NORTH BEACH WATER DISTRICT

PACIFIC COUNTY



WASHINGTON

245TH STREET WATER MAIN PROJECT

NORTH BEACH WATER DISTRICT
25902 VERNON AVE.
POST OFFICE BOX 618
OCEAN PARK, WA 98640
PHONE NO. (360) 665-4144

NBWD OFFICIALS

BRIAN SHELDON COMMISSIONER-POSTION 1 GWEN BRAKE COMMISSIONER-POSTION 2 R.D. WILLIAMS **COMMISSIONER-POSTION 3 GENERAL MANAGER WILLIAM NEAL** JACK McCARTY OFFICE MANAGER KRISTIN GALOUIN **BILLING CLERK** FIELD SUPERVISOR **BOB HUNT NICK MORRISON** TREATMENT PLANT OPERATOR

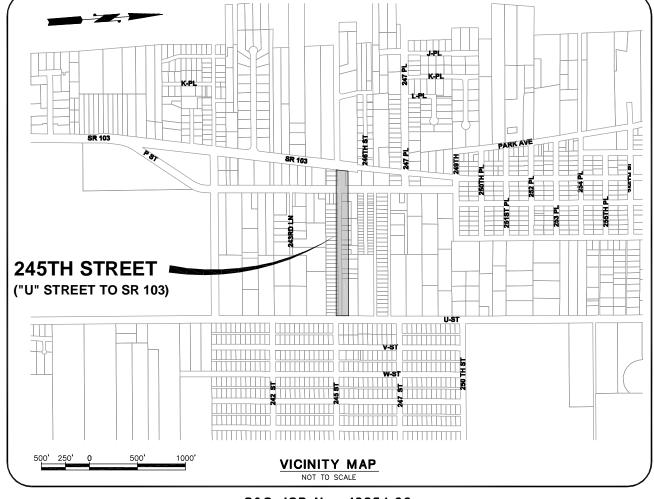
CONTACT INFORMATION

PHONE No.

AGENCY

NAME

WILLIAM NEAL NBWD MANAGER (360) 665-4144 MIKE COLLINS PACIFIC COUNTY PUBLIC WORKS (360) 875-9368 PACIFIC COUNTY **POWER** (360) 642-3191 PUD #2 TELEPHONE (855) 742-6062 **CENTURY LINK** CHARTER (425) 392-6412 COMMUNICATIONS



G&O JOB No.: 13254.00 AUGUST 2013



Gray & Osborne, Inc.

CONSULTING ENGINEERS
2102 CARRIAGE DRIVE SW, BLDG. I,
OLYMPIA, WASHINGTON 98502 (380) 292-7481

SHEET LIST						
SHEET DESCRIPTION						
CIVIL SHEETS						
ABBREVIATIONS, GENERAL SYMBOLS, SYMBOL LEGEND AND GENERAL NOTES						
245TH STREET WATER MAIN PLANS STA 10+00 TO 19+00						
245TH STREET WATER MAIN PLANS STA 19+00 TO END						
MISCELLANEOUS DETAILS						
MISCELLANEOUS DETAILS						

SURVEY CONTROL POINTS								
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION				
1001	438,127.56	746,395.56	25.07	REBAR AND CAP				
1002	438,138.72	746,219.14	22.36	REBAR AND CAP				
1004	438,101.08	746,403.76	24.87	PK NAIL				
2002	437,969.67	747,784.77	24.81	REBAR AND CAP				
2003	438,077.04	746,435.42	23.80	BRASS CAP				
4001	438,043.30	747,150.06	22.38	IRON PIPE				
4002	438,047.66	747,107.59	22.94	STEEL PIN				
4003	438,052.63	747,052.63	22.57	REBAR NO CAP				
4004	438,055.19	746,911.49	23.22	IRON PIPE				
4005	438,078.07	746,671.48	22.63	IRON PIPE				
4006	438,079.66	746,670.24	23.11	STEEL PIN				
4007	438,079.11	746,596.81	24.72	IRON PIPE				
1257	438,184.39	746,227.34	27.54	REBAR AND CAP				
1306	438,173.44	746,398.56	24.75	REBAR AND CAP				
1592	438,057.46	747,369.72	20.57	REBAR AND CAP				
1989	438,021.86	747,198.44	21.24	REBAR AND CAP				
1668	438,016.79	747,277.05	21.82	REBAR AND CAP				
1988	438,026.07	747,367.70	20.77	REBAR AND CAP				
1991	438,026.25	747,748.40	23.23	REBAR AND CAP				

SURVEY INFORMATION SHOWN HEREON WAS PROVIDED BY PACIFIC COUNTY ON AUGUST 6, 2013

ABBREVIATIONS			GENERAL SYMBOLS			SYMBOL LEGEND						
AB AC	ANCHOR BOLT ASPHALT CONCRETE	L LB	LENGTH POUND	1/4" FT.	SLOPE 1/4" PER FOOT		SQUARE SECTION	EXISTING		PROPOSED		
ACP ADJ AISC	ACOUSTIC PANEL ADJUSTABLE AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LB/HR LF	POUNDS PER HOUR LINEAR FEET		FLOW DIRECTION (AIR, WATER)		PIPE SECTION	<u> </u>	ASPHALT SURFACING		ASPHALT SURFACING	
ALTR ALUM	ALTERNATE ALUMINUM	MAG MAX	MAGNETIC MAXIMUM	⊠ -∳-	OPENING	@	SPACING CENTER ON CENTER	(S. 24.24.23)	GRAVEL SURFACING	Serence .	GRAVEL SURFACING	
ANSI ASCE ASPH	AMERICAN NATIONAL STANDARDS INSTITUTE AMERICAN SOCIETY OF CIVIL ENGINEERS ASPHALT	MDO MECH	MEDIUM DENSITY OVERLAY MECHANICAL	TOTALIST	GROUND	*	SIZE OF DEFORMED BAR					$\parallel \it K$
ASTM ASSY	AMERICAN SOCIETY OF TESTING AND MATERIALS ASSEMBLY	MEGR, ME MGD MG/L	R MANUFACTURER MILLION GALLONS PER DAY MILLIGRAM PER LITER		ASPHALT SECTION	ø	DIAMETER	(, . , . , . , . , . , . , .)	CONCRETE SURFACING			$\parallel V$
AVE AWS	AVENUE AMERICAN WELDING SOCIETY	MH MIN	MANHOLE MINIMUM MECHANICAL JOINT		CONCRETE SECTION		RECTANGULAR SECTION	UE	BURIED ELECTRICAL			║ ╹
ВІ	BLACK IRON	MJ MO	MID ORDINATE	₹	WATER CUREACE	∠	1110.5	— т——	BURIED TELEPHONE			
BLD FLG BLDG BLK	BLIND FLANGE BUILDING BLOCK	N No.	NORTH NUMBER	-	WATER SURFACE		ANGLE	w	WATER MAIN (SIZE AS NOTED)	w	WATER MAIN	
BOD BOW	BOTTOM OF DUCT BOTTOM OF WALL	NTS	NOT TO SCALE	•	ELEVATION REFERENCE POINT	W	WIDE-FLANGE SHAPE		CTODA DDAIN (CIZE & TYDE AC MOTED)			
BTWN BVC	BETWEEN BEGIN VERTICAL CURVE	OC OD	ON CENTER OUTSIDE DIAMETER		LEGEND/NOTE CALL OUTS	C	CHANNEL	D	STORM DRAIN (SIZE & TYPE AS NOTED)			2013
C	CONDUIT	OPNG OPP OSHA	OPENING OPPOSITE OCCUPATIONAL SAFETY AND HEALTH	•	PIPE SUPPORT	PL C	PLATE		RIGHT OF WAY	*	SILT FENCE	AUG 20
CAP CB CFM	CORRUGATED ALUMINUM PIPE CATCH BASIN CUBIC FEET PER MINUTE	OSHA	ADMINISTRATION	•	ELECTRICAL MAST	ų.	CENTER LINE		CENTERLINE OF ROADWAY			
CI CL	CAST IRON CLASS CENTER LINE	PE PERF	PLAIN END PERFORATED						DITOLI			DATE:
CLR CMP	CLEARANCE CORRUGATED METAL PIPE	PL PLYWD POT	PLATE PLYWOOD POTABLE					$\longrightarrow \longrightarrow \longrightarrow \longrightarrow$	DITCH			
CMU CO CONC	CONCRETE MASONRY UNIT CLEANOUT CONCRETE	PRV PPG	PRESSURE REDUCING VALVE POTASSIUM PERMANGANATE						CENTER LINE			
CONN CONT	CONNECTION CONTRACTOR	PSF PSI PSIG	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH GAUGE	EX	AMPLE OF SECTION AND PLAN/DRA			\bowtie	GATE VALVE	H	GATE VALVE	
CONV CPLG CONTIN	CONVEYOR COUPLING CONTINUED	PTS PVC	PAINTED SURFACE POLYVINYL CHLORIDE		FOR DETAILS SUBSTITUTE DETAIL			Ħ	WATER METER			
COP CP	COPPER CORNER POST	PVMT	PAVEMENT					-	FIRE HYDRANT	_	FIRE HYDRANT	
CSH CTR	CONCRETE SURFACE HARDENER CENTER	QT QUAD	QUARTER QUADRANT							◄	THRUST BLOCK	
D DI	DRAIN DUCTILE IRON	R	RADIUS	ELEVATION VIEW	A SECTION CUT	A	SECTION LETTER OR DETAIL NUMBER					
DIA DIR	DIAMETER DIRECTION	RD RED	ROOF DRAIN REDUCER	ON OUT 14 4	ON SHT. M-1	C-2	SHT. ON WHICH SECTION OR DETAIL APPEARS					\parallel
DISCH DN DP	DISCHARGE DOWN DIFFERENTIAL PRESSURE	REINF REQD RESTL	REINFORCE REQUIRED REINFORCING STEEL				ON DETAIL ALL LANG	Δ	ELECTRICAL TRANSFORMER			<u> </u>
_		RM RO	ROOM ROUGH OPENING					<u> </u>	UTILITY POLE WITH GUY WRE			
E EA ECC	EAST EACH ECCENTRIC ELEVATION	R/W	RIGHT-OF-WAY	ON SHT.	M-2 THIS SECTION SECT	ION (A	SECTION LETTER	-0-	UTILITY POLE			
EL ELL ELEC	ELEVATION ELBOW ELECTRICAL	S SCH SF	SOUTH, SCHEDULE SQUARE FEET	IS IDENTIF		?"=1'-0" C-	ON DETAIL NOMBER	← ¤	LUMINAIRE			
EMERG EXIST	EMERGENCY EXISTING	SFN SHC	SURVEY FOUND NAIL SODIUM HYPOCHLORITE				OR DETAIL WAS TAKEN		JUNCTION BOX (AS NOTED)			
EXP EW EVC	EXPANSION EACH WAY END VERTICAL CURVE	SHT SL SP	SHEET SLOPE STATIC PRESSURE									
	END VENTIONE CONVE	SPECS SQ	SPECIFICATIONS SQUARE	OR	DETAIL NUMBER (A)	SECTION LETTER OR DETAIL NUMBE	DETAILS ARE REFERENCED IN R A SIMILAR MANNER EXCEPT NUMBERS	×—×—×	FENCE			g
FAB FCA	FABRICATED FLANGED COUPLING ADAPTER	SS SSNT STA	STAINLESS STEEL SURVEY SET NAIL/TAG STATION			SECTION IS TYPICATION OF THE SECTION IS TYPICATION OF THE SECTION			MAIL BOX			{ 2
FD FF FIG	FLOOR DRAIN FACTORY FINISH, FINISHED FLOOR FIGURE	STD STL	STANDARD STEEL	SAM	E DWG AS COT	IO MANT PLACES			ROAD SIGN			👌
FIN FL	FINISHED FLANGE	STRG SUC SUP	STRONG SUSPENDED CEILING SUPPORT	DRAWING TITLE IDEN		VING TITL	<u>.E</u>					
FLL FLEX FLR	FLOW LINE FLEXIBLE FLOOR	TAPD	TAPERED		SCA	ALE: ?"=1'-0"		₩ O ()	TREES			
FPM FT FT2	FEET PER MINUTE FEET SQUARE FEET	TB TC TDH	TOP AND BOTTOM TOP OF CURB TOTAL DYNAMIC HEAD					,				2
GA	GAUGE	TEL THK	TELEPHONE THICK					lund.	SHRUBS			IS
GALV GEN GI	GALVANIZED GENERAL GALVANIZED IRON	THRD THRU TK	THREADED THROUGH TANK						BUILDINGS			
GOVT GPD	GOVERNMENT GALLONS PER DAY	TOC TOW	TOP OF CONCRETE TOP OF WALL	GENERAL	NOTES:			20	CONTOUR			
GPM GRD GRV	GALLONS PER MINUTE GRADE GROOVED PIPE OR COUPLING	TS TYP	TOTAL SOLIDS TYPICAL	1. IN GENERAL,	EXISTING STRUCTURES AND FACILITIE			©	MONUMENT	+	CONTROL POINT	≥
GSP GV	GALVANIZED STEEL PIPE GATE VALVE	VC VERT	VERTICAL CURVE VERTICAL	CONSTRUCTIO	OWN IN LIGHT LINE WEIGHTS OR AS IN, STRUCTURES, FACILITIES, AND FE					·		5
GWB H	GYPSUM WALL BOARD HEIGHT	VFD VIS VS	VARIABLE FREQUENCY DRIVE VINYL SHEET VOLATILE SOLIDS	LINE WEIGHTS 2. MANY OF TH	5. E SYMBOLS SHOWN ON THIS LEGEND	ARE USED ONLY	' WHERE	### ROAD NAME	HOUSE ADDRESS			
HEX HMA HORIZ	HEXAGONAL HOT MIX ASPHALT HORIZONTAL	W	WIDTH, WEST	THEY PROVID SOME CONTR	E CLARITY AND ARE NOT NECESSAR ACT DRAWINGS MAY HAVE ADDITIONA	ILY USED IN ALL AL LEGENDS APPL	APPLICATIONS. LICABLE FOR	(SS)	SAMPLING STATION			=
HP HR	HORSEPOWER HOUR	W/ WD	WITH WIDE		IC DRAWING. SYMBOLS SHOWN ON S							
HDPE ID	HIGH DENSITY POLYETHYLENE INSIDE DIAMETER	W/O WS WWM	WITHOUT WATER SURFACE WELDED WIRE MESH		CTOR SHALL VERIFY ALL PLANIMETRI ARTING WORK AND SHALL NOTIFY TH							
IE INF	INVERT ELEVATION INFLUENT	WWF	WELDED WIRE FABRIC		ONS SHOWN ON THE CONTRACT DRAY							SH
J BOX	INVERT JUNCTION BOX				NS REFER TO THE HORIZONTAL AND ERWISE INDICATED.	VERTICAL PROJE	OILV FLAINES,				0 1" 2"	

Fray & Osborne,
CONSULTING ENGINEERS
2102 CARNAGE DRIVE, SW, BLOG, 1

SCALE: NOTED
DRAWN: EWH
CHECKED: AKK

SCALE:

SCALE:

CHECKED

REVISION

DATE APPD

APPROVE



NORTH BEACH WATER DISTRICT PACIFIC COUNTY WASHINGTON

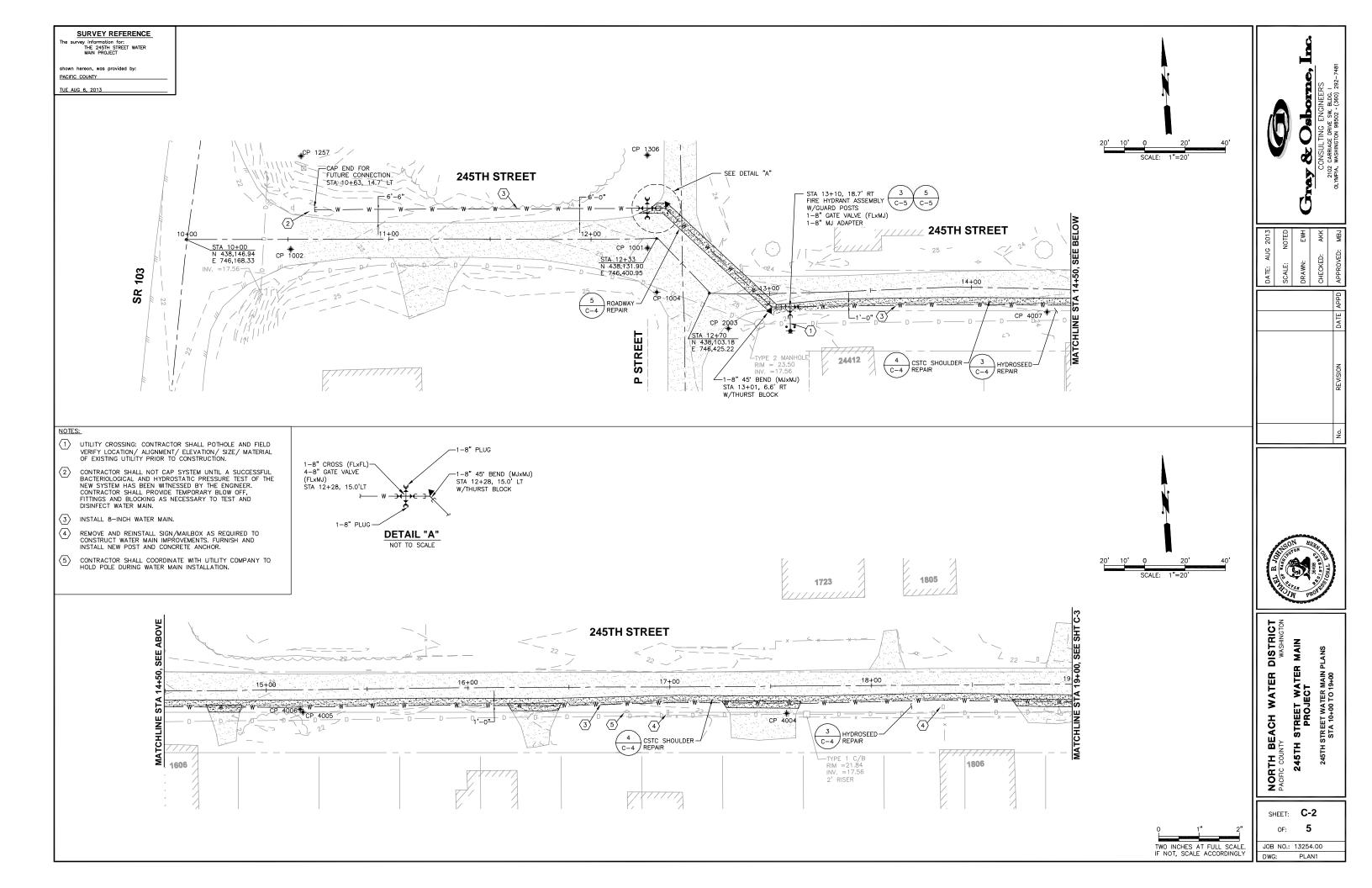
MASHIN

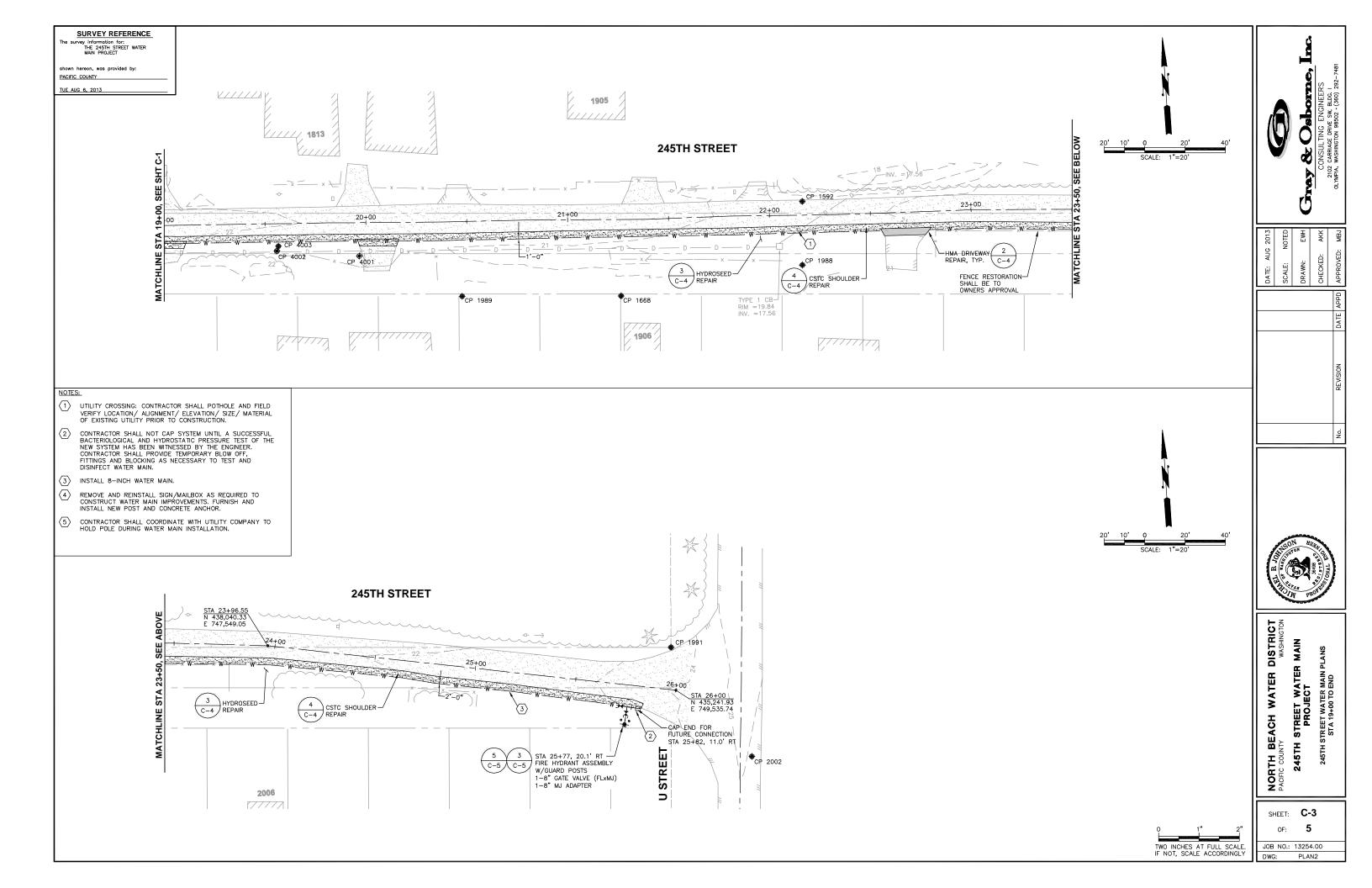
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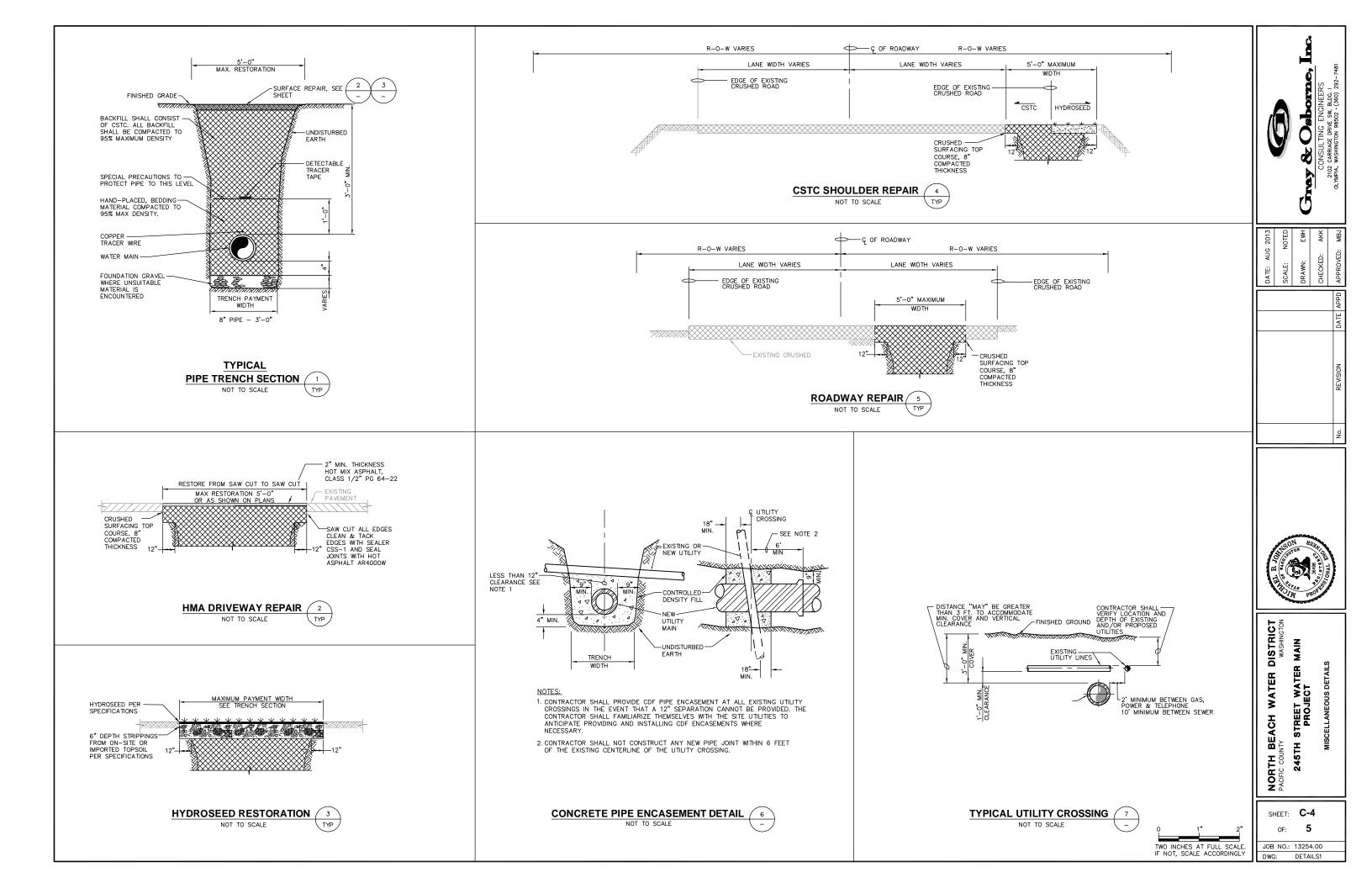
SHEET: **C-1**OF: **5**JOB NO.: 13254.00

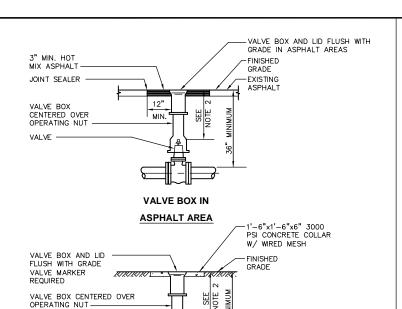
DWG: PIPE_SYMB

TWO INCHES AT FULL SCALE. IF NOT, SCALE ACCORDINGLY







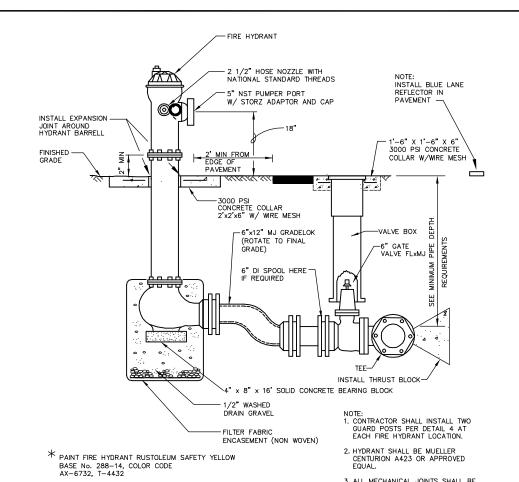


VALVE BOX IN UNIMPROVED AREA (VALVE MARKER REQUIRED)

VALVE

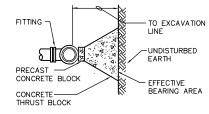
- 1. EACH VALVE SHALL BE PROVIDED WITH AND ADJUSTABLE CAST IRON VALVE BOX OF 5 INCHES (5") INSIDE DIAMETER. VALVE BOXES SHALL HAVE A TOP SECTION WITH AN EIGHTEEN INCH (18") MIN. LENGTH. THE VALVE BOX SHALL BE RICH No. 940 OR SATHER MANUFACTURE, OR EQUAL. VALVE BOX EARS SHALL BE PLACED IN LINE WITH PIPE IT SERVES.
- 18" MINIMUM, 24" MAXIMUM DEPTH TO OPERATOR NUT. PROVIDE VALVE STEM EXTENSION AS REQUIRED.



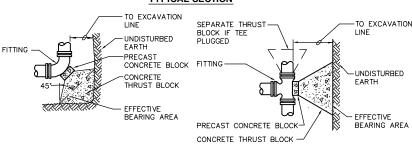


FIRE HYDRANT DETAIL

NOT TO SCALE



TYPICAL SECTION



90° EL PLAN

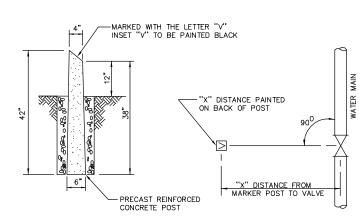
TEE PLAN

EFFECTIVE BEARING AREA REQUIRED								
FITTING D	TEE	90,	45°	22 1/2*	11 1/4			
8"	7 SQ.FT.	10 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.			

TYPICAL FOR SANDY SOIL WITH 2,000 P.S.F. BEARING STRENGTH & 100 P.S.I. WORKING PRESSURE. ADJUST BEARING AREA BY PRESSURE & SOIL BEARING CAPACITY. USE TEE FOR DEAD ENDS

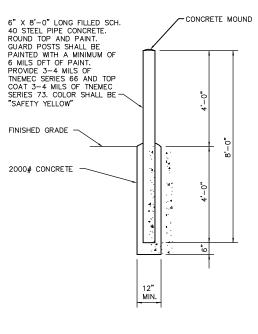
- 1. BLOCKING SHALL BE TO SOLID BEARING SURFACE.
- 2. FITTING SHALL BE PROTECTED WITH A POLYTHLENE ENCASEMENT.
- 3. BEARING AREA SHALL BE PROPORTIONALLY INCREASED WITH PRESSURES IN EXCESS OF 100 P.S.I OR IN SOIL CONDITIONS WITH LESS THAN 2,000 P.S.F BEARING STRENGTH.
- 4. ALL BLOCKS ON TEES SHALL BE SEPARATED FOR DIRECTION OF THRUST.

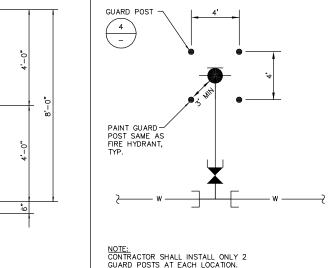




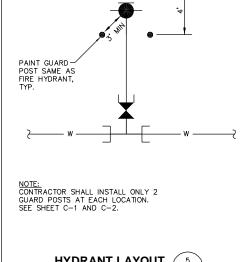
- 1. PRECAST REINFORCED POST TO BE PAINTED FLAT TRAFFIC YELLOW #2612 OR SAFETY
- 2. THE DISTANCE FROM THE MARKER POST TO THE WATER MAIN SHALL BE PAINTED ON THE BACKSIDE OF THE MARKER POST IN BLACK WITH A 2" HIGH NUMBER.
- 3. VALVE MARKER POST SHALL BE REQUIRED WHENEVER THE WATER VALVE IS LOCATED IN AN UNPAVED AREA.
- 4. THE POST WILL ALSO BE REQUIRED FOR BLOW-OFF IN THE SAME CONDITION AS WATER VALVES.





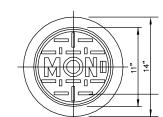


GUARD POST DETAIL / 4 SCALE: 1/2"=1'-0"

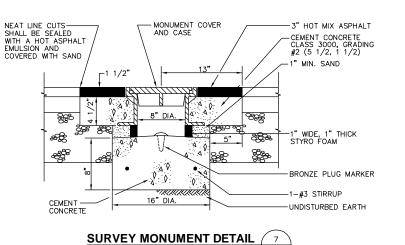


3. ALL MECHANICAL JOINTS SHALL BE PROVIDED W/ JOINT RESTRAINT GLANDS (MEGA-LUG, OR EQUAL)

HYDRANT LAYOUT NOT TO SCALE



- ALL EXISTING SURVEY MONUMENTS SHALL BE PRESERVED IN ACCORDANCE WITH WAC 332-120. SHOULD A MONUMENT NEED TO BE DISTURBED IN ORDER TO CONSTRUCT THE IMPROVEMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER AND SHALL NOT DISTURB THE MONUMENT UNTIL THE CONTRACTOR HAS SUBMITTED AN APPLICATION TO THE DEPARTMENT OF NATURAL DEPOLLED FOR A MANUMENT CONTRACTOR OF THE PROMPTS OF THE RESOURCES. ALL MONUMENTS SHALL BE REESTABLISHED PER THIS
- 2. CASTINGS FOR MONUMENT CASES, COVERS, AND RISERS SHALL BE GRAY IRON CASTINGS CONFORMING TO THE REQUIREMENTS OF AASHTO M 105, CLASS 30B,
- 3. THE COVER AND SEAT SHALL BE MACHINED SO AS TO HAVE PERFECT CONTACT AROUND THE ENTIRE CIRCUMFERENCE AND FULL WIDTH OF BEARING SURFACE.



NOT TO SCALE



SHEET: C-5 JOB NO.: 13254.00 DETAILS2 DWG:



SCALE: DRAWN

DISTRICT