP DETAIL

NOT TO SCALE

	MIN.	MAX.
A	1.60"	2.40"
B	0.65"	—
C	0.45"	0.90"
D	0.9"	1.40"
E	0.2"	0.2"

NOTES

1. The Detectable Warning Surface (DWS) shall extend the full width of the curb ramp (exclusive of flares) or the landing.
2. The Detectable Warning Surface shall be placed at the back of curb, and need not follow the radius.
3. The rows of truncated domes shall be aligned to be perpendicular to the grade break at the back of curb.
4. The rows of truncated domes shall be aligned to be parallel to the direction of travel.
5. If curb and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.
6. See **Standard Plans** for sidewalk and curb ramp details.
7. If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail.
8. When the grade break between the curb ramp and the landing is less than or equal to 5 ft. from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp.

DETECTABLE WARNING SURFACE

STANDARD PLAN F-45.10-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 06/21/12
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

2 DETECTABLE WARNING SURFACE DETAIL

NOT TO SCALE

NOTE

1. Four feet of the sidewalk width shall be the minimum pedestrian accessible route free of vertical and horizontal obstructions. Gratings, Access Covers, Junction Boxes, Cable Vaults, Pull Boxes and other appurtenances within the sidewalk must have slip resistant surfaces, be flush with surface, and match grade of the sidewalk.

CEMENT CONCRETE SIDEWALK

STANDARD PLAN F-30.10-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 6/20/13
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

3 CONCRETE SIDEWALK DETAIL

NOT TO SCALE

NOTE

1. See **Standard Plan F-30.10** for Curb Expansion and Contraction Joint spacing.

◇1 FLUSH WITH GUTTER PAN AT CURB RAMP ENTRANCE ~ 1/2" VERTICAL LIP AT DRIVEWAY ENTRANCE

CEMENT CONCRETE CURBS

STANDARD PLAN F-10.12-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 06-16-11
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

4 CEMENT CONCRETE CURB DETAIL

NOT TO SCALE

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS DEPT

No.	Date	By	Ckd.	Appr.	Revision
5	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 25672
09-02-14

Scale: Horizontal AS NOTED; Vertical AS NOTED

Designed AS
Drawn MB
Checked AS
Approved DKB
Date 03-04-14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
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Job Number 16004

Sheet R5 of 6

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ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS

GENERAL NOTES

1. CONTRACTOR SHALL CONTACT UTILITY PURVEYORS PRIOR TO CONSTRUCTION TO LOCATE UTILITIES. CONTACT ENGINEER IF DISCREPANCIES OR CONFLICTS WITH PROPOSED UTILITIES.
2. CONTRACTOR SHALL POTHOLE AND VERIFY EXISTING UTILITIES LOCATION, SIZE, AND INVERT/CROWN ELEVATION PRIOR TO ORDERING MATERIALS AND PRIOR TO CONSTRUCTION OF PROPOSED IMPROVEMENTS.
3. PROTECT ALL EXISTING UTILITIES WITHIN 20TH STREET RIGHT-OF-WAY UNLESS OTHERWISE SPECIFIED.
4. CONTRACTOR TO MAINTAIN AND IMPROVE AS NEEDED TESC MEASURES INSTALLED DURING FRONTAGE IMPROVEMENT CONSTRUCTION AS SITE CONDITIONS WARRANT.
5. CLEAR AND GRUB TO EXTENT OF CONSTRUCTION LIMITS. REMOVE STUMPS AND ROOT BALLS FROM SITE. IT IS THE INTENT OF THE WORK UNDER THIS CONTRACT TO CONDUCT ALL CLEARING NECESSARY TO BE ABLE TO COMPLETE ALL THE WORK OF THIS PROJECT.
6. HYDROSEED/MULCH ALL DISTURBED AREAS NOT RECEIVING SURFACING.
7. ALL WORK SHALL BE CONTAINED WITHIN THE CONSTRUCTION R.O.W. LIMITS SHOWN ON THIS DRAWING. NO ADJOINING PROPERTIES SHALL BE DISTURBED BY CONSTRUCTION ACTIVITIES.
8. CONTRACTOR TO PROVIDE ADEQUATE MEASURES TO MINIMIZE THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PAVED ROADS FROM MOTOR VEHICLES LEAVING THE PROJECT SITE. DEPOSITED SEDIMENT SHALL BE CLEANED EVERY DAY BY SHOVELING OR SWEEPING. WATER CLEANING SHALL ONLY BE DONE AFTER THE AREA HAS BEEN SHOVELED OUT OR SWEPT.
9. CONTRACTOR TO PROVIDE ADEQUATE MEASURES TO STABILIZE ROADS, PARKING AREAS, AND OTHER ONSITE VEHICLE TRANSPORTATION ROUTES IMMEDIATELY AFTER GRADING TO PREVENT EROSION CAUSED BY TRAFFIC OR RUNOFF.
10. TEMPORARY EXCAVATIONS SHOULD BE DONE IN ACCORDANCE WITH THE OSHA REGULATIONS. CONSTRUCTION SLOPES SHOULD BE NO STEEPER THAN 1.5H TO 1V.
11. ALL SITE PREPARATION AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL ENGINEERING STUDY. A GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE GEOTECHNICAL ENGINEERING SERVICES DURING CONSTRUCTION TO OBSERVE COMPLIANCE WITH THE DESIGN CONCEPTS, SPECIFICATIONS AND RECOMMENDATIONS AND TO FACILITATE DESIGN CHANGES IN THE EVENT SUBSURFACE CONDITIONS DIFFER FROM THOSE ANTICIPATED PRIOR TO THE START OF CONSTRUCTION.
12. CONTRACTOR SHALL PROVIDE PREVENTIVE MEASURES TO PREVENT RUNOFF AT SAWCUTS FROM ENTERING STORM SYSTEM.
13. PROVIDE INTERIM CATCH BASIN PROTECTION AT NEWLY INSTALLED CATCH BASINS.
14. REPAIR EXISTING ROADS PER CITY OF FIFE STANDARDS, IF DAMAGE OCCURS.
15. CLEARING LIMITS AND/OR ANY EASEMENTS OR REQUIRED BUFFERS SHALL BE IDENTIFIED AND MARKED ON THE PROJECT SITE, PRIOR TO THE START OF ANY CLEARING, GRADING AND CONSTRUCTION.
16. ADJACENT PROPERTIES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION THROUGH BUFFERS OR OTHER PERIMETER CONTROLS SUCH AS FILTER FENCE OR SEDIMENT BASINS.
17. DEMOLITION: IT IS THE INTENT OF THE WORK UNDER THIS CONTRACT TO INCLUDE, BUT NOT LIMITED TO, THE DEMOLITION OF ALL INDICATED EXISTING BUILDINGS, PAVING, UTILITIES, AND OTHER EXISTING SITE IMPROVEMENTS INCLUDING THEIR UNDERGROUND COMPONENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY REVIEW THE SITE CONDITIONS AND TO CORRELATE THESE OBSERVATIONS WITH THE PROJECT WORK AND INCLUDE ALL NECESSARY DEMOLITION, WHETHER SHOWN OR NOT, AND INCLUDE ALL SUCH COSTS IN HIS/HER BID.

GENERAL NOTES [STORMWATER]

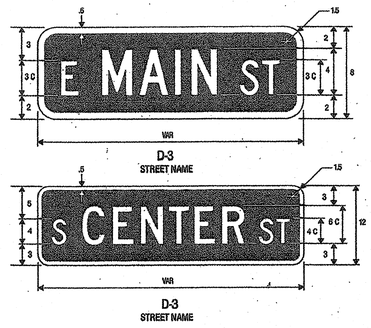
1. CONTRACTOR SHALL CONTACT UTILITY PURVEYORS PRIOR TO CONSTRUCTION TO LOCATE UTILITIES. CONTACT ENGINEER IF DISCREPANCIES OR CONFLICTS WITH PROPOSED UTILITIES, ARE NOTED.
2. CONTRACTOR SHALL POTHOLE AND VERIFY EXISTING UTILITIES LOCATION, SIZE, AND INVERT/CROWN ELEVATION PRIOR TO ORDERING MATERIALS AND PRIOR TO CONSTRUCTION OF PROPOSED IMPROVEMENTS.
3. ALL TYPE 2 CATCHBASINS SHALL HAVE STANDARD 2B GRATES UNLESS OTHERWISE NOTED.
5. PER GEOTECHNICAL STUDY PREPARED BY EXRA (SEPTEMBER 20, 2006), GROUNDWATER SEEPAGE SHOULD BE ANTICIPATED WITH EXCAVATIONS AT DEPTHS BELOW 3 FEET AND GREATER. SEE GEOTECHNICAL STUDY FOR EXCAVATION AND DEWATERING RECOMMENDATIONS.
6. PROPOSED PIPE LENGTHS ARE TO CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
7. SEE SHEET PROFILES FOR UTILITY CROSSINGS.

GENERAL NOTES [TESC]

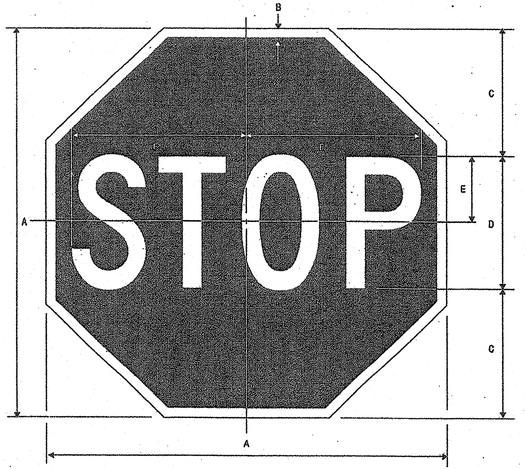
1. ON-SITE EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY PROBLEMS OCCURRING BEFORE FINAL ACCEPTANCE OF THE STORM SYSTEM BY THE OWNER SHALL BE CORRECTED BY THE CONTRACTOR.
2. IN CASE EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTY, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT WILL AGGRAVATE THE SITUATION MUST CEASE AND THE CONTRACTOR SHALL IMMEDIATELY STOP WORK AND COMMENCE RESTORATION OR MITIGATION MEASURES. RESTORATION ACTIVITY SHALL CONTINUE UNTIL SUCH TIME AS THE PROBLEM IS RECTIFIED.
3. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHOWN ON THIS DRAWING SHALL BE INSTALLED PRIOR TO OR AS THE FIRST STAGE OF SITE PREPARATION. SHOULD THE TEMPORARY EROSION AND SEDIMENTATION CONTROL
4. MEASURES AS SHOWN ON THIS DRAWING MAY NOT PROVE ADEQUATE TO CONTROL EROSION, SEDIMENTATION, OR DUST. THE CONTRACTOR SHALL INSTALL ADDITIONAL FACILITIES AS NECESSARY TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS. IF DESIGNED MEASURES DO NOT KEEP THE PUBLIC ROADS CLEAN, ADDITIONAL TESC MEASURES SHALL BE INSTALLED.
5. IN ANY AREA WHICH HAS BEEN STRIPPED OF VEGETATION OR EXPERIENCED LAND DISTURBING ACTIVITIES AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD EXCEEDING THE LISTED CRITERIA: MAY 1 TO SEPTEMBER 30 – 10 DAYS OCTOBER 1 TO APRIL 30 – 5 DAYS ALL DISTURBED AREAS MUST BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF APRIL THROUGH SEPTEMBER, INCLUSIVE. SEEDING MAY PROCEED, HOWEVER, WHENEVER IT IS IN THE INTEREST OF THE CONTRACTOR, BUT MUST BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT.
6. THE PROJECT SURVEYOR WILL BE RESPONSIBLE FOR FIELD LOCATING THE CLEARING LIMITS AND ESTABLISHING THOSE BOUNDARIES WITH BRIGHT COLORED FLAGGING. THE CONTRACTOR SHALL NOTIFY THE CITY OF FIFE PUBLIC WORKS THAT THE CLEARING LIMITS HAVE BEEN STAKED AND ARE READY FOR INSPECTION. THE CONTRACTOR SHALL CLEAR TO THE LIMITS AS ESTABLISHED ON THIS PLAN AND AS FLAGGED IN THE FIELD.
7. THE OWNER SHALL BE RESPONSIBLE FOR THE INSPECTION AND ACCEPTANCE OF ALL CLEARING AND GRADING WORK AND EROSION CONTRACTOR SHALL NOTIFY THE OWNER FORTY-EIGHT HOURS IN ADVANCE OF EACH REQUIRED EROSION AND SEDIMENT CONTROL INSPECTION.
8. INSPECTION NO. 1 – CITY OF FIFE ACCEPTANCE OF CLEARING LIMITS.
   INSPECTION NO. 2 – INSTALLATION OF EROSION CONTROL FACILITIES/PRIOR TO CLEARING.
   INSPECTION NO. 3 – COMPLETION OF CLEARING.
   INSPECTION NO. 4 – UPON COMPLETION OF EXCAVATION, FILLING, AND EARTHWORK.
   INSPECTION NO. 5 – COMPLETION OF PROJECT.
   INSPECTION NO. 6 – AS NEEDED TO DETERMINE COMPLIANCE WITH APPROVED PLANS AND/OR SPECIFICATIONS. (DOES NOT REQUIRE ADVANCE NOTICE.)
9. ALL WORK ASSOCIATED WITH STABILIZING THE DISTURBED AREAS SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL.
10. ALL NECESSARY FACILITIES SHALL BE MAINTAINED ON SITE TO PREVENT DEBRIS, DUST, AND MUD FROM ACCUMULATING ON THE PUBLIC RIGHT-OF-WAY. IF METHODS PROVIDED FOR EROSION AND SEDIMENT CONTROL ARE NOT ADEQUATE, THE CITY CAN REQUIRE ADDITIONAL CONTROL METHODS.

GENERAL NOTES [CITY OF FIFE]

1. ALL SPECIFICATIONS, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF FIFE MUNICIPAL CODE, THE LATEST EDITION OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. PLANS AND DETAILS SHALL BE IN ACCORDANCE WITH THE CITY OF FIFE MUNICIPAL CODE AND THE LATEST EDITION OF THE WSDOT/APWA STANDARD PLANS.
3. A COPY OF THE APPROVED PLANS SHALL BE ON SITE DURING CONSTRUCTION.
4. CONSTRUCTION OF PROPOSED IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS. ANY CHANGES FROM THE "APPROVED" PLANS WILL REQUIRE APPROVAL FROM THE DEVELOPER, DEVELOPER'S ENGINEER AND THE CITY OF FIFE.
5. A PRE-CONSTRUCTION MEETING AND ANY REQUIRED PERMITS SHALL BE REQUIRED PRIOR TO ANY WORK ACTIVITY. THE PRE-CONSTRUCTION MEETING SHALL BE HELD AT FIFE CITY HALL.
6. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO CONTROL ON SITE STORMWATER RUNOFF BY USING APPROVED TEMPORARY OR PERMANENT DRAINAGE EROSION/SILTATION CONTROL PROCEDURES. THE CITY OF FIFE HAS ADOPTED THE STORMWATER MANAGEMENT MANUAL FOR THE PUGET SOUND BASIN (THE TECHNICAL MANUAL) DEVELOPED BY THE DEPARTMENT OF ECOLOGY.
7. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL CALL ONE-CALL (1-800-425-5555) FOR UTILITY LOCATIONS (WATER, SANITARY SEWER, STORM SEWER, GAS, POWER, TELEPHONE AND CABLE TV).
8. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TRUE ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES. ANY UTILITY RELOCATIONS SHALL BE AT THE EXPENSE OF THE APPLICANT AND MUST BE IN ACCORDANCE WITH THE CITY OF FIFE'S STANDARDS.
9. NO SAW CUTTING IN THE RIGHT-OF-WAY WILL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE CITY OF FIFE. ONCE APPROVED, EXISTING PAVEMENT SURFACES SHALL BE SAW CUT FULL DEPTH WITH STRAIGHT, UNIFORM EDGES TWELVE INCHES (12") OUT FROM THE EDGE OF EXCAVATION. IF SLOUGHING OCCURS DURING EXCAVATION, THE EXISTING PAVEMENT SHALL BE SAW CUT TO ACHIEVE THE REQUIRED 12 INCHES (12") FROM THE EDGE OF EXCAVATION.
10. LANE CLOSURES SHALL BE RESTRICTED TO 9:00 A.M. TO 3:00 P.M. MONDAY THROUGH FRIDAY. ONE LANE (MINIMUM) SHALL BE RESERVED FOR TRAFFIC (BOTH DIRECTIONS) AT ALL TIMES. WORK IN THE RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY PERMIT. NIGHT, WEEKEND, OR WORK HOURS OTHER THAN HOURS MENTIONED ABOVE WILL REQUIRE THE CITY OF FIFE ENGINEER'S APPROVAL. A THREE-DAY ADVANCE NOTICE IS REQUIRED. ACCESS TO EXISTING DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
11. IF WORK IS REQUIRED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL PROVIDE PROOF OF LIABILITY INSURANCE IN AN AMOUNT NO LESS THAN 1 MILLION DOLLARS PER OCCURRENCE AND A $5,000 RESTORATION/DEFECT BOND ON CITY OF FIFE FORMS. THE CONTRACTOR SHALL ALSO PROVIDE A TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL A MINIMUM OF FIVE (5) DAYS PRIOR TO STARTING THE WORK. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
12. THE CONTRACTOR SHALL CONTACT PIERCE COUNTY TRANSIT AND THE FIFE SCHOOL DISTRICT FOR COORDINATING BUS STOP OPERATIONS DURING CONSTRUCTION, IF NECESSARY.
13. NO CONSTRUCTION, EXCAVATION, HAULING OR REMOVAL OF FILL SHALL BE PERMITTED BETWEEN THE HOURS OF 10:00 P.M. AND 7:00 A.M. WEEKDAYS OR 10:00 P.M. AND 9:00 A.M. ON WEEKENDS.
14. THE CONTRACTOR WILL BE REQUIRED TO WATER THE SITE, AS NECESSARY, TO REDUCE EMISSIONS AS A RESULT OF CONSTRUCTION ACTIVITY. A HYDRANT PERMIT IS REQUIRED TO OBTAIN WATER FROM THE CITY OF FIFE'S WATER SYSTEM. THE CONTRACTOR SHALL ALSO SWEEP ALL AFFECTED PAVED ROADS, AS NECESSARY, OR AS DIRECTED BY THE CITY, TO REMOVE MUD DEPOSITS AS A RESULT OF CONSTRUCTION ACTIVITY.
15. CUT SLOPES SHALL NOT BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL AND FILL SLOPES SHALL NOT BE STEEPER THAN 1-1/2 HORIZONTAL TO 1 VERTICAL, OR AS RECOMMENDED BY A SOILS ENGINEER. THE CATCH POINTS OF THE TOP OF CUT SLOPES AND BOTTOM OF FILL SLOPES SHALL BE SET BACK FROM THE SITE BOUNDARY LINES IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS A RETAINING WALL IS DESIGNED BY THE ENGINEER AND CONSTRUCTED FOR THE PROJECT:
   CUT/FILL DEPTH SETBACK DISTANCE
   UNDER 5 FEET = 2 FEET
   5 FEET AND OVER = HEIGHT/2
16. ISSUANCE OF A PERMIT BY THE CITY OF FIFE DOES NOT IMPLY OR SIGNIFY THAT THE PROPOSED WORK COMPLIES WITH THE REQUIREMENTS OF OR IS ALLOWED BY OTHER COUNTY, STATE, OR FEDERAL LAWS, ORDINANCES, OR REGULATIONS. APPLICANT WILL ACCEPT SOLE RESPONSIBILITY AND LIABILITY FOR COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
17. "AS-BUILT" DRAWINGS CERTIFIED BY A LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER ARE REQUIRED FOR RIGHT-OF-WAY IMPROVEMENTS AND ANY SITE CIVIL WORK. THESE DRAWINGS SHALL BE SUBMITTED ON 24"X36" MYLAR AND ON CD IN CITY-APPROVED FORMAT TO AND RECEIVE APPROVAL FROM THE CITY BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED.
18. ALL CORRUGATED METAL PIPE USED FOR STORMWATER DETENTION SHALL BE ALUMINIZED STEEL OR HAVE TREATMENT 1 COATING. PIPE SHALL BE INSTALLED WATERTIGHT USING 2-FOOT WIDE BANDS AND 1-INCH GASKETS. (12" BANDS AND 3/4" INCH GASKETS ARE ALLOWED ON 48 INCH ROUND PIPE)
19. ALL SANITARY SEWER MAINS SHALL BE VIDEO INSPECTED. ANY CONDITIONS FOUND TO BE UNACCEPTABLE BY THE CITY SHALL BE REMEDIED PRIOR TO ACCEPTANCE BY THE CITY. REMEDIED SECTIONS OF PIPE SHALL BE RE-INSPECTED WITH VIDEO EQUIPMENT. COST OF VIDEO INSPECTIONS SHALL BE BORNE BY THE DEVELOPER. THE CITY SHALL BE PROVIDED A COPY OF A TAPE OF THE VIDEO INSPECTION.
20. ALL EXCAVATIONS IN ROADWAYS SHALL BE BACKFILLED FULL-DEPTH WITH CRUSHED ROCK BASE COURSE COMPACTED TO 95% MDD.
21. CURB AND GUTTER SECTIONS IN THE RIGHT-OF-WAY SHALL BE CONSTRUCTED USING FORMS. EXTRUDED APPLICATIONS SHALL NOT BE ACCEPTED.



1 STREET NAME SIGN DETAIL
NOT TO SCALE



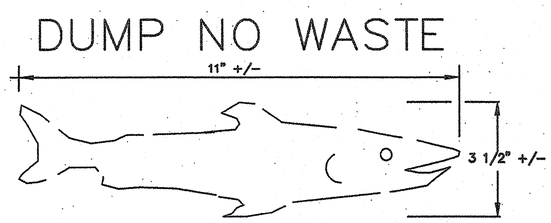
R1-1
STOP
*Reduce spacing 40%

	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
C	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – RED (RETROREFLECTIVE)

1-1

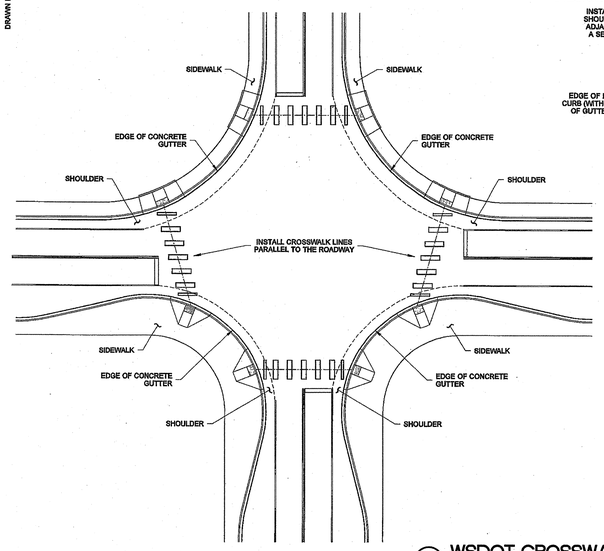
2 STOP SIGN DETAIL
NOT TO SCALE

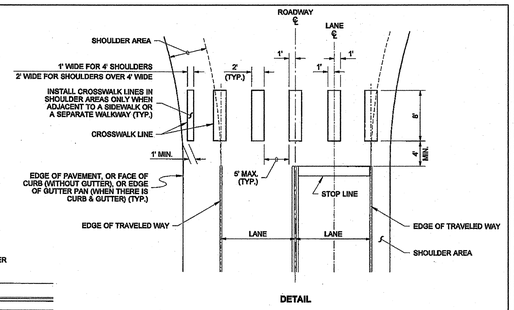


NOTE: LETTERING IS TWO INCHES HIGH AND PROPORTIONAL IN WIDTH.

3 CATCH BASIN STENCIL DETAIL
NOT TO SCALE

DRAWN BY: FERN LIDDELL





NOTES

1. See the Contract Plans for locations of crosswalk centerlines.
2. To the maximum extent possible, curb ramp centerline should be perpendicular to the crosswalk centerline.
3. To the maximum extent possible, crosswalks should be perpendicular to the centerline of the traveled way.

THEODORE J. TREDANNICK, STATE OF WASHINGTON, 25335, REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUGUST 9, 2007

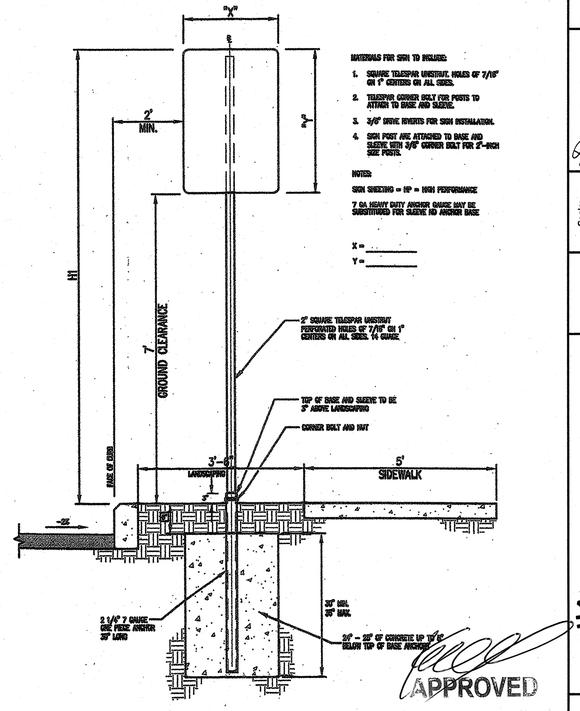
CROSSWALK LAYOUT

STANDARD PLAN M-15.10-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Ken L. Smith 02-06-07
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

4 WSDOT CROSSWALK LAYOUT DETAIL
NOT TO SCALE



MATERIALS FOR SIGN TO INCLUDE:
1. SQUARE TUBESPAR UNISTRUT, HOLES OF 7/16" ON 1" CENTERS ON ALL SIDES.
2. TUBESPAR CORNER BOLT FOR POSTS TO ATTACH TO BASE AND SLEEVE.
3. 3/8" DRIVE RIVETS FOR SIGN INSTALLATION.
4. SIGN POST ARE ATTACHED TO BASE AND SLEEVE WITH 3/8" CORNER BOLT FOR 2"-INCH SIZE POSTS.

NOTES:
SIGN SPACING = HP = HIGH PERFORMANCE
7 GA. HEAVY DUTY ANCHOR GAUGE MAY BE SUBSTITUTED FOR SLEEVE NO ANCHOR BASE

X = _____
Y = _____

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS

5 SIGN POST MOUNTING DETAIL
NOT TO SCALE

No.	Date	By	Ckd.	Appr.	Revision
5	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: ROAD IMPROVEMENT CONSTRUCTION NOTES AND DETAILS FOR PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S, SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI, STATE OF WASHINGTON, 25672, REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal AS Nc. Vertical AS NOTED
Designed AS Drawn MB Checked AS Approved DKB
Date 03-04-14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004
Sheet R6 of 6

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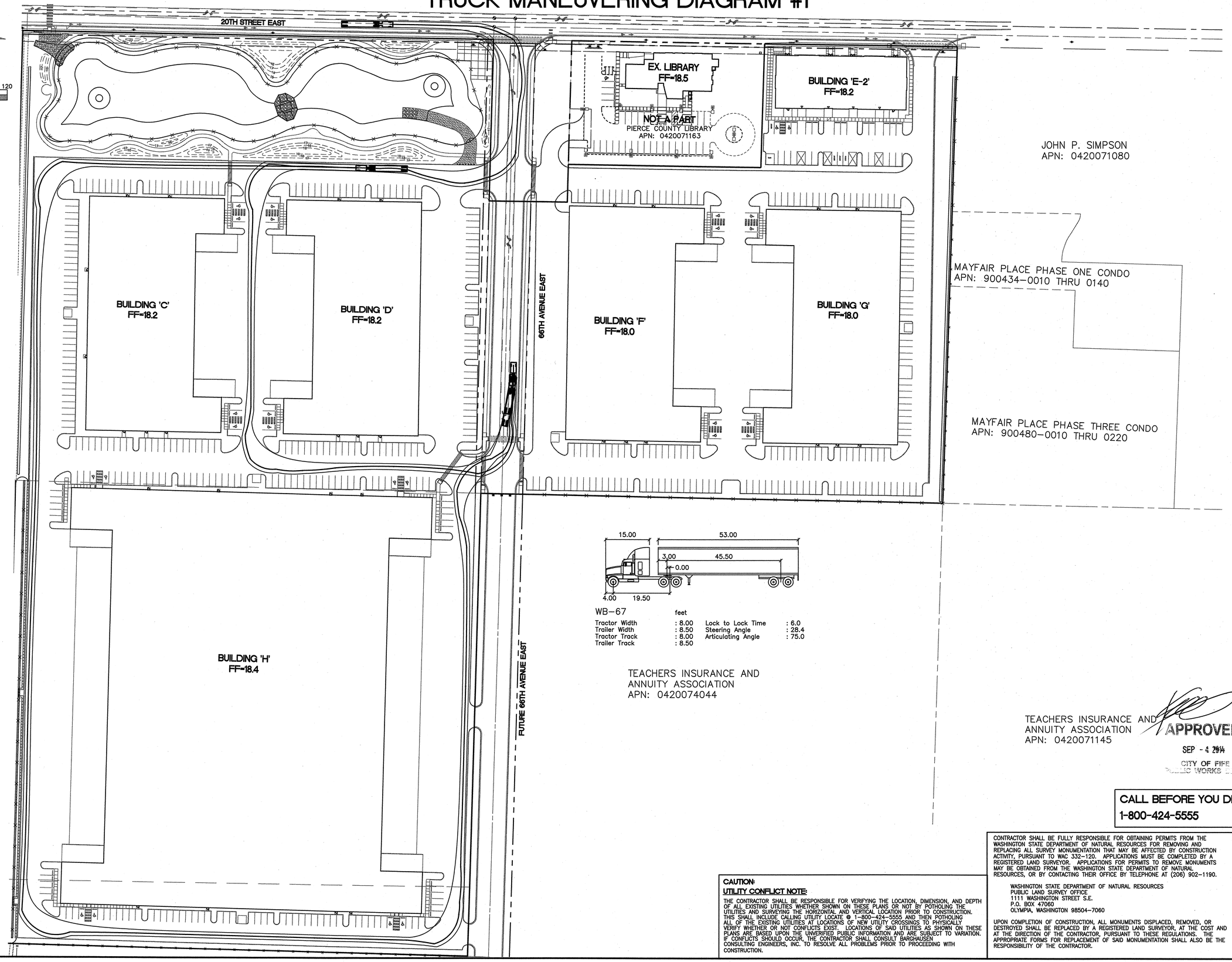
TRUCK MANEUVERING DIAGRAM #1



CALL BEFORE YOU DIG:
1-800-424-5555

CAUTION:
UTILITY CONFLICT NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 1-800-424-5555 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

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WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST AND AT THE DIRECTION OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTATION SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: TRUCK MANEUVERING DIAGRAM #1
FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALMELLI
STATE OF WASHINGTON
25672
REGISTERED PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=60' Vertical N/A

Designed AS
Drawn MDY
Checked AS
Approved DB
Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004
Sheet TR1 of 3

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TRUCK MANEUVERING DIAGRAM #2

1"=60'
0 30 60 120

20TH STREET EAST

EX. LIBRARY
FF=18.5

NOT A PART
PIERCE COUNTY LIBRARY
APN: 0420071163

BUILDING 'E-2'
FF=18.2

JOHN P. SIMPSON
APN: 0420071080

BUILDING 'C'
FF=18.2

BUILDING 'D'
FF=18.2

66TH AVENUE EAST

BUILDING 'F'
FF=18.0

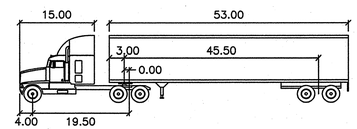
BUILDING 'G'
FF=18.0

MAYFAIR PLACE PHASE ONE CONDO
APN: 900434-0010 THRU 0140

MAYFAIR PLACE PHASE THREE CONDO
APN: 900480-0010 THRU 0220

BUILDING 'H'
FF=18.4

FUTURE 66TH AVENUE EAST



WB-67 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

TEACHERS INSURANCE AND
ANNUITY ASSOCIATION
APN: 0420074044

TEACHERS INSURANCE AND
ANNUITY ASSOCIATION
APN: 0420071145

APPROVED
SEP - 4 2014
CITY OF FIFE
PUBLIC WORKS

CALL BEFORE YOU DIG:
1-800-424-5555

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WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
P.O. BOX 47060
OLYMPIA, WASHINGTON 98504-7060

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No.	Date	By	Ckd.	Appr.	Revision
6	9/02/14	JEP	AS	DKB	REVISED PER FINAL CITY REVIEW

Title: TRUCK MANEUVERING DIAGRAM #2

FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

STATE OF WASHINGTON
DANIEL K. BALMELLI
25672
REGISTERED
PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=60' Vertical N/A

Designed ___AS___ Drawn ___MDT___ Checked ___AS___ Approved ___DB___ Date 03/04/14

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222 FAX
(425)251-8782
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 16004

Sheet TR2 of 3

Scale:1" = 1' MBDUKAL Xref: ----

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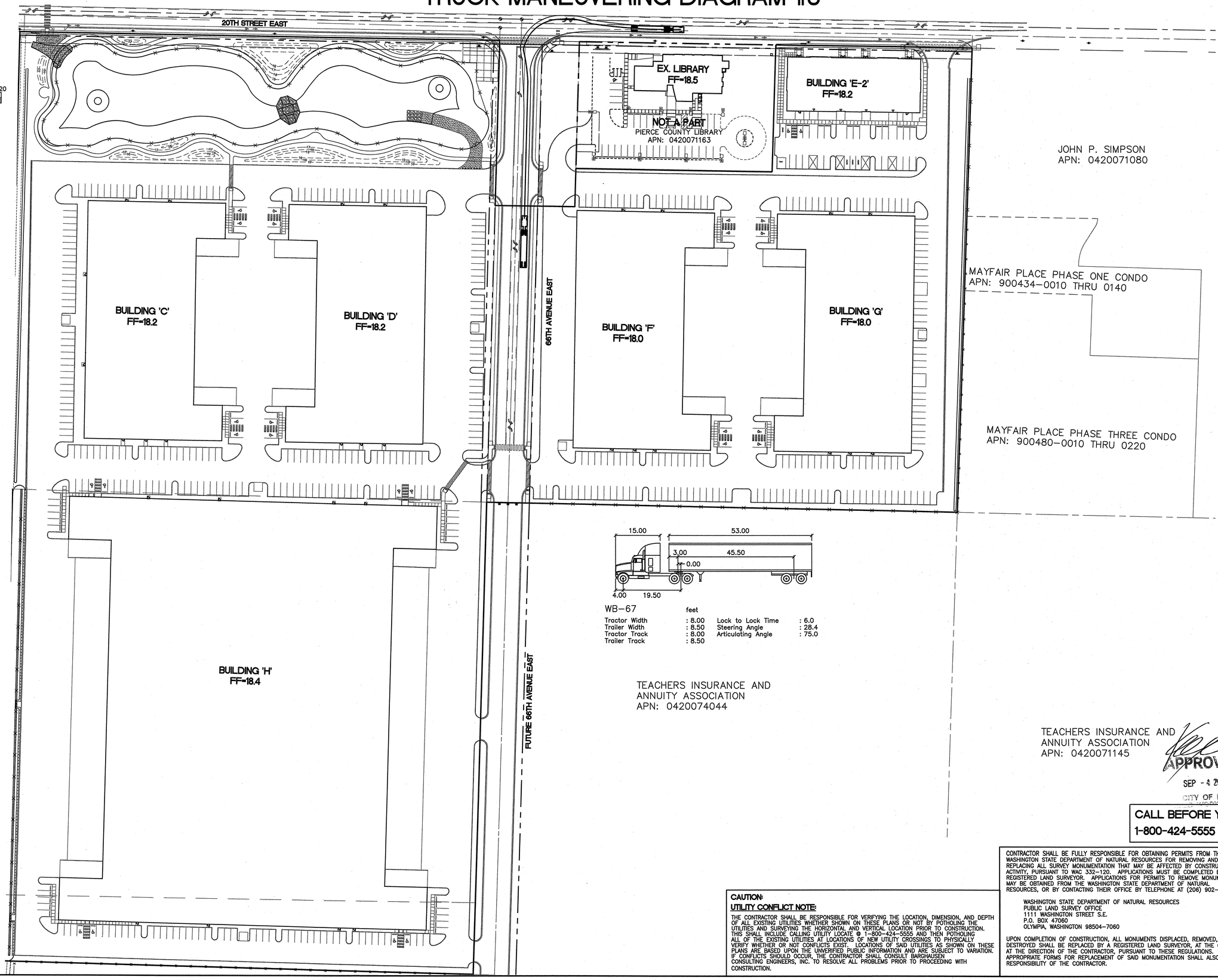
TRUCK MANEUVERING DIAGRAM #3

1"=60'

0 30 60 120



WB-67 feet

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TEACHERS INSURANCE AND
ANNUITY ASSOCIATION
APN: 0420074044

TEACHERS INSURANCE AND
ANNUITY ASSOCIATION
APN: 0420071145

APPROVED
SEP - 4 2014
CITY OF FIFE

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Title: TRUCK MANEUVERING DIAGRAM #3

FOR
PORTSIDE BUSINESS CENTER

For: DAVIS PROPERTY AND INVESTMENT
22757 72ND AVE S., SUITE E-106
KENT, WA 98032
253-872-9522

DANIEL K. BALKWILL
STATE OF WASHINGTON
25672
REGISTERED
PROFESSIONAL ENGINEER
09-02-14

Scale: Horizontal 1"=60' Vertical N/A

Designed AS Drawn MDY Checked AS Approved DB Date 03/04/14

Scale:1" = 1' MBOUKAL Xref: ----

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KENT, WA 98032
(425)251-6222
(425)251-8782 FAX

CIVIL ENGINEERING, LAND PLANNING,
SURVEYING, ENVIRONMENTAL SERVICES

BARGHAUSEN CONSULTING ENGINEERS, INC.

Job Number 16004

Sheet TR3 of 3

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